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REPORT OF REMEDIAL MEASURES AND CONFIRMATORY SAMPLING RESULTS

BUILDING 308 AND LINKWAY TO BUILDING 310

IBM East Fishkill Facility
Hopewell Junction, New York

East Fishkill, New York

Prepared for IBM Corporation
File No. 2999.00
May 2014

Hudson Valley Research Park
2070 Route 52
Hopewell Junction, NY 12533-6531
D.E. Speed Zip 65A

May 27, 2014

Alex G. Czuhanich
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E
625 Broadway, 12th Floor
Albany, NY 12233-7017

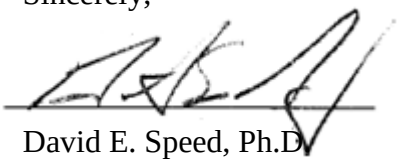
Re: Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
RFI Work Plan Implementation
IBM East Fishkill Facility, Hopewell Junction, New York
EPA ID No. NYD000707901

Dear Mr. Czuhanich:

The enclosed report presents the results of remedial measures and confirmatory sampling associated with the presence of volatile organic compounds (VOCs) detected in indoor air in Building 308 and the adjoining linkway to Building 310 at the IBM East Fishkill facility. The scope of this work and progress updates have been communicated to the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) (collectively, the Agencies) through regular correspondence and meetings. The validated indoor air data has been posted for review by the building occupants.

If you wish to further discuss this report or have questions, please contact me at (845) 892-3176.

Sincerely,



David E. Speed, Ph.D.
Systems and Technology Group
International Business Machines Corporation

cc: N. Walz (NYSDOH)
G. Marone (IBM)
J. Ulrich (IBM)

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Sanborn, Head Engineering, P.C.

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Report of Remedial Measures and Confirmatory Sampling Results Building 308 and Linkway to Building 310

TABLE OF CONTENTS

FOR DISCUSSION PURPOSES

APPENDICES

1.0 INTRODUCTION

This report presents the results of remedial measures and sampling to further assess and address the source of volatile organic compounds (VOCs) detected in indoor air in Building 308 and the adjoining linkway to Building 310 (Linkway) at the IBM East Fishkill facility (the site). A Site Locus Plan is provided as Figure 1, and the Building 308 and Linkway locations on the site are shown on Figure 2.

As documented in a May 2010 report[1], the anomalous presence of VOCs, principally tetrachlorethene (PCE), was detected in the indoor air within Building 308 and the Linkway. The Linkway between Building 308 and 310 is an open hallway used for pedestrian traffic and transport of supplies and manufactured product. There are doors on either end of the Linkway; however, they are typically open and therefore air movement between the buildings through the Linkway is unencumbered. The presence of PCE in Building 308 was previously attributed to movement of air containing PCE from Building 310 (prior to startup of the Building 310 remediation system), and possible PCE-vapor entry into the Linkway from VOC mass present beneath the floor of the Linkway[2,3].

The presence of VOCs in the subsurface in the area between Building 308 and Building 310 was discovered in 1979. These VOCs consisted principally of PCE, its breakdown products, and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113). The subsurface presence of VOCs has since been delineated in soil and groundwater on the west side of Building 308, centered on the Linkway in the area of historical underground storage tanks (USTs) and subsurface pipelines. This general area where VOCs are present in the subsurface came to be known as remediation "Area A" under the Site's Part 373 Hazardous Waste Management Permit (Part 373 Permit).

In 1986, IBM constructed a groundwater recovery and treatment system in Building 384 above the footprint of a former waste solvent UST. This system, which continues to operate today under the Part 373 Permit, is focused on extraction and treatment of VOC-containing groundwater perched on a discontinuous layer of glaciolacustrine silt/clay. The extracted water is treated by packed-tower air stripping.

In February 2012, IBM installed and began operating a subslab soil vapor extraction (SVE) system in Building 310 to reduce PCE source mass below the floor slab and prevent PCE vapor entry. Confirmatory indoor air sampling in Building 310 completed in October 2012

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1 IBM Corporation and Sanborn, Head Engineering P.C., *Confirmatory Sampling Results, Buildings 308, 320B, and 334, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York,* May 26, 2010.

2 IBM Corporation and Sanborn, Head Engineering P.C., *Report of Findings, Building 310 VOC Source Investigation and Implemented Measures, IBM East Fishkill Facility, Hopewell Junction, New York,* April 7, 2010.

3 IBM Corporation and Sanborn, Head Engineering P.C., *Report of Findings, Building 310 VOC Source Assessment, Supplemental Investigations and Testing, IBM East Fishkill Facility, Hopewell Junction, New York,* May 13, 2011.

indicated that PCE concentrations were significantly reduced within and beyond the remediation area[4].

Additional assessment and remedial measures have been completed in the Linkway to evaluate and seal preferential pathways for PCE entry into the Linkway and prevent subsequent transfer to Building 308 by air movement through the Linkway. Following completion of the remedial measures, confirmatory indoor air sampling was conducted in Building 308 and the Linkway in November 2013. This report documents the work and the results.

Sanborn, Head Engineering P.C. (SHPC), with assistance from IBM personnel, conducted this work consistent with the objectives and procedures described in IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation Work Plan (the Work Plan)[5], approved by New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) (collectively, the Agencies). The assessment and this report are subject to the standard limitations of this type of work, as provided in Appendix A.

This report is organized into the following sections:

Section 2 presents an overview of assessment, remedial measure implementation, and field screening conducted in the Linkway.

Section 3 describes the field activities and results of confirmatory indoor air sampling completed in Building 308 and the Linkway.

Section 4 presents a summary of the quality assurance/quality control review associated with the confirmatory sampling results.

A photograph log for the confirmatory samples is provided as Appendix B. A summary of heating, ventilation, and air conditioning (HVAC) operations during the November 2013 confirmatory sampling event is provided in Appendix C. The analytical laboratory data report and the data validation report from the confirmatory sampling event are provided in Appendices D and E, respectively.

2.0 LINKWAY ASSESSMENT AND REMEDIAL MEASURES

Given the known presence of VOCs in the subsurface in the vicinity of the Linkway, field screening was conducted after startup of the Building 310 subslab SVE system to assess whether preferential pathways were present for VOC entry into indoor air in the Linkway.

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[4] IBM Corporation and Sanborn, Head Engineering P.C., *Performance Monitoring and Confirmatory Sampling Results, Building 310 VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York,* May 20, 2013.

[5] IBM Corporation and Sanborn Head Engineering, P.C., *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York*, June 15, 2009.

2.1 Linkway Field Screening – Pre-Remedial Measures Results

On November 30, 2012, field screening was conducted in the Linkway to assess the presence of chlorinated volatile organic compounds (CVOCs) in indoor air and to evaluate potential preferential pathways for CVOCs to enter the Linkway.

An Inficon HAPSITE portable gas chromatograph/mass spectrometer (GC/MS), pictured in Exhibit A, was used to screen indoor air locations (designated with an IA-prefix) and targeted air locations (designated with a TA-prefix). Locations were screened for a targeted list of CVOCs, including PCE, trichloroethene (TCE), 1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride (VC). For comparison purposes, a grab air sample was collected into a Summa® canister (6 liter) at location IA2032 at approximately the same time as the portable GC/MS screening, and submitted to Eurofins Air Toxics, Inc. (EATI) for analysis of the site-specific list of 22 VOCs by United States Environmental Protection Agency (USEPA) Method TO-15 Hi/Lo[6].

Exhibit A: HAPSITE Portable GC/MS Instrument

Field screening results at indoor air locations indicated PCE at concentrations up to 68 micrograms per cubic meter (µg/m^3) (at location IA2042) and TCE at concentrations up to 1.2 µg/m^3. Figure 3 shows the maximum PCE screening results at each location using the portable GC/MS, and all the screening results are provided in Table 1, including the grab Summa® canister samples collected for comparison purposes.

PCE was detected at several targeted floor-level features at higher concentrations (up to 560 µg/m^3) as compared to proximate indoor air screening locations, specifically at floor cracks, expansion joints, and a manhole cover for a decommissioned UST formerly used to store PCE sludge. The concentrations observed at several of these floor-level features suggested they were acting as preferential pathways for VOC entry into the Linkway.

The indoor air screening results were generally consistent with concentrations previously recorded in 8-hour indoor air samples collected in the Linkway for off-site laboratory

[6] Samples were analyzed using gas chromatograph/mass spectrometry (GC/MS) techniques. Trichloroethene, vinyl chloride, and carbon tetrachloride were also analyzed in Selective Ion Monitoring (SIM) mode.

analysis (i.e., 8-hr Summa® canister samples submitted for USEPA TO-15 analysis). A summary of prior 8-hour indoor air sample results can be found in Table 2.

2.2 Linkway Remedial Measures and Subsequent Field Screening Results

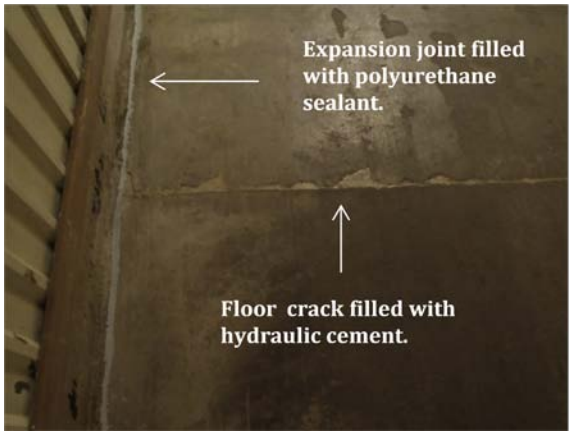
Remedial measures were completed to address the potential pathways identified during the field screening described above. In November 2013, these pathways were addressed as described in the table below (Exhibit B).

Exhibit B: Remedial Measures Completed in the Linkway

Feature	Identified Condition	Remedial Method
Floor Cracks	Cracks in the concrete floor located throughout the linkway	Filled with hydraulic cement
Expansion Joints	Expansion joints located along the entire length of the northern and southern walls of the Linkway where the foundation wall meets the floor slab	Sealed with polyurethane sealant/caulk
	Expansion joints within the concrete floor slab located perpendicular to Linkway walls	Filled with hydraulic cement
Former waste PCE UST	The former UST was partially filled with sand and the manhole access port was still in place within the Linkway	The UST was filled with flowable fill and capped with concrete. The manhole access point was sealed with a polyurethane sealant/caulk

Exhibit C shows the completed remedial measures described above.

Exhibit C: Sealed Linkway Features



Following completion of the sealing work, indoor air and targeted air locations were re-screened for CVOCs using the portable GC/MS instrument on November 7, 2013 and November 26, 2013. The screening concentrations were generally lower than those observed in November 2012, in some locations by up to an order of magnitude, as shown on Figure 3 and summarized in Table 1.

3.0 BUILDING-WIDE CONFIRMATORY SAMPLING OF NOVEMBER 2013

In 2010, PCE was detected in 8-hr Summa® canister indoor air samples collected from within Building 308, with a maximum concentration of 12 µg/m^3 (see Figure 4). As described above, the presence of PCE in Building 308 was believed to be the result of the movement of air containing PCE from Building 310 (prior to startup of the remediation system), and the potential for PCE-vapor entry into the Linkway from the subsurface. Following completion of the Linkway floor sealing measures, portable GC/MS field

screening was conducted on November 7, 2013 at the indoor air sample locations within Building 308. As shown in Table 1, PCE was not recorded in these field screening samples.

Following completion of the above-described Linkway remedial measures and the November 7, 2013 field screening in the Linkway and Building 308, a building-wide confirmatory indoor air sampling event was completed in Building 308 and the Linkway on November 26, 2013. Indoor and ambient outdoor air samples were collected at the same locations sampled in 2010, shown on Figure 4. The ambient outdoor air sample was collected near the intake of one the HVAC units serving Building 308. For quality assurance/quality control (QA/QC) purposes, one field blank and one field duplicate sample were also collected.[7] Information regarding sample locations is summarized below in Exhibit D.

Exhibit D: Summary of Confirmatory Sample Locations

Building	General Building Use(s)	Areas Targeted for Sampling	# of Samples
308	Warehouse and office areas.	Warehouse areas, offices, conference room, and kitchen/copier room.	(6) indoor, (1) ambient outdoor air
Linkway	Pedestrian linkway connecting Building 308 and Building 310.	Locations proximate to Building 310 and to Building 308.	(2) indoor air

During sampling, the vicinity of each location was reviewed for general use (e.g., offices, warehousing), floor conditions (e.g., expansion joints, cracks, staining), chemicals used/stored, and other features. Photographs of sample locations are provided in Appendix B, and field observations for each sample location are provided in Table 3.

3.1 HVAC Settings During Sampling

As depicted on Figure 4, Building 308 has three HVAC zones with air handling units (AHUs) that serve non-warehouse areas, such as offices. Large portions of the building are not within an active HVAC zone, and do not receive outside air from an AHU, including the Warehouse and Shipping/Receiving areas. As shown on Figure 4, an ambient outdoor air sample was collected proximate to the outside air intake for the zone served by AHU-11.

[7] A field blank is a canister that is certified clean by the laboratory and filled in the field with ultra-high purity nitrogen. The purpose of a field blank is to assess for the presence of target compounds that could be due to equipment preparation and transportation of equipment to and from the field. A field duplicate sample is collected at the same time and location as another sample. Collection and analysis of field duplicate samples is intended to assess the precision (repeatability) of the sampling and analysis process. The field blank and duplicate samples are submitted to the analytical laboratory for analysis with the other samples.

The AHUs serving Building 308 are equipped with economizers, which automatically modulate outside air flow for energy efficiency depending on temperature. For each unit, the outside air dampers are configured or programmed with a minimum open position so that sufficient outdoor air can be continuously introduced to the building space. To obtain samples under conservative conditions (i.e., the least amount of outside air), the outside air dampers were set at their minimum open position and not allowed to vary.

Table C-1 in Appendix C presents the HVAC settings during sampling. All three AHUs in Building 308 were adjusted so that the outside air dampers were maintained in their minimum open positions. This adjustment was made 24 hours prior to sampling to allow equilibration before sample collection took place. The damper positions remained unchanged during the sampling period. Table C-2 in Appendix C presents observations of AHU damper positions during the sampling events.

During the November 2013 sampling round, a handheld anemometer was used to periodically monitor airflow at three locations in the Linkway (IA2037, IA2042, and IA2033). Observations indicate that air was consistently flowing from Building 308 to Building 310 through the Linkway during the sampling period.

3.2 Sample Collection and Analysis

Samples were collected on November 26, 2013 as 8-hour, time-integrated samples using Summa® canisters (6 liters) in accordance with the procedures described in the Work Plan. Sample canisters were deployed approximately simultaneously and were set at a height of approximately 3.5 feet above the floor. The samples were submitted to EATI for laboratory analysis of the site-specific list of 22 VOCs by USEPA Method TO-15 Hi/Lo. Additional sample information, including sample collection times, initial and final canister pressures, and canister identification numbers, is provided in Table 3.

Field screening was also performed up to three times at several locations within the Linkway and Building 308 during the 8-hour sample period. The field screening results are presented in Table 1. PCE was observed at one screening location (IA2037 in the Linkway), with results ranging from 5.6 to 6.8 µg/m^3. TCE was not observed during screening.

Analytical data were provided to New Environmental Horizons, Inc. (NEH) for independent third-party data validation evaluation. NEH's data validation report is included as Appendix E. NEH found the data to be useable in accordance with the project data quality objectives (DQOs) subject to the minor qualification discussed in Section 4.

3.3 Summary of Field Observations

Solvents have not historically been used in Building 308, and no chemicals were observed during our sampling activities, with the exception of typical household cleaning supplies and office materials in the Conference Room and Shipping/Receiving areas. Detailed field observations relating to building features and chemical use/presence are summarized in Table 3.

3.4 Summary of Analytical Data

As presented on Figure 4, the PCE results from the November 26, 2013 sampling event demonstrate that the remedial measures implemented in the Linkway and Building 310 have successfully reduced PCE indoor air concentrations compared to the 2010 sampling results. PCE was not detected in the Building 308 indoor air samples collected after the implementation of the remedial measures.

PCE was recorded in one sample from the Linkway (at location IA2037) at a concentration of 6.8 µg/m^3. This sample is located at the western end of the Linkway, nearest to Building 310. Previously, PCE had been recorded at both ends of the Linkway at concentrations up to 41 µg/m^3.

TCE was detected at one location in Building 308 (IA0102) at a concentration of 0.18 µg/m^3. Samples collected from the Linkway locations, IA2033 and IA2037, had TCE detections at concentrations of 0.22 and 0.28 µg/m^3, respectively.

As summarized in Table 2, the following analytes were detected in the indoor air samples at concentrations similar to, or only slightly greater than, those recorded for the concurrent ambient outdoor air samples: carbon tetrachloride, acetone, benzene, toluene, Freon 11, and Freon 12. However, these analytes were detected at concentrations less than or equal to 10 µg/m^3, and were more typically on the order of a few micrograms per cubic meter or less. These analytes and concentrations are generally consistent with the ambient and indoor air results of the 2010 indoor air sampling round in Building 308, and in the case of Linkway samples, the results of indoor air sampling rounds that took place in 2009 and 2012.

Freon 113 and m,p-xylene were detected in indoor air samples at concentrations of less than 2.1 µg/m^3. Freon 113 and m,p-xylene were not detected in the ambient outdoor air sample; however, the observed concentrations were similar to or slightly less than those which had been previously detected in the Linkway or Building 308 in the samples collected in 2010. Table 2 summarizes all indoor air sampling rounds in Building 308 and the Linkway. Analytical laboratory data reports are included in Appendix D.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

Analytical data were provided to NEH for third-party independent data validation. NEH's data validation report is presented as Appendix E.

NEH's evaluation included a review of sample data, including raw data, to verify that the laboratory performed the analyses in compliance with the analytical methods required, laboratory procedures, consistency with the RFI Work Plan QA/QC requirements, and USEPA and New York State Department of Environmental Conservation (NYSDEC) guidelines for data validation of organic data. NEH prepared a Data Usability Report that summarized the quality control (QC) issues that required action (qualification of data) and compared QA/QC criteria to the DQOs described in the Work Plan.

In summary and as stated above, NEH found the data to be usable in accordance with the project data quality objectives subject to a few minor qualifications. The following QA/QC considerations were noted by NEH:

- Carbon tetrachloride results were estimated (J or UJ) with indeterminate bias in all samples due to the initial calibration being outside criteria in the Selected Ion Monitoring (SIM) analysis performed by the laboratory.

5.0 CONCLUSIONS

The remedial measures in the Building 310 and the Linkway have successfully reduced the concentrations of VOCs observed in indoor air in Building 308 and the Linkway. Based on the results of this assessment, no further assessment or remedial measures are planned for Building 308 or the Linkway.

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TABLES

TABLE 1
Summary of Portable GC/MS Indoor and Targeted Air Screening Results
Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
IBM East Fishkill Facility
Hopewell Junction, New York

Sample Location	Sample Type	Collection Date	Tetrachloroethene (PCE) µg/m³	Trichloroethene (TCE) µg/m³	cis-1,2-Dichloroethene (cDCE) µg/m³	trans-1,2-Dichloroethene (tDCE) µg/m³	1,1-Dichloroethene (DCE) µg/m³	1,1-Dichloroethane (DCA) µg/m³	Vinyl Chloride (VC) µg/m³
B308									
IA0100	HAPSITE - Indoor Air	11/07/2013 15:06	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0100	HAPSITE - Indoor Air	11/26/2013 09:20	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0100	HAPSITE - Indoor Air	11/26/2013 15:21	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0101	HAPSITE - Indoor Air	11/07/2013 15:13	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0101	HAPSITE - Indoor Air	11/26/2013 09:12	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0101	HAPSITE - Indoor Air	11/26/2013 15:08	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0102	HAPSITE - Indoor Air	11/07/2013 14:08	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0102	HAPSITE - Indoor Air	11/26/2013 08:28	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0102	HAPSITE - Indoor Air	11/26/2013 15:37	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0102	HAPSITE - Indoor Air	11/26/2013 16:55	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0103	HAPSITE - Indoor Air	11/07/2013 14:48	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0104	HAPSITE - Indoor Air	11/07/2013 14:20	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0104	HAPSITE - Indoor Air	11/26/2013 08:39	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0104	HAPSITE - Indoor Air	11/26/2013 15:49	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA0105	HAPSITE - Indoor Air	11/07/2013 14:38	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
Linkway									
IA2032	HAPSITE - Indoor Air	11/30/2012 08:22	12	0.64	<0.40	<0.40	<0.40	<0.40	<0.26
IA2032	SUMMA Grab - Indoor Air	11/30/2012 08:48	8.5	0.22	<0.68	NA	<0.68	NA	<0.04
IA2032	HAPSITE - Indoor Air	11/07/2013 10:15	12	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2032	SUMMA Grab - Indoor Air	11/07/2013 10:15	4.6	<0.18	<0.68	NA	<0.68	NA	NA
IA2033	HAPSITE - Indoor Air	11/30/2012 08:46	2.2	<0.64	<0.40	<0.40	<0.40	<0.40	<0.26
IA2033	HAPSITE - Indoor Air	11/30/2012 11:12	1.2	<0.64	<0.40	<0.40	<0.40	<0.40	<0.26
IA2033	HAPSITE - Indoor Air	11/07/2013 12:08	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2033	HAPSITE - Indoor Air	11/07/2013 13:57	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2033	HAPSITE - Indoor Air	11/07/2013 15:37	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2033	HAPSITE - Indoor Air	11/26/2013 08:16	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2033	HAPSITE - Indoor Air	11/26/2013 14:52	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2033	HAPSITE - Indoor Air	11/26/2013 16:43	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/30/2012 08:13	51	1.2	0.67	<0.40	<0.40	<0.40	<0.26
IA2037	HAPSITE - Indoor Air	11/30/2012 11:24	7.5	<0.64	<0.40	<0.40	<0.40	<0.40	<0.26
IA2037	HAPSITE - Indoor Air	11/07/2013 09:46	9.5	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/07/2013 13:39	6.3	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/07/2013 15:55	11	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/26/2013 07:58	6.0	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/26/2013 14:11	6.8	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2037	HAPSITE - Indoor Air	11/26/2013 16:22	5.6	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2042	HAPSITE - Indoor Air	11/30/2012 08:58	68	0.86	0.59	<0.40	<0.40	<0.40	<0.26
IA2042	HAPSITE - Indoor Air	11/30/2012 10:27	4.1	<0.64	<0.40	<0.40	<0.40	<0.40	<0.26
IA2042	HAPSITE - Indoor Air	11/07/2013 11:17	4.8	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2042	HAPSITE - Indoor Air	11/07/2013 13:47	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2042	HAPSITE - Indoor Air	11/07/2013 15:45	15	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2042	HAPSITE - Indoor Air	11/26/2013 14:25	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2042	HAPSITE - Indoor Air	11/26/2013 16:31	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2043	HAPSITE - Indoor Air	11/30/2012 09:12	61	0.91	0.59	<0.40	<0.40	<0.40	<0.26
IA2043	HAPSITE - Indoor Air	11/07/2013 10:56	8.8	<2.7	<2.0	<2.0	<2.0	<2.0	NA

TABLE 1
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Hopewell Junction, New York

Sample Location	Sample Type	Collection Date	Tetrachloroethene (PCE) µg/m³	Trichloroethene (TCE) µg/m³	cis-1,2-Dichloroethene (cDCE) µg/m³	trans-1,2-Dichloroethene (tDCE) µg/m³	1,1-Dichloroethene (DCE) µg/m³	1,1-Dichloroethane (DCA) µg/m³	Vinyl Chloride (VC) µg/m³
IA2044	HAPSITE - Indoor Air	11/30/2012 09:38	47	0.81	0.56	<0.40	<0.40	<0.40	<0.26
IA2044	HAPSITE - Indoor Air	11/07/2013 09:28	13	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2045	HAPSITE - Indoor Air	11/07/2013 08:54	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2046	HAPSITE - Indoor Air	11/07/2013 10:30	8.1	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2047	HAPSITE - Indoor Air	11/07/2013 10:42	19	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2048	HAPSITE - Indoor Air	11/07/2013 11:48	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
IA2049	HAPSITE - Indoor Air	11/07/2013 11:59	7.5	<2.7	<2.0	<2.0	<2.0	<2.0	NA
TA-201	HAPSITE - Expansion Joint	11/30/2012 09:52	10	<1.3	<0.79	<0.79	<0.79	<0.81	<0.51
TA-201	HAPSITE - Expansion Joint	11/07/2013 10:02	11	<2.7	<2.0	<2.0	<2.0	<2.0	NA
TA-202	HAPSITE - Expansion Joint	11/30/2012 10:05	160	<2.6	<1.6	<1.6	<1.6	<1.6	<1.0
TA-202	HAPSITE - Expansion Joint	11/07/2013 11:09	18	<2.7	<2.0	<2.0	<2.0	<2.0	NA
TA-203	HAPSITE - Manhole Cover	11/30/2012 10:15	54	<2.6	<1.6	<1.6	<1.6	<1.6	<1.0
TA-203	HAPSITE - Manhole Cover	11/07/2013 11:26	1,200	9.1	2.1	<2.0	<2.0	<2.0	NA
TA-203	HAPSITE - Manhole Cover	11/26/2013 14:43	55	<5.4	<4.0	<4.0	<4.0	<4.1	NA
TA-204	HAPSITE - Expansion Joint	11/30/2012 11:47	560	<2.1	<1.6	<1.6	<1.6	<1.6	<1.0
TA-204	HAPSITE - Expansion Joint	11/07/2013 09:37	10	<2.7	<2.0	<2.0	<2.0	<2.0	NA
TA-205	HAPSITE - Expansion Joint	11/30/2012 10:59	110	<2.6	<1.6	<1.6	<1.6	<1.6	<1.0
TA-205	HAPSITE - Expansion Joint	11/07/2013 09:13	22	<2.7	<2.0	<2.0	<2.0	<2.0	NA
Field Blank	HAPSITE - Outside Air	11/30/2012 07:43	<0.68	0.64	<0.40	<0.40	<0.40	<0.40	<0.26
Field Blank	HAPSITE - Outside Air	11/30/2012 11:39	<0.68	<0.54	<0.40	<0.40	<0.40	<0.40	<0.26
Field Blank	HAPSITE - Outside Air	11/07/2013 08:49	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
Field Blank	HAPSITE - Outside Air	11/07/2013 13:30	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA
Field Blank	HAPSITE - Outside Air	11/26/2013 07:47	<3.4	<2.7	<2.0	<2.0	<2.0	<2.0	NA

Notes:
1. This table summarizes data recorded during field screening at indoor air and targeted air locations using a HAPSITE SmartPlus portable gas chromatograph/mass spectrometer (GC/MS), manufactured by Inficon. The field samples were collected by SHPC personnel directly into the GC/MS sampling probe from the locations and on the dates noted in the table. The samples were screened using the portable GC/MS in selective ion monitoring (SIM) mode. Results were converted to micrograms per cubic meter (µg/m^3) by Sanborn Head using standard temperatue (25°C) and pressure (1 atmosphere) for the conversion. Results were rounded to two significant figures.

2. The portable GC/MS was used as a field screening tool; therefore, the data should be considered estimated and not suitable for independent validation and decision-making. The findings should be considered in conjunction with the results of samples analyzed by a fixed laboratory.

3. SUMMA Grab samples were collected as grab samples into 6-liter Summa® canisters and submitted to Eurofins Air Toxics, Inc. (EATI) for laboratory analysis of the site-specific list of 22 VOCs by United States Environmental Protection Agency (USEPA) Method TO-15 Hi/Lo. Trichloroethene, vinyl chloride, and carbon tetrachloride (not tabulated) were analyzed in SIM mode.

4. "<" - The method reporting limit was considered to be 0.1 ppbv (November 2012) and 0.5 ppbv (November 2013) for the portable GC/MS measurements. Sanborn Head reviewed the quality of the data, and the results of the review are presented in this table.

5. "NA" indicates not analyzed for the indicated parameter.

TABLE 2
Confirmatory Samping Results
Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m³																											
	Field Blank			Ambient Outdoor Air						Building 308 Indoor Air																		
	FB01			AA0106			AA0106			IA0100			IA0100			IA0101			IA0101			IA0102			IA0102			IA0102 DUP34350		
	Outside of B308			HVAC Intake for AHU-11						Consignment Crib / Warehouse						Conference Room						Warehouse								
	11/26/2013			3/18/2010			11/26/2013			3/18/2010			11/26/2013			3/18/2010			11/26/2013			3/18/2010			11/26/2013			11/26/2013		
	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qual	Bias
Tetrachloroethene (PCE)	<1.3	U		<1.1	U		<0.98	U		3.6			<1.1	U		2.4			<1.1	U		12			<1.1	U		<1.1	U	
Trichloroethene (TCE)	<0.21	U		<0.18	U		<0.15	U		<0.17	U		<0.17	U		<0.17	U		<0.18	U		0.32			0.18			<0.18	U	
cis-1,2-Dichloroethene (cDCE)	<0.78	U		<0.67	U		<0.57	U		<0.64	U		<0.62	U		<0.63	U		<0.65	U		<0.65	U		<0.66	U		<0.65	U	
1,1-Dichloroethene (DCE)	<0.78	U		<0.67	U		<0.57	U		<0.64	U		<0.62	U		<0.63	U		<0.65	U		<0.65	U		<0.66	U		<0.65	U	
Vinyl chloride (VC)	<0.050	U		<0.043	U		<0.037	U		<0.041	U		<0.040	U		<0.040	U		<0.042	U		<0.042	U		<0.043	U		<0.042	U	
1,1,1-Trichloroethane (TCA)	<1.1	U		<0.92	U		<0.78	U		<0.88	U		<0.86	U		<0.86	U		<0.89	U		<0.89	U		<0.91	U		<0.89	U	
Carbon tetrachloride	<0.25	UJ	I	0.44			0.68	J	I	0.42			0.76	J	I	0.41			0.67	J	I	0.37			0.71	J	I	0.41	J	I
Methylene chloride (MeCl)	<1.4	U		<1.2	U		<1.0	U		<1.1	U		<1.1	U		<1.1	U		<1.1	U		<1.1	U		<1.2	U		<1.1	U	
Chlorobenzene	<0.90	U		<0.77	U		<0.66	U		<0.74	U		<0.72	U		<0.73	U		<0.76	U		<0.76	U		<0.77	U		<0.76	U	
1,2,4-Trichlorobenzene	<7.3	U		<6.2	U		<5.3	U		<6.0	U		<5.8	U		<5.9	U		<6.1	U		<6.1	U		<6.2	U		<6.1	U	
1,2-Dichlorobenzene	<1.2	U		<1.0	U		<0.86	U		<0.97	U		<0.94	U		<0.95	U		<0.99	U		<0.99	U		<1.0	U		<0.99	U	
1,3-Dichlorobenzene	<1.2	U		<1.0	U		<0.86	U		<0.97	U		<0.94	U		<0.95	U		<0.99	U		<0.99	U		<1.0	U		<0.99	U	
1,4-Dichlorobenzene	<1.2	U		<1.0	U		<0.86	U		<0.97	U		<0.94	U		<0.95	U		<0.99	U		<0.99	U		<1.0	U		<0.99	U	
Acetone	<2.3	U		5.0			7.5			5.9			9.0			13			10			9.9			8.2			8.8		
Benzene	<0.63	U		<0.54	U		0.58			0.80			0.88			0.71			0.96			0.72			0.90			0.90		
Ethylbenzene	<0.85	U		<0.73	U		<0.62	U		<0.70	U		<0.68	U		<0.69	U		<0.71	U		<0.71	U		<0.72	U		<0.71	U	
m,p-Xylene	<0.85	U		0.81			<0.62	U		1.2			1.5			0.87			1.4			1.8			2.1			2.0		
o-Xylene	<0.85	U		<0.73	U		<0.62	U		<0.70	U		<0.68	U		<0.69	U		<0.71	U		<0.71	U		<0.72	U		<0.71	U	
Toluene	<0.74	U		2.2			0.89			4.3			3.9			4.0			3.5			9.6			4.1			4.3		
Trichlorofluoromethane (Freon 11)	<1.1	U		1.6			1.4			1.3			1.4			1.2			1.4			1.6			1.4			1.1		
Dichlorodifluoromethane (Freon 12)	<0.97	U		2.6			2.4			2.2			2.5			2.3			2.4			2.2			2.2			1.9		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.5	U		<1.3	U		<1.1	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		3.1			<1.3	U		<1.2	U	

Notes:

1. Samples were collected by SHPC personnel on the dates indicated using 6-liter Summa® canisters equipped with 8-hour flow controllers.

2. Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.

3. "<" indicates a non-detection at the reporting limit shown.

4. New Environmental Horizons, Inc (NEH) performed an independent validation of the 2010 and 2013 analytical data, as described in their Data Usability Reports, dated April 13, 2010, and January 10, 2014 and provided as Appendix E. All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data:
"U" - The compound was analyzed for, but was not detected. The associated numerical value is the sample-specific reporting limit. The value is usable for project decisions as a non-detect result at the reporting limit.
"J" - Indicates result is an estimated value.
"I" - Indicates indeterminate bias.

TABLE 2
Confirmatory Samping Results
Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m³																	
	Building 308 Indoor Air																	
	IA0103			IA0103			IA0104			IA0104			IA0105			IA0105		
	Kitchen / Copier Room						Shipping / Receiving Area						Office Area					
	3/18/2010			11/26/2013			3/18/2010			11/26/2013			3/18/2010			11/26/2013		
	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias	Result	Qualifier	Bias	Result	Qual	Bias
Tetrachloroethene (PCE)	2.5			<1.1	U		5.1			<1.1	U		2.9			<1.1	U	
Trichloroethene (TCE)	<0.17	U		<0.17	U		0.23			<0.18	U		<0.18	U		<0.18	U	
cis-1,2-Dichloroethene (cDCE)	<0.64	U		<0.63	U		<0.69	U		<0.65	U		<0.67	U		<0.65	U	
1,1-Dichloroethene (DCE)	<0.64	U		<0.63	U		<0.69	U		<0.65	U		<0.67	U		<0.65	U	
Vinyl chloride (VC)	<0.041	U		<0.041	U		<0.045	U		<0.042	U		<0.043	U		<0.042	U	
1,1,1-Trichloroethane (TCA)	<0.88	U		<0.87	U		<0.95	U		<0.90	U		<0.92	U		<0.89	U	
Carbon tetrachloride	0.43			0.67	J	I	0.45			0.64	J	I	0.42			<0.20	UJ	I
Methylene chloride (MeCl)	<1.1	U		<1.1	U		<1.2	U		<1.1	U		<1.2	U		<1.1	U	
Chlorobenzene	<0.74	U		<0.73	U		<0.80	U		<0.76	U		<0.77	U		<0.75	U	
1,2,4-Trichlorobenzene	<6.0	U		<5.9	U		<6.5	U		<6.1	U		<6.2	U		<6.0	U	
1,2-Dichlorobenzene	<0.97	U		<0.96	U		<1.0	U		<0.99	U		<1.0	U		<0.98	U	
1,3-Dichlorobenzene	<0.97	U		<0.96	U		<1.0	U		<0.99	U		<1.0	U		<0.98	U	
1,4-Dichlorobenzene	<0.97	U		<0.96	U		<1.0	U		<0.99	U		<1.0	U		<0.98	U	
Acetone	5.5			8.4			8.5			7.1			7.2			7.2		
Benzene	0.58			0.66			0.79			0.93			0.82			0.80		
Ethylbenzene	<0.70	U		<0.69	U		0.83			<0.72	U		<0.73	U		<0.71	U	
m,p-Xylene	0.98			0.84			2.7			1.4			1.9			1.2		
o-Xylene	<0.70	U		<0.69	U		<0.76	U		<0.72	U		<0.73	U		<0.71	U	
Toluene	3.4			2.3			7.6			2.3			6.1			2.8		
Trichlorofluoromethane (Freon 11)	1.3			1.6			1.6			1.3			1.3			1.3		
Dichlorodifluoromethane (Freon 12)	2.4			2.2			2.8			2.2			2.7			2.7		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.2	U		1.6			2.1			<1.3	U		<1.3	U		<1.2	U	

Notes:

1. Samples were collected by SHPC personnel on the dates indicated using 6-liter Summa® canisters equipped with 8-hour flow controllers.

2. Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo).
Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.

3. "<" indicates a non-detection at the reporting limit shown.

4. New Environmental Horizons, Inc (NEH) performed an independent validation of the 2010 and 2013 analytical data, as described in their Data Usability Reports, dated April 13, 2010, and January 10, 2014 and provided as Appendix E. All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data:
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TABLE 2
Confirmatory Samping Results
Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m³																	
	Linkway Indoor Air																	
	IA2032	IA2032	IA2032	IA2032	IA2032	IA2033	IA2033			IA2033	IA2033	IA2033			IA2037	IA2037		
	Linkway to B310																	
	05/13/09	06/08/09	07/08/09	03/15/12	04/18/12	06/08/09	3/18/2010			03/15/12	04/18/12	11/26/2013			04/18/12	11/26/2013		
	Result	Result	Result	Result	Result	Result	Result	Qualifier	Bias	Result	Result	Result	Qual	Bias	Result	Result	Qual	Bias
Tetrachloroethene (PCE)	25	24	5.3	38	3.5	21	41			19	16	<1.1	U		1.2	6.8		
Trichloroethene (TCE)	0.31	0.77	1.2	0.49	<0.18	0.52	0.63			0.30	0.23	0.22			<0.18	0.28		
cis-1,2-Dichloroethene (cDCE)	<0.65	<0.68	<0.72	<0.68	<0.67	<0.69	<0.64	U		<0.68	<0.64	<0.64	U		<0.67	<0.63	U	
1,1-Dichloroethene (DCE)	<0.65	<0.68	<0.72	<0.68	<0.67	<0.69	<0.64	U		<0.68	<0.64	<0.64	U		<0.67	<0.63	U	
Vinyl chloride (VC)	<0.042	<0.044	<0.047	<0.044	<0.043	<0.045	<0.041	U		<0.044	<0.041	<0.041	U		<0.043	<0.041	U	
1,1,1-Trichloroethane (TCA)	<0.89	<0.93	<1.0	<0.93	<0.92	<0.95	<0.88	U		<0.93	<0.88	<0.88	U		<0.92	<0.87	U	
Carbon tetrachloride	0.41	0.44	0.41	0.50	0.53	0.48	0.37			0.48	0.22	0.68	J	I	0.63	0.73	J	I
Methylene chloride (MeCl)	<1.1	<1.2	<1.3	<1.2	<1.2	<1.2	<1.1	U		<1.2	<1.1	<1.1	U		<1.2	<1.1	U	
Chlorobenzene	<0.76	<0.79	<0.84	<0.79	<0.78	<0.80	<0.74	U		<0.79	<0.74	<0.74	U		<0.78	<0.73	U	
1,2,4-Trichlorobenzene	<6.1	<6.3	<6.8	<6.3	<6.3	<6.5	<6.0	U		<6.3	<6.0	<6.0	U		<6.3	<5.9	U	
1,2-Dichlorobenzene	<0.99	<1.0	<1.1	<1.0	<1.0	<1.0	<0.97	U		<1.0	<0.97	<0.97	U		<1.0	<0.96	U	
1,3-Dichlorobenzene	<0.99	<1.0	<1.1	<1.0	<1.0	<1.0	<0.97	U		<1.0	<0.97	<0.97	U		<1.0	<0.96	U	
1,4-Dichlorobenzene	<0.99	<1.0	<1.1	<1.0	<1.0	<1.0	<0.97	U		<1.0	<0.97	<0.97	U		<1.0	<0.96	U	
Acetone	14	23	6.8	12	5.3	35	14			12	6.7	7.5			5.3	7.1		
Benzene	<0.52	0.74	<0.58	0.69	<0.54	0.75	<0.51	U		0.70	<0.52	0.90			<0.54	0.83		
Ethylbenzene	<0.71	<0.74	<0.79	<0.74	<0.73	<0.76	<0.70	U		<0.74	<0.70	<0.70	U		<0.73	<0.69	U	
m,p-Xylene	<0.71	<0.74	<0.79	1.0	<0.73	<0.76	<0.70	U		1.2	<0.70	1.3			<0.73	1.6		
o-Xylene	<0.71	<0.74	<0.79	<0.74	<0.73	<0.76	<0.70	U		<0.74	<0.70	<0.70	U		<0.73	<0.69	U	
Toluene	1.4	4.3	1.2	2.5	0.68	6.5	2.3			3.0	0.69	5.1			0.66	3.7		
Trichlorofluoromethane (Freon 11)	4.9	8.0	16	1.6	4.1	4.9	2.0			1.5	4.0	1.3			3.9	1.5		
Dichlorodifluoromethane (Freon 12)	2.8	2.9	2.8	3.4	3.0	2.5	2.2			2.8	3.0	2.6			2.8	2.2		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.2	1.4	2.3	<1.3	<1.3	<1.3	6.5			<1.3	<1.2	1.7			<1.3	1.7		

Notes:

1. Samples were collected by SHPC personnel on the dates indicated using 6-liter Summa® canisters equipped with 8-hour flow controllers.

2. Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.

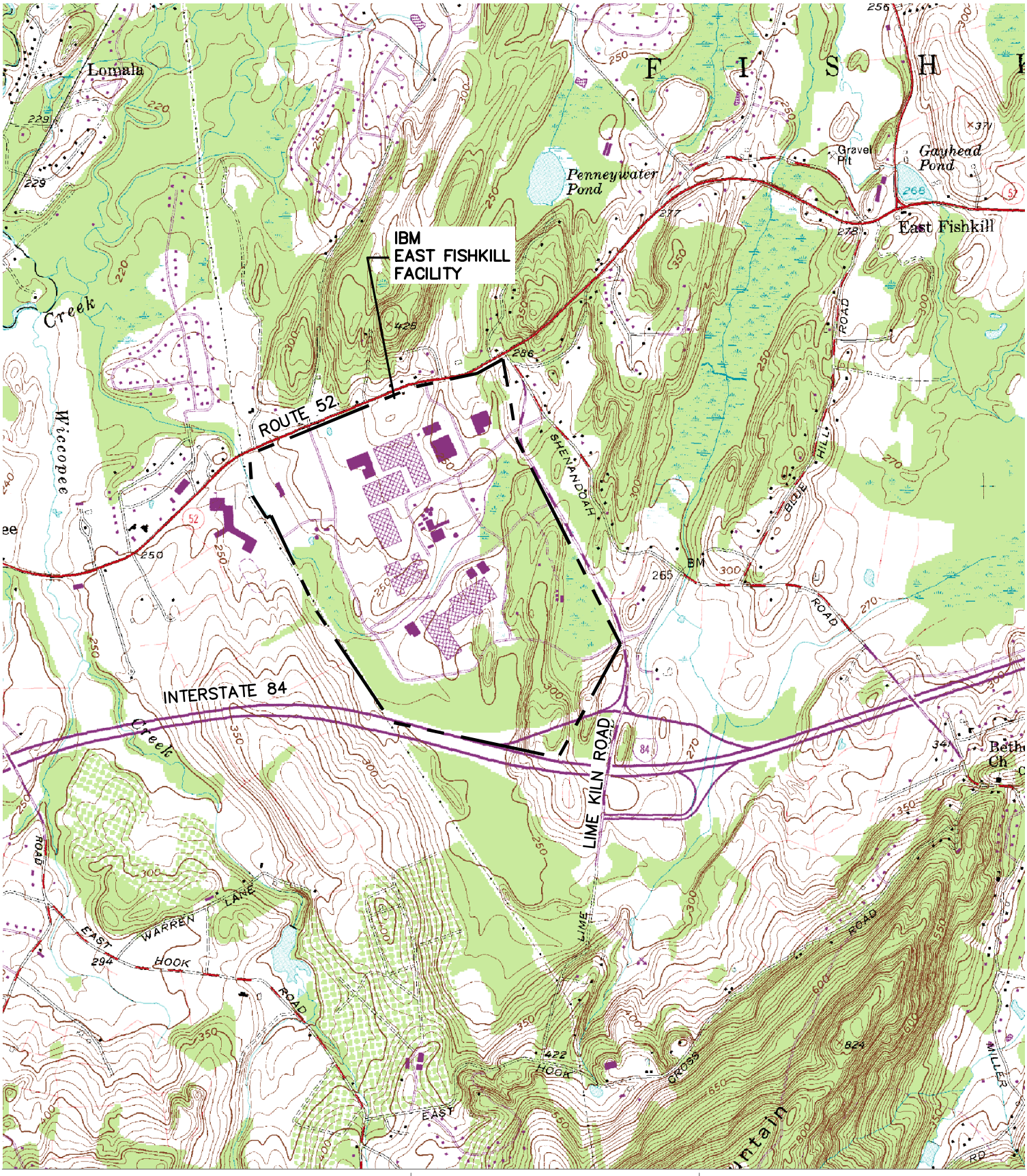
3. "<" indicates a non-detection at the reporting limit shown.

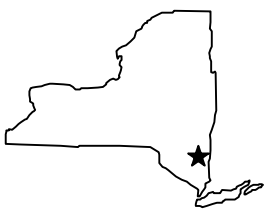
4. New Environmental Horizons, Inc (NEH) performed an independent validation of the 2010 and 2013 analytical data, as described in their Data Usability Reports, dated April 13, 2010, and January 10, 2014 and provided as Appendix E. All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data:
"U" - The compound was analyzed for, but was not detected. The associated numerical value is the sample-specific reporting limit. The value is usable for project decisions as a non-detect result at the reporting limit.
"J" - Indicates result is an estimated value.
"I" - Indicates indeterminate bias.

TABLE 3
Summary of November 26, 2013 Confirmatory Sample Information
Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310
IBM East Fishkil Facility
Hopewell Junction, New York

Sample ID	Building Floor	Sample Matrix	Canister Number	Sample Height (ft. above floor)	Start Time (hrs)	Start Pressure (in. Hg)	Stop Time (hrs)	Stop Pressure (in. Hg)	PID (ppbv)	Temperature (°F)	Location Description	Chemicals Observed Near Sample Location	Other Observations
Building 308 and Linkway – November 26, 2013													
AA0106	Ground	Ambient Air	9L0018	NA	1002	30	1808	5	NA	NA	HVAC intake for AHU-11 at ground level	None observed.	
FB01	Ground	Field Blank	5730	NA	1001	30.5	1900	9	NA	NA	Outside of B308, north of intake for AHU-11 at ground level	None observed.	
IA0100	Ground	Indoor Air	12045	3.5	948	31	1750	6	95	70	Consignment Crib / Warehouse	None observed.	Storage of various machine parts. Metallic and plastic odors observed.
IA0101	Ground	Indoor Air	9910	3.5	949	31	1754	6.5	117	71	Conference Room	Whiteboard markers.	
IA0102	Ground	Indoor Air	11298	3.5	945	31	1745	6.5	113	74	Warehouse	None observed.	
DUP34350 (IA0102 Dup.)	Ground	Indoor Air	34350	3.5	945	30	1745	6.5	113	74	Warehouse	None observed.	
IA0103	Ground	Indoor Air	34209	3.5	952	31	1759	6	55	70	Kitchen / Copier Room	None observed.	Printer/copier near sample.
IA0104	Ground	Indoor Air	33772	3.5	943	31	1743	6.5	110	75	Shipping / Receiving Area	"Fantastik" and "Windex" cleaning sprays; permanent magic marker.	Printers near sample.
IA0105	Ground	Indoor Air	1602	3.5	942	30	1742	6	92	75	Office Area	None observed.	Printer near sample.
IA2033	Ground	Indoor Air	13656	3.5	954	31.5	1756	7.5	84	70	Linkway to Building 310 (East)	None observed.	Recent floor crack/joint sealing work.
IA2037	Ground	Indoor Air	12717	3.5	955	30	1802	6	98	69	Linkway to Building 310 (West)	None observed.	Recent floor crack/joint sealing work.

FIGURES





Notes:
Base map taken from 7.5 minute USGS Quadrangle Maps: Hopewell Junction, New York, Dated 1957, Photorevised in 1981.

Drawn By: E. Wright
Designed By: B. Green
Reviewed By: D. Shea
Project No: 2999.00
Date: May 2014

1000' 0 2000' Feet

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Figure 1

Locus Plan

Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310

IBM East Fishkill Facility
Hopewell Junction, New York

Figure 2

Building Location Plan

Report of Remedial Measures and Confirmatory Sampling Results

Building 308 and Linkway to Building 310

IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: L. Atwell
Reviewed By: D. Shea
Project No: 2999.00
Date: May 2014

Figure Narrative

This figure shows the buildings at the IBM East Fishkill facility. Building 308 and the Linkway to Building 310 are highlighted.

Legend

— - - — IBM Property Line

Unlabeled features include wastewater treatment tanks, pump houses, trailers, and other structures and features not intended for human occupancy

B308 Indicates building number

Indicates the location of Building 308 and the Linkway to Building 310

N
W E
S

200' 100' 0 200' 400' Feet

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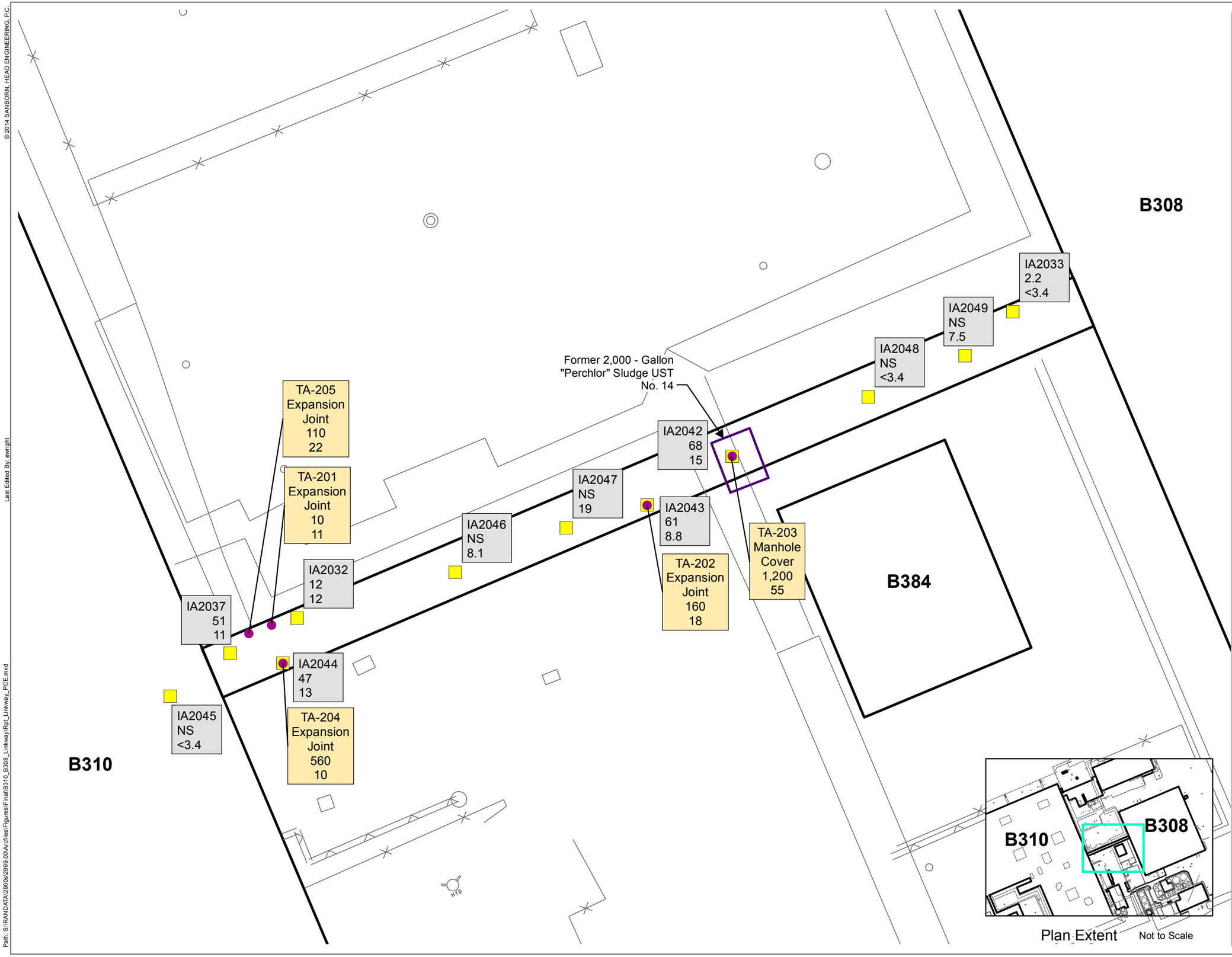
File:S:\RAN\DATA\2900s\2999.00\Graphics Files\CAD\Linkway B310-B308\VOC Source Assessment\Building_Location_Plan.dwg Plot Date: 3-4-14



Plan Extent Not to Scale

Figure 3

Pre- and Post-Remedial Measures Screening Results for PCE

Report of Remedial Measures and Confirmatory Sampling Results
Building 308 and Linkway to Building 310

IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	H. Elkinton
Reviewed By:	B. Green
Project No:	2999.00
Date:	May 2014

Figure Narrative

This figure shows the tetrachloroethene (PCE) screening results using a portable gas chromatograph/mass spectrometer (GC/MS)prior to and after implementation of remedial measures (i.e., sealing) in the Linkway to Building 310. Pre-sealing screening was completed on November 30, 2012 (and November 7, 2013 at the TA-203 location only), and post-sealing screening was completed on November 7 and 26, 2013.

Indoor air locations were generally screened from 5 feet above floor in the breathing zone. Targeted air locations were screened less than an inch above the floor level. Screening results are shown in micrograms per cubic meter (ug/m3).

Refer to text for description of remedial measures. Refer to Table 1 for field screening results.

Legend

- Indoor air sampling location
- Targeted air sampling location

TA-205 Expansion Joint 110 22 — TA location name, Location description, Max PCE result (pre-sealing), Max PCE reult (post-sealing)

IA2033 2.2 3.1 — IA location name, Max PCE result (pre-sealing), Max PCE result (post-sealing)

"NS" indicates the location was not screened

N W E S

10 5 0 10 20 Feet

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IA0100
3.6
<1.1

Consignment
Crib/Warehouse

AHU-10

AHU-10

AHU-10

IA0102
12
<1.1

IA0101
2.4
<1.1

Conference
Room

Warehouse

B308

IA2033
41
<1.1

Up to 150 ft/min

Former 2,000 - Gallon
"Perchlor" Sludge UST
No. 14

IA0104
5.1
<1.1

Linkway to 310

IA2037
1.2
6.8

B384

Shipping/
Receiving Area

IA0105
2.9
<1.1

Building 384 -
Groundwater Treatment Building

AA0106
<1.1
<0.98

TRENCH

TRENCH

AHU-11

IA0103
2.5
<1.1

Office Area

AHU-1

Kitchen/
Copier
Room

B310

Figure 4

Pre- and Post-Remedial Measures Confirmatory Sampling Results for PCE

Report of Remedial Measures and
Confirmatory Sampling Results
Building 308 and Linkway to Building 310

IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	L. Atwell
Reviewed By:	B. Green
Project No:	2999.00
Date:	March 2014

Figure Narrative

This figure shows the tetrachloroethene (PCE) indoor air sample concentrations observed prior to implementation of remedial measures in Building 310 (collected on March 18, 2010) and the Linkway compared to the results of post-remediation sampling conducted on November 26, 2013. Refer to text for description of remedial measures.

Samples were collected into 6-liter Summa® canisters with 8-hour flow controllers, and submitted to Eurofins Air Toxics, Inc. (EATI) for analysis of the site-specific list of 22 volatile oganic compounds (VOCs) by U.S. Environmental Protection Agency (USEPA) Method TO-15 Hi/Lo.

All results are shown in micrograms per cubic meter (µg/m3).

Legend

- Indoor air sampling location
- Ambient outdoor air sampling location
- IA2033 / 41 / <1.1 — Location name; PCE results for 3/18/2010*; PCE results for 11/26/2013
- *The result for location IA2037 is from a sample collected on April 18, 2012
- Air flow measurement collected during sampling on November 26, 2013
- AHU-1 — HVAC zone

N W E S

22.5 11.25 0 22.5 45 Feet

SANBORN HEAD ENGINEERING

APPENDIX A

LIMITATIONS

APPENDIX A
LIMITATIONS

1. The findings and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.

2. The conclusions contained in this report are based in part upon various types of chemical data, as well as historical and hydrogeologic information developed by previous investigators. While SHPC has reviewed that data available to us at the time the report was prepared and information as stated in this report, any of SHPC's interpretations and conclusions that have relied on that information will be contingent on its validity. SHPC has not performed an independent assessment of the reliability of the data; should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by SHPC and the interpretations and conclusions presented herein may be modified accordingly.

3. Sampling and quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, SHPC has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data. It must be noted that additional compounds not searched for during the current study may be present in indoor and ambient air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within indoor and ambient air may occur due to the passage of time, seasonal water table fluctuations, recharge events, and other factors.

4. This report has been prepared for the exclusive use of IBM for specific application to Building 308 at the East Fishkill facility in accordance with generally accepted engineering and scientific practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.

5. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

APPENDIX B

PHOTOGRAPH LOG

APPENDIX B
PHOTOGRAPH LOG

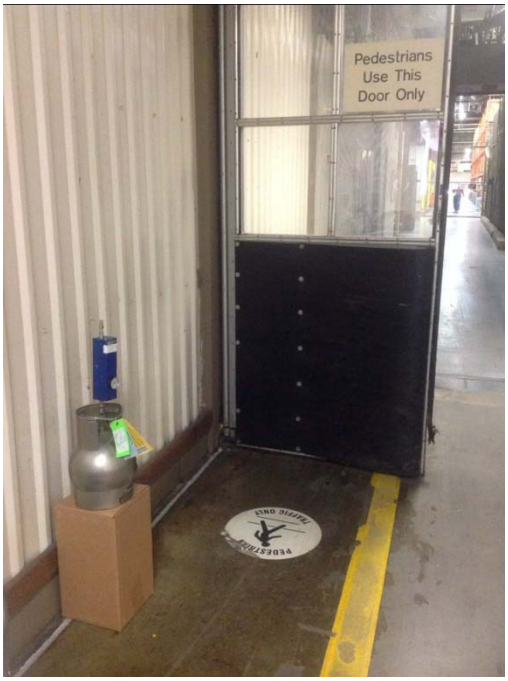

Photo #1: Sample IA2033, located at the east end of the B310-B308 linkway.

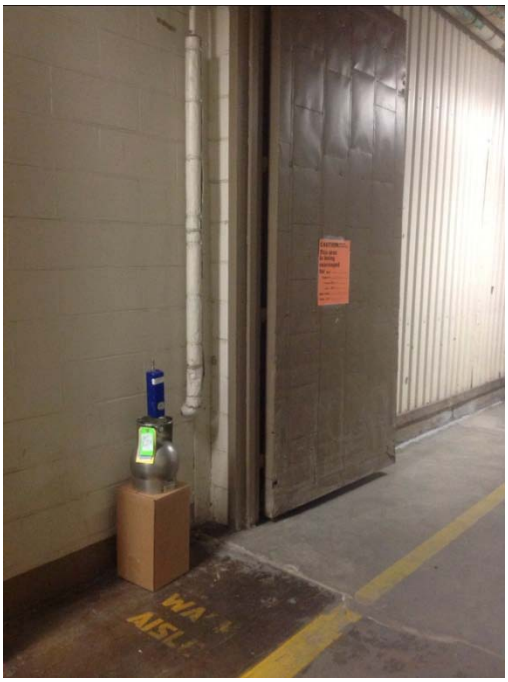

Photo #2: Sample IA2037, located at the west end of the B310-B308 linkway.

Photo #3: Sample IA0100, located in consignment crib storage area.

Photo #4: Sample IA0101, located in conference room #20, office area.

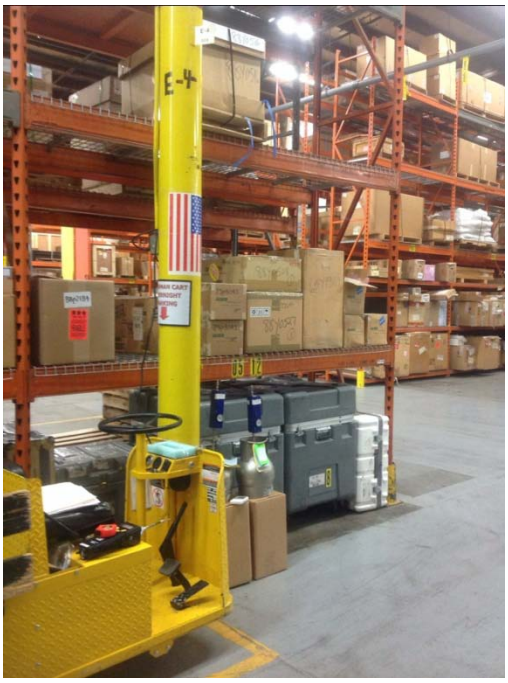

Photo #5: Sample IA0102 and Dup34350, located in warehouse area.

Photo #6: Sample IA0103, located in room 1K9-54 (break/coffee room).

Photo #7: Sample IA0104, located in shipping/receiving area within secure warehouse.

Photo #8: Sample IA0105, located in office area west of shipping/receiving area.

Photo #9: Sample AA0106, located at the west exterior of building, near exterior intake for AHU-11.

APPENDIX C

HVAC OPERATIONS DURING SAMPLING

Table C-1
Summary of HVAC Unit Outside Air Damper Positions
Report of Remedial Measures and Confirmatory Samling Results
Building 308 and Linkway to Building 310
IBM East Fishkill
Hopewell Junction, New York

HVAC Unit	Outside Air Damper - Normal Operating Position	Outside Air Damper Minimum Position (% Open)	Source of Information Regarding Minimum Position
Building 308			
AHU-1	Auto - variable	20 - 25	Facilities Staff
AHU-10	Auto - variable	1	
AHU-11	Auto - variable	20	

Notes:

1. This table summarizes the normal operating configration for the outside air dampers for each heating, ventilation and air conditioning (HVAC) unit serving the zones sampled. For dampers that automatically modulate, these dampers were set and fixed in their minimum position at least 24 hours prior to and during sampling.

Table C-1
Summary of HVAC Unit Outside Air Damper Positions
Report of Remedial Measures and Confirmatory Samling Results
Building 308 and Linkway to Building 310
IBM East Fishkill
Hopewell Junction, New York

HVAC Unit	Date and Time of Inspection			
Building 308				
	11/25/2013	11/26/2013		
	1800 hrs	0715 hrs	1440 hrs	1730 hrs
AHU-1	Laptop[1]	N/A	N/A	N/A
AHU-10	Installed	**P**	**P**	**P**
AHU-11	Installed	**P**	**P**	**P**

Notes:

1. HVAC unit AHU-1 remotely locked in the minimum position by facility staff using a comuter connection. However, the damper positions could not be visually inspected because HVAC unit AHU-1 was inaccessible.

2. Fusible links were constructed from nylon zip ties, fine gauged metal wire, and masking tape. Dampers were inspected several times during sampling to determine if outside air dampers changed positions.

3. "P" indicates that during inspection, the damper positions were observed to be in the position set prior to sampling.

APPENDIX D

ANALYTICAL LABORATORY DATA REPORTS
(ENCLOSED ON CD ONLY)

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3/29/2012
Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM EFK B310
Project #: 2999.00
Workorder #: 1203397

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 3/19/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1203397

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.00 IBM EFK B310
DATE RECEIVED:	03/19/2012	**CONTACT:**	Ausha Scott
DATE COMPLETED:	03/29/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA2005	Modified TO-15	6.5 "Hg	5 psi
01B	IA2005	Modified TO-15	6.5 "Hg	5 psi
02A	IA2006	Modified TO-15	6.5 "Hg	5 psi
02B	IA2006	Modified TO-15	6.5 "Hg	5 psi
03A	IA2008	Modified TO-15	7.5 "Hg	5 psi
03B	IA2008	Modified TO-15	7.5 "Hg	5 psi
04A	IA2009	Modified TO-15	6.0 "Hg	5 psi
04B	IA2009	Modified TO-15	6.0 "Hg	5 psi
05A	IA2010	Modified TO-15	6.5 "Hg	5 psi
05B	IA2010	Modified TO-15	6.5 "Hg	5 psi
06A	IA2011	Modified TO-15	7.0 "Hg	5 psi
06B	IA2011	Modified TO-15	7.0 "Hg	5 psi
07A	IA2025	Modified TO-15	6.0 "Hg	5 psi
07B	IA2025	Modified TO-15	6.0 "Hg	5 psi
08A	IA2027	Modified TO-15	7.0 "Hg	5 psi
08B	IA2027	Modified TO-15	7.0 "Hg	5 psi
09A	IA2029	Modified TO-15	6.0 "Hg	5 psi
09B	IA2029	Modified TO-15	6.0 "Hg	5 psi
10A	IA2031	Modified TO-15	6.5 "Hg	5 psi
10B	IA2031	Modified TO-15	6.5 "Hg	5 psi
11A	IA2032	Modified TO-15	6.5 "Hg	5 psi
11B	IA2032	Modified TO-15	6.5 "Hg	5 psi
12A	IA2033	Modified TO-15	6.5 "Hg	5 psi

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 1203397

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.00 IBM EFK B310
DATE RECEIVED:	03/19/2012	**CONTACT:**	Ausha Scott
DATE COMPLETED:	03/29/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	IA2033	Modified TO-15	6.5 "Hg	5 psi
13A	IA2035	Modified TO-15	7.0 "Hg	5 psi
13B	IA2035	Modified TO-15	7.0 "Hg	5 psi
14A	Lab Blank	Modified TO-15	NA	NA
14B	Lab Blank	Modified TO-15	NA	NA
14C	Lab Blank	Modified TO-15	NA	NA
14D	Lab Blank	Modified TO-15	NA	NA
15A	CCV	Modified TO-15	NA	NA
15B	CCV	Modified TO-15	NA	NA
15C	CCV	Modified TO-15	NA	NA
15D	CCV	Modified TO-15	NA	NA
16A	LCS	Modified TO-15	NA	NA
16AA	LCSD	Modified TO-15	NA	NA
16B	LCS	Modified TO-15	NA	NA
16BB	LCSD	Modified TO-15	NA	NA
16C	LCS	Modified TO-15	NA	NA
16CC	LCSD	Modified TO-15	NA	NA
16D	LCS	Modified TO-15	NA	NA
16DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda D. Frumarn DATE: 03/29/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 1203397

Thirteen 6 Liter Summa Canister (SIM Certified) samples were received on March 19, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2005

Lab ID#: 1203397-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 11	0.17	0.42	0.96	2.4
Freon 113	0.17	0.23	1.3	1.8
Acetone	0.86	2.0	2.0	4.8
Tetrachloroethene	0.17	0.18	1.2	1.2

Client Sample ID: IA2005

Lab ID#: 1203397-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.065	0.22	0.41

Client Sample ID: IA2006

Lab ID#: 1203397-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.84	2.5
Freon 11	0.17	0.81	0.96	4.5
Acetone	0.86	3.0	2.0	7.2
Toluene	0.17	0.22	0.64	0.84
Tetrachloroethene	0.17	0.33	1.2	2.2

Client Sample ID: IA2006

Lab ID#: 1203397-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.068	0.22	0.43

Client Sample ID: IA2008

Lab ID#: 1203397-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2008

Lab ID#: 1203397-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.88	2.7
Freon 11	0.18	0.88	1.0	4.9
Acetone	0.90	3.8	2.1	9.1
Toluene	0.18	0.24	0.67	0.90
Tetrachloroethene	0.18	0.32	1.2	2.2

Client Sample ID: IA2008

Lab ID#: 1203397-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.036	0.078	0.22	0.49

Client Sample ID: IA2009

Lab ID#: 1203397-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.83	2.9
Freon 11	0.17	0.44	0.94	2.4
Acetone	0.84	10	2.0	25
Methylene Chloride	0.34	0.39	1.2	1.4
Benzene	0.17	0.25	0.54	0.81
Toluene	0.17	0.71	0.63	2.7
Tetrachloroethene	0.17	0.75	1.1	5.1
m,p-Xylene	0.17	0.17	0.73	0.76

Client Sample ID: IA2009

Lab ID#: 1203397-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.078	0.21	0.49

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2010

Lab ID#: 1203397-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 11	0.17	0.30	0.96	1.7
Acetone	0.86	2.4	2.0	5.8
Toluene	0.17	0.56	0.64	2.1
Tetrachloroethene	0.17	0.26	1.2	1.8

Client Sample ID: IA2010

Lab ID#: 1203397-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.074	0.22	0.47

Client Sample ID: IA2011

Lab ID#: 1203397-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.65	0.86	3.2
Freon 11	0.18	0.36	0.98	2.0
Acetone	0.88	4.8	2.1	11
Benzene	0.18	0.18	0.56	0.56
Toluene	0.18	0.52	0.66	1.9
Tetrachloroethene	0.18	2.6	1.2	18

Client Sample ID: IA2011

Lab ID#: 1203397-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.085	0.22	0.53
Trichloroethene	0.035	0.050	0.19	0.27

Client Sample ID: IA2025

Lab ID#: 1203397-07A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2025

Lab ID#: 1203397-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	2.1	0.83	10
Freon 11	0.17	0.39	0.94	2.2
Acetone	0.84	5.0	2.0	12
Methylene Chloride	0.34	0.37	1.2	1.3
Toluene	0.17	0.75	0.63	2.8
Tetrachloroethene	0.17	0.66	1.1	4.5
m,p-Xylene	0.17	0.18	0.73	0.78

Client Sample ID: IA2025

Lab ID#: 1203397-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.074	0.21	0.47

Client Sample ID: IA2027

Lab ID#: 1203397-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.58	0.86	2.8
Freon 11	0.18	0.45	0.98	2.5
Acetone	0.88	3.2	2.1	7.7
Toluene	0.18	0.38	0.66	1.4
Tetrachloroethene	0.18	1.2	1.2	8.1

Client Sample ID: IA2027

Lab ID#: 1203397-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.075	0.22	0.47

Client Sample ID: IA2029

Lab ID#: 1203397-09A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2029

Lab ID#: 1203397-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.63	0.83	3.1
Freon 11	0.17	0.37	0.94	2.1
Acetone	0.84	16	2.0	37
Benzene	0.17	0.24	0.54	0.76
Toluene	0.17	2.3	0.63	8.8

Client Sample ID: IA2029

Lab ID#: 1203397-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.067	0.21	0.42

Client Sample ID: IA2031

Lab ID#: 1203397-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.84	2.6
Freon 11	0.17	0.54	0.96	3.0
Acetone	0.86	5.1	2.0	12
Benzene	0.17	0.19	0.55	0.62
Toluene	0.17	0.32	0.64	1.2
Tetrachloroethene	0.17	0.60	1.2	4.1

Client Sample ID: IA2031

Lab ID#: 1203397-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.073	0.22	0.46

Client Sample ID: IA2032

Lab ID#: 1203397-11A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2032

Lab ID#: 1203397-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.68	0.84	3.4
Freon 11	0.17	0.29	0.96	1.6
Acetone	0.86	5.0	2.0	12
Benzene	0.17	0.22	0.55	0.69
Toluene	0.17	0.65	0.64	2.5
Tetrachloroethene	0.17	5.7	1.2	38
m,p-Xylene	0.17	0.24	0.74	1.0

Client Sample ID: IA2032

Lab ID#: 1203397-11B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.080	0.22	0.50
Trichloroethene	0.034	0.091	0.18	0.49

Client Sample ID: IA2033

Lab ID#: 1203397-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.26	0.96	1.5
Acetone	0.86	5.1	2.0	12
Benzene	0.17	0.22	0.55	0.70
Toluene	0.17	0.79	0.64	3.0
Tetrachloroethene	0.17	2.9	1.2	19
m,p-Xylene	0.17	0.28	0.74	1.2

Client Sample ID: IA2033

Lab ID#: 1203397-12B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.076	0.22	0.48

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2033

Lab ID#: 1203397-12B

Trichloroethene	0.034	0.055	0.18	0.30

Client Sample ID: IA2035

Lab ID#: 1203397-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.57	0.86	2.8
Freon 11	0.18	0.51	0.98	2.9
Acetone	0.88	3.9	2.1	9.2
Benzene	0.18	0.18	0.56	0.57
Toluene	0.18	0.37	0.66	1.4
Tetrachloroethene	0.18	0.63	1.2	4.3

Client Sample ID: IA2035

Lab ID#: 1203397-13B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.076	0.22	0.48

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Client Sample ID: IA2005

Lab ID#: 1203397-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032109**	**Date of Collection: 3/15/12 4:22:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 02:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 11	0.17	0.42	0.96	2.4
Freon 113	0.17	0.23	1.3	1.8
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.0	2.0	4.8
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
Tetrachloroethene	0.17	0.18	1.2	1.2
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: IA2005

Lab ID#: 1203397-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032109sim**	**Date of Collection: 3/15/12 4:22:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 02:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.065	0.22	0.41
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2006

Lab ID#: 1203397-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032110**	**Date of Collection: 3/15/12 4:29:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 03:12 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.84	2.5
Freon 11	0.17	0.81	0.96	4.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	3.0	2.0	7.2
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
Toluene	0.17	0.22	0.64	0.84
Tetrachloroethene	0.17	0.33	1.2	2.2
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2006

Lab ID#: 1203397-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032110sim**	**Date of Collection: 3/15/12 4:29:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 03:12 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.068	0.22	0.43
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2008

Lab ID#: 1203397-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032111**	**Date of Collection: 3/15/12 4:37:00 PM**	
Dil. Factor:	**1.79**	**Date of Analysis: 3/21/12 04:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.88	2.7
Freon 11	0.18	0.88	1.0	4.9
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	3.8	2.1	9.1
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Benzene	0.18	Not Detected	0.57	Not Detected
Toluene	0.18	0.24	0.67	0.90
Tetrachloroethene	0.18	0.32	1.2	2.2
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: IA2008

Lab ID#: 1203397-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032111sim**	**Date of Collection: 3/15/12 4:37:00 PM**	
Dil. Factor:	**1.79**	**Date of Analysis: 3/21/12 04:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Carbon Tetrachloride	0.036	0.078	0.22	0.49
Trichloroethene	0.036	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2009

Lab ID#: 1203397-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032112**	**Date of Collection:**	**3/15/12 4:32:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/21/12 05:03 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.83	2.9
Freon 11	0.17	0.44	0.94	2.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	10	2.0	25
Methylene Chloride	0.34	0.39	1.2	1.4
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Benzene	0.17	0.25	0.54	0.81
Toluene	0.17	0.71	0.63	2.7
Tetrachloroethene	0.17	0.75	1.1	5.1
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.17	0.73	0.76
o-Xylene	0.17	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2009

Lab ID#: 1203397-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032112sim**	**Date of Collection: 3/15/12 4:32:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/21/12 05:03 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.078	0.21	0.49
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2010

Lab ID#: 1203397-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032113**	**Date of Collection: 3/15/12 4:34:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 06:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.84	2.6
Freon 11	0.17	0.30	0.96	1.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.4	2.0	5.8
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
Toluene	0.17	0.56	0.64	2.1
Tetrachloroethene	0.17	0.26	1.2	1.8
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2010

Lab ID#: 1203397-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032113sim**	**Date of Collection: 3/15/12 4:34:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/21/12 06:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.074	0.22	0.47
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2011

Lab ID#: 1203397-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032114**	**Date of Collection: 3/15/12 4:11:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 3/21/12 06:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.65	0.86	3.2
Freon 11	0.18	0.36	0.98	2.0
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	4.8	2.1	11
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Benzene	0.18	0.18	0.56	0.56
Toluene	0.18	0.52	0.66	1.9
Tetrachloroethene	0.18	2.6	1.2	18
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2011

Lab ID#: 1203397-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032114sim**	**Date of Collection: 3/15/12 4:11:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 3/21/12 06:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Carbon Tetrachloride	0.035	0.085	0.22	0.53
Trichloroethene	0.035	0.050	0.19	0.27

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2025

Lab ID#: 1203397-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032115**	**Date of Collection: 3/15/12 4:18:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/21/12 07:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	2.1	0.83	10
Freon 11	0.17	0.39	0.94	2.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.0	2.0	12
Methylene Chloride	0.34	0.37	1.2	1.3
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
Toluene	0.17	0.75	0.63	2.8
Tetrachloroethene	0.17	0.66	1.1	4.5
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.18	0.73	0.78
o-Xylene	0.17	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2025

Lab ID#: 1203397-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032115sim**	**Date of Collection: 3/15/12 4:18:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/21/12 07:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.074	0.21	0.47
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2027

Lab ID#: 1203397-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032116**	**Date of Collection:**	**3/15/12 4:24:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**3/21/12 08:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.58	0.86	2.8
Freon 11	0.18	0.45	0.98	2.5
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	3.2	2.1	7.7
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
Toluene	0.18	0.38	0.66	1.4
Tetrachloroethene	0.18	1.2	1.2	8.1
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: IA2027

Lab ID#: 1203397-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032116sim**	**Date of Collection: 3/15/12 4:24:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 3/21/12 08:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Carbon Tetrachloride	0.035	0.075	0.22	0.47
Trichloroethene	0.035	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2029

Lab ID#: 1203397-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032208**	**Date of Collection:**	**3/15/12 4:36:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/22/12 12:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.63	0.83	3.1
Freon 11	0.17	0.37	0.94	2.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	16	2.0	37
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Benzene	0.17	0.24	0.54	0.76
Toluene	0.17	2.3	0.63	8.8
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2029

Lab ID#: 1203397-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032208sim**	**Date of Collection: 3/15/12 4:36:00 PM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/22/12 12:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.067	0.21	0.42
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2031

Lab ID#: 1203397-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032209**	**Date of Collection: 3/15/12 4:26:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 01:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.84	2.6
Freon 11	0.17	0.54	0.96	3.0
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	5.1	2.0	12
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	0.19	0.55	0.62
Toluene	0.17	0.32	0.64	1.2
Tetrachloroethene	0.17	0.60	1.2	4.1
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: IA2031

Lab ID#: 1203397-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032209sim**	**Date of Collection: 3/15/12 4:26:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 01:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.073	0.22	0.46
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2032

Lab ID#: 1203397-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032210**	**Date of Collection: 3/15/12 4:15:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 02:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.68	0.84	3.4
Freon 11	0.17	0.29	0.96	1.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	5.0	2.0	12
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	0.22	0.55	0.69
Toluene	0.17	0.65	0.64	2.5
Tetrachloroethene	0.17	5.7	1.2	38
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	0.24	0.74	1.0
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: IA2032

Lab ID#: 1203397-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032210sim**	**Date of Collection: 3/15/12 4:15:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 02:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.080	0.22	0.50
Trichloroethene	0.034	0.091	0.18	0.49

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2033

Lab ID#: 1203397-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032211**	**Date of Collection: 3/15/12 4:16:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 02:52 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.26	0.96	1.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	5.1	2.0	12
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	0.22	0.55	0.70
Toluene	0.17	0.79	0.64	3.0
Tetrachloroethene	0.17	2.9	1.2	19
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	0.28	0.74	1.2
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: IA2033

Lab ID#: 1203397-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032211sim**	**Date of Collection: 3/15/12 4:16:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 3/22/12 02:52 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.076	0.22	0.48
Trichloroethene	0.034	0.055	0.18	0.30

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2035

Lab ID#: 1203397-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032212**	**Date of Collection: 3/15/12 4:27:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 3/22/12 03:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.57	0.86	2.8
Freon 11	0.18	0.51	0.98	2.9
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	3.9	2.1	9.2
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Benzene	0.18	0.18	0.56	0.57
Toluene	0.18	0.37	0.66	1.4
Tetrachloroethene	0.18	0.63	1.2	4.3
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2035

Lab ID#: 1203397-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032212sim**	**Date of Collection: 3/15/12 4:27:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 3/22/12 03:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Carbon Tetrachloride	0.035	0.076	0.22	0.48
Trichloroethene	0.035	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203397-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 01:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1203397-14B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032108sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 01:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203397-14C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032207c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 11:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1203397-14D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032207asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 11:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1203397-15A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 08:55 AM**	

Compound	%Recovery
Freon 12	91
Freon 11	87
Freon 113	85
1,1-Dichloroethene	81
Acetone	85
Methylene Chloride	81
cis-1,2-Dichloroethene	83
1,1,1-Trichloroethane	87
Benzene	84
Toluene	82
Tetrachloroethene	89
Chlorobenzene	85
Ethyl Benzene	83
m,p-Xylene	84
o-Xylene	82
1,3-Dichlorobenzene	85
1,4-Dichlorobenzene	82
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1203397-15B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 08:55 AM**	

Compound	**%Recovery**
Vinyl Chloride	78
Carbon Tetrachloride	81
Trichloroethene	82

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1203397-15C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 08:39 AM**	

Compound	%Recovery
Freon 12	93
Freon 11	89
Freon 113	87
1,1-Dichloroethene	83
Acetone	88
Methylene Chloride	81
cis-1,2-Dichloroethene	84
1,1,1-Trichloroethane	89
Benzene	86
Toluene	85
Tetrachloroethene	89
Chlorobenzene	89
Ethyl Benzene	87
m,p-Xylene	90
o-Xylene	86
1,3-Dichlorobenzene	90
1,4-Dichlorobenzene	88
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1203397-15D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032202sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 08:39 AM**	

Compound	%Recovery
Vinyl Chloride	80
Carbon Tetrachloride	82
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1203397-16A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 09:47 AM**	

Compound	%Recovery
Freon 12	90
Freon 11	88
Freon 113	85
1,1-Dichloroethene	87
Acetone	84
Methylene Chloride	78
cis-1,2-Dichloroethene	83
1,1,1-Trichloroethane	87
Benzene	86
Toluene	82
Tetrachloroethene	87
Chlorobenzene	86
Ethyl Benzene	83
m,p-Xylene	84
o-Xylene	81
1,3-Dichlorobenzene	83
1,4-Dichlorobenzene	78
1,2-Dichlorobenzene	81
1,2,4-Trichlorobenzene	78

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1203397-16AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 10:33 AM**	

Compound	%Recovery
Freon 12	95
Freon 11	92
Freon 113	90
1,1-Dichloroethene	91
Acetone	89
Methylene Chloride	83
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	92
Benzene	87
Toluene	83
Tetrachloroethene	89
Chlorobenzene	88
Ethyl Benzene	86
m,p-Xylene	89
o-Xylene	85
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	84
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1203397-16B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 09:47 AM**	

Compound	%Recovery
Vinyl Chloride	81
Carbon Tetrachloride	94
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1203397-16BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/21/12 10:33 AM**	

Compound	**%Recovery**
Vinyl Chloride	82
Carbon Tetrachloride	96
Trichloroethene	84

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1203397-16C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 09:20 AM**	

Compound	%Recovery
Freon 12	94
Freon 11	88
Freon 113	88
1,1-Dichloroethene	88
Acetone	87
Methylene Chloride	80
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	91
Benzene	85
Toluene	83
Tetrachloroethene	85
Chlorobenzene	85
Ethyl Benzene	83
m,p-Xylene	85
o-Xylene	81
1,3-Dichlorobenzene	84
1,4-Dichlorobenzene	80
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1203397-16CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 09:57 AM**	

Compound	%Recovery
Freon 12	92
Freon 11	88
Freon 113	86
1,1-Dichloroethene	87
Acetone	86
Methylene Chloride	79
cis-1,2-Dichloroethene	85
1,1,1-Trichloroethane	90
Benzene	85
Toluene	82
Tetrachloroethene	86
Chlorobenzene	85
Ethyl Benzene	83
m,p-Xylene	83
o-Xylene	81
1,3-Dichlorobenzene	85
1,4-Dichlorobenzene	81
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	78

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1203397-16D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 09:20 AM**	

Compound	%Recovery
Vinyl Chloride	80
Carbon Tetrachloride	94
Trichloroethene	80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1203397-16DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a032204sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/22/12 09:57 AM**	

Compound	%Recovery
Vinyl Chloride	81
Carbon Tetrachloride	95
Trichloroethene	81

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Brad Green
Collected by: (Print and Sign) Matthew Stein - MS
Company Sanborn, Head & Assoc. Email bgreen@sanbornhead.com
Address 20 Foundry St. City Concord State NH Zip 03301
Phone 603-229-1900 Fax

Project Info:
P.O. #
Project # 2499.00
Project Name 18th EFK B310

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	IA2005	34501	3/15/12	0822-1622	TO15 H/L	~32	7		
02A	IA 2006	34330		0829-1629		~31	6.5		
03A	~~IA 2008~~ 5709 ~~6716~~ MTS			0837-1637		30	8		
04A	IA 2009	31440		0832-1632		28	5.5		
05A	IA2010	11878		0834-1634		~31	7.5		
06A	IA 2011	24484		0810-1610		30	6.5		
07A	IA2025	12937		0818-1618		27	6.5		
08A	IA2027	3787		0824-1624		~31	8		
09A	IA2029	940		0836-1636		30	8		
10A	IA2031	13852	↓	0826-1626	↓	29	6		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Matt S.	3/16/12	sent by FedEx Courier	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		B Whittaker	3/19/12 0845
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
Project-specific analyte list attached.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		N/A	Good	(Yes) No None	1203397

Form 1293 rev.11

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Brad Green
Collected by: (Print and Sign) Matthew Stein
Company Sanborn, Head & Assoc. Email bgreen@sanbornhead.com
Address 20 Foundry St. City Concord State NH Zip 03301
Phone 603-229-1900 Fax

Project Info:
P.O. #
Project # 2999.00
Project Name IBM EFK B3/0

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
11A	IA2032	3353Z	3/15/12	0815-1615	TO-15 H/L	~31.5	7		
12A	IA2033	1055	↓	0816-1616	↓	~32	8		
13A	IA 2035	5576	↓	0827-1627	↓	~31	8		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Matthew Stein	3/16/12	sent by FedEx courier	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		B. Whittekiend 4th	3/19/12 0845
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
Project-specific analyte list attached.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		N/A	Good	(Yes) No None	1203397

Form 1293 rev.11

Analysis

1 = TO-15 Modified

Analyte List	CAS #
Tetrachloroethene (PCE)	127-18-4
Trichloroethene (TCE)	79-01-6
cis-1,2-Dichloroethene (cDCE)	156-59-2
1,1-Dichloroethene (DCE)	75-35-4
Vinyl chloride (VC)	75-01-4
1,1,1-Trichloroethane (TCA)	71-55-6
Carbon tetrachloride	56-23-5
Methylene chloride (MeCl)	75-09-2
Chlorobenzene	108-90-7
1,2,4-Trichlorobenzene	120-82-1
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Acetone	67-64-1
Benzene	71-43-2
Ethylbenzene	100-41-4
m-Xylene	108-38-3
p-Xylene	106-42-3
o-Xylene	95-47-6
Toluene	108-88-3
Trichlorofluoromethane (Freon 11)	75-69-4
Dichlorodifluoromethane (Freon 12)	75-71-8
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1

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5/8/2012
Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM - EFK Building 310
Project #: 2999
Workorder #: 1204492

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 4/23/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1204492

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999 IBM - EFK Building 310
DATE RECEIVED:	04/23/2012	**CONTACT:**	Ausha Scott
DATE COMPLETED:	05/07/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA2011	Modified TO-15	6.4 "Hg	5 psi
01B	IA2011	Modified TO-15	6.4 "Hg	5 psi
02A	IA2032	Modified TO-15	6.2 "Hg	5 psi
02B	IA2032	Modified TO-15	6.2 "Hg	5 psi
03A	IA2033	Modified TO-15	5.2 "Hg	5 psi
03B	IA2033	Modified TO-15	5.2 "Hg	5 psi
04A	IA2036	Modified TO-15	5.8 "Hg	5 psi
04B	IA2036	Modified TO-15	5.8 "Hg	5 psi
05A	IA2037	Modified TO-15	6.2 "Hg	5 psi
05B	IA2037	Modified TO-15	6.2 "Hg	5 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
06C	Lab Blank	Modified TO-15	NA	NA
06D	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
07C	CCV	Modified TO-15	NA	NA
07D	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA
08C	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1204492

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999 IBM - EFK Building 310
DATE RECEIVED:	04/23/2012	**CONTACT:**	Ausha Scott
DATE COMPLETED:	05/07/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
08CC	LCSD	Modified TO-15	NA	NA
08D	LCS	Modified TO-15	NA	NA
08DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda D. Frumarn DATE: 05/07/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 1204492

Five 6 Liter Summa Canister (SIM Certified) samples were received on April 23, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is

defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2011

Lab ID#: 1204492-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.77	0.96	4.3
Acetone	0.85	2.6	2.0	6.2

Client Sample ID: IA2011

Lab ID#: 1204492-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.085	0.21	0.53

Client Sample ID: IA2032

Lab ID#: 1204492-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.61	0.84	3.0
Freon 11	0.17	0.73	0.95	4.1
Acetone	0.84	2.2	2.0	5.3
Toluene	0.17	0.18	0.64	0.68
Tetrachloroethene	0.17	0.52	1.1	3.5

Client Sample ID: IA2032

Lab ID#: 1204492-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.084	0.21	0.53

Client Sample ID: IA2033

Lab ID#: 1204492-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.60 J	0.80	3.0 J
Freon 11	0.16	0.72	0.91	4.0

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2033

Lab ID#: 1204492-03A

Acetone	0.81	2.8	1.9	6.7
Toluene	0.16	0.18	0.61	0.69
Tetrachloroethene	0.16	2.3	1.1	16

Client Sample ID: IA2033

Lab ID#: 1204492-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.036	0.20	0.22
Trichloroethene	0.032	0.042	0.17	0.23

Client Sample ID: IA2036

Lab ID#: 1204492-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60 J	0.82	3.0 J
Freon 11	0.17	0.76	0.93	4.3
Acetone	0.83	2.2	2.0	5.2
Toluene	0.17	0.30	0.62	1.1

Client Sample ID: IA2036

Lab ID#: 1204492-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.097	0.21	0.61

Client Sample ID: IA2037

Lab ID#: 1204492-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57 J	0.84	2.8 J
Freon 11	0.17	0.69	0.95	3.9
Acetone	0.84	2.2	2.0	5.3
Toluene	0.17	0.18	0.64	0.66

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2037

Lab ID#: 1204492-05A

Tetrachloroethene	0.17	0.18	1.1	1.2

Client Sample ID: IA2037

Lab ID#: 1204492-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.10	0.21	0.63

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Client Sample ID: IA2011

Lab ID#: 1204492-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042514**	**Date of Collection: 4/18/12 5:00:00 PM**	
Dil. Factor:	**1.70**	**Date of Analysis: 4/25/12 10:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.77	0.96	4.3
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	2.6	2.0	6.2
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
Chlorobenzene	0.17	Not Detected	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.85	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: IA2011

Lab ID#: 1204492-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042514sim**	**Date of Collection: 4/18/12 5:00:00 PM**	
Dil. Factor:	**1.70**	**Date of Analysis: 4/25/12 10:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.085	0.21	0.53
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2032

Lab ID#: 1204492-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042515**	**Date of Collection:**	**4/18/12 5:20:00 PM**
Dil. Factor:	**1.69**	**Date of Analysis:**	**4/25/12 11:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.61	0.84	3.0
Freon 11	0.17	0.73	0.95	4.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.2	2.0	5.3
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
Toluene	0.17	0.18	0.64	0.68
Tetrachloroethene	0.17	0.52	1.1	3.5
Chlorobenzene	0.17	Not Detected	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	127	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: IA2032

Lab ID#: 1204492-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042515sim**	**Date of Collection: 4/18/12 5:20:00 PM**	
Dil. Factor:	**1.69**	**Date of Analysis: 4/25/12 11:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.084	0.21	0.53
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	126	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2033

Lab ID#: 1204492-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042609**	**Date of Collection: 4/18/12 5:05:00 PM**	
Dil. Factor:	**1.62**	**Date of Analysis: 4/26/12 03:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.60 J	0.80	3.0 J
Freon 11	0.16	0.72	0.91	4.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.81	2.8	1.9	6.7
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
Toluene	0.16	0.18	0.61	0.69
Tetrachloroethene	0.16	2.3	1.1	16
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.81	Not Detected	6.0	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA2033

Lab ID#: 1204492-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042609sim**	**Date of Collection: 4/18/12 5:05:00 PM**	
Dil. Factor:	**1.62**	**Date of Analysis: 4/26/12 03:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Carbon Tetrachloride	0.032	0.036	0.20	0.22
Trichloroethene	0.032	0.042	0.17	0.23

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: IA2036

Lab ID#: 1204492-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042610**	**Date of Collection: 4/18/12 5:15:00 PM**	
Dil. Factor:	**1.66**	**Date of Analysis: 4/26/12 04:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60 J	0.82	3.0 J
Freon 11	0.17	0.76	0.93	4.3
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	2.2	2.0	5.2
Methylene Chloride	0.33	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
Toluene	0.17	0.30	0.62	1.1
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
Chlorobenzene	0.17	Not Detected	0.76	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	Not Detected	0.72	Not Detected
o-Xylene	0.17	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.83	Not Detected	6.2	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	121	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: IA2036

Lab ID#: 1204492-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042610sim**	**Date of Collection: 4/18/12 5:15:00 PM**	
Dil. Factor:	**1.66**	**Date of Analysis: 4/26/12 04:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
Carbon Tetrachloride	0.033	0.097	0.21	0.61
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	121	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: IA2037

Lab ID#: 1204492-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042611**	**Date of Collection: 4/18/12 5:10:00 PM**	
Dil. Factor:	**1.69**	**Date of Analysis: 4/26/12 05:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57 J	0.84	2.8 J
Freon 11	0.17	0.69	0.95	3.9
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.2	2.0	5.3
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
Toluene	0.17	0.18	0.64	0.66
Tetrachloroethene	0.17	0.18	1.1	1.2
Chlorobenzene	0.17	Not Detected	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.3	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: IA2037

Lab ID#: 1204492-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042611sim**	**Date of Collection: 4/18/12 5:10:00 PM**	
Dil. Factor:	**1.69**	**Date of Analysis: 4/26/12 05:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.034	0.10	0.21	0.63
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	116	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204492-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042506a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 04:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	120	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204492-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042506asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 04:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	121	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204492-06C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042608**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 02:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	130	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1204492-06D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042608asim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 02:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	130	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1204492-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 01:36 PM**	

Compound	%Recovery
Freon 12	117
Freon 11	108
Freon 113	98
1,1-Dichloroethene	92
Acetone	78
Methylene Chloride	92
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	97
Benzene	89
Toluene	96
Tetrachloroethene	88
Chlorobenzene	90
Ethyl Benzene	90
m,p-Xylene	89
o-Xylene	93
1,3-Dichlorobenzene	83
1,4-Dichlorobenzene	85
1,2-Dichlorobenzene	83
1,2,4-Trichlorobenzene	79

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1204492-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 01:36 PM**	

Compound	**%Recovery**
Vinyl Chloride	82
Carbon Tetrachloride	110
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1204492-07C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 10:30 AM**	

Compound	%Recovery
Freon 12	136 Q
Freon 11	116
Freon 113	109
1,1-Dichloroethene	104
Acetone	87
Methylene Chloride	106
cis-1,2-Dichloroethene	97
1,1,1-Trichloroethane	108
Benzene	92
Toluene	116
Tetrachloroethene	96
Chlorobenzene	94
Ethyl Benzene	94
m,p-Xylene	91
o-Xylene	95
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	87
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	90

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	122	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1204492-07D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 10:30 AM**	

Compound	**%Recovery**
Vinyl Chloride	89
Carbon Tetrachloride	122
Trichloroethene	85

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	123	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1204492-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 02:24 PM**	

Compound	%Recovery
Freon 12	117
Freon 11	99
Freon 113	99
1,1-Dichloroethene	97
Acetone	79
Methylene Chloride	93
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	98
Benzene	92
Toluene	96
Tetrachloroethene	91
Chlorobenzene	91
Ethyl Benzene	89
m,p-Xylene	87
o-Xylene	89
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	83
1,2-Dichlorobenzene	83
1,2,4-Trichlorobenzene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCSD

Lab ID#: 1204492-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 03:09 PM**	

Compound	%Recovery
Freon 12	109
Freon 11	93
Freon 113	93
1,1-Dichloroethene	92
Acetone	73
Methylene Chloride	80
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	97
Benzene	92
Toluene	105
Tetrachloroethene	93
Chlorobenzene	92
Ethyl Benzene	92
m,p-Xylene	90
o-Xylene	92
1,3-Dichlorobenzene	84
1,4-Dichlorobenzene	85
1,2-Dichlorobenzene	83
1,2,4-Trichlorobenzene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	118	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCS

Lab ID#: 1204492-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 02:24 PM**	

Compound	**%Recovery**
Vinyl Chloride	82
Carbon Tetrachloride	96
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1204492-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/25/12 03:09 PM**	

Compound	**%Recovery**
Vinyl Chloride	74
Carbon Tetrachloride	89
Trichloroethene	85

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	116	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1204492-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042605**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 12:23 PM**	

Compound	%Recovery
Freon 12	119
Freon 11	107
Freon 113	99
1,1-Dichloroethene	100
Acetone	81
Methylene Chloride	92
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	104
Benzene	96
Toluene	112
Tetrachloroethene	90
Chlorobenzene	92
Ethyl Benzene	92
m,p-Xylene	91
o-Xylene	95
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	87
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	126	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1204492-08CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 12:59 PM**	

Compound	%Recovery
Freon 12	98
Freon 11	101
Freon 113	96
1,1-Dichloroethene	96
Acetone	77
Methylene Chloride	82
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	100
Benzene	86
Toluene	88
Tetrachloroethene	92
Chlorobenzene	89
Ethyl Benzene	88
m,p-Xylene	84
o-Xylene	86
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	79
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCS

Lab ID#: 1204492-08D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042605sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 12:23 PM**	

Compound	**%Recovery**
Vinyl Chloride	103
Carbon Tetrachloride	94
Trichloroethene	90

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	124	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1204492-08DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v042606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/26/12 12:59 PM**	

Compound	**%Recovery**
Vinyl Chloride	104
Carbon Tetrachloride	96
Trichloroethene	84

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

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1204492

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IMPROVING EARTH

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FOLSOM, CA 95630-4719
(916) 985-1000 FAZ (916) 985-1020

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Custody Seal Intact?
Y N None Temp N/A
Fedex

20 Foundry Street
Concord, NH 03301
(603) 229-1900 FAX (603) 229-1919

Project Info:
Project Manager: Brad Green
Email: bgreen@sanbornhead.com; latwell@sanbornhead.com; kdubois@sanbornhead.com
P.O#
Project # 2999
Project Name: IBM - EFK Building 310
Analyses: 1 = TO-15 H/L See attached analyte list.

Turn Around Time
Normal x
Rush
specify

Relinquished by: (signature) Date/Time: 4/20/12
Relinquished by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:

Received By: (signature) Date/Time: B. Schattenstein 4/23/12 0900
Received By: (signature) Date/Time:
Received By: (signature) Date/Time:

Lab ID	Field Sample I.D.	Can #	Collection Date	Collection Time	Initial	Final	Analysis	Receipt	Final (psi)
01AB	IA2011	34397	04/18/2012	1700	29.5	6	1		
02AB	IA2032	5408	04/18/2012	1720	<30	7	1		
03AB	IA2033	12005	04/18/2012	1705	<30	7	1		
04AB	IA2036	34390	04/18/2012	1715	30	7	1		
05AB	IA2037	11889	04/18/2012	1710	29.5	7	1		

1204492

Analysis

1 = TO-15 Modified

Analyte List	CAS #
Tetrachloroethene (PCE)	127-18-4
Trichloroethene (TCE)	79-01-6
cis-1,2-Dichloroethene (cDCE)	156-59-2
1,1-Dichloroethene (DCE)	75-35-4
Vinyl chloride (VC)	75-01-4
1,1,1-Trichloroethane (TCA)	71-55-6
Carbon tetrachloride	56-23-5
Methylene chloride (MeCl)	75-09-2
Chlorobenzene	108-90-7
1,2,4-Trichlorobenzene	120-82-1
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Acetone	67-64-1
Benzene	71-43-2
Ethylbenzene	100-41-4
m-Xylene	108-38-3
p-Xylene	106-42-3
o-Xylene	95-47-6
Toluene	108-88-3
Trichlorofluoromethane (Freon 11)	75-69-4
Dichlorodifluoromethane (Freon 12)	75-71-8
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1

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12/3/2013
Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM East Fishkill
Project #: 2999.00
Workorder #: 1311225

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 11/13/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1311225

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.00 IBM East Fishkill
DATE RECEIVED:	11/13/2013	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/27/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA2032	Modified TO-15	6.3 "Hg	5.2 psi
01B	IA2032	Modified TO-15	6.3 "Hg	5.2 psi
02A	Lab Blank	Modified TO-15	NA	NA
02B	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
03B	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCSD	Modified TO-15	NA	NA
04B	LCS	Modified TO-15	NA	NA
04BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 11/27/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 1311225

One 6 Liter Summa Canister (SIM Certified) sample was received on November 13, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for sample IA2032 were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2032

Lab ID#: 1311225-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.85	2.0
Freon 11	0.17	0.26	0.97	1.5
Acetone	0.86	6.0	2.0	14
Toluene	0.17	0.64	0.65	2.4
Tetrachloroethene	0.17	0.67	1.2	4.6

Client Sample ID: IA2032

Lab ID#: 1311225-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.072	0.22	0.45

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Client Sample ID: IA2032

Lab ID#: 1311225-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112008**	**Date of Collection:**	**11/7/13 10:15:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**11/20/13 03:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.85	2.0
Freon 11	0.17	0.26	0.97	1.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	6.0	2.0	14
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
Toluene	0.17	0.64	0.65	2.4
Tetrachloroethene	0.17	0.67	1.2	4.6
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: IA2032

Lab ID#: 1311225-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112008sim**	**Date of Collection: 11/7/13 10:15:00 AM**	
Dil. Factor:	**1.72**	**Date of Analysis: 11/20/13 03:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Carbon Tetrachloride	0.034	0.072	0.22	0.45
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1311225-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 02:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1311225-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112007sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 02:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 1311225-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 10:53 AM**	

Compound	%Recovery
Freon 12	88
Freon 11	95
Freon 113	84
1,1-Dichloroethene	84
Acetone	84
Methylene Chloride	83
cis-1,2-Dichloroethene	92
1,1,1-Trichloroethane	96
Benzene	86
Toluene	90
Tetrachloroethene	82
Chlorobenzene	80
Ethyl Benzene	87
m,p-Xylene	96
o-Xylene	93
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	83
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	75

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV

Lab ID#: 1311225-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 10:53 AM**	

Compound	%Recovery
Vinyl Chloride	82
Carbon Tetrachloride	79
Trichloroethene	71

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1311225-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112005**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 12:45 PM**	

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 11	114	70-130
Freon 113	110	70-130
1,1-Dichloroethene	113	70-130
Acetone	100	70-130
Methylene Chloride	104	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	114	70-130
Benzene	89	70-130
Toluene	96	70-130
Tetrachloroethene	90	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	106	70-130
o-Xylene	104	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	90	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	75	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCSD

Lab ID#: 1311225-04AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 01:50 PM**	

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 11	108	70-130
Freon 113	108	70-130
1,1-Dichloroethene	108	70-130
Acetone	97	70-130
Methylene Chloride	99	70-130
cis-1,2-Dichloroethene	103	70-130
1,1,1-Trichloroethane	111	70-130
Benzene	87	70-130
Toluene	92	70-130
Tetrachloroethene	90	70-130
Chlorobenzene	88	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	106	70-130
o-Xylene	100	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	90	70-130
1,2-Dichlorobenzene	90	70-130
1,2,4-Trichlorobenzene	72	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: LCS

Lab ID#: 1311225-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112005sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 12:45 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
Carbon Tetrachloride	73	60-140
Trichloroethene	79	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1311225-04BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**e112006sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/20/13 01:50 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
Carbon Tetrachloride	74	60-140
Trichloroethene	78	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	108	70-130

Air Toxics LTD.

180 BLUE RAVINE ROAD, SUITE B
FOLSON, CA 95630-4719
(916) 985-1000 FAZ (916) 985-1020

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

SHA
IMPROVING EARTH

20 Foundry Street
Concord, NH 03301
(603) 229-1900 FAX (603) 229-1919

Project Info:

Project Manager: Brad Green
Email: bgreen@sanbornhead.com
latwell@sanbornhead.com, kdubois@sanbornhead.com
P.O#
Project # 2999.00
Project Name: IBM East Fishkill
Analyses: 1 = TO-15 H/L see included list
2 =

Turn Around Time

Normal X
Rush
specify

Relinquished by: (signature) Date/Time: 11-12-13/13:10
Relinquished by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:

Received By: (signature) Date/Time: 11/13/13 0950
Received By: (signature) Date/Time:
Custody Seal Intact?
Y N None Temp N/A Fedex
Received By: (signature) Date/Time:

Lab ID	Field Sample I.D.	Can #	Collection Date	Collection Time	Initial	Final	Analysis	Receipt	Final (psi)
01A	IA2032	22510	11/07/2013	1015	-29.5	-6.5	1		

1311225

Analysis

1 = TO-15 Modified

Analyte List	CAS #
Tetrachloroethene (PCE)	127-18-4
Trichloroethene (TCE)	79-01-6
cis-1,2-Dichloroethene (cDCE)	156-59-2
1,1-Dichloroethene (DCE)	75-35-4
Vinyl chloride (VC)	75-01-4
1,1,1-Trichloroethane (TCA)	71-55-6
Carbon tetrachloride	56-23-5
Methylene chloride (MeCl)	75-09-2
Chlorobenzene	108-90-7
1,2,4-Trichlorobenzene	120-82-1
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Acetone	67-64-1
Benzene	71-43-2
Ethylbenzene	100-41-4
m-Xylene	108-38-3
p-Xylene	106-42-3
o-Xylene	95-47-6
Toluene	108-88-3
Trichlorofluoromethane (Freon 11)	75-69-4
Dichlorodifluoromethane (Freon 12)	75-71-8
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1

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12/18/2013
Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM East Fishkill
Project #: 2999 T110
Workorder #: 1312031

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 12/3/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1312031

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999 T110 IBM East Fishkill
DATE RECEIVED:	12/03/2013	**CONTACT:**	Ausha Scott
DATE COMPLETED:	12/18/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA2037	Modified TO-15	4.5 "Hg	5.2 psi
01B	IA2037	Modified TO-15	4.5 "Hg	5.2 psi
02A	IA2033	Modified TO-15	5.1 "Hg	5 psi
02B	IA2033	Modified TO-15	5.1 "Hg	5 psi
03A	IA0103	Modified TO-15	4.7 "Hg	5 psi
03B	IA0103	Modified TO-15	4.7 "Hg	5 psi
04A	IA0100	Modified TO-15	4.3 "Hg	5.1 psi
04B	IA0100	Modified TO-15	4.3 "Hg	5.1 psi
05A	IA0101	Modified TO-15	5.3 "Hg	5.2 psi
05B	IA0101	Modified TO-15	5.3 "Hg	5.2 psi
06A	IA0102	Modified TO-15	5.3 "Hg	5.5 psi
06B	IA0102	Modified TO-15	5.3 "Hg	5.5 psi
07A	DUP34350	Modified TO-15	5.3 "Hg	5.1 psi
07B	DUP34350	Modified TO-15	5.3 "Hg	5.1 psi
08A	IA0104	Modified TO-15	5.7 "Hg	4.9 psi
08B	IA0104	Modified TO-15	5.7 "Hg	4.9 psi
09A	IA0105	Modified TO-15	5.1 "Hg	5.2 psi
09B	IA0105	Modified TO-15	5.1 "Hg	5.2 psi
10A	AA0106	Modified TO-15	2.8 "Hg	4.5 psi
10B	AA0106	Modified TO-15	2.8 "Hg	4.5 psi
11A	FB01	Modified TO-15	9.8 "Hg	4.7 psi
11B	FB01	Modified TO-15	9.8 "Hg	4.7 psi
12A	Lab Blank	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 1312031

Work Order Summary

CLIENT:	Mr. Brad Green Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999 T110 IBM East Fishkill
DATE RECEIVED:	12/03/2013	**CONTACT:**	Ausha Scott
DATE COMPLETED:	12/18/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	Lab Blank	Modified TO-15	NA	NA
13A	CCV	Modified TO-15	NA	NA
13B	CCV	Modified TO-15	NA	NA
14A	LCS	Modified TO-15	NA	NA
14AA	LCSD	Modified TO-15	NA	NA
14B	LCS	Modified TO-15	NA	NA
14BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 12/18/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 1312031

Eleven 6 Liter Summa Canister (SIM Certified) samples were received on December 03, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2037

Lab ID#: 1312031-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
Freon 11	0.16	0.27	0.89	1.5
Freon 113	0.16	0.22	1.2	1.7
Acetone	0.80	3.0	1.9	7.1
Benzene	0.16	0.26	0.51	0.83
Toluene	0.16	0.99	0.60	3.7
Tetrachloroethene	0.16	1.0	1.1	6.8
m,p-Xylene	0.16	0.37	0.69	1.6

Client Sample ID: IA2037

Lab ID#: 1312031-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.12	0.20	0.73
Trichloroethene	0.032	0.052	0.17	0.28

Client Sample ID: IA2033

Lab ID#: 1312031-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
Freon 11	0.16	0.24	0.90	1.3
Freon 113	0.16	0.22	1.2	1.7
Acetone	0.80	3.2	1.9	7.5
Benzene	0.16	0.28	0.51	0.90
Toluene	0.16	1.3	0.61	5.1
m,p-Xylene	0.16	0.31	0.70	1.3

Client Sample ID: IA2033

Lab ID#: 1312031-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA2033

Lab ID#: 1312031-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.11	0.20	0.68
Trichloroethene	0.032	0.041	0.17	0.22

Client Sample ID: IA0103

Lab ID#: 1312031-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.79	2.2
Freon 11	0.16	0.28	0.89	1.6
Freon 113	0.16	0.21	1.2	1.6
Acetone	0.80	3.5	1.9	8.4
Benzene	0.16	0.21	0.51	0.66
Toluene	0.16	0.60	0.60	2.3
m,p-Xylene	0.16	0.19	0.69	0.84

Client Sample ID: IA0103

Lab ID#: 1312031-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.11	0.20	0.67

Client Sample ID: IA0100

Lab ID#: 1312031-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.78	2.5
Freon 11	0.16	0.25	0.88	1.4
Acetone	0.78	3.8	1.9	9.0
Benzene	0.16	0.28	0.50	0.88
Toluene	0.16	1.0	0.59	3.9
m,p-Xylene	0.16	0.34	0.68	1.5

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0100

Lab ID#: 1312031-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.031	0.12	0.20	0.76

Client Sample ID: IA0101

Lab ID#: 1312031-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.48	0.81	2.4
Freon 11	0.16	0.24	0.92	1.4
Acetone	0.82	4.2	1.9	10
Benzene	0.16	0.30	0.52	0.96
Toluene	0.16	0.94	0.62	3.5
m,p-Xylene	0.16	0.33	0.71	1.4

Client Sample ID: IA0101

Lab ID#: 1312031-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.11	0.21	0.67

Client Sample ID: IA0102

Lab ID#: 1312031-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.82	2.2
Freon 11	0.17	0.25	0.94	1.4
Acetone	0.84	3.4	2.0	8.2
Benzene	0.17	0.28	0.53	0.90
Toluene	0.17	1.1	0.63	4.1
m,p-Xylene	0.17	0.48	0.72	2.1

Client Sample ID: IA0102

Lab ID#: 1312031-06B

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0102

Lab ID#: 1312031-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.11	0.21	0.71
Trichloroethene	0.033	0.034	0.18	0.18

Client Sample ID: DUP34350

Lab ID#: 1312031-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.39	0.81	1.9
Freon 11	0.16	0.20	0.92	1.1
Acetone	0.82	3.7	1.9	8.8
Benzene	0.16	0.28	0.52	0.90
Toluene	0.16	1.1	0.62	4.3
m,p-Xylene	0.16	0.47	0.71	2.0

Client Sample ID: DUP34350

Lab ID#: 1312031-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.065	0.21	0.41

Client Sample ID: IA0104

Lab ID#: 1312031-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.82	2.2
Freon 11	0.16	0.23	0.93	1.3
Acetone	0.82	3.0	2.0	7.1
Benzene	0.16	0.29	0.53	0.93
Toluene	0.16	0.62	0.62	2.3
m,p-Xylene	0.16	0.33	0.72	1.4

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0104

Lab ID#: 1312031-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.10	0.21	0.64

Client Sample ID: IA0105

Lab ID#: 1312031-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 11	0.16	0.24	0.92	1.3
Acetone	0.82	3.0	1.9	7.2
Benzene	0.16	0.25	0.52	0.80
Toluene	0.16	0.75	0.61	2.8
m,p-Xylene	0.16	0.28	0.71	1.2

Client Sample ID: IA0105

Lab ID#: 1312031-09B

No Detections Were Found.

Client Sample ID: AA0106

Lab ID#: 1312031-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.49	0.71	2.4
Freon 11	0.14	0.25	0.81	1.4
Acetone	0.72	3.2	1.7	7.5
Benzene	0.14	0.18	0.46	0.58
Toluene	0.14	0.24	0.54	0.89

Client Sample ID: AA0106

Lab ID#: 1312031-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.029	0.11	0.18	0.68

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: FB01

Lab ID#: 1312031-11A

No Detections Were Found.

Client Sample ID: FB01

Lab ID#: 1312031-11B

No Detections Were Found.

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Client Sample ID: IA2037

Lab ID#: 1312031-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121617**	**Date of Collection: 11/26/13 6:02:00 PM**	
Dil. Factor:	**1.59**	**Date of Analysis: 12/16/13 08:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
Freon 11	0.16	0.27	0.89	1.5
Freon 113	0.16	0.22	1.2	1.7
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	3.0	1.9	7.1
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Benzene	0.16	0.26	0.51	0.83
Toluene	0.16	0.99	0.60	3.7
Tetrachloroethene	0.16	1.0	1.1	6.8
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	0.37	0.69	1.6
o-Xylene	0.16	Not Detected	0.69	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: IA2037

Lab ID#: 1312031-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121617sim**	**Date of Collection: 11/26/13 6:02:00 PM**	
Dil. Factor:	**1.59**	**Date of Analysis: 12/16/13 08:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Carbon Tetrachloride	0.032	0.12	0.20	0.73
Trichloroethene	0.032	0.052	0.17	0.28

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: IA2033

Lab ID#: 1312031-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121607**	**Date of Collection: 11/26/13 5:56:00 PM**	
Dil. Factor:	**1.61**	**Date of Analysis: 12/16/13 02:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
Freon 11	0.16	0.24	0.90	1.3
Freon 113	0.16	0.22	1.2	1.7
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	3.2	1.9	7.5
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Benzene	0.16	0.28	0.51	0.90
Toluene	0.16	1.3	0.61	5.1
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	0.31	0.70	1.3
o-Xylene	0.16	Not Detected	0.70	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: IA2033

Lab ID#: 1312031-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121607sim**	**Date of Collection: 11/26/13 5:56:00 PM**	
Dil. Factor:	**1.61**	**Date of Analysis: 12/16/13 02:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Carbon Tetrachloride	0.032	0.11	0.20	0.68
Trichloroethene	0.032	0.041	0.17	0.22

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: IA0103

Lab ID#: 1312031-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121608**	**Date of Collection: 11/26/13 5:59:00 PM**	
Dil. Factor:	**1.59**	**Date of Analysis: 12/16/13 03:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.79	2.2
Freon 11	0.16	0.28	0.89	1.6
Freon 113	0.16	0.21	1.2	1.6
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	3.5	1.9	8.4
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Benzene	0.16	0.21	0.51	0.66
Toluene	0.16	0.60	0.60	2.3
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	0.19	0.69	0.84
o-Xylene	0.16	Not Detected	0.69	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: IA0103

Lab ID#: 1312031-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121608sim**	**Date of Collection: 11/26/13 5:59:00 PM**	
Dil. Factor:	**1.59**	**Date of Analysis: 12/16/13 03:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Carbon Tetrachloride	0.032	0.11	0.20	0.67
Trichloroethene	0.032	Not Detected	0.17	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: IA0100

Lab ID#: 1312031-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121609**	**Date of Collection: 11/26/13 5:50:00 PM**	
Dil. Factor:	**1.57**	**Date of Analysis: 12/16/13 03:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.78	2.5
Freon 11	0.16	0.25	0.88	1.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	3.8	1.9	9.0
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Benzene	0.16	0.28	0.50	0.88
Toluene	0.16	1.0	0.59	3.9
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	Not Detected	0.68	Not Detected
m,p-Xylene	0.16	0.34	0.68	1.5
o-Xylene	0.16	Not Detected	0.68	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: IA0100

Lab ID#: 1312031-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121609sim**	**Date of Collection: 11/26/13 5:50:00 PM**	
Dil. Factor:	**1.57**	**Date of Analysis: 12/16/13 03:46 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
Carbon Tetrachloride	0.031	0.12	0.20	0.76
Trichloroethene	0.031	Not Detected	0.17	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: IA0101

Lab ID#: 1312031-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121610**	**Date of Collection: 11/26/13 5:54:00 PM**	
Dil. Factor:	**1.64**	**Date of Analysis: 12/16/13 04:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.48	0.81	2.4
Freon 11	0.16	0.24	0.92	1.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.2	1.9	10
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Benzene	0.16	0.30	0.52	0.96
Toluene	0.16	0.94	0.62	3.5
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.33	0.71	1.4
o-Xylene	0.16	Not Detected	0.71	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: IA0101

Lab ID#: 1312031-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121610sim**	**Date of Collection: 11/26/13 5:54:00 PM**	
Dil. Factor:	**1.64**	**Date of Analysis: 12/16/13 04:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Carbon Tetrachloride	0.033	0.11	0.21	0.67
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: IA0102

Lab ID#: 1312031-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121611**	**Date of Collection: 11/26/13 5:45:00 PM**	
Dil. Factor:	**1.67**	**Date of Analysis: 12/16/13 04:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.82	2.2
Freon 11	0.17	0.25	0.94	1.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	3.4	2.0	8.2
Methylene Chloride	0.33	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.91	Not Detected
Benzene	0.17	0.28	0.53	0.90
Toluene	0.17	1.1	0.63	4.1
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	0.48	0.72	2.1
o-Xylene	0.17	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: IA0102

Lab ID#: 1312031-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121611sim**	**Date of Collection: 11/26/13 5:45:00 PM**	
Dil. Factor:	**1.67**	**Date of Analysis: 12/16/13 04:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
Carbon Tetrachloride	0.033	0.11	0.21	0.71
Trichloroethene	0.033	0.034	0.18	0.18

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP34350

Lab ID#: 1312031-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121612**	**Date of Collection:**	**11/26/13 5:45:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**12/16/13 05:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.39	0.81	1.9
Freon 11	0.16	0.20	0.92	1.1
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	3.7	1.9	8.8
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Benzene	0.16	0.28	0.52	0.90
Toluene	0.16	1.1	0.62	4.3
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.47	0.71	2.0
o-Xylene	0.16	Not Detected	0.71	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: DUP34350

Lab ID#: 1312031-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121612sim**	**Date of Collection: 11/26/13 5:45:00 PM**	
Dil. Factor:	**1.64**	**Date of Analysis: 12/16/13 05:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Carbon Tetrachloride	0.033	0.065	0.21	0.41
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: IA0104

Lab ID#: 1312031-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121613**	**Date of Collection: 11/26/13 5:43:00 PM**	
Dil. Factor:	**1.65**	**Date of Analysis: 12/16/13 06:12 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.82	2.2
Freon 11	0.16	0.23	0.93	1.3
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	3.0	2.0	7.1
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Benzene	0.16	0.29	0.53	0.93
Toluene	0.16	0.62	0.62	2.3
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.72	Not Detected
m,p-Xylene	0.16	0.33	0.72	1.4
o-Xylene	0.16	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: IA0104

Lab ID#: 1312031-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121613sim**	**Date of Collection: 11/26/13 5:43:00 PM**	
Dil. Factor:	**1.65**	**Date of Analysis: 12/16/13 06:12 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Carbon Tetrachloride	0.033	0.10	0.21	0.64
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: IA0105

Lab ID#: 1312031-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121614**	**Date of Collection: 11/26/13 5:42:00 PM**	
Dil. Factor:	**1.63**	**Date of Analysis: 12/16/13 06:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 11	0.16	0.24	0.92	1.3
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	3.0	1.9	7.2
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Benzene	0.16	0.25	0.52	0.80
Toluene	0.16	0.75	0.61	2.8
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
Chlorobenzene	0.16	Not Detected	0.75	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.28	0.71	1.2
o-Xylene	0.16	Not Detected	0.71	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: IA0105

Lab ID#: 1312031-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121614sim**	**Date of Collection: 11/26/13 5:42:00 PM**	
Dil. Factor:	**1.63**	**Date of Analysis: 12/16/13 06:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Carbon Tetrachloride	0.033	Not Detected	0.20	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: AA0106

Lab ID#: 1312031-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121615**	**Date of Collection: 11/26/13 6:08:00 PM**	
Dil. Factor:	**1.44**	**Date of Analysis: 12/16/13 07:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.49	0.71	2.4
Freon 11	0.14	0.25	0.81	1.4
Freon 113	0.14	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Acetone	0.72	3.2	1.7	7.5
Methylene Chloride	0.29	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.78	Not Detected
Benzene	0.14	0.18	0.46	0.58
Toluene	0.14	0.24	0.54	0.89
Tetrachloroethene	0.14	Not Detected	0.98	Not Detected
Chlorobenzene	0.14	Not Detected	0.66	Not Detected
Ethyl Benzene	0.14	Not Detected	0.62	Not Detected
m,p-Xylene	0.14	Not Detected	0.62	Not Detected
o-Xylene	0.14	Not Detected	0.62	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
1,2,4-Trichlorobenzene	0.72	Not Detected	5.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: AA0106

Lab ID#: 1312031-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121615sim**	**Date of Collection: 11/26/13 6:08:00 PM**	
Dil. Factor:	**1.44**	**Date of Analysis: 12/16/13 07:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.037	Not Detected
Carbon Tetrachloride	0.029	0.11	0.18	0.68
Trichloroethene	0.029	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: FB01

Lab ID#: 1312031-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121616**	**Date of Collection: 11/26/13 7:00:00 PM**	
Dil. Factor:	**1.96**	**Date of Analysis: 12/16/13 08:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.20	Not Detected	0.97	Not Detected
Freon 11	0.20	Not Detected	1.1	Not Detected
Freon 113	0.20	Not Detected	1.5	Not Detected
1,1-Dichloroethene	0.20	Not Detected	0.78	Not Detected
Acetone	0.98	Not Detected	2.3	Not Detected
Methylene Chloride	0.39	Not Detected	1.4	Not Detected
cis-1,2-Dichloroethene	0.20	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.20	Not Detected	1.1	Not Detected
Benzene	0.20	Not Detected	0.63	Not Detected
Toluene	0.20	Not Detected	0.74	Not Detected
Tetrachloroethene	0.20	Not Detected	1.3	Not Detected
Chlorobenzene	0.20	Not Detected	0.90	Not Detected
Ethyl Benzene	0.20	Not Detected	0.85	Not Detected
m,p-Xylene	0.20	Not Detected	0.85	Not Detected
o-Xylene	0.20	Not Detected	0.85	Not Detected
1,3-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,4-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,2,4-Trichlorobenzene	0.98	Not Detected	7.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: FB01

Lab ID#: 1312031-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121616sim**	**Date of Collection: 11/26/13 7:00:00 PM**	
Dil. Factor:	**1.96**	**Date of Analysis: 12/16/13 08:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
Carbon Tetrachloride	0.039	Not Detected	0.25	Not Detected
Trichloroethene	0.039	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1312031-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 01:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1312031-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 01:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1312031-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 09:30 AM**	

Compound	%Recovery
Freon 12	104
Freon 11	97
Freon 113	104
1,1-Dichloroethene	104
Acetone	92
Methylene Chloride	94
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	91
Benzene	95
Toluene	93
Tetrachloroethene	93
Chlorobenzene	91
Ethyl Benzene	95
m,p-Xylene	88
o-Xylene	94
1,3-Dichlorobenzene	81
1,4-Dichlorobenzene	82
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1312031-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 09:30 AM**	

Compound	%Recovery
Vinyl Chloride	102
Carbon Tetrachloride	124
Trichloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1312031-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 10:33 AM**	

Compound	%Recovery	Method Limits
Freon 12	116	70-130
Freon 11	109	70-130
Freon 113	97	70-130
1,1-Dichloroethene	89	70-130
Acetone	100	70-130
Methylene Chloride	114	70-130
cis-1,2-Dichloroethene	118	70-130
1,1,1-Trichloroethane	100	70-130
Benzene	112	70-130
Toluene	107	70-130
Tetrachloroethene	107	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	108	70-130
m,p-Xylene	105	70-130
o-Xylene	106	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	96	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1312031-14AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 11:09 AM**	

Compound	%Recovery	Method Limits
Freon 12	115	70-130
Freon 11	112	70-130
Freon 113	99	70-130
1,1-Dichloroethene	92	70-130
Acetone	101	70-130
Methylene Chloride	114	70-130
cis-1,2-Dichloroethene	122	70-130
1,1,1-Trichloroethane	105	70-130
Benzene	112	70-130
Toluene	110	70-130
Tetrachloroethene	112	70-130
Chlorobenzene	109	70-130
Ethyl Benzene	112	70-130
m,p-Xylene	110	70-130
o-Xylene	114	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	105	70-130
1,2-Dichlorobenzene	108	70-130
1,2,4-Trichlorobenzene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 1312031-14B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 10:33 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	116	70-130
Carbon Tetrachloride	132	60-140
Trichloroethene	103	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1312031-14BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a121604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/16/13 11:09 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	118	70-130
Carbon Tetrachloride	136	60-140
Trichloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.

180 BLUE RAVINE ROAD, SUITE B
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SHA
IMPROVING EARTH

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Project Info:
Project Manager: Brad Green
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P.O#
Project #: 2999 T110
Project Name: IBM East Fishkill
Analyses: 1 = TO-15 H/L Refer to attached analyte list
2 =

Turn Around Time
Normal X
Rush
specify

Relinquished by: (signature) Date/Time 12/2/13 1530
Received By: (signature) Date/Time ATL 12/3/13 0945
Relinquished by: (signature) Date/Time
Received By: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received By: (signature) Date/Time

Lab ID	Field Sample I.D.	Can #	Collection Date	Collection Time	Initial	Final	Analysis	Receipt	Final (psi)
01A	IA2037	12717	11/26/2013	1802	30	6	1		
02A	IA2033	13656	11/26/2013	1756	31.5	7.5	1		
03A	IA0103	34209	11/26/2013	1759	31	6	1		
04A	IA0100	12045	11/26/2013	1750	31	6	1		
05A	IA0101	9910	11/26/2013	1754	31	6.5	1		
06A	IA0102	11298	11/26/2013	1745	31	6.5	1		
07A	~~IA34350~~ DUP 34350	34350	11/26/2013	1745	30	6.5	1		
08A	IA0104	33772	11/26/2013	1743	31	6.5	1		
09A	IA0105	1602	11/26/2013	1742	30	6	1		
10A	AA0106	610018	11/26/2013	1808	30	5	1		
11A	FB01	~~5765~~ 5730	11/26/2013	1900	30.5	9	1		

Custody Seal Intact?
Y N None Temp NA
Fedex

1312031

Revised COC Received 12.5.13

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P.O#
Project # 2999 T110
Project Name: IBM East Fishkill
Analyses: 1 = TO-15 H/L Refer to attached analyte list
2 =

Turn Around Time

Normal X
Rush
specify

Relinquished by: (signature) Date/Time

Received By: (signature) Date/Time ATL 12/3/13 0945

Relinquished by: (signature) Date/Time

Received By: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received By: (signature) Date/Time

Lab ID	Field Sample I.D.	Can #	Collection Date	Collection Time	Initial	Final	Analysis	Receipt	Final (psi)
01A	IA2037	12717	11/26/2013	1802	30	6	1		
02A	IA2033	13656	11/26/2013	1756	31.5	7.5	1		
03A	IA0103	34209	11/26/2013	1759	31	6	1		
04A	IA0100	12045	11/26/2013	1750	31	6	1		
05A	IA0101	9910	11/26/2013	1754	31	6.5	1		
06A	IA0102	11298	11/26/2013	1745	31	6.5	1		
07A	IA34350	34350	11/26/2013	1745	30	6.5	1		
08A	IA0104	33772	11/26/2013	1743	31	6.5	1		
09A	IA0105	1602	11/26/2013	1742	30	6	1		
10A	AA0106	6L0018	11/26/2013	1808	30	5	1		
11A	FB01	1565	11/26/2013	1900	30.5	9	1		

Custody Seal Intact?
Y N None Temp NA
Fedex

1312031

APPENDIX E

DATA VALIDATION REPORTS
(ENCLOSED ON CD ONLY)

Data Usability Report

Method TO-15 Hi/Lo Analysis

Client/Company:	Sanborn, Head, & Associates, Inc., Concord, New Hampshire (SHA)
Site/Project Name:	IBM – East Fishkill Facility, Hopewell Junction, New York
Laboratory:	Air Toxics Ltd, Folsom, California (ATL)
Work Orders:	1312031
Date(s) of Collection:	November 26, 2013
Number and Type Samples & Analyses:	9 Indoor Air, 1 Ambient Air, and 1 Field Blank samples for twenty-two project-specific VOCs by Method TO-15 Hi/Lo
Senior Data Reviewers:	Dr. Nancy C. Rothman, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	January 10, 2014

This Data Usability Report was performed on the Work Orders identified with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment IBM East Fishkill Facility, Hopewell Junction, New York*, prepared by Sanborn, Head & Associates, June 2009; NYSDEC Analytical Services Protocol, June 2005 with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria, February 2008; USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15*, Rev. 4, October 2006; Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, Publication EPA/625/R-96/010b, January 1999; and *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*; Publication USEPA-540-R-08-01, June 2008; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to update the project database with appropriate data quality qualifiers.

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I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), if applicable and the analytical parameters reviewed are listed in Table 1.

Table 1. Sample Descriptions and Analytical Parameters

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
IA2037	1312031-01A	11/26/13	Indoor Air	VOCs	Field Sample
IA2033	1312031-02A	11/26/13	Indoor Air	VOCs	Field Sample
IA0103	1312031-03A	11/26/13	Indoor Air	VOCs	Field Sample
IA0100	1312031-04A	11/26/13	Indoor Air	VOCs	Field Sample
IA0101	1312031-05A	11/26/13	Indoor Air	VOCs	Field Sample
IA0102	1312031-06A	11/26/13	Indoor Air	VOCs	Field Sample
DUP34350	1312031-07A	11/26/13	Indoor Air	VOCs	Field Duplicate of IA0102
IA0104	1312031-08A	11/26/13	Indoor Air	VOCs	Field Sample
IA0105	1312031-09A	11/26/13	Indoor Air	VOCs	Field Sample
AA0106	1312031-10A	11/26/13	Ambient Air	VOCs	Field Sample
FB01	1312031-11A	11/26/13	Air	VOCs	Field Blank

Analytical method reference:
VOC: TO-15 Hi/Lo – Method TO-15 with simultaneous Full Scan and Selected Ion Monitoring (SIM) analysis for twenty-two project-specific VOCs

II. Data Deficiencies, Analytical Protocol Deviations, and Quality Control Problems

This Data Usability Report represents a review of sample results and summary QC (method and matrix) only for an evaluation of accuracy, precision, and sensitivity. A full In-Depth Review of results, QC, and raw data was performed for this project for Work Orders 0907203AR1 and 0907203BR1 (NEH, 08/13/09).

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times, and canister condition
- Calibration criteria (instrument tuning, initial and continuing calibration verifications)
- Method and field blank results
- Laboratory Control Sample (LCS) recoveries
- Surrogate Recoveries
- Internal Standard (IS) Recoveries
- Sample/Laboratory Duplicate (LD) or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including reporting limits and units)
- Other method-specific QC if applicable and reported
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

During this review of VOCs, several results were estimated (J or UJ) due to QC issues. Table 2 summarizes the actions taken during this review. NEH generated validated data spreadsheets based on the electronic project database files received from ATL for these Work Orders. There were no rejected results; therefore, all results were considered acceptable compared to Work Plan and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

The Field Sample ID was changed for one sample after sample receipt at the laboratory. On December 5, 2013, the laboratory received a revised Chain-of-Custody changing sample ID IA34350 to DUP34350. All data were reported using the revised sample ID.

The laboratory reported results for all 22 compounds listed in Table B.1 of the Work Plan from a single analysis with two mass spectrometer (MS) detectors, each operated in a different detection mode: one operated in the full scan electron impact mode and the other operated in the Selected Ion Monitoring (SIM) mode. This analysis, called TO-15 Hi/Lo by ATL, allowed the sensitivity requirements of the project, unless otherwise discussed in this report, to be met for all of the compounds. All compounds except trichloroethene, vinyl chloride, and carbon tetrachloride were reported using the full scan detector, while SIM analysis was used for these three compounds. The full scan analysis was reported with an "A" suffix and the SIM analysis with a "B" suffix appended to the laboratory sample ID.

There was one Field duplicate (FD) pair: IA0102 / DUP34350. FD precision was acceptable for all 22 Target VOCs. The FD results are an indication of acceptable precision for field collection through analysis for these air samples.

Sensitivity requirements compared to the Reporting Limits (RLs) defined in Table B.1 of the Work Plan were met for all samples in these Work Orders.

All other quality control information associated with accuracy, precision, and sensitivity for the project-specific list of VOCs reported met project criteria for the samples in these Work Orders with the exceptions included in Table 2.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
All samples	Carbon Tetrachloride	J / UJ	I	Initial Calibration outside criteria

Qualifiers: U = Analyte is non-detect at or above the sample-specific practical quantitation limit (PQL); UJ = Non-detect is estimated at the PQL; J = Result is estimated; EB = Analyte was also present in a non-matrix matched Field Equipment Blank; TB = Analyte was also present in a non-matrix matched Trip Blank; N = there is presumptive evidence for the TIC identification; R = Result is rejected and is unusable for project decisions.

Bias: L = Low; H = High; I = Indeterminate

The attached Data Review Checklist documents the method and matrix-specific QC reviewed and the issues that required action (as listed in Table 2) or affected the data certainty in terms of data quality objectives (DQO) of accuracy, precision, and sensitivity.

Lab: eurofins/Air Toxics Ltd.
Date Sampled: 11/26/2013
Method of Analysis: TO-15 Hi/Lo

No. Samples 9 IA + 1AA + 1FB

Data Element Acceptable	Canister Receipt	HT	GC/MS Tunes + Calibrations	Internal Stds + Surrogates	LCS	Lab Dup (LCS and LD)	Field Duplicates	RL & Quant.
Yes	√	√		√	√	√	√	√
No			Estimate (J or UJ) 11 results					

Other Issues :

A combined Full Scan and SIM Analysis was performed for each sample for 22 Project-specific VOCs listed in Table B.1 of the Work Plan, as shown on page 4 of this checklist. The full scan analysis was reported with an "A" suffix and the SIM analysis with a "B" suffix appended to the laboratory sample ID.

The samples were received intact and in good condition on 12/3/13. One sample ID was changed after sample receipt from IA34350 to DUP34350 - a revised COC with this change was sent from SHA to ATL on 12/5/13.

Canisters were Certified pre-cleaned - certificates of analysis were reported and indicate that all Target compounds were non-detect in the canisters prior to being sent to the field.

The canister vacuums (field initial, field final and lab receipt) were all acceptable; therefore, no action required. Note some field initial vacuums were > 30 "Hg (e.g.., 31.5 "Hg) which isn't theoretically possible since absolute vacuum is 30 "Hg. The difference in actual versus measure vacuums may be an indication of issues related to the vacuum gauge calibration used in the field (e.g., possibly temperature affected the readings, etc.).

Samples were analyzed on 12/16/13 (within 20 days of collection); therefore HT was met. No Action required.

ICALs : Instrument A Full Scan and SIM performed on 12/09/13. Full Scan = 6- to 9-level calibration from 0.05, 0.1, 0.2, or 0.5 to 40 ppbV for all 22 Target compounds plus several non-target compounds. SIM = 9- to 11-level calibration from 0.003, 0.005, or 0.01 to 20 ppbV for 3 Target plus several other non-target compounds. %RSD ≤ 30% for all 22 Target Compounds except Carbon Tetrachloride by SIM had %RSD = 33.867%. RLs reported (as indicated in the table on page 4 of this checklist for DF=2 analysis) were supported by the ICALs. ****ACTION: Carbon tetrachloride results estimated (J or UJ) with indeterminate bias in all samples due to the Initial Calibration being outside criteria in the SIM analysis*** (verified that this compound was reported from the SIM run for all samples).

Date: ***1/9/14***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blank: a121606 & a121606sim

Field Blanks: FB01

Blank ID	Contaminant / Level (µg/m^3)		Action Level DF=		Sample and reported result (µg/m3)	Corrected Database Result
a121606	None				No Blank Action Required	
a121606sim	None				No Blank Action Required	
FB01	None				No Blank Action Required	

Additional Notes:

CCALs : a121602 / a121602sim - % Recovery 70-130% for all 22 Target compounds - No Action required.

BFB Tunes: Instrument A 3 Tunes (2 for ICAL + 1 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune; therefore, No Action Required.

Surrogates & Internal Standards : All 3 Surrogates had %Recovery within criteria and all IS' had areas and RTs within criteria in all analyses; therefore, No Action Required.

LCS/LCSD : a121603/a121604 & a121603sim/a121604sim - %Recovery acceptable for all 22 Targets in LCS and LCSD and LCS/LCSD RPDs all OK; therefore, acceptable accuracy and precision demonstrated for analysis of the 22 VOCs by Full Scan + SIM analysis.

LD analysis not performed for the samples in this Work Order. LCS/LCSD reported instead, which reported acceptable precision except as listed above.

There were no "J" result reported. There were no other qualifiers (except "U") reported on the data. No DV Action required.

All reporting limits were at a level below the Project required RL (as shown in Table 4); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

Date: ***1/9/14***

Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Additional Notes:
Field Duplicate Evaluation_ Sample IDs: Sample = IA0102 FD = DUP34350

Analyte Name	CAS No.	DF = 1.67* RL (µg/m^3)	Sample Result µg/m^3	Q	FD Level	FD Result µg/m^3	Q	Level	RPD	Action
Freon 12	75-71-8	0.82	2.2		< 5xRL	1.9		< 5xRL	14.6	None
Freon 11	75-69-4	0.94	1.4		< 5xRL	1.1		< 5xRL	24.0	None **
Freon 113	76-13-1	1.3	1.3	U	RL	1.2	U	RL	NA	None
1,1-Dichloroethene	75-35-4	0.66	0.66	U	RL	0.65	U	RL	NA	None
Acetone	67-64-1	2	8.2		< 5xRL	8.8		< 5xRL	7.1	None
Methylene Chloride	75-09-2	1.2	1.2	U	RL	1.1	U	RL	NA	None
cis-1,2-Dichloroethene	156-59-2	0.66	0.66	U	RL	0.65	U	RL	NA	None
1,1,1-Trichloroethane	71-55-6	0.91	0.91	U	RL	0.89	U	RL	NA	None
Benzene	71-43-2	0.53	0.9		< 5xRL	0.9		< 5xRL	0.0	None
Toluene	108-88-3	0.63	4.1		> 5xRL	4.3		> 5xRL	4.8	None
Tetrachloroethene	127-18-4	1.1	1.1	U	RL	1.1	U	RL	NA	None
Chlorobenzene	108-90-7	0.77	0.77	U	RL	0.76	U	RL	NA	None
Ethyl Benzene	100-41-4	0.72	0.72	U	RL	0.71	U	RL	NA	None
m,p-Xylene	108-38-3/ 106-42-3	0.72	2.1		< 5xRL	2		< 5xRL	4.9	None
o-Xylene	95-47-6	0.72	0.72	U	RL	0.71	U	RL	NA	None
1,3-Dichlorobenzene	541-73-1	1	1	U	RL	0.99	U	RL	NA	None
1,4-Dichlorobenzene	106-46-7	1	1	U	RL	0.99	U	RL	NA	None
1,2-Dichlorobenzene	95-50-1	1	1	U	RL	0.99	U	RL	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.2	6.2	U	RL	6.1	U	RL	NA	None
Vinyl Chloride	75-01-4	0.043	0.043	U	RL	0.042	U	RL	NA	None
Carbon Tetrachloride	56-23-5	0.21	0.71	J	< 5xRL	0.41	J	< 5xRL	53.6	None **
Trichloroethene	79-01-6	0.18	0.18		RL	0.18	U	RL	NA	None

*The FD DF was 1.64

** Action only taken for RPD > 20% if one or both results are > 5 x RL

Q = Data Qualifier as reported by ATL and/or NEH; U = non-detect, J = estimated result; UJ = non-detect is estimated

NA = Not Applicable. RPD not calculated since one or both results were non-detect.

FD precision was acceptable for all 22 Target VOCs in the FD pair of IA0102 and DUP34350 - No Action required.

Date: *1/9/14*
Data Reviewer: *Nancy C. Rothman, Ph.D.*

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name		Full Scan (Full) or SIM		RL (µg/m^3)
Tetrachloroethene (PCE)		Full		1.4
Trichloroethene (TCE)		SIM		0.22
cis-1,2-Dichloroethene (cDCE)		Full		0.8
1,1-Dichloroethene (DCE)		Full		0.8
Vinyl chloride (VC)		SIM		0.06
1,1,1-Trichloroethane (TCA)		Full		1.1
Carbon Tetrachloride		SIM		0.2
Methylene chloride (MeCL)		Full		1.4
Chlorobenzene		Full		0.92
1,2,4-Trichlorobenzene		Full		7.4
1,2-Dichlorobenzene		Full		1.2
1,3-Dichlorobenzene		Full		1.2
1,4-Dichlorobenzene		Full		1.2
Acetone		Full		2.4
Benzene		Full		0.64
Ethylbenzene		Full		0.86
m-Xylene		Full		0.86
p-Xylene				
o-Xylene		Full		0.86
Toluene		Full		0.77
Trichlorofluoromethane (Freon 11)		Full		1.1
Dichlorodifluoromethane (Freon 12)		Full		1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		Full		1.5

Date: ***1/9/14***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Actions (see References below):

Canister Integrity:	If certification forms indicate issues, J/U or UJ results in samples
Canister Vacuum (Vac):	Initial Field Vac < 25" Hg, J/UJ all results; Lab Receipt Vac > 15" Hg, J/UJ results; Lab Receipt Vac > ± 5" Hg of Final Field Vac, J/UJ results
Hold Time (HT):	HT > 30 days, J detects/ UJ non-detects
Blank Actions:	Action Level = 5 x Level in Blank; Sample-specific Blank Action Level = Action Level x (Sample DF/Blank DF) Method Blank (MB): Result < RL, U result at RL; RL<Result<Blank Action, U result at level reported Equipment Blank (EB): Result<Blank Action, EB result at level reported
BFB Tune:	SW-846 method 8260B tune criteria not met, professional judgment on R of all data; samples analyzed > 12-hours after tune; professional judgment on J/UJ or R of results
LCS and CCV:	Percent Recovery (%Rec) <10%, J detects, R non-detects; 10% < %Rec <70%; J/UJ all associated data; %Rec >130%, J detects - no action for non-detects
Initial Calibration (ICAL):	%RSD > 30%, J/UJ associated results
Internal Standard (IS):	RT > ±0.33 min of IS RT in daily CCV, J/UJ associated results; Area < 25% Area in CCV, J detects, R non-detects (or professional judgment); 25%< Area < 60% of CCV Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects
Surrogates:	%Rec <10%, J detects, R non-detects; 10% < %Rec <70%; J/UJ all associated data; %Rec >130%, J detects - no action for non-detects
Laboratory Duplicates:	LCS/LCSD RPD or Sample/LD RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL
Field Duplicates:	RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL
RLs + Quant:	Compound reported outside calibration range (< RL or at ppbV level > sample-specific highest ICAL standard for compound), J data. Note if RL > expected RL from Table B.1 of Work Plan (see above)

References: *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment IBM East Fishkill Facility, Hopewell Junction, New York* , prepared by Sanborn, Head & Associates, June 2009; NYSDEC Analytical Services Protocol, June 2005 with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria, February 2008; USEPA Region II SOP HW-31, Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, Rev. 4, October 2006; and Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Publication EPA/625/R-96/010b, January 1999

Date: ***1/9/14***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***