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D.E. Speed Z/325*

November 20, 2009

Mr. Alex G. Czuhanych
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
625 Broadway
Albany, NY 12233-7258

Re: Data Transmittal for Indoor Air Sampling at Buildings 330C and 338
RFI Work Plan Implementation
IBM East Fishkill Facility, Hopewell Junction, New York
EPA ID No. NYD000707901

Dear Mr. Czuhanych:

The enclosed report presents the results of indoor air sampling at Buildings 330C and 338 at the IBM East Fishkill facility. These buildings comprise 2 of 11 buildings planned for sampling in accordance with IBM's RFI Work Plan dated June 15, 2009. The sampling results for other buildings will be provided in subsequent reports.

Also enclosed are the notices IBM intends to use to report the sample results to the occupants of each building sampled.

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

Sincerely,

A handwritten signature in black ink, appearing to read "D.E. Speed", written over a horizontal line.

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

Attachments: Confirmatory Sampling Results – Buildings 330C and 338
Notices of Sampling Results

cc: H. Wilkie (NYSDEC)
E. Dassatti (NYSDEC)
N. Walz (NYSDOH)
G. Litwin (NYSDOH)
S. Hawkins (IBM)

NOTICE

Post Date:
Removal Date:

Below is a summary of area air sampling results of volatile organic compounds detected for Building 330C in August 2009.

Chemical Name	Sample Results		Occupational Limits	
	Outdoor Air (ug/m ³)	Indoor Air (ug/m ³)	OSHA PEL (ug/m ³)	ACGIH TLV (ug/m ³)
Tetrachloroethene (PCE)	ND	ND to 79	678,000	170,000
Trichloroethene (TCE)	ND	ND to 65	537,000	54,000
Vinyl chloride (VC)	ND	ND to 0.47	2,600	2,600
Carbon tetrachloride	0.50 to 0.54	0.45 to 0.55	62,900	31,000
Acetone	8.3 to 13	9.3 to 430	2,400,000	1,188,000
Benzene	ND	ND to 0.55	3,000	1,600
m,p-Xylene	ND	ND to 1.6	435,000 (mixture)	434,000 (mixture)
Toluene	ND to 0.85	0.75 to 7.4	753,000	75,000
Trichlorofluoromethane (Freon 11)	1.3	2.7 to 9.7	5,600,000	None Established
Dichlorodifluoromethane (Freon 12)	2.0 to 2.1	2.0 to 4.3	4,950,000	4,950,000
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	ND to 4.0	7,600,000	7,670,000

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) and the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) are provided as references. PELs and TLVs are employee exposure concentrations that must not be exceeded during any 8-hour shift of a 40-hour work week. The results from all of these samples showed levels which were well below the above-noted occupational exposure limits.

If you have any health-related questions regarding the sampling, please contact Glenn Morrison (533-4354) or Michael Dempsey (533-4074) of the IBM Integrated Health Services organization.

Note: "ug/m³": micrograms of chemical per cubic meter of air.

"ND": compound was not detected above applicable detection limits.

"Outdoor air": air sampled outside of Building 330C concurrent with sampling of indoor areas.

NOTICE

Post Date:
Removal Date:

Below is a summary of area air sampling results of volatile organic compounds detected for Building 330C in October 2009.

Chemical Name	Sample Results		Occupational Limits	
	Outdoor Air (ug/m ³)	Indoor Air (ug/m ³)	OSHA PEL (ug/m ³)	ACGIH TLV (ug/m ³)
Tetrachloroethene (PCE)	ND	9.9 to 96	678,000	170,000
Trichloroethene (TCE)	ND	ND to 8.6	537,000	54,000
Vinyl chloride (VC)	ND	ND to 0.66	2,600	2,600
Carbon tetrachloride	0.51	0.38 to 2.5	62,900	31,000
Acetone	3.9	2.8 to 16	2,400,000	1,188,000
Benzene	ND	ND to 0.73	3,000	1,600
m,p-Xylene	ND	ND to 0.95	435,000 (mixture)	434,000 (mixture)
Toluene	ND	ND to 2.0	753,000	75,000
Trichlorofluoromethane (Freon 11)	1.3	1.5 to 3.7	5,600,000	None Established
Dichlorodifluoromethane (Freon 12)	2.0	1.8 to 3.8	4,950,000	4,950,000
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	ND to 3.0	7,600,000	7,670,000

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) and the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) are provided as references. PELs and TLVs are employee exposure concentrations that must not be exceeded during any 8-hour shift of a 40-hour work week. The results from all of these samples showed levels which were well below the above-noted occupational exposure limits.

If you have any health-related questions regarding the sampling, please contact Glenn Morrison (533-4354) or Michael Dempsey (533-4074) of the IBM Integrated Health Services organization.

Note: "ug/m³": micrograms of chemical per cubic meter of air.

"ND": compound was not detected above applicable detection limits.

"Outdoor air": air sampled outside of Building 330C concurrent with sampling of indoor areas.

NOTICE

Post Date:
Removal Date:

Below is a summary of area air sampling results of volatile organic compounds detected for Building 338 in August 2009.

Chemical Name	Sample Results		Occupational Limits	
	Outdoor Air (ug/m ³)	Indoor Air (ug/m ³)	OSHA PEL (ug/m ³)	ACGIH TLV (ug/m ³)
Carbon tetrachloride	0.46	0.47 to 0.49	62,900	31,000
Acetone	23	3.9 to 20	2,400,000	1,188,000
Benzene	ND	ND to 1.2	3,000	1,600
Toluene	ND	ND to 0.76	753,000	75,000
Trichlorofluoromethane (Freon 11)	1.1	2.1 to 3.2	5,600,000	None Established
Dichlorodifluoromethane (Freon 12)	1.9	2.6 to 3.5	4,950,000	4,950,000

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) and the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) are provided as references. PELs and TLVs are employee exposure concentrations that must not be exceeded during any 8-hour shift of a 40-hour work week. The results from all of these samples showed levels which were well below the above-noted occupational exposure limits.

If you have any health-related questions regarding the sampling, please contact Glenn Morrison (533-4354) or Michael Dempsey (533-4074) of the IBM Integrated Health Services organization.

Note: "ug/m³": micrograms of chemical per cubic meter of air.

"ND": compound was not detected above applicable detection limits.

"Outdoor air": air sampled outside of Building 338 concurrent with sampling of indoor areas.



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**CONFIRMATORY SAMPLING RESULTS
BUILDINGS 330C AND 338**

**VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York**

Prepared for
IBM Corporation

Prepared by
Sanborn, Head Engineering, P.C.

File 2999.00
November 2009

**CONFIRMATORY SAMPLING RESULTS
BUILDINGS 330C AND 338
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York**

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Attachment A – Photograph Logs for Buildings 330C and 338
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1.0 INTRODUCTION

This report presents a summary of observations and data of confirmatory sampling conducted at Buildings 330C and 338 at the IBM East Fishkill facility. The work was conducted as one part of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan dated June 15, 2009 (Work Plan). Buildings 330C and 338 are two of eleven buildings identified for confirmatory sampling under the Work Plan. The findings of confirmatory sampling conducted in other buildings are to be submitted in separate documents.

Buildings 330C and 338 were among the buildings identified in the Work Plan for confirmatory indoor air sampling based on one or more of the following considerations:

- The buildings are currently occupied;
- Solvents were historically used or stored inside the building; and/or
- The buildings overlie a known presence of groundwater containing volatile organic compounds (VOCs);

Samples were collected from Building 330C on August 26, 2009 and from Building 338 on August 27, 2009 by Sanborn, Head & Associates, Inc. (SHA) personnel. Descriptions of field observations and a summary of analytical data for these sampling events are presented in Section 3. The analytical results from the August 26, 2009 Building 330C sampling prompted two subsequent focused sampling events, which are summarized in Section 4.

2.0 SUMMARY OF AUGUST 2009 FIELD AND SAMPLING ACTIVITIES

Indoor and ambient outdoor air samples were collected from Buildings 330C and 338 in August of 2009. Indoor air samples were collected from the occupied level of lowest elevation in each building. Ambient outdoor air samples were collected at heating, ventilation, and air conditioning (HVAC) intakes on the roof of each building. Two ambient outdoor samples were collected at Building 330C, and one ambient outdoor sample was collected at Building 338. For Quality Assurance / Quality Control (QA/QC) purposes, two field blanks and two field duplicate¹ samples were also collected. Samples were collected at the locations depicted on Figure 1 (Building 330C) and Figure 2 (Building 338). Information regarding the sample locations in each building is summarized in the table provided below as Exhibit 1.

¹ 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. A field blank is a sampling canister that is certified clean by the laboratory and filled in the field with laboratory grade nitrogen. The purpose of a field blank sample 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. The field duplicate and field blank samples are submitted to the laboratory for analysis with the other samples.

Exhibit 1: Summary of Sample Locations

Building	General Building Use(s)	Areas Targeted for Sampling	# of Samples
330C	Laboratories, offices, clean rooms, manufacturing.	Offices, break rooms, laboratories, mechanical rooms, drum storage, manufacturing areas.	(19) indoor, (2) ambient outdoor air
338	Sintering manufacturing, laboratory, wastewater treatment.	Offices, laboratory, manufacturing, wastewater treatment.	(5) indoor, (1) ambient outdoor air

During sampling, SHA observed the vicinity of each location for general use (e.g., offices, laboratory), floor condition (e.g., sumps, drains, cracks, staining), chemicals stored / used, and other features. Photographs of sample locations are provided in Attachment A, and field observations for each sample location are provided in Table 1.

Each building is divided into multiple HVAC zones. The ground floor HVAC zones for each building are depicted on Figures 1 and 2. As presented on Table 1 and Figures 1 and 2, SHA collected ambient outdoor air samples proximate to air intakes for certain HVAC air handling units (AHUs) at each building.

Building 330C is served by AHUs equipped with outdoor air dampers that either remain in a fixed position, or automatically modulate position to achieve set points for air temperature and/or humidity. For the AHUs with fixed outdoor air dampers, the outside air changes per hour (ACH) do not vary within the HVAC zones served by these units. For the AHUs whose outdoor air dampers modulate, the outdoor air input varies across a defined range, along with the ACH, for the zones served by these units. However, the outdoor air intake dampers are configured or programmed with a minimum open position so that sufficient outdoor air is continuously provided to the building space. To obtain samples under conservative HVAC operating conditions, the outdoor air dampers on the AHUs that normally modulate were set at their minimum open position and not allowed to vary. For the AHUs that do not modulate, the outdoor air dampers were not changed from their fixed position.

At Building 338, the outside air dampers for the AHUs serving areas sampled on the ground floor automatically modulate like those described for Building 330C. The intake dampers that normally modulate were set at their minimum open position and not allowed to vary.

AHU outside air dampers were set at least 24 hours prior to sampling to allow equilibration prior to sample collection. To confirm that the dampers remained in a fixed position up to and during the sampling period, SHA installed nylon wire ties and masking tape on the damper actuators; the nylon ties and tape were designed to break if the damper position changed. The damper positions remained unchanged during the sampling period. Attachment B includes information about AHU damper positions during the sampling event.

Samples were collected over 8-hour periods using Summa® canisters (6 liter) in accordance with the procedures described in the RFI Work Plan, Appendix A.1. We submitted the samples to Air Toxics Limited (ATL) of Folsom, California for laboratory analysis of the site-specific list of 22 VOCs by United States Environmental Protection Agency (USEPA) Method TO-15 Hi\Lo². Additional sample information, including sample collection times, initial and final canister pressures, canister identification numbers, and field screening values, is provided in Table 1.

Analytical data were provided to New Environmental Horizons, Inc. (NEH) for a third-party, independent data validation evaluation. NEH's data validation report is included as Attachment D. NEH found the data to be useable in accordance with the project data quality objectives (DQOs) subject to few qualifications discussed in Section 5.0.

3.0 SUMMARY OF FIELD OBSERVATIONS AND ANALYTICAL DATA – AUGUST 2009

Our field observations during sampling related to building features and chemical use/presence are summarized below, and in Table 1, to provide context for the results.

A summary of validated analytical results are provided in Tables 2 (Building 330C) and 3 (Building 338). The data for analytes detected in the samples are depicted on Figure 1 (Building 330C) and Figure 2 (Building 338). Analytical laboratory data reports and third-party data validation reports are provided as Attachments C and D, respectively.

3.1 Building 330C – August 26, 2009 Data

The ground floor of Building 330C houses several laboratories, offices, storage space, and manufacturing areas. Solvents are currently, and have been historically, stored and used in parts of Building 330C. Solvent lines and lift stations are located throughout the building. We observed solvent use/storage during our sampling of the ground floor areas, involving acetone, isopropylene, methanol, and mixed solvent waste. Historically, several solvent-related Solid Waste Management Unit (SWMU) accumulation areas were located in and around the building (see Figure 1). Building 330C was a center of bulk PCE usage prior to phasing out PCE from manufacturing operations in the late 1990s. No bulk storage or use of PCE or related chlorinated ethenes was observed during our sampling program.

As shown on Figure 1 and summarized in Table 2, carbon tetrachloride, Freon 11, and Freon 12 were detected in at least one of the indoor air samples at concentrations similar to those recorded for the two concurrent ambient outdoor air samples. The following analytes were detected in at least one of the indoor air samples but not in concurrent samples of ambient outdoor air: tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, Freon 113, benzene, and m,p-xylenes. Acetone was detected in certain indoor air samples at concentrations greater than that

² Samples were analyzed using gas chromatograph / mass spectrometry (GC/MS) techniques. Trichloroethene (TCE), vinyl chloride, and carbon tetrachloride were also analyzed in Selective Ion Monitoring (SIM) mode.

recorded for ambient outdoor air; however, the highest acetone detections were located in the southeast area of the building, in or near a laboratory and manufacturing lab where chemicals containing acetone are in use.

PCE was detected at higher concentrations in air samples in the southwest area of the building in the former RMP Ball Mill Room, Sintering Furnace Room No. 2, and Reliability Lab. TCE was also detected in samples from the same areas.

In response to the initial data, IBM initiated a more detailed review of HVAC conditions and conducted additional sampling to better understand indoor air quality conditions. These measures are described in Section 4.0.

3.2 Building 338 – August 27, 2009 Data

Building 338 houses furnaces for sintering manufacturing, a measurements lab, offices, and wastewater treatment equipment located on the ground floor. Chemicals containers that were observed during indoor air sampling contained chemicals that were primarily used for the wastewater treatment process. As summarized on Table 1, samples were collected from locations near concrete trenches, concrete floor expansion joints, and/or utility floor penetrations.

As shown on Figure 2 and summarized in Table 3, the following analytes were detected in at least one of the indoor air samples at concentrations similar to that recorded for two concurrent ambient outdoor air samples: carbon tetrachloride, acetone, Freon 11, and Freon 12. Benzene and toluene were detected in one or more indoor air samples at concentrations of few micrograms per cubic meter or less.

4.0 FOCUSED SAMPLING AND HVAC MODIFICATIONS

In September and October 2009, IBM initiated an assessment of potential sources for the concentrations detected. An intensive program of focused indoor air sampling and HVAC operating conditions review was conducted

4.1 Focused Sampling - October 12 and 13, 2009

Focused sampling was conducted in the southwest quadrant of Building 330C in the following locations: the RMP Ball Mill area (Figure 3A), Sintering Furnace Room No. 2 (Figure 3B), the Reliability Lab (Figure 3C), and the EMT Testing Lab (Figure 3D). The focused sampling included field screening of potential VOC sources or possible routes of entry using a photoionization detector (PID), deployment of passive diffusion (PD) sampling devices, and collection of indoor air samples at locations targeted to aid in understanding air quality conditions (Targeted Indoor Air Samples). In addition, room air pressure differentials were recorded as indications of interior air flow patterns and pressure conditions.

Based on the field screening and assessment of potential routes of VOC entry, the PD devices were deployed at 36 locations for approximately 24 hours. They were then collected and

submitted to Galson Laboratories of Syracuse, New York for laboratory analysis of PCE and TCE using NIOSH Method 1003. Targeted indoor air samples were collected at 9 locations using Summa canisters (1 liter) and 1-hour flow controllers. In addition, 8-hour indoor air samples were collected at 8 locations, including (IA0404 and IA0413) previously sampled during the initial confirmatory sampling event. The Summa canister samples were submitted to ATL for laboratory analysis of the site-specific list of 22 VOCs by the USEPA Methods TO-15 or TO-15 Hi\Lo.

The sampling locations and analytical results from the October 12 and 13, 2009 field program are shown on Figures 3A, 3B, 3C, and 3D. The PD sample results are summarized in Table 4. The targeted 1-hour indoor air sample results are summarized in Table 5. The 8-hour indoor air sample results are summarized in Table 2.

Observations recorded in these areas (which are discussed in further detail below) identified the following potential routes for subsurface vapor entry:

- In the RMP Ball Mill room (a former manufacturing area no longer in operation and unoccupied) an unsealed conduit sleeve was observed through the floor slab. The floor penetration is proximate to indoor air sampling location IA0413. The room also contains several concrete floor trenches. In addition, an exhaust fan was withdrawing air from the room, making the room pressure negative with respect to the adjacent space and the outside air. Outdoor air was not being supplied to this room.
- Sintering Furnace Room No. 2, where the highest TCE concentration was detected at location IA0416, was observed to contain a concrete pit beneath the floor in the central western portion of the room.
- The Reliability Engineering Lab contains 5 air recirculation units, referred to as “Leiberts” (the name of the manufacturer). The air return plenum for each of these units is in direct contact with the floor. The air pressure in the return plenum is negative with respect to the room.

The results of focused sampling in these areas are presented below.

4.1.1 RMP Ball Mill Area

As shown on Figure 3A, the PD and targeted indoor air sample data support that the unsealed conduit sleeve in the southeast corner of this room was a probable source of elevated PCE concentrations. The room air pressure differentials recorded during sampling indicate the room is negative relative to adjacent building space, which is consistent with observations of active exhausting of the room and absence of supply air.

PCE was not detected in PD samples collected above the floor trenches.

4.1.2 Sintering Furnace Room No. 2

As shown on Figure 3B, the PD samples above a concrete lined floor pit and floor trench exhibited PCE and TCE about one to two orders of magnitude greater than the concentrations recorded for indoor air in this room. Room air pressure differentials recorded during the sampling event indicate the room is negative relative to outdoor air, which is likely due to the operation of heat-dissipating exhaust fans associated with the furnaces. The four 8-hour indoor air samples collected into Summa canisters indicated PCE and TCE at 1s to 10s of $\mu\text{g}/\text{m}^3$, which are less than those previously detected at IA0416 during the initial sampling event.

4.1.3 Reliability Lab

As shown on Figure 3C, the PD and targeted air sample results for samples collected within or at floor level near the five air recirculation units indicate PCE concentrations between 49 and 470 $\mu\text{g}/\text{m}^3$. As stated earlier, these recirculation plenums are under negative pressure relative to room air and hence may facilitate vapor entry into the building.

4.1.4 EMT Testing Lab

As shown on Figure 3D, PCE was not detected in PD samples collected in or near subfloor features.

4.2 HVAC Modifications

IBM reviewed and modified the operation of certain HVAC system components. The HVAC modifications and their influence on PCE and TCE concentrations are detailed below.

IBM implemented the following modifications in mid-October 2009 focused on the southwestern areas of the building:

- In the RMP Ball Mill room, the room air pressure was reversed from negative to positive relative to adjacent building space by rebalancing the outdoor air supply and the room exhaust. In addition, the open conduit penetration through the floor slab was sealed.
- To increase ACH in Sintering Furnace Room No. 2, AC-99 was activated to run in parallel with AC-100. These two AHUs serve this room, but only AC-100 had been on-line as it was sufficient to meet the HVAC needs of this area. As a result of activating AC-99 in concert with AC-100, the outdoor ACH for the room is estimated to have increased from 0.46 hr^{-1} to 1.4 hr^{-1} .
- For the Reliability Lab, the outdoor and return air dampers on AC-58 were adjusted to increase the outdoor air supplied to this area. As a result, the ACH for this space is estimated to have increased from 0.46 hr^{-1} to 2.6 hr^{-1} .

4.3 Post-Modification Indoor Air Monitoring

On October 28, 2009, after implementing the above HVAC modifications, indoor air samples were collected from locations in the southwestern quadrant of the building. The samples were collected over 8-hour periods using Summa® canisters and submitted to ATL for the site-specific analyte list of 22 VOCs by the USEPA Method TO-15 Hi\Lo.

A summary of the PCE and TCE concentrations before and after the HVAC modifications is provided in Exhibit 2 below. Figure 4 presents all of the 8-hour air sample data recorded to date for the southwest quadrant of the building. This data is also summarized on Table 2.

Exhibit 2: Summary of ACH and VOC Data Before and After HVAC Modifications

Location	Sample Location ID	HVAC Zone	Before HVAC Mods ⁽¹⁾			After HVAC Mods ⁽²⁾		
			ACH	PCE	TCE	ACH	PCE	TCE
			(hr ⁻¹)	(ug/m ³)	(ug/m ³)	(hr ⁻¹)	(ug/m ³)	(ug/m ³)
RMP Ball Mill Area	IA0413	AC-5/6	Negligible	77	0.41	11	12	0.2
Sintering Furnace Room No. 2	IA0415	AC-99/100	0.46	4.6	1.8	1.4	NS	NS
	IA0416			48	65		15	4.9
	IA0421			34	8.6		17	4.3
	IA0422			14	3.8		NS	NS
	IA0423			15	8.1		18	5.3
	IA0424			9.9	4.4		12	4.4
	IA0427			NS	NS		10	2.6
Reliability Lab	IA0404	AC-58	0.46	79	0.43	2.6	96	0.44
No direct changes to HVAC systems in the below areas (ACH unchanged)								
EMT Testing Lab	IA0408	AC-6	2.7	21	0.17	2.7	22	<0.19
Sintering Furnace Room No. 1	IA0414	AC-56/57	0.29	23	0.62	0.29	29	0.53
Butvar Area	IA0425	AC-54/55	6.2	19	<0.18	6.2	24	<0.17
Caster Area	IA0426	AC-54/55	6.2	13	0.26	6.2	13	<0.16

Notes:

1. Samples obtained before HVAC modifications were collected on either August 26 or October 13, 2009.
 2. Samples obtained after HVAC modifications were collected on October 28, 2009.
- NS = location was Not Sampled.

A summary of observations based on the results provided above and on Figure 4 are as follows:

- In the RMP Ball Mill area, lower concentrations of PCE and TCE were recorded after sealing the conduit penetration and increasing the ACH as indicated by the sample results at location IA0413.

- In the Sintering Furnace Room No. 2, following the increase in the ACH, lower PCE and TCE concentrations were recorded at location IA0416, and consistent with the results for multiple samples at other locations within the room.
- VOC concentrations (IA404) in the Reliability Lab did not respond to the increase in the ACH. Since VOC concentrations should respond to changes in ACH as observed elsewhere in this building and others, IBM plans further assessment of the HVAC system in this area focused on the Leibert air recirculation units.
- Data from repeat sampling where HVAC operations were not modified, indicate indoor air VOC concentrations similar to those recorded prior in August, as indicated by the sample data shown above and on Figure 4 for the EMT Testing Lab (IA0408), Sintering Furnace Room No. 1 (IA0414), the Butvar storage area (IA0425), and the Caster Area (IA0426).

5.0 QUALITY ASSURANCE / QUALITY CONTROL

Analytical data from the 8-hour Summa canisters collected during the August and October 2009 sampling events were provided to NEH for a third-party independent data validation evaluation. NEH's data validation reports are presented as Attachment D.

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. NEH prepared Data Usability Reports for each sampling round that summarized the quality control (QC) issues that required action (qualification of data) and compared QA/QC criteria to the DQOs described in the RFI Work Plan.

In summary, NEH found the data to be useable in accordance with the project data quality objectives subject to a few qualifications as denoted below.

5.1 August 26 and 27, 2009 Data

The following QA/QC considerations were noted by NEH for the August 2009 sampling round:

- A field blank (FB2, associated with Building 338 samples) had a detection of acetone ($2.2 \mu\text{g}/\text{m}^3$). As a result, several reported results for acetone were flagged with "EB" (EB means equipment blank) with a high bias³. Sample results that were greater than five times the blank action level (BAL⁴) were not flagged.

³ The data validator determined that the sample reporting limits are likely to be biased high relative to the true value due to the presence of the analyte in the blank sample.

⁴ The BAL is determined by multiplying the action level ($11 \mu\text{g}/\text{m}^3$) by the ratio of the sample dilution factor to the blank dilution factor.

- The field duplicate and primary sample for Building 330C (collected at location IA0404) met all measurement performance criteria (MPC) for precision except for the relative percent difference (RPD) for acetone, which was 69.8%, compared to the 20% MPC. Therefore, NEH considered the results in both samples to be estimated values (i.e., J flagged) with indeterminate bias⁵. As presented on Table 2A, the reported acetone concentrations for the field duplicate and sample IA0404 were 14 and 29 $\mu\text{g}/\text{m}^3$, respectively.
- The field duplicate and primary sample for Building 338 (collected at location IA0501) met all criteria except for the RPD for acetone (53.3% compared to the 20% MPC); therefore, NEH considered the results in both samples to be estimated values (i.e., J flagged), with indeterminate bias. As presented on Table 2B, the reported acetone concentrations for the field duplicate and sample IA0501 were 19 and 11 $\mu\text{g}/\text{m}^3$, respectively.
- Benzene in sample IA0407 was reported at a value below the sample-specific reporting limit and flagged as an estimated value by the analytical laboratory. NEH qualified this result as estimated (i.e., J flagged), with an indeterminate bias. The reported benzene concentration for IA0407 was 0.49 $\mu\text{g}/\text{m}^3$ compared to a reporting limit of 0.50 $\mu\text{g}/\text{m}^3$.
- Trichloroethene (TCE) in sample IA0408 was reported at a level below the sample-specific reporting limit and flagged as an estimated value by the analytical laboratory. NEH qualified this result as estimated (i.e., J flagged), with an indeterminate bias. The reported TCE concentration was 0.17 $\mu\text{g}/\text{m}^3$ compared to a reporting limit of 0.18 $\mu\text{g}/\text{m}^3$.

5.2 October 13, 2009 Data

Because of the purpose of this sampling round as an initial investigative step, a field duplicate sample was not submitted with the October 13, 2009 samples. Therefore, precision from field collection through analysis could not be evaluated for this data set. However, other indicators of precision (e.g., laboratory duplicates) met MPC.

5.3 October 28, 2009 Data

The following QA/QC considerations were noted by NEH for the October 28, 2009 sampling round:

- The field duplicate and primary sample (collected at location IA0416) met all criteria except for the RPD for acetone (28% compared to the 20% MPC); therefore, NEH considered the results in both samples to be estimated values (i.e., J flagged), with indeterminate bias. As presented on Table 2, the reported acetone concentrations for the field duplicate and sample IA0416 were 9.8 and 7.4 $\mu\text{g}/\text{m}^3$, respectively. Both acetone concentrations are provided in Figure 4.

⁵ The data could be biased, but the available information does not allow the data validator to determine if the bias is high or low relative to the true value.

- The continuing laboratory calibration (a metric used to evaluate accuracy) for 1,2,4-trichlorobenzene was slightly outside the established RPD in the laboratory control sample criteria (60% as compared to the 70% criteria). As a result, NEH considered all 1,2,4-trichlorobenzene results in the associated batch of samples to be estimated (i.e., J flagged), with an low bias (i.e., the accuracy of the 1,2,4-trichlorobenzene results were slightly lower than the acceptance criteria). However, 1,2,4-trichlorobezene was not detected in any of the samples submitted for analysis.

6.0 FUTURE ACTIONS

IBM plans further work to assess and lower the concentrations of VOC detected in the Building 330C indoor air. This work will focus on the southwest quadrant of the building with emphasis on the pits and trenches in Sintering Furnace Room No. 2 and the Leibert air recirculation units in the Reliability Lab. IBM plans to provide supplemental information on these efforts by April 2010.

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TABLES

TABLE 1
Summary of Sample Information
Confirmatory Sampling Results
RFI Work Plan Implementation
IBM East Fishkill 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 330C - August 26, 2009													
IA0400	Ground	Indoor Air	34466	4.3	840	>30	1640	7.5	140	72	Break room	None observed	Sanitary, storm and "CO" labeled drain covers in floor.
IA0401	Ground	Indoor Air	20941	5.0	832	>30	1636	8.0	16	70	eMagin clean room	CO ₂ tank, solvent wastes	Slight solvent odor; utility floor penetrations; 2-gallon solvent waste can.
IA0402	Ground	Indoor Air	4354	3.3	846	>30	1646	8.0	84	73	Sever/storage room	None observed	"CO" labeled drain covers in the floor; unmarked utility floor penetration.
IA0403	Ground	Indoor Air	35158	5.0	933	30	1733	8.5	5	70	MLC Paste lab	Moly/copper paste waste; IBM process chemicals	Crack in floor.
IA0404	Ground	Indoor Air	5642	4.3	833	28.5	1633	6.5	37	72	Reliable Engineering lab	Isopropyl alcohol	"CO" labeled drain covers in the floor.
DUP25263 (IA0404 Dup)	Ground	Indoor Air	25263	4.3	833	>30	1634	8.5	37	72	Reliable Engineering lab	Isopropyl alcohol	"CO" labeled drain covers in the floor.
IA0405	Ground	Indoor Air	5751	5.0	905	>30	1706	7.5	0	72	eMagin clean room	Solvent waste; acetone, IPA, 3 in 1 oil, photoresist	Elevated floor; solvent waste gravity sump.
IA0406	Ground	Indoor Air	2242	3.5	940	29	1742	7.0	35	70	Drum storage	Methanol, MIBK, IBM process chemicals, ethylene glycol, crodoasinic-O, acetone, texanol, ethyl lactate, mobile oil DTE-24, spent hydraulic oil, moly/copper paste	Floor trench; slight "sweet" solvent odor.
IA0407	Ground	Indoor Air	12004	3.3	807	>30	1607	6.0	334	72	Hallway	None observed	
IA0408	Ground	Indoor Air	5582	3.3	1023	>30	1848	7.5	0	72	EMT Testing lab	None observed	Elevated floor (for utilities).
IA0409	Ground	Indoor Air	23886	3.5	930	30	1730	7.5	160	74	Manufacturing lab	None observed	Unlabeled drum (under solvent hood); sump
IA0410	Ground	Indoor Air	13998	4.0	814	>30	1616	5.5	80	70	Equipment room	Fluoride, hydrofluoric acid	Contaminant sump; containment trench.
IA0411	Ground	Indoor Air	22505	3.3	745	30	1548	6.5	0	72	Laboratory	Cleaning fluids, acid pump and acid lines	"CO" labeled drain covers in the floor; slight staining on floor tiles.
IA0412	Ground	Indoor Air	4189	3.5	821	>30	1622	8.5	7	72	Manufacturing lab	IPA rags, non-hazardous waste drum (hydrofluoric, sulfuric, nitric, NaOH, OH, ammonia)	Utility floor penetration.
IA0413	Ground	Indoor Air	34387	3.3	803	>30	1603	8.0	20	74	RMP Ball Mill Area	Methanol, "RMP waste solvent"	Floor stained; utility penetrations; trenches.
IA0414	Ground	Indoor Air	1577	3.3	758	>30	1558	8.0	0	72	Sintering manufacturing lab	None observed	Below-grade furnaces.
IA0415	Ground	Indoor Air	14871	3.3	750	>30	1551	8.0	0	72	Sintering manufacturing lab	None observed	
IA0416	Ground	Indoor Air	5552	3.3	752	>30	1553	7.0	0	72	Sintering manufacturing lab	None observed	Trenches (for eyewash piping).
IA0417	Ground	Indoor Air	35149	5.0	815	>30	1625	7.5	0	70	eMagin office	None observed	
IA0418	Ground	Indoor Air	35283	1.0	943	>30	1743	7.0	66	70	eMagin space (near MW-547)	Empty Freon canisters (R-12), solvent lines	Sump; trenches
AA0419	Ground	Ambient Air	25259	0	737	>30	1537	7.0	2	70	Intake to AC-13	None observed	
AA0420	Ground	Ambient Air	96108	0	744	>30	1545	4.5	0	73	Intake to AC-04	None observed	

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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 330C - October 13, 2009													
IA0404	Ground	Indoor Air	35134	5.0	815	>30	1618	10.0	0	68	Reliable Engineering lab	Isopropyl alcohol	"CO" labeled drain covers in the floor.
IA0413	Ground	Indoor Air	35272	3.5	752	>30	1552	5.0	0	68	RMP Ball Mill Area	Methanol, "RMP waste solvent"	Adjacent to utility penetrations.
IA0421	Ground	Indoor Air	5687	3.5	725	>30	1525	8.0	4000	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to pit with water at bottom.
IA0422	Ground	Indoor Air	33989	5.0	728	>30	1530	4.5	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to 12-inch treated water drain.
IA0423	Ground	Indoor Air	5696	3.5	734	>30	1535	7.0	21000	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to 12-inch drain with elevated PID reading.
IA0424	Ground	Indoor Air	33585	3.5	739	29.5	1539	8.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to pit and furnace.
IA0425	Ground	Indoor Air	31425	3.5	805	>30	1605	8.5	0	65	Butvar Area	Butvar B90	Adjacent to cleanout (8-inch) without lid. Duct tape covering lid.
IA0426	Ground	Indoor Air	13664	5.0	756	>30	1610	10.0	0	65	Caster Area	CO2 tanks, flammable waste, plastic wrap machines (oil/lube)	Sample on desk; return air duct adjacent to desk.
Building 330C - October 28, 2009													
IA0404	Ground	Indoor Air	34239	5.0	836	29.5	1636	7.5	0	70	Reliable Engineering lab	Haz-waste discarded wafers, industrial waste	"CO" labeled drain covers in the floor.
IA0407	Ground	Indoor Air	25305	3.5	823	>30	1638	10.0	0	70	Hallway	None observed	
IA0408	Ground	Indoor Air	923	3.5	829	30	1629	8.0	0	70	EMT Testing lab	Isopropyl alcohol, oily-waste can, solvent containing solids	Elevated floor (for utilities).
IA0413	Ground	Indoor Air	33581	3.5	813	>30	1616	8.0	0	70	RMP Ball Mill Area	9211 slurry, simple green, waste solvent, haz-waste, solvent containing solids	Adjacent to (plugged) utility penetrations.
IA0414	Ground	Indoor Air	23888	3.5	808	>30	1612	8.0	0	70	Sintering manufacturing lab	Thread sealant, non-haz moly	Below-grade furnaces.
IA0416	Ground	Indoor Air	34449	4.0	752	>30	1554	9.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Trenches (for eyewash piping).
DUP 5789 (IA0416 Dup)	Ground	Indoor Air	5789	4.0	752	>30	1554	8.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Trenches (for eyewash piping).
IA0421	Ground	Indoor Air	34742	3.5	754	30	1558	7.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to pit with water at bottom.
IA0423	Ground	Indoor Air	31436	3.5	758	>30	1602	7.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to 12-inch drain with elevated PID reading.
IA0424	Ground	Indoor Air	10773	3.5	800	30	1606	7.0	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	Adjacent to pit and furnace.

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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
IA0425	Ground	Indoor Air	34277	3.5	817	29.5	1551	5.0	0	70	Butvar Area	Butvar B90	Adjacent to cleanout (8-inch) without lid. Duct tape covering lid.
IA0426	Ground	Indoor Air	919	5.0	820	>30	1550	4.5	0	70	Caster Area	CO2 tanks, flammable waste, plastic wrap machines (oil/lube)	Sample on desk; return air duct adjacent to desk.
IA0427	Ground	Indoor Air	33973	3.5	804	>30	1608	7.5	0	70	Sintering manufacturing lab	Industrial waste, O2 and argon tanks, acetylene tanks, lube oil	
AA0428	Ground	Ambient Air	14117		910	>30	1710	8.0	0	60	Intake to AHV-100	None observed	

TABLE 1
Summary of Sample Information
Confirmatory Sampling Results
RFI Work Plan Implementation
IBM East Fishkill 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 338													
IA0500	Ground	Indoor Air	34428	5.5	738	>30	1538	8.0	0	73	Sintering measurements lab	None observed	
IA0501	Ground	Indoor Air	4218	4.5	736	>30	1536	8.5	0	73	Office/machine shop	Oils and grease on machinery, cleaning fluids	Utility floor penetration.
DUP1602 (IA0501 Dup)	Ground	Indoor Air	1602	4.5	744	29.5	1545	7.0	0	73	Office/machine shop	Oils and grease on machinery, cleaning fluids	Utility floor penetration.
IA0502	Ground	Indoor Air	33874	4.0	724	>30	1524	9.0	0	73	Wastewater treatment area	Sodium hypochlorite, sodium hydroxide, drums of "2-propenenitrile, polymer with diethylbenzene, ethenylethylbenzene and 1,7-octadine, hydrolyzed"	Containment trenches.
IA0503	Ground	Indoor Air	34185	3.3	730	>30	1611	9.5	0	73	Sintering manufacturing, near furnace	None observed	Expansion joint at column.
IA0504	Ground	Indoor Air	12943	3.3	728	>30	1528	9.5	0	73	Sintering manufacturing, near furnace	None observed	Expansion joint at column.
AA0505	Roof	Ambient Air	5655	0	748	>30	1549	8.0	0	71	Near intake for AC-1	None observed	

Notes:

- Samples were collected on August 26-27, 2009 by Sanborn, Head & Associates, Inc. (SHA) personnel.
- Samples were collected into 6-liter, stainless steel, pre-evacuated Summa® canisters using 8-hour metering regulators and inline 2-micron filters. Canisters and regulators were laboratory-certified clean (100% certification).
- PID screening was conducted using a ppbRAE, calibrated to a 10 parts per million by volume (ppmv) isobutylene-in-air standard.

TABLE 2
Building 330C
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m³																							
	Field Blank			Ambient Outdoor Air									Indoor Air											
	FB1			AA0419			AA0420			AA0428			IA0400			IA0401			IA0402			IA0403		
				Intake to AC-13			Intake to AC-04			Intake to AC-100			Break Room			eMagin Clean Room			Server/Storage Room			MLC Paste Room		
	08/26/09			08/26/09			08/26/09			10/28/09			08/26/09			08/26/09			08/26/09			08/26/09		
Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	
Tetrachloroethene (PCE)	<1.1	U		<1.1	U		<1.0	U		<1.1	U		11			3.1			1.5			<1.2	U	
Trichloroethene (TCE)	<0.18	U		<0.18	U		<0.17	U		<0.18	U		0.20			<0.18	U		<0.18	U		<0.19	U	
cis-1,2-Dichloroethene (cDCE)	<0.67	U		<0.67	U		<0.61	U		<0.65	U		<0.65	U		<0.65	U		<0.68	U		<0.69	U	
1,1-Dichloroethene (DCE)	<0.67	U		<0.67	U		<0.61	U		<0.65	U		<0.65	U		<0.65	U		<0.68	U		<0.69	U	
Vinyl chloride (VC)	<0.043	U		<0.043	U		<0.040	U		<0.042	U		<0.042	U		<0.042	U		<0.044	U		<0.045	U	
1,1,1-Trichloroethane (TCA)	<0.92	U		<0.92	U		<0.84	U		<0.89	U		<0.89	U		<0.89	U		<0.93	U		<0.95	U	
Carbon tetrachloride	<0.21	U		0.50			0.54			0.51			0.52			0.48			0.52			0.52		
Methylene chloride (MeCl)	<1.2	U		<1.2	U		<1.1	U		<1.1	U		<1.1	U		<1.1	U		<1.2	U		<1.2	U	
Chlorobenzene	<0.77	U		<0.77	U		<0.71	U		<0.76	U		<0.76	U		<0.76	U		<0.79	U		<0.80	U	
1,2,4-Trichlorobenzene	<6.2	U		<6.2	U		<5.8	U		<6.1	U		<6.1	U		<6.1	U		<6.3	U		<6.5	U	
1,2-Dichlorobenzene	<1.0	U		<1.0	U		<0.93	U		<0.99	U		<0.99	U		<0.99	U		<1.0	U		<1.0	U	
1,3-Dichlorobenzene	<1.0	U		<1.0	U		<0.93	U		<0.99	U		<0.99	U		<0.99	U		<1.0	U		<1.0	U	
1,4-Dichlorobenzene	<1.0	U		<1.0	U		<0.93	U		<0.99	U		<0.99	U		<0.99	U		<1.0	U		<1.0	U	
Acetone	<2.0	U		8.3			13			3.9			15			28			61			38		
Benzene	<0.54	U		<0.54	U		<0.50	U		<0.52	U		<0.52	U		<0.52	U		<0.55	U		<0.56	U	
Ethylbenzene	<0.73	U		<0.73	U		<0.67	U		<0.71	U		<0.71	U		<0.71	U		<0.74	U		<0.76	U	
m,p-Xylene	<0.73	U		<0.73	U		<0.67	U		<0.71	U		<0.71	U		<0.71	U		<0.74	U		<0.76	U	
o-Xylene	<0.73	U		<0.73	U		<0.67	U		<0.71	U		<0.71	U		<0.71	U		<0.74	U		<0.76	U	
Toluene	<0.63	U		<0.63	U		0.85			<0.62	U		0.75			1.3			1.2			0.94		
Trichlorofluoromethane (Freon 11)	<0.94	U		1.3			1.3			1.3			3.7			5.5			9.7			4.2		
Dichlorodifluoromethane (Freon 12)	<0.83	U		2.0			2.1			2.0			2.2			2.2			2.3			2.3		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.3	U		<1.3	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.3	U		<1.3	U	

Notes:

- Samples were collected by SHA personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers.
- Sample analysis was completed by Air Toxics Limited (ATL) 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.
- Due to high-level target compounds (acetone), sample IA0410 was analyzed twice. One fraction was diluted to bring the compounds within the calibration range. The acetone result presented for IA0410 is from the dilution analysis, and all other results are from the original, non-diluted analysis.
- “<” indicates a non-detection at the reporting limit shown.
- New Environmental Horizons, Inc (NEH) performed an independent validation of the analytical data, as described in their [In-Depth Data Usability Review](#), dated August 7, 2009 and provided as Attachment D. 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:
"J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
"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.
"I" Indeterminate bias.
- Bold** values indicate the analyte was detected above reporting limits.
- “Max” indicates the maximum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
“Min” indicates the minimum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
“Median” indicates the median detected concentration in the indoor air samples. “ND” indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples.

TABLE 2
Building 330C
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m3																																
	Indoor Air																																
	IA0404			IA0404 Dup.			IA0404			IA0404			IA0405			IA0406			IA0407			IA0407			IA0408			IA0408			IA0409		
	Reliable Engineering Lab			Reliable Engineering Lab			Reliable Engineering Lab			Reliable Engineering Lab			eMagin Clean Room			Drum Storage			Hallway			Hallway			EMT Testing Lab			EMT Testing Lab			Manufacturing Lab		
	08/26/09			08/26/09			10/13/09			10/28/09			08/26/09			08/26/09			08/26/09			10/28/09			08/26/09			10/28/09			08/26/09		
	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias
Tetrachloroethene (PCE)	79			79			85			96			2.5			<1.1	U		22			31			21			22			4.2		
Trichloroethene (TCE)	0.43			0.47			0.42			0.44			0.74			<0.18	U		<0.17	U		<0.21	U		0.17	J	I	<0.19	U		<0.30	U	
cis-1,2-Dichloroethene (cDCE)	<0.67	U		<0.69	U		<0.71	U		<0.71	U		<0.68	U		<0.67	U		<0.61	U		<0.78	U		<0.65	U		<0.69	U		<1.1	U	
1,1-Dichloroethene (DCE)	<0.67	U		<0.69	U		<0.71	U		<0.71	U		<0.68	U		<0.67	U		<0.61	U		<0.78	U		<0.65	U		<0.69	U		<1.1	U	
Vinyl chloride (VC)	0.42			0.47			0.66			0.29			<0.044	U		<0.043	U		0.049			0.063			<0.042	U		0.046			<0.072	U	
1,1,1-Trichloroethane (TCA)	<0.92	U		<0.95	U		<0.98	U		<0.98	U		<0.93	U		<0.92	U		<0.84	U		<1.1	U		<0.89	U		<0.95	U		<1.5	U	
Carbon tetrachloride	0.47			0.51			0.49			0.45			0.54			0.50			0.52			0.48			0.46			2.5			0.53		
Methylene chloride (MeCl)	<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.1	U		<1.4	U		<1.1	U		<1.2	U		<1.9	U	
Chlorobenzene	<0.77	U		<0.80	U		<0.82	U		<0.82	U		<0.79	U		<0.77	U		<0.71	U		<0.90	U		<0.76	U		<0.80	U		<1.3	U	
1,2,4-Trichlorobenzene	<6.2	U		<6.5	U		<6.6	U		<6.6	UJ	L	<6.3	U		<6.2	U		<5.8	U		<7.3	UJ	L	<6.1	U		<6.5	UJ	L	<10	U	
1,2-Dichlorobenzene	<1.0	U		<1.0	U		<1.1	U		<1.1	U		<1.0	U		<1.0	U		<0.93	U		<1.2	U		<0.99	U		<1.0	U		<1.7	U	
1,3-Dichlorobenzene	<1.0	U		<1.0	U		<1.1	U		<1.1	U		<1.0	U		<1.0	U		<0.93	U		<1.2	U		<0.99	U		<1.0	U		<1.7	U	
1,4-Dichlorobenzene	<1.0	U		<1.0	U		<1.1	U		<1.1	U		<1.0	U		<1.0	U		<0.93	U		<1.2	U		<0.99	U		<1.0	U		<1.7	U	
Acetone	29	J	I	14	J	I	13.0			8.1			35			67			9.3			6.3			30			5.5			180		
Benzene	<0.54	U		<0.56	U		<0.57	U		<0.57	U		<0.55	U		<0.54	U		0.49	J	I	<0.63	U		<0.52	U		<0.56	U		<0.89	U	
Ethylbenzene	<0.73	U		<0.76	U		<0.78	U		<0.78	U		<0.74	U		<0.73	U		<0.67	U		<0.85	U		<0.71	U		<0.76	U		<1.2	U	
m,p-Xylene	<0.73	U		<0.76	U		<0.78	U		<0.78	U		<0.74	U		1.2			<0.67	U		<0.85	U		<0.71	U		<0.76	U		<1.2	U	
o-Xylene	<0.73	U		<0.76	U		<0.78	U		<0.78	U		<0.74	U		<0.73	U		<0.67	U		<0.85	U		<0.71	U		<0.76	U		<1.2	U	
Toluene	1.0			1.2			1.3			<0.67	U		0.93			6.8			0.96			<0.74	U		1.2			0.66			7.4		
Trichlorofluoromethane (Freon 11)	6.9			7.2			2.7			2.2			3.1			4.7			3.8			1.8			8.2			2.4			5.6		
Dichlorodifluoromethane (Freon 12)	2.3			2.2			2.0			2.2			2.2			2.2			2.5			2.2			2.3			2.1			2.3		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	2.8			2.9			2.2			3.0			<1.3	U		<1.3	U		<1.2	U		1.7			1.5			1.5			<2.1	U	

Notes:

- Samples were collected by SHA personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers.
- Sample analysis was completed by Air Toxics Limited (ATL) 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.
- Due to high-level target compounds (acetone), sample IA0410 was analyzed twice. One fraction was diluted to bring the compounds within the calibration range. The acetone result presented for IA0410 is from the dilution analysis, and all other results are from the original, non-diluted analysis.
- “<” indicates a non-detection at the reporting limit shown.
- New Environmental Horizons, Inc (NEH) performed an independent validation of the analytical data, as described in their [In-Depth Data Usability Review](#), dated August 7, 2009 and provided as Attachment D. 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:
"J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
"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.
“I” Indeterminate bias.
- Bold** values indicate the analyte was detected above reporting limits.
- “Max” indicates the maximum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
“Min” indicates the minimum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
“Median” indicates the median detected concentration in the indoor air samples. “ND” indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples.

TABLE 2
Building 330C
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m3																										
	Indoor Air																										
	IA0410			IA0411			IA0412			IA0413			IA0413			IA0413			IA0414			IA0414			IA0415		
	Equipment Room			Laboratory			Manufacturing Lab			RMP Ball Mill Area						RMP Ball Mill Area			Sintering Manufacturing Lab			Sintering Manufacturing Lab			Sintering Manufacturing Lab		
	08/26/09			08/26/09			08/26/09			08/26/09			10/13/09			10/28/09			08/26/09			10/28/09			08/26/09		
	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias
Tetrachloroethene (PCE)	4.0			5.6			2.2			77			45			12			23			29			4.6		
Trichloroethene (TCE)	<0.17	U		<0.17	U		<0.18	U		0.41			0.29			0.20			0.62			0.53			1.8		
cis-1,2-Dichloroethene (cDCE)	<0.61	U		<0.64	U		<0.67	U		<0.68	U		<0.63	U		<0.68	U		<0.65	U		<0.68	U		<0.67	U	
1,1-Dichloroethene (DCE)	<0.61	U		<0.64	U		<0.67	U		<0.68	U		<0.63	U		<0.68	U		<0.65	U		<0.68	U		<0.67	U	
Vinyl chloride (VC)	<0.040	U		<0.041	U		<0.043	U		0.079			0.094			<0.044	U		<0.042	U		<0.044	U		<0.043	U	
1,1,1-Trichloroethane (TCA)	<0.84	U		<0.88	U		<0.92	U		<0.93	U		<0.86	U		<0.93	U		<0.89	U		<0.93	U		<0.92	U	
Carbon tetrachloride	0.46			0.50			0.49			0.50			0.46			0.48			0.52			0.48			0.45		
Methylene chloride (MeCl)	<1.1	U		<1.1	U		<1.2	U		<1.2	U		<1.1	U		<1.2	U		<1.1	U		<1.2	U		<1.2	U	
Chlorobenzene	<0.71	U		<0.74	U		<0.77	U		<0.79	U		<0.73	U		<0.79	U		<0.76	U		<0.79	U		<0.77	U	
1,2,4-Trichlorobenzene	<5.8	U		<6.0	U		<6.2	U		<6.3	U		<5.9	U		<6.3	UJ	L	<6.1	U		<6.3	UJ	L	<6.2	U	
1,2-Dichlorobenzene	<0.93	U		<0.97	U		<1.0	U		<1.0	U		<0.95	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U	
1,3-Dichlorobenzene	<0.93	U		<0.97	U		<1.0	U		<1.0	U		<0.95	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U	
1,4-Dichlorobenzene	<0.93	U		<0.97	U		<1.0	U		<1.0	U		<0.95	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U	
Acetone	430			48			130			17			12			9.8			17			4.3			9.7		
Benzene	<0.50	U		0.55			<0.54	U		<0.55	U		<0.50	U		<0.55	U		0.55			<0.55	U		<0.54	U	
Ethylbenzene	<0.67	U		<0.70	U		<0.73	U		<0.74	U		<0.69	U		<0.74	U		<0.71	U		<0.74	U		<0.73	U	
m,p-Xylene	1.4			1.6			1.0			0.92			0.95			<0.74	U		<0.71	U		<0.74	U		<0.73	U	
o-Xylene	<0.67	U		<0.70	U		<0.73	U		<0.74	U		<0.69	U		<0.74	U		<0.71	U		<0.74	U		<0.73	U	
Toluene	5.0			1.9			1.7			0.99			1.7			0.68			1.2			0.67			0.83		
Trichlorofluoromethane (Freon 11)	4.6			3.8			3.4			8.4			3.3			1.5			7.3			2.3			2.7		
Dichlorodifluoromethane (Freon 12)	2.3			2.2			2.0			2.4			2.0			2.2			3.1			2.8			4.3		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.2	U		<1.2	U		<1.3	U		2.2			1.6			<1.3	U		1.3			1.8			<1.3	U	

Notes:

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- Sample analysis was completed by Air Toxics Limited (ATL) 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.
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“Median” indicates the median detected concentration in the indoor air samples. “ND” indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples.

TABLE 2
Building 330C
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m3																													
	Indoor Air																													
	IA0416			IA0416			IA0416 Dup.			IA0417			IA0418			IA0421			IA0421			IA0422			IA0423			IA0423		
	Sintering Manufacturing Lab			Sintering Manufacturing Lab			Sintering Manufacturing Lab			eMagin Office			eMagin Space (MW-547)			Sintering Manufacturing Lab			Sintering Manufacturing Lab			Sintering Manufacturing Lab			Sintering Manufacturing Lab			Sintering Manufacturing Lab		
	08/26/09			10/28/09			10/28/09			08/26/09			08/26/09			10/13/09			10/28/09			10/13/09			10/13/09			10/28/09		
	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias
Tetrachloroethene (PCE)	48			15			17			5.9			11			34			17			14			15			18		
Trichloroethene (TCE)	65			4.9			4.7			<0.18	U		<0.18	U		8.6			4.3			3.8			8.1			5.3		
cis-1,2-Dichloroethene (cDCE)	<0.67	U		<0.69	U		<0.68	U		<0.65	U		<0.67	U		<0.69	U		<0.68	U		<0.60	U		<0.65	U		<0.67	U	
1,1-Dichloroethene (DCE)	<0.67	U		<0.69	U		<0.68	U		<0.65	U		<0.67	U		<0.69	U		<0.68	U		<0.60	U		<0.65	U		<0.67	U	
Vinyl chloride (VC)	<0.043	U		<0.045	U		<0.044	U		<0.042	U		<0.043	U		<0.045	U		<0.044	U		<0.039	U		<0.042	U		<0.043	U	
1,1,1-Trichloroethane (TCA)	<0.92	U		<0.95	U		<0.93	U		<0.89	U		<0.92	U		<0.95	U		<0.93	U		<0.83	U		<0.89	U		<0.92	U	
Carbon tetrachloride	0.52			0.50			0.38			0.51			0.55			0.42			0.51			0.40			0.44			0.63		
Methylene chloride (MeCl)	<1.2	U		<1.2	U		<1.2	U		<1.1	U		<1.2	U		<1.2	U		<1.2	U		<1.0	U		<1.1	U		<1.2	U	
Chlorobenzene	<0.77	U		<0.80	U		<0.79	U		<0.76	U		<0.77	U		<0.80	U		<0.79	U		<0.70	U		<0.76	U		<0.77	U	
1,2,4-Trichlorobenzene	<6.2	U		<6.5	UJ	L	<6.3	U		<6.1	U		<6.2	U		<6.5	U		<6.3	UJ	L	<5.6	U		<6.1	U		<6.2	UJ	L
1,2-Dichlorobenzene	<1.0	U		<1.0	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U		<1.0	U		<0.91	U		<0.99	U		<1.0	U	
1,3-Dichlorobenzene	<1.0	U		<1.0	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U		<1.0	U		<0.91	U		<0.99	U		<1.0	U	
1,4-Dichlorobenzene	<1.0	U		<1.0	U		<1.0	U		<0.99	U		<1.0	U		<1.0	U		<1.0	U		<0.91	U		<0.99	U		<1.0	U	
Acetone	28			7.4	J	I	9.8	J	I	120			87			16			5.9			6.8			14			6.3		
Benzene	<0.54	U		<0.56	U		<0.55	U		<0.52	U		<0.54	U		0.62			<0.55	U		0.73			0.52			<0.54	U	
Ethylbenzene	<0.73	U		<0.76	U		<0.74	U		<0.71	U		<0.73	U		<0.76	U		<0.74	U		<0.66	U		<0.71	U		<0.73	U	
m,p-Xylene	0.85			<0.76	U		<0.74	U		1.0			1.2			<0.76	U		<0.74	U		<0.66	U		<0.71	U		<0.73	U	
o-Xylene	<0.73	U		<0.76	U		<0.74	U		<0.71	U		<0.73	U		<0.76	U		<0.74	U		<0.66	U		<0.71	U		<0.73	U	
Toluene	0.89			<0.66	U		<0.64	U		2.3			2.0			1.6			<0.64	U		1.7			1.4			<0.63	U	
Trichlorofluoromethane (Freon 11)	3.2			2.9			2.5			4.6			4.6			2.6			3.0			2.6			2.7			3.7		
Dichlorodifluoromethane (Freon 12)	2.7			3.1			2.5			2.2			2.7			3.2			3.4			3.0			2.8			3.8		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.0			1.4			<1.3	U		<1.2	U		<1.3	U		<1.3	U		1.3			<1.2	U		<1.2	U		1.4		

Notes:

1. Samples were collected by SHA personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers.
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TABLE 2
Building 330C
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m3																				
	Indoor Air																				
	IA0424			IA0424			IA0425			IA0425			IA0426			IA0426			IA0427		
	Sintering Manufacturing Lab			Sintering Manufacturing Lab			Butvar Area			Butvar Area			Caster Area			Caster Area			Sintering Manufacturing Lab		
	10/13/09			10/28/09			10/13/09			10/28/09			10/13/09			10/28/09			10/28/09		
	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias
Tetrachloroethene (PCE)	9.9			12			19			24			13			13			10		
Trichloroethene (TCE)	4.4			4.4			<0.18	U		<0.17	U		0.26			<0.16	U		2.6		
cis-1,2-Dichloroethene (cDCE)	<0.72	U		<0.68	U		<0.67	U		<0.64	U		<0.71	U		<0.59	U		<0.68	U	
1,1-Dichloroethene (DCE)	<0.72	U		<0.68	U		<0.67	U		<0.64	U		<0.71	U		<0.59	U		<0.68	U	
Vinyl chloride (VC)	<0.047	U		<0.044	U		<0.043	U		<0.041	U		0.049			<0.038	U		<0.044	U	
1,1,1-Trichloroethane (TCA)	<1.0	U		<0.93	U		<0.92	U		<0.88	U		<0.98	U		<0.81	U		<0.93	U	
Carbon tetrachloride	0.43			0.50			0.38			0.47			0.48			0.40			0.42		
Methylene chloride (MeCl)	<1.3	U		<1.2	U		<1.2	U		<1.1	U		<1.2	U		<1.0	U		<1.2	U	
Chlorobenzene	<0.84	U		<0.79	U		<0.77	U		<0.74	U		<0.82	U		<0.68	U		<0.79	U	
1,2,4-Trichlorobenzene	<6.8	U		<6.3	UJ	L	<6.2	U		<6.0	UJ	L	<6.6	U		<5.5	U		<6.3	U	
1,2-Dichlorobenzene	<1.1	U		<1.0	U		<1.0	U		<0.97	U		<1.1	U		<0.90	U		<1.0	U	
1,3-Dichlorobenzene	<1.1	U		<1.0	U		<1.0	U		<0.97	U		<1.1	U		<0.90	U		<1.0	U	
1,4-Dichlorobenzene	<1.1	U		<1.0	U		<1.0	U		<0.97	U		<1.1	U		<0.90	U		<1.0	U	
Acetone	10			2.8			5.8			9.5			6.7			4.0			4.2		
Benzene	0.59			<0.55	U		0.63			<0.51	U		<0.57	U		<0.48	U		<0.55	U	
Ethylbenzene	<0.79	U		<0.74	U		<0.73	U		<0.70	U		<0.78	U		<0.65	U		<0.74	U	
m,p-Xylene	<0.79	U		<0.74	U		<0.73	U		<0.70	U		<0.78	U		<0.65	U		<0.74	U	
o-Xylene	<0.79	U		<0.74	U		<0.73	U		<0.70	U		<0.78	U		<0.65	U		<0.74	U	
Toluene	1.3			<0.64	U		2.0			1.0			2.0			<0.56	U		<0.64	U	
Trichlorofluoromethane (Freon 11)	2.5			2.5			1.6			2.0			1.6			1.6			2.2		
Dichlorodifluoromethane (Freon 12)	2.7			3.4			1.8			2.2			1.8			2.0			3.0		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.4	U		1.3			<1.3	U		1.3			<1.4	U		<1.1	U		<1.3	U	

Indoor Air		
Max	Min	Median
96	1.5	15
65	0.17	0.74
<1.1	<0.59	ND
<1.1	<0.59	ND
0.66	0.046	0.087
<1.5	<0.81	ND
2.5	0.38	0.49
<1.9	<1.0	ND
<1.3	<0.68	ND
<10	<5.5	ND
<1.7	<0.9	ND
<1.7	<0.9	ND
<1.7	<0.9	ND
430	2.8	13
0.73	0.49	0.57
<1.2	<0.65	ND
1.6	0.85	1.0
<1.2	<0.65	ND
7.4	0.66	1.25
9.7	1.5	3.1
4.3	1.8	2.3
4.0	1.3	1.6

Notes:

- Samples were collected by SHA personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers.
- Sample analysis was completed by Air Toxics Limited (ATL) 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.
- Due to high-level target compounds (acetone), sample IA0410 was analyzed twice. One fraction was diluted to bring the compounds within the calibration range. The acetone result presented for IA0410 is from the dilution analysis, and all other results are from the original, non-diluted analysis.
- “<” indicates a non-detection at the reporting limit shown.
- New Environmental Horizons, Inc (NEH) performed an independent validation of the analytical data, as described in their In-Depth Data Usability Review, dated August 7, 2009 and provided as Attachment D. 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:
"J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
"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.
“I” Indeterminate bias.
- Bold** values indicate the analyte was detected above reporting limits.
- “Max” indicates the maximum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
“Min” indicates the minimum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
“Median” indicates the median detected concentration in the indoor air samples. “ND” indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples.

TABLE 3
Building 338
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte Name	Concentrations in µg/m ³																							
	Field Blank			Ambient Outdoor Air			Indoor Air																	
	FB2			AA0505			IA0500			IA0501			IA0501 Dup.			IA0502			IA0503			IA0504		
				Intake to AC-1			Sintering Measurement Lab			Office/Machine Shop			Office/Machine Shop			Wastewater Treatment			Sintering Manufacturing			Sintering Manufacturing		
	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias	Result	Qualifier	Bias
Tetrachloroethene (PCE)	<1.0	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U	
Trichloroethene (TCE)	<0.16	U		<0.20	U		<0.18	U		<0.18	U		<0.18	U		<0.18	U		<0.20	U		<0.18	U	
cis-1,2-Dichloroethene (cDCE)	<0.60	U		<0.72	U		<0.68	U		<0.68	U		<0.68	U		<0.68	U		<0.72	U		<0.68	U	
1,1-Dichloroethene (DCE)	<0.60	U		<0.72	U		<0.68	U		<0.68	U		<0.68	U		<0.68	U		<0.72	U		<0.68	U	
Vinyl chloride (VC)	<0.039	U		<0.047	U		<0.044	U		<0.044	U		<0.044	U		<0.044	U		<0.047	U		<0.044	U	
1,1,1-Trichloroethane (TCA)	<0.83	U		<1.0	U		<0.93	U		<0.93	U		<0.93	U		<0.93	U		<1.0	U		<0.93	U	
Carbon tetrachloride	<0.19	U		0.46			0.47			0.49			0.47			0.47			0.48			0.48		
Methylene chloride (MeCl)	<1.0	U		<1.3	U		<1.2	U		<1.2	U		<1.2	U		<1.2	U		<1.3	U		<1.2	U	
Chlorobenzene	<0.70	U		<0.84	U		<0.79	U		<0.79	U		<0.79	U		<0.79	U		<0.84	U		<0.79	U	
1,2,4-Trichlorobenzene	<5.6	U		<6.8	U		<6.3	U		<6.3	U		<6.3	U		<6.3	U		<6.8	U		<6.3	U	
1,2-Dichlorobenzene	<0.91	U		<1.1	U		<1.0	U		<1.0	U		<1.0	U		<1.0	U		<1.1	U		<1.0	U	
1,3-Dichlorobenzene	<0.91	U		<1.1	U		<1.0	U		<1.0	U		<1.0	U		<1.0	U		<1.1	U		<1.0	U	
1,4-Dichlorobenzene	<0.91	U		<1.1	U		<1.0	U		<1.0	U		<1.0	U		<1.0	U		<1.1	U		<1.0	U	
Acetone	2.2			23			20			11	JEB	I	19	J	I	8.8	EB	H	6.1	EB	H	3.9	EB	H
Benzene	<0.48	U		<0.58	U		<0.55	U		<0.55	U		<0.55	U		<0.55	U		1.2			1.1		
Ethylbenzene	<0.66	U		<0.79	U		<0.74	U		<0.74	U		<0.74	U		<0.74	U		<0.79	U		<0.74	U	
m,p-Xylene	<0.66	U		<0.79	U		<0.74	U		<0.74	U		<0.74	U		<0.74	U		<0.79	U		<0.74	U	
o-Xylene	<0.66	U		<0.79	U		<0.74	U		<0.74	U		<0.74	U		<0.74	U		<0.79	U		<0.74	U	
Toluene	<0.57	U		<0.69	U		<0.64	U		0.71			0.76			<0.64	U		<0.69	U		<0.64	U	
Trichlorofluoromethane (Freon 11)	<0.85	U		1.1			3.2			2.1			2.2			2.4			3.1			3.1		
Dichlorodifluoromethane (Freon 12)	<0.75	U		1.9			2.6			2.8			2.8			3.5			3.5			3.2		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<1.2	U		<1.4	U		<1.3	U		<1.3	U		<1.3	U		<1.3	U		<1.4	U		<1.3	U	

Indoor Air		
Max	Min	Median
<1.2	<1.2	ND
<0.20	<0.18	ND
<0.72	<0.68	ND
<0.72	<0.68	ND
<0.047	<0.044	ND
<1.0	<0.93	ND
0.49	0.47	0.48
<1.3	<1.2	ND
<0.84	<0.79	ND
<6.8	<6.3	ND
<1.1	<1.0	ND
<1.1	<1.0	ND
<1.1	<1.0	ND
20	3.9	10
1.2	1.1	NA
<0.79	<0.74	ND
<0.79	<0.74	ND
<0.79	<0.74	ND
0.76	0.71	NA
3.2	2.1	2.8
3.5	2.6	3.0
<1.4	<1.3	ND

Notes:

1. Samples were collected by SHA personnel on August 27, 2009 using 6-liter summa canisters equipped with 8-hour flow controllers.
2. Sample analysis was completed by Air Toxics Limited (ATL) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/L0). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode. These data have not yet been subject to third party validation.
3. “<” indicates a non-detection at the reporting limit shown.
4. New Environmental Horizons, Inc (NEH) performed an independent validation of the analytical data, as described in their [In-Depth Data Usability Review](#), dated August 7, 2009 and provided as Attachment D. 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:
"J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
"EB" - The associated numerical values is biased due to the presence of the analyte in the equipment blank.
"JEB" - The associated numerical values is estimated , and is also biased due to the presence of the analyte in the equipment blank.
"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.
"H" High bias.
“I” Indeterminate bias.
5. **Bold** values indicate the analyte was detected above reporting limits.
6. “Max” indicates the maximum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
“Min” indicates the minimum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
“Median” indicates the median detected concentration in the indoor air samples. “ND” indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples. "NA" indicates that the median was not calculated for analytes with less than three detections.

Table 4
Passive Diffusion Sampling Results - October 13, 2009
IBM East Fishkill Facility
Hopewell Junction, New York

Sample	Concentrations in $\mu\text{g}/\text{m}^3$		Location Description
	Tetrachloroethene	Trichloroethene	
PD-001	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-002	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-003	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-004	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-005	100	<100	Reliability Lab - Liebert Recirculation Unit
PD-006	470	<100	Reliability Lab - Liebert Recirculation Unit
PD-007	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-008	100	<100	Reliability Lab - Liebert Recirculation Unit
PD-009	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-010	<100	<100	Reliability Lab - Liebert Recirculation Unit
PD-011	<100	<100	Reliability Lab - Adjacent to Liebert Recirculation Unit
PD-012	<100	<100	Reliability Lab - Adjacent to Liebert Recirculation Unit
PD-013	<100	<100	Reliability Lab - Adjacent to Liebert Recirculation Unit
PD-014	<100	<100	Reliability Lab - Adjacent to Liebert Recirculation Unit
PD-015	270	<100	Reliability Lab - Adjacent to Liebert Recirculation Unit
PD-016	<100	<100	Sintering Manufacturing Furnace Room #2 - Cleanout cover
PD-017	4,700	930	Sintering Manufacturing Furnace Room #2 - in pit
PD-018	<100	<100	Sintering Manufacturing Furnace Room #2 - in pit
PD-019	200	<100	Sintering Manufacturing Furnace Room #2 - Cleanout cover
PD-020	<100	<100	Sintering Manufacturing Furnace Room #2 - near stormwater drain
PD-021	<100	<100	Sintering Manufacturing Furnace Room #2 - on trench
PD-022	380	<100	Sintering Manufacturing Furnace Room #2 - on trench
PD-022 Dup.	410	<100	Sintering Manufacturing Furnace Room #2 - on trench

Table 4
Passive Diffusion Sampling Results - October 13, 2009
IBM East Fishkill Facility
Hopewell Junction, New York

PD-023	<100	<100	Sintering Manufacturing Furnace Room #2 - Cleanout
PD-024	<100	<100	RMP Ball Mill Area - on trench
PD-025	940	<100	RMP Ball Mill Area - by utility penetration
PD-026	<100	<100	RMP Ball Mill Area - on trench
PD-027	<100	<100	RMP Ball Mill Area - on trench
PD-028	<100	<100	RMP Ball Mill Area - on trench
PD-029	<100	<100	RMP Ball Mill Area - on trench
PD-030	<100	<100	RMP Ball Mill Area - on trench
PD-031	<100	<100	EMT Testing Lab - near equipment opening
PD-031 Dup.	<100	<100	EMT Testing Lab - near equipment opening
PD-032	<100	<100	EMT Testing Lab - near conduit opening
PD-033	<100	<100	EMT Testing Lab - near equipment opening
PD-034	<100	<100	EMT Testing Lab - on floor grate
PD-035	<100	<100	EMT Testing Lab - on floor grate
PD-036	<100	<100	EMT Testing Lab - near equipment opening

Notes:

1. Passive diffusion badges were depolyed by SHA personnel on October 12, 2009 and collected on October 13, 2009.
2. The passive diffusion badges were submitted to Galson Laboratories of Buffalo, New York for laboratory analysis of tetrachloroethene (PCE) and trichloroethene (TCE).
3. "<" indicates a non-detection at the reporting limit shown.

TABLE 5
Building 330C
Targeted Indoor Air Sampling Results - October 13, 2009
IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Concentrations in µg/m ³									
	Targeted Air									
	TA-001	TA-002	TA-003	TA-FD-01	TA-004	TA-005	TA-006	TA-007	TA-008	TA-009
	Sintering Manufacturing Lab		RMP Ball Mill Area			Reliability Lab				
	AC-100 Discharge Vent	AC-100 Intake	Utility Penetration	Utility Penetration	On Trench	Liebert Recirc Unit	Liebert Recirc Unit	Liebert Recirc Unit	Liebert Recirc Unit	Liebert Recirc Unit
	.	10/13/09	10/13/09	10/13/09	10/13/09	10/13/09	10/13/09	10/13/09	10/13/09	10/13/09
Tetrachloroethene (PCE)	9.1	8.9	640	570	43	170	80	49	91	84
Trichloroethene (TCE)	<7.1	<6.5	<7.1	<6.9	<6.9	<7.2	<6.8	<6.9	<6.9	<7.1
cis-1,2-Dichloroethene (cDCE)	<5.2	<4.8	<5.2	<5.1	<5.1	<5.3	<5.0	<5.1	<5.1	<5.2
1,1-Dichloroethene (DCE)	<5.2	<4.8	<5.2	<5.1	<5.1	<5.3	<5.0	<5.1	<5.1	<5.2
Vinyl chloride (VC)	<3.4	<3.1	<3.4	<3.3	<3.3	<3.4	<3.2	<3.3	<3.3	<3.4
1,1,1-Trichloroethane (TCA)	<7.2	<6.6	<7.2	<7.0	<7.0	<7.3	<6.9	<7.0	<7.0	<7.2
Carbon tetrachloride	<8.3	<7.6	<8.3	<8.1	<8.1	<8.5	<8.0	<8.1	<8.1	<8.3
Methylene chloride (MeCl)	<4.6	<4.2	<4.6	<4.5	<4.5	<4.7	<4.4	<4.5	<4.5	<4.6
Chlorobenzene	<6.1	<5.6	<6.1	<5.9	<5.9	<6.2	<5.8	<5.9	<5.9	<6.1
1,2,4-Trichlorobenzene	<39	<36	<39	<38	<38	<40	<38	<38	<38	<39
1,2-Dichlorobenzene	<7.9	<7.3	<7.9	<7.8	<7.8	<8.1	<7.6	<7.8	<7.8	<7.9
1,3-Dichlorobenzene	<7.9	<7.3	<7.9	<7.8	<7.8	<8.1	<7.6	<7.8	<7.8	<7.9
1,4-Dichlorobenzene	<7.9	<7.3	<7.9	<7.8	<7.8	<8.1	<7.6	<7.8	<7.8	<7.9
Acetone	12 J	17	26	19	15	23	28	19	29	22
Benzene	<4.2	<3.9	<4.2	<4.1	<4.1	<4.3	<4.0	<4.1	<4.1	<4.2
Ethylbenzene	<5.7	<5.2	<5.7	<5.6	<5.6	<5.8	<5.5	<5.6	<5.6	<5.7
m,p-Xylene	<5.7	<5.2	<5.7	<5.6	<5.6	<5.8	<5.5	<5.6	<5.6	<5.7
o-Xylene	<5.7	<5.2	<5.7	<5.6	<5.6	<5.8	<5.5	<5.6	<5.6	<5.7
Toluene	<5.0	5.6	<5.0	<4.9	<4.9	<5.1	<4.8	<4.9	<4.9	<5.0
Trichlorofluoromethane (Freon 11)	<7.4	<6.8	<7.4	<7.2	<7.2	<7.6	<7.1	<7.2	<7.2	<7.4
Dichlorodifluoromethane (Freon 12)	<6.5	<6.0	<6.5	<6.4	<6.4	<6.6	<6.2	<6.4	<6.4	<6.5
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<10	<9.3	<10	<9.9	<9.9	<10	<9.7	<9.9	<9.9	<10

Notes:

1. Samples were collected by SHA personnel on October 13, 2009 using 1-liter summa canisters equipped with 1-hour flow controllers.
2. Sample analysis was completed by Air Toxics Limited (ATL) 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. These data have not yet been subject to third party validation.
3. "<" indicates a non-detection at the reporting limit shown.

FIGURES



Figure 1
Building 330C

Confirmatory Sampling Results
VOC Source Assessment

IBM East Fishkill Facility
Hopewell Junction, New York

Drawn by : L. Atwell
Designed by : R. Cook
Reviewed by : B. Green
Date : November 2009

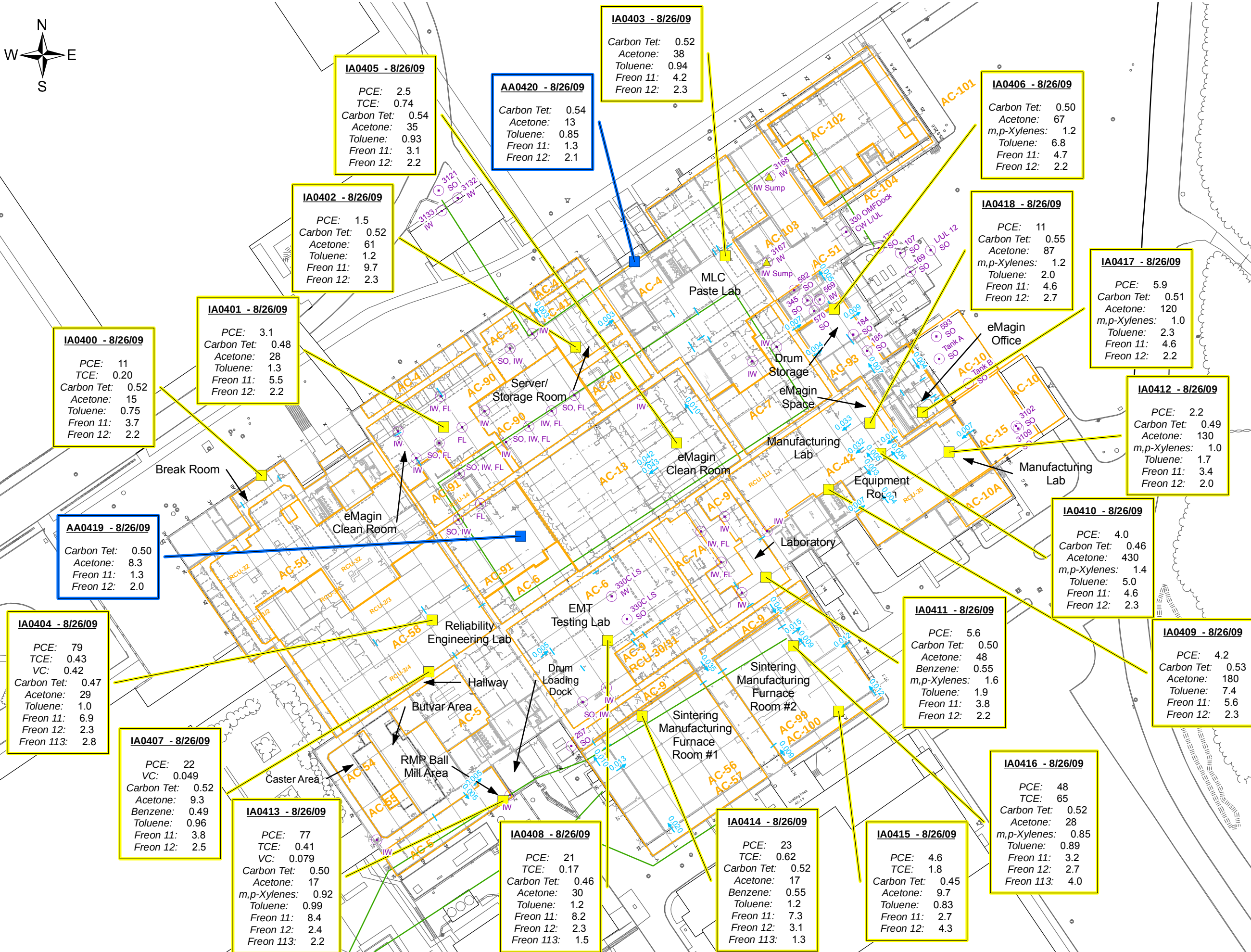
Figure Narrative

This figure shows the data derived from indoor and ambient air sampling conducted in the southwestern portion of Building 330C in August and October 2009. Air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. The samples were analyzed for site specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom, CA using USEPA Method TO-15 Hi/Lo. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Legend

- Ambient Air Sampling Location and Designation
AA0206
- Indoor Air Sampling Location and Designation
IA0200
- Solid Waste Management Unit
3226 SO
- HVAC Zone
- Above / Below Ground Solvent Drain Line
- Differential Pressure Measurement (inches of water column)

0 40 80 Feet



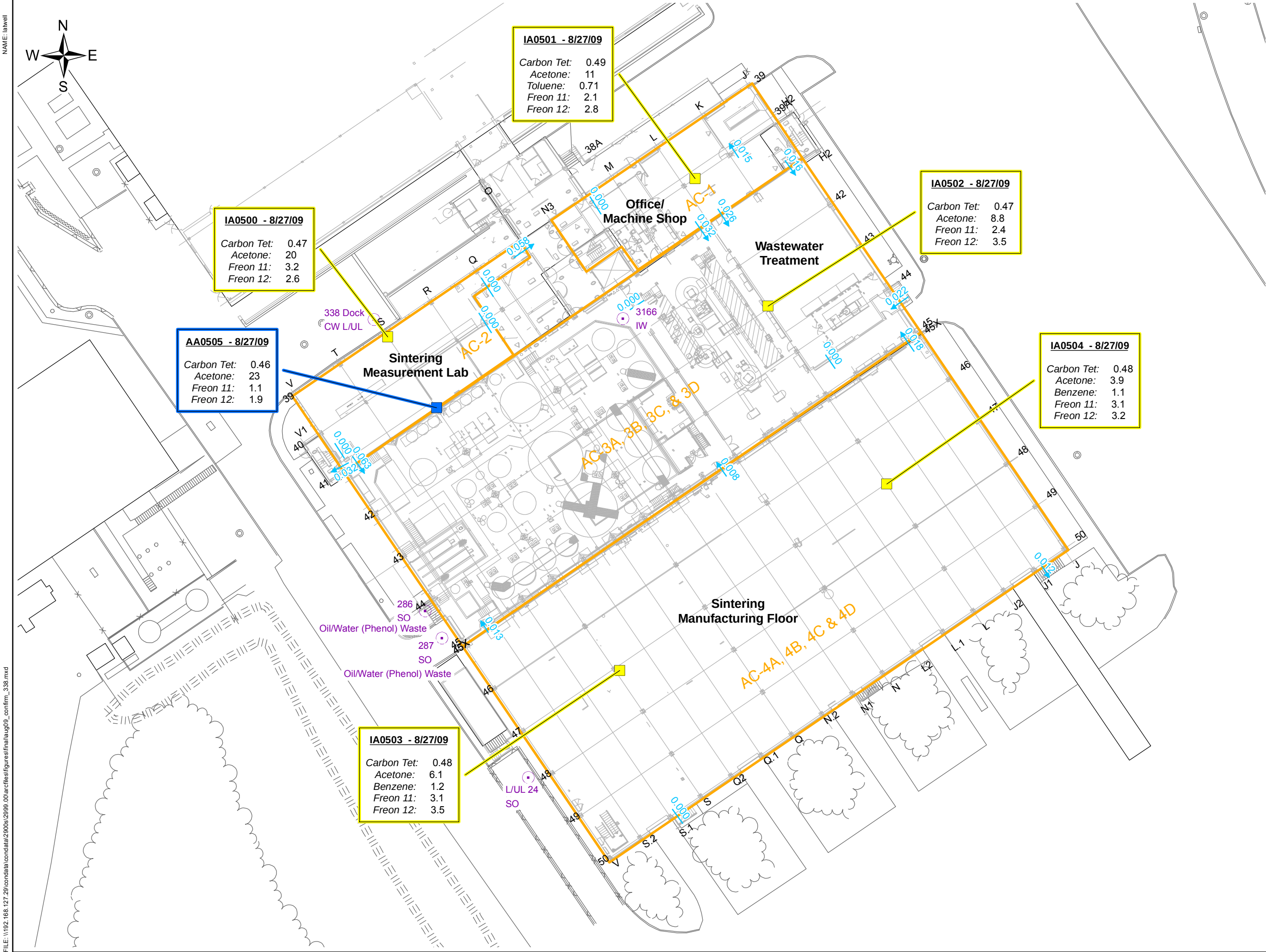


Figure 2
Building 338
Confirmatory Sampling Results
VOC Source Assessment

IBM East Fishkill Facility
Hopewell Junction, New York

Drawn by : L. Atwell/R. Cook
Designed by : R. Cook
Reviewed by : B. Green
Date : November 2009

Figure Narrative

This figure shows the data derived from indoor and ambient air sampling conducted in the southwestern portion of Building 330C in August and October 2009. Air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. The samples were analyzed for site specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom, CA using USEPA Method TO-15 Hi/Lo. The data are presented in units of micrograms per cubic meter (µg/m³).

- Legend**
- Indoor Air Sampling Location and Designation
IA0504
 - Ambient Air Sampling Location and Designation
AA0505
 - Solid Waste Management Unit
3226 SO
 - HVAC Zone
 - Differential Pressure Measurement (inches of water column)



0 20 40 Feet



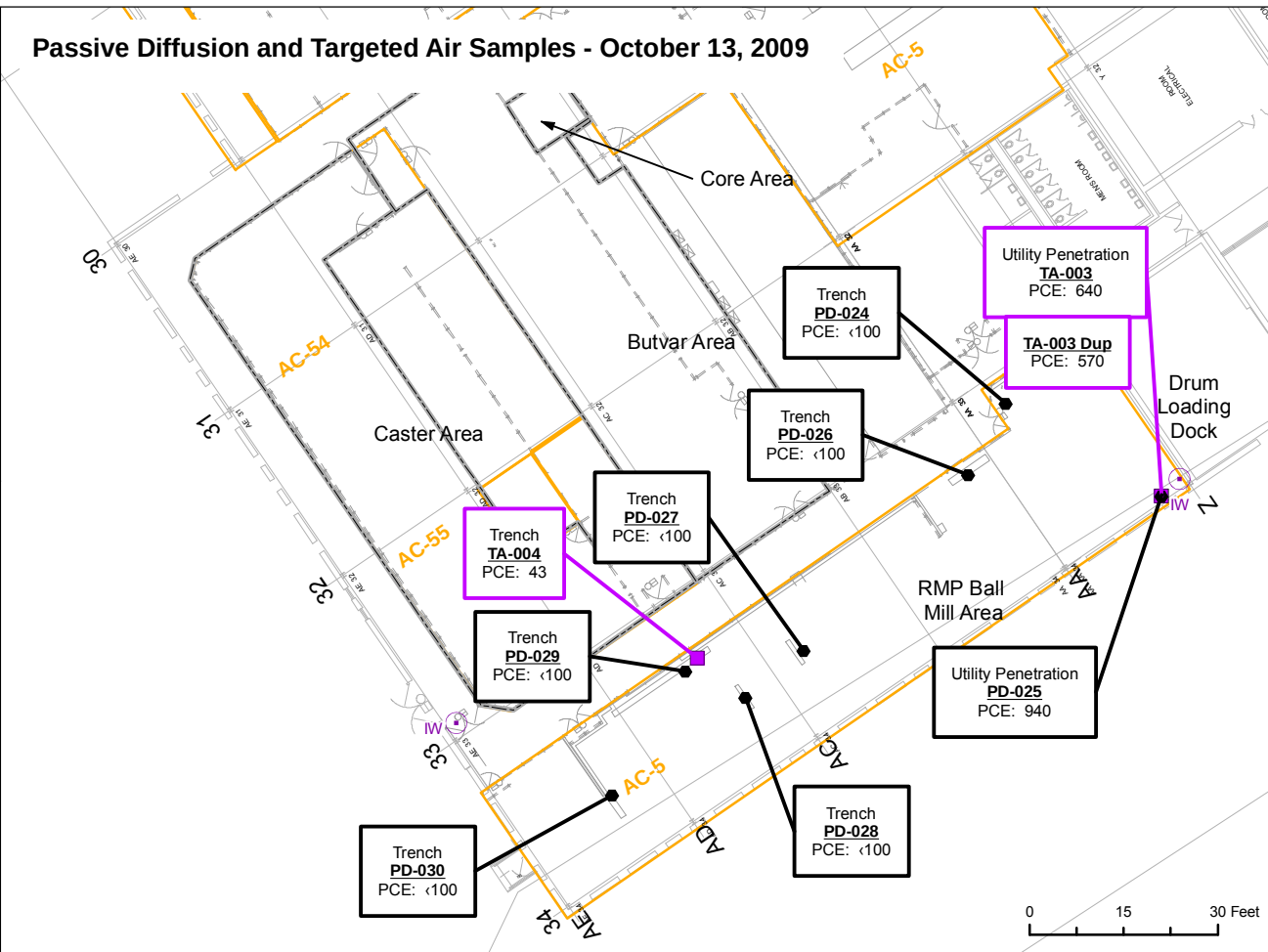
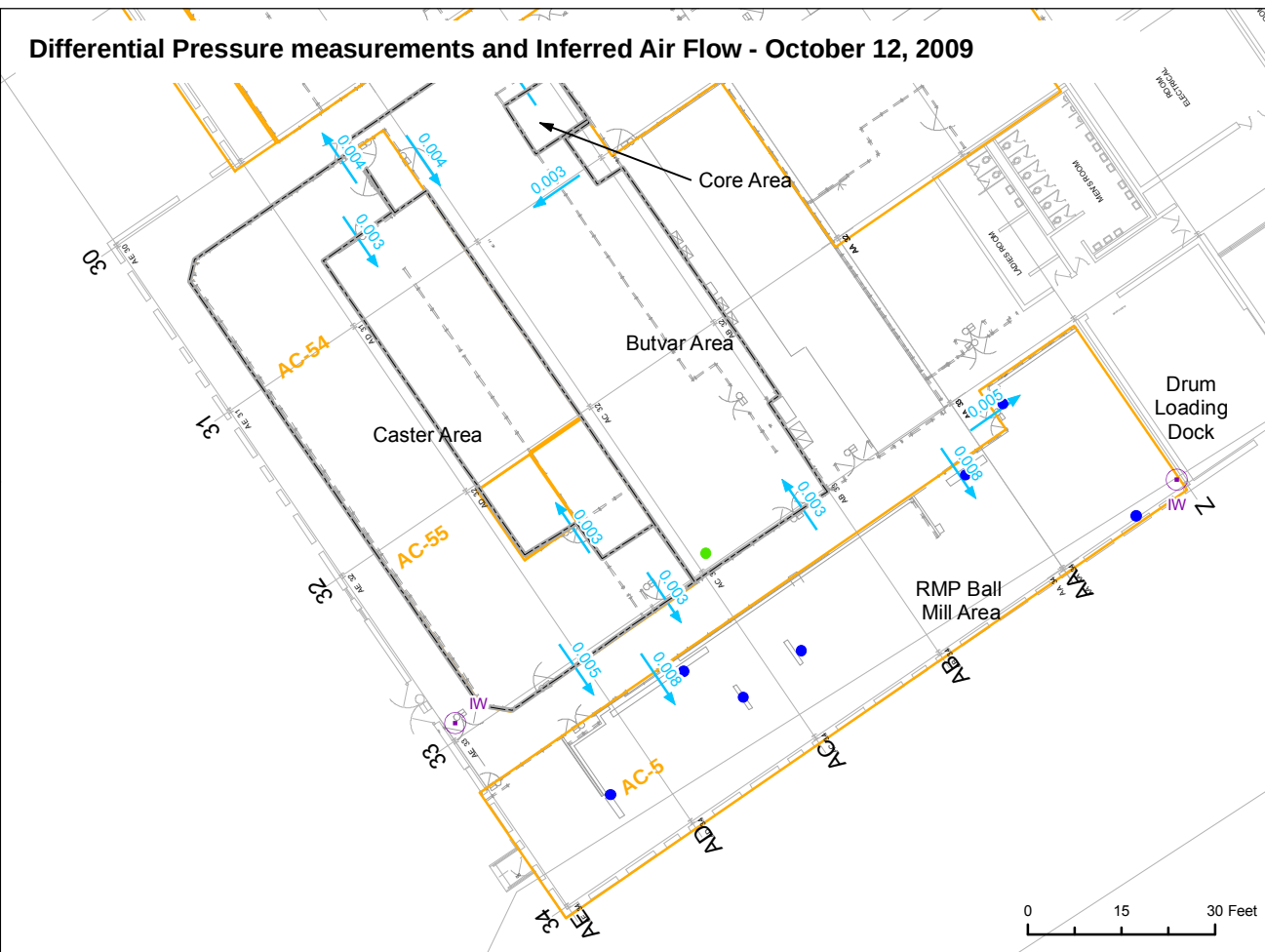


Figure Narrative

This figure shows tetrachloroethene (PCE) detected in samples collected in Building 330C on October 12 and 13, 2009. Passive diffusion samples were exposed for 24-hours and analyzed by Galsion Labs for PCE and trichloroethene (TCE) only. Targeted air samples were collected into 1-liter Summa canisters equipped with 1-hour flow controllers. Indoor air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. Targeted and indoor air samples were analyzed for site-specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom CA using USEPA Method TO-15 and TO-15 Hi/Lo, respectively. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).



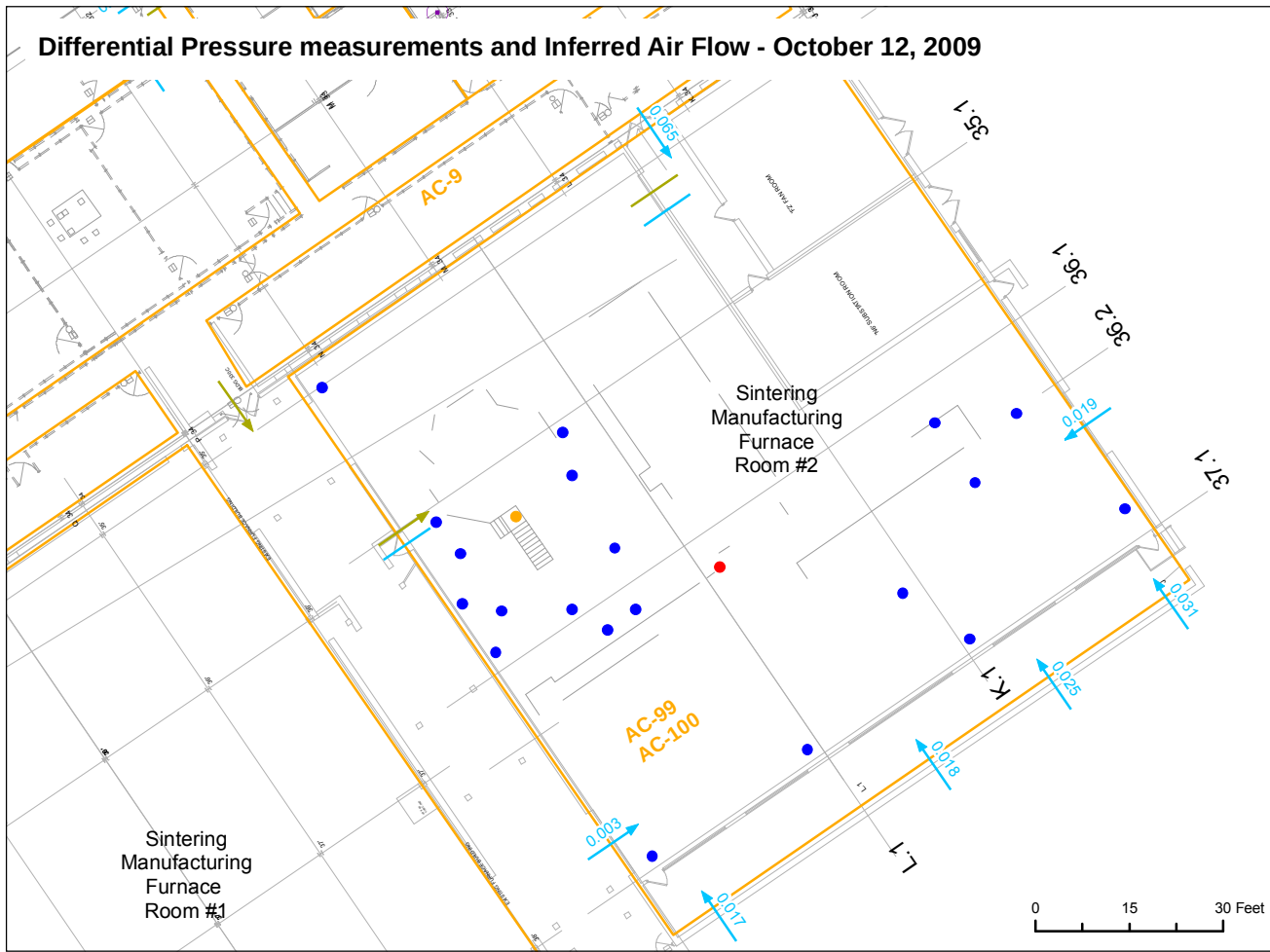
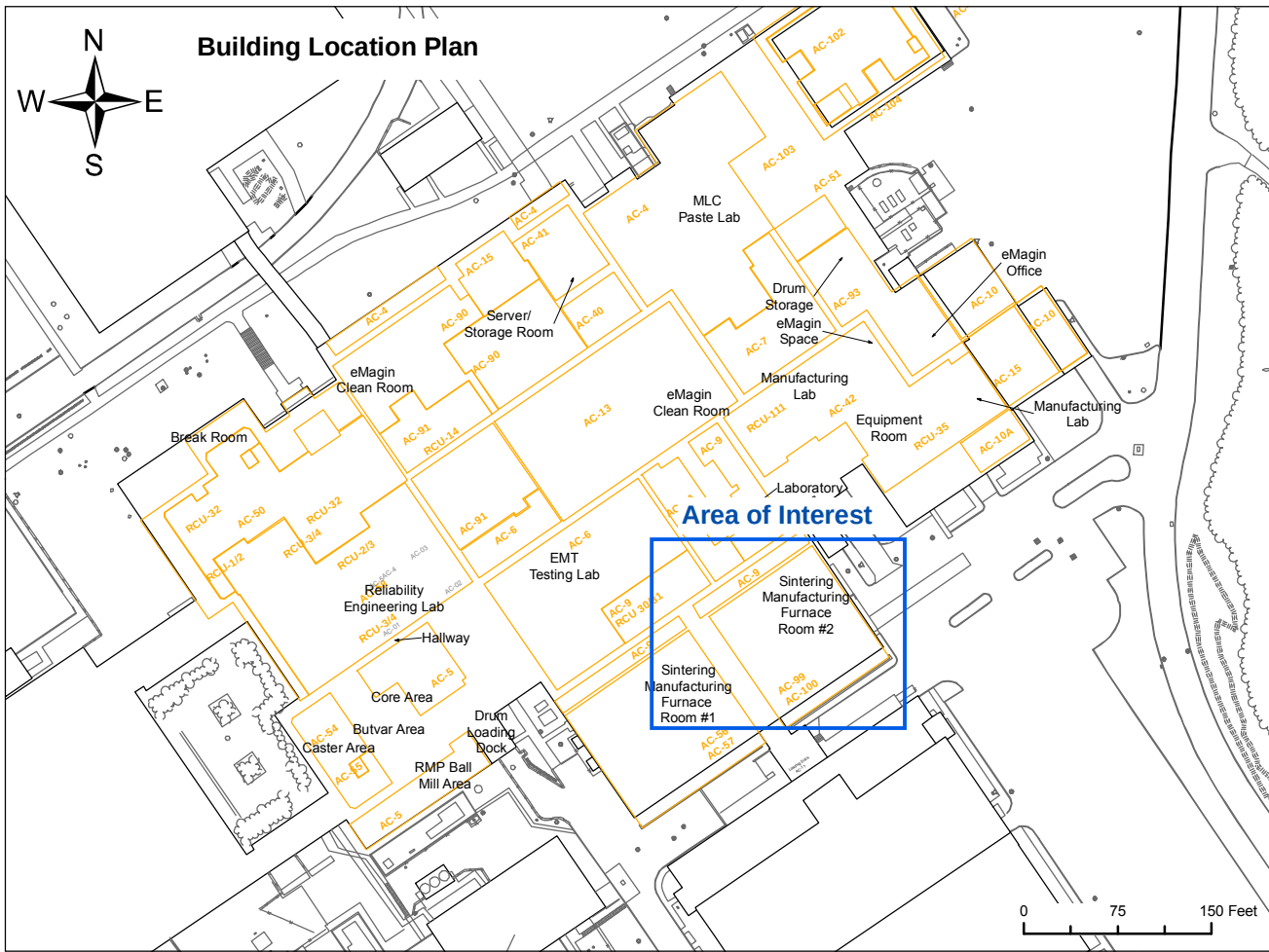
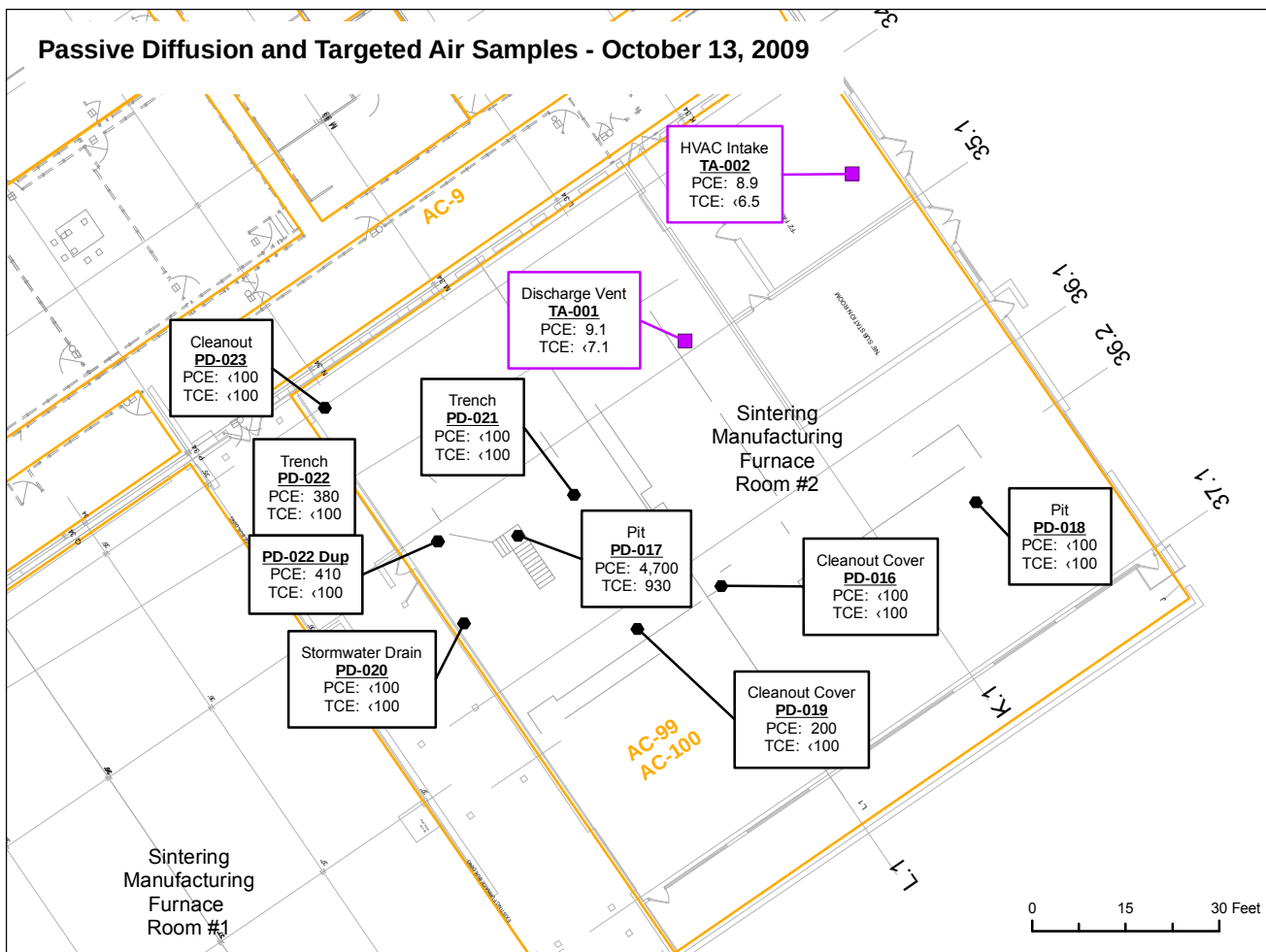
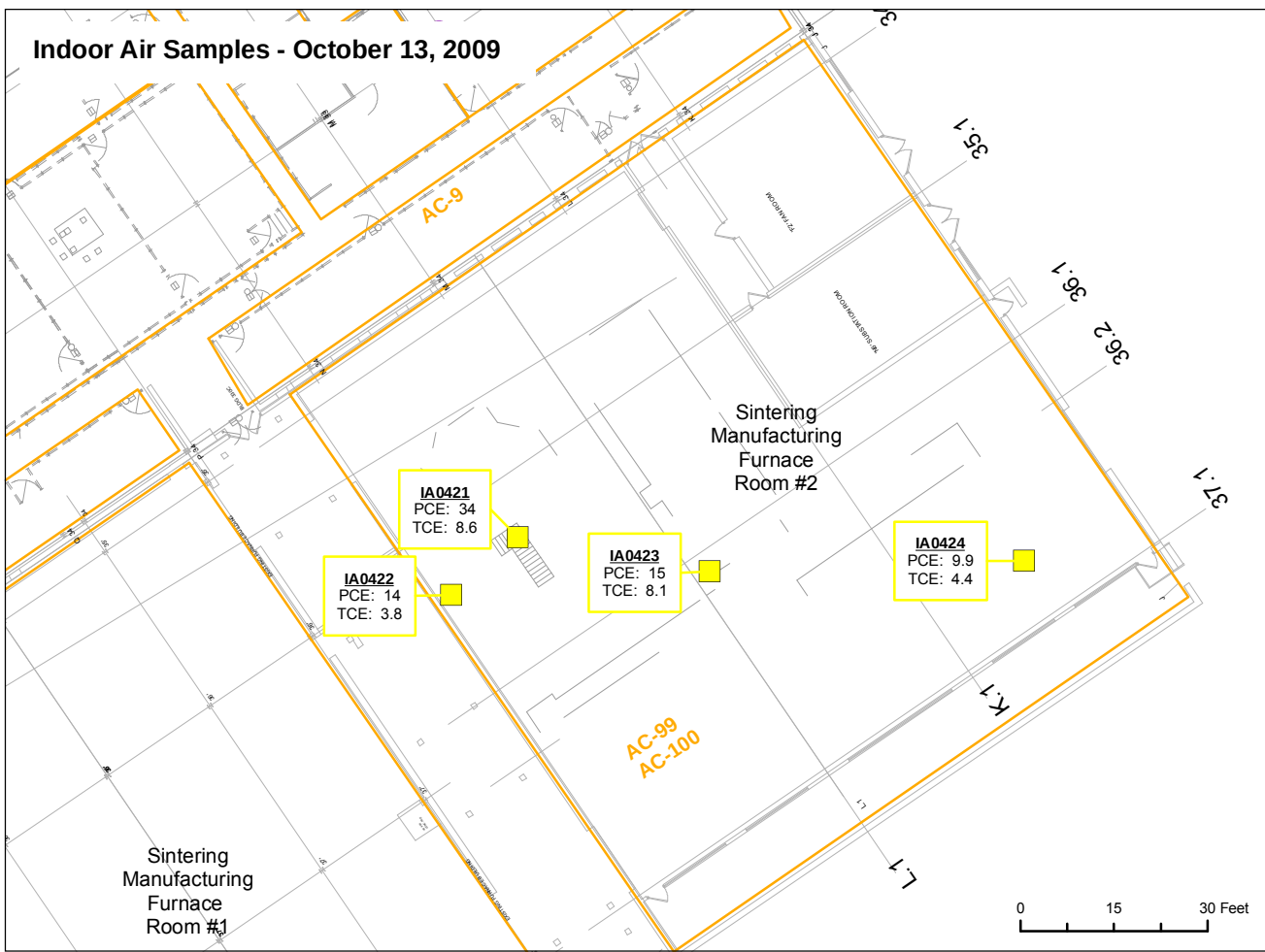


Figure 3B
**Building 330C -
Sintering Manufacturing
Furnace Room #2**
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Drawn by : L. Atwell
Designed by : L. Atwell
Reviewed by : B. Green
Date : November 2009

Figure Narrative

This figure shows tetrachloroethene (PCE) detected in samples collected in Building 330C on October 12 and 13, 2009. Passive diffusion samples were exposed for 24-hours and analyzed by Galson Labs for PCE and trichloroethene (TCE) only. Targeted air samples were collected into 1-liter Summa canisters equipped with 1-hour flow controllers. Indoor air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. Targeted and indoor air samples were analyzed for site-specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom CA using USEPA Method TO-15 and TO-15 Hi/Lo, respectively. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).



Legend

- IA0411 Indoor Air (8-hr) Sampling Location and Designation
- TA-001 Targeted Indoor Air (1-hr) Sampling Location and Designation
- PD-016 Passive Diffusion Sampling Location and Designation
- 0.003 Differential Pressure Measurement (inches of water column)
- 0.005 Air Flow Direction from Smoke Test

Photoionization Detector (PID)
Field Screening (ppbv)

- ND
- 4,000
- 21,000

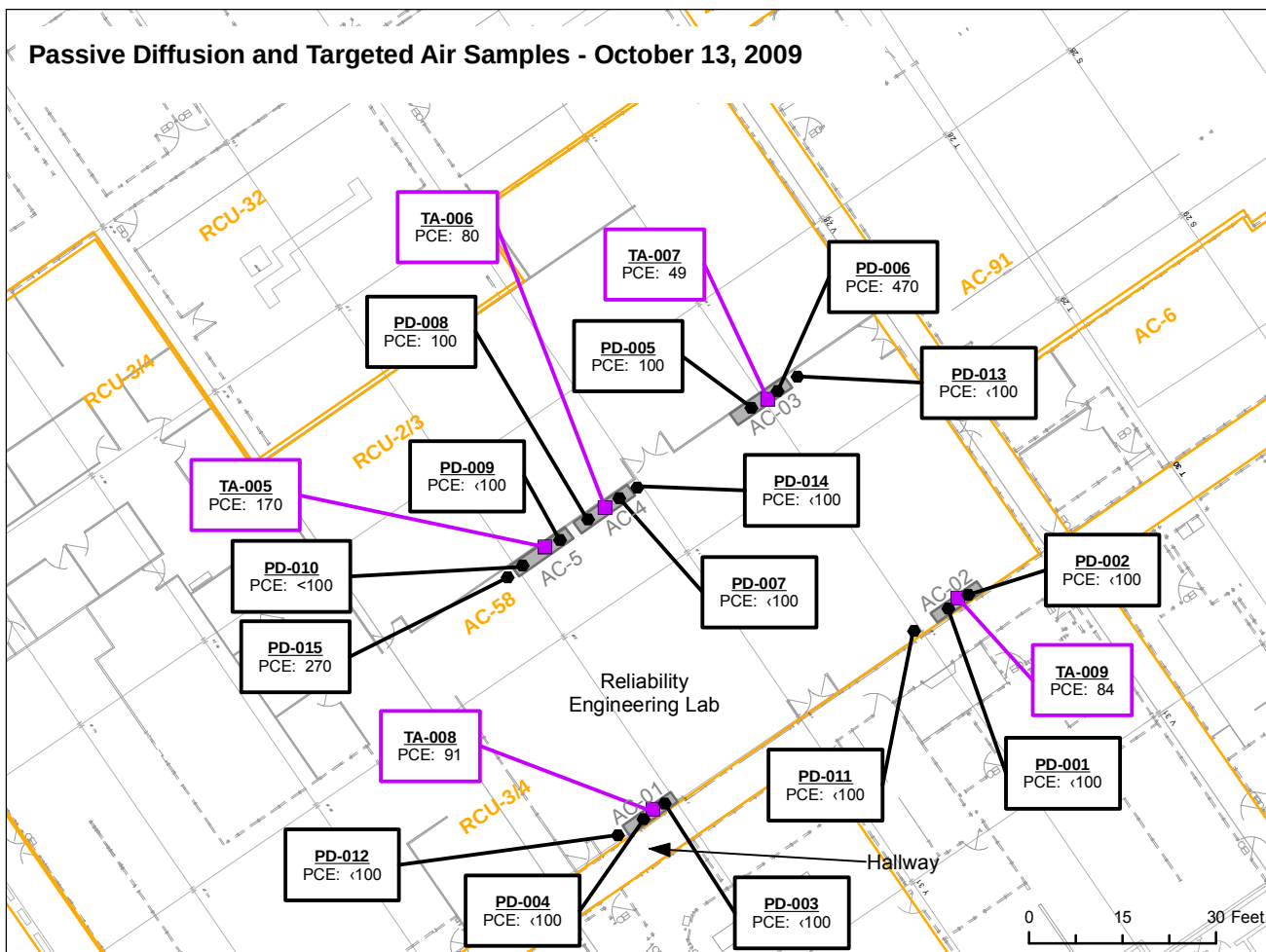
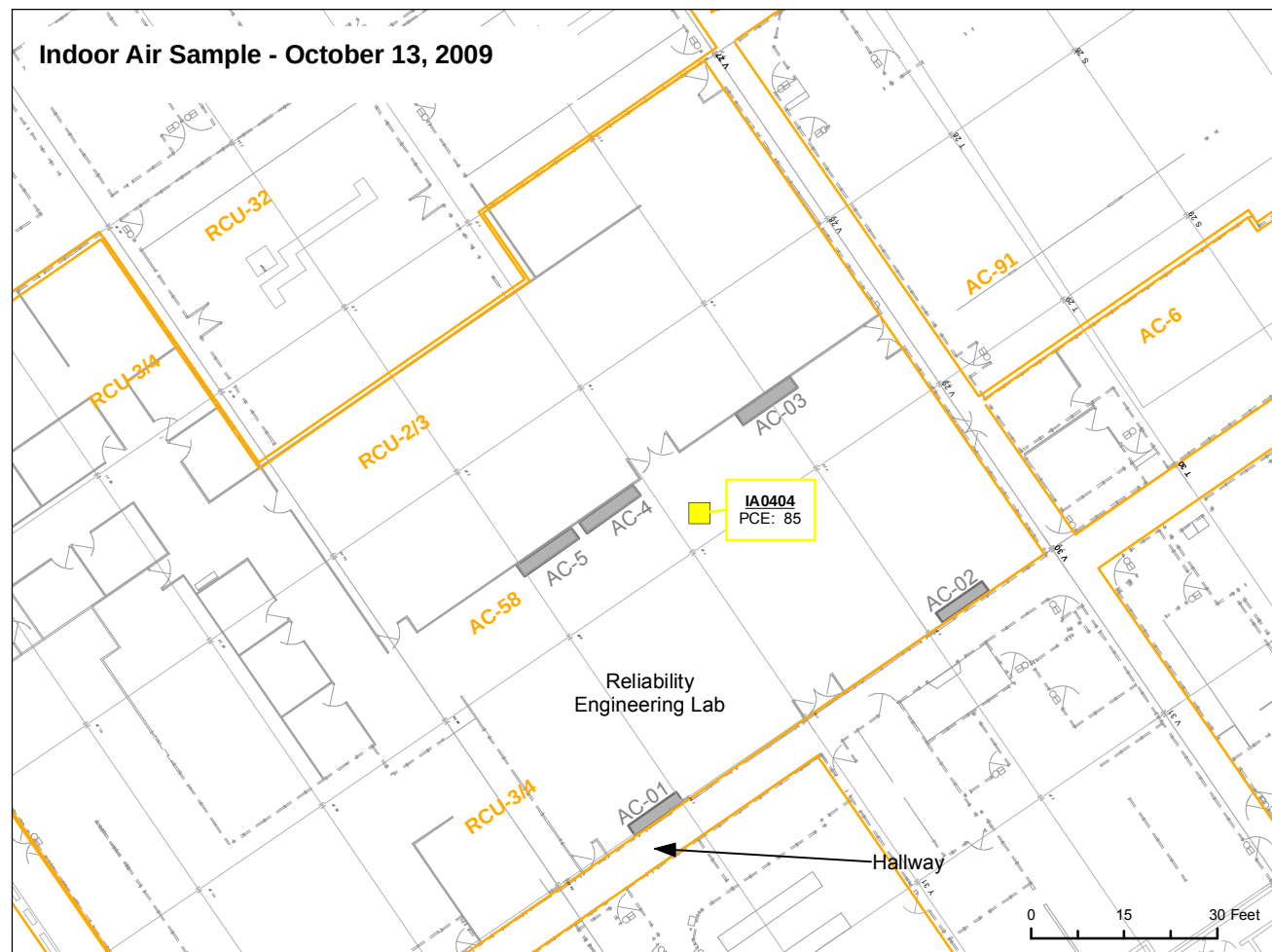
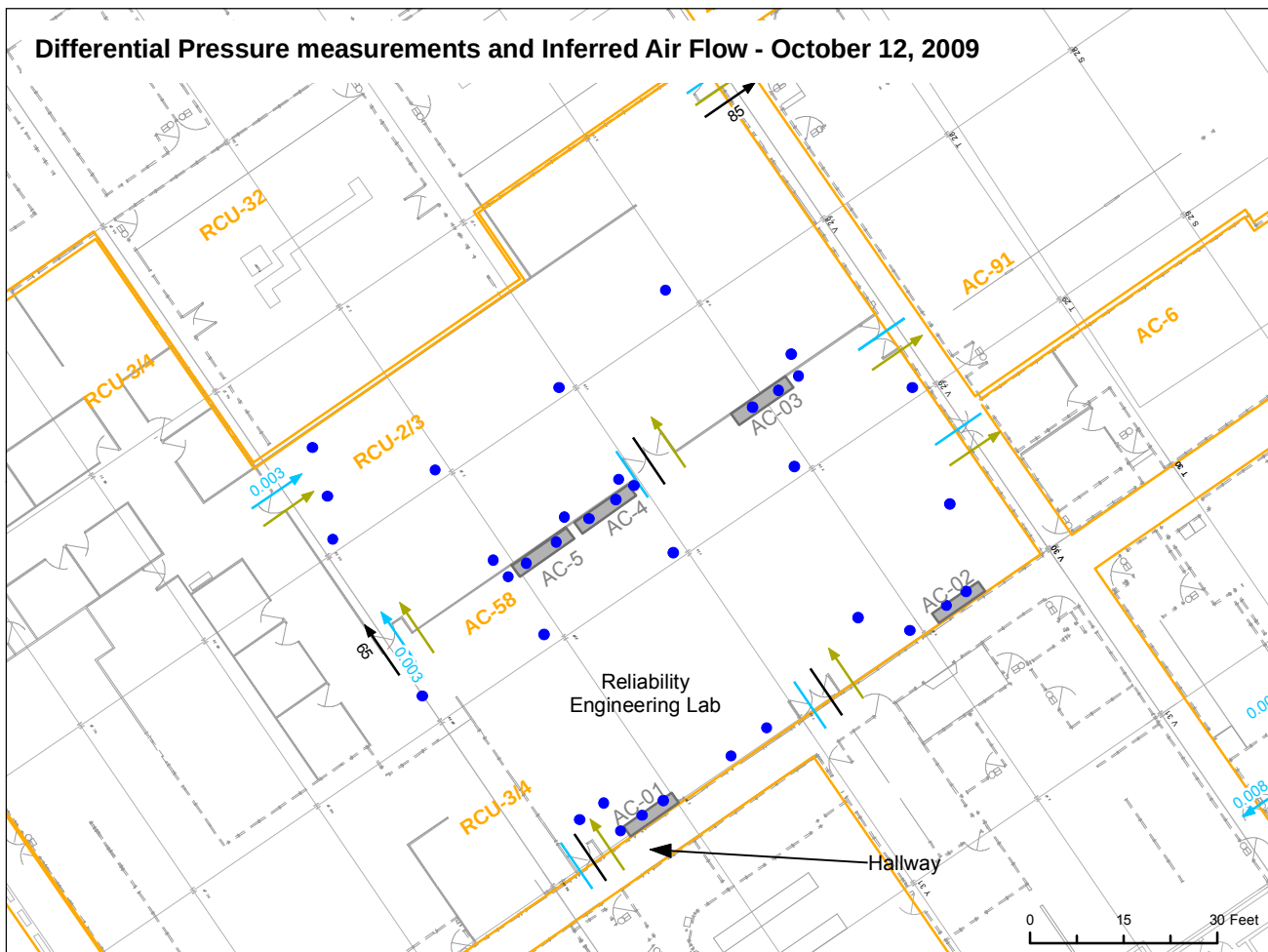
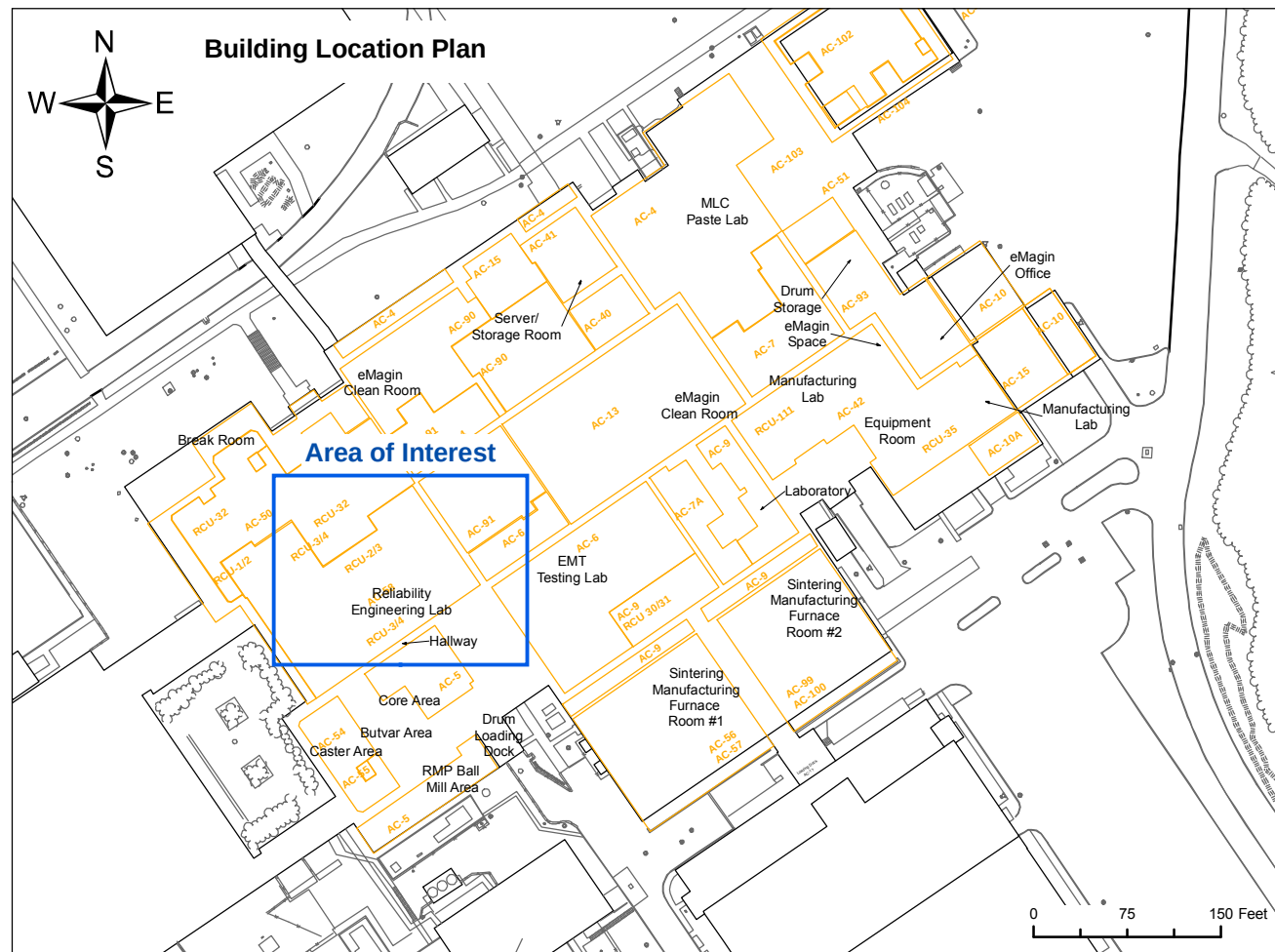


Figure 3C
**Building 330C -
Reliability Lab**
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Drawn by : L. Atwell
Designed by : L. Atwell
Reviewed by : B. Green
Date : November 2009

Figure Narrative

This figure shows tetrachloroethene (PCE) detected in samples collected in Building 330C on October 12 and 13, 2009. Passive diffusion samples were exposed for 24-hours and analyzed by Galson Labs for PCE and trichloroethene (TCE) only. Targeted air samples were collected into 1-liter Summa canisters equipped with 1-hour flow controllers. Indoor air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. Targeted and indoor air samples were analyzed for site-specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom CA using USEPA Method TO-15 and TO-15 Hi/Lo, respectively. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Legend

 IA0404	Indoor Air (8-hr) Sampling Location and Designation
 TA-007	Targeted Indoor Air (1-hr) Sampling Location and Designation
 PD-006	Passive Diffusion Sampling Location and Designation
 3226 SO	Solid Waste Management Unit
	Liebert Recirculation Unit
	Differential Pressure Measurement (inches of water column)
	Wind Speed Measurement (feet per minute)
	Air Flow Direction from Smoke Test
	Photoionization Detector (PID) Field Screening (ppbv)
	ND

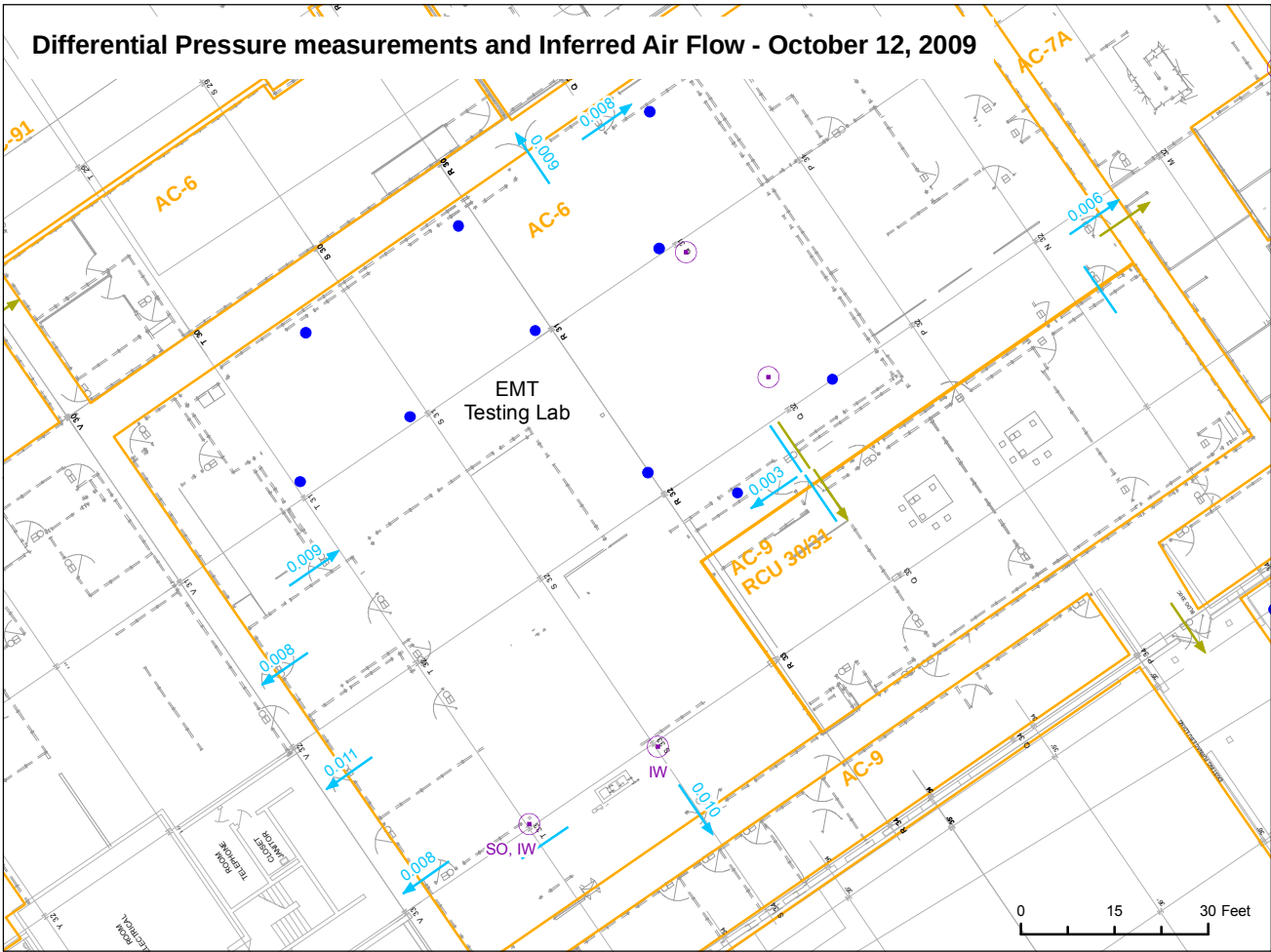
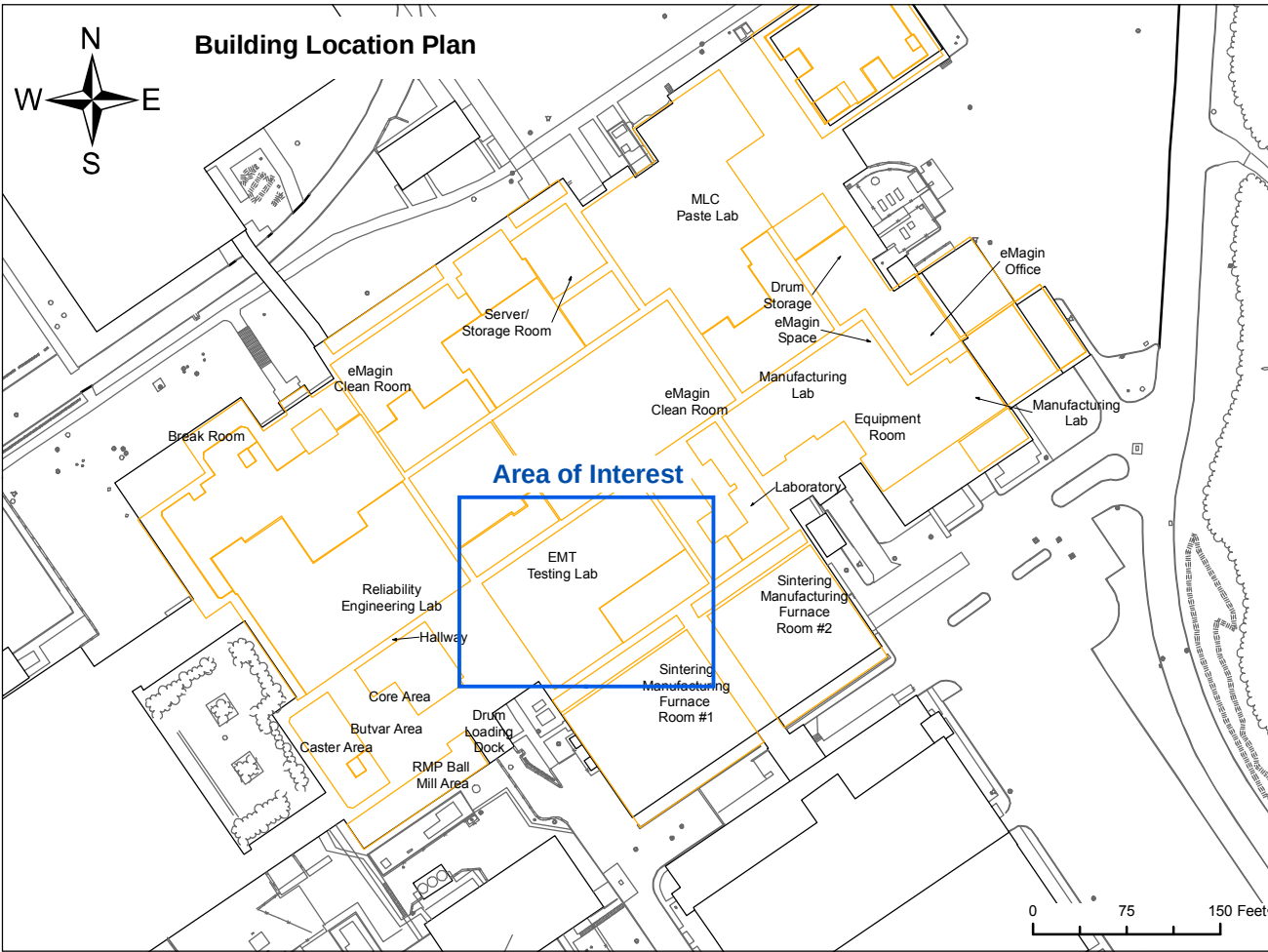


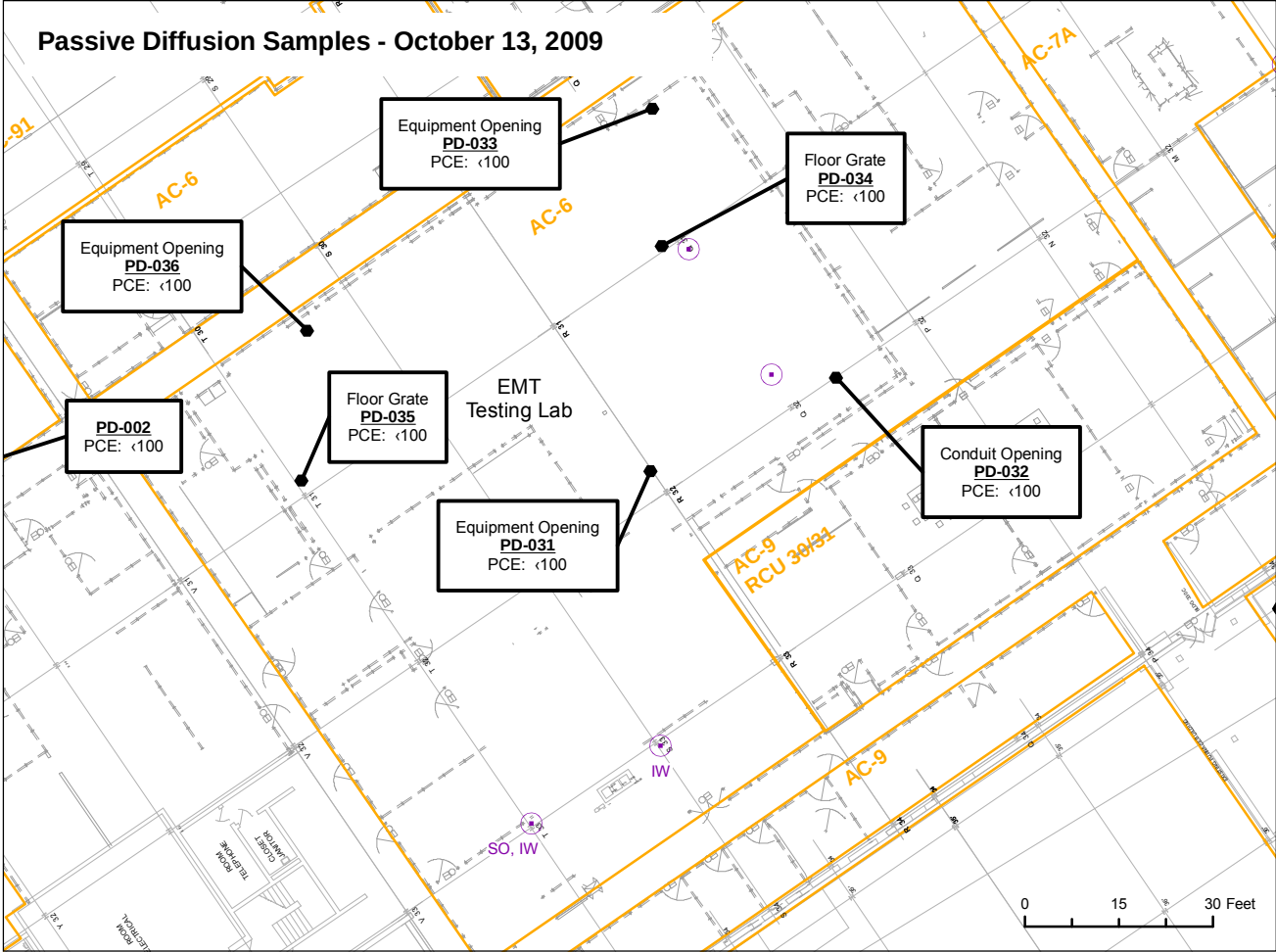
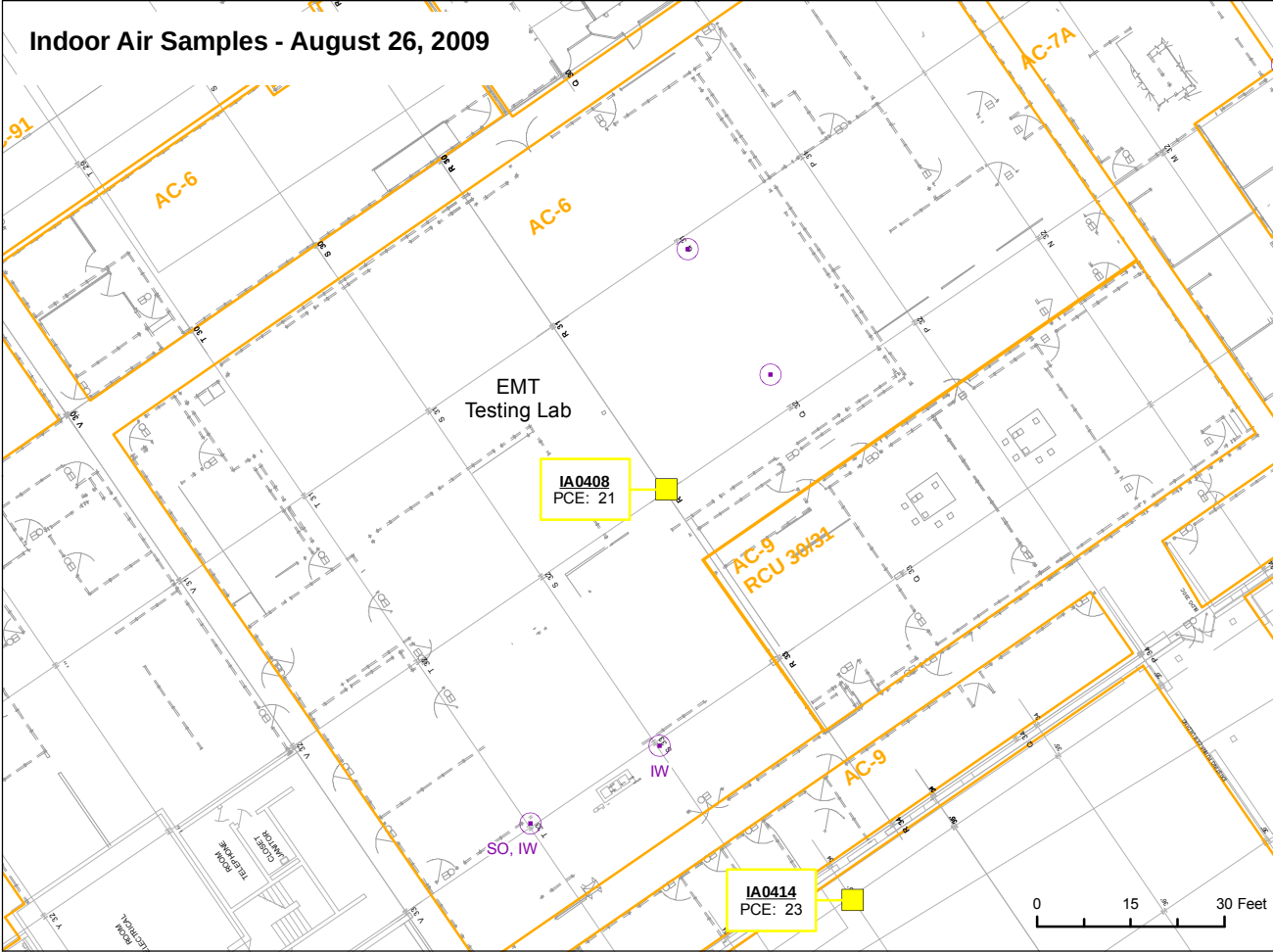
Figure 3D
Building 330C - EMT Testing Lab

Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York

Drawn by : L. Atwell
Designed by : L. Atwell
Reviewed by : B. Green
Date : November 2009

Figure Narrative

This figure shows tetrachloroethene (PCE) detected in samples collected in Building 330C on October 12 and 13, 2009. Passive diffusion samples were exposed for 24-hours and analyzed by Galson Labs for PCE and trichloroethene (TCE) only. Targeted air samples were collected into 1-liter Summa canisters equipped with 1-hour flow controllers. Indoor air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. Targeted and indoor air samples were analyzed for site-specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom CA using USEPA Method TO-15 and TO-15 Hi/Lo, respectively. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).



Legend

- Indoor Air (8-hr) Sampling Location and Designation
- Passive Diffusion Sampling Location and Designation
- Differential Pressure Measurement (inches of water column)
- Air Flow Direction from Smoke Test
- Photoionization Detector (PID) Field Screening (ppbv)
- ND

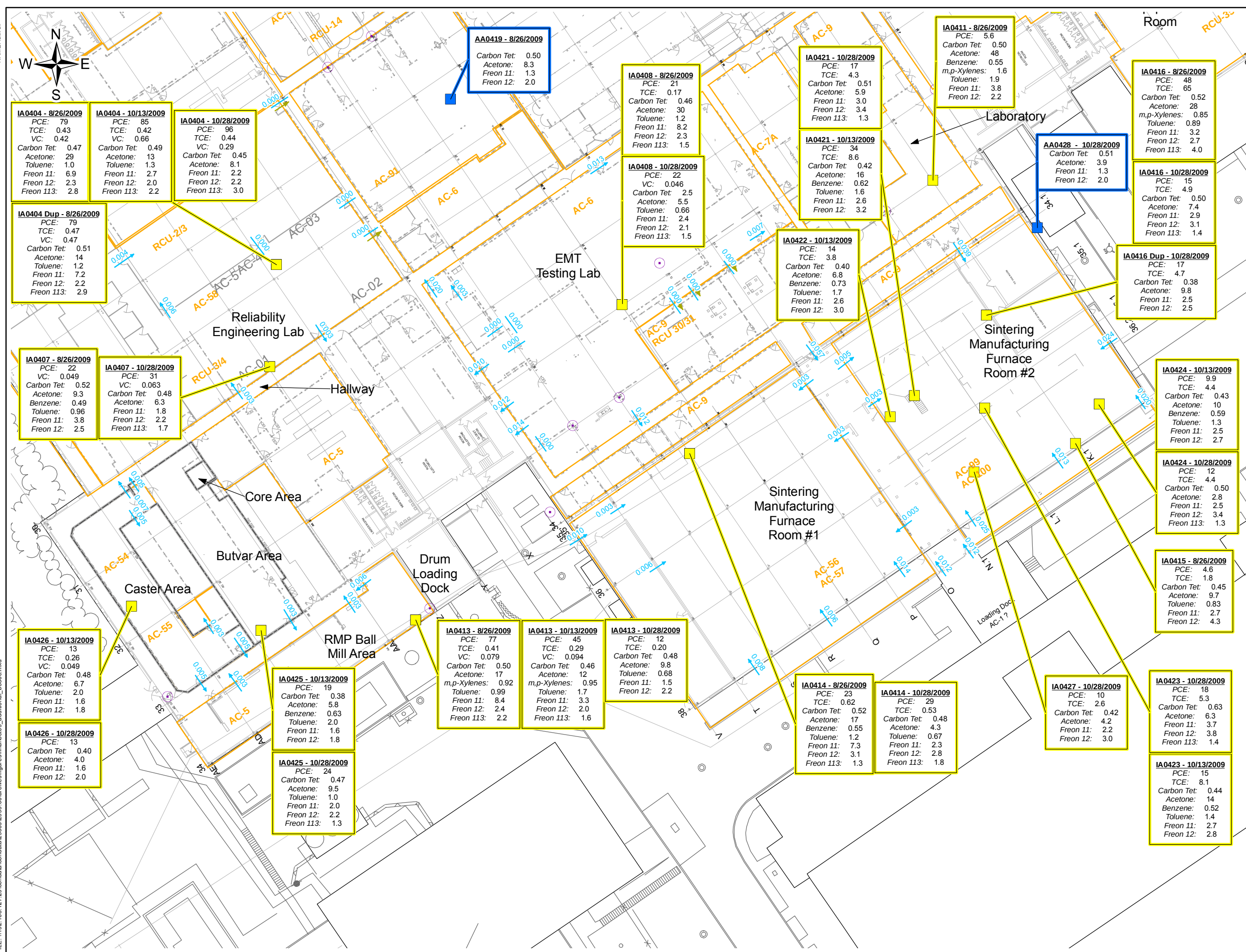


Figure 4

Building 330C

Confirmatory Sampling Results - Southwest Area

VOC Source Assessment

IBM East Fishkill Facility

Hopewell Junction, New York

Drawn by : L. Atwell

Designed by : R. Cook

Reviewed by : B. Green

Date : November 2009

Figure Narrative

This figure shows the data derived from indoor and ambient air sampling conducted in the southwestern portion of Building 330C in August and October 2009. Air samples were collected into 6-liter Summa Canisters equipped with 8-hour flow controllers. The samples were analyzed for site specific list of volatile organic compounds (VOCs) by Air Toxics Ltd. of Folsom, CA using USEPA Method TO-15 Hi/Lo. The data are presented in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Legend

- Indoor Air Sampling Location and Designation
- Differential Pressure Measurement (inches of water column) collected October 28, 2009
- Air Flow Direction from Smoke Test
- Solid Waste Management Unit
- HVAC Zone



0 20 40 Feet



SANBORN, HEAD ENGINEERING, PC

20 Foundry Street ■ Concord, NH 03301

P (603) 229-1900 ■ F (603) 229-1919

**CONFIRMATORY SAMPLING RESULTS
BUILDINGS 330C AND 338**

**VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York**

Attachment A

Prepared for
IBM Corporation

Prepared by
Sanborn, Head Engineering, P.C.

File 2999.00
November 2009

ATTACHMENT A

PHOTOGRAPH LOGS FOR BUILDINGS 330C AND 338

Building 330C
August 26, 2009



Photo #1 - Sample IA-0400; located in a breakroom.



PHOTO #2 – Sample IA-0401; located in an eMagin clean room.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 1 OF 11





PHOTO #3 – Sample IA-0402; located in a server/storage room.



PHOTO #4 – Sample IA-0403; located in the MLC Paste lab.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 2 OF 11





PHOTO #5 – Sample IA-0404 and duplicate; located in IBM’s “Reliability Engineering” lab.

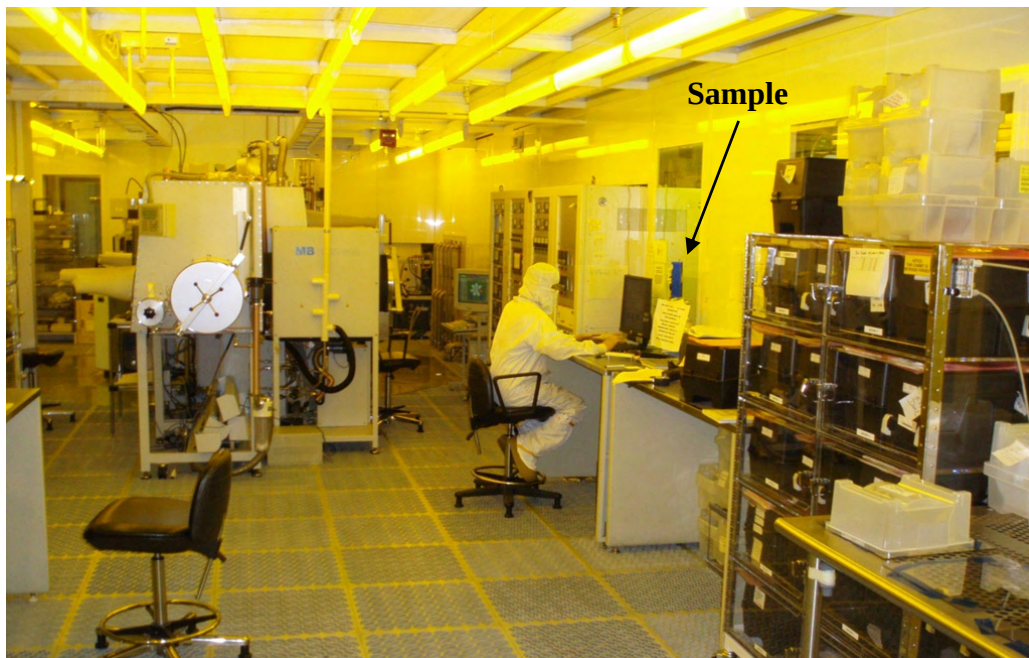


PHOTO #6 – Sample IA-0405; located in an eMagin cleanroom.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 3 OF 11





PHOTO #7 – Sample IA-0406 (left picture); located in a solvent management/drum storage area.



PHOTO #8 – Sample IA-0407; located in the “30 Aisle” hallway.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 4 OF 11





PHOTO #9 – Sample IA-0408; located in IBM’s “EMT Testing” lab.

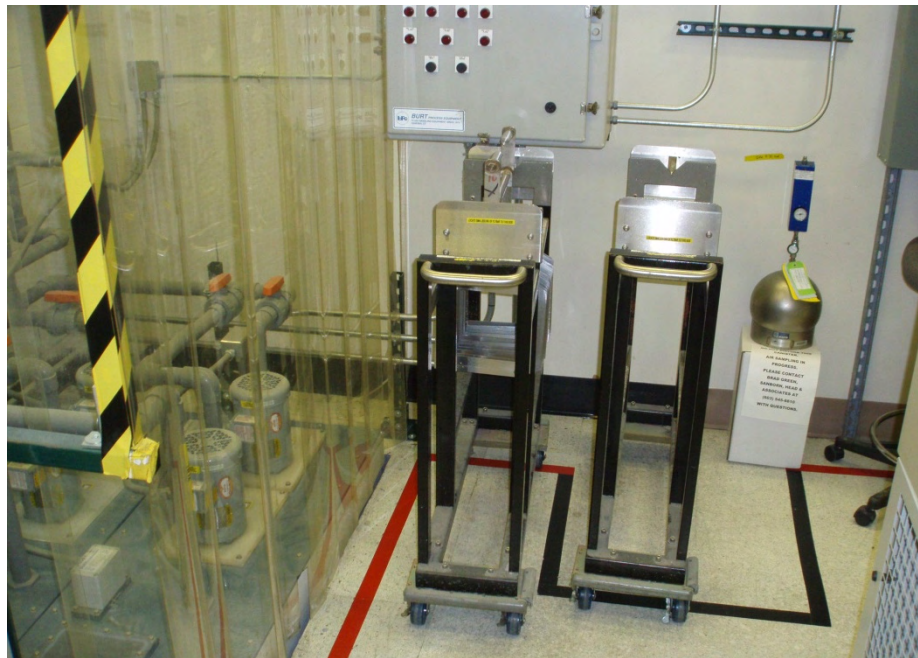


PHOTO #10 – Sample IA-0409; located in a manufacturing area, near a sump.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 5 OF 11





PHOTO #11 – Sample IA-0410; located in an equipment room off of a manufacturing lab.



PHOTO #12 – Sample IA-0411; located in an IBM laboratory.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 6 OF 11





PHOTO #13 – Sample IA-0412; located in an IBM manufacturing area.

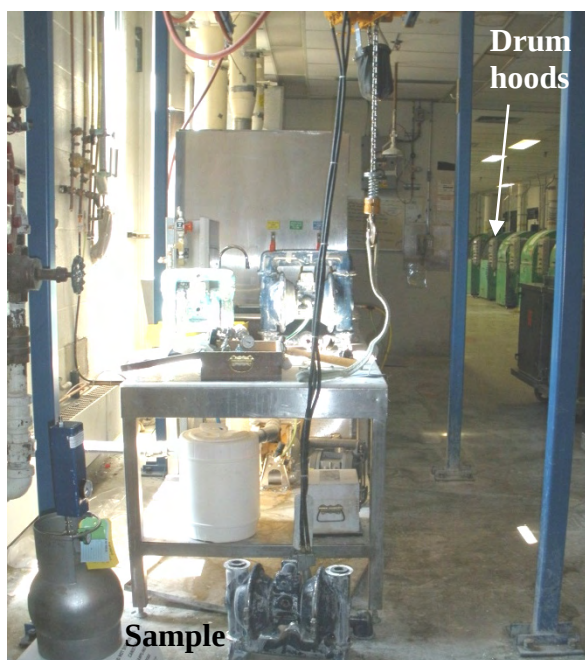


PHOTO #14 – Sample IA-0413; located in the Ball Mill area.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 7 OF 11





PHOTO #15 – Sample IA-0414; located in the Sintering Manufacturing Furnace Room #1.



PHOTO #16 – Sample IA-0415; located on the southern side of the Sintering Manufacturing Furnace Room #2, near a wall of louvered doors.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 8 OF 11





PHOTO #17 – Sample IA-0416; located in the Sintering Manufacturing Furnace Room #2.



PHOTO #18 – Sample IA-0417; located in an eMagin office.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 9 OF 11





PHOTO #19 – Sample IA-0418; located in eMagin space near MW-547 and a sump.



PHOTO #20 – Sample AA-0419; located near and intake to AC-13.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 10 OF 11





PHOTO #21 – Sample AA-0420; located in the plenum space near the AC-04 intake.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/26/2009

SHEET 11 OF 11



Building 330C
October 13, 2009



PHOTO #1 – Sample IA-0413; located in IBM's RMP Ball Mill Area.



PHOTO #2 – Sample IA-0421; located in the “restricted area” of sintering manufacturing furnace room #2 near a sump.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/13/09

SHEET 1 OF 4





PHOTO #8 – Sample IA-0422; located in sintering manufacturing furnace room #2 near a floor discharge drain.



PHOTO #8 – Sample IA-0423; located in sintering manufacturing furnace room #2 near a floor drain.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/13/09

SHEET 2 OF 4





PHOTO #9 – Sample IA-0424; located in sintering manufacturing furnace room #2 near a sump.

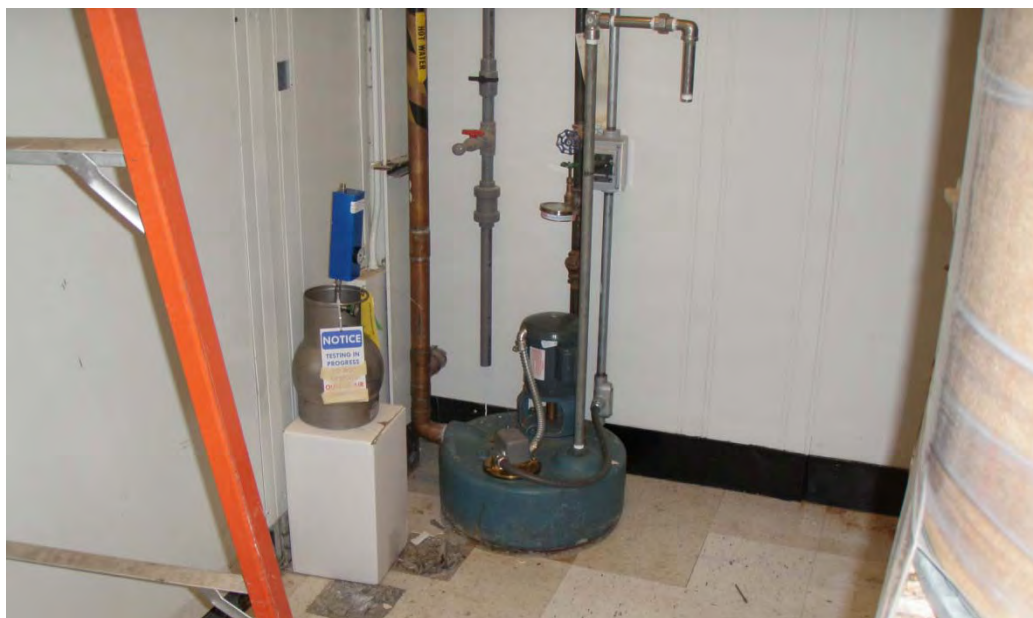


PHOTO #10 – Sample IA-0425; located in the Butvar storage area.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/13/09

SHEET 3 OF 4





PHOTO #11 – Sample IA-0426; located in the caster area.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/13/09

SHEET 4 OF 4



Building 330C
October 28, 2009



PHOTO #1 – Sample IA-0404; located in IBM’s “Reliability Engineering” lab.



PHOTO #2 – Sample IA-0407; located in the “30 Aisle” hallway.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/28/09

SHEET 1 OF 6





PHOTO #3 – Sample IA-0408; located in IBM’s “EMT Testing” lab.



PHOTO #4 – Sample IA-0413; located in IBM’s RMP Ball Mill Area

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/28/09

SHEET 2 OF 6





PHOTO #5 – Sample IA-0414; located in the sintering manufacturing furnace room #1.



PHOTO #6 – Sample IA-0416 and Duplicate; located in the sintering manufacturing furnace room #2.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/28/09

SHEET 3 OF 6





PHOTO #7 – Sample IA-0421; located in the sintering manufacturing furnace room #2 near a sump.



PHOTO #8 – Sample IA-0423; located in sintering manufacturing furnace room #2 near a floor drain.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/28/09

SHEET 4 OF 6





PHOTO #9 – Sample IA-0424; located in sintering manufacturing furnace room #2 near a sump.



PHOTO #10 – Sample IA-0425; located in the Butvar storage area.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings 330C and 338
 Company: IBM
 City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
 DATE OF PHOTOS: 10/28/09

SHEET 5 OF 6





PHOTO #11 – Sample IA-0426; located in the caster area.



PHOTO #12– Sample IA-0427; located in sintering manufacturing furnace area #2.

Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338
Company: IBM
City, State: Hopewell Junction, NY

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 10/28/09

SHEET 6 OF 6



Building 338
August 27, 2009



PHOTO #1 – Sample IA-0500; located in the sintering measurements lab.



PHOTO #2 – Sample IA-0501 and duplicate sample; located in an office/machine shop area.

Photograph Log for Building 338
Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/27/2009

SHEET 1 OF 3





PHOTO #3 – Sample IA-0503; located in the sintering area near a furnace.



PHOTO #4 – Sample IA-0504; located in the sintering area near a furnace.

Photograph Log for Building 338
Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/27/2009

SHEET 2 OF 3





PHOTO #5 – Sample AA-0505; located near the intake for AC-1.

Photograph Log for Building 338
Report Name: Laboratory Data, Confirmatory Sampling Results, Buildings
330C and 338

SHA PROJECT NO: 2999.00
DATE OF PHOTOS: 8/27/2009

SHEET 3 OF 3





SANBORN, HEAD ENGINEERING, PC

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**CONFIRMATORY SAMPLING RESULTS
BUILDINGS 330C AND 338**

**VOC Source Assessment
IBM East Fishkill Facility
Hopewell Junction, New York**

Attachments B - D

Prepared for
IBM Corporation

Prepared by
Sanborn, Head Engineering, P.C.

File 2999.00
November 2009

ATTACHMENT B

HVAC OPERATIONS DURING SAMPLING

Table B-1
Summary of HVAC Unit Outside Air Damper Positions
Buildings 330C and 338
Confirmatory Sampling Results
VOC Source Assessment
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 330C			
AC-4	Auto - variable	50%	Facilities Staff
AC-5	Auto - variable (Unit Off)		
AC-6	Fixed - no variation	30%	
AC-9	Fixed - no variation	20%	
AC-13	Auto - variable	100%	
AC-41	Auto - variable	5%	
AC-42	Auto - variable	100%	
AC-50	Auto - variable (Unit Off)		
AC-56	Fixed - no variation	10%	
AC-57	Auto - variable (Unit Off)		
AC-58	Fixed - no variation	90%	
AC-90	Auto - variable	20%	
AC-91	Auto - variable	20%	
AC-93	Auto - variable	100%	
AC-99	Auto - variable (Unit Off)		
AC-100	Fixed - no variation	80%	
Building 338			
AC-1	Auto - variable	20%	Facilities Staff
AC-2	Auto - variable	20% ²	
AC-3A	Auto - variable (Unit Off)		
AC-3B	Auto - variable (Unit Off)		
AC-3C	Auto - variable	5%	
AC-4A	Auto - variable	5%	
AC-4B	Auto - variable	5%	
AC-4C	Auto - variable	20%	
AC-4D	Auto - variable	20%	
AC-4E	Auto - variable (Unit Off)		

Notes:

1. This table summarizes the normal operating configuration 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.
2. SHA could not directly observe the dampers in the duct work. However, the local control panel indicated that the dampers were 20% open.

Table B-2
Summary of Damper Position Survey During Sampling
Buildings 330C and 338
Confirmatory Sampling Results
VOC Source Assessment
IBM East Fishkill
Hopewell Junction, New York

HVAC Unit	Date and Time of Observation					
Building 330C						
	08/24/09	08/25/09	08/26/09			
	1030 hrs	1130 hrs	1000 hrs	1300 hrs	1700 hrs	
AC-4	installed	✓	✓	✓		Removed
AC-5	OFF					
AC-6	installed	✓	✓	✓		Removed
AC-9	installed	✓	✓	✓		Removed
AC-13	installed	✓	✓	✓		Removed
AC-41	visual only ³	✓	✓	✓		
AC-42	installed	✓	✓	✓		Removed
AC-50	OFF					
AC-56	No access, but damper is fixed (no variation)					
AC-57	OFF					
AC-58	No access, but damper is fixed (no variation)					
AC-90	installed	✓	✓	✓		Removed
AC-91	installed	✓	✓	✓		Removed
AC-93	installed	✓	✓	✓		Removed
AC-99	OFF					
AC-100	installed	✓	✓	✓		Removed
Building 338						
	08/24/09	08/25/09	08/26/09	08/27/09		
	1000 hrs	1415 hrs	1000 hrs	0715 hrs	1145 hrs	1600 hrs
AC-1	installed	✓	✓	✓	✓	Removed
AC-2	installed	✓	✓	✓	✓	Removed
AC-3A	installed	✓	✓	✓	✓	Removed
AC-3B	installed	✓	✓	✓	✓	Removed
AC-3C	installed	✓	✓	✓	✓	Removed
AC-4A	installed	✓	✓	✓	✓	Removed
AC-4B	installed	✓	✓	✓	✓	Removed
AC-4C	installed	✓	✓	✓	✓	Removed
AC-4D	installed	✓	✓	✓	✓	Removed
AC-4E	installed	✓	✓	✓	✓	Removed

Notes:

1. Fusible links were constructed from nylon zip ties and masking tape. Dampers were inspected several times during sampling to determine if outside air dampers changed positions .
2. "✓" indicates that during inspection, the damper positions were observed to be in the position set prior to sampling.
3. While a link was not installed at this location, the relative position of the damper shaft and/or damper position was observed.

ATTACHMENT C

ANALYTICAL LABORATORY DATA REPORTS

Building 330C
August 26, 2009

9/10/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: EFK
Project #:
Workorder #: 0908641A

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 8/28/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

WORK ORDER #: 0908641A

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/28/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/09/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA0400	Modified TO-15	5.5 "Hg	5 psi
01B	IA0400	Modified TO-15	5.5 "Hg	5 psi
02A	IA0401	Modified TO-15	5.5 "Hg	5 psi
02B	IA0401	Modified TO-15	5.5 "Hg	5 psi
03A	IA0402	Modified TO-15	6.5 "Hg	5 psi
03B	IA0402	Modified TO-15	6.5 "Hg	5 psi
04A	IA0403	Modified TO-15	7.0 "Hg	5 psi
04B	IA0403	Modified TO-15	7.0 "Hg	5 psi
05A	IA0404	Modified TO-15	6.0 "Hg	5 psi
05B	IA0404	Modified TO-15	6.0 "Hg	5 psi
06A	DUP25263	Modified TO-15	7.0 "Hg	5 psi
06B	DUP25263	Modified TO-15	7.0 "Hg	5 psi
07A	IA0405	Modified TO-15	6.5 "Hg	5 psi
07B	IA0405	Modified TO-15	6.5 "Hg	5 psi
08A	IA0406	Modified TO-15	6.0 "Hg	5 psi
08B	IA0406	Modified TO-15	6.0 "Hg	5 psi
09A	IA0407	Modified TO-15	4.0 "Hg	5 psi

Continued on next page

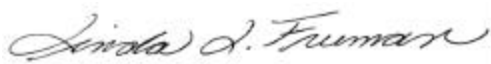
WORK ORDER #: 0908641A

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/28/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/09/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
09B	IA0407	Modified TO-15	4.0 "Hg	5 psi
10A	IA0408	Modified TO-15	5.5 "Hg	5 psi
10AA	IA0408 Lab Duplicate	Modified TO-15	5.5 "Hg	5 psi
10B	IA0408	Modified TO-15	5.5 "Hg	5 psi
10BB	IA0408 Lab Duplicate	Modified TO-15	5.5 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 09/09/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0908641A

Nine 6 Liter Summa Canister (SIM Certified) and one 6 Liter Summa Canister (100% Certified) samples were received on August 28, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$.; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$.; 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

Summary of Detected Compounds

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

Client Sample ID: IA0400

Lab ID#: 0908641A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.81	2.2
Freon 11	0.16	0.66	0.92	3.7
Acetone	0.82	6.5	1.9	15
Toluene	0.16	0.20	0.62	0.75
Tetrachloroethene	0.16	1.6	1.1	11

Client Sample ID: IA0400

Lab ID#: 0908641A-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.083	0.21	0.52
Trichloroethene	0.033	0.038	0.18	0.20

Client Sample ID: IA0401

Lab ID#: 0908641A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.81	2.2
Freon 11	0.16	0.98	0.92	5.5
Acetone	0.82	12	1.9	28
Toluene	0.16	0.34	0.62	1.3
Tetrachloroethene	0.16	0.45	1.1	3.1

Client Sample ID: IA0401

Lab ID#: 0908641A-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.077	0.21	0.48

Client Sample ID: IA0402

Lab ID#: 0908641A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.84	2.3

Summary of Detected Compounds

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

Client Sample ID: IA0402

Lab ID#: 0908641A-03A

Freon 11	0.17	1.7	0.96	9.7
Acetone	0.86	26	2.0	61
Toluene	0.17	0.33	0.64	1.2
Tetrachloroethene	0.17	0.22	1.2	1.5

Client Sample ID: IA0402

Lab ID#: 0908641A-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.083	0.22	0.52

Client Sample ID: IA0403

Lab ID#: 0908641A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.86	2.3
Freon 11	0.18	0.75	0.98	4.2
Acetone	0.88	16	2.1	38
Toluene	0.18	0.25	0.66	0.94

Client Sample ID: IA0403

Lab ID#: 0908641A-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.083	0.22	0.52

Client Sample ID: IA0404

Lab ID#: 0908641A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.83	2.3
Freon 11	0.17	1.2	0.94	6.9
Freon 113	0.17	0.36	1.3	2.8
Acetone	0.84	12	2.0	29
Toluene	0.17	0.28	0.63	1.0
Tetrachloroethene	0.17	12	1.1	79

Summary of Detected Compounds

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

Client Sample ID: IA0404

Lab ID#: 0908641A-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.16	0.043	0.42
Carbon Tetrachloride	0.034	0.075	0.21	0.47
Trichloroethene	0.034	0.080	0.18	0.43

Client Sample ID: DUP25263

Lab ID#: 0908641A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.86	2.2
Freon 11	0.18	1.3	0.98	7.2
Freon 113	0.18	0.37	1.3	2.9
Acetone	0.88	6.0	2.1	14
Toluene	0.18	0.31	0.66	1.2
Tetrachloroethene	0.18	12	1.2	79

Client Sample ID: DUP25263

Lab ID#: 0908641A-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.18	0.045	0.47
Carbon Tetrachloride	0.035	0.081	0.22	0.51
Trichloroethene	0.035	0.088	0.19	0.47

Client Sample ID: IA0405

Lab ID#: 0908641A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.84	2.2
Freon 11	0.17	0.55	0.96	3.1
Acetone	0.86	15	2.0	35
Toluene	0.17	0.25	0.64	0.93
Tetrachloroethene	0.17	0.37	1.2	2.5

Summary of Detected Compounds

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

Client Sample ID: IA0405

Lab ID#: 0908641A-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.087	0.22	0.54
Trichloroethene	0.034	0.14	0.18	0.74

Client Sample ID: IA0406

Lab ID#: 0908641A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.83	2.2
Freon 11	0.17	0.83	0.94	4.7
Acetone	0.84	28	2.0	67
Toluene	0.17	1.8	0.63	6.8
m,p-Xylene	0.17	0.29	0.73	1.2

Client Sample ID: IA0406

Lab ID#: 0908641A-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.080	0.21	0.50

Client Sample ID: IA0407

Lab ID#: 0908641A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.77	2.5
Freon 11	0.16	0.69	0.87	3.8
Acetone	0.78	3.9	1.8	9.3
Benzene	0.16	0.15 J	0.50	0.49 J
Toluene	0.16	0.26	0.58	0.96
Tetrachloroethene	0.16	3.2	1.0	22

Client Sample ID: IA0407

Lab ID#: 0908641A-09B

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

Summary of Detected Compounds

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

Client Sample ID: IA0407

Lab ID#: 0908641A-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.019	0.040	0.049
Carbon Tetrachloride	0.031	0.083	0.20	0.52

Client Sample ID: IA0408

Lab ID#: 0908641A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.81	2.3
Freon 11	0.16	1.5	0.92	8.2
Freon 113	0.16	0.20	1.2	1.5
Acetone	0.82	12	1.9	30
Toluene	0.16	0.32	0.62	1.2
Tetrachloroethene	0.16	3.1	1.1	21

Client Sample ID: IA0408 Lab Duplicate

Lab ID#: 0908641A-10AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.81	2.3
Freon 11	0.16	1.4	0.92	7.9
Freon 113	0.16	0.19	1.2	1.4
Acetone	0.82	13	1.9	30
Methylene Chloride	0.33	0.50	1.1	1.8
Benzene	0.16	0.17	0.52	0.55
Toluene	0.16	0.46	0.62	1.7
Tetrachloroethene	0.16	3.0	1.1	21

Client Sample ID: IA0408

Lab ID#: 0908641A-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.073	0.21	0.46
Trichloroethene	0.033	0.032 J	0.18	0.17 J

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

Client Sample ID: IA0408 Lab Duplicate

Lab ID#: 0908641A-10BB

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.090	0.21	0.56
Trichloroethene	0.033	0.032 J	0.18	0.17 J

Client Sample ID: IA0400

Lab ID#: 0908641A-01A

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

File Name:	e090806	Date of Collection: 8/26/09 4:40:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 01:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.81	2.2
Freon 11	0.16	0.66	0.92	3.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	6.5	1.9	15
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	Not Detected	0.52	Not Detected
Toluene	0.16	0.20	0.62	0.75
Tetrachloroethene	0.16	1.6	1.1	11
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0400

Lab ID#: 0908641A-01B

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

File Name:	e090806sim	Date of Collection: 8/26/09 4:40:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 01:43 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	0.083	0.21	0.52
Trichloroethene	0.033	0.038	0.18	0.20

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	100	70-130

Client Sample ID: IA0401

Lab ID#: 0908641A-02A

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

File Name:	e090807	Date of Collection: 8/26/09 4:36:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 02:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.81	2.2
Freon 11	0.16	0.98	0.92	5.5
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	12	1.9	28
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	Not Detected	0.52	Not Detected
Toluene	0.16	0.34	0.62	1.3
Tetrachloroethene	0.16	0.45	1.1	3.1
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0401

Lab ID#: 0908641A-02B

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

File Name:	e090807sim	Date of Collection: 8/26/09 4:36:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 02:27 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	0.077	0.21	0.48
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	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0402

Lab ID#: 0908641A-03A

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

File Name:	e090808	Date of Collection: 8/26/09 4:46:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/8/09 03:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.84	2.3
Freon 11	0.17	1.7	0.96	9.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	26	2.0	61
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	0.33	0.64	1.2
Tetrachloroethene	0.17	0.22	1.2	1.5
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	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0402

Lab ID#: 0908641A-03B

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

File Name:	e090808sim	Date of Collection: 8/26/09 4:46:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/8/09 03:09 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	0.083	0.22	0.52
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	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0403

Lab ID#: 0908641A-04A

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

File Name:	e090809	Date of Collection: 8/26/09 5:33:00 PM
Dil. Factor:	1.75	Date of Analysis: 9/8/09 03:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.86	2.3
Freon 11	0.18	0.75	0.98	4.2
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	16	2.1	38
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	0.25	0.66	0.94
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
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	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0403

Lab ID#: 0908641A-04B

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

File Name:	e090809sim	Date of Collection: 8/26/09 5:33:00 PM
Dil. Factor:	1.75	Date of Analysis: 9/8/09 03:50 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	0.083	0.22	0.52
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	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0404

Lab ID#: 0908641A-05A

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

File Name:	e090810	Date of Collection: 8/26/09 4:33:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/8/09 04:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.83	2.3
Freon 11	0.17	1.2	0.94	6.9
Freon 113	0.17	0.36	1.3	2.8
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	12	2.0	29
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	0.28	0.63	1.0
Tetrachloroethene	0.17	12	1.1	79
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	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0404

Lab ID#: 0908641A-05B

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

File Name:	e090810sim	Date of Collection: 8/26/09 4:33:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/8/09 04:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.16	0.043	0.42
Carbon Tetrachloride	0.034	0.075	0.21	0.47
Trichloroethene	0.034	0.080	0.18	0.43

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: DUP25263

Lab ID#: 0908641A-06A

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

File Name:	e090811	Date of Collection: 8/26/09 4:34:00 PM
Dil. Factor:	1.75	Date of Analysis: 9/8/09 05:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.86	2.2
Freon 11	0.18	1.3	0.98	7.2
Freon 113	0.18	0.37	1.3	2.9
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	6.0	2.1	14
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	0.31	0.66	1.2
Tetrachloroethene	0.18	12	1.2	79
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	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: DUP25263

Lab ID#: 0908641A-06B

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

File Name:	e090811sim	Date of Collection: 8/26/09 4:34:00 PM
Dil. Factor:	1.75	Date of Analysis: 9/8/09 05:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.18	0.045	0.47
Carbon Tetrachloride	0.035	0.081	0.22	0.51
Trichloroethene	0.035	0.088	0.19	0.47

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0405

Lab ID#: 0908641A-07A

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

File Name:	e090812	Date of Collection: 8/26/09 5:06:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/8/09 05:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.84	2.2
Freon 11	0.17	0.55	0.96	3.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	15	2.0	35
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	0.25	0.64	0.93
Tetrachloroethene	0.17	0.37	1.2	2.5
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	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0405

Lab ID#: 0908641A-07B

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

File Name:	e090812sim	Date of Collection: 8/26/09 5:06:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/8/09 05:55 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	0.087	0.22	0.54
Trichloroethene	0.034	0.14	0.18	0.74

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0406

Lab ID#: 0908641A-08A

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

File Name:	e090813	Date of Collection: 8/26/09 5:42:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/8/09 06:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.83	2.2
Freon 11	0.17	0.83	0.94	4.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	28	2.0	67
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	1.8	0.63	6.8
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	0.29	0.73	1.2
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	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0406

Lab ID#: 0908641A-08B

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

File Name:	e090813sim	Date of Collection: 8/26/09 5:42:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/8/09 06:38 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	0.080	0.21	0.50
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	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0407

Lab ID#: 0908641A-09A

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

File Name:	e090814	Date of Collection: 8/26/09 4:07:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/8/09 07:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.77	2.5
Freon 11	0.16	0.69	0.87	3.8
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	3.9	1.8	9.3
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Benzene	0.16	0.15 J	0.50	0.49 J
Toluene	0.16	0.26	0.58	0.96
Tetrachloroethene	0.16	3.2	1.0	22
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	Not Detected	0.67	Not Detected
o-Xylene	0.16	Not Detected	0.67	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected

J = Estimated value.

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	98	70-130

Client Sample ID: IA0407

Lab ID#: 0908641A-09B

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

File Name:	e090814sim	Date of Collection: 8/26/09 4:07:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/8/09 07:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.019	0.040	0.049
Carbon Tetrachloride	0.031	0.083	0.20	0.52
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	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0408

Lab ID#: 0908641A-10A

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

File Name:	e090815	Date of Collection: 8/26/09 6:48:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 08:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.81	2.3
Freon 11	0.16	1.5	0.92	8.2
Freon 113	0.16	0.20	1.2	1.5
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	12	1.9	30
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	Not Detected	0.52	Not Detected
Toluene	0.16	0.32	0.62	1.2
Tetrachloroethene	0.16	3.1	1.1	21
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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 (100% Certified)

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

Client Sample ID: IA0408 Lab Duplicate

Lab ID#: 0908641A-10AA

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

File Name:	e090816	Date of Collection: 8/26/09 6:48:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 08:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.81	2.3
Freon 11	0.16	1.4	0.92	7.9
Freon 113	0.16	0.19	1.2	1.4
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	13	1.9	30
Methylene Chloride	0.33	0.50	1.1	1.8
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	0.17	0.52	0.55
Toluene	0.16	0.46	0.62	1.7
Tetrachloroethene	0.16	3.0	1.1	21
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0408

Lab ID#: 0908641A-10B

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

File Name:	e090815sim	Date of Collection: 8/26/09 6:48:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 08:05 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	0.073	0.21	0.46
Trichloroethene	0.033	0.032 J	0.18	0.17 J

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0408 Lab Duplicate

Lab ID#: 0908641A-10BB

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

File Name:	e090816sim	Date of Collection: 8/26/09 6:48:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/8/09 08:47 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	0.090	0.21	0.56
Trichloroethene	0.033	0.032 J	0.18	0.17 J

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641A-11A

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

File Name:	e090805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 12:56 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	102	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641A-11B

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

File Name:	e090805sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 12:56 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	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: CCV

Lab ID#: 0908641A-12A

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

File Name:	e090802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 10:45 AM

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 0908641A-12B

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

File Name:	e090802sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 10:45 AM

Compound	%Recovery
Vinyl Chloride	84
Carbon Tetrachloride	93
Trichloroethene	80

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0908641A-13A

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

File Name:	e090803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 11:33 AM

Compound	%Recovery
Freon 12	100
Freon 11	98
Freon 113	108
1,1-Dichloroethene	106
Acetone	96
Methylene Chloride	105
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	102
Benzene	99
Toluene	103
Tetrachloroethene	102
Chlorobenzene	98
Ethyl Benzene	96
m,p-Xylene	100
o-Xylene	99
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	93
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	93

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0908641A-13B

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

File Name:	e090803sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/8/09 11:33 AM

Compound	%Recovery
Vinyl Chloride	96
Carbon Tetrachloride	108
Trichloroethene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130



160 BLUE BAYVIEW ROAD, SUITE B
FOULSON, CA 95630-4739
(916) 985-1000 FAX (916) 985-0020

Sample Transportation Notice

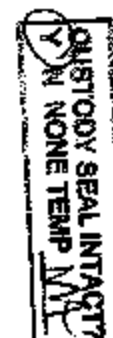
Electronic signature on this document indicating that sample is being shipped in compliance with all applicable local, state, federal, national, and international laws, regulations and conditions of any kind, Air Toxics Ltd. has no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold, defend, defend, and indemnify Air Toxics Limited against any claims, damages, or actions of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hazmat (2009 457-4962)



20 Foundry Street
Concord, MA 03301
(903) 229-1900 FAX (603) 229-1919

Project Info: Project Manager: Brad Green Email: bgreen@canbomhead.com latwell@canbomhead.com, reed@canbomhead.com P.O. # 7496-00 Project # Project Name: BFK Analysis: 1 = TO-15 (V) 2 =		Turn Around Time Normal X Rush specify	Relinquished by: (signature) Date/Time <i>Raymond</i> 8/27/09 Relinquished by: (signature) Date/Time Relinquished by: (signature) Date/Time	Received By: (signature) Date/Time <i>Monica Green ATL</i> 8/28/09 855 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 (psd)
01AB	IA0400	34466	08/26/2009	1640	>30	7.5	1		
02AB	IA0401	20041	08/26/2009	1636	>30	8	1		
03AB	IA0402	4354	08/26/2009	1646	>30	8	1		
04AB	IA0403	35158	08/26/2009	1733	30	8.5	1		
05AB	IA0404	5642	08/26/2009	1633	28.5	6.5	1		
06AB	DUP25263	25263	08/26/2009	1634	>30	8.5	1		
07AB	IA0405	5751	08/26/2009	1706	>30	7.5	1		
08AB	IA0406	2242	08/26/2009	1742	29	7	1		
09AB	IA0407	12004	08/26/2009	1607	>30	6	1		
10AB	IA0408	5582	08/26/2009	1848	>30	7.5	1		
11AB	IA0409	23886	08/26/2009	1730	30	7.5	1		
12AB	IA0410	13998	08/26/2009	1616	>30	5.5	1		
13AB	IA0411	22505	08/26/2009	1548	30	6.5	1		
14AB	IA0412	4189	08/26/2009	1622	>30	8.5	1		
15AB	IA0413	34387	08/26/2009	1603	>30	8	1		
16AB	IA0414	1577	08/26/2009	1558	>30	8	1		
17AB	IA0415	14871	08/26/2009	1551	>30	8	1		
18AB	IA0416	5552	08/26/2009	1553	>30	7	1		
19AB	IA0417	35149	08/26/2009	1625	>30	7.5	1		



FEEL IN

BOX 1 of 6

9/14/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: EFK
Project #:
Workorder #: 0908641B

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 8/28/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

WORK ORDER #: 0908641B

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/28/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/11/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
11A	IA0409	Modified TO-15	6.0 "Hg	5 psi
11AA	IA0409 Lab Duplicate	Modified TO-15	6.0 "Hg	5 psi
11B	IA0409	Modified TO-15	6.0 "Hg	5 psi
11BB	IA0409 Lab Duplicate	Modified TO-15	6.0 "Hg	5 psi
12A	IA0410 (Low)	Modified TO-15	4.0 "Hg	5 psi
12B	IA0410 (Low)	Modified TO-15	4.0 "Hg	5 psi
12C	IA0410 (High)	Modified TO-15	4.0 "Hg	5 psi
12D	IA0410 (High)	Modified TO-15	4.0 "Hg	5 psi
13A	IA0411	Modified TO-15	5.0 "Hg	5 psi
13B	IA0411	Modified TO-15	5.0 "Hg	5 psi
14A	IA0412	Modified TO-15	6.0 "Hg	5 psi
14B	IA0412	Modified TO-15	6.0 "Hg	5 psi
15A	IA0413	Modified TO-15	6.5 "Hg	5 psi
15B	IA0413	Modified TO-15	6.5 "Hg	5 psi
16A	IA0414	Modified TO-15	5.5 "Hg	5 psi
16B	IA0414	Modified TO-15	5.5 "Hg	5 psi
17A	IA0415	Modified TO-15	6.0 "Hg	5 psi

Continued on next page

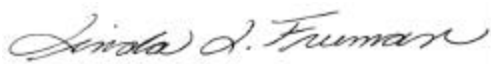
WORK ORDER #: 0908641B

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/28/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/11/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
17B	IA0415	Modified TO-15	6.0 "Hg	5 psi
18A	IA0416	Modified TO-15	6.0 "Hg	5 psi
18B	IA0416	Modified TO-15	6.0 "Hg	5 psi
19A	IA0417	Modified TO-15	5.5 "Hg	5 psi
19B	IA0417	Modified TO-15	5.5 "Hg	5 psi
20A	Lab Blank	Modified TO-15	NA	NA
20B	Lab Blank	Modified TO-15	NA	NA
20C	Lab Blank	Modified TO-15	NA	NA
20D	Lab Blank	Modified TO-15	NA	NA
21A	CCV	Modified TO-15	NA	NA
21B	CCV	Modified TO-15	NA	NA
21C	CCV	Modified TO-15	NA	NA
21D	CCV	Modified TO-15	NA	NA
22A	LCS	Modified TO-15	NA	NA
22B	LCS	Modified TO-15	NA	NA
22C	LCS	Modified TO-15	NA	NA
22D	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 09/11/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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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# 0908641B**

Nine 6 Liter Summa Canister (SIM Certified) samples were received on August 28, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$; 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

The Chain of Custody (COC) information for sample IA0416 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

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.

Due to high-level target compounds, sample IA0410 was analyzed twice. In the "A" fraction, the sample was diluted to bring the highest-level compounds within the calibration range. The "C" fraction is also reported by client request and may be reported with "E" flags indicating the compound exceeds the calibration range. Both runs and associated QC are reported.

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

Summary of Detected Compounds

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

Client Sample ID: IA0409

Lab ID#: 0908641B-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.28	0.46	1.4	2.3
Freon 11	0.28	0.99	1.6	5.6
Acetone	1.4	76	3.3	180
Toluene	0.28	2.0	1.0	7.4
Tetrachloroethene	0.28	0.61	1.9	4.2

Client Sample ID: IA0409 Lab Duplicate

Lab ID#: 0908641B-11AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.83	2.3
Freon 11	0.17	1.0	0.94	5.8
Acetone	0.84	78 E	2.0	190 E
Toluene	0.17	2.0	0.63	7.7
Tetrachloroethene	0.17	0.61	1.1	4.1
m,p-Xylene	0.17	0.21	0.73	0.89

Client Sample ID: IA0409

Lab ID#: 0908641B-11B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.056	0.085	0.35	0.53

Client Sample ID: IA0409 Lab Duplicate

Lab ID#: 0908641B-11BB

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.087	0.21	0.55

Client Sample ID: IA0410 (Low)

Lab ID#: 0908641B-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.78	0.82	4.4	4.6

Summary of Detected Compounds

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

Client Sample ID: IA0410 (Low)

Lab ID#: 0908641B-12A

Acetone	3.9	180	9.2	430
Toluene	0.78	1.2	2.9	4.6

Client Sample ID: IA0410 (Low)

Lab ID#: 0908641B-12B

No Detections Were Found.

Client Sample ID: IA0410 (High)

Lab ID#: 0908641B-12C

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.77	2.3
Freon 11	0.16	0.83	0.87	4.6
Acetone	0.78	180 E	1.8	430 E
Toluene	0.16	1.3	0.58	5.0
Tetrachloroethene	0.16	0.59	1.0	4.0
m,p-Xylene	0.16	0.32	0.67	1.4

Client Sample ID: IA0410 (High)

Lab ID#: 0908641B-12D

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.031	0.074	0.20	0.46

Client Sample ID: IA0411

Lab ID#: 0908641B-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.80	2.2
Freon 11	0.16	0.68	0.90	3.8
Acetone	0.80	20	1.9	48
Benzene	0.16	0.17	0.51	0.55
Toluene	0.16	0.50	0.61	1.9
Tetrachloroethene	0.16	0.83	1.1	5.6
m,p-Xylene	0.16	0.38	0.70	1.6

Summary of Detected Compounds

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

Client Sample ID: IA0411

Lab ID#: 0908641B-13B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.080	0.20	0.50

Client Sample ID: IA0412

Lab ID#: 0908641B-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.83	2.0
Freon 11	0.17	0.61	0.94	3.4
Acetone	0.84	56	2.0	130
Toluene	0.17	0.46	0.63	1.7
Tetrachloroethene	0.17	0.33	1.1	2.2
m,p-Xylene	0.17	0.24	0.73	1.0

Client Sample ID: IA0412

Lab ID#: 0908641B-14B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.077	0.21	0.49

Client Sample ID: IA0413

Lab ID#: 0908641B-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.48	0.84	2.4
Freon 11	0.17	1.5	0.96	8.4
Freon 113	0.17	0.29	1.3	2.2
Acetone	0.86	7.3	2.0	17
Toluene	0.17	0.26	0.64	0.99
Tetrachloroethene	0.17	11	1.2	77
m,p-Xylene	0.17	0.21	0.74	0.92

Client Sample ID: IA0413

Lab ID#: 0908641B-15B

Summary of Detected Compounds

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

Client Sample ID: IA0413

Lab ID#: 0908641B-15B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.031	0.044	0.079
Carbon Tetrachloride	0.034	0.079	0.22	0.50
Trichloroethene	0.034	0.076	0.18	0.41

Client Sample ID: IA0414

Lab ID#: 0908641B-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.64	0.81	3.1
Freon 11	0.16	1.3	0.92	7.3
Freon 113	0.16	0.17	1.2	1.3
Acetone	0.82	7.2	1.9	17
Benzene	0.16	0.17	0.52	0.55
Toluene	0.16	0.33	0.62	1.2
Tetrachloroethene	0.16	3.3	1.1	23

Client Sample ID: IA0414

Lab ID#: 0908641B-16B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.082	0.21	0.52
Trichloroethene	0.033	0.12	0.18	0.62

Client Sample ID: IA0415

Lab ID#: 0908641B-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.86	0.83	4.3
Freon 11	0.17	0.48	0.94	2.7
Acetone	0.84	4.1	2.0	9.7
Toluene	0.17	0.22	0.63	0.83
Tetrachloroethene	0.17	0.67	1.1	4.6

Summary of Detected Compounds

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

Client Sample ID: IA0415

Lab ID#: 0908641B-17B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.071	0.21	0.45
Trichloroethene	0.034	0.34	0.18	1.8

Client Sample ID: IA0416

Lab ID#: 0908641B-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.83	2.7
Freon 11	0.17	0.57	0.94	3.2
Freon 113	0.17	0.52	1.3	4.0
Acetone	0.84	12	2.0	28
Toluene	0.17	0.24	0.63	0.89
Tetrachloroethene	0.17	7.0	1.1	48
m,p-Xylene	0.17	0.19	0.73	0.85

Client Sample ID: IA0416

Lab ID#: 0908641B-18B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.083	0.21	0.52
Trichloroethene	0.034	12	0.18	65

Client Sample ID: IA0417

Lab ID#: 0908641B-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.81	2.2
Freon 11	0.16	0.81	0.92	4.6
Acetone	0.82	53	1.9	120
Toluene	0.16	0.60	0.62	2.3
Tetrachloroethene	0.16	0.87	1.1	5.9
m,p-Xylene	0.16	0.24	0.71	1.0

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

Client Sample ID: IA0417

Lab ID#: 0908641B-19B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.081	0.21	0.51

Client Sample ID: IA0409

Lab ID#: 0908641B-11A

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

File Name:	e090910	Date of Collection: 8/26/09 5:30:00 PM
Dil. Factor:	2.80	Date of Analysis: 9/9/09 02:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.28	0.46	1.4	2.3
Freon 11	0.28	0.99	1.6	5.6
Freon 113	0.28	Not Detected	2.1	Not Detected
1,1-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Acetone	1.4	76	3.3	180
Methylene Chloride	0.56	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
1,1,1-Trichloroethane	0.28	Not Detected	1.5	Not Detected
Benzene	0.28	Not Detected	0.89	Not Detected
Toluene	0.28	2.0	1.0	7.4
Tetrachloroethene	0.28	0.61	1.9	4.2
Chlorobenzene	0.28	Not Detected	1.3	Not Detected
Ethyl Benzene	0.28	Not Detected	1.2	Not Detected
m,p-Xylene	0.28	Not Detected	1.2	Not Detected
o-Xylene	0.28	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.28	Not Detected	1.7	Not Detected
1,4-Dichlorobenzene	0.28	Not Detected	1.7	Not Detected
1,2-Dichlorobenzene	0.28	Not Detected	1.7	Not Detected
1,2,4-Trichlorobenzene	1.4	Not Detected	10	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	101	70-130

Client Sample ID: IA0409 Lab Duplicate

Lab ID#: 0908641B-11AA

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

File Name:	e090908	Date of Collection: 8/26/09 5:30:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 01:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.83	2.3
Freon 11	0.17	1.0	0.94	5.8
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	78 E	2.0	190 E
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	2.0	0.63	7.7
Tetrachloroethene	0.17	0.61	1.1	4.1
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.21	0.73	0.89
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

E = Exceeds instrument calibration range.

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

Client Sample ID: IA0409

Lab ID#: 0908641B-11B

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

File Name:	e090910sim	Date of Collection: 8/26/09 5:30:00 PM
Dil. Factor:	2.80	Date of Analysis: 9/9/09 02:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.028	Not Detected	0.072	Not Detected
Carbon Tetrachloride	0.056	0.085	0.35	0.53
Trichloroethene	0.056	Not Detected	0.30	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0409 Lab Duplicate

Lab ID#: 0908641B-11BB

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

File Name:	e090908sim	Date of Collection: 8/26/09 5:30:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 01:20 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	0.087	0.21	0.55
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	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0410 (Low)

Lab ID#: 0908641B-12A

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

File Name:	e091007	Date of Collection: 8/26/09 4:16:00 PM
Dil. Factor:	7.75	Date of Analysis: 9/10/09 01:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	Not Detected	3.8	Not Detected
Freon 11	0.78	0.82	4.4	4.6
Freon 113	0.78	Not Detected	5.9	Not Detected
1,1-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Acetone	3.9	180	9.2	430
Methylene Chloride	1.6	Not Detected	5.4	Not Detected
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
1,1,1-Trichloroethane	0.78	Not Detected	4.2	Not Detected
Benzene	0.78	Not Detected	2.5	Not Detected
Toluene	0.78	1.2	2.9	4.6
Tetrachloroethene	0.78	Not Detected	5.2	Not Detected
Chlorobenzene	0.78	Not Detected	3.6	Not Detected
Ethyl Benzene	0.78	Not Detected	3.4	Not Detected
m,p-Xylene	0.78	Not Detected	3.4	Not Detected
o-Xylene	0.78	Not Detected	3.4	Not Detected
1,3-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,4-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,2,4-Trichlorobenzene	3.9	Not Detected	29	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	102	70-130

Client Sample ID: IA0410 (Low)

Lab ID#: 0908641B-12B

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

File Name:	e091007sim	Date of Collection: 8/26/09 4:16:00 PM
Dil. Factor:	7.75	Date of Analysis: 9/10/09 01:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.078	Not Detected	0.20	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
Trichloroethene	0.16	Not Detected	0.83	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: IA0410 (High)

Lab ID#: 0908641B-12C

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

File Name:	e090909	Date of Collection: 8/26/09 4:16:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/9/09 02:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.77	2.3
Freon 11	0.16	0.83	0.87	4.6
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	180 E	1.8	430 E
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
Toluene	0.16	1.3	0.58	5.0
Tetrachloroethene	0.16	0.59	1.0	4.0
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	0.32	0.67	1.4
o-Xylene	0.16	Not Detected	0.67	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0410 (High)

Lab ID#: 0908641B-12D

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

File Name:	e090909sim	Date of Collection: 8/26/09 4:16:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/9/09 02:00 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	0.074	0.20	0.46
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	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0411

Lab ID#: 0908641B-13A

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

File Name:	e090911	Date of Collection: 8/26/09 3:48:00 PM
Dil. Factor:	1.61	Date of Analysis: 9/9/09 03:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.80	2.2
Freon 11	0.16	0.68	0.90	3.8
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	20	1.9	48
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	0.17	0.51	0.55
Toluene	0.16	0.50	0.61	1.9
Tetrachloroethene	0.16	0.83	1.1	5.6
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	0.38	0.70	1.6
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	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0411

Lab ID#: 0908641B-13B

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

File Name:	e090911sim	Date of Collection: 8/26/09 3:48:00 PM
Dil. Factor:	1.61	Date of Analysis: 9/9/09 03:23 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	0.080	0.20	0.50
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	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0412

Lab ID#: 0908641B-14A

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

File Name:	e090912	Date of Collection: 8/26/09 4:22:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 04:17 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.83	2.0
Freon 11	0.17	0.61	0.94	3.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	56	2.0	130
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	0.46	0.63	1.7
Tetrachloroethene	0.17	0.33	1.1	2.2
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.24	0.73	1.0
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	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0412

Lab ID#: 0908641B-14B

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

File Name:	e090912sim	Date of Collection: 8/26/09 4:22:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 04:17 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	0.077	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	97	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0413

Lab ID#: 0908641B-15A

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

File Name:	e090913	Date of Collection: 8/26/09 4:03:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/9/09 05:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.48	0.84	2.4
Freon 11	0.17	1.5	0.96	8.4
Freon 113	0.17	0.29	1.3	2.2
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	7.3	2.0	17
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	0.26	0.64	0.99
Tetrachloroethene	0.17	11	1.2	77
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	0.21	0.74	0.92
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	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0413

Lab ID#: 0908641B-15B

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

File Name:	e090913sim	Date of Collection: 8/26/09 4:03:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/9/09 05:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	0.031	0.044	0.079
Carbon Tetrachloride	0.034	0.079	0.22	0.50
Trichloroethene	0.034	0.076	0.18	0.41

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0414

Lab ID#: 0908641B-16A

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

File Name:	e090914	Date of Collection: 8/26/09 3:58:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/9/09 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.64	0.81	3.1
Freon 11	0.16	1.3	0.92	7.3
Freon 113	0.16	0.17	1.2	1.3
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	7.2	1.9	17
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	0.17	0.52	0.55
Toluene	0.16	0.33	0.62	1.2
Tetrachloroethene	0.16	3.3	1.1	23
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0414

Lab ID#: 0908641B-16B

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

File Name:	e090914sim	Date of Collection: 8/26/09 3:58:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/9/09 05:52 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	0.082	0.21	0.52
Trichloroethene	0.033	0.12	0.18	0.62

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0415

Lab ID#: 0908641B-17A

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

File Name:	e090915	Date of Collection: 8/26/09 3:51:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 06:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.86	0.83	4.3
Freon 11	0.17	0.48	0.94	2.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	4.1	2.0	9.7
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	0.22	0.63	0.83
Tetrachloroethene	0.17	0.67	1.1	4.6
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	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0415

Lab ID#: 0908641B-17B

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

File Name:	e090915sim	Date of Collection: 8/26/09 3:51:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 06:49 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	0.071	0.21	0.45
Trichloroethene	0.034	0.34	0.18	1.8

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0416

Lab ID#: 0908641B-18A

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

File Name:	e090916	Date of Collection: 8/26/09 3:53:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 08:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.83	2.7
Freon 11	0.17	0.57	0.94	3.2
Freon 113	0.17	0.52	1.3	4.0
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	12	2.0	28
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	0.24	0.63	0.89
Tetrachloroethene	0.17	7.0	1.1	48
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.19	0.73	0.85
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	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0416

Lab ID#: 0908641B-18B

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

File Name:	e090916sim	Date of Collection: 8/26/09 3:53:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/9/09 08:26 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	0.083	0.21	0.52
Trichloroethene	0.034	12	0.18	65

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0417

Lab ID#: 0908641B-19A

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

File Name:	e091006	Date of Collection: 8/26/09 4:25:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/10/09 01:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.81	2.2
Freon 11	0.16	0.81	0.92	4.6
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	53	1.9	120
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	Not Detected	0.52	Not Detected
Toluene	0.16	0.60	0.62	2.3
Tetrachloroethene	0.16	0.87	1.1	5.9
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.24	0.71	1.0
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	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0417

Lab ID#: 0908641B-19B

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

File Name:	e091006sim	Date of Collection: 8/26/09 4:25:00 PM
Dil. Factor:	1.64	Date of Analysis: 9/10/09 01:20 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	0.081	0.21	0.51
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	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641B-20A

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

File Name:	e090907a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 12:35 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	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641B-20B

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

File Name:	e090907asim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 12:35 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	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641B-20C

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

File Name:	e091005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641B-20D

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

File Name:	e091005sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 0908641B-21A

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

File Name:	e090903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 09:16 AM

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 0908641B-21B

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

File Name:	e090903sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 09:16 AM

Compound	%Recovery
Vinyl Chloride	83
Carbon Tetrachloride	90
Trichloroethene	77

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: CCV

Lab ID#: 0908641B-21C

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

File Name:	e091002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Freon 12	82
Freon 11	78
Freon 113	78
1,1-Dichloroethene	78
Acetone	80
Methylene Chloride	78
cis-1,2-Dichloroethene	80
1,1,1-Trichloroethane	79
Benzene	77
Toluene	78
Tetrachloroethene	80
Chlorobenzene	80
Ethyl Benzene	80
m,p-Xylene	83
o-Xylene	82
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	77
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 0908641B-21D

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

File Name:	e091002sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Vinyl Chloride	77
Carbon Tetrachloride	83
Trichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 0908641B-22A

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

File Name:	e090904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 09:56 AM

Compound	%Recovery
Freon 12	100
Freon 11	99
Freon 113	108
1,1-Dichloroethene	108
Acetone	97
Methylene Chloride	104
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	103
Benzene	97
Toluene	102
Tetrachloroethene	100
Chlorobenzene	97
Ethyl Benzene	96
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	91
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	91

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0908641B-22B

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

File Name:	e090904sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/9/09 09:56 AM

Compound	%Recovery
Vinyl Chloride	95
Carbon Tetrachloride	106
Trichloroethene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 0908641B-22C

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

File Name:	e091003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Freon 12	98
Freon 11	97
Freon 113	105
1,1-Dichloroethene	104
Acetone	94
Methylene Chloride	104
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	100
Benzene	95
Toluene	101
Tetrachloroethene	99
Chlorobenzene	96
Ethyl Benzene	95
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	91
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 0908641B-22D

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

File Name:	e091003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Vinyl Chloride	92
Carbon Tetrachloride	103
Trichloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



150 BLUE RAVINE ROAD, SUITE B
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Sample Transportation Notice

Holder's 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 Ltd. shall not be responsible with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement on held harmless, default, and indemnify Air Toxics Ltd. and agrees any claims, demands, or actions, of any kind, related to the collection, handling, or shipping of samples to/for, held by (and not for) Air Toxics Ltd.

0908641
SHA
IMPROVING AIR

20 Foundry Street
Concord, NH 03301
(603) 229-1500 FAX (603) 229-1919

Project Info: Project Manager: Brad Green Email: bgreen@sanbornhead.com blgreen@sanbornhead.com, bgreen@sanbornhead.com Phone: 2399.00 Project # Project Name: BFK Analysis: 1 = TDA 15 H ₂ O 2 =			Turn Around Time Normal X Rush:		Relinquished by: (signature) Date/Time <i>Kayman</i> 8/27/09		Received By: (signature) Date/Time <i>Monica Green ATZ</i> 8/28/09 855		
			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)
01AB	IA0400	34466	08/26/2009	1640	>30	7.5	1		
02AB	IA0401	20941	08/26/2009	1636	>30	8	1		
03AB	IA0402	4354	08/26/2009	1646	>30	8	1		
04AB	IA0403	35158	08/26/2009	1733	30	8.5	1		
05AB	IA0404	5642	08/26/2009	1633	28.5	6.5	1		
06AB	DUP25263	25263	08/26/2009	1634	>30	8.5	1		
07AB	IA0405	5751	08/26/2009	1706	>30	7.5	1		
08AB	IA0406	2242	08/26/2009	1742	29	7	1		
09AB	IA0407	12004	08/26/2009	1607	>30	6	1		
10AB	IA0408	5582	08/26/2009	1848	>30	7.5	1		
11AB	IA0409	23886	08/26/2009	1730	30	7.5	1		
12AB	IA0410	13998	08/26/2009	1616	>30	5.5	1		
13AB	IA0411	22505	08/26/2009	1548	30	6.5	1		
14AB	IA0412	4189	08/26/2009	1622	>30	8.5	1		
15AB	IA0413	34387	08/26/2009	1603	>30	8	1		
16AB	IA0414	1577	08/26/2009	1558	>30	8	1		
17AB	IA0415	14871	08/26/2009	1551	>30	8	1		
18AB	IA0416	5552	08/26/2009	1553	>30	7	1		
19AB	IA0417	35149	08/26/2009	1625	>30	7.5	1		

ORIGINAL SEAL INTACT
NO NONE TEMP N/A
ATZ

Box 1 of 6

9/14/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: EFK
Project #:
Workorder #: 0908641C

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 8/28/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

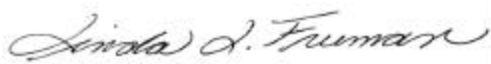
WORK ORDER #: 0908641C

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/28/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/14/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
20A	IA0418	Modified TO-15	6.0 "Hg	5 psi
20B	IA0418	Modified TO-15	6.0 "Hg	5 psi
21A	AA0419	Modified TO-15	6.0 "Hg	5 psi
21B	AA0419	Modified TO-15	6.0 "Hg	5 psi
22A	AA0420	Modified TO-15	4.0 "Hg	5 psi
22B	AA0420	Modified TO-15	4.0 "Hg	5 psi
23A	FB1	Modified TO-15	6.0 "Hg	5 psi
23B	FB1	Modified TO-15	6.0 "Hg	5 psi
24A	Lab Blank	Modified TO-15	NA	NA
24B	Lab Blank	Modified TO-15	NA	NA
25A	CCV	Modified TO-15	NA	NA
25B	CCV	Modified TO-15	NA	NA
26A	LCS	Modified TO-15	NA	NA
26B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 09/14/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0908641C

Four 6 Liter Summa Canister (SIM Certified) samples were received on August 28, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$; 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

The Chain of Custody (COC) was not relinquished properly. A year was not provided.

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

Summary of Detected Compounds

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

Client Sample ID: IA0418

Lab ID#: 0908641C-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.83	2.7
Freon 11	0.17	0.82	0.94	4.6
Acetone	0.84	37	2.0	87
Toluene	0.17	0.53	0.63	2.0
Tetrachloroethene	0.17	1.7	1.1	11
m,p-Xylene	0.17	0.27	0.73	1.2

Client Sample ID: IA0418

Lab ID#: 0908641C-20B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.088	0.21	0.55

Client Sample ID: AA0419

Lab ID#: 0908641C-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.83	2.0
Freon 11	0.17	0.23	0.94	1.3
Acetone	0.84	3.5	2.0	8.3

Client Sample ID: AA0419

Lab ID#: 0908641C-21B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.080	0.21	0.50

Client Sample ID: AA0420

Lab ID#: 0908641C-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.77	2.1
Freon 11	0.16	0.23	0.87	1.3
Acetone	0.78	5.3	1.8	13

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

Client Sample ID: AA0420

Lab ID#: 0908641C-22A

Toluene	0.16	0.22	0.58	0.85

Client Sample ID: AA0420

Lab ID#: 0908641C-22B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.031	0.086	0.20	0.54

Client Sample ID: FB1

Lab ID#: 0908641C-23A

No Detections Were Found.

Client Sample ID: FB1

Lab ID#: 0908641C-23B

No Detections Were Found.

Client Sample ID: IA0418

Lab ID#: 0908641C-20A

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

File Name:	e091008	Date of Collection: 8/26/09 5:43:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 02:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.55	0.83	2.7
Freon 11	0.17	0.82	0.94	4.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	37	2.0	87
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	0.53	0.63	2.0
Tetrachloroethene	0.17	1.7	1.1	11
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.27	0.73	1.2
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	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0418

Lab ID#: 0908641C-20B

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

File Name:	e091008sim	Date of Collection: 8/26/09 5:43:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 02:36 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	0.088	0.21	0.55
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	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: AA0419

Lab ID#: 0908641C-21A

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

File Name:	e091009	Date of Collection: 8/26/09 3:37:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 03:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.83	2.0
Freon 11	0.17	0.23	0.94	1.3
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	3.5	2.0	8.3
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	Not Detected	0.63	Not Detected
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	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: AA0419

Lab ID#: 0908641C-21B

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

File Name:	e091009sim	Date of Collection: 8/26/09 3:37:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 03:18 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	0.080	0.21	0.50
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	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: AA0420

Lab ID#: 0908641C-22A

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

File Name:	e091010	Date of Collection: 8/26/09 3:45:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/10/09 03:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.77	2.1
Freon 11	0.16	0.23	0.87	1.3
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	5.3	1.8	13
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
Toluene	0.16	0.22	0.58	0.85
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	Not Detected	0.67	Not Detected
o-Xylene	0.16	Not Detected	0.67	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	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	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: AA0420

Lab ID#: 0908641C-22B

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

File Name:	e091010sim	Date of Collection: 8/26/09 3:45:00 PM
Dil. Factor:	1.55	Date of Analysis: 9/10/09 03:56 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	0.086	0.20	0.54
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	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: FB1

Lab ID#: 0908641C-23A

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

File Name:	e091011	Date of Collection: 8/26/09 2:45:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 04:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	Not Detected	0.83	Not Detected
Freon 11	0.17	Not Detected	0.94	Not Detected
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	Not Detected	2.0	Not Detected
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	Not Detected	0.63	Not Detected
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	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: FB1

Lab ID#: 0908641C-23B

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

File Name:	e091011sim	Date of Collection: 8/26/09 2:45:00 PM
Dil. Factor:	1.68	Date of Analysis: 9/10/09 04:48 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	Not Detected	0.21	Not Detected
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	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641C-24A

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

File Name:	e091005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908641C-24B

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

File Name:	e091005sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 0908641C-25A

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

File Name:	e091002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Freon 12	82
Freon 11	78
Freon 113	78
1,1-Dichloroethene	78
Acetone	80
Methylene Chloride	78
cis-1,2-Dichloroethene	80
1,1,1-Trichloroethane	79
Benzene	77
Toluene	78
Tetrachloroethene	80
Chlorobenzene	80
Ethyl Benzene	80
m,p-Xylene	83
o-Xylene	82
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	77
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 0908641C-25B

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

File Name:	e091002sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Vinyl Chloride	77
Carbon Tetrachloride	83
Trichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 0908641C-26A

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

File Name:	e091003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Freon 12	98
Freon 11	97
Freon 113	105
1,1-Dichloroethene	104
Acetone	94
Methylene Chloride	104
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	100
Benzene	95
Toluene	101
Tetrachloroethene	99
Chlorobenzene	96
Ethyl Benzene	95
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	91
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 0908641C-26B

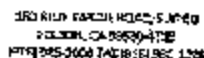
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e091003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Vinyl Chloride	92
Carbon Tetrachloride	103
Trichloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



Complete transcription of 1846-20

Handwritten: "The above information was obtained from the records of the Department of the Interior, Bureau of Land Management, and is being furnished to you for your information. It is not to be used for any other purpose without the express written consent of the Bureau of Land Management." (The above information was obtained from the records of the Department of the Interior, Bureau of Land Management, and is being furnished to you for your information. It is not to be used for any other purpose without the express written consent of the Bureau of Land Management.)

0908647
SHA
UNCLASSIFIED

23-Sept-2008

Received 11 April 2004

6094-23-1500 800 441-1234

[illegible]

25/1/9 859

CLUBODY SEAL INTACT
ON NONE TEMP 104

3222

Revised COC - Received
9/3/09

Box 1 of 6

Building 330C
October 13, 2009

10/23/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM - EF, B330C
Project #: 2999.00/011
Workorder #: 0910357

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/16/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

WORK ORDER #: 0910357

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 #	2999.00/011 IBM - EF, B330C
DATE RECEIVED:	10/16/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	10/23/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA0404	Modified TO-15	7.5 "Hg	5 psi
01AA	IA0404 Lab Duplicate	Modified TO-15	7.5 "Hg	5 psi
01B	IA0404	Modified TO-15	7.5 "Hg	5 psi
01BB	IA0404 Lab Duplicate	Modified TO-15	7.5 "Hg	5 psi
02A	IA0413	Modified TO-15	4.5 "Hg	5 psi
02B	IA0413	Modified TO-15	4.5 "Hg	5 psi
03A	IA0421	Modified TO-15	7.0 "Hg	5 psi
03B	IA0421	Modified TO-15	7.0 "Hg	5 psi
04A	IA0422	Modified TO-15	3.5 "Hg	5 psi
04B	IA0422	Modified TO-15	3.5 "Hg	5 psi
05A	IA0423	Modified TO-15	5.5 "Hg	5 psi
05B	IA0423	Modified TO-15	5.5 "Hg	5 psi
06A	IA0424	Modified TO-15	8.0 "Hg	5 psi
06B	IA0424	Modified TO-15	8.0 "Hg	5 psi
07A	IA0425	Modified TO-15	6.0 "Hg	5 psi
07B	IA0425	Modified TO-15	6.0 "Hg	5 psi
08A	IA0426	Modified TO-15	7.5 "Hg	5 psi

Continued on next page

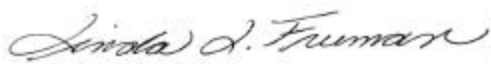
WORK ORDER #: 0910357

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 #	2999.00/011 IBM - EF, B330C
DATE RECEIVED:	10/16/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	10/23/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
08B	IA0426	Modified TO-15	7.5 "Hg	5 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
09C	Lab Blank	Modified TO-15	NA	NA
09D	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
10C	CCV	Modified TO-15	NA	NA
10D	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11C	LCS	Modified TO-15	NA	NA
11D	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 10/23/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0910357**

Eight 6 Liter Summa Canister (SIM Certified) samples were received on October 16, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$.; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$.; 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

Summary of Detected Compounds

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

Client Sample ID: IA0404

Lab ID#: 0910357-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.88	2.0
Freon 11	0.18	0.49	1.0	2.7
Freon 113	0.18	0.29	1.4	2.2
Acetone	0.90	5.6	2.1	13
Toluene	0.18	0.36	0.67	1.3
Tetrachloroethene	0.18	12	1.2	85

Client Sample ID: IA0404 Lab Duplicate

Lab ID#: 0910357-01AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.40	0.88	2.0
Freon 11	0.18	0.46	1.0	2.6
Freon 113	0.18	0.34	1.4	2.6
Acetone	0.90	5.6	2.1	13
Toluene	0.18	0.34	0.67	1.3
Tetrachloroethene	0.18	12	1.2	80

Client Sample ID: IA0404

Lab ID#: 0910357-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.26	0.046	0.66
Carbon Tetrachloride	0.036	0.078	0.22	0.49
Trichloroethene	0.036	0.079	0.19	0.42

Client Sample ID: IA0404 Lab Duplicate

Lab ID#: 0910357-01BB

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.25	0.046	0.64
Carbon Tetrachloride	0.036	0.078	0.22	0.49
Trichloroethene	0.036	0.078	0.19	0.42

Summary of Detected Compounds

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

Client Sample ID: IA0413

Lab ID#: 0910357-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.78	2.0
Freon 11	0.16	0.59	0.89	3.3
Freon 113	0.16	0.22	1.2	1.6
Acetone	0.79	4.9	1.9	12
Toluene	0.16	0.45	0.60	1.7
Tetrachloroethene	0.16	6.7	1.1	45
m,p-Xylene	0.16	0.22	0.69	0.95

Client Sample ID: IA0413

Lab ID#: 0910357-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.037	0.040	0.094
Carbon Tetrachloride	0.032	0.073	0.20	0.46
Trichloroethene	0.032	0.053	0.17	0.29

Client Sample ID: IA0421

Lab ID#: 0910357-03A

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	0.46	0.98	2.6
Acetone	0.88	6.6	2.1	16
Benzene	0.18	0.20	0.56	0.62
Toluene	0.18	0.44	0.66	1.6
Tetrachloroethene	0.18	5.0	1.2	34

Client Sample ID: IA0421

Lab ID#: 0910357-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.066	0.22	0.42
Trichloroethene	0.035	1.6	0.19	8.6

Summary of Detected Compounds

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

Client Sample ID: IA0422

Lab ID#: 0910357-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.60	0.75	3.0
Freon 11	0.15	0.46	0.85	2.6
Acetone	0.76	2.8	1.8	6.8
Benzene	0.15	0.23	0.48	0.73
Toluene	0.15	0.46	0.57	1.7
Tetrachloroethene	0.15	2.1	1.0	14

Client Sample ID: IA0422

Lab ID#: 0910357-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.030	0.064	0.19	0.40
Trichloroethene	0.030	0.71	0.16	3.8

Client Sample ID: IA0423

Lab ID#: 0910357-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.56	0.81	2.8
Freon 11	0.16	0.48	0.92	2.7
Acetone	0.82	5.7	1.9	14
Benzene	0.16	0.16	0.52	0.52
Toluene	0.16	0.38	0.62	1.4
Tetrachloroethene	0.16	2.2	1.1	15

Client Sample ID: IA0423

Lab ID#: 0910357-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.069	0.21	0.44
Trichloroethene	0.033	1.5	0.18	8.1

Client Sample ID: IA0424

Lab ID#: 0910357-06A

Summary of Detected Compounds

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

Client Sample ID: IA0424

Lab ID#: 0910357-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.90	2.7
Freon 11	0.18	0.44	1.0	2.5
Acetone	0.92	4.4	2.2	10
Benzene	0.18	0.18	0.58	0.59
Toluene	0.18	0.34	0.69	1.3
Tetrachloroethene	0.18	1.4	1.2	9.9

Client Sample ID: IA0424

Lab ID#: 0910357-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.037	0.068	0.23	0.43
Trichloroethene	0.037	0.81	0.20	4.4

Client Sample ID: IA0425

Lab ID#: 0910357-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.37	0.83	1.8
Freon 11	0.17	0.28	0.94	1.6
Acetone	0.84	2.4	2.0	5.8
Benzene	0.17	0.20	0.54	0.63
Toluene	0.17	0.55	0.63	2.0
Tetrachloroethene	0.17	2.8	1.1	19

Client Sample ID: IA0425

Lab ID#: 0910357-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.061	0.21	0.38

Client Sample ID: IA0426

Lab ID#: 0910357-08A

Summary of Detected Compounds

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

Client Sample ID: IA0426

Lab ID#: 0910357-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 11	0.18	0.28	1.0	1.6
Acetone	0.90	2.8	2.1	6.7
Toluene	0.18	0.54	0.67	2.0
Tetrachloroethene	0.18	1.9	1.2	13

Client Sample ID: IA0426

Lab ID#: 0910357-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.019	0.046	0.049
Carbon Tetrachloride	0.036	0.076	0.22	0.48
Trichloroethene	0.036	0.048	0.19	0.26

Client Sample ID: IA0404

Lab ID#: 0910357-01A

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

File Name:	e101907	Date of Collection: 10/13/09 4:18:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/19/09 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.88	2.0
Freon 11	0.18	0.49	1.0	2.7
Freon 113	0.18	0.29	1.4	2.2
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	5.6	2.1	13
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	0.36	0.67	1.3
Tetrachloroethene	0.18	12	1.2	85
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	95	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0404 Lab Duplicate

Lab ID#: 0910357-01AA

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

File Name:	e101908	Date of Collection: 10/13/09 4:18:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/19/09 03:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.40	0.88	2.0
Freon 11	0.18	0.46	1.0	2.6
Freon 113	0.18	0.34	1.4	2.6
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	5.6	2.1	13
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	0.34	0.67	1.3
Tetrachloroethene	0.18	12	1.2	80
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	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0404

Lab ID#: 0910357-01B

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

File Name:	e101907sim	Date of Collection: 10/13/09 4:18:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/19/09 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.26	0.046	0.66
Carbon Tetrachloride	0.036	0.078	0.22	0.49
Trichloroethene	0.036	0.079	0.19	0.42

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0404 Lab Duplicate

Lab ID#: 0910357-01BB

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

File Name:	e101908sim	Date of Collection: 10/13/09 4:18:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/19/09 03:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.25	0.046	0.64
Carbon Tetrachloride	0.036	0.078	0.22	0.49
Trichloroethene	0.036	0.078	0.19	0.42

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0413

Lab ID#: 0910357-02A

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

File Name:	e101909	Date of Collection: 10/13/09 3:52:00 PM
Dil. Factor:	1.58	Date of Analysis: 10/19/09 03:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.78	2.0
Freon 11	0.16	0.59	0.89	3.3
Freon 113	0.16	0.22	1.2	1.6
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	4.9	1.9	12
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	0.86	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
Toluene	0.16	0.45	0.60	1.7
Tetrachloroethene	0.16	6.7	1.1	45
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	0.22	0.69	0.95
o-Xylene	0.16	Not Detected	0.69	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: IA0413

Lab ID#: 0910357-02B

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

File Name:	e101909sim	Date of Collection: 10/13/09 3:52:00 PM
Dil. Factor:	1.58	Date of Analysis: 10/19/09 03:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	0.037	0.040	0.094
Carbon Tetrachloride	0.032	0.073	0.20	0.46
Trichloroethene	0.032	0.053	0.17	0.29

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0421

Lab ID#: 0910357-03A

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

File Name:	e101910	Date of Collection: 10/13/09 3:25:00 PM
Dil. Factor:	1.75	Date of Analysis: 10/19/09 05:05 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	0.46	0.98	2.6
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	6.6	2.1	16
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	0.20	0.56	0.62
Toluene	0.18	0.44	0.66	1.6
Tetrachloroethene	0.18	5.0	1.2	34
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	89	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: IA0421

Lab ID#: 0910357-03B

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

File Name:	e101910sim	Date of Collection: 10/13/09 3:25:00 PM
Dil. Factor:	1.75	Date of Analysis: 10/19/09 05:05 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	0.066	0.22	0.42
Trichloroethene	0.035	1.6	0.19	8.6

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0422

Lab ID#: 0910357-04A

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

File Name:	e101912	Date of Collection: 10/13/09 3:30:00 PM
Dil. Factor:	1.52	Date of Analysis: 10/19/09 06:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.60	0.75	3.0
Freon 11	0.15	0.46	0.85	2.6
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	2.8	1.8	6.8
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Benzene	0.15	0.23	0.48	0.73
Toluene	0.15	0.46	0.57	1.7
Tetrachloroethene	0.15	2.1	1.0	14
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0422

Lab ID#: 0910357-04B

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

File Name:	e101912sim	Date of Collection: 10/13/09 3:30:00 PM
Dil. Factor:	1.52	Date of Analysis: 10/19/09 06:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
Carbon Tetrachloride	0.030	0.064	0.19	0.40
Trichloroethene	0.030	0.71	0.16	3.8

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0423

Lab ID#: 0910357-05A

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

File Name:	e101913	Date of Collection: 10/13/09 3:35:00 PM
Dil. Factor:	1.64	Date of Analysis: 10/19/09 07:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.56	0.81	2.8
Freon 11	0.16	0.48	0.92	2.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	5.7	1.9	14
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	0.16	0.52	0.52
Toluene	0.16	0.38	0.62	1.4
Tetrachloroethene	0.16	2.2	1.1	15
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
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	87	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: IA0423

Lab ID#: 0910357-05B

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

File Name:	e101913sim	Date of Collection: 10/13/09 3:35:00 PM
Dil. Factor:	1.64	Date of Analysis: 10/19/09 07:38 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	0.069	0.21	0.44
Trichloroethene	0.033	1.5	0.18	8.1

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: IA0424

Lab ID#: 0910357-06A

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

File Name:	e101914	Date of Collection: 10/13/09 3:39:00 PM
Dil. Factor:	1.83	Date of Analysis: 10/19/09 08:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.90	2.7
Freon 11	0.18	0.44	1.0	2.5
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.92	4.4	2.2	10
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	1.0	Not Detected
Benzene	0.18	0.18	0.58	0.59
Toluene	0.18	0.34	0.69	1.3
Tetrachloroethene	0.18	1.4	1.2	9.9
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	Not Detected	0.79	Not Detected
o-Xylene	0.18	Not Detected	0.79	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	0.92	Not Detected	6.8	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: IA0424

Lab ID#: 0910357-06B

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

File Name:	e101914sim	Date of Collection: 10/13/09 3:39:00 PM
Dil. Factor:	1.83	Date of Analysis: 10/19/09 08:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Carbon Tetrachloride	0.037	0.068	0.23	0.43
Trichloroethene	0.037	0.81	0.20	4.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: IA0425

Lab ID#: 0910357-07A

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

File Name:	e102008	Date of Collection: 10/13/09 4:05:00 PM
Dil. Factor:	1.68	Date of Analysis: 10/20/09 07:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.37	0.83	1.8
Freon 11	0.17	0.28	0.94	1.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.4	2.0	5.8
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	0.20	0.54	0.63
Toluene	0.17	0.55	0.63	2.0
Tetrachloroethene	0.17	2.8	1.1	19
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	97	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: IA0425

Lab ID#: 0910357-07B

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

File Name:	e102008sim	Date of Collection: 10/13/09 4:05:00 PM
Dil. Factor:	1.68	Date of Analysis: 10/20/09 07:20 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	0.061	0.21	0.38
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	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0426

Lab ID#: 0910357-08A

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

File Name:	e102009	Date of Collection: 10/13/09 4:10:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/20/09 08:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 11	0.18	0.28	1.0	1.6
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	2.8	2.1	6.7
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	0.54	0.67	2.0
Tetrachloroethene	0.18	1.9	1.2	13
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	97	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0426

Lab ID#: 0910357-08B

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

File Name:	e102009sim	Date of Collection: 10/13/09 4:10:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/20/09 08:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.019	0.046	0.049
Carbon Tetrachloride	0.036	0.076	0.22	0.48
Trichloroethene	0.036	0.048	0.19	0.26

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910357-09A

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

File Name:	e101906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 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	97	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910357-09B

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

File Name:	e101906sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 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	100	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910357-09C

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

File Name:	e102007	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 06:29 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	96	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910357-09D

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

File Name:	e102007sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 06:29 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	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 0910357-10A

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

File Name:	e101903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 10:51 AM

Compound	%Recovery
Freon 12	85
Freon 11	84
Freon 113	86
1,1-Dichloroethene	91
Acetone	96
Methylene Chloride	82
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	84
Benzene	79
Toluene	82
Tetrachloroethene	93
Chlorobenzene	83
Ethyl Benzene	86
m,p-Xylene	87
o-Xylene	86
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	82
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	96

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 0910357-10B

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

File Name:	e101903sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 10:51 AM

Compound	%Recovery
Vinyl Chloride	88
Carbon Tetrachloride	86
Trichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: CCV

Lab ID#: 0910357-10C

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

File Name:	e102003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 03:28 PM

Compound	%Recovery
Freon 12	97
Freon 11	94
Freon 113	97
1,1-Dichloroethene	101
Acetone	98
Methylene Chloride	95
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	94
Benzene	93
Toluene	92
Tetrachloroethene	106
Chlorobenzene	97
Ethyl Benzene	97
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	91
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: CCV

Lab ID#: 0910357-10D

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

File Name:	e102003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 03:28 PM

Compound	%Recovery
Vinyl Chloride	104
Carbon Tetrachloride	98
Trichloroethene	84

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCS

Lab ID#: 0910357-11A

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

File Name:	e101904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 11:55 AM

Compound	%Recovery
Freon 12	88
Freon 11	87
Freon 113	99
1,1-Dichloroethene	105
Acetone	92
Methylene Chloride	93
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	89
Benzene	83
Toluene	87
Tetrachloroethene	98
Chlorobenzene	86
Ethyl Benzene	88
m,p-Xylene	88
o-Xylene	88
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	80
1,2-Dichlorobenzene	79
1,2,4-Trichlorobenzene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: LCS

Lab ID#: 0910357-11B

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

File Name:	e101904sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/09 11:55 AM

Compound	%Recovery
Vinyl Chloride	92
Carbon Tetrachloride	91
Trichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 0910357-11C

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

File Name:	e102005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 04:57 PM

Compound	%Recovery
Freon 12	86
Freon 11	85
Freon 113	96
1,1-Dichloroethene	101
Acetone	90
Methylene Chloride	90
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	87
Benzene	83
Toluene	85
Tetrachloroethene	94
Chlorobenzene	82
Ethyl Benzene	83
m,p-Xylene	85
o-Xylene	85
1,3-Dichlorobenzene	85
1,4-Dichlorobenzene	77
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: LCS

Lab ID#: 0910357-11D

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

File Name:	e102005sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/20/09 04:57 PM

Compound	%Recovery
Vinyl Chloride	90
Carbon Tetrachloride	90
Trichloroethene	77

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130



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Page 1 of 1

Project Manager BRAD GREEN
Collected by: (Print and Sign) PATRICK NALONE
Company SANBORN HEAD & ASSOC. Email bgreen@sanbornhead.com
Address 70 TOWNSEND ST City CONCORD State NH Zip 03301
Phone 603.415.6160 Fax 603.224.1919

Project Info:

P.O. #

Project # 2999.00/011

Project Name IBM-EF, B330C

Turn Around Time:

☐ Normal

☒ Rush

5 DAY

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N₂ 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)
01AB	1A0404	35134	10/13/09	8:15-16:10	TO-15 H ₂ /L ₂ PROJECT SPECIFIC	1-30	-10		
02AB	1A0413	35272		7:52-15:52		1-30	-5		
03AB	1A0421	5687		7:25-15:25		1-30	-8		
04AB	1A0422	33989		7:28-15:30		1-30	-4.5		
05AB	1A0423	5696		7:34-15:35		1-30	-7		
06AB	1A0424	33585		7:39-15:39		-29.5	-8		
07AB	1A0425	31425		8:05-16:05		1-30	-8.5		
08AB	1A0426	13664		7:56-16:10		1-30	-10		

Relinquished by: (signature) Date/Time

Patrick Malone 10/14/09 1400

Received by: (signature) Date/Time

Monica Green 10/16/09 845

Notes:

SEE ATTACHED PROJECT SPECIFIC ANALYTE LIST.

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Lab Use Only	Shipper Name	Alt. Bill #	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>Fed Ex</u>	<u>4650 3236 9370</u>	<u>N/A</u>	<u>Good</u>	<u>Yes</u> <u>No</u> <u>None</u>	<u>0910357</u>

10/23/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM - EF, 330C
Project #: 2999.00/011
Workorder #: 0910356

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/15/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

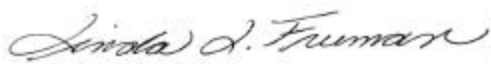
WORK ORDER #: 0910356

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 #	2999.00/011 IBM - EF, 330C
DATE RECEIVED:	10/15/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	10/22/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	TA-001	Modified TO-15	7.0 "Hg	15 psi
02A	TA-002	Modified TO-15	5.0 "Hg	15 psi
03A	TA-003	Modified TO-15	7.0 "Hg	15 psi
04A	TA-004	Modified TO-15	6.5 "Hg	15 psi
04AA	TA-004 Lab Duplicate	Modified TO-15	6.5 "Hg	15 psi
05A	TA-005	Modified TO-15	7.5 "Hg	15 psi
06A	TA-006	Modified TO-15	6.0 "Hg	15 psi
07A	TA-007	Modified TO-15	6.5 "Hg	15 psi
08A	TA-008	Modified TO-15	6.5 "Hg	15 psi
09A	TA-009	Modified TO-15	7.0 "Hg	15 psi
10A	TA-FD-01	Modified TO-15	6.5 "Hg	15 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 10/22/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Sanborn, Head & Associates
Workorder# 0910356

Ten 1 Liter Summa Canister (100% Certified) samples were received on October 15, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	<= 30% Difference	<= 30% Difference; Compounds exceeding this criterion and associated data are flagged and narrated.
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
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

There were no analytical discrepancies.

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

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: TA-001

Lab ID#: 0910356-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.3	5.2 J	12	12 J
Tetrachloroethene	1.3	1.3	9.0	9.1

Client Sample ID: TA-002

Lab ID#: 0910356-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	4.8	7.2	11	17
Toluene	1.2	1.5	4.6	5.6
Tetrachloroethene	1.2	1.3	8.2	8.9

Client Sample ID: TA-003

Lab ID#: 0910356-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.3	11	12	26
Tetrachloroethene	1.3	94	9.0	640

Client Sample ID: TA-004

Lab ID#: 0910356-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.2	6.4	12	15
Tetrachloroethene	1.3	6.4	8.8	43

Client Sample ID: TA-004 Lab Duplicate

Lab ID#: 0910356-04AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.2	6.1	12	14
Tetrachloroethene	1.3	6.3	8.8	43

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: TA-005

Lab ID#: 0910356-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.4	9.6	13	23
Tetrachloroethene	1.3	25	9.1	170

Client Sample ID: TA-006

Lab ID#: 0910356-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.1	12	12	28
Tetrachloroethene	1.3	12	8.6	80

Client Sample ID: TA-007

Lab ID#: 0910356-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.2	8.0	12	19
Tetrachloroethene	1.3	7.3	8.8	49

Client Sample ID: TA-008

Lab ID#: 0910356-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.2	12	12	29
Tetrachloroethene	1.3	13	8.8	91

Client Sample ID: TA-009

Lab ID#: 0910356-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.3	9.4	12	22
Tetrachloroethene	1.3	12	9.0	84

Client Sample ID: TA-FD-01

Lab ID#: 0910356-10A

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

Client Sample ID: TA-FD-01

Lab ID#: 0910356-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5.2	8.1	12	19
Tetrachloroethene	1.3	84	8.8	570

Client Sample ID: TA-001

Lab ID#: 0910356-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102209	Date of Collection: 10/13/09 8:55:00 AM
Dil. Factor:	2.64	Date of Analysis: 10/22/09 01:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.5	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.4	Not Detected
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Acetone	5.3	5.2 J	12	12 J
Methylene Chloride	1.3	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.3	Not Detected
Benzene	1.3	Not Detected	4.2	Not Detected
Trichloroethene	1.3	Not Detected	7.1	Not Detected
Toluene	1.3	Not Detected	5.0	Not Detected
Tetrachloroethene	1.3	1.3	9.0	9.1
Chlorobenzene	1.3	Not Detected	6.1	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2,4-Trichlorobenzene	5.3	Not Detected	39	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: TA-002

Lab ID#: 0910356-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102210	Date of Collection: 10/13/09 10:52:00 AM
Dil. Factor:	2.42	Date of Analysis: 10/22/09 01:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	Not Detected	6.8	Not Detected
Freon 113	1.2	Not Detected	9.3	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	4.8	7.2	11	17
Methylene Chloride	1.2	Not Detected	4.2	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
Toluene	1.2	1.5	4.6	5.6
Tetrachloroethene	1.2	1.3	8.2	8.9
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: TA-003

Lab ID#: 0910356-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102211	Date of Collection: 10/13/09 2:14:00 PM
Dil. Factor:	2.64	Date of Analysis: 10/22/09 02:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.5	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.4	Not Detected
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Acetone	5.3	11	12	26
Methylene Chloride	1.3	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.3	Not Detected
Benzene	1.3	Not Detected	4.2	Not Detected
Trichloroethene	1.3	Not Detected	7.1	Not Detected
Toluene	1.3	Not Detected	5.0	Not Detected
Tetrachloroethene	1.3	94	9.0	640
Chlorobenzene	1.3	Not Detected	6.1	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2,4-Trichlorobenzene	5.3	Not Detected	39	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: TA-004

Lab ID#: 0910356-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102212	Date of Collection: 10/13/09 2:12:00 PM
Dil. Factor:	2.58	Date of Analysis: 10/22/09 03:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	6.4	12	15
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	1.3	6.4	8.8	43
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: TA-004 Lab Duplicate

Lab ID#: 0910356-04AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102214	Date of Collection: 10/13/09 2:12:00 PM
Dil. Factor:	2.58	Date of Analysis: 10/22/09 04:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	6.1	12	14
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	1.3	6.3	8.8	43
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: TA-005

Lab ID#: 0910356-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102213	Date of Collection: 10/13/09 9:31:00 AM
Dil. Factor:	2.69	Date of Analysis: 10/22/09 04:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.6	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.6	Not Detected
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	5.4	9.6	13	23
Methylene Chloride	1.3	Not Detected	4.7	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.5	Not Detected
Benzene	1.3	Not Detected	4.3	Not Detected
Trichloroethene	1.3	Not Detected	7.2	Not Detected
Toluene	1.3	Not Detected	5.1	Not Detected
Tetrachloroethene	1.3	25	9.1	170
Chlorobenzene	1.3	Not Detected	6.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.8	Not Detected
o-Xylene	1.3	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: TA-006

Lab ID#: 0910356-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102207	Date of Collection: 10/13/09 9:34:00 AM
Dil. Factor:	2.53	Date of Analysis: 10/22/09 01:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
Freon 11	1.3	Not Detected	7.1	Not Detected
Freon 113	1.3	Not Detected	9.7	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Acetone	5.1	12	12	28
Methylene Chloride	1.3	Not Detected	4.4	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.0	Not Detected
Benzene	1.3	Not Detected	4.0	Not Detected
Trichloroethene	1.3	Not Detected	6.8	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
Tetrachloroethene	1.3	12	8.6	80
Chlorobenzene	1.3	Not Detected	5.8	Not Detected
Ethyl Benzene	1.3	Not Detected	5.5	Not Detected
m,p-Xylene	1.3	Not Detected	5.5	Not Detected
o-Xylene	1.3	Not Detected	5.5	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2,4-Trichlorobenzene	5.1	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: TA-007

Lab ID#: 0910356-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102208	Date of Collection: 10/13/09 9:38:00 AM
Dil. Factor:	2.58	Date of Analysis: 10/22/09 02:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	8.0	12	19
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	1.3	7.3	8.8	49
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: TA-008

Lab ID#: 0910356-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102209	Date of Collection: 10/13/09 9:41:00 AM
Dil. Factor:	2.58	Date of Analysis: 10/22/09 02:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	12	12	29
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	1.3	13	8.8	91
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: TA-009

Lab ID#: 0910356-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102210	Date of Collection: 10/13/09 9:28:00 AM
Dil. Factor:	2.64	Date of Analysis: 10/22/09 03:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.5	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.4	Not Detected
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Acetone	5.3	9.4	12	22
Methylene Chloride	1.3	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.3	Not Detected
Benzene	1.3	Not Detected	4.2	Not Detected
Trichloroethene	1.3	Not Detected	7.1	Not Detected
Toluene	1.3	Not Detected	5.0	Not Detected
Tetrachloroethene	1.3	12	9.0	84
Chlorobenzene	1.3	Not Detected	6.1	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2,4-Trichlorobenzene	5.3	Not Detected	39	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: TA-FD-01

Lab ID#: 0910356-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102211	Date of Collection: 10/13/09 2:14:00 PM
Dil. Factor:	2.58	Date of Analysis: 10/22/09 04:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	8.1	12	19
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	1.3	84	8.8	570
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910356-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102208	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 11:35 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910356-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102206	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 11:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 0910356-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 07:44 AM

Compound	%Recovery
Freon 12	113
Vinyl Chloride	107
Freon 11	102
Freon 113	112
1,1-Dichloroethene	98
Acetone	103
Methylene Chloride	98
cis-1,2-Dichloroethene	103
1,1,1-Trichloroethane	97
Carbon Tetrachloride	101
Benzene	109
Trichloroethene	108
Toluene	110
Tetrachloroethene	123
Chlorobenzene	113
Ethyl Benzene	112
m,p-Xylene	115
o-Xylene	112
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	108
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 0910356-12B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 07:42 AM

Compound	%Recovery
Freon 12	109
Vinyl Chloride	84
Freon 11	108
Freon 113	98
1,1-Dichloroethene	85
Acetone	94
Methylene Chloride	96
cis-1,2-Dichloroethene	94
1,1,1-Trichloroethane	122
Carbon Tetrachloride	110
Benzene	99
Trichloroethene	105
Toluene	103
Tetrachloroethene	106
Chlorobenzene	103
Ethyl Benzene	104
m,p-Xylene	103
o-Xylene	104
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	110
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 0910356-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x102203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 08:20 AM

Compound	%Recovery
Freon 12	81
Vinyl Chloride	86
Freon 11	88
Freon 113	114
1,1-Dichloroethene	96
Acetone	100
Methylene Chloride	95
cis-1,2-Dichloroethene	103
1,1,1-Trichloroethane	93
Carbon Tetrachloride	97
Benzene	104
Trichloroethene	100
Toluene	110
Tetrachloroethene	120
Chlorobenzene	106
Ethyl Benzene	105
m,p-Xylene	107
o-Xylene	106
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	100
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	78	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCS

Lab ID#: 0910356-13B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	y102204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/22/09 09:09 AM

Compound	%Recovery
Freon 12	82
Vinyl Chloride	64 Q
Freon 11	84
Freon 113	84
1,1-Dichloroethene	75
Acetone	76
Methylene Chloride	81
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	97
Carbon Tetrachloride	88
Benzene	78
Trichloroethene	82
Toluene	84
Tetrachloroethene	84
Chlorobenzene	79
Ethyl Benzene	79
m,p-Xylene	77
o-Xylene	80
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	82
1,2-Dichlorobenzene	81
1,2,4-Trichlorobenzene	62 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	105	70-130



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) 487-4922

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

Page 1 of 1

Project Manager BRAD GREEN
Collected by: (Print and Sign) PARICK MALONE
Company SANBORN, HUNDE & ASSOC. Email bgreen@samborn.com
Address 20 FORDY ST. City CONCORD State NH Zip 03301
Phone 603.415.6160 Fax 603.229.1919

Project info:

P.O. # _____
Project # 2999.00 1011
Project Name IBM-EF, 330C

Turn Around Time:

☐ Normal
☒ Rush
5-DAY
specify

Lab Use Only

Pressurized by: _____
Date: _____
Pressurization Gas: _____
N₂ 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	TA-001	3303	10/13/09	7:51-8:55	TO-15 PROJECT SPEC. LIST	-30	-8		
02A	TA-002	3359	10/13/09	9:32-10:32		-22	-5		
03A	TA-003	3298	10/13/09	13:05-14:14		-30	-7		
04A	TA-004	3332	10/13/09	8:30-11:12		-30	-7		
05A	TA-005	3325	10/13/09	8:27-9:31		-30	-8		
06A	TA-006	3369	10/13/09	8:30-9:34		-30	-7.5		
07A	TA-007	3456	10/13/09	8:33-9:38		-30	-8		
08A	TA-008	3340	10/13/09	8:17-9:41		-30	-8		
09A	TA-009	3363	10/13/09	8:22-9:28		-29	-7		
10A	TA-PD-01	3365	10/13/09	13:05-14:14		-30	-7		

Relinquished by: (signature) Parick Malone Date/Time 10/14/09 14:00
Received by: (signature) Stephen Date/Time 10/15/09 0830
Relinquished by: (signature) _____ Date/Time _____
Received by: (signature) _____ Date/Time _____
Relinquished by: (signature) _____ Date/Time _____
Received by: (signature) _____ Date/Time _____

Notes:

Lab Use Only
Shipper Name FedEx Air Bill # 81660 2400 5417 Temp (°C) NA Condition good Custody Seals Intact? Yes No None Work Order # 0910356



Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street
Concord, NH 03301

October 22, 2009

DOH ELAP# 11626

Account# 19241

Login# L202100

Dear Mr. Green:

Enclosed are the analytical results for the samples received by our laboratory on October 15, 2009. All test results meet the quality control requirements of AIHA and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. Unless otherwise requested, all samples will be discarded 14 days from the date of this report.

Please contact John Bailey at (877) 482-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

A handwritten signature in cursive script that reads "Mary G. Unangst".

Mary G. Unangst
Laboratory Director

Enclosure(s)



6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY ANALYSIS REPORT

Client : Sanborn, Head & Associates
Site : B330C
Project No. : 2999.00 011
Date Sampled : 13-OCT-09
Date Received : 15-OCT-09
Date Analyzed : 16-OCT-09 - 17-OCT-09
Report ID : 625363
Account No.: 19241
Login No. : L202100

Trichloroethylene

Sample ID	Lab ID	Time minutes	Raw ug	Total ug	Conc mg/m3	ppm
PD-001	L202100-1	1440	<5	<5	<0.1	<0.02
PD-002	L202100-2	1440	<5	<5	<0.1	<0.02
PD-003	L202100-3	1438	<5	<5	<0.1	<0.02
PD-004	L202100-4	1435	<5	<5	<0.1	<0.02
PD-005	L202100-5	1431	<5	<5	<0.1	<0.02
PD-006	L202100-6	1430	<5	<5	<0.1	<0.02
PD-007	L202100-7	1428	<5	<5	<0.1	<0.02
PD-008	L202100-8	1427	<5	<5	<0.1	<0.02
PD-009	L202100-9	1429	<5	<5	<0.1	<0.02
PD-010	L202100-10	1428	<5	<5	<0.1	<0.02
PD-011	L202100-11	1426	<5	<5	<0.1	<0.02
PD-012	L202100-12	1425	<5	<5	<0.1	<0.02
PD-013	L202100-13	1423	<5	<5	<0.1	<0.02
PD-014	L202100-14	1422	<5	<5	<0.1	<0.02
PD-015	L202100-15	1420	<5	<5	<0.1	<0.02
PD-016	L202100-16	1438	<5	<5	<0.1	<0.02
PD-017	L202100-17	1435	42	41	0.93	0.17
PD-018	L202100-18	1435	<5	<5	<0.1	<0.02
PD-019	L202100-19	1432	<5	<5	<0.1	<0.02
PD-020	L202100-20	1431	<5	<5	<0.1	<0.02
PD-021	L202100-21	1429	<5	<5	<0.1	<0.02
PD-022	L202100-22	1428	<5	<5	<0.1	<0.02
PD-023	L202100-23	1426	<5	<5	<0.1	<0.02

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 5 ug

Analytical Method : mod. NIOSH 1022; GC/FID BADGE

OSHA PEL (TWA) : 100 ppm

Collection Media : M3M-3500

Submitted by: JWT

Approved by : nkp

Date : 22-OCT-09 NYS DOH # : 11626

QC by: Tony D'Amico

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million



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LABORATORY ANALYSIS REPORT

Client : Sanborn, Head & Associates
Site : B330C
Project No. : 2999.00 011
Date Sampled : 13-OCT-09
Date Received : 15-OCT-09
Date Analyzed : 16-OCT-09 - 17-OCT-09
Report ID : 625363
Account No.: 19241
Login No. : L202100

Trichloroethylene

<u>Sample ID</u>	<u>Lab ID</u>	<u>Time</u> <u>minutes</u>	<u>Raw</u> <u>ug</u>	<u>Total</u> <u>ug</u>	<u>Conc</u> <u>mg/m3</u>	<u>ppm</u>
PD-024	L202100-24	1440	<5	<5	<0.1	<0.02
PD-025	L202100-25	1439	<5	<5	<0.1	<0.02
PD-026	L202100-26	1435	<5	<5	<0.1	<0.02
PD-027	L202100-27	1432	<5	<5	<0.1	<0.02
PD-028	L202100-28	1432	<5	<5	<0.1	<0.02
PD-029	L202100-29	1433	<5	<5	<0.1	<0.02
PD-030	L202100-30	1434	<5	<5	<0.1	<0.02
PD-031	L202100-31	1420	<5	<5	<0.1	<0.02
PD-032	L202100-32	1422	<5	<5	<0.1	<0.02
PD-033	L202100-33	1421	<5	<5	<0.1	<0.02
PD-034	L202100-34	1415	<5	<5	<0.1	<0.02
PD-035	L202100-35	1414	<5	<5	<0.1	<0.02
PD-036	L202100-36	1414	<5	<5	<0.1	<0.02
PD-FD-01	L202100-37	1428	<5	<5	<0.1	<0.02
PD-FD-02	L202100-38	1420	<5	<5	<0.1	<0.02
LAB BLANK	L202100-39	NA	<5	<5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 5 ug

Analytical Method : mod. NIOSH 1022; GC/FID BADGE

OSHA PEL (TWA) : 100 ppm

Collection Media : M3M-3500

Submitted by: JWT

Approved by : nkp

Date : 22-OCT-09 NYS DOH # : 11626

QC by: Tony D'Amico

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	



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LABORATORY ANALYSIS REPORT

Client : Sanborn, Head & Associates
Site : B330C
Project No. : 2999.00 011
Date Sampled : 13-OCT-09
Date Received : 15-OCT-09
Date Analyzed : 16-OCT-09 - 17-OCT-09
Report ID : 625364
Account No.: 19241
Login No. : L202100

Tetrachloroethylene

Sample ID	Lab ID	Time minutes	Raw ug	Total ug	Conc mg/m3	ppm
PD-001	L202100-1	1440	<5	<5	<0.1	<0.02
PD-002	L202100-2	1440	<5	<5	<0.1	<0.02
PD-003	L202100-3	1438	<5	<5	<0.1	<0.02
PD-004	L202100-4	1435	<5	<5	<0.1	<0.02
PD-005	L202100-5	1431	5	5	0.1	0.02
PD-006	L202100-6	1430	19	19	0.47	0.070
PD-007	L202100-7	1428	<5	<5	<0.1	<0.02
PD-008	L202100-8	1427	6	6	0.1	0.02
PD-009	L202100-9	1429	<5	<5	<0.1	<0.02
PD-010	L202100-10	1428	<5	<5	<0.1	<0.02
PD-011	L202100-11	1426	<5	<5	<0.1	<0.02
PD-012	L202100-12	1425	<5	<5	<0.1	<0.02
PD-013	L202100-13	1423	<5	<5	<0.1	<0.02
PD-014	L202100-14	1422	<5	<5	<0.1	<0.02
PD-015	L202100-15	1420	11	11	0.27	0.040
PD-016	L202100-16	1438	<5	<5	<0.1	<0.02
PD-017	L202100-17	1435	190	190	4.7	0.70
PD-018	L202100-18	1435	<5	<5	<0.1	<0.02
PD-019	L202100-19	1432	7	7	0.2	0.02
PD-020	L202100-20	1431	<5	<5	<0.1	<0.02
PD-021	L202100-21	1429	<5	<5	<0.1	<0.02
PD-022	L202100-22	1428	15	15	0.38	0.056
PD-023	L202100-23	1426	<5	<5	<0.1	<0.02

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 5 ug

Analytical Method : mod. NIOSH 1003; GC/FID BADGE

OSHA PEL (TWA) : 100 ppm

Collection Media : M3M-3500

Submitted by: JWT

Approved by : nkp

Date : 22-OCT-09 NYS DOH # : 11626

QC by: Tony D'Amico

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms
> -Greater Than ug -Micrograms l -Liters NS -Not Specified
NA -Not Applicable ND -Not Detected ppm -Parts per Million



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LABORATORY ANALYSIS REPORT

Client : Sanborn, Head & Associates

Site : B330C

Project No. : 2999.00 011

Date Sampled : 13-OCT-09

Account No.: 19241

Date Received : 15-OCT-09

Login No. : L202100

Date Analyzed : 16-OCT-09 - 17-OCT-09

Report ID : 625364

Tetrachloroethylene

<u>Sample ID</u>	<u>Lab ID</u>	<u>Time</u> <u>minutes</u>	<u>Raw</u> <u>ug</u>	<u>Total</u> <u>ug</u>	<u>Conc</u> <u>mg/m3</u>	<u>ppm</u>
PD-024	L202100-24	1440	<5	<5	<0.1	<0.02
PD-025	L202100-25	1439	38	38	0.94	0.14
PD-026	L202100-26	1435	<5	<5	<0.1	<0.02
PD-027	L202100-27	1432	<5	<5	<0.1	<0.02
PD-028	L202100-28	1432	<5	<5	<0.1	<0.02
PD-029	L202100-29	1433	<5	<5	<0.1	<0.02
PD-030	L202100-30	1434	<5	<5	<0.1	<0.02
PD-031	L202100-31	1420	<5	<5	<0.1	<0.02
PD-032	L202100-32	1422	<5	<5	<0.1	<0.02
PD-033	L202100-33	1421	<5	<5	<0.1	<0.02
PD-034	L202100-34	1415	<5	<5	<0.1	<0.02
PD-035	L202100-35	1414	<5	<5	<0.1	<0.02
PD-036	L202100-36	1414	<5	<5	<0.1	<0.02
PD-FD-01	L202100-37	1428	16	16	0.41	0.060
PD-FD-02	L202100-38	1420	<5	<5	<0.1	<0.02
LAB BLANK	L202100-39	NA	<5	<5	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 5 ug

Analytical Method : mod. NIOSH 1003; GC/FID BADGE

OSHA PEL (TWA) : 100 ppm

Collection Media : M3M-3500

Submitted by: JWT

Approved by : nkp

Date : 22-OCT-09 NYS DOH # : 11626

QC by: Tony D'Amico

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	



LABORATORY FOOTNOTE REPORT

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Client Name : Sanborn, Head & Associates
Site : B330C
Project No. : 2999.00/011

Date Sampled : 13-OCT-09
Date Received: 15-OCT-09
Date Analyzed: 16-OCT-09 - 17-OCT-09

Account No.: 19241
Login No. : L202100

Unless otherwise noted below, all quality control results associated with the samples were within established control limits.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded in order to fit the report format and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

L202100 (Report ID: 625363):

Total ug corrected for a desorption efficiency of 101%.
The TRICHLOROETHYLENE results are considered accurate to within 94.7% +/-? based on a 95% confidence interval. The estimated uncertainty relates only to the analytical procedure and does not account for the uncertainty associated with the sampling process.
SOPs: GC-SOP-12(2), GC-SOP-16(4), GC-SOP-9(3)

L202100 (Report ID: 625364):

Total ug corrected for a desorption efficiency of 100%.
The TETRACHLOROETHYLENE results are considered accurate to within 94.5% +/-10.1 based on a 95% confidence interval. The estimated uncertainty relates only to the analytical procedure and does not account for the uncertainty associated with the sampling process.
SOPs: GC-SOP-12(2), GC-SOP-16(4), GC-SOP-9(3)

< -Less Than	mg -Milligrams	m3 -Cubic Meters	kg -Kilograms
> -Greater Than	ug -Micrograms	l -Liters	NS -Not Specified
NA -Not Applicable	ND -Not Detected	ppm -Parts per Million	



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Fax: (315) 437-0571
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of address

New Client ? ☐ yes
☒ no

Report To : BRAD GREEN
SANBORN HEAD & ASSOCIATES
20 FAUNDRY ST
CONCORD, NH 03301
Phone No. : 603. 415. 6160
Fax No. : 603. 229. 1919

Invoice To : SAME

Phone No. :
Fax No. :

73

Site Name : B330C

Project : 2999.00/011

Sampled By : PRM

Need Results By:	(surcharge)	☐ Samples submitted using the FreePumpLoan™ Program.	☒ Samples submitted using the FreeSamplingBadges™ Program.
☒ 5 Business Days	0%	Client Account No. : _____	
☐ 4 Business Days	35%	Purchase Order No. : _____	
☐ 3 Business Days	50%	Credit Card No. : _____	Card Holder Name : _____ Exp. : _____
☐ 2 Business Days	75%		
☐ Next Day by 6pm	100%	Email / Fax Results To : <u>BRAD GREEN</u>	
☐ Next Day by Noon	150%	Email Address : <u>bgreen@sanbornhead.com</u>	Fax No. : _____
☐ Same day	200%		

Sample Identification	Date Sampled	Collection Medium	*Air Volume (Liters)	Passive Monitors (Min)	Analysis Requested	Method Reference	Specific DL Needed
1. PD-001	10/12-10/13/09	3M3500	N/A	1440	PCE & TCE	NIOSH 1003	SEE COMMENT
2. PD-002				1440			
3. PD-003				1438			
4. PD-004				1435			
5. PD-005				1431			
6. PD-006				1430			
7. PD-007				1428			
8. PD-008				1427			
9. PD-009				1429			
10. PD-010				1428			
11. PD-011				1426			

☒ Yes ☐ No We normally add a laboratory blank for each analyte. We will charge you for this at our normal rate. If you agree please check "Yes" otherwise check "No".

List description of industry or process / interference's present in sampling area:

Comments: PLEASE USE LOWEST DETECTION LIMIT THAT CAN BE VALIDATED BY THE LAB

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by :	<u>PATRICK MALONE</u>	<u>[Signature]</u>	<u>10/14/09 14:00</u>
Received by LAB :	<u>[Signature]</u>	<u>[Signature]</u>	<u>10/15/09 1114</u>

Samples received after 3pm will be considered as next day's business.

* sample collection time X LPM = Air Vol.

Page 2 of 4

LAB ORIGINAL



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888-432-LABS (5227)
Fax: (315) 437-0571
www.galsonlabs.com

☐ Check if change
of address

New Client ? ☐ yes
☒ no

Report To : BRAD GREEN
SANBORN, HEAD & ASSOCIATES
20 FOUNDRY ST.
CONCORD, MA 03301
Phone No. : 603. 415. 6160
Fax No. : 603. 229. 1919

Invoice To : SAME
(73)
Phone No. :
Fax No. :

Site Name : B330C

Project : 2999.00 / 011

Sampled By : PRM

Need Results By:	(surcharge)
☒ 5 Business Days	0%
☐ 4 Business Days	35%
☐ 3 Business Days	50%
☐ 2 Business Days	75%
☐ Next Day by 6pm	100%
☐ Next Day by Noon	150%
☐ Same day	200%

☐ Samples submitted using the FreePumpLoan™ Program.

☒ Samples submitted using the FreeSamplingBadges™ Program.

Client Account No. : _____

Purchase Order No. : _____

Credit Card No. : _____

Card Holder Name : _____ Exp. : _____

Email / Fax Results To : BRAD GREEN

Email Address : bgreen@sanborn-head.com

Fax No. : _____

Sample Identification	Date Sampled	Collection Medium	*Air Volume (Liters)	Passive Monitors (Min)	Analysis Requested	Method Reference	Specific DL Needed
1. PD-012	10/12-10/13/09	3M3500	N/A	1425	PCE & TCE	NIOSH 1003	SEE COMMENT
2. PD-013	↓	↓	↓	1423	↓	↓	↓
3. PD-014	↓	↓	↓	1422	↓	↓	↓
4. PD-015	↓	↓	↓	1420	↓	↓	↓
5. PD-016	↓	↓	↓	1438	↓	↓	↓
6. PD-017	↓	↓	↓	1435	↓	↓	↓
7. PD-018	↓	↓	↓	1425	↓	↓	↓
8. PD-019	↓	↓	↓	1432	↓	↓	↓
9. PD-020	↓	↓	↓	1431	↓	↓	↓
10. PD-021	↓	↓	↓	1429	↓	↓	↓
11. PD-022	↓	↓	↓	1428	↓	↓	↓

☒ Yes ☐ No We normally add a laboratory blank for each analyte. We will charge you for this at our normal rate. If you agree please check "Yes" otherwise check "No".

List description of industry or process / interference's present in sampling area:

Comments: PLEASE USE LOWEST DETECTION LIMIT THAT CAN BE VALIDATED BY THE LAB

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by :	<u>PATRICK MALONE</u>	<u>Patrick Malone</u>	<u>10/14/09 14:00</u>
Received by LAB :	<u>C. Malone</u>	<u>C. Malone</u>	<u>10/15/09 1114</u>

Samples received after 3pm will be considered as next day's business.

* sample collection time X LPM = Air Vol.

Page 2 of 4

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☐ Check if change
of address

New Client ? ☐ yes
☒ no

Report To : BRAD GREEN
SANBORN HEAD & ASSOCIATES
20 JEWELL ST
CONCORD, MA 03301
Phone No. : 603.415.6160
Fax No. : 603.229.1919

Invoice To : SAME
73
Phone No. :
Fax No. :

Site Name : B330C

Project : 2999.00/011 Sampled By : PEM

Need Results By:	(surcharge)	☐ Samples submitted using the FreePumpLoan™ Program.	☒ Samples submitted using the FreeSamplingBadges™ Program.
☒ 5 Business Days	0%	Client Account No. : _____	
☐ 4 Business Days	35%	Purchase Order No. : _____	
☐ 3 Business Days	50%	Credit Card No. : _____	Card Holder Name : _____ Exp. : _____
☐ 2 Business Days	75%		
☐ Next Day by 6pm	100%	Email / Fax Results To : <u>BRAD GREEN</u>	
☐ Next Day by Noon	150%	Email Address : <u>bgreen@sanbornhead.com</u>	Fax No. : _____
☐ Same day	200%		

Sample Identification	Date Sampled	Collection Medium	*Air Volume (Liters)	Passive Monitors (Min)	Analysis Requested	Method Reference	Specific DL Needed
1. PD-023	10/12-10/13/09	3M 3500	N/A	1426	PCE & TCE	NIOSH 1003	SEE COMMENT
2. PD-024				1440			
3. PD-025				1438			
4. PD-026				1435			
5. PD-027				1432			
6. PD-028				1432			
7. PD-029				1433			
8. PD-030				1434			
9. PD-031				1420			
10. PD-032				1422			
11. PD-033				1421			

☒ Yes ☐ No We normally add a laboratory blank for each analyte. We will charge you for this at our normal rate. If you agree please check "Yes" otherwise check "No".
List description of industry or process / interference's present in sampling area:

Comments: PLEASE USE LOWEST DETECTION LIMIT THAT CAN BE VALIDATED BY THE LAB

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by :	<u>PATRICK MALONE</u>	<u>[Signature]</u>	<u>10/14/09 14:00</u>
Received by LAB :	<u>[Signature]</u>	<u>[Signature]</u>	<u>10/15/09 1714</u>

Samples received after 3pm will be considered as next day's business.

* sample collection time X LPM = Air Vol.

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☐ Check if change
of address

New Client ? ☐ yes
☐ no

Report To : BRAD GREEN
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20 FOUNDRY ST
CONCORD, NH 03301
Phone No. : 603. 415. 6160
Fax No. : 603. 229. 1919

Invoice To : SAME
(73)
Phone No. :
Fax No. :

Site Name : B330C

Project : 2999.00/011

Sampled By : PRM

Need Results By:	(surcharge)	☐ Samples submitted using the FreePumpLoan™ Program.	☒ Samples submitted using the FreeSamplingBadges™ Program.
☒ 5 Business Days	0%	Client Account No. : _____	
☐ 4 Business Days	35%	Purchase Order No. : _____	
☐ 3 Business Days	50%	Credit Card No. : _____	Card Holder Name : _____ Exp. : _____
☐ 2 Business Days	75%		
☐ Next Day by 6pm	100%	Email / Fax Results To : <u>BRAD GREEN</u>	
☐ Next Day by Noon	150%	Email Address : <u>bgreen@sanbornhead.com</u>	Fax No. : _____
☐ Same day	200%		

Sample Identification	Date Sampled	Collection Medium	*Air Volume (Liters)	Passive Monitors (Min)	Analysis Requested	Method Reference	Specific DL Needed
1. PD-034	10/12-10/13/09	3M 3500	N/A	1415	PCE & TCE	NIDSH 1003	SEE COMMENT
2. PD-035	↓	↓	↓	1414	↓	↓	↓
3. PD-036	↓	↓	↓	1414	↓	↓	↓
4. PD-FD-01	↓	↓	↓	1428	↓	↓	↓
5. PD-FD-02	↓	↓	↓	1420	↓	↓	↓
6.							
7.							
8.							
9.							
10.							
11.							

☒ Yes ☐ No We normally add a laboratory blank for each analyte. We will charge you for this at our normal rate. If you agree please check "Yes" otherwise check "No".

List description of industry or process / interference's present in sampling area:

Comments: PLEASE USE LOWEST DETECTION LIMIT THAT CAN BE VALIDATED BY THE LAB.

Chain of Custody	Print Name	Signature	Date/Time
Relinquished by :	<u>PATRICK MALONE</u>	<u>[Signature]</u>	<u>10/14/09 14:00</u>
Received by LAB :	<u>[Signature]</u>		<u>10/15/09 11:14</u>

Samples received after 3pm will be considered as next day's business.

* sample collection time X LPM = Air Vol.

Page 4 of 4

LAB ORIGINAL

Building 330C
October 28, 2009

11/2/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM-EF, B330C
Project #: 2999.00/011
Workorder #: 0910667A

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/29/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

WORK ORDER #: 0910667A

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 #	2999.00/011 IBM-EF, B330C
DATE RECEIVED:	10/29/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	11/02/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	IA0404	Modified TO-15	7.5 "Hg	5 psi
01B	IA0404	Modified TO-15	7.5 "Hg	5 psi
02A	IA0407	Modified TO-15	9.5 "Hg	5 psi
02B	IA0407	Modified TO-15	9.5 "Hg	5 psi
03A	IA0408	Modified TO-15	7.0 "Hg	5 psi
03B	IA0408	Modified TO-15	7.0 "Hg	5 psi
04A	IA0413	Modified TO-15	6.5 "Hg	5 psi
04B	IA0413	Modified TO-15	6.5 "Hg	5 psi
05A	IA0414	Modified TO-15	6.5 "Hg	5 psi
05B	IA0414	Modified TO-15	6.5 "Hg	5 psi
06A	IA0416	Modified TO-15	7.0 "Hg	5 psi
06B	IA0416	Modified TO-15	7.0 "Hg	5 psi
07A	IA0421	Modified TO-15	6.5 "Hg	5 psi
07B	IA0421	Modified TO-15	6.5 "Hg	5 psi
08A	IA0423	Modified TO-15	6.0 "Hg	5 psi
08B	IA0423	Modified TO-15	6.0 "Hg	5 psi
09A	IA0424	Modified TO-15	6.5 "Hg	5 psi

Continued on next page

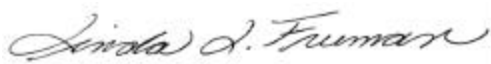
WORK ORDER #: 0910667A

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 #	2999.00/011 IBM-EF, B330C
DATE RECEIVED:	10/29/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	11/02/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
09B	IA0424	Modified TO-15	6.5 "Hg	5 psi
10A	IA0425	Modified TO-15	5.0 "Hg	5 psi
10B	IA0425	Modified TO-15	5.0 "Hg	5 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 11/02/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0910667A

Ten 6 Liter Summa Canister (SIM Certified) samples were received on October 29, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$; 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 failures 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

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

Summary of Detected Compounds

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

Client Sample ID: IA0404

Lab ID#: 0910667A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.88	2.2
Freon 11	0.18	0.39	1.0	2.2
Freon 113	0.18	0.39	1.4	3.0
Acetone	0.90	3.4	2.1	8.1
Tetrachloroethene	0.18	14	1.2	96

Client Sample ID: IA0404

Lab ID#: 0910667A-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.11	0.046	0.29
Carbon Tetrachloride	0.036	0.072	0.22	0.45
Trichloroethene	0.036	0.082	0.19	0.44

Client Sample ID: IA0407

Lab ID#: 0910667A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.20	0.44	0.97	2.2
Freon 11	0.20	0.33	1.1	1.8
Freon 113	0.20	0.22	1.5	1.7
Acetone	0.98	2.6	2.3	6.3
Tetrachloroethene	0.20	4.5	1.3	31

Client Sample ID: IA0407

Lab ID#: 0910667A-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	0.025	0.050	0.063
Carbon Tetrachloride	0.039	0.076	0.25	0.48

Client Sample ID: IA0408

Lab ID#: 0910667A-03A

Summary of Detected Compounds

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

Client Sample ID: IA0408

Lab ID#: 0910667A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.43	0.86	2.1
Freon 11	0.18	0.43	0.98	2.4
Freon 113	0.18	0.20	1.3	1.5
Acetone	0.88	2.3	2.1	5.5
Toluene	0.18	0.18	0.66	0.66
Tetrachloroethene	0.18	3.2	1.2	22

Client Sample ID: IA0408

Lab ID#: 0910667A-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.018	0.045	0.046
Carbon Tetrachloride	0.035	0.40	0.22	2.5

Client Sample ID: IA0413

Lab ID#: 0910667A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.84	2.2
Freon 11	0.17	0.27	0.96	1.5
Acetone	0.86	4.1	2.0	9.8
Toluene	0.17	0.18	0.64	0.68
Tetrachloroethene	0.17	1.8	1.2	12

Client Sample ID: IA0413

Lab ID#: 0910667A-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.076	0.22	0.48
Trichloroethene	0.034	0.037	0.18	0.20

Client Sample ID: IA0414

Lab ID#: 0910667A-05A

Summary of Detected Compounds

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

Client Sample ID: IA0414

Lab ID#: 0910667A-05A

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	0.42	0.96	2.3
Freon 113	0.17	0.23	1.3	1.8
Acetone	0.86	1.8	2.0	4.3
Toluene	0.17	0.18	0.64	0.67
Tetrachloroethene	0.17	4.3	1.2	29

Client Sample ID: IA0414

Lab ID#: 0910667A-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.077	0.22	0.48
Trichloroethene	0.034	0.098	0.18	0.53

Client Sample ID: IA0416

Lab ID#: 0910667A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.62	0.86	3.1
Freon 11	0.18	0.52	0.98	2.9
Freon 113	0.18	0.18	1.3	1.4
Acetone	0.88	3.1	2.1	7.4
Tetrachloroethene	0.18	2.2	1.2	15

Client Sample ID: IA0416

Lab ID#: 0910667A-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.035	0.080	0.22	0.50
Trichloroethene	0.035	0.92	0.19	4.9

Client Sample ID: IA0421

Lab ID#: 0910667A-07A

Summary of Detected Compounds

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

Client Sample ID: IA0421

Lab ID#: 0910667A-07A

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	0.53	0.96	3.0
Freon 113	0.17	0.17	1.3	1.3
Acetone	0.86	2.5	2.0	5.9
Tetrachloroethene	0.17	2.4	1.2	17

Client Sample ID: IA0421

Lab ID#: 0910667A-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.081	0.22	0.51
Trichloroethene	0.034	0.80	0.18	4.3

Client Sample ID: IA0423

Lab ID#: 0910667A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.76	0.83	3.8
Freon 11	0.17	0.66	0.94	3.7
Freon 113	0.17	0.18	1.3	1.4
Acetone	0.84	2.7	2.0	6.3
Tetrachloroethene	0.17	2.7	1.1	18

Client Sample ID: IA0423

Lab ID#: 0910667A-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.10	0.21	0.63
Trichloroethene	0.034	0.99	0.18	5.3

Client Sample ID: IA0424

Lab ID#: 0910667A-09A

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

Summary of Detected Compounds

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

Client Sample ID: IA0424

Lab ID#: 0910667A-09A

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	0.45	0.96	2.5
Freon 113	0.17	0.17	1.3	1.3
Acetone	0.86	1.2	2.0	2.8
Tetrachloroethene	0.17	1.7	1.2	12

Client Sample ID: IA0424

Lab ID#: 0910667A-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.079	0.22	0.50
Trichloroethene	0.034	0.82	0.18	4.4

Client Sample ID: IA0425

Lab ID#: 0910667A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.80	2.2
Freon 11	0.16	0.36	0.90	2.0
Freon 113	0.16	0.17	1.2	1.3
Acetone	0.80	4.0	1.9	9.5
Toluene	0.16	0.27	0.61	1.0
Tetrachloroethene	0.16	3.6	1.1	24

Client Sample ID: IA0425

Lab ID#: 0910667A-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.075	0.20	0.47

Client Sample ID: IA0404

Lab ID#: 0910667A-01A

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

File Name:	z103006	Date of Collection: 10/28/09 4:36:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/30/09 04:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.88	2.2
Freon 11	0.18	0.39	1.0	2.2
Freon 113	0.18	0.39	1.4	3.0
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	3.4	2.1	8.1
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	Not Detected	0.67	Not Detected
Tetrachloroethene	0.18	14	1.2	96
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 UJ	6.6	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	87	70-130

Client Sample ID: IA0404

Lab ID#: 0910667A-01B

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

File Name:	z103006sim	Date of Collection: 10/28/09 4:36:00 PM
Dil. Factor:	1.79	Date of Analysis: 10/30/09 04:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.11	0.046	0.29
Carbon Tetrachloride	0.036	0.072	0.22	0.45
Trichloroethene	0.036	0.082	0.19	0.44

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: IA0407

Lab ID#: 0910667A-02A

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

File Name:	z103007	Date of Collection: 10/28/09 4:38:00 PM		
Dil. Factor:	1.96	Date of Analysis: 10/30/09 04:31 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.20	0.44	0.97	2.2
Freon 11	0.20	0.33	1.1	1.8
Freon 113	0.20	0.22	1.5	1.7
1,1-Dichloroethene	0.20	Not Detected	0.78	Not Detected
Acetone	0.98	2.6	2.3	6.3
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	4.5	1.3	31
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 UJ	7.3	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	86	70-130

Client Sample ID: IA0407

Lab ID#: 0910667A-02B

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

File Name:	z103007sim	Date of Collection: 10/28/09 4:38:00 PM
Dil. Factor:	1.96	Date of Analysis: 10/30/09 04:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	0.025	0.050	0.063
Carbon Tetrachloride	0.039	0.076	0.25	0.48
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	86	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: IA0408

Lab ID#: 0910667A-03A

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

File Name:	z103008	Date of Collection: 10/28/09 4:29:00 PM		
Dil. Factor:	1.75	Date of Analysis: 10/30/09 05:03 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.43	0.86	2.1
Freon 11	0.18	0.43	0.98	2.4
Freon 113	0.18	0.20	1.3	1.5
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	2.3	2.1	5.5
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	0.18	0.66	0.66
Tetrachloroethene	0.18	3.2	1.2	22
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 UJ	6.5	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: IA0408

Lab ID#: 0910667A-03B

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

File Name:	z103008sim	Date of Collection: 10/28/09 4:29:00 PM
Dil. Factor:	1.75	Date of Analysis: 10/30/09 05:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	0.018	0.045	0.046
Carbon Tetrachloride	0.035	0.40	0.22	2.5
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	87	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: IA0413

Lab ID#: 0910667A-04A

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

File Name:	z103009	Date of Collection:	10/28/09 4:16:00 PM	
Dil. Factor:	1.71	Date of Analysis:	10/30/09 05:35 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.84	2.2
Freon 11	0.17	0.27	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	4.1	2.0	9.8
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	0.18	0.64	0.68
Tetrachloroethene	0.17	1.8	1.2	12
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 UJ	6.3	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	88	70-130

Client Sample ID: IA0413

Lab ID#: 0910667A-04B

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

File Name:	z103009sim	Date of Collection: 10/28/09 4:16:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 05:35 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	0.037	0.18	0.20

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: IA0414

Lab ID#: 0910667A-05A

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

File Name:	z103010	Date of Collection: 10/28/09 4:12:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 06:07 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	0.42	0.96	2.3
Freon 113	0.17	0.23	1.3	1.8
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	1.8	2.0	4.3
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	0.18	0.64	0.67
Tetrachloroethene	0.17	4.3	1.2	29
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 UJ	6.3	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	87	70-130

Client Sample ID: IA0414

Lab ID#: 0910667A-05B

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

File Name:	z103010sim	Date of Collection: 10/28/09 4:12:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 06:07 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	0.077	0.22	0.48
Trichloroethene	0.034	0.098	0.18	0.53

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0416

Lab ID#: 0910667A-06A

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

File Name:	z103011	Date of Collection: 10/28/09 3:54:00 PM
Dil. Factor:	1.75	Date of Analysis: 10/30/09 06:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.62	0.86	3.1
Freon 11	0.18	0.52	0.98	2.9
Freon 113	0.18	0.18	1.3	1.4
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	3.1	2.1	7.4
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	Not Detected	0.66	Not Detected
Tetrachloroethene	0.18	2.2	1.2	15
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 UJ	6.5	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	88	70-130

Client Sample ID: IA0416

Lab ID#: 0910667A-06B

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

File Name:	z103011sim	Date of Collection: 10/28/09 3:54:00 PM
Dil. Factor:	1.75	Date of Analysis: 10/30/09 06:48 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	0.080	0.22	0.50
Trichloroethene	0.035	0.92	0.19	4.9

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0421

Lab ID#: 0910667A-07A

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

File Name:	z103012	Date of Collection: 10/28/09 3:58:00 PM		
Dil. Factor:	1.71	Date of Analysis: 10/30/09 07:41 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	0.53	0.96	3.0
Freon 113	0.17	0.17	1.3	1.3
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.5	2.0	5.9
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	2.4	1.2	17
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 UJ	6.3	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	88	70-130

Client Sample ID: IA0421

Lab ID#: 0910667A-07B

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

File Name:	z103012sim	Date of Collection: 10/28/09 3:58:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 07:41 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	0.081	0.22	0.51
Trichloroethene	0.034	0.80	0.18	4.3

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: IA0423

Lab ID#: 0910667A-08A

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

File Name:	z103013	Date of Collection: 10/28/09 4:02:00 PM
Dil. Factor:	1.68	Date of Analysis: 10/30/09 08:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.76	0.83	3.8
Freon 11	0.17	0.66	0.94	3.7
Freon 113	0.17	0.18	1.3	1.4
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.7	2.0	6.3
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	Not Detected	0.63	Not Detected
Tetrachloroethene	0.17	2.7	1.1	18
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 UJ	6.2	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: IA0423

Lab ID#: 0910667A-08B

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

File Name:	z103013sim	Date of Collection: 10/28/09 4:02:00 PM
Dil. Factor:	1.68	Date of Analysis: 10/30/09 08:34 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	0.99	0.18	5.3

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	82	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0424

Lab ID#: 0910667A-09A

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

File Name:	z103014	Date of Collection: 10/28/09 4:06:00 PM		
Dil. Factor:	1.71	Date of Analysis: 10/30/09 09:07 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	0.45	0.96	2.5
Freon 113	0.17	0.17	1.3	1.3
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	1.2	2.0	2.8
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	1.7	1.2	12
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 UJ	6.3	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: IA0424

Lab ID#: 0910667A-09B

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

File Name:	z103014sim	Date of Collection: 10/28/09 4:06:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 09:07 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	0.079	0.22	0.50
Trichloroethene	0.034	0.82	0.18	4.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0425

Lab ID#: 0910667A-10A

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

File Name:	z103015	Date of Collection: 10/28/09 3:51:00 PM
Dil. Factor:	1.61	Date of Analysis: 10/30/09 09:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.80	2.2
Freon 11	0.16	0.36	0.90	2.0
Freon 113	0.16	0.17	1.2	1.3
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	4.0	1.9	9.5
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	Not Detected	0.51	Not Detected
Toluene	0.16	0.27	0.61	1.0
Tetrachloroethene	0.16	3.6	1.1	24
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	0.80	Not Detected UJ	6.0	Not Detected UJ

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

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	88	70-130

Client Sample ID: IA0425

Lab ID#: 0910667A-10B

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

File Name:	z103015sim	Date of Collection: 10/28/09 3:51:00 PM
Dil. Factor:	1.61	Date of Analysis: 10/30/09 09:45 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	0.075	0.20	0.47
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	83	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910667A-11A

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

File Name:	z103005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 03:12 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 UJ	3.7	Not Detected UJ

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910667A-11B

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

File Name:	z103005sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 03:12 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	86	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: CCV

Lab ID#: 0910667A-12A

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

File Name:	z103002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 01:03 PM

Compound	%Recovery
Freon 12	85
Freon 11	81
Freon 113	91
1,1-Dichloroethene	85
Acetone	85
Methylene Chloride	91
cis-1,2-Dichloroethene	93
1,1,1-Trichloroethane	86
Benzene	110
Toluene	109
Tetrachloroethene	112
Chlorobenzene	98
Ethyl Benzene	106
m,p-Xylene	105
o-Xylene	99
1,3-Dichlorobenzene	78
1,4-Dichlorobenzene	82
1,2-Dichlorobenzene	75
1,2,4-Trichlorobenzene	60 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: CCV

Lab ID#: 0910667A-12B

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

File Name:	z103002sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 01:03 PM

Compound	%Recovery
Vinyl Chloride	97
Carbon Tetrachloride	112
Trichloroethene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 0910667A-13A

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

File Name:	z103003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 01:34 PM

Compound	%Recovery
Freon 12	86
Freon 11	83
Freon 113	110
1,1-Dichloroethene	102
Acetone	96
Methylene Chloride	105
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	94
Benzene	116
Toluene	121
Tetrachloroethene	129
Chlorobenzene	110
Ethyl Benzene	117
m,p-Xylene	118
o-Xylene	113
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	90
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	75

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: LCS

Lab ID#: 0910667A-13B

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

File Name:	z103003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 01:34 PM

Compound	%Recovery
Vinyl Chloride	103
Carbon Tetrachloride	125
Trichloroethene	128

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	94	70-130



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

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

Page 1 of 2

Project Manager BRAD GREEN
Collected by: (Print and Sign) PATRICK MAXWELL
Company SHA Email bgreen@sentinellab.com
Address 20 FAIRVIEW ST. City CONCORD State CA Zip 94530
Phone 603-415-6160 Fax 603-229-1919

Project Info:		Turn Around Time:	Lab Use Only
P.O. #		☐ Normal	Pressurized by:
Project #	<u>2999.00/011</u>	☒ Rush	Date:
Project Name	<u>IPM-EF B330C</u>	specify	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 (gall)
01AB	1A0404	34239	10/28/09	8:36-16:36	TD-15 H ₁ /L ₆	29.5	7.5		
02AB	1A0407	25305		8:23-16:38		730	10.0		
03AB	1A0408	923		8:29-16:29		30.0	8.0		
04AB	1A0413	33581		8:13-16:16		730	8.0		
05AB	1A0414	23888		8:08-16:12		730	8.0		
06AB	1A0416	34449		7:52-15:54		730	9.0		
07AB	1A0421	34742		7:54-15:58		30.0	7.0		
08AB	1A0423	31436		7:58-16:02		730	7.0		
09AB	1A0424	10713		8:00-16:06		30.0	7.0		
10AB	1A0425	34277		8:17-15:51		29.5	5.0		

Relinquished by: (signature) <u>Patrick Maxwell</u>	Date/Time <u>10/28/09 1900</u>	Received by: (signature) <u>Brad Green</u>	Date/Time <u>10/28/09 1900</u>	Notes: <u>IPM-EF SITE SPECIFIC ANALYTE LIST</u> <u>MODIFIED TO-15 H₁/L₆</u>
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	

Lab Use Only	Shipper Name <u>Fed Ex</u>	Air Bill #	Temp (°C) <u>MA</u>	Condition <u>Good</u>	Custody Seals Intact? <u>Yes</u> <u>No</u> <u>None</u>	Work Order # <u>0910667</u>

11/2/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: IBM-EF, B330C
Project #: 2999.00/011
Workorder #: 0910667B

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/29/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

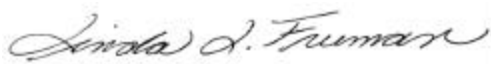
WORK ORDER #: 0910667B

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 #	2999.00/011 IBM-EF, B330C
DATE RECEIVED:	10/29/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	11/02/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
11A	IA0426	Modified TO-15	3.0 "Hg	5 psi
11AA	IA0426 Lab Duplicate	Modified TO-15	3.0 "Hg	5 psi
11B	IA0426	Modified TO-15	3.0 "Hg	5 psi
11BB	IA0426 Lab Duplicate	Modified TO-15	3.0 "Hg	5 psi
12A	IA0427	Modified TO-15	6.5 "Hg	5 psi
12B	IA0427	Modified TO-15	6.5 "Hg	5 psi
13A	AA0428	Modified TO-15	5.5 "Hg	5 psi
13B	AA0428	Modified TO-15	5.5 "Hg	5 psi
14A	DUP5789	Modified TO-15	6.5 "Hg	5 psi
14B	DUP5789	Modified TO-15	6.5 "Hg	5 psi
15A	Lab Blank	Modified TO-15	NA	NA
15B	Lab Blank	Modified TO-15	NA	NA
16A	CCV	Modified TO-15	NA	NA
16B	CCV	Modified TO-15	NA	NA
17A	LCS	Modified TO-15	NA	NA
17B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 11/02/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0910667B

Four 6 Liter Summa Canister (SIM Certified) samples were received on October 29, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$; 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

Summary of Detected Compounds

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

Client Sample ID: IA0426

Lab ID#: 0910667B-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.41	0.74	2.0
Freon 11	0.15	0.29	0.84	1.6
Acetone	0.74	1.7	1.8	4.0
Tetrachloroethene	0.15	1.8	1.0	13

Client Sample ID: IA0426 Lab Duplicate

Lab ID#: 0910667B-11AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.39	0.74	1.9
Freon 11	0.15	0.27	0.84	1.5
Acetone	0.74	1.7	1.8	4.1
Tetrachloroethene	0.15	1.8	1.0	12

Client Sample ID: IA0426

Lab ID#: 0910667B-11B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.030	0.064	0.19	0.40

Client Sample ID: IA0426 Lab Duplicate

Lab ID#: 0910667B-11BB

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.030	0.063	0.19	0.39

Client Sample ID: IA0427

Lab ID#: 0910667B-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60	0.84	3.0
Freon 11	0.17	0.40	0.96	2.2
Acetone	0.86	1.8	2.0	4.2
Tetrachloroethene	0.17	1.5	1.2	10

Summary of Detected Compounds

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

Client Sample ID: IA0427

Lab ID#: 0910667B-12B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.066	0.22	0.42
Trichloroethene	0.034	0.48	0.18	2.6

Client Sample ID: AA0428

Lab ID#: 0910667B-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.81	2.0
Freon 11	0.16	0.24	0.92	1.3
Acetone	0.82	1.6	1.9	3.9

Client Sample ID: AA0428

Lab ID#: 0910667B-13B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.081	0.21	0.51

Client Sample ID: DUP5789

Lab ID#: 0910667B-14A

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	0.45	0.96	2.5
Acetone	0.86	4.1	2.0	9.8
Tetrachloroethene	0.17	2.4	1.2	17

Client Sample ID: DUP5789

Lab ID#: 0910667B-14B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.061	0.22	0.38
Trichloroethene	0.034	0.88	0.18	4.7

Client Sample ID: IA0426

Lab ID#: 0910667B-11A

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

File Name:	e103009	Date of Collection: 10/28/09 3:50:00 PM
Dil. Factor:	1.49	Date of Analysis: 10/30/09 06:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.41	0.74	2.0
Freon 11	0.15	0.29	0.84	1.6
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.74	1.7	1.8	4.0
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Benzene	0.15	Not Detected	0.48	Not Detected
Toluene	0.15	Not Detected	0.56	Not Detected
Tetrachloroethene	0.15	1.8	1.0	13
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0426 Lab Duplicate

Lab ID#: 0910667B-11AA

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

File Name:	e103010	Date of Collection: 10/28/09 3:50:00 PM
Dil. Factor:	1.49	Date of Analysis: 10/30/09 07:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.39	0.74	1.9
Freon 11	0.15	0.27	0.84	1.5
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.74	1.7	1.8	4.1
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Benzene	0.15	Not Detected	0.48	Not Detected
Toluene	0.15	Not Detected	0.56	Not Detected
Tetrachloroethene	0.15	1.8	1.0	12
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0426

Lab ID#: 0910667B-11B

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

File Name:	e103009sim	Date of Collection: 10/28/09 3:50:00 PM
Dil. Factor:	1.49	Date of Analysis: 10/30/09 06:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
Carbon Tetrachloride	0.030	0.064	0.19	0.40
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0426 Lab Duplicate

Lab ID#: 0910667B-11BB

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

File Name:	e103010sim	Date of Collection: 10/28/09 3:50:00 PM
Dil. Factor:	1.49	Date of Analysis: 10/30/09 07:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
Carbon Tetrachloride	0.030	0.063	0.19	0.39
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: IA0427

Lab ID#: 0910667B-12A

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

File Name:	e103011	Date of Collection: 10/28/09 4:08:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 08:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60	0.84	3.0
Freon 11	0.17	0.40	0.96	2.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	1.8	2.0	4.2
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	Not Detected	0.64	Not Detected
Tetrachloroethene	0.17	1.5	1.2	10
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	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0427

Lab ID#: 0910667B-12B

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

File Name:	e103011sim	Date of Collection: 10/28/09 4:08:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 08:26 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	0.066	0.22	0.42
Trichloroethene	0.034	0.48	0.18	2.6

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	96	70-130

Client Sample ID: AA0428

Lab ID#: 0910667B-13A

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

File Name:	e103012	Date of Collection: 10/28/09 5:10:00 PM
Dil. Factor:	1.64	Date of Analysis: 10/30/09 10:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.81	2.0
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	1.6	1.9	3.9
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	Not Detected	0.52	Not Detected
Toluene	0.16	Not Detected	0.62	Not Detected
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	Not Detected	0.71	Not Detected
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	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: AA0428

Lab ID#: 0910667B-13B

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

File Name:	e103012sim	Date of Collection: 10/28/09 5:10:00 PM
Dil. Factor:	1.64	Date of Analysis: 10/30/09 10:05 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	0.081	0.21	0.51
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	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: DUP5789

Lab ID#: 0910667B-14A

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

File Name:	e103013	Date of Collection: 10/28/09 3:54:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 10:50 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	0.45	0.96	2.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	4.1	2.0	9.8
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	2.4	1.2	17
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	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: DUP5789

Lab ID#: 0910667B-14B

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

File Name:	e103013sim	Date of Collection: 10/28/09 3:54:00 PM
Dil. Factor:	1.71	Date of Analysis: 10/30/09 10:50 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	0.061	0.22	0.38
Trichloroethene	0.034	0.88	0.18	4.7

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	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910667B-15A

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

File Name:	e103008	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 05:27 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	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: Lab Blank

Lab ID#: 0910667B-15B

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

File Name:	e103008sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 05:27 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	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: CCV

Lab ID#: 0910667B-16A

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

File Name:	e103006	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 03:48 PM

Compound	%Recovery
Freon 12	105
Freon 11	102
Freon 113	101
1,1-Dichloroethene	104
Acetone	102
Methylene Chloride	97
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	103
Benzene	100
Toluene	100
Tetrachloroethene	108
Chlorobenzene	96
Ethyl Benzene	99
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	92
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	105

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 0910667B-16B

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

File Name:	e103006sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 03:48 PM

Compound	%Recovery
Vinyl Chloride	108
Carbon Tetrachloride	106
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCS

Lab ID#: 0910667B-17A

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

File Name:	e103003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 12:56 PM

Compound	%Recovery
Freon 12	90
Freon 11	87
Freon 113	98
1,1-Dichloroethene	103
Acetone	104
Methylene Chloride	96
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	88
Benzene	88
Toluene	90
Tetrachloroethene	96
Chlorobenzene	82
Ethyl Benzene	85
m,p-Xylene	85
o-Xylene	86
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	76
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	84

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0910667B-17B

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

File Name:	e103003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/30/09 12:56 PM

Compound	%Recovery
Vinyl Chloride	93
Carbon Tetrachloride	90
Trichloroethene	73

Container Type: NA - Not Applicable

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



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

Page 2 of 2

Project Manager BRAD GREEN
Collected by: (Print and Sign) PATRICK MARIANE
Company SHA Email bgreen@sanbornhead.com
Address 20 FANNING ST City CONCORD State NH Zip 03301
Phone 603-415-6160 Fax 603-429-1919

Project Info:

P.O. #

Project #

Project Name

Turn Around Time:

☐ Normal

☒ Rush

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N₂ 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 (psid)
11AB	1A0426	919	10/28/09	8:20-15:50	TD-15 H ₂ /L _o	730	4.5		
12AB	1A0427	33973		8:04-16:08		730	7.5		
13AB	AA0428	1417		9:10-17:10		730	8.0		
14AB	DUP 5789	5789		7:52-15:54		730	8.0		

Relinquished by: (signature) Patrick Mariane Date/Time 10/28/09 19:00

Relinquished by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Monica Green Date/Time 10/29/09 9:30

Received by: (signature) Date/Time

Received by: (signature) Date/Time

Notes:
IBM-EF SAE SPECIFIC ANALYTE LIST
MODIFIED TD-15 H₂/L_o

Lab Use Only	Shipper Name: <u>Feed Ex</u>	Air Bill #	Temp (°C): <u>NA</u>	Condition: <u>Good</u>	Custody Seals Intact? <u>Yes</u> <u>No</u> <u>None</u>	Work Order #: <u>0910667</u>

Building 338
August 27, 2009

9/16/2009

Mr. Brad Green
Sanborn, Head & Associates
20 Foundry Street

Concord NH 03301

Project Name: EFK

Project #:

Workorder #: 0908663R1

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 8/31/2009 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: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

 |

Bryanna Langley
Project Manager

WORK ORDER #: 0908663R1

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/31/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/14/2009		
DATE REISSUED:	09/15/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	FB2	Modified TO-15	3.5 "Hg	5 psi
01B	FB2	Modified TO-15	3.5 "Hg	5 psi
02A	IA0500	Modified TO-15	6.5 "Hg	5 psi
02B	IA0500	Modified TO-15	6.5 "Hg	5 psi
03A	IA0501	Modified TO-15	6.5 "Hg	5 psi
03B	IA0501	Modified TO-15	6.5 "Hg	5 psi
04A	DUP1602	Modified TO-15	6.5 "Hg	5 psi
04B	DUP1602	Modified TO-15	6.5 "Hg	5 psi
05A	IA0502	Modified TO-15	6.5 "Hg	5 psi
05B	IA0502	Modified TO-15	6.5 "Hg	5 psi
06A	IA0503	Modified TO-15	8.0 "Hg	5 psi
06B	IA0503	Modified TO-15	8.0 "Hg	5 psi
07A	IA0504	Modified TO-15	6.5 "Hg	5 psi
07B	IA0504	Modified TO-15	6.5 "Hg	5 psi
08A	AA0505	Modified TO-15	8.0 "Hg	5 psi
08B	AA0505	Modified TO-15	8.0 "Hg	5 psi
09A	Lab Blank	Modified TO-15	NA	NA

Continued on next page

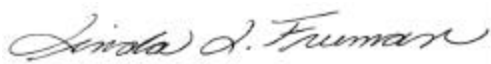
WORK ORDER #: 0908663R1

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. #	2999.00
FAX:	603-229-1919	PROJECT #	EFK
DATE RECEIVED:	08/31/2009	CONTACT:	Bryanna Langley
DATE COMPLETED:	09/14/2009		
DATE REISSUED:	09/15/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
09B	Lab Blank	Modified TO-15	NA	NA
09C	Lab Blank	Modified TO-15	NA	NA
09D	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
10C	CCV	Modified TO-15	NA	NA
10D	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11C	LCS	Modified TO-15	NA	NA
11D	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 09/16/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 0908663R1

Two 6 Liter Summa Canister (SIM Certified) and six 6 Liter Summa Canister (100% Certified) samples were received on August 31, 2009. 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	$\leq 30\%$ 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 $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$; 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.

THE WORK ORDER WAS REISSUED ON 9/16/09 TO CORRECT IDENTIFICATION OF THE SAMPLE IA0505.

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

Summary of Detected Compounds

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

Client Sample ID: FB2

Lab ID#: 0908663R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	0.76	0.91	1.8	2.2

Client Sample ID: FB2

Lab ID#: 0908663R1-01B

No Detections Were Found.

Client Sample ID: IA0500

Lab ID#: 0908663R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.52	0.84	2.6
Freon 11	0.17	0.58	0.96	3.2
Acetone	0.86	8.6	2.0	20

Client Sample ID: IA0500

Lab ID#: 0908663R1-02B

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: IA0501

Lab ID#: 0908663R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.84	2.8
Freon 11	0.17	0.38	0.96	2.1
Acetone	0.86	4.8	2.0	11
Toluene	0.17	0.19	0.64	0.71

Client Sample ID: IA0501

Lab ID#: 0908663R1-03B

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

Summary of Detected Compounds

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

Client Sample ID: IA0501

Lab ID#: 0908663R1-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.078	0.22	0.49

Client Sample ID: DUP1602

Lab ID#: 0908663R1-04A

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	0.39	0.96	2.2
Acetone	0.86	8.0	2.0	19
Toluene	0.17	0.20	0.64	0.76

Client Sample ID: DUP1602

Lab ID#: 0908663R1-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.075	0.22	0.47

Client Sample ID: IA0502

Lab ID#: 0908663R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.71	0.84	3.5
Freon 11	0.17	0.42	0.96	2.4
Acetone	0.86	3.7	2.0	8.8

Client Sample ID: IA0502

Lab ID#: 0908663R1-05B

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: IA0503

Lab ID#: 0908663R1-06A

Summary of Detected Compounds

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

Client Sample ID: IA0503

Lab ID#: 0908663R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.70	0.90	3.5
Freon 11	0.18	0.56	1.0	3.1
Acetone	0.92	2.6	2.2	6.1
Benzene	0.18	0.37	0.58	1.2

Client Sample ID: IA0503

Lab ID#: 0908663R1-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.037	0.076	0.23	0.48

Client Sample ID: IA0504

Lab ID#: 0908663R1-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.65	0.84	3.2
Freon 11	0.17	0.55	0.96	3.1
Acetone	0.86	1.6	2.0	3.9
Benzene	0.17	0.34	0.55	1.1

Client Sample ID: IA0504

Lab ID#: 0908663R1-07B

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

Client Sample ID: AA0505

Lab ID#: 0908663R1-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.39	0.90	1.9
Freon 11	0.18	0.20	1.0	1.1
Acetone	0.92	9.7	2.2	23

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

Client Sample ID: AA0505

Lab ID#: 0908663R1-08B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.037	0.074	0.23	0.46

Client Sample ID: FB2

Lab ID#: 0908663R1-01A

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

File Name:	e091012	Date of Collection: 8/27/09 11:22:00 AM
Dil. Factor:	1.52	Date of Analysis: 9/10/09 05:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	Not Detected	0.75	Not Detected
Freon 11	0.15	Not Detected	0.85	Not Detected
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	0.91	1.8	2.2
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Benzene	0.15	Not Detected	0.48	Not Detected
Toluene	0.15	Not Detected	0.57	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	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	98	70-130

Client Sample ID: FB2

Lab ID#: 0908663R1-01B

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

File Name:	e091012sim	Date of Collection: 8/27/09 11:22:00 AM
Dil. Factor:	1.52	Date of Analysis: 9/10/09 05:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
Carbon Tetrachloride	0.030	Not Detected	0.19	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: IA0500

Lab ID#: 0908663R1-02A

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

File Name:	e091013	Date of Collection: 8/27/09 3:38:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 06:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.52	0.84	2.6
Freon 11	0.17	0.58	0.96	3.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	8.6	2.0	20
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	Not Detected	1.2	Not Detected
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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: IA0500

Lab ID#: 0908663R1-02B

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

File Name:	e091013sim	Date of Collection: 8/27/09 3:38:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 06:15 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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0501

Lab ID#: 0908663R1-03A

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

File Name:	e091014	Date of Collection: 8/27/09 3:36:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 06:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.84	2.8
Freon 11	0.17	0.38	0.96	2.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	4.8	2.0	11
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	0.19	0.64	0.71
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
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 (100% Certified)

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

Client Sample ID: IA0501

Lab ID#: 0908663R1-03B

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

File Name:	e091014sim	Date of Collection: 8/27/09 3:36:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 06:59 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	0.078	0.22	0.49
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: DUP1602

Lab ID#: 0908663R1-04A

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

File Name:	e091015	Date of Collection: 8/27/09 3:45:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 07:47 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	0.39	0.96	2.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	8.0	2.0	19
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	0.20	0.64	0.76
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: DUP1602

Lab ID#: 0908663R1-04B

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

File Name:	e091015sim	Date of Collection: 8/27/09 3:45:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 07:47 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	0.075	0.22	0.47
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0502

Lab ID#: 0908663R1-05A

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

File Name:	e091016	Date of Collection: 8/27/09 3:24:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 08:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.71	0.84	3.5
Freon 11	0.17	0.42	0.96	2.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	3.7	2.0	8.8
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	Not Detected	1.2	Not Detected
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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: IA0502

Lab ID#: 0908663R1-05B

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

File Name:	e091016sim	Date of Collection: 8/27/09 3:24:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/10/09 08:34 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 (100% Certified)

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

Client Sample ID: IA0503

Lab ID#: 0908663R1-06A

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

File Name:	e091017	Date of Collection: 8/27/09 4:11:00 PM
Dil. Factor:	1.83	Date of Analysis: 9/10/09 09:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.70	0.90	3.5
Freon 11	0.18	0.56	1.0	3.1
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.92	2.6	2.2	6.1
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	1.0	Not Detected
Benzene	0.18	0.37	0.58	1.2
Toluene	0.18	Not Detected	0.69	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	Not Detected	0.79	Not Detected
o-Xylene	0.18	Not Detected	0.79	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	0.92	Not Detected	6.8	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0503

Lab ID#: 0908663R1-06B

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

File Name:	e091017sim	Date of Collection: 8/27/09 4:11:00 PM
Dil. Factor:	1.83	Date of Analysis: 9/10/09 09:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Carbon Tetrachloride	0.037	0.076	0.23	0.48
Trichloroethene	0.037	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: IA0504

Lab ID#: 0908663R1-07A

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

File Name:	e091106	Date of Collection: 8/27/09 3:28:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/11/09 03:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.65	0.84	3.2
Freon 11	0.17	0.55	0.96	3.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	1.6	2.0	3.9
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	0.34	0.55	1.1
Toluene	0.17	Not Detected	0.64	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
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 (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: IA0504

Lab ID#: 0908663R1-07B

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

File Name:	e091106sim	Date of Collection: 8/27/09 3:28:00 PM
Dil. Factor:	1.71	Date of Analysis: 9/11/09 03:13 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	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: AA0505

Lab ID#: 0908663R1-08A

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

File Name:	e091107	Date of Collection: 8/27/09 3:49:00 PM
Dil. Factor:	1.83	Date of Analysis: 9/11/09 04:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.39	0.90	1.9
Freon 11	0.18	0.20	1.0	1.1
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.92	9.7	2.2	23
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	1.0	Not Detected
Benzene	0.18	Not Detected	0.58	Not Detected
Toluene	0.18	Not Detected	0.69	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	Not Detected	0.79	Not Detected
o-Xylene	0.18	Not Detected	0.79	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	0.92	Not Detected	6.8	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: AA0505

Lab ID#: 0908663R1-08B

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

File Name:	e091107sim	Date of Collection: 8/27/09 3:49:00 PM
Dil. Factor:	1.83	Date of Analysis: 9/11/09 04:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Carbon Tetrachloride	0.037	0.074	0.23	0.46
Trichloroethene	0.037	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908663R1-09A

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

File Name:	e091005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908663R1-09B

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

File Name:	e091005sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 12:32 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	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908663R1-09C

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

File Name:	e091105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/11/09 02:23 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	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 0908663R1-09D

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

File Name:	e091105sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/11/09 02:23 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	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 0908663R1-10A

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

File Name:	e091002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Freon 12	82
Freon 11	78
Freon 113	78
1,1-Dichloroethene	78
Acetone	80
Methylene Chloride	78
cis-1,2-Dichloroethene	80
1,1,1-Trichloroethane	79
Benzene	77
Toluene	78
Tetrachloroethene	80
Chlorobenzene	80
Ethyl Benzene	80
m,p-Xylene	83
o-Xylene	82
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	77
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 0908663R1-10B

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

File Name:	e091002sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:02 AM

Compound	%Recovery
Vinyl Chloride	77
Carbon Tetrachloride	83
Trichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 0908663R1-10C

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

File Name:	e091102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/11/09 11:47 AM

Compound	%Recovery
Freon 12	82
Freon 11	76
Freon 113	77
1,1-Dichloroethene	76
Acetone	79
Methylene Chloride	77
cis-1,2-Dichloroethene	79
1,1,1-Trichloroethane	78
Benzene	79
Toluene	80
Tetrachloroethene	80
Chlorobenzene	80
Ethyl Benzene	80
m,p-Xylene	84
o-Xylene	82
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	80
1,2-Dichlorobenzene	77
1,2,4-Trichlorobenzene	84

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 0908663R1-10D

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

File Name:	e091102sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/11/09 11:47 AM

Compound	%Recovery
Vinyl Chloride	77
Carbon Tetrachloride	82
Trichloroethene	74

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0908663R1-11A

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

File Name:	e091003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Freon 12	98
Freon 11	97
Freon 113	105
1,1-Dichloroethene	104
Acetone	94
Methylene Chloride	104
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	100
Benzene	95
Toluene	101
Tetrachloroethene	99
Chlorobenzene	96
Ethyl Benzene	95
m,p-Xylene	98
o-Xylene	98
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	91
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 0908663R1-11B

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

File Name:	e091003sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/10/09 10:38 AM

Compound	%Recovery
Vinyl Chloride	92
Carbon Tetrachloride	103
Trichloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCS

Lab ID#: 0908663R1-11C

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

File Name:	e091103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/11/09 12:50 PM

Compound	%Recovery
Freon 12	100
Freon 11	97
Freon 113	104
1,1-Dichloroethene	104
Acetone	94
Methylene Chloride	103
cis-1,2-Dichloroethene	98
1,1,1-Trichloroethane	99
Benzene	96
Toluene	100
Tetrachloroethene	96
Chlorobenzene	95
Ethyl Benzene	94
m,p-Xylene	96
o-Xylene	96
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	89
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 0908663R1-11D

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

File Name: e091103sim
Dil. Factor: 1.00

Date of Collection: NA
Date of Analysis: 9/11/09 12:50 PM

Compound	%Recovery
Vinyl Chloride	93
Carbon Tetrachloride	103
Trichloroethene	88

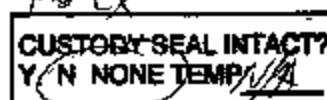
Container Type: NA - Not Applicable

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



Sample Transportation Notice
 Requiring 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 city, state, or country and assumes no liability with regard to the collection, handling or shipping of these samples. Requiring signature also indicates agreement to hold harmless, defend and indemnify AP/Toxics Lim. from any civil, criminal, demand or action, of any kind, related to the collection, handling, or shipping of sample on D.D.T.
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Box | of 2

ATTACHMENT D

NEH DATA VALIDATION REPORTS

Building 330C
August 26, 2009



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: 0908641A, 0908641B, & 0908641C

Date(s) of Collection: August 26, 2009

**Number and type
Samples & analyses:** 20 Indoor Air, 2 Ambient Air, and 1 field blank sample 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: September 24, 2009

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 Organic Data Review; Publication USEPA540/R-07/003, July 2007; 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.

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
IA0400	0908641A-01A	8/26/09	Indoor Air	VOCs	Field Sample
IA0401	0908641A-02A	8/26/09	Indoor Air	VOCs	Field Sample
IA0402	0908641A-03A	8/26/09	Indoor Air	VOCs	Field Sample
IA0403	0908641A-04A	8/26/09	Indoor Air	VOCs	Field Sample
IA0404	0908641A-05A	8/26/09	Indoor Air	VOCs	Field Sample
DUP25263	0908641A-06A	8/26/09	Indoor Air	VOCs	Field Duplicate of IA0404
IA0405	0908641A-07A	8/26/09	Indoor Air	VOCs	Field Sample
IA0406	0908641A-08A	8/26/09	Indoor Air	VOCs	Field Sample
IA0407	0908641A-09A	8/26/09	Indoor Air	VOCs	Field Sample
IA0408	0908641A-10A	8/26/09	Indoor Air	VOCs	Field Sample
IA0409	0908641B-11A	8/26/09	Indoor Air	VOCs	Field Sample
IA0410	0908641B-12C	8/26/09	Indoor Air	VOCs	Field Sample
IA0411	0908641B-13A	8/26/09	Indoor Air	VOCs	Field Sample
IA0412	0908641B-14A	8/26/09	Indoor Air	VOCs	Field Sample
IA0413	0908641B-15A	8/26/09	Indoor Air	VOCs	Field Sample
IA0414	0908641B-16A	8/26/09	Indoor Air	VOCs	Field Sample
IA0415	0908641B-17A	8/26/09	Indoor Air	VOCs	Field Sample
IA0416	0908641B-18A	8/26/09	Indoor Air	VOCs	Field Sample
IA0417	0908641B-19A	8/26/09	Indoor Air	VOCs	Field Sample

Table 1. Sample Descriptions and Analytical Parameters - *continued*

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
IA0418	0908641C-20A	8/26/09	Indoor Air	VOCs	Field Sample
AA0419	0908641C-21A	8/26/09	Ambient Air	VOCs	Field Sample
AA0420	0908641C-22A	8/26/09	Ambient Air	VOCs	Field Sample
FB1	0908641C-23A	8/26/09	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, four results were estimated (J) 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 QAPP and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

A single Chain-of-Custody (COC) was submitted to ATL; however, the laboratory split the samples into three Work Orders: 0908641A, 0908641B, and 0908641C. The second sheet of the COC, which was associated with the samples reported in 0908641C, was not relinquished by SHA to ATL properly in that the year was missing from the date of the samples being sent to ATL.

The canister label for sample IA0416 incorrectly identified the sample as IA0415. The sample ID and canister ID on the COC were used for reporting results for this sample.

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.

Sensitivity requirements compared to the Reporting Limits (RLs) defined in Table B.1 of the Workplan were met for all samples except IA0409, which was analyzed at a dilution to ensure that all detects were reported within the instrument calibration range. As a consequence of the dilution made for analysis, the data user will need to evaluate the elevated non-detects in this one sample for use in project objectives.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
IA0404 & DUP25263	Acetone	J	I	FD imprecision
IA0407	Benzene	J	I	Result uncertain below the calibration range
IA0408	Trichloroethene	J	I	Result uncertain below the calibration range

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

*Abbreviations:
FD = Field Duplicate*

The attached Data Review Checklists, completed for each Work Order reviewed, document 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.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
Date Sampled: 8/26/09
Method of Analysis: TO-15 Hi/Lo

Work Order #: 0908641A
No. Samples: 10 Indoor Air

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							J Acetone in IA0404 & DUP25263	Accept 2 "J" results

Comments: 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 5 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.

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

The samples received were separated into three Work Orders (0908641A, B, and C). A single report will be written, at the clients request, for all three Work Orders.

10 Canisters were Certified pre-cleaned (certification forms present and indicate all Target compounds are non-detect). The canister vacuums (field initial, field final and lab receipt) were all acceptable and there were no COC issues noted.

Samples were all analyzed within 13 days of collection; therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 9/03/09. Full Scan = 8-level calibration from 0.05 to 40 ppbV for 19 Target compounds (see page 5).

SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19 Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and 0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 9/23/09

Data Reviewer 77 C. R/R

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blanks: E090805 (Full Scan and SIM)

Field Blank: FB1 (reported in Work Order 0908641C)

Date 9/23/09

Data Reviewer 777 C. Bk

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641A

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: E090802 & E090802sim - % Recovery 70-130% for all 22 Target. No Action required.

BFB Tunes: Instrument E 2 Tunes (1 for ICAL + 1 for CCAL) - all criteria in both tunes were met

All samples were analyzed within 12 hours of tune; therefore, all data are acceptable as reported.

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

LCS: E090803 & E090803sim- All 22 Target compounds were recovered within criteria - Acceptable accuracy for method demonstrated. No Action Required.

LD done on sample IA0408 - sample/LD precision was acceptable for all detected results (note RPD =200% for two compounds which were reported < RL

in LD and non-detect in sample and RPD = 36% for toluene but both sample values were < 5 x RL). No Action required since RPD evaluation for

non-detects is meaningless and only applicable if values > 5 x RL

FD pair = IA0404 / DUP25263. A comparison of results is shown on page 4. FD precision was acceptable for all detected VOCs except Acetone with RPD > 20%

for results > 5 x RL.

**ACTION: Acetone estimated (J) in IA0404 and DUP25263 with indeterminate bias due to FD imprecision.*

Benzene in sample IA0407 and Trichloroethene in sample IA0408 were reported at levels below the sample-specific reporting limits and qualified "J" by the lab.

These "J" qualified data were accepted with Indeterminate bias due to uncertainty in quantitation at a level below the instrument calibration range.

All non-detects were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any issues that may affect data quality.

Date 9/23/09

Data Reviewer

770. R/L

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #:

0908641A

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

Sample: IA0404

Field Duplicate: DUP25263

Analyte Name	CAS No.	DF = 1.68*	Sample Result	Sample Result	Q	FD	FD Result	Q	RPD	Action
		RL (µg/m ³)	µg/m ³	Level		µg/m ³	Level			
Freon 12	75-71-8	0.83	2.3			2.2	>RL but < 5xRL		4.4	None
Freon 11	75-69-4	0.94	6.9			7.2	>RL but < 5xRL		4.3	None
Freon 113	76-13-1	1.3	2.8			2.9	>RL but < 5xRL		3.5	None
1,1-Dichloroethene	75-35-4	0.67	0.67	U		0.69	RL	U	NA	None
Acetone	67-64-1	2	29			14	> 5 x RL		69.8	J Both
Methylene Chloride	75-09-2	1.2	1.2	U		1.2	RL	U	NA	None
cis-1,2-Dichloroethene	156-59-2	0.67	0.67	U		0.69	RL	U	NA	None
1,1,1-Trichloroethane	71-55-6	0.92	0.92	U		0.95	RL	U	NA	None
Benzene	71-43-2	0.54	0.54	U		0.56	RL	U	NA	None
Toluene	108-88-3	0.63	1			1.2	>RL but < 5xRL		18.2	None
Tetrachloroethene	127-18-4	1.1	79			79	> 5 x RL		0.0	None
Chlorobenzene	108-90-7	0.77	0.77	U		0.8	RL	U	NA	None
Ethyl Benzene	100-41-4	0.73	0.73	U		0.76	RL	U	NA	None
m,p-Xylene	108-38-3/106-42-3	0.73	0.73	U		0.76	RL	U	NA	None
o-Xylene	95-47-6	0.73	0.73	U		0.76	RL	U	NA	None
1,3-Dichlorobenzene	541-73-1	1	1	U		1	RL	U	NA	None
1,4-Dichlorobenzene	106-46-7	1	1	U		1	RL	U	NA	None
1,2-Dichlorobenzene	95-50-1	1	1	U		1	RL	U	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.2	6.2	U		6.5	RL	U	NA	None
Vinyl Chloride	75-01-4	0.043	0.42			0.47	> 5 x RL		11.2	None
Carbon Tetrachloride	56-23-5	0.21	0.47			0.51	>RL but < 5xRL		8.2	None
Trichloroethene	79-01-6	0.18	0.43			0.47	>RL but < 5xRL		8.9	None

*This is the sample DF and RLs, the FD DF was 1.75 and RLs are RLs shown x (1.75/1.68)

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.

Date 9/23/09

Data Reviewer ηηc. RM

Lab: Air Toxics Ltd.

Work Order #: 0908641A

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 9/23/09

Data Reviewer ηη C. R. M.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641A

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

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 9/23/09

Data Reviewer 77 C. Rk

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
 Date Sampled: 8/26/09
 Method of Analysis: TO-15 Hi/Lo

Work Order #: 0908641B
 No. Samples 9 Indoor Air

Data Element Acceptable	Canister Receipt	HT	GC/MS Tunes + Calibrations	Internal Stds + Surrogates	LCS	Lab Dup (LCS and LD)	Field Duplicates	RL & Quant.
Yes	✓	✓	✓	✓	✓	✓	NA	✓
No	Canister label incorrect for IA0416							IA0409 non-detects > required RLs

Comments: *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 5 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.*

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

The samples received were separated into three Work Orders (0908641A, B, and C). A single report will be written, at the clients request, for all three Work Orders. 9 Canisters were Certified pre-cleaned (certification forms present in 0908641A and indicate all Target compounds are non-detect). The canister vacuums (field initial, field final and lab receipt) were all acceptable. The Canister tag for sample IA0416 was labeled IA0415. The sample ID & Canister ID from the COC were used for reporting of results.

Samples were all analyzed within 15 days of collection; therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 9/03/09. Full Scan = 8-level calibration from 0.05 to 40 ppbV for 19 Target compounds (see page 5).

SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19

Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and

0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 9/23/09

Data Reviewer 77C.RK

Associated Blanks: Method Blanks: E090907 & E091005 (Full Scan and SIM)

Field Blank: FB1 (reported in Work Order 0908641C)

Date 9/23/09

Data Reviewer ηηC.RM

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641B

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: E090903 & E090903sim & E091002 & E091002sim- % Recovery 70-130% for all 22 Targets. No Action required.

BFB Tunes: Instrument E 3 Tunes (1 for ICAL + 2 for CCAL) - all criteria in all tunes were met.

All samples were analyzed within 12 hours of tune; therefore, all data are acceptable as reported.

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

LCS: E090904 & E090904sim & E091003 & E091003sim- All 22 Target compounds were recovered within criteria - Acceptable accuracy for method demonstrated. No Action Required.

LD done on sample IA0409 - sample/LD precision was acceptable for all detected results (note RPD =200% for one compound which was reported < RL in LD and non-detect in sample). No Action required since RPD evaluation for non-detects is meaningless and only applicable if values > 5 x RL

There were no Field Duplicates associated with the samples in this Work Order - see 0908641A for FD evaluation

Sample IA0410 was initially analyzed and Acetone was reported at a level exceeding the instrument calibration range. At the client's request, the sample was re-analyzed at a dilution and Acetone was reported within the calibration range. A comparison of both sets of data were made during this review. The lab correctly reported all data from the initial analysis except Acetone which was reported from the second dilution analysis.

All results were reported within the instrument calibration range (no "J" or "E" data reported)

All non-detects were at a level below the Project required RL (as shown in Table 5) except for sample IA0409; therefore, all results except for those of sample IA0409 are considered usable as reported. Sample IA0409 was diluted at the instrument (DF=2.8) to ensure that Acetone was reported within the calibration range. As a consequence of the dilution made for IA0409, the non-detects in this sample will need to be evaluated by the data user for project decisions.

The narrative did not raise any additional issues not already addressed in this review.

The database was unchanged as a consequence of this review.

Date 9/23/09

Data Reviewer 77 C.R.K.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641B

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

There were no Field Duplicates associated with the samples in this Work Order

Analyte Name	CAS No.	DF = RL (µg/m³)	Sample Result µg/m³	Q	FD Level	FD Result µg/m³	Q	Level	RPD	Action
Freon 12	75-71-8									
Freon 11	75-69-4									
Freon 113	76-13-1									
1,1-Dichloroethene	75-35-4									
Acetone	67-64-1									
Methylene Chloride	75-09-2									
cis-1,2-Dichloroethene	156-59-2									
1,1,1-Trichloroethane	71-55-6									
Benzene	71-43-2									
Toluene	108-88-3									
Tetrachloroethene	127-18-4									
Chlorobenzene	108-90-7									
Ethyl Benzene	100-41-4									
m,p-Xylene	108-38-3/106-42-3					NA				
o-Xylene	95-47-6					9/23/09				
1,3-Dichlorobenzene	541-73-1									
1,4-Dichlorobenzene	106-46-7									
1,2-Dichlorobenzene	95-50-1									
1,2,4-Trichlorobenzene	120-82-1									
Vinyl Chloride	75-01-4									
Carbon Tetrachloride	56-23-5									
Trichloroethene	79-01-6									

*This is the sample DF and RLs, the FD DF was XXX and RLs are RLs shown x (XXX/YYY)

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.

Date 9/23/09

Data Reviewer 77C.R.

Lab: Air Toxics Ltd.

Work Order #: 0908641B

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 9/23/09

Data Reviewer ηη C.R.M.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641B

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

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 9/23/09

Data Reviewer ηη c. R/K

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
Date Sampled: 8/26/09
Method of Analysis: TO-15 Hi/Lo

Work Order #: 0908641C
No. Samples 1 IA + 2AA + 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	√	√	√	√	√	NA	NA	√
No								

Comments: *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 5 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.*

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

The samples received were separated into three Work Orders (0908641A, B, and C). A single report will be written, at the clients request, for all three Work Orders.

4 Canisters were Certified pre-cleaned (certification forms present in 0908641A and indicate all Target compounds are non-detect). The canister vacuums (field initial, field final and lab receipt) were all acceptable. COC was not properly executed in that the year of relinquishing samples was not added by field.

Samples were all analyzed within 15 days of collection; therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 9/03/09. Full Scan = 8-level calibration from 0.05 to 40 ppbV for 19 Target compounds (see page 5).

SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19 Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and 0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 9/24/09

Data Reviewer ηη C.RN

Associated Blanks: Method Blank: E091005 (Full Scan and SIM)

Field Blank: FB1

Date 9/24/09

Data Reviewer ηηc.RM

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641C

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: E091002 & E091002sim- % Recovery 70-130% for all 22 Targets. No Action required.

BFB Tunes: Instrument E 2 Tunes (1 for ICAL + 1 for CCAL) - all criteria in both tunes were met

All samples were analyzed within 12 hours of tune; therefore, all data are acceptable as reported.

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

LCS: E091003 & E091003sim- All 22 Target compounds were recovered within criteria - Acceptable accuracy for method demonstrated. No Action Required.

There was no LD performed on the samples in this Work Order - see 0908641A & 0908641B for LD precision

There were no Field Duplicate associated with the samples in this Work Order - see 0908641A for FD evaluation

All results were reported within the instrument calibration range (no "J" or "E" data reported)

All non-detects were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues not already addressed that may affect data quality.

The database was unchanged as a consequence of this review.

Date 9/24/09

Data Reviewer 77 C. Bk

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641C

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

There were no Field Duplicates associated with the samples in this Work Order

Analyte Name	CAS No.	DF = RL ($\mu\text{g}/\text{m}^3$)	Sample Result $\mu\text{g}/\text{m}^3$	Q	FD Level	FD Result $\mu\text{g}/\text{m}^3$	Q	Level	RPD	Action
Freon 12	75-71-8									
Freon 11	75-69-4									
Freon 113	76-13-1									
1,1-Dichloroethene	75-35-4									
Acetone	67-64-1									
Methylene Chloride	75-09-2									
cis-1,2-Dichloroethene	156-59-2									
1,1,1-Trichloroethane	71-55-6									
Benzene	71-43-2									
Toluene	108-88-3									
Tetrachloroethene	127-18-4									
Chlorobenzene	108-90-7									
Ethyl Benzene	100-41-4									
m,p-Xylene	108-38-3/106-42-3									
o-Xylene	95-47-6									
1,3-Dichlorobenzene	541-73-1									
1,4-Dichlorobenzene	106-46-7									
1,2-Dichlorobenzene	95-50-1									
1,2,4-Trichlorobenzene	120-82-1									
Vinyl Chloride	75-01-4									
Carbon Tetrachloride	56-23-5									
Trichloroethene	79-01-6									

NCN
9/24/09

*This is the sample DF and RLs, the FD DF was XXX and RLs are RLs shown x (XXX/YYY)

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.

Date 9/24/09

Data Reviewer 77C-BR

Lab: Air Toxics Ltd.

Work Order #:

0908641C

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 9/24/09

Data Reviewer 776. RM

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908641C

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

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 9/24/09

Data Reviewer ηηc. Rk

Building 330C
October 13, 2009



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 Order(s): 0910357

Date(s) of Collection: October 13, 2009

**Number and Type
Samples & Analyses:** 8 Indoor Air 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: November 3, 2009

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 Organic Data Review; Publication USEPA540/R-07/003, July 2007; 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.

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
IA0404	0910357-01A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0413	0910357-02A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0421	0910357-03A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0422	0910357-04A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0423	0910357-05A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0424	0910357-06A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0425	0910357-07A	10/13/2009	Indoor Air	VOCs	Field Sample
IA0426	0910357-08A	10/13/2009	Indoor Air	VOCs	Field Sample

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, all results were accepted as reported by the laboratory. NEH generated a validated data spreadsheet based on the electronic project database files received from ATL for this Work Order. There were no rejected results; therefore, all results were considered acceptable compared to QAPP and method criteria.

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 were no Field Duplicates associated with the samples in this Work Order; therefore, precision from field collection through analysis could not be evaluated for these samples.

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

The attached Data Review Checklist documents the method and matrix-specific QC reviewed. 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 this Work Order. The results reported by the laboratory were unchanged as a consequence of this data review and the results presented in the validated database are considered usable for project objectives.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
Date Sampled: 10/13/09
Method of Analysis: TO-15 Hi/Lo

Work Order #: 0910357
No. Samples: 8 Indoor Air

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

Comments: *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 5 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.*

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

8 Canisters were Certified pre-cleaned (certification forms present and indicate all Target compounds are non-detect). The canister vacuums (field initial, field final and lab receipt) were all acceptable.

Samples were all analyzed within 7 days of collection; therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 10/06/09. Full Scan = 8-level calibration from 0.05 to 40 ppbV for 19 Target compounds (see page 5).

SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19

Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and

0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SIM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 11/2/09

Data Reviewer 770. B/R

Lab: Air Toxics Ltd.

0910357

Associated Blanks: Method Blanks: e101906 and e102007 (Full Scan and SIM)

No Field Blank was collected for these samples

[illegible]

Date 11/2/07

Data Reviewer 77 C. R. R.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910357

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: e101903 & e101903sim and e102003 & e102003sim - % Recovery 70-130% for all 22 Target. No Action required.

BFB Tunes: Instrument E 3 Tunes (1 for ICAL + 2 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune

Valid tunes - No Action required.

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

LCS: e101904 & e101904sim and e102005 & e102005sim- %Recovery acceptable for all 22 Targets. Acceptable accuracy for method demonstrated.

No Action required.

LD done on sample IA0404 - sample/LD precision was acceptable for all six detects. Acceptable precision for method and matrix demonstrated. No Action Required.

There were no Field Duplicate samples associated with the samples in this Work Order.

All results were reported within the instrument calibration range (no "J" or "E" data reported).

All reporting limits were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

The database was unchanged as a consequence of this review.

Date 11/2/09

Data Reviewer ηη C. R/h

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910357

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

There were no Field Duplicates associated with the samples in this Work Order

Analyte Name	CAS No.	DF = RL ($\mu\text{g}/\text{m}^3$)	Sample Result $\mu\text{g}/\text{m}^3$	Q	FD Level	FD Result $\mu\text{g}/\text{m}^3$	Q	Level	RPD	Action
Freon 12	75-71-8									
Freon 11	75-69-4									
Freon 113	76-13-1									
1,1-Dichloroethene	75-35-4									
Acetone	67-64-1									
Methylene Chloride	75-09-2									
cis-1,2-Dichloroethene	156-59-2									
1,1,1-Trichloroethane	71-55-6									
Benzene	71-43-2									
Toluene	108-88-3									
Tetrachloroethene	127-18-4									
Chlorobenzene	108-90-7									
Ethyl Benzene	100-41-4									
m,p-Xylene	108-38-3/106-42-3					NA				
o-Xylene	95-47-6					11/2/09				
1,3-Dichlorobenzene	541-73-1									
1,4-Dichlorobenzene	106-46-7									
1,2-Dichlorobenzene	95-50-1									
1,2,4-Trichlorobenzene	120-82-1									
Vinyl Chloride	75-01-4									
Carbon Tetrachloride	56-23-5									
Trichloroethene	79-01-6									

*This is the sample DF and RLs, the FD DF was XXX and RLs are RLs shown x (XXX/YYY)

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.

Date 11/2/09

Data Reviewer W.C. B.R.

Lab: Air Toxics Ltd.

Work Order #: 0910357

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 11/2/09

Data Reviewer ηη C. Ryk

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910357

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

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 11/2/09

Data Reviewer

77 C. R. R.

Building 330C
October 28, 2009



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: 0910667A & 0910667B

Date(s) of Collection: October 28, 2009

**Number and Type
Samples & Analyses:** 13 Indoor Air and 1 Ambient Air sample 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: November 4, 2009

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 Organic Data Review; Publication USEPA540/R-07/003, July 2007; 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.

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
IA0404	0910667A-01A	10/23/09	Indoor Air	VOCs	Field Sample
IA0407	0910667A-02A	10/23/09	Indoor Air	VOCs	Field Sample
IA0408	0910667A-03A	10/23/09	Indoor Air	VOCs	Field Sample
IA0413	0910667A-04A	10/23/09	Indoor Air	VOCs	Field Sample
IA0414	0910667A-05A	10/23/09	Indoor Air	VOCs	Field Sample
IA0416	0910667A-06A	10/23/09	Indoor Air	VOCs	Field Sample
IA0421	0910667A-07A	10/23/09	Indoor Air	VOCs	Field Sample
IA0423	0910667A-08A	10/23/09	Indoor Air	VOCs	Field Sample
IA0424	0910667A-09A	10/23/09	Indoor Air	VOCs	Field Sample
IA0425	0910667A-10A	10/23/09	Indoor Air	VOCs	Field Sample
IA0426	0910667B-11A	10/23/09	Indoor Air	VOCs	Field Sample
IA0427	0910667B-12A	10/23/09	Indoor Air	VOCs	Field Sample
AA0428	0910667B-13A	10/23/09	Ambient Air	VOCs	Field Sample
DUP5789	0910667B-14A	10/23/09	Indoor Air	VOCs	Field Duplicate of IA0416

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 and 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 QAPP and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

A single Chain-of-Custody (COC) was submitted to ATL; however, the laboratory split the samples into two Work Orders: 0910667A and 0910667B.

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.

Field duplicate (FD) precision, based on results of the FD pair samples IA0416 and DUP5789, was acceptable with the exception of acetone (see Table 2, below). The FD results are an indication of generally acceptable precision for field collection through analyses for these air samples.

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

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
IA0404, IA0407, IA0408, IA0413, IA0414, IA0416, IA0421, IA0423, IA0424, & IA0425	1,2,4-Trichlorobenzene	UJ	L	Low Calibration verification
IA0416 & DUP5789	Acetone	J	I	FD imprecision

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

Abbreviations:

FD = Field Duplicate

The attached Data Review Checklists, completed for each Work Order reviewed, document 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.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
Date Sampled: 10/28/09
Method of Analysis: TO-15 Hi/Lo

Work Order #:
No. Samples

0910667A
10 Indoor Air

Data Element Acceptable	Canister Receipt	HT	GC/MS Tunes + Calibrations	Internal Stds + Surrogates	LCS	Lab Dup (LCS and LD)	Field Duplicates	RL & Quant.
Yes	✓	✓		✓	✓	NA		✓
No			UJ all 1,2,4-trichloro-benzene results				J Acetone in IA0416	

Comments: *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 5 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.*

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

10 Canisters were Certified pre-cleaned (certification forms present and indicate all Target compounds are non-detect). The canister vacuums (field initial, field final and lab receipt) were all acceptable.

Samples were all analyzed within 2 days of collection; therefore HT was met. No Action required.

ICAL: Instrument Z Full Scan and SIM performed on 9/29/09. Full Scan = 6- to 8-level calibration from 0.05, 0.1, or 0.5 to 40 ppbV for 19 Target compounds (see page 5). SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19 Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and 0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SIM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 11/3/09

Data Reviewer 77 C. R. H.

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blank: z103005 (Full Scan and SIM)

No Field Blank was collected for these samples

[illegible]

Date 11/3/09

Data Reviewer

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910667A

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: z103002 & z103002sim - % Recovery 70-130% for all 22 Target except 1,2,4-Trichlorobenzene with 60% recovery. Lab reported all data for this compound flagged as estimated (UJ) due to CCAL being outside criteria.

**ACTION: All 1,2,4-trichlorobenzene results estimated (UJ) with possible low bias due to low Calibration verification.*

BFB Tunes: Instrument Z 5 Tunes (4 for ICAL + 1 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune
Valid tunes - No Action required.

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

LCS: z103003 & z103003sim - %Recovery acceptable for all 22 Targets. Acceptable accuracy for method demonstrated. No Action.

No LD or LCSD performed on the samples within this Work Order - see W.O. #0910667B. No Action Required.

FD pair = IA0416 (reported in this W.O.) and DUP5789 (reported in W.O.# 0910667B). A comparison of results is shown on page 4 of this checklist.

FD precision was acceptable for all detected VOCs except Acetone (RPD > 20% for results > 5 x RL). Note, even though RPD > 20% for 2 other VOCs, no action required since values < 5 x RL.

**ACTION: Acetone estimated (J) in IA0416 and DUP5789 due to FD imprecision.*

All results were reported within the instrument calibration range (no "J" or "E" data reported).

All reporting limits were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

Date 11/3/09

Data Reviewer η η c. Rh

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910667A

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

Sample = IA0416

FD = DUP5789 (reported in W.O. #0910667B)

Analyte Name	CAS No.	DF = 1.75*	Sample Result			FD Result			RPD	Action
		RL (µg/m³)	µg/m³	Q	Level	µg/m³	Q	Level		
Freon 12	75-71-8	0.86	3.1		> RL but < 5 x RL	2.5		> RL but < 5 x RL	21.4	None
Freon 11	75-69-4	0.98	2.9		> RL but < 5 x RL	2.5		> RL but < 5 x RL	14.8	None
Freon 113	76-13-1	1.3	1.4		> RL but < 5 x RL	1.3	U	RL	NA	None
1,1-Dichloroethene	75-35-4	0.69	0.69	U	RL	0.68	U	RL	NA	None
Acetone	67-64-1	2.1	7.4		> 5 x RL	9.8		> 5 x RL	27.9	J Both
Methylene Chloride	75-09-2	1.2	1.2	U	RL	1.2	U	RL	NA	None
cis-1,2-Dichloroethene	156-59-2	0.69	0.69	U	RL	0.68	U	RL	NA	None
1,1,1-Trichloroethane	71-55-6	0.95	0.95	U	RL	0.93	U	RL	NA	None
Benzene	71-43-2	0.56	0.56	U	RL	0.55	U	RL	NA	None
Toluene	108-88-3	0.66	0.66	U	RL	0.64	U	RL	NA	None
Tetrachloroethene	127-18-4	1.2	15		> 5 x RL	17		> 5 x RL	12.5	None
Chlorobenzene	108-90-7	0.8	0.8	U	RL	0.79	U	RL	NA	None
Ethyl Benzene	100-41-4	0.76	0.76	U	RL	0.74	U	RL	NA	None
m,p-Xylene	108-38-3/106-42-3	0.76	0.76	U	RL	0.74	U	RL	NA	None
o-Xylene	95-47-6	0.76	0.76	U	RL	0.74	U	RL	NA	None
1,3-Dichlorobenzene	541-73-1	1	1	U	RL	1	U	RL	NA	None
1,4-Dichlorobenzene	106-46-7	1	1	U	RL	1	U	RL	NA	None
1,2-Dichlorobenzene	95-50-1	1	1	U	RL	1	U	RL	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.5	6.5	UJ	RL	6.3	U	RL	NA	None
Vinyl Chloride	75-01-4	0.045	0.045	U	RL	0.044	U	RL	NA	None
Carbon Tetrachloride	56-23-5	0.22	0.5		> RL but < 5 x RL	0.38		> RL but < 5 x RL	27.3	None
Trichloroethene	79-01-6	0.19	4.9		> 5 x RL	4.7		> 5 x RL	4.2	None

*This is the sample DF and RLs, the FD DF was 1.71 and RLs are RLs shown x (1.71/1.75)

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.

Date 11/3/09

Data Reviewer 77 C. R. H.

Lab: Air Toxics Ltd.

Work Order #:

0910667A

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 11/3/09

Data Reviewer 77 C. RM

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0910667A

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 11/3/09

Data Reviewer 77c. RM

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.
Date Sampled: 10/28/09
Method of Analysis: TO-15 Hi/Lo

Work Order #:
No. Samples

0910667B
2 IA + 1FD + 1AA

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							J Acetone in DUP5789	

Comments: *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 5 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.*

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

4 Canisters were Certified pre-cleaned (certification forms present in 0910777A, and indicate all Target compounds are non-detect).

The canister vacuums (field initial, field final and lab receipt) were all acceptable and there were no COC issues noted. No Action required.

Samples were all analyzed within 2 days of collection; therefore HT was met. No Action required.

ICAL : Instrument E Full Scan and SIM performed on 10/6/09. Full Scan = 6- to 8-level calibration from 0.05, 0.1, or 0.5 to 40 ppbV for 19 Target compounds (see page 5). SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19 Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and 0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SIM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 11/4/09

Data Reviewer

77 C. R. H.

Associated Blanks: Method Blank: e103008 (Full Scan and SIM)
No Field Blank was collected for these samples

[illegible]

Date 11/4/09

Data Reviewer 77 C. RA

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #:

0910667B

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: e103006 & e103006sim - % Recovery 70-130% for all 22 Target compounds; therefore, No Action required.

BFB Tunes: Instrument E 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

Valid tunes - No Action required.

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

LCS: e103003 & e103003sim - %Recovery acceptable for all 22 Targets. Acceptable accuracy for method demonstrated. No Action.

LD performed on sample IA0426. LD precision was acceptable for all 4 detected VOCs in this sample; therefore, acceptable precision for the analysis of samples demonstrated - No Action required.

FD pair = IA0416 (reported in Work Order 0910667A) and DUP5789 (reported in this Work Order). A comparison of results is shown on page 4 of this checklist.

FD precision was acceptable for all detected VOCs except Acetone (RPD > 20% for results > 5 x RL). Note, even though RPD > 20% for 2 other VOCs, no action required since values < 5 x RL.

*ACTION: Acetone estimated (J) in IA0416 and DUP5789 due to FD imprecision.

All results were reported within the instrument calibration range (no "J" or "E" data reported).

All reporting limits were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

Date 11/4/09

Data Reviewer

770-RH

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #:

0910667B

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

Sample = IA0416 (reported in W.O. #0910667A)

FD = DUP5789

Analyte Name	CAS No.	DF = 1.75*	Sample Result			FD Result			RPD	Action
		RL (µg/m³)	µg/m³	Q	Level	µg/m³	Q	Level		
Freon 12	75-71-8	0.86	3.1		> RL but < 5 x RL	2.5		> RL but < 5 x RL	21.4	None
Freon 11	75-69-4	0.98	2.9		> RL but < 5 x RL	2.5		> RL but < 5 x RL	14.8	None
Freon 113	76-13-1	1.3	1.4		> RL but < 5 x RL	1.3	U	RL	NA	None
1,1-Dichloroethene	75-35-4	0.69	0.69	U	RL	0.68	U	RL	NA	None
Acetone	67-64-1	2.1	7.4		> 5 x RL	9.8		> 5 x RL	27.9	J Both
Methylene Chloride	75-09-2	1.2	1.2	U	RL	1.2	U	RL	NA	None
cis-1,2-Dichloroethene	156-59-2	0.69	0.69	U	RL	0.68	U	RL	NA	None
1,1,1-Trichloroethane	71-55-6	0.95	0.95	U	RL	0.93	U	RL	NA	None
Benzene	71-43-2	0.56	0.56	U	RL	0.55	U	RL	NA	None
Toluene	108-88-3	0.66	0.66	U	RL	0.64	U	RL	NA	None
Tetrachloroethene	127-18-4	1.2	15		> 5 x RL	17		> 5 x RL	12.5	None
Chlorobenzene	108-90-7	0.8	0.8	U	RL	0.79	U	RL	NA	None
Ethyl Benzene	100-41-4	0.76	0.76	U	RL	0.74	U	RL	NA	None
m,p-Xylene	108-38-3/106-42-3	0.76	0.76	U	RL	0.74	U	RL	NA	None
o-Xylene	95-47-6	0.76	0.76	U	RL	0.74	U	RL	NA	None
1,3-Dichlorobenzene	541-73-1	1	1	U	RL	1	U	RL	NA	None
1,4-Dichlorobenzene	106-46-7	1	1	U	RL	1	U	RL	NA	None
1,2-Dichlorobenzene	95-50-1	1	1	U	RL	1	U	RL	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.5	6.5	UJ	RL	6.3	U	RL	NA	None
Vinyl Chloride	75-01-4	0.045	0.045	U	RL	0.044	U	RL	NA	None
Carbon Tetrachloride	56-23-5	0.22	0.5		> RL but < 5 x RL	0.38		> RL but < 5 x RL	27.3	None
Trichloroethene	79-01-6	0.19	4.9		> 5 x RL	4.7		> 5 x RL	4.2	None

*This is the sample DF and RLs, the FD DF was 1.71 and RLs are RLs shown x (1.71/1.75)

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.

Date 11/4/09

Data Reviewer 77C.RK

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 11/4/09

Data Reviewer 77 C. Ph

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #:

0910667B

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 11/4/09

Data Reviewer ηηc. RPK

Building 338
August 27, 2009



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: 0908663R1

Date(s) of Collection: August 27, 2009

**Number and type
Samples & analyses:** 6 Indoor Air, 1 Ambient Air, and 1 field blank sample 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: September 25, 2009

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 Organic Data Review; Publication USEPA540/R-07/003, July 2007; 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.

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
FB2	0908663R1-01A	8/27/09	Air	VOCs	Field Blank
IA0500	0908663R1-02A	8/27/09	Indoor Air	VOCs	Field Sample
IA0501	0908663R1-03A	8/27/09	Indoor Air	VOCs	Field Sample
DUP1602	0908663R1-04A	8/27/09	Indoor Air	VOCs	Field Duplicate of IA0501
IA0502	0908663R1-05A	8/27/09	Indoor Air	VOCs	Field Sample
IA0503	0908663R1-06A	8/27/09	Indoor Air	VOCs	Field Sample
IA0504	0908663R1-07A	8/27/09	Indoor Air	VOCs	Field Sample
AA0505	0908663R1-08A	8/27/09	Ambient Air	VOCs	Field Sample

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, EB and JEB) 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 QAPP and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

The laboratory originally reported sample AA0505 as IA0505 for Work Order 0908663. The sample ID was changed to AA0505, as it appears on the Chain-of-Custody (COC), and the Work Order was revised to 0908663R1.

The canister number on the COC for sample IA0502 was misidentified as 33847. The canister certification form and instrument logbook indicate that sample IA0502 canister was number 33874.

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.

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

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
IA0502, IA0503, & IA0504	Acetone	EB	H	Equipment Blank Action
DUP1602	Acetone	J	I	FD imprecision
IA0501	Acetone	JEB	I	FD imprecision + Equipment Blank Action

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

Abbreviations:

FD = Field Duplicate

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.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Date Sampled: 8/27/09

Method of Analysis: TO-15 Hi/Lo

Work Order #:

0908663R1

No. Samples

6 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		√	√	√	√	NA		√
No	Can# incorrect on COC for IA0502						J Acetone in IA0501 & DUP1602	

Comments: 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 5 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.

An In-Depth Review of the TO-15 Hi/Lo procedure was reported for Work Orders 0907203AR1 & 0907203BR1.

The laboratory initially reported sample AA0505 as IA0505 for Work Order #0908663. The sample ID was corrected to AA0505, as shown on the COC, and the Work Order reissued as #0908663R1.

8 Canisters were Certified pre-cleaned. The canister vacuums (field initial, field final and lab receipt) were all acceptable. The Canister # on the COC for IA0502 was incorrectly listed as 33847; however, the certification forms and laboratory instrument logs show this canister number as 33874.

Samples were all analyzed within 15 days of collection; therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 9/03/09. Full Scan = 8-level calibration from 0.05 to 40 ppbV for 19 Target compounds (see page 5).

SIM = 9- to 10-level calibration from 0.003 or 0.01 to 20 ppbV for 3 Targets. %RSD ≤ 30% for all 22 Target Compounds and RLs reported (0.1 ppbV for all 19

Full Scan Targets except Acetone and 1,2,4-Trichlorobenzene at 0.5 ppbV and Methylene Chloride at 0.2 ppbV; and 0.01 ppbV for Vinyl Chloride and

0.02 ppbV for Carbon Tetrachloride and Trichloroethene by SM for DF=1 analysis) were supported by the ICALs. Valid Calibration - No Action

Date 9/25/09

Data Reviewer ηηC.R.A.

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908663R1

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blank: E091005 & E091105 (Full Scan and SIM)

Field Blank: FB2

[illegible]

Date 9/25/09

Data Reviewer 77C.RK

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908663R1

Method of Analysis: TO-15 Hi/Lo

Additional Notes:

CCALs: E091002 & E091002sim & E091102 & E091102sim- % Recovery 70-130% for all 22 Targets. No Action required.

BFB Tunes: Instrument E 3 Tunes (1 for ICAL + 3 for CCAL) - all criteria in all tunes were met

All samples were analyzed within 12 hours of tune; therefore, all data are acceptable as reported.

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

LCS: E091003 & E091003sim & E091103 & E091103sim All 22 Target compounds were recovered within criteria - Acceptable accuracy for method demonstrated. No Action Required.

There was no LD performed on the samples in this Work Order

FD pair = IA0501 / DUP1602. A comparison of results is shown on page 4. FD precision was acceptable for all detected VOCs except Acetone with RPD > 20% for results > 5 x RL.

**ACTION: Acetone estimated (J) in IA0501 and DUP1602 with indeterminate bias due to FD imprecision.*

All results were reported within the instrument calibration range (no "J" or "E" data reported)

All non-detects were at a level below the Project required RL (as shown in Table 5); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues not already addressed that may affect data quality.

Date 9/25/09

Data Reviewer 776.RK

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #:

0908663R1

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation_ Sample IDs:

Samples: IA0501

Field Duplicate: DUP1602

Analyte Name	CAS No.	DF = 1.71*		Sample Result		FD		FD Result		RPD	Action	
		RL (µg/m³)		µg/m³	Q	Level		µg/m³	Q			Level
Freon 12	75-71-8	0.84		2.8		>RL but < 5xRL		2.8		>RL but < 5xRL	0.0	None
Freon 11	75-69-4	0.96		2.1		>RL but < 5xRL		2.2		>RL but < 5xRL	4.7	None
Freon 113	76-13-1	1.3		1.3	U	RL		1.3		>RL but < 5xRL	NA	None
1,1-Dichloroethene	75-35-4	0.68		0.68	U	RL		0.68	U	RL	NA	None
Acetone	67-64-1	2		11	EB	> 5 x RL		19		> 5 x RL	53.3	J Both
Methylene Chloride	75-09-2	1.2		1.2	U	RL		1.2	U	RL	NA	None
cis-1,2-Dichloroethene	156-59-2	0.68		0.68	U	RL		0.68	U	RL	NA	None
1,1,1-Trichloroethane	71-55-6	0.93		0.93	U	RL		0.93	U	RL	NA	None
Benzene	71-43-2	0.55		0.55	U	RL		0.55	U	RL	NA	None
Toluene	108-88-3	0.64		0.71		>RL but < 5xRL		0.76		>RL but < 5xRL	6.8	None
Tetrachloroethene	127-18-4	1.2		1.2	U	RL		1.2		>RL but < 5xRL	NA	None
Chlorobenzene	108-90-7	0.79		0.79	U	RL		0.79	U	RL	NA	None
Ethyl Benzene	100-41-4	0.74		0.74	U	RL		0.74	U	RL	NA	None
m,p-Xylene	108-38-3/106-42-3	0.74		0.74	U	RL		0.74	U	RL	NA	None
o-Xylene	95-47-6	0.74		0.74	U	RL		0.74	U	RL	NA	None
1,3-Dichlorobenzene	541-73-1	1		1	U	RL		1	U	RL	NA	None
1,4-Dichlorobenzene	106-46-7	1		1	U	RL		1	U	RL	NA	None
1,2-Dichlorobenzene	95-50-1	1		1	U	RL		1	U	RL	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.3		6.3	U	RL		6.3	U	RL	NA	None
Vinyl Chloride	75-01-4	0.044		0.044	U	RL		0.044		>RL but < 5xRL	NA	None
Carbon Tetrachloride	56-23-5	0.22		0.49		>RL but < 5xRL		0.47		>RL but < 5xRL	4.2	None
Trichloroethene	79-01-6	0.18		0.18	U	RL		0.18		>RL but < 5xRL	NA	None

*This is the sample and FD DF and 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.

Date 9/25/09

Data Reviewer ηηc. Bm

Lab: Air Toxics Ltd.

Work Order #: 0908663R1

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name	Full Scan (Full) or SIM	RL ($\mu\text{g}/\text{m}^3$)
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 9/25/09

Data Reviewer ηηc.RK

IBM - East Fishkill Facility, Hopewell Junction, New York
Air Data Review Checklist

Lab: Air Toxics Ltd.

Work Order #: 0908663R1

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

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 9/25/09

Data Reviewer 77C.RM