

**REPORT OF SUPPLEMENTAL  
REMEDIAL MEASURES  
BUILDING 330C VOC SOURCE ASSESSMENT**

*IBM East Fishkill Facility  
Hopewell Junction, New York*



*Prepared for IBM Corporation  
File No. 2999.00  
July 2014*



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July 23, 2014

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

Re: Report of Supplemental Remedial Measures – Building 330C VOC Source Assessment  
RFI Work Plan Implementation  
IBM East Fishkill Facility, Hopewell Junction, New York  
EPA ID No. NYD000707901

Dear Mr. Czuhanich:

The enclosed report the results of supplemental assessment and remedial measures to address the source of volatile organic compounds (VOCs) detected in indoor air in certain areas of Building 330C at the IBM East Fishkill facility (the Site). The scope of this work and progress updates have been communicated to the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) (collectively, the Agencies) through regular correspondence and meetings.

If you wish to further discuss this report 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

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

**REPORT OF SUPPLEMENTAL REMEDIAL MEASURES  
BUILDING 330C VOC SOURCE ASSESSMENT**

IBM East Fishkill Facility  
Hopewell Junction, New York

*Prepared for*  
**IBM Corporation**



*Prepared by*  
**Sanborn, Head Engineering, P.C.**

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Building 330C VOC Source Assessment  
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## 1.0 INTRODUCTION

This report presents the results of supplemental assessment and remedial measures to address the source of volatile organic compounds (VOCs) detected in indoor air in certain areas of Building 330C at the IBM East Fishkill facility (the Site). A Site location plan is provided as Figure 1, and the Building 330C location on the Site is shown on Figure 2.

As documented in a November 2009 report<sup>1</sup>, anomalous presence of VOCs, principally tetrachloroethene (PCE) and trichloroethene (TCE), were detected in the indoor air within certain areas of the western and southern portions of Building 330C. IBM implemented assessment and remedial measures in several of these areas, specifically, in the RMP Ball Mill room, the Reliability Engineering Lab (Reliability Lab), and the Sintering Furnace Room #2 (Sintering Room). The locations of each of these areas are depicted on Figure 3.

Initial remedial measures, which were documented in the November 2009 report, included adjustments to heating, ventilating, and air conditioning (HVAC) operations and sealing/closure of certain utility penetrations. These measures successfully reduced indoor air VOC concentrations in the RMP Ball Mill room and the Sintering Room.

Consistent with the approach described in the November 2009 report, IBM has conducted supplemental assessment and remedial measures to reduce indoor air VOC levels in the Reliability Lab and the Sintering Room. This report documents those actions and the results.

This report also presents the results of assessment of some peeling floor tiles observed in the Reliability Lab and eMagine Clean Room. In addition, the results of VOC field screening in the Sintering Room are also described herein.

Sanborn, Head Engineering P.C. (Sanborn Head), with assistance from IBM personnel, conducted this work consistent with the objectives and procedures described in IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation Work Plan (the Work Plan)<sup>2</sup>, approved by New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) (collectively, the Agencies). The assessment and this report are subject to the standard limitations of this type of work, as provided in Appendix A.

This report is organized into the following sections:

**Section 2** presents an overview of remedial measure implementation and re-sampling conducted in the Reliability Lab.

**Section 3** presents an overview of remedial measures implementation, field screening, and re-sampling conducted in the Sintering Room.

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<sup>1</sup> IBM Corporation and Sanborn, Head Engineering P.C., *Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York*, November 19, 2009.

<sup>2</sup> IBM Corporation and Sanborn Head Engineering, P.C., *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York*, June 15, 2009.

**Section 4** presents a summary of the quality assurance/quality control review of indoor air sampling results from the Reliability Lab and Sintering Room assessments.

Analytical laboratory data reports and data validation reports for samples collected since submittal of the November 2009 report are provided in Appendices B and C, respectively.

## 2.0 RELIABILITY LAB ASSESSMENT AND REMEDIAL MEASURES

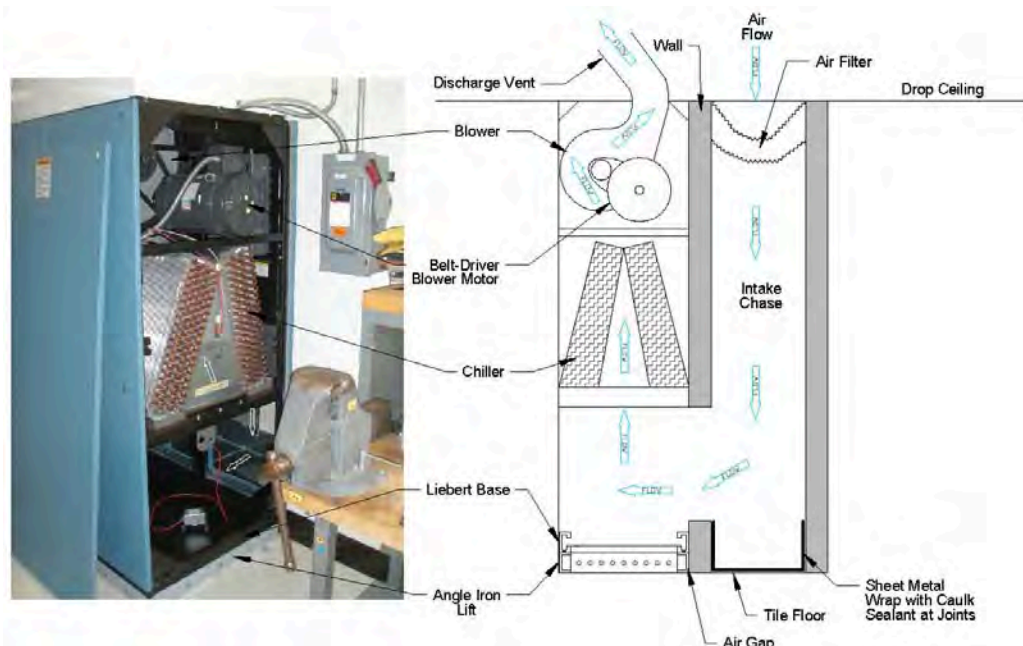
A program of remedial measures and re-sampling of indoor air was completed in the Reliability Lab as further summarized below. In addition, assessment of certain areas with peeling floor tiles was conducted in the Reliability Lab and the eMagin Clean Room.

### 2.1 Reliability Lab Liebert Units

The Reliability Lab contains five, floor-mounted air cooling/recirculation units (AC-01 through AC-05), referred to as "Lieberts" (the name of the manufacturer). The air pressure at the base of the Lieberts is negative with respect to the room, which may facilitate VOC entry into the room through the tiled floor. A photograph and schematic diagram of one of the Liebert units is provided in Exhibit A, and the locations of the units are indicated on Figure 4.

As indicated by the results of targeted indoor air sampling discussed below, PCE concentrations in the discharge of two of the units (AC-03 and AC-05) were greater than in the intake air, indicating that VOC mass was being picked up by these units and distributed to the room. To remedy this condition, units AC-03 and AC-05 were physically elevated above the floor to eliminate the negative pressure area in direct contact with the floor. In addition, the base of the intake chases of units AC-03, AC-04, and AC-05 were lined with sheet metal and caulked to limit transfer of VOCs through the tile floor (see Exhibit A).

**Exhibit A: Liebert Unit Construction**



Targeted air samples were collected from the air intakes, discharge ducts, and air gaps below the Liebert units<sup>3</sup>. The targeted indoor air samples (designated with the prefix TA) were collected in Summa® canisters (1 liter) with 1-hour flow controllers, and submitted to Eurofins Air Toxics, Inc. (EATI) of Folsom, California, a New York-certified laboratory<sup>4</sup>, for analysis of the site-specific list of 22 VOCs by the U.S. Environmental Protection Agency (USEPA) Method TO-15 Hi/Lo<sup>5</sup>. Targeted air samples were collected before and after modifications to the Liebert units. A summary of the PCE results in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) is provided in Exhibit B below. Concentrations of PCE in the intake and discharge air following modification of the Liebert units were significantly lower than concentrations prior to modification, suggesting the adjustments were successful in reducing advective flux of PCE from the subsurface to the indoor air of the Reliability Lab.

#### Exhibit B: Summary of Targeted Air Samples Collected at Liebert Units

| Liebert AC/ Recirculation Unit (and Associated Sample Designations) <sup>6</sup> | Date       | PCE Concentration ( $\mu\text{g}/\text{m}^3$ ) |           |         |
|----------------------------------------------------------------------------------|------------|------------------------------------------------|-----------|---------|
|                                                                                  |            | Intake                                         | Discharge | Air Gap |
| AC-02<br>(TA-016, TA-017)                                                        | 12/17/2009 | 69                                             | 65        | -       |
|                                                                                  | 10/6/2010  | 13                                             | 12        | -       |
| AC-03<br>(TA-014, TA-015, TA-019)                                                | 12/17/2009 | 72                                             | 460       | -       |
|                                                                                  | 7/29/2010  | 57                                             | 56        | 71      |
|                                                                                  | 10/6/2010  | 14                                             | 12        | 20      |
| AC-04<br>(TA-012, TA-013, TA-020)                                                | 12/17/2009 | 110                                            | 100       | -       |
|                                                                                  | 10/6/2010  | 12                                             | 15        | 13      |
| AC-05<br>(TA-010, TA-011, TA-021)                                                | 12/17/2009 | 130                                            | 270       | -       |
|                                                                                  | 7/29/2010  | 130                                            | 220       | -       |
|                                                                                  | 10/6/2010  | 17                                             | 23        | 16      |

Gray shading indicates samples collected before Liebert modification; green shading indicates samples collected after Liebert modifications. No shading indicates no modification, or samples collected during modifications.

Prior to and following modifications to the Liebert units, indoor air samples were collected from the Reliability Lab (at location IA0404) into Summa® canisters (6 liter) with 8-hour flow controllers. Samples were submitted to EATI for laboratory analysis of the site-specific list of 22 VOCs by USEPA Method TO-15 Hi/Lo. These results are provided in Table 1, analytical laboratory data reports are provided in Appendix B, and data validation reports are included in Appendix C.

<sup>3</sup> Liebert unit AC-01 is not in operation.

<sup>4</sup> New York - National Environmental Laboratory Accreditation Program (NELAC) Number 11291

<sup>5</sup> 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.

<sup>6</sup> Sample designations are presented in the following order: intake, discharge, and air gap. Air gap refers to the air space between the bottom of the Liebert and the tiled floor after elevating a portion of the Liebert.

As shown on Figure 4, prior to modification of the Liebert units, PCE was observed at a concentration of  $79 \mu\text{g}/\text{m}^3$  at location IA0404 in the Reliability Lab. Following modification of the Liebert units, PCE was detected in the indoor air (IA0404) at concentrations of 12 and  $16 \mu\text{g}/\text{m}^3$  in 2010 and 2013, respectively, indicating that the remedial measures have been successful in reducing VOC flux to the indoor air of the Reliability Lab.

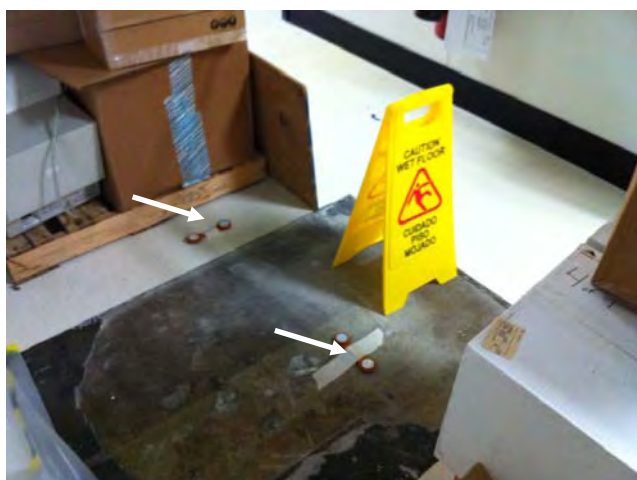
## 2.2 Reliability Lab and eMagin Clean Room Floor Tile Assessment

In May and July 2013, samples were collected in the vicinity of peeling floor tiles observed in the Reliability Lab (adjacent to indoor air sample location IA0436). Facility personnel removed a portion of the peeling tile to facilitate sampling; the peeling tile was subsequently replaced. Similar peeling floor tiles were also observed in the eMagin Clean Room. Samples were collected in both areas to assess if VOC vapor entry was contributing to the cause of peeling,, and if VOC vapor entry was occurring, whether it was affecting indoor air.

### 2.2.1 Reliability Lab Floor Tile Assessment

As shown in Exhibit C, passive diffusion screening samples were collected in the area where peeling tile was removed by deploying the samplers on the floor in a downward-facing position (designated as PD-##-D) or upward facing position (designated as PD-##-U), and in indoor air approximately 4.5 feet above the floor (designated as PD-##-IA). Samplers were deployed on May 24, 2013 for approximately 16 hours and submitted to Galson Laboratories of East Syracuse, New York for analysis of PCE and TCE. PCE and TCE sample results are presented in Exhibit D.

#### Exhibit C: Passive Diffusion Sampling in the Reliability Lab



PCE was detected in all the passive samples collected at floor level, with higher concentrations in the face-down samples ("D") than in the face-up samples ("U"). PCE was not detected in samples collected from the breathing zone in near proximity to the removed tile; however, the laboratory reporting limits for PCE with this passive device and sample collection time were  $200 \mu\text{g}/\text{m}^3$ . TCE was not recorded above its laboratory reporting limit of  $200 \mu\text{g}/\text{m}^3$  in any of the samples.



### Exhibit D: Reliability Lab Passive Diffusion Sampling Results

| Sample ID | Sample Location                                                              | PCE ( $\mu\text{g}/\text{m}^3$ ) | TCE ( $\mu\text{g}/\text{m}^3$ ) |
|-----------|------------------------------------------------------------------------------|----------------------------------|----------------------------------|
| PD-037-D  | Reliability Lab - Exposed concrete and tile/mastic                           | 5,500                            | <200                             |
| PD-037-U  |                                                                              | 900                              | <200                             |
| PD-038-D  | Reliability Lab - Tile adjacent to exposed concrete and tile/mastic          | 1,600                            | <200                             |
| PD-038-U  |                                                                              | 490                              | <200                             |
| PD-039-IA | Reliability Lab - Indoor air in breathing zone adjacent to removed tile area | <200                             | <200                             |
| PD-040-IA |                                                                              | <200                             | <200                             |
| PD-041-IA |                                                                              | <200                             | <200                             |

Additional assessment sampling was conducted on July 9 and 10, 2013. A shroud (overturned stainless steel mixing bowl) was placed on top of the exposed concrete and tile mastic/substrate, and several types of samples were collected from beneath the shroud:

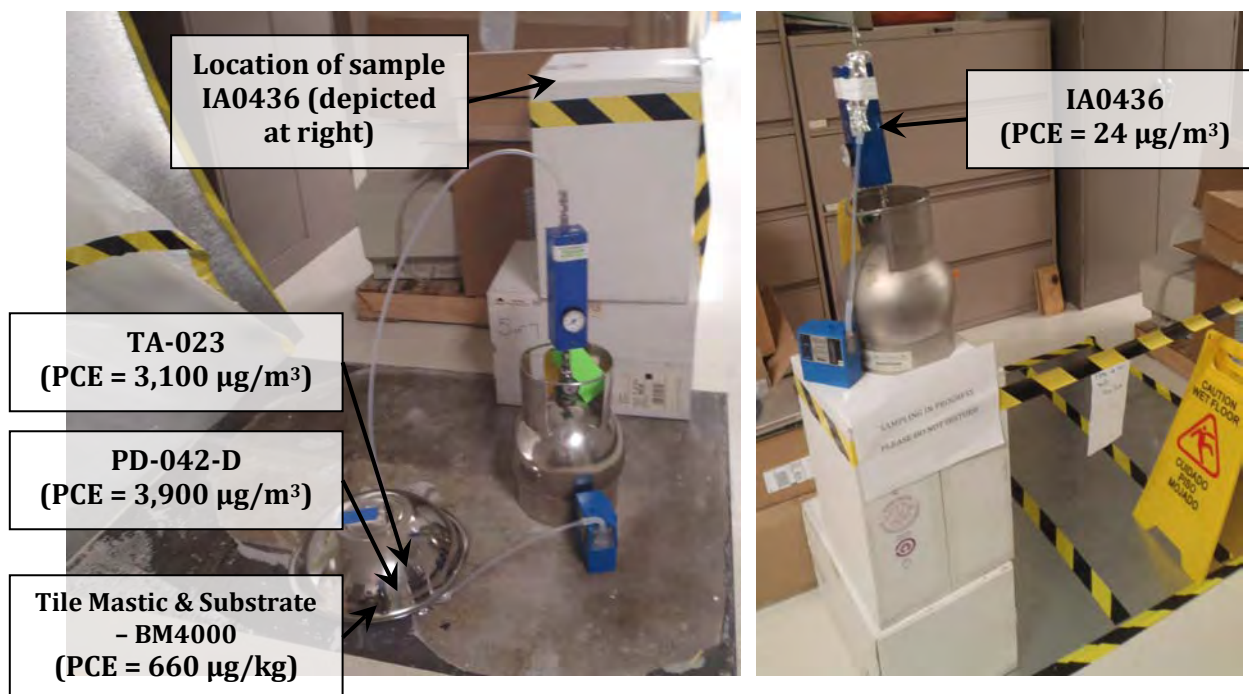
- An additional passive diffusion sample (designated as PD-042-D) was collected and submitted to Galson for analysis of a list of 31 VOCs by multiple NIOSH methods.
- A targeted air sample (designated as TA-023) was collected concurrently into two containers that were then submitted to EATI for analysis: 1) a Summa® canister (1 liter) with a 1-hour flow controller; and 2) a sorbent tube. The Summa® canister was submitted for analysis of 60 VOCs by USEPA Method TO-15 Hi/Lo, and the sorbent tube was submitted for analysis of semi-volatile organic compounds (SVOCs) by USEPA Method TO-13A. EATI reported tentatively identified compounds (TICs) for both analyses.
- A sample of the tile mastic/substrate was collected (designated as BM-4000) and submitted to Alpha Analytical, Inc. of Mansfield, Massachusetts for analysis of VOCs by USEPA Method 8260C and SVOCs by USEPA Method 3540C/8270D, with TICs reported for both analyses.

In addition, indoor air samples were collected at a location adjacent to the peeling tile (IA0436) and at a location previously sampled in the Reliability Lab (IA0404). The sample at location IA0436 was collected concurrently into two containers that were then submitted to EATI for analysis: 1) a Summa® canister (6 liter) with an 8-hour flow controller; and 2) a sorbent tube. The Summa® canister was submitted for analysis of 60 VOCs by USEPA Method TO-15 Hi/Lo, and the sorbent tube was submitted for analysis of SVOCs by USEPA Method TO-13A. EATI reported tentatively identified compounds (TICs) for both analyses. The sample at location IA0404 was collected into a Summa® canister (6 liter) with an 8-hour flow controller and submitted to EATI for analysis of 60 VOCs by USEPA Method TO-15 Hi/Lo, with TICs reported.

The results of the additional samples collected in July 2013 are provided in Table 2. Analytical laboratory reports for all of the sampling events described in this section are included in Appendix B.

As summarized in Exhibit E, the additional sample results in the Reliability Lab indicate the presence of PCE at higher concentrations in the targeted air samples collected at floor level than in the corresponding indoor air sample (IA0436) collected approximately 4.5 ft above the floor (typical breathing zone). PCE was detected in the tile mastic/substrate sample, but not at sufficient concentration to be the source of the PCE detected in the air samples. As presented on Figure 4 and previously described in Section 2.1, the indoor air PCE concentrations observed in the Reliability Lab in July 2013 are relatively similar to those observed following Liebert unit modification in 2010.

#### Exhibit E: Summary of Results from July 2013 Reliability Lab Sampling



As presented on Table 2, several other VOCs and SVOCs were observed and/or tentatively identified in the mastic, targeted air, or indoor air samples. In general, the VOCs detected in indoor air samples IA0404 and IA0436 were observed at concentrations consistent with those identified in other samples historically collected from the Reliability Lab and other portions of Building 330C.

Other VOCs and SVOCs detected in the floor tile mastic/substrate, and in the targeted air samples from directly above the mastic/substrate, are consistent with chemicals associated with mastic or leveling compound. The results do not suggest that PCE or TCE are causing the peeling of the floor tiles.

#### 2.2.2 eMagin Clean Room Floor Tile and Indoor Air Assessment

As shown in Exhibit F, passive diffusion screening samples were collected in certain areas of peeling and missing tile in the eMagin Clean Room, consistent with the methodology described in Section 2.2.1. Samplers were deployed for approximately 24 hours on July 9, 2013 and submitted to Galson Laboratories of East Syracuse, New York for analysis of a list of 31 VOCs by multiple NIOSH methods.

### Exhibit F: Passive Diffusion Sampling in eMagin Clean Room



PCE and TCE were not detected in the targeted or indoor air passive samples. PCE and TCE sample results are presented in Exhibit G.

### Exhibit G: eMagin Clean Room Passive Diffusion Sampling Results for PCE and TCE

| Sample ID | Sample Location                                                                | PCE ( $\mu\text{g}/\text{m}^3$ ) | TCE ( $\mu\text{g}/\text{m}^3$ ) |
|-----------|--------------------------------------------------------------------------------|----------------------------------|----------------------------------|
| PD-044    | eMagin Clean Room - Peeling floor tiles<br>(placed face-down at two locations) | <100                             | <100                             |
| PD-046    |                                                                                | <100                             | <100                             |
| PD-043    | eMagin Clean Room - Indoor air in breathing<br>zone above peeling tiles        | <100                             | <100                             |
| PD-045    |                                                                                | <100                             | <100                             |

In addition, an indoor air sample was collected on July 9, 2013 at a location previously sampled in the eMagin Clean Room (IA0401, see Figure 3). Consistent with the methodology described in Section 2.2.1, the sample was collected into a Summa® canister (6 liter) with an 8-hour flow controller and submitted to EATI for analysis of 60 VOCs by USEPA Method TO-15 Hi/Lo, with TICs reported.

PCE was detected in the indoor air sample collected at IA0401 at a relatively low concentration ( $2.2 \mu\text{g}/\text{m}^3$ ), consistent with previous results reported in the November 2009 report. The sample results are provided in Table 1, and the analytical laboratory reports for all of the sampling events described in this section are included in Appendix B.

Consistent with the findings in the Reliability Lab, the sample results do not suggest that PCE, TCE, or other VOCs are causing the peeling of floor tiles.



### 3.0 SINTERING ROOM ASSESSMENT AND REMEDIAL MEASURES

Following the initial assessment and mitigation work in the Sintering Room, which was documented in the November 2009 report, manufacturing activities were discontinued, and the area is no longer routinely occupied. IBM performed additional assessment and mitigation in the Sintering Room following the discontinued manufacturing activities, including backfilling a trench system and pit, and performing follow-up sampling, as described below.

#### 3.1 Sintering Room Remedial Measures

As documented in the November 2009 report, a furnace cooling water pit and series of interconnected trenches were formerly located in the Sintering Room (see Figures 5A and 5B, and Exhibit H). In December 2009, PCE was detected in a targeted air sample (TA-018) collected from above the open pit at a concentration of 2,600  $\mu\text{g}/\text{m}^3$ , and TCE was detected at a concentration of 350  $\mu\text{g}/\text{m}^3$ . Given these results and the findings from previous assessments, the trenches and pit were closed by filling with grout/cement; penetrations into the pit were filled with hydraulic cement prior to filling the pit.

In addition, a series of modifications were made to the HVAC system operations in the Sintering Room, including increasing the room air changes per hour (ACH), pressurizing the adjacent "F2" Fan Room (an unoccupied space) that houses the HVAC units for this area, and shutting down the roof-mounted exhaust fans that previously provided venting for the furnaces in this area, but which are no longer in operation.

**Exhibit H: Pit in the Sintering Room (Pre- and Post-Closure)**



Following the pit and trench closure and adjustment of the HVAC systems, indoor air samples and one targeted air sample were collected from inside the Sintering Room and adjacent "F2" Fan Room in February 2011, May 2011, January 2012, and October 2012. Samples were collected into Summa® canisters (6 liter) with 8-hour flow controllers and submitted to EATI for laboratory analysis of the site-specific list of 22 VOCs by USEPA

Method TO-15 Hi\Lo. These sampling results are provided in Table 1, and analytical laboratory data reports are provided in Appendix B.

As shown on Figure 4, PCE and TCE concentrations detected in the October 2012 samples collected after the completion of the remedial measures were less than those observed prior to implementation of the remedial measures, and generally at concentrations of a few micrograms per cubic meter. Among the eight indoor sample locations, the highest post-remedial levels were observed at location IA0416, where the PCE concentrations in the primary and duplicate samples were 11 and 24  $\mu\text{g}/\text{m}^3$ , and 18 and 42  $\mu\text{g}/\text{m}^3$  for TCE. These concentrations are lower than their previously detected values of 48 and 65  $\mu\text{g}/\text{m}^3$  for PCE and TCE, respectively.

### 3.2 Sintering Room Field Screening – Evaluation of Potential Vapor Intrusion Preferential Pathways

To further assess the observed October 2012 PCE and TCE concentrations at the IA0416 location, field screening was conducted within the Sintering Room on November 29 and 30, 2012. Field screening was conducted to assess the distribution of certain chlorinated VOCs (CVOCs) in indoor air, and to evaluate potential preferential pathways for VOCs to enter the Sintering Room.

Field screening for CVOCs was conducted using an Inficon HAPSITE Smart Plus portable gas chromatograph/mass spectrometer (GC/MS). Locations were screened for 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (c-1,2-DCE), trans-1,2-dichloroethene (t-1,2-DCE), PCE, TCE, and vinyl chloride (VC). The HAPSITE data was used for general screening purposes only. Exhibit I shows the portable GC/MS in use for indoor air and targeted screening. For comparison purposes, grab air samples were collected into Summa® canisters (6 liter) from locations IA0416, IA0436, and TA-103 at approximately the same time as the portable GC/MS screening, and submitted to EATI for analysis of the site-specific list of 22 VOCs by Method TO-15 Hi/Lo.

#### Exhibit I: Field Screening with the Portable GC/MS



*View of portable GC/MS indoor air screening at location IA0416 (left), and example of targeted air screening of an expansion joint at location TA-106 (right).*

The locations screened with the portable GC/MS and the corresponding PCE and TCE results are presented on Figure 5A, and the CVOC screening results and concurrent Summa canister sample results are provided in Table 3. PCE and TCE were observed at several floor-level features (designated with a TA- prefix) at significantly higher concentrations as compared to indoor air screening locations (designated with an IA- prefix), particularly at expansion joint cracks in close proximity to indoor air locations IA0416 and IA0434. The screening data suggests that the expansion joints are serving as preferential pathways for VOC entry into the Sintering Room.

A commercially-available spray foam sealant was applied along select segments of the expansion joints, and the targeted and indoor air locations were re-screened. Following application of the spray foam sealant, and as shown on Exhibit J and Figure 5A, PCE and TCE concentrations at the targeted air locations decreased to levels consistent with those observed in nearby indoor air. The portable GC/MS screening results in indoor air (at locations IA0416 and IA0434) were generally similar or slightly lower following application of the spray foam sealant.

#### **Exhibit J: Targeted Portable GC/MS Screening Results of Expansion Joint Cracks**



*Targeted field screening results from expansion joint cracks directly below locations IA0434 (left) and IA0416 (right) under normal HVAC conditions.*

### **3.3 Sintering Room Field Screening – Evaluation of HVAC Influence on Vapor Intrusion Potential**

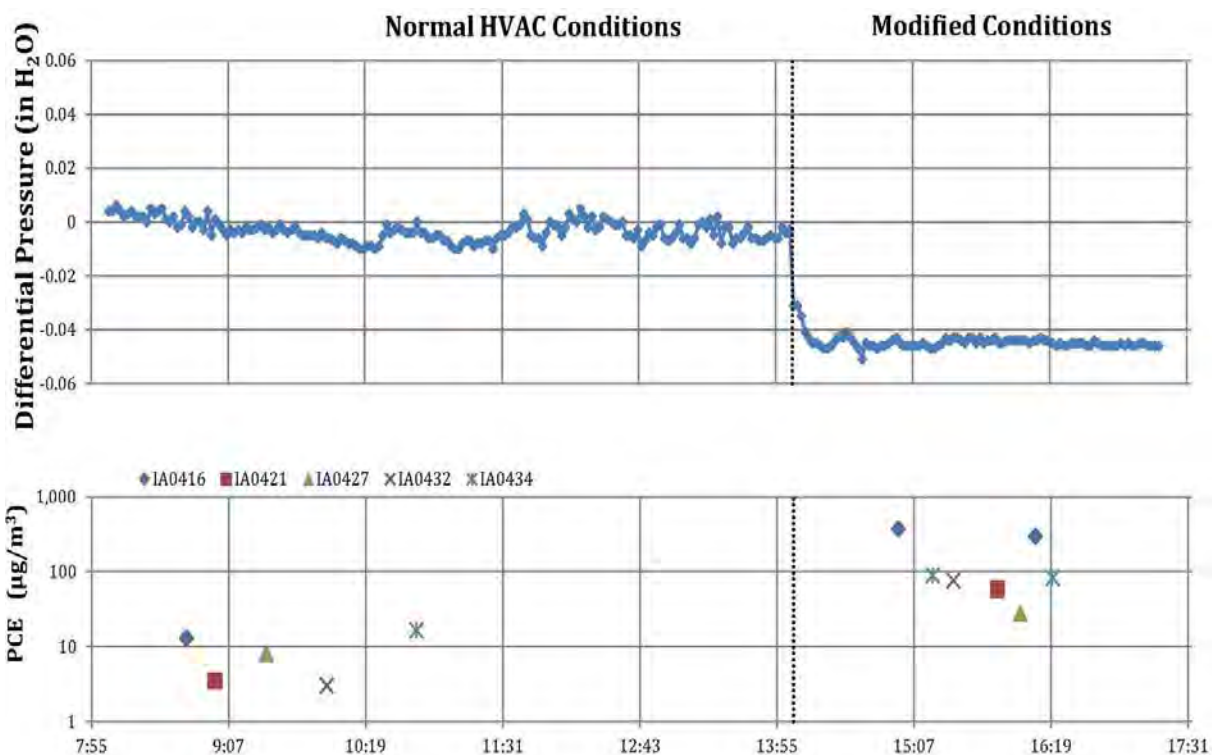
To further evaluate HVAC operating conditions in this area that would limit vapor intrusion, an experiment was conducted on November 29, 2012 where indoor air screening was conducted and differential pressure between indoor and outdoor air was recorded under two different HVAC operating scenarios: 1) current operating conditions (air handlers AC-99 and 100 turned on, and all exhaust fans off), and 2) modified conditions whereby AC-99 and 100 were turned off, and the exhaust fans were turned on. Under each scenario, indoor air field screening was conducted throughout the Sintering Room using



the portable GC/MS described above, and differential pressure measurements between the indoor and outdoor air were recorded at one location using a VelociCalc meter equipped with a data logger.

As shown on Exhibit K, under normal HVAC conditions (i.e., when the exhaust fans in the Sintering Room were off and the air handlers were operating), the building pressure relative to outside air was near neutral, and the PCE screening results observed in indoor air were consistent with those observed in the Summa canister indoor air samples collected in October 2012. Then, under the modified HVAC conditions (i.e., when the exhaust fans were operating and the air handlers were off), the building pressure relative to outside air and the surrounding building was negative (i.e., the pressure in the building is less than the pressure of the outside air), and PCE screening results observed in indoor air increased by approximately one to two orders of magnitude. These results indicate that operation of the exhaust fans increases VOC vapor entry into the Sintering Room. After the exhaust fans were turned off and the air handlers reactivated, the CVOC concentrations returned to the pre-experiment levels.

#### **Exhibit K: Building Differential Pressure and Field Screening Results of Indoor Air During Normal and Modified HVAC Conditions**



The portable GC/MS screening results and differential pressure measurements recorded during the experiment are shown on Figure 5B, and the screening data and laboratory analytical data are provided in Table 3.

Given the findings of this evaluation, IBM will continue to operate AC-99 and AC-100, and the exhaust fans will remain shut down. Currently, IBM does not plan to re-occupy this area, and no further assessment or remedial measures are planned at this time.

#### **4.0 QUALITY ASSURANCE/QUALITY CONTROL**

Analytical data from the 8-hour indoor air Summa samples collected during the October 2010 and October 2012 sampling events, as well as the 8-hour Summa samples associated with the July 2013 sampling in the Reliability Lab and eMagin Clean Room, were provided to New Environmental Horizons (NEH) for third-party independent data validation. NEH's data validation reports are presented as Appendix 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 Work Plan QA/QC requirements, and USEPA and NYSDEC guidelines for data validation of organic data. NEH prepared Data Usability Reports that summarized the quality control (QC) issues that required action (qualification of data) and compared QA/QC criteria to the DQOs described in the approved Work Plan.

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

The following QA/QC consideration was noted by NEH for the October 2010 sample collected in the Reliability Lab:

- Although 1,2,4-trichlorobenzene was not recorded above the laboratory reporting limit, the laboratory reported low recovery for the calibration verification for this analyte. NEH qualified this result as estimated (i.e., "J" flagged), with a low bias<sup>7</sup>. The laboratory reporting limit was 6.2 µg/m<sup>3</sup>. The calibration verification recovery for the other 21 analytes met acceptable criteria.

The following QA/QC considerations were noted by NEH for the October 2012 sampling event in the Sintering Room:

- The chain of custody (COC) provided to the analytical laboratory incorrectly reported the canister serial identification number for one sample (IA0424). Canister certifications provided by the analytical laboratory indicated the correct canister number, which was used by the laboratory for association with the sample.
- Due to the difference in PCE and TCE concentrations<sup>8</sup> (greater than 20%) in the primary and duplicate samples collected from IA0416, NEH qualified the results for PCE and TCE in both samples as estimated (i.e., "J" flagged), with an indeterminate bias.

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<sup>7</sup> The data validator determined that the reported result is likely to be biased low relative to the "true" value due to the low recovery in the calibration verification.

<sup>8</sup> The precision between these values is greater than 20% for results greater than 5 times the reporting limit.



The following QA/QC considerations were noted by NEH for the July 2013 sampling event in the Reliability Lab and eMagin Clean Room; these qualifications are not considered significant, as the analyses were used to assist in the tile investigation assessment and are outside the scope of the Work Plan for the site:

- Several VOCs and SVOCs that are not included on the site-specific list of compounds were qualified as estimated (i.e., "J" flagged), with an indeterminate bias, due to either issues with the laboratory calibration verifications, or in the case of the SVOC analyses, due to potential uncertainty in the ability of the sorbent tube collection methodology to capture the full range of SVOCs beyond the PAHs.
- The TICs reported by the analytical laboratory were qualified as estimated (i.e., "J" flagged), with an indeterminate bias, and one TIC identified in the SVOC analysis (PCE) was rejected due to its positive identification in the VOC analysis scan.

In summary and as stated above, the data were found to be useable in accordance with the project data quality objectives and subject to only minor qualifications.

## 5.0 SUMMARY

IBM has completed iterative investigations and remedial measures within the southwest portion of Building 330C. PCE and TCE concentrations before and after implementation of these measures are presented on Figure 6. The remedial measures implemented in the RMP Ball Mill room (sealing of an open conduit penetration and HVAC adjustment – see November 2009 report), Reliability Lab, and Sintering Room have significantly reduced the concentrations of VOCs observed in indoor air in these areas of Building 330C.

Currently, IBM does not plan to re-occupy the Sintering Room, and no further assessment or remedial measures are planned at this time.

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## TABLES

TABLE 1  
Confirmatory Sampling Results  
Report of Supplemental Remedial Mesaures  
B330C VOC Source Assessment  
IBM East Fishkill  
Hopewell Junction, New York

| Analyte Name                                      | Concentrations in µg/m³ |      |        |                     |      |        |                 |      |        |           |      |        |                            |          |          |           |      |        |          |                 |      |        |            |      |        |                   |      |        |           |      |  |
|---------------------------------------------------|-------------------------|------|--------|---------------------|------|--------|-----------------|------|--------|-----------|------|--------|----------------------------|----------|----------|-----------|------|--------|----------|-----------------|------|--------|------------|------|--------|-------------------|------|--------|-----------|------|--|
|                                                   | Field Blank             |      |        | Ambient Outdoor Air |      |        |                 |      |        |           |      |        |                            |          |          |           |      |        |          | Indoor Air      |      |        |            |      |        |                   |      |        |           |      |  |
|                                                   | FB1                     |      |        | AA0419              |      |        | AA0420          |      |        | AA0428    |      |        | AA0428                     | AA0428   | AA0428   | AA0428    |      |        | AA0430   | IA0400          |      |        | IA0401     |      |        | IA0401            |      |        | IA0402    |      |  |
|                                                   |                         |      |        | Intake to AC-13     |      |        | Intake to AC-04 |      |        |           |      |        | Intake to AC-99 and AC-100 |          |          |           |      |        |          | Intake to AC-58 |      |        | Break Room |      |        | eMagin Clean Room |      |        |           |      |  |
|                                                   | 08/26/09                |      |        | 08/26/09            |      |        | 08/26/09        |      |        | 10/28/09  |      |        | 02/09/11                   | 05/12/11 | 01/26/12 | 10/11/12  |      |        | 12/17/09 | 08/26/09        |      |        | 08/26/09   |      |        | 07/09/13          |      |        | 08/26/09  |      |  |
| Result                                            | Qualifier               | Bias | Result | Qualifier           | Bias | Result | Qualifier       | Bias | Result | Qualifier | Bias | Result | Result                     | Result   | Result   | Qualifier | Bias | Result | 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    |        | <1.0                       | <1.1     | <1.1     | <1.1      | U    |        | <1.0     | 11              |      |        | 3.1        |      |        | 2.2               |      |        | 1.5       |      |  |
| Trichloroethene (TCE)                             | <0.18                   | U    |        | <0.18               | U    |        | <0.17           | U    |        | <0.18     | U    |        | 0.44                       | <0.18    | <0.18    | <0.18     | U    |        | <0.16    | 0.20            |      |        | <0.18      | U    |        | <0.18             | U    |        | <0.18     | U    |  |
| cis-1,2-Dichloroethene (cDCE)                     | <0.67                   | U    |        | <0.67               | U    |        | <0.61           | U    |        | <0.65     | U    |        | <0.61                      | <0.67    | <0.65    | <0.65     | U    |        | <0.59    | <0.65           | U    |        | <0.65      | U    |        | <0.14             | U    |        | <0.68     | U    |  |
| 1,1-Dichloroethene (DCE)                          | <0.67                   | U    |        | <0.67               | U    |        | <0.61           | U    |        | <0.65     | U    |        | <0.61                      | <0.67    | <0.65    | <0.65     | U    |        | <0.59    | <0.65           | U    |        | <0.65      | U    |        | <0.068            | U    |        | <0.68     | U    |  |
| Vinyl chloride (VC)                               | <0.043                  | U    |        | <0.043              | U    |        | <0.040          | U    |        | <0.042    | U    |        | <0.040                     | 0.79     | <0.042   | <0.042    | U    |        | <0.038   | <0.042          | U    |        | <0.042     | U    |        | <0.044            | U    |        | <0.044    | U    |  |
| 1,1,1-Trichloroethane (TCA)                       | <0.92                   | U    |        | <0.92               | U    |        | <0.84           | U    |        | <0.89     | U    |        | <0.84                      | <0.92    | <0.89    | <0.89     | U    |        | <0.81    | <0.89           | U    |        | <0.89      | U    |        | <0.19             | U    |        | <0.93     | U    |  |
| Carbon tetrachloride                              | <0.21                   | U    |        | 0.50                |      |        | 0.54            |      |        | 0.51      |      |        | 0.51                       | 0.47     | 0.46     | 0.57      |      |        | 0.47     | 0.52            |      |        | 0.48       |      |        | 0.51              |      |        | 0.52      |      |  |
| Methylene chloride (MeCl)                         | <1.2                    | U    |        | <1.2                | U    |        | <1.1            | U    |        | <1.1      | U    |        | <1.1                       | <1.2     | <1.1     | <1.1      | U    |        | <1.0     | <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    |        | <0.71                      | <0.77    | <0.76    | <0.76     | U    |        | <0.68    | <0.76           | U    |        | <0.76      | U    |        | <0.8              | U    |        | <0.79     | U    |  |
| 1,2,4-Trichlorobenzene                            | <6.2                    | U    |        | <6.2                | U    |        | <5.8            | U    |        | <6.1      | U    |        | <5.8                       | <6.2     | <6.1     | <6.1      | U    |        | <5.5     | <6.1            | U    |        | <6.1       | U    |        | <6.4              | U    |        | <6.3      | U    |  |
| 1,2-Dichlorobenzene                               | <1.0                    | U    |        | <1.0                | U    |        | <0.93           | U    |        | <0.99     | U    |        | <0.93                      | <1.0     | <0.99    | <0.99     | U    |        | <0.90    | <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    |        | <0.93                      | <1.0     | <0.99    | <0.99     | U    |        | <0.90    | <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    |        | <0.93                      | <1.0     | <0.99    | <0.99     | U    |        | <0.90    | <0.99           | U    |        | <0.99      | U    |        | <1.0              | U    |        | <1.0      | U    |  |
| Acetone                                           | <2.0                    | U    |        | 8.3                 |      |        | 13              |      |        | 3.9       |      |        | 2.5                        | 12.0     | 3.1      | 4.6       |      |        | 3.4      | 15              |      |        | 28         |      |        | 21                |      |        | 61        |      |  |
| Benzene                                           | <0.54                   | U    |        | <0.54               | U    |        | <0.50           | U    |        | <0.52     | U    |        | 0.61                       | <0.54    | 0.68     | <0.52     | U    |        | <0.48    | <0.52           | U    |        | <0.52      | U    |        | <0.28             | U    |        | <0.55     | U    |  |
| Ethylbenzene                                      | <0.73                   | U    |        | <0.73               | U    |        | <0.67           | U    |        | <0.71     | U    |        | <0.67                      | <0.73    | <0.71    | <0.71     | U    |        | <0.65    | <0.71           | U    |        | <0.71      | U    |        | <0.15             | U    |        | <0.74     | U    |  |
| m,p-Xylene                                        | <0.73                   | U    |        | <0.73               | U    |        | <0.67           | U    |        | <0.71     | U    |        | <0.67                      | <0.73    | <0.71    | <0.71     | U    |        | <0.65    | <0.71           | U    |        | <0.71      | U    |        | <0.30             | U    |        | <0.74     | U    |  |
| o-Xylene                                          | <0.73                   | U    |        | <0.73               | U    |        | <0.67           | U    |        | <0.71     | U    |        | <0.67                      | <0.73    | <0.71    | <0.71     | U    |        | <0.65    | <0.71           | U    |        | <0.71      | U    |        | <0.15             | U    |        | <0.74     | U    |  |
| Toluene                                           | <0.63                   | U    |        | <0.63               | U    |        | 0.85            |      |        | <0.62     | U    |        | <0.58                      | <0.63    | 0.65     | <0.62     | U    |        | 0.71     | 0.75            |      |        | 1.3        |      |        | 1.4               |      |        | 1.2       |      |  |
| Trichlorofluoromethane (Freon 11)                 | <0.94                   | U    |        | 1.3                 |      |        | 1.3             |      |        | 1.3       |      |        | 1.4                        | 1.4      | 1.5      | 1.4       |      |        | 1.1      | 3.7             |      |        | 5.5        |      |        | 10                |      |        | 9.7       |      |  |
| Dichlorodifluoromethane (Freon 12)                | <0.83                   | U    |        | 2.0                 |      |        | 2.1             |      |        | 2.0       |      |        | 2.5                        | 2.1      | 2.4      | 2.8       |      |        | 2.2      | 2.2             |      |        | 2.2        |      |        | 3.2               |      |        | 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                       | <1.3     | <1.2     | <1.2      | U    |        |          | <1.2            | U    |        | <1.2       | U    |        | <1.3              | U    |        | <1.3      | U    |  |

Notes:

- Samples were collected by SHPC personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers. Refer to Figures for sample locations.
- Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.
- 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 August 2009, October 2009, October 2010, October 2012, and July 2013 analytical data, as described in their [In-Depth Data Usability Reviews](#), dated September 24, 2009, September 25, 2009, November 3, 2009, November 4, 2009, November 19, 2012, and August 29, 2013. NEH's reports for the 2009 data are provided in IBM Corporation and Sanborn, Head Engineering P.C.'s November 19, 2009 report entitled, "*Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York.*" NEH's reports for the October 2010, October 2012, and July 2013 data are provided in Appendix C of this report. 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.  
"L" - Low bias.
- An independent data validation was not performed on data for samples collected on December 17, 2009; July 29, 2010; February 9, 2011; May 12, 2011; and January 26, 2012.
- Bold** values indicate the analyte was detected above reporting limits.
- Gray shading indicates pre-remedial results.  
Green shading indicates post-remedial results.  
No shading indicates no remedial measures taken, or remedial measures in progress on date of collection.

TABLE 1  
Confirmatory Sampling Results  
Report of Supplemental Remedial Mesaures  
B330C VOC Source Assessment  
IBM East Fishkill  
Hopewell Junction, New York

| Analyte Name                                      | Concentrations in µg/m³ |      |        |           |      |        |             |      |        |                             |      |        |           |      |        |          |             |          |           |      |        |           |      |        |           |      |        |           |      |  |                   |  |  |              |  |  |
|---------------------------------------------------|-------------------------|------|--------|-----------|------|--------|-------------|------|--------|-----------------------------|------|--------|-----------|------|--------|----------|-------------|----------|-----------|------|--------|-----------|------|--------|-----------|------|--------|-----------|------|--|-------------------|--|--|--------------|--|--|
|                                                   | Indoor Air              |      |        |           |      |        |             |      |        |                             |      |        |           |      |        |          |             |          |           |      |        |           |      |        |           |      |        |           |      |  |                   |  |  |              |  |  |
|                                                   | IA0403                  |      |        | IA0404    |      |        | IA0404 Dup. |      |        | IA0404                      |      |        | IA0404    |      |        | IA0404   | IA0404 Dup. | IA0404   | IA0404    |      |        | IA0404    |      |        | IA0405    |      |        | IA0406    |      |  |                   |  |  |              |  |  |
|                                                   | MLC Paste Room          |      |        |           |      |        |             |      |        | Reliability Engineering Lab |      |        |           |      |        |          |             |          |           |      |        |           |      |        |           |      |        |           |      |  | eMagin Clean Room |  |  | Drum Storage |  |  |
|                                                   | 08/26/09                |      |        | 08/26/09  |      |        | 08/26/09    |      |        | 10/13/09                    |      |        | 10/28/09  |      |        | 12/17/09 | 12/17/09    | 07/29/10 | 10/06/10  |      |        | 07/09/13  |      |        | 08/26/09  |      |        | 08/26/09  |      |  |                   |  |  |              |  |  |
| Result                                            | Qualifier               | Bias | Result | Qualifier | Bias | Result | Qualifier   | Bias | Result | Qualifier                   | Bias | Result | Qualifier | Bias | Result | Result   | Result      | Result   | Qualifier | Bias | Result | Qualifier | Bias | Result | Qualifier | Bias | Result | Qualifier | Bias |  |                   |  |  |              |  |  |
| Tetrachloroethene (PCE)                           | <1.2                    | U    |        | 79        |      |        | 79          |      |        | 85                          |      |        | 96        |      |        | 61       | 64          | 50       | 12        |      |        | 16        |      |        | 2.5       |      |        | <1.1      | U    |  |                   |  |  |              |  |  |
| Trichloroethene (TCE)                             | <0.19                   | U    |        | 0.43      |      |        | 0.47        |      |        | 0.42                        |      |        | 0.44      |      |        | 0.37     | 0.37        | 0.36     | <0.18     | U    |        | 0.20      |      |        | 0.74      |      |        | <0.18     | U    |  |                   |  |  |              |  |  |
| cis-1,2-Dichloroethene (cDCE)                     | <0.69                   | U    |        | <0.67     | U    |        | <0.69       | U    |        | <0.71                       | U    |        | <0.71     | U    |        | <0.67    | <0.63       | <0.61    | <0.67     | U    |        | <0.13     | U    |        | <0.68     | U    |        | <0.67     | U    |  |                   |  |  |              |  |  |
| 1,1-Dichloroethene (DCE)                          | <0.69                   | U    |        | <0.67     | U    |        | <0.69       | U    |        | <0.71                       | U    |        | <0.71     | U    |        | <0.67    | <0.63       | <0.61    | <0.67     | U    |        | <0.063    | U    |        | <0.68     | U    |        | <0.67     | U    |  |                   |  |  |              |  |  |
| Vinyl chloride (VC)                               | <0.045                  | U    |        | 0.42      |      |        | 0.47        |      |        | 0.66                        |      |        | 0.29      |      |        | 0.33     | 0.32        | 0.36     | 0.55      |      |        | 0.096     |      |        | <0.044    | U    |        | <0.043    | U    |  |                   |  |  |              |  |  |
| 1,1,1-Trichloroethane (TCA)                       | <0.95                   | U    |        | <0.92     | U    |        | <0.95       | U    |        | <0.98                       | U    |        | <0.98     | U    |        | <0.92    | <0.86       | <0.84    | <0.92     | U    |        | <0.17     | U    |        | <0.93     | U    |        | <0.92     | U    |  |                   |  |  |              |  |  |
| Carbon tetrachloride                              | 0.52                    |      |        | 0.47      |      |        | 0.51        |      |        | 0.49                        |      |        | 0.45      |      |        | 0.41     | 0.47        | 0.44     | 0.43      |      |        | 0.58      |      |        | 0.54      |      |        | 0.50      |      |  |                   |  |  |              |  |  |
| Methylene chloride (MeCl)                         | <1.2                    | U    |        | <1.2      | U    |        | <1.2        | U    |        | <1.2                        | U    |        | <1.2      | U    |        | <1.2     | <1.1        | <1.1     | <1.2      | U    |        | 4.1       |      |        | <1.2      | U    |        | <1.2      | U    |  |                   |  |  |              |  |  |
| Chlorobenzene                                     | <0.80                   | U    |        | <0.77     | U    |        | <0.80       | U    |        | <0.82                       | U    |        | <0.82     | U    |        | <0.77    | <0.73       | <0.71    | <0.77     | U    |        | <0.74     | U    |        | <0.79     | U    |        | <0.77     | U    |  |                   |  |  |              |  |  |
| 1,2,4-Trichlorobenzene                            | <6.5                    | U    |        | <6.2      | U    |        | <6.5        | U    |        | <6.6                        | U    |        | <6.6      | UJ   | L      | <6.2     | <5.9        | <5.8     | <6.2      | UJ   | L      | <5.9      | U    |        | <6.3      | U    |        | <6.2      | U    |  |                   |  |  |              |  |  |
| 1,2-Dichlorobenzene                               | <1.0                    | U    |        | <1.0      | U    |        | <1.0        | U    |        | <1.1                        | U    |        | <1.1      | U    |        | <1.0     | <0.95       | <0.93    | <1        | U    |        | <0.96     | U    |        | <1.0      | U    |        | <1.0      | U    |  |                   |  |  |              |  |  |
| 1,3-Dichlorobenzene                               | <1.0                    | U    |        | <1.0      | U    |        | <1.0        | U    |        | <1.1                        | U    |        | <1.1      | U    |        | <1.0     | <0.95       | <0.93    | <1        | U    |        | <0.96     | U    |        | <1.0      | U    |        | <1.0      | U    |  |                   |  |  |              |  |  |
| 1,4-Dichlorobenzene                               | <1.0                    | U    |        | <1.0      | U    |        | <1.0        | U    |        | <1.1                        | U    |        | <1.1      | U    |        | <1.0     | <0.95       | <0.93    | <1        | U    |        | <0.96     | U    |        | <1.0      | U    |        | <1.0      | U    |  |                   |  |  |              |  |  |
| Acetone                                           | 38                      |      |        | 29        | J    | I      | 14          | J    | I      | 13                          |      |        | 8.1       |      |        | 7.8      | 9.7         | 15       | 9.9       |      |        | 44        |      |        | 35        |      |        | 67        |      |  |                   |  |  |              |  |  |
| Benzene                                           | <0.56                   | U    |        | <0.54     | U    |        | <0.56       | U    |        | <0.57                       | U    |        | <0.57     | U    |        | <0.54    | <0.50       | <0.50    | <0.54     | U    |        | 0.41      |      |        | <0.55     | U    |        | <0.54     | U    |  |                   |  |  |              |  |  |
| Ethylbenzene                                      | <0.76                   | U    |        | <0.73     | U    |        | <0.76       | U    |        | <0.78                       | U    |        | <0.78     | U    |        | <0.73    | <0.69       | <0.67    | <0.73     | U    |        | 0.31      |      |        | <0.74     | U    |        | <0.73     | U    |  |                   |  |  |              |  |  |
| m,p-Xylene                                        | <0.76                   | U    |        | <0.73     | U    |        | <0.76       | U    |        | <0.78                       | U    |        | <0.78     | U    |        | <0.73    | <0.69       | <0.67    | 1.2       |      |        | 0.86      |      |        | <0.74     | U    |        | 1.2       |      |  |                   |  |  |              |  |  |
| o-Xylene                                          | <0.76                   | U    |        | <0.73     | U    |        | <0.76       | U    |        | <0.78                       | U    |        | <0.78     | U    |        | <0.73    | <0.69       | <0.67    | <0.73     | U    |        | 0.31      |      |        | <0.74     | U    |        | <0.73     | U    |  |                   |  |  |              |  |  |
| Toluene                                           | 0.94                    |      |        | 1.0       |      |        | 1.2         |      |        | 1.3                         |      |        | <0.67     | U    |        | 2.7      | 2.4         | 0.66     | 1.1       |      |        | 5.9       |      |        | 0.93      |      |        | 6.8       |      |  |                   |  |  |              |  |  |
| Trichlorofluoromethane (Freon 11)                 | 4.2                     |      |        | 6.9       |      |        | 7.2         |      |        | 2.7                         |      |        | 2.2       |      |        | 2.0      | 2.0         | 8.0      | 2.8       |      |        | 8.5       |      |        | 3.1       |      |        | 4.7       |      |  |                   |  |  |              |  |  |
| Dichlorodifluoromethane (Freon 12)                | 2.3                     |      |        | 2.3       |      |        | 2.2         |      |        | 2.0                         |      |        | 2.2       |      |        | 2.2      | 2.1         | 3.2      | 2.0       |      |        | 2.6       |      |        | 2.2       |      |        | 2.2       |      |  |                   |  |  |              |  |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | <1.3                    | U    |        | 2.8       |      |        | 2.9         |      |        | 2.2                         |      |        | 3.0       |      |        | 1.4      | 1.4         | 2.8      | <1.3      | U    |        | 1.3       |      |        | <1.3      | U    |        | <1.3      | U    |  |                   |  |  |              |  |  |

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TABLE 1  
Confirmatory Sampling Results  
Report of Supplemental Remedial Mesaures  
B330C VOC Source Assessment  
IBM East Fishkill  
Hopewell Junction, New York

| Analyte Name                                      | Concentrations in µg/m³ |      |        |           |      |        |                 |      |        |           |      |        |                   |      |        |                |      |        |            |      |        |                   |      |        |           |      |        |                    |      |        |           |      |   |
|---------------------------------------------------|-------------------------|------|--------|-----------|------|--------|-----------------|------|--------|-----------|------|--------|-------------------|------|--------|----------------|------|--------|------------|------|--------|-------------------|------|--------|-----------|------|--------|--------------------|------|--------|-----------|------|---|
|                                                   | Indoor Air              |      |        |           |      |        |                 |      |        |           |      |        |                   |      |        |                |      |        |            |      |        |                   |      |        |           |      |        |                    |      |        |           |      |   |
|                                                   | IA0407                  |      |        | IA0407    |      |        | IA0408          |      |        | IA0408    |      |        | IA0409            |      |        | IA0410         |      |        | IA0411     |      |        | IA0412            |      |        | IA0413    |      |        | IA0413             |      |        | IA0413    |      |   |
|                                                   | Hallway                 |      |        |           |      |        | EMT Testing Lab |      |        |           |      |        | Manufacturing Lab |      |        | Equipment Room |      |        | Laboratory |      |        | Manufacturing Lab |      |        |           |      |        | RMP Ball Mill Area |      |        |           |      |   |
|                                                   | 08/26/09                |      |        | 10/28/09  |      |        | 08/26/09        |      |        | 10/28/09  |      |        | 08/26/09          |      |        | 08/26/09       |      |        | 08/26/09   |      |        | 08/26/09          |      |        | 08/26/09  |      |        | 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 | Result | Qualifier | Bias |   |
| Tetrachloroethene (PCE)                           | 22                      |      |        | 31        |      |        | 21              |      |        | 22        |      |        | 4.2               |      |        | 4.0            |      |        | 5.6        |      |        | 2.2               |      |        | 77        |      |        | 45                 |      |        | 12        |      |   |
| Trichloroethene (TCE)                             | <0.17                   | U    |        | <0.21     | U    |        | 0.17            | J    | I      | <0.19     | U    |        | <0.30             | U    |        | <0.17          | U    |        | <0.17      | U    |        | <0.18             | U    |        | 0.41      |      |        | 0.29               |      |        | 0.20      |      |   |
| cis-1,2-Dichloroethene (cDCE)                     | <0.61                   | U    |        | <0.78     | U    |        | <0.65           | U    |        | <0.69     | U    |        | <1.1              | U    |        | <0.61          | U    |        | <0.64      | U    |        | <0.67             | U    |        | <0.68     | U    |        | <0.63              | U    |        | <0.68     | U    |   |
| 1,1-Dichloroethene (DCE)                          | <0.61                   | U    |        | <0.78     | U    |        | <0.65           | U    |        | <0.69     | U    |        | <1.1              | U    |        | <0.61          | U    |        | <0.64      | U    |        | <0.67             | U    |        | <0.68     | U    |        | <0.63              | U    |        | <0.68     | U    |   |
| Vinyl chloride (VC)                               | 0.049                   |      |        | 0.063     |      |        | <0.042          | U    |        | 0.046     |      |        | <0.072            | U    |        | <0.040         | U    |        | <0.041     | U    |        | <0.043            | U    |        | 0.079     |      |        | 0.094              |      |        | <0.044    | U    |   |
| 1,1,1-Trichloroethane (TCA)                       | <0.84                   | U    |        | <1.1      | U    |        | <0.89           | U    |        | <0.95     | U    |        | <1.5              | U    |        | <0.84          | U    |        | <0.88      | U    |        | <0.92             | U    |        | <0.93     | U    |        | <0.86              | U    |        | <0.93     | U    |   |
| Carbon tetrachloride                              | 0.52                    |      |        | 0.48      |      |        | 0.46            |      |        | 2.5       |      |        | 0.53              |      |        | 0.46           |      |        | 0.50       |      |        | 0.49              |      |        | 0.50      |      |        | 0.46               |      |        | 0.48      |      |   |
| Methylene chloride (MeCl)                         | <1.1                    | U    |        | <1.4      | U    |        | <1.1            | U    |        | <1.2      | U    |        | <1.9              | U    |        | <1.1           | U    |        | <1.1       | U    |        | <1.2              | U    |        | <1.2      | U    |        | <1.1               | U    |        | <1.2      | U    |   |
| Chlorobenzene                                     | <0.71                   | U    |        | <0.90     | U    |        | <0.76           | U    |        | <0.80     | U    |        | <1.3              | U    |        | <0.71          | U    |        | <0.74      | U    |        | <0.77             | U    |        | <0.79     | U    |        | <0.73              | U    |        | <0.79     | U    |   |
| 1,2,4-Trichlorobenzene                            | <5.8                    | U    |        | <7.3      | UJ   | L      | <6.1            | U    |        | <6.5      | UJ   | L      | <10               | U    |        | <5.8           | U    |        | <6.0       | U    |        | <6.2              | U    |        | <6.3      | U    |        | <5.9               | U    |        | <6.3      | UJ   | L |
| 1,2-Dichlorobenzene                               | <0.93                   | U    |        | <1.2      | U    |        | <0.99           | U    |        | <1.0      | U    |        | <1.7              | U    |        | <0.93          | U    |        | <0.97      | U    |        | <1.0              | U    |        | <1.0      | U    |        | <0.95              | U    |        | <1.0      | U    |   |
| 1,3-Dichlorobenzene                               | <0.93                   | U    |        | <1.2      | U    |        | <0.99           | U    |        | <1.0      | U    |        | <1.7              | U    |        | <0.93          | U    |        | <0.97      | U    |        | <1.0              | U    |        | <1.0      | U    |        | <0.95              | U    |        | <1.0      | U    |   |
| 1,4-Dichlorobenzene                               | <0.93                   | U    |        | <1.2      | U    |        | <0.99           | U    |        | <1.0      | U    |        | <1.7              | U    |        | <0.93          | U    |        | <0.97      | U    |        | <1.0              | U    |        | <1.0      | U    |        | <0.95              | U    |        | <1.0      | U    |   |
| Acetone                                           | 9.3                     |      |        | 6.3       |      |        | 30              |      |        | 5.5       |      |        | 180               |      |        | 430            |      |        | 48         |      |        | 130               |      |        | 17        |      |        | 12                 |      |        | 9.8       |      |   |
| Benzene                                           | 0.49                    | J    | I      | <0.63     | U    |        | <0.52           | U    |        | <0.56     | U    |        | <0.89             | U    |        | <0.50          | U    |        | 0.55       |      |        | <0.54             | U    |        | <0.55     | U    |        | <0.50              | U    |        | <0.55     | U    |   |
| Ethylbenzene                                      | <0.67                   | U    |        | <0.85     | U    |        | <0.71           | U    |        | <0.76     | U    |        | <1.2              | U    |        | <0.67          | U    |        | <0.70      | U    |        | <0.73             | U    |        | <0.74     | U    |        | <0.69              | U    |        | <0.74     | U    |   |
| m,p-Xylene                                        | <0.67                   | U    |        | <0.85     | U    |        | <0.71           | U    |        | <0.76     | U    |        | <1.2              | U    |        | 1.4            |      |        | 1.6        |      |        | 1.0               |      |        | 0.92      |      |        | 0.95               |      |        | <0.74     | U    |   |
| o-Xylene                                          | <0.67                   | U    |        | <0.85     | U    |        | <0.71           | U    |        | <0.76     | U    |        | <1.2              | U    |        | <0.67          | U    |        | <0.70      | U    |        | <0.73             | U    |        | <0.74     | U    |        | <0.69              | U    |        | <0.74     | U    |   |
| Toluene                                           | 0.96                    |      |        | <0.74     | U    |        | 1.2             |      |        | 0.66      |      |        | 7.4               |      |        | 5.0            |      |        | 1.9        |      |        | 1.7               |      |        | 0.99      |      |        | 1.7                |      |        | 0.68      |      |   |
| Trichlorofluoromethane (Freon 11)                 | 3.8                     |      |        | 1.8       |      |        | 8.2             |      |        | 2.4       |      |        | 5.6               |      |        | 4.6            |      |        | 3.8        |      |        | 3.4               |      |        | 8.4       |      |        | 3.3                |      |        | 1.5       |      |   |
| Dichlorodifluoromethane (Freon 12)                | 2.5                     |      |        | 2.2       |      |        | 2.3             |      |        | 2.1       |      |        | 2.3               |      |        | 2.3            |      |        | 2.2        |      |        | 2.0               |      |        | 2.4       |      |        | 2.0                |      |        | 2.2       |      |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | <1.2                    | U    |        | 1.7       |      |        | 1.5             |      |        | 1.5       |      |        | <2.1              | U    |        | <1.2           | U    |        | <1.2       | U    |        | <1.3              | U    |        | 2.2       |      |        | 1.6                |      |        | <1.3      | U    |   |

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|---------------------------------------------------|-----------------------------------------|-----------|------|----------|-----------|------|----------|-----------|------|----------|--------|-----------|------|--------|-----------------------------------------|------|--------|-----------|------|--------|-------------|------|--------|----------|--------|-------------|--------|----------|--------|-------------|--------|----------|--|-------------|--|
|                                                   | Indoor Air                              |           |      |          |           |      |          |           |      |          |        |           |      |        |                                         |      |        |           |      |        |             |      |        |          |        |             |        |          |        |             |        |          |  |             |  |
|                                                   | IA0414                                  |           |      | IA0414   |           |      | IA0415   |           |      | IA0415   |        | IA0415    |      |        | IA0416                                  |      |        | IA0416    |      |        | IA0416 Dup. |      |        | IA0416   |        | IA0416 Dup. |        | IA0416   |        | IA0416 Dup. |        | IA0416   |  | IA0416 Dup. |  |
|                                                   | Sintering Manufacturing Furnace Room #1 |           |      |          |           |      |          |           |      |          |        |           |      |        | Sintering Manufacturing Furnace Room #2 |      |        |           |      |        |             |      |        |          |        |             |        |          |        |             |        |          |  |             |  |
|                                                   | 08/26/09                                |           |      | 10/28/09 |           |      | 08/26/09 |           |      | 01/26/12 |        | 10/11/12  |      |        | 08/26/09                                |      |        | 10/28/09  |      |        | 10/28/09    |      |        | 02/09/11 |        | 02/09/11    |        | 05/12/11 |        | 05/12/11    |        | 01/26/12 |  | 01/26/12    |  |
|                                                   | Result                                  | Qualifier | Bias | Result   | Qualifier | Bias | Result   | Qualifier | Bias | Result   | Result | Qualifier | Bias | Result | Qualifier                               | Bias | Result | Qualifier | Bias | Result | Qualifier   | Bias | Result | Result   | Result | Result      | Result | Result   | Result | Result      | Result | Result   |  |             |  |
| Tetrachloroethene (PCE)                           | 23                                      |           |      | 29       |           |      | 4.6      |           |      | 1.9      | 1.6    |           |      | 48     |                                         |      | 15     |           |      | 17     |             |      | 24     | 24       | 5.8    | 5.5         | 16     | 13       |        |             |        |          |  |             |  |
| Trichloroethene (TCE)                             | 0.62                                    |           |      | 0.53     |           |      | 1.8      |           |      | 1.9      | 2.0    |           |      | 65     |                                         |      | 4.9    |           |      | 4.7    |             |      | 2.1    | 1.8      | 4.3    | 4.2         | 22     | 17       |        |             |        |          |  |             |  |
| cis-1,2-Dichloroethene (cDCE)                     | <0.65                                   | U         |      | <0.68    | U         |      | <0.67    | U         |      | <0.69    | <0.65  | U         |      | <0.67  | U                                       |      | <0.69  | U         |      | <0.68  | U           |      | <0.67  | <0.59    | <0.65  | <0.63       | <0.67  | <0.67    |        |             |        |          |  |             |  |
| 1,1-Dichloroethene (DCE)                          | <0.65                                   | U         |      | <0.68    | U         |      | <0.67    | U         |      | <0.69    | <0.65  | U         |      | <0.67  | U                                       |      | <0.69  | U         |      | <0.68  | U           |      | <0.67  | <0.59    | <0.65  | <0.63       | <0.67  | <0.67    |        |             |        |          |  |             |  |
| Vinyl chloride (VC)                               | <0.042                                  | U         |      | <0.044   | U         |      | <0.043   | U         |      | <0.045   | <0.042 | U         |      | <0.043 | U                                       |      | <0.045 | U         |      | <0.044 | U           |      | <0.043 | <0.038   | <0.042 | <0.04       | <0.043 | <0.043   |        |             |        |          |  |             |  |
| 1,1,1-Trichloroethane (TCA)                       | <0.89                                   | U         |      | <0.93    | U         |      | <0.92    | U         |      | <0.95    | <0.89  | U         |      | <0.92  | U                                       |      | <0.95  | U         |      | <0.93  | U           |      | <0.92  | <0.81    | <0.89  | <0.86       | <0.92  | <0.92    |        |             |        |          |  |             |  |
| Carbon tetrachloride                              | 0.52                                    |           |      | 0.48     |           |      | 0.45     |           |      | 0.52     | 0.49   |           |      | 0.52   |                                         |      | 0.50   |           |      | 0.38   |             |      | 0.43   | 0.46     | 0.40   | 0.42        | 0.44   | 0.54     |        |             |        |          |  |             |  |
| Methylene chloride (MeCl)                         | <1.1                                    | U         |      | <1.2     | U         |      | <1.2     | U         |      | <1.2     | <1.1   | U         |      | <1.2   | U                                       |      | <1.2   | U         |      | <1.2   | U           |      | <1.2   | <1.0     | <1.1   | <1.1        | <1.2   | 2.1      |        |             |        |          |  |             |  |
| Chlorobenzene                                     | <0.76                                   | U         |      | <0.79    | U         |      | <0.77    | U         |      | <0.80    | <0.76  | U         |      | <0.77  | U                                       |      | <0.80  | U         |      | <0.79  | U           |      | <0.77  | <0.68    | <0.76  | <0.73       | <0.77  | <0.77    |        |             |        |          |  |             |  |
| 1,2,4-Trichlorobenzene                            | <6.1                                    | U         |      | <6.3     | UJ        | L    | <6.2     | U         |      | <6.5     | <6.1   | U         |      | <6.2   | U                                       |      | <6.5   | UJ        | L    | <6.3   | U           |      | <6.2   | <5.5     | <6.1   | <5.9        | <6.2   | <6.2     |        |             |        |          |  |             |  |
| 1,2-Dichlorobenzene                               | <0.99                                   | U         |      | <1.0     | U         |      | <1.0     | U         |      | <1.0     | <0.99  | U         |      | <1.0   | U                                       |      | <1.0   | U         |      | <1.0   | U           |      | <1.0   | <0.90    | <0.99  | <0.95       | <1.0   | <1.0     |        |             |        |          |  |             |  |
| 1,3-Dichlorobenzene                               | <0.99                                   | U         |      | <1.0     | U         |      | <1.0     | U         |      | <1.0     | <0.99  | U         |      | <1.0   | U                                       |      | <1.0   | U         |      | <1.0   | U           |      | <1.0   | <0.90    | <0.99  | <0.95       | <1.0   | <1.0     |        |             |        |          |  |             |  |
| 1,4-Dichlorobenzene                               | <0.99                                   | U         |      | <1.0     | U         |      | <1.0     | U         |      | <1.0     | <0.99  | U         |      | <1.0   | U                                       |      | <1.0   | U         |      | <1.0   | U           |      | <1.0   | <0.90    | <0.99  | <0.95       | <1.0   | <1.0     |        |             |        |          |  |             |  |
| Acetone                                           | 17                                      |           |      | 4.3      |           |      | 9.7      |           |      | 2.8      | 7.6    |           |      | 28     |                                         |      | 7.4    | J         | I    | 9.8    | J           | I    | 2.4    | 3.5      | 5.0    | 5.4         | 4.1    | 3.9      |        |             |        |          |  |             |  |
| Benzene                                           | 0.55                                    |           |      | <0.55    | U         |      | <0.54    | U         |      | 0.66     | <0.52  | U         |      | <0.54  | U                                       |      | <0.56  | U         |      | <0.55  | U           |      | 0.64   | 0.68     | <0.52  | <0.5        | 1.5    | 1.3      |        |             |        |          |  |             |  |
| Ethylbenzene                                      | <0.71                                   | U         |      | <0.74    | U         |      | <0.73    | U         |      | <0.76    | <0.71  | U         |      | <0.73  | U                                       |      | <0.76  | U         |      | <0.74  | U           |      | <0.73  | <0.65    | <0.71  | <0.69       | <0.73  | <0.73    |        |             |        |          |  |             |  |
| m,p-Xylene                                        | <0.71                                   | U         |      | <0.74    | U         |      | <0.73    | U         |      | <0.76    | 1.9    |           |      | 0.85   |                                         |      | <0.76  | U         |      | <0.74  | U           |      | <0.73  | <0.65    | <0.71  | <0.69       | <0.73  | <0.73    |        |             |        |          |  |             |  |
| o-Xylene                                          | <0.71                                   | U         |      | <0.74    | U         |      | <0.73    | U         |      | <0.76    | 0.85   |           |      | <0.73  | U                                       |      | <0.76  | U         |      | <0.74  | U           |      | <0.73  | <0.65    | <0.71  | <0.69       | <0.73  | <0.73    |        |             |        |          |  |             |  |
| Toluene                                           | 1.2                                     |           |      | 0.67     |           |      | 0.83     |           |      | <0.66    | 0.8    |           |      | 0.89   |                                         |      | <0.66  | U         |      | <0.64  | U           |      | <0.63  | <0.56    | <0.62  | <0.60       | 2.5    | 1.7      |        |             |        |          |  |             |  |
| Trichlorofluoromethane (Freon 11)                 | 7.3                                     |           |      | 2.3      |           |      | 2.7      |           |      | 2.0      | 2.4    |           |      | 3.2    |                                         |      | 2.9    |           |      | 2.5    |             |      | 1.8    | 1.9      | 2.3    | 2.2         | 2.0    | 1.9      |        |             |        |          |  |             |  |
| Dichlorodifluoromethane (Freon 12)                | 3.1                                     |           |      | 2.8      |           |      | 4.3      |           |      | 2.6      | 3.3    |           |      | 2.7    |                                         |      | 3.1    |           |      | 2.5    |             |      | 3.6    | 4.1      | 2.8    | 2.8         | 2.6    | 2.6      |        |             |        |          |  |             |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1.3                                     |           |      | 1.8      |           |      | <1.3     | U         |      | <1.3     | <1.2   | U         |      | 4.0    |                                         |      | 1.4    |           |      | <1.3   | U           |      | <1.3   | <1.1     | <1.2   | <1.2        | <1.3   | <1.3     |        |             |        |          |  |             |  |

Notes:

1. Samples were collected by SHPC personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers. Refer to Figures for sample locations.
2. Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Low). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.
3. 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.
4. “<” indicates a non-detection at the reporting limit shown.
5. New Environmental Horizons, Inc (NEH) performed an independent validation of the August 2009, October 2009, October 2010, October 2012, and July 2013 analytical data, as described in their [In-Depth Data Usability Reviews](#), dated September 24, 2009, September 25, 2009, November 3, 2009, November 4, 2009, November 19, 2012, and August 29, 2013. NEH’s reports for the 2009 data are provided in IBM Corporation and Sanborn, Head Engineering P.C.’s November 19, 2009 report entitled, “*Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York.*” NEH’s reports for the October 2010, October 2012, and July 2013 data are provided in Appendix C of this report. 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.  
"L" - Low bias.
6. An independent data validation was not performed on data for samples collected on December 17, 2009; July 29, 2010; February 9, 2011; May 12, 2011; and January 26, 2012.
7. **Bold** values indicate the analyte was detected above reporting limits.
8. Gray shading indicates pre-remedial results.  
Green shading indicates post-remedial results.  
No shading indicates no remedial measures taken, or remedial measures in progress on date of collection.

TABLE 1  
Confirmatory Sampling Results  
Report of Supplemental Remedial Mesaures  
B330C VOC Source Assessment  
IBM East Fishkill  
Hopewell Junction, New York

| Analyte Name                                      | Concentrations in µg/m³                 |      |        |             |      |        |               |      |        |                       |      |        |           |      |        |                                         |      |        |          |          |          |           |      |        |           |      |        |          |           |      |  |
|---------------------------------------------------|-----------------------------------------|------|--------|-------------|------|--------|---------------|------|--------|-----------------------|------|--------|-----------|------|--------|-----------------------------------------|------|--------|----------|----------|----------|-----------|------|--------|-----------|------|--------|----------|-----------|------|--|
|                                                   | Indoor Air                              |      |        |             |      |        |               |      |        |                       |      |        |           |      |        |                                         |      |        |          |          |          |           |      |        |           |      |        |          |           |      |  |
|                                                   | IA0416                                  |      |        | IA0416 Dup. |      |        | IA0417        |      |        | IA0418                |      |        | IA0421    |      |        | IA0421                                  |      |        | IA0421   | IA0421   | IA0421   | IA0421    |      |        | IA0422    |      |        | IA0422   | IA0422    |      |  |
|                                                   | Sintering Manufacturing Furnace Room #2 |      |        |             |      |        | eMagin Office |      |        | eMagin Space (MW-547) |      |        |           |      |        | Sintering Manufacturing Furnace Room #2 |      |        |          |          |          |           |      |        |           |      |        |          |           |      |  |
|                                                   | 10/11/12                                |      |        | 10/11/12    |      |        | 08/26/09      |      |        | 08/26/09              |      |        | 10/13/09  |      |        | 10/28/09                                |      |        | 02/09/11 | 05/12/11 | 01/26/12 | 10/11/12  |      |        | 10/13/09  |      |        | 01/26/12 | 10/11/12  |      |  |
| Result                                            | Qualifier                               | Bias | Result | Qualifier   | Bias | Result | Qualifier     | Bias | Result | Qualifier             | Bias | Result | Qualifier | Bias | Result | Qualifier                               | Bias | Result | Result   | Result   | Result   | Qualifier | Bias | Result | Qualifier | Bias | Result | Result   | Qualifier | Bias |  |
| Tetrachloroethene (PCE)                           | 11                                      | J    | I      | 24          | J    | I      | 5.9           |      |        | 11                    |      |        | 34        |      |        | 17                                      |      |        | 13       | 4.8      | 1.9      | 2.1       |      |        | 14        |      |        | 5.6      | 1.5       |      |  |
| Trichloroethene (TCE)                             | 18                                      | J    | I      | 42          | J    | I      | <0.18         | U    |        | <0.18                 | U    |        | 8.6       |      |        | 4.3                                     |      |        | 2.3      | 4.2      | 3.3      | 3.3       |      |        | 3.8       |      |        | 3.6      | 2.0       |      |  |
| cis-1,2-Dichloroethene (cDCE)                     | <0.63                                   | U    |        | <0.67       | U    |        | <0.65         | U    |        | <0.67                 | U    |        | <0.69     | U    |        | <0.68                                   | U    |        | <0.65    | <0.65    | <0.64    | <0.64     | U    |        | <0.60     | U    |        | <0.69    | <0.67     | U    |  |
| 1,1-Dichloroethene (DCE)                          | <0.63                                   | U    |        | <0.67       | U    |        | <0.65         | U    |        | <0.67                 | U    |        | <0.69     | U    |        | <0.68                                   | U    |        | <0.65    | <0.65    | <0.64    | <0.64     | U    |        | <0.60     | U    |        | <0.69    | <0.67     | U    |  |
| Vinyl chloride (VC)                               | <0.04                                   | U    |        | <0.043      | U    |        | <0.042        | U    |        | <0.043                | U    |        | <0.045    | U    |        | <0.044                                  | U    |        | <0.042   | <0.042   | <0.041   | <0.041    | U    |        | <0.039    | U    |        | <0.045   | <0.043    | U    |  |
| 1,1,1-Trichloroethane (TCA)                       | <0.86                                   | U    |        | <0.92       | U    |        | <0.89         | U    |        | <0.92                 | U    |        | <0.95     | U    |        | <0.93                                   | U    |        | <0.89    | <0.89    | <0.88    | <0.88     | U    |        | <0.83     | U    |        | <0.95    | <0.92     | U    |  |
| Carbon tetrachloride                              | 0.52                                    |      |        | 0.49        |      |        | 0.51          |      |        | 0.55                  |      |        | 0.42      |      |        | 0.51                                    |      |        | 0.49     | 0.40     | 0.56     | 0.29      |      |        | 0.40      |      |        | 0.58     | 0.42      |      |  |
| Methylene chloride (MeCl)                         | <1.1                                    | U    |        | <1.2        | U    |        | <1.1          | U    |        | <1.2                  | U    |        | <1.2      | U    |        | <1.2                                    | U    |        | <1.1     | <1.1     | 6.4      | <1.1      | U    |        | <1.0      | U    |        | <1.2     | <1.2      | U    |  |
| Chlorobenzene                                     | <0.73                                   | U    |        | <0.77       | U    |        | <0.76         | U    |        | <0.77                 | U    |        | <0.80     | U    |        | <0.79                                   | U    |        | <0.76    | <0.76    | <0.74    | <0.74     | U    |        | <0.70     | U    |        | <0.80    | <0.77     | U    |  |
| 1,2,4-Trichlorobenzene                            | <5.9                                    | U    |        | <6.2        | U    |        | <6.1          | U    |        | <6.2                  | U    |        | <6.5      | U    |        | <6.3                                    | UJ   | L      | <6.1     | <6.1     | <6.0     | <6        | U    |        | <5.6      | U    |        | <6.5     | <6.2      | U    |  |
| 1,2-Dichlorobenzene                               | <0.95                                   | U    |        | <1          | U    |        | <0.99         | U    |        | <1.0                  | U    |        | <1.0      | U    |        | <1.0                                    | U    |        | <0.99    | <0.99    | <0.97    | <0.97     | U    |        | <0.91     | U    |        | <1.0     | <1        | U    |  |
| 1,3-Dichlorobenzene                               | <0.95                                   | U    |        | <1          | U    |        | <0.99         | U    |        | <1.0                  | U    |        | <1.0      | U    |        | <1.0                                    | U    |        | <0.99    | <0.99    | <0.97    | <0.97     | U    |        | <0.91     | U    |        | <1.0     | <1        | U    |  |
| 1,4-Dichlorobenzene                               | <0.95                                   | U    |        | <1          | U    |        | <0.99         | U    |        | <1.0                  | U    |        | <1.0      | U    |        | <1.0                                    | U    |        | <0.99    | <0.99    | <0.97    | <0.97     | U    |        | <0.91     | U    |        | <1.0     | <1        | U    |  |
| Acetone                                           | 6.8                                     |      |        | 7.6         |      |        | 120           |      |        | 87                    |      |        | 16        |      |        | 5.9                                     |      |        | 2.9      | 4.9      | 20       | 3.6       |      |        | 6.8       |      |        | 4.2      | 3.4       |      |  |
| Benzene                                           | <0.5                                    | U    |        | <0.54       | U    |        | <0.52         | U    |        | <0.54                 | U    |        | 0.62      |      |        | <0.55                                   | U    |        | 0.67     | <0.52    | 0.79     | <0.51     | U    |        | 0.73      |      |        | 0.71     | <0.54     | U    |  |
| Ethylbenzene                                      | <0.69                                   | U    |        | <0.73       | U    |        | <0.71         | U    |        | <0.73                 | U    |        | <0.76     | U    |        | <0.74                                   | U    |        | <0.71    | <0.71    | <0.70    | <0.7      | U    |        | <0.66     | U    |        | <0.76    | <0.73     | U    |  |
| m,p-Xylene                                        | <0.69                                   | U    |        | <0.73       | U    |        | 1.0           |      |        | 1.2                   |      |        | <0.76     | U    |        | <0.74                                   | U    |        | <0.71    | <0.71    | <0.70    | <0.7      | U    |        | <0.66     | U    |        | <0.76    | <0.73     | U    |  |
| o-Xylene                                          | <0.69                                   | U    |        | <0.73       | U    |        | <0.71         | U    |        | <0.73                 | U    |        | <0.76     | U    |        | <0.74                                   | U    |        | <0.71    | <0.71    | <0.70    | <0.7      | U    |        | <0.66     | U    |        | <0.76    | <0.73     | U    |  |
| Toluene                                           | <0.6                                    | U    |        | <0.63       | U    |        | 2.3           |      |        | 2.0                   |      |        | 1.6       |      |        | <0.64                                   | U    |        | <0.62    | <0.62    | 12       | <0.61     | U    |        | 1.7       |      |        | 8.6      | <0.63     | U    |  |
| Trichlorofluoromethane (Freon 11)                 | 2.3                                     |      |        | 2.3         |      |        | 4.6           |      |        | 4.6                   |      |        | 2.6       |      |        | 3.0                                     |      |        | 1.8      | 2.5      | 1.6      | 2.2       |      |        | 2.6       |      |        | 1.7      | 2.0       |      |  |
| Dichlorodifluoromethane (Freon 12)                | 3.0                                     |      |        | 3.2         |      |        | 2.2           |      |        | 2.7                   |      |        | 3.2       |      |        | 3.4                                     |      |        | 3.5      | 2.7      | 2.7      | 3.0       |      |        | 3.0       |      |        | 4.5      | 2.8       |      |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1.2                                     |      |        | 2.1         |      |        | <1.2          | U    |        | <1.3                  | U    |        | <1.3      | U    |        | 1.3                                     |      |        | <1.2     | <1.2     | <1.2     | 1.2       | U    |        | <1.2      | U    |        | <1.3     | <1.3      | U    |  |

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|---------------------------------------------------|-----------------------------------------|------|--------|-----------|------|--------|----------|----------|----------|-----------|------|--------|-----------------------------------------|------|--------|-----------|------|--------|----------|----------|----------|-----------|------|--------|-------------|------|--------|-----------|------|---|
|                                                   | Indoor Air                              |      |        |           |      |        |          |          |          |           |      |        |                                         |      |        |           |      |        |          |          |          |           |      |        |             |      |        |           |      |   |
|                                                   | IA0423                                  |      |        | IA0423    |      |        | IA0423   | IA0423   | IA0423   | IA0423    |      |        | IA0424                                  |      |        | IA0424    |      |        | IA0424   | IA0424   | IA0424   | IA0424    |      |        | IA0425      |      |        | IA0425    |      |   |
|                                                   | Sintering Manufacturing Furnace Room #2 |      |        |           |      |        |          |          |          |           |      |        | Sintering Manufacturing Furnace Room #2 |      |        |           |      |        |          |          |          |           |      |        | Butvar Area |      |        |           |      |   |
|                                                   | 10/13/09                                |      |        | 10/28/09  |      |        | 02/09/11 | 05/12/11 | 01/26/12 | 10/11/12  |      |        | 10/13/09                                |      |        | 10/28/09  |      |        | 02/09/11 | 05/12/11 | 01/26/12 | 10/11/12  |      |        | 10/13/09    |      |        | 10/28/09  |      |   |
| Result                                            | Qualifier                               | Bias | Result | Qualifier | Bias | Result | Result   | Result   | Result   | Qualifier | Bias | Result | Qualifier                               | Bias | Result | Qualifier | Bias | Result | Result   | Result   | Result   | Qualifier | Bias | Result | Qualifier   | Bias | Result | Qualifier | Bias |   |
| Tetrachloroethene (PCE)                           | 15                                      |      |        | 18        |      |        | 5.7      | 4.8      | 3.0      | 1.6       |      |        | 9.9                                     |      |        | 12        |      |        | 5.6      | 5.3      | 2.0      | 1.3       |      |        | 19          |      |        | 24        |      |   |
| Trichloroethene (TCE)                             | 8.1                                     |      |        | 5.3       |      |        | 1.3      | 4.3      | 3.4      | 2.1       |      |        | 4.4                                     |      |        | 4.4       |      |        | 1.3      | 4.6      | 2.0      | 1.8       |      |        | <0.18       | U    |        | <0.17     | U    |   |
| cis-1,2-Dichloroethene (cDCE)                     | <0.65                                   | U    |        | <0.67     | U    |        | <0.68    | <0.65    | <0.68    | <0.67     | U    |        | <0.72                                   | U    |        | <0.68     | U    |        | <0.59    | <0.61    | <0.68    | <0.67     | U    |        | <0.67       | U    |        | <0.64     | U    |   |
| 1,1-Dichloroethene (DCE)                          | <0.65                                   | U    |        | <0.67     | U    |        | <0.68    | <0.65    | <0.68    | <0.67     | U    |        | <0.72                                   | U    |        | <0.68     | U    |        | <0.59    | <0.61    | <0.68    | <0.67     | U    |        | <0.67       | U    |        | <0.64     | U    |   |
| Vinyl chloride (VC)                               | <0.042                                  | U    |        | <0.043    | U    |        | <0.044   | <0.042   | <0.044   | 0.071     |      |        | <0.047                                  | U    |        | <0.044    | U    |        | <0.038   | <0.04    | <0.044   | <0.043    | U    |        | <0.043      | U    |        | <0.041    | U    |   |
| 1,1,1-Trichloroethane (TCA)                       | <0.89                                   | U    |        | <0.92     | U    |        | <0.93    | <0.89    | <0.93    | <0.92     | U    |        | <1.0                                    | U    |        | <0.93     | U    |        | <0.81    | <0.84    | <0.93    | <0.92     | U    |        | <0.92       | U    |        | <0.88     | U    |   |
| Carbon tetrachloride                              | 0.44                                    |      |        | 0.63      |      |        | 0.30     | 0.38     | 0.56     | 0.51      |      |        | 0.43                                    |      |        | 0.50      |      |        | 0.43     | <0.20    | 0.35     | 0.49      |      |        | 0.38        |      |        | 0.47      |      |   |
| Methylene chloride (MeCl)                         | <1.1                                    | U    |        | <1.2      | U    |        | <1.2     | <1.1     | <1.2     | <1.2      | U    |        | <1.3                                    | U    |        | <1.2      | U    |        | <1.0     | <1.1     | <1.2     | <1.2      | U    |        | <1.2        | U    |        | <1.1      | U    |   |
| Chlorobenzene                                     | <0.76                                   | U    |        | <0.77     | U    |        | <0.79    | <0.76    | <0.79    | <0.77     | U    |        | <0.84                                   | U    |        | <0.79     | U    |        | <0.68    | <0.71    | <0.79    | <0.77     | U    |        | <0.77       | U    |        | <0.74     | U    |   |
| 1,2,4-Trichlorobenzene                            | <6.1                                    | U    |        | <6.2      | UJ   | L      | <6.3     | <6.1     | <6.3     | <6.2      | U    |        | <6.8                                    | U    |        | <6.3      | UJ   | L      | <5.5     | <5.8     | <6.3     | <6.2      | U    |        | <6.2        | U    |        | <6.0      | UJ   | L |
| 1,2-Dichlorobenzene                               | <0.99                                   | U    |        | <1.0      | U    |        | <1.0     | <0.99    | <1.0     | <1        | U    |        | <1.1                                    | U    |        | <1.0      | U    |        | <0.90    | <0.93    | <1.0     | <1        | U    |        | <1.0        | U    |        | <0.97     | U    |   |
| 1,3-Dichlorobenzene                               | <0.99                                   | U    |        | <1.0      | U    |        | <1.0     | <0.99    | <1.0     | <1        | U    |        | <1.1                                    | U    |        | <1.0      | U    |        | <0.90    | <0.93    | <1.0     | <1        | U    |        | <1.0        | U    |        | <0.97     | U    |   |
| 1,4-Dichlorobenzene                               | <0.99                                   | U    |        | <1.0      | U    |        | <1.0     | <0.99    | <1.0     | <1        | U    |        | <1.1                                    | U    |        | <1.0      | U    |        | <0.90    | <0.93    | <1.0     | <1        | U    |        | <1.0        | U    |        | <0.97     | U    |   |
| Acetone                                           | 14                                      |      |        | 6.3       |      |        | 2.9      | 4.9      | 2.3      | 5.8       |      |        | 10                                      |      |        | 2.8       |      |        | 3.7      | 7.9      | 2.8      | 4.4       |      |        | 5.8         |      |        | 9.5       |      |   |
| Benzene                                           | 0.52                                    |      |        | <0.54     | U    |        | 0.57     | <0.52    | 0.63     | <0.54     | U    |        | 0.59                                    |      |        | <0.55     | U    |        | 0.59     | <0.50    | 0.65     | <0.54     | U    |        | 0.63        |      |        | <0.51     | U    |   |
| Ethylbenzene                                      | <0.71                                   | U    |        | <0.73     | U    |        | <0.74    | <0.71    | <0.74    | <0.73     | U    |        | <0.79                                   | U    |        | <0.74     | U    |        | <0.65    | <0.67    | <0.74    | <0.73     | U    |        | <0.73       | U    |        | <0.70     | U    |   |
| m,p-Xylene                                        | <0.71                                   | U    |        | <0.73     | U    |        | <0.74    | <0.71    | <0.74    | <0.73     | U    |        | <0.79                                   | U    |        | <0.74     | U    |        | <0.65    | <0.67    | <0.74    | <0.73     | U    |        | <0.73       | U    |        | <0.70     | U    |   |
| o-Xylene                                          | <0.71                                   | U    |        | <0.73     | U    |        | <0.74    | <0.71    | <0.74    | <0.73     | U    |        | <0.79                                   | U    |        | <0.74     | U    |        | <0.65    | <0.67    | <0.74    | <0.73     | U    |        | <0.73       | U    |        | <0.70     | U    |   |
| Toluene                                           | 1.4                                     |      |        | <0.63     | U    |        | <0.64    | <0.62    | <0.64    | 1.0       |      |        | 1.3                                     |      |        | <0.64     | U    |        | <0.56    | <0.58    | 0.66     | <0.63     | U    |        | 2.0         |      |        | 1.0       |      |   |
| Trichlorofluoromethane (Freon 11)                 | 2.7                                     |      |        | 3.7       |      |        | 1.9      | 2.3      | 2.0      | 2.0       |      |        | 2.5                                     |      |        | 2.5       |      |        | 2.1      | 3.5      | 2.4      | 2.5       |      |        | 1.6         |      |        | 2.0       |      |   |
| Dichlorodifluoromethane (Freon 12)                | 2.8                                     |      |        | 3.8       |      |        | 2.6      | 2.5      | 2.9      | 3.0       |      |        | 2.7                                     |      |        | 3.4       |      |        | 2.8      | <0.77    | 2.9      | 2.9       |      |        | 1.8         |      |        | 2.2       |      |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | <1.2                                    | U    |        | 1.4       |      |        | <1.3     | <1.2     | <1.3     | <1.3      | U    |        | <1.4                                    | U    |        | 1.3       |      |        | <1.1     | <1.2     | <1.3     | <1.3      | U    |        | <1.3        | U    |        | 1.3       |      |   |

Notes:

- Samples were collected by SHPC personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers. Refer to Figures for sample locations.
- Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.
- 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 August 2009, October 2009, October 2010, October 2012, and July 2013 analytical data, as described in their [In-Depth Data Usability Reviews](#), dated September 24, 2009, September 25, 2009, November 3, 2009, November 4, 2009, November 19, 2012, and August 29, 2013. NEH's reports for the 2009 data are provided in IBM Corporation and Sanborn, Head Engineering P.C.'s November 19, 2009 report entitled, "*Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York.*" NEH's reports for the October 2010, October 2012, and July 2013 data are provided in Appendix C of this report. 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.  
"L" - Low bias.
- An independent data validation was not performed on data for samples collected on December 17, 2009; July 29, 2010; February 9, 2011; May 12, 2011; and January 26, 2012.
- Bold** values indicate the analyte was detected above reporting limits.
- Gray shading indicates pre-remedial results.  
Green shading indicates post-remedial results.  
No shading indicates no remedial measures taken, or remedial measures in progress on date of collection.

TABLE 1  
Confirmatory Sampling Results  
Report of Supplemental Remedial Mesaures  
B330C VOC Source Assessment  
IBM East Fishkill  
Hopewell Junction, New York

| Analyte Name                                      | Concentrations in µg/m³ |      |        |           |      |        |                                         |      |        |          |        |           |      |        |          |        |           |      |               |        |           |          |        |          |           |      |                 |        |          |           |          |                    |  |  |  |  |  |
|---------------------------------------------------|-------------------------|------|--------|-----------|------|--------|-----------------------------------------|------|--------|----------|--------|-----------|------|--------|----------|--------|-----------|------|---------------|--------|-----------|----------|--------|----------|-----------|------|-----------------|--------|----------|-----------|----------|--------------------|--|--|--|--|--|
|                                                   | Indoor Air              |      |        |           |      |        |                                         |      |        |          |        |           |      |        |          |        |           |      |               |        |           |          |        |          |           |      |                 |        |          |           |          |                    |  |  |  |  |  |
|                                                   | IA0426                  |      |        | IA0426    |      |        | IA0427                                  |      |        | IA0427   |        | IA0427    |      |        | IA0429   |        | IA0429    |      | IA0429        |        |           | IA0430   |        | IA0436   |           |      | TA-022          |        | TA022    |           | TA022    |                    |  |  |  |  |  |
|                                                   | Caster Area             |      |        |           |      |        | Sintering Manufacturing Furnace Room #2 |      |        |          |        |           |      |        |          |        |           |      | "F2" Fan Room |        |           |          |        |          | AC-51/93  |      | Reliability Lab |        |          |           |          | AHU Discharge Vent |  |  |  |  |  |
|                                                   | 10/13/09                |      |        | 10/28/09  |      |        | 10/28/09                                |      |        | 01/26/12 |        | 10/11/12  |      |        | 05/12/11 |        | 01/26/12  |      | 10/11/12      |        |           | 10/11/12 |        | 07/09/13 |           |      | 05/12/11        |        | 01/26/12 |           | 10/11/12 |                    |  |  |  |  |  |
| Result                                            | Qualifier               | Bias | Result | Qualifier | Bias | Result | Qualifier                               | Bias | Result | Result   | Result | Qualifier | Bias | Result | Result   | Result | Qualifier | Bias | Result        | Result | Qualifier | Bias     | Result | Result   | Qualifier | Bias | Result          | Result | Result   | Qualifier | Bias     |                    |  |  |  |  |  |
| Tetrachloroethene (PCE)                           | 13                      |      |        | 13        |      |        | 10                                      |      |        | 2.9      | 1.6    |           |      | 84     | <1.1     | <1.1   | U         |      | 1.6           | 24     |           |          | 6.1    | <1.2     | <1.1      | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Trichloroethene (TCE)                             | 0.26                    |      |        | <0.16     | U    |        | 2.6                                     |      |        | 2.2      | 2.1    |           |      | 75     | <0.18    | 0.22   |           |      | <0.18         | 0.20   |           |          | 5.5    | <0.19    | 0.18      |      |                 |        |          |           |          |                    |  |  |  |  |  |
| cis-1,2-Dichloroethene (cDCE)                     | <0.71                   | U    |        | <0.59     | U    |        | <0.68                                   | U    |        | <0.69    | <0.63  | U         |      | <0.64  | <0.67    | <0.67  | U         |      | <0.67         | <0.13  | U         |          | <0.67  | <0.69    | <0.63     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,1-Dichloroethene (DCE)                          | <0.71                   | U    |        | <0.59     | U    |        | <0.68                                   | U    |        | <0.69    | <0.63  | U         |      | <0.64  | <0.67    | <0.67  | U         |      | <0.67         | <0.065 | U         |          | <0.67  | <0.69    | <0.63     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Vinyl chloride (VC)                               | 0.049                   |      |        | <0.038    | U    |        | <0.044                                  | U    |        | <0.045   | <0.04  | U         |      | <0.041 | <0.043   | <0.043 | U         |      | <0.043        | 0.15   |           |          | 0.27   | <0.045   | <0.04     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,1,1-Trichloroethane (TCA)                       | <0.98                   | U    |        | <0.81     | U    |        | <0.93                                   | U    |        | <0.95    | <0.86  | U         |      | <0.88  | <0.92    | <0.92  | U         |      | <0.92         | <0.18  | U         |          | <0.92  | <0.95    | <0.86     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Carbon tetrachloride                              | 0.48                    |      |        | 0.40      |      |        | 0.42                                    |      |        | 0.41     | 0.48   |           |      | 0.45   | 0.57     | 0.45   |           |      | 0.35          | 0.54   |           |          | 0.45   | 0.44     | 0.34      |      |                 |        |          |           |          |                    |  |  |  |  |  |
| Methylene chloride (MeCl)                         | <1.2                    | U    |        | <1.0      | U    |        | <1.2                                    | U    |        | 4.5      | <1.1   | U         |      | <1.1   | <1.2     | <1.2   | U         |      | <1.2          | 29     |           |          | <1.2   | 5.8      | <1.1      | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Chlorobenzene                                     | <0.82                   | U    |        | <0.68     | U    |        | <0.79                                   | U    |        | <0.80    | <0.73  | U         |      | <0.74  | <0.77    | <0.77  | U         |      | <0.77         | <0.76  | U         |          | <0.77  | <0.80    | <0.73     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,2,4-Trichlorobenzene                            | <6.6                    | U    |        | <5.5      | U    |        | <6.3                                    | U    |        | <6.5     | <5.9   | U         |      | <6.0   | <6.2     | <6.2   | U         |      | <6.2          | <6.1   | U         |          | <6.2   | <6.5     | <5.9      | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,2-Dichlorobenzene                               | <1.1                    | U    |        | <0.90     | U    |        | <1.0                                    | U    |        | <1.0     | <0.95  | U         |      | <0.97  | <1.0     | <1     | U         |      | <1.0          | <0.99  | U         |          | <1.0   | <1.0     | <0.95     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,3-Dichlorobenzene                               | <1.1                    | U    |        | <0.90     | U    |        | <1.0                                    | U    |        | <1.0     | <0.95  | U         |      | <0.97  | <1.0     | <1     | U         |      | <1.0          | <0.99  | U         |          | <1.0   | <1.0     | <0.95     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,4-Dichlorobenzene                               | <1.1                    | U    |        | <0.90     | U    |        | <1.0                                    | U    |        | <1.0     | <0.95  | U         |      | <0.97  | <1.0     | <1     | U         |      | <1.0          | <0.99  | U         |          | <1.0   | <1.0     | <0.95     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Acetone                                           | 6.7                     |      |        | 4.0       |      |        | 4.2                                     |      |        | 5.1      | 4.2    |           |      | 5.9    | 7.6      | 4.1    |           |      | 4.1           | 9.3    |           |          | 6.0    | 5.2      | 4.8       |      |                 |        |          |           |          |                    |  |  |  |  |  |
| Benzene                                           | <0.57                   | U    |        | <0.48     | U    |        | <0.55                                   | U    |        | 0.66     | <0.5   | U         |      | <0.51  | 0.67     | <0.54  | U         |      | <0.54         | <0.26  | U         |          | <0.54  | 1.5      | <0.5      | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Ethylbenzene                                      | <0.78                   | U    |        | <0.65     | U    |        | <0.74                                   | U    |        | <0.76    | <0.69  | U         |      | <0.70  | <0.73    | <0.73  | U         |      | <0.73         | <0.14  | U         |          | <0.73  | <0.76    | <0.69     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| m,p-Xylene                                        | <0.78                   | U    |        | <0.65     | U    |        | <0.74                                   | U    |        | <0.76    | <0.69  | U         |      | <0.70  | <0.73    | <0.73  | U         |      | <0.73         | <0.29  | U         |          | <0.73  | <0.76    | 0.91      |      |                 |        |          |           |          |                    |  |  |  |  |  |
| o-Xylene                                          | <0.78                   | U    |        | <0.65     | U    |        | <0.74                                   | U    |        | <0.76    | <0.69  | U         |      | <0.70  | <0.73    | <0.73  | U         |      | <0.73         | <0.14  | U         |          | <0.73  | <0.76    | <0.69     | U    |                 |        |          |           |          |                    |  |  |  |  |  |
| Toluene                                           | 2.0                     |      |        | <0.56     | U    |        | <0.64                                   | U    |        | <0.66    | <0.6   | U         |      | <0.61  | <0.63    | <0.63  | U         |      | <0.63         | 0.72   |           |          | <0.63  | 2.0      | 0.84      |      |                 |        |          |           |          |                    |  |  |  |  |  |
| Trichlorofluoromethane (Freon 11)                 | 1.6                     |      |        | 1.6       |      |        | 2.2                                     |      |        | 2.3      | 2.3    |           |      | 4.3    | 1.4      | 1.5    |           |      | 3.3           | 11     |           |          | 2.0    | 1.7      | 1.4       |      |                 |        |          |           |          |                    |  |  |  |  |  |
| Dichlorodifluoromethane (Freon 12)                | 1.8                     |      |        | 2.0       |      |        | 3.0                                     |      |        | 3.5      | 3.0    |           |      | 9.1    | 2.5      | 2.8    |           |      | 2.4           | 2.8    |           |          | 2.6    | 2.4      | 2.8       |      |                 |        |          |           |          |                    |  |  |  |  |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | <1.4                    | U    |        | <1.1      | U    |        | <1.3                                    | U    |        | <1.3     | <1.2   | U         |      | 3.5    | <1.3     | <1.3   | U         |      | <1.3          | 1.6    |           |          | <1.3   | <1.3     | <1.2      | U    |                 |        |          |           |          |                    |  |  |  |  |  |

Notes:

- Samples were collected by SHPC personnel on the dates indicated using 6-liter summa canisters equipped with 8-hour flow controllers. Refer to Figures for sample locations.
- Sample analysis was completed by Eurofins Air Toxics, Inc. (EATI) of Folsom, California using United States Environmental Protection Agency (USEPA) Method TO-15 (Hi/Lo). Trichloroethene, vinyl chloride, and carbon tetrachloride were analyzed in Selective Ion Monitoring (SIM) mode.
- 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 August 2009, October 2009, October 2010, October 2012, and July 2013 analytical data, as described in their [In-Depth Data Usability Reviews](#), dated September 24, 2009, September 25, 2009, November 3, 2009, November 4, 2009, November 19, 2012, and August 29, 2013. NEH's reports for the 2009 data are provided in IBM Corporation and Sanborn, Head Engineering P.C.'s November 19, 2009 report entitled, "*Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York.*" NEH's reports for the October 2010, October 2012, and July 2013 data are provided in Appendix C of this report. 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.  
"L" - Low bias.
- An independent data validation was not performed on data for samples collected on December 17, 2009; July 29, 2010; February 9, 2011; May 12, 2011; and January 26, 2012.
- Bold** values indicate the analyte was detected above reporting limits.
- Gray shading indicates pre-remedial results.  
Green shading indicates post-remedial results.  
No shading indicates no remedial measures taken, or remedial measures in progress on date of collection.



TABLE 2  
Summary of Reliability Lab Tile Assessment Sampling  
Report of Supplemental Remedial Measures  
B330C VOC Source Assessment  
IBM East Fishkill Facility  
Hopewell Junction, New York

| Analyte                                              | BM-4000                   | PD-042-D          | TA-023            | IA0404            |      |       | IA0436            |       |      |
|------------------------------------------------------|---------------------------|-------------------|-------------------|-------------------|------|-------|-------------------|-------|------|
|                                                      | Tile Mastic and Substrate | Targeted Air      | Targeted Air      | Indoor Air        |      |       | Indoor Air        |       |      |
|                                                      | 07/10/13                  | 07/10/13          | 07/10/13          | 07/09/13          |      |       | 07/09/13          |       |      |
|                                                      | µg/kg                     | µg/m <sup>3</sup> | µg/m <sup>3</sup> | µg/m <sup>3</sup> |      |       | µg/m <sup>3</sup> |       |      |
|                                                      | Result                    | Qual              | Result            | Result            | Qual |       | Result            | Qual  | Bias |
| Volatile Organic Compounds (VOCs)                    |                           |                   |                   |                   |      |       |                   |       |      |
| Acetone                                              | 720                       |                   | <520              | 52                |      | 44    |                   | 9.3   |      |
| Benzene                                              | <1.2                      |                   | <100              | <0.72             |      | 0.41  |                   | <0.26 | U    |
| Butanone (2-) (MEK)                                  | <12                       |                   | <300              | <6.6              |      | 3.5   |                   | <2.4  | U    |
| Carbon tetrachloride                                 | <1.2                      |                   |                   | 0.57              |      | 0.58  |                   | 0.54  |      |
| Cyclohexane                                          |                           |                   | <300              | <1.5              |      | 0.57  |                   | <0.57 | U    |
| Dichloroethane (1,2-)                                | <1.2                      |                   | <300              | <0.36             |      | 0.15  | J                 | <0.13 | U    |
| Ethanol                                              |                           |                   | <300              | 12                |      | 13    |                   | 3.3   |      |
| Ethylbenzene                                         | 1.2                       |                   | <400              | 4.5               |      | 0.31  |                   | <0.14 | U    |
| Freon 11<br>(Trichlorofluoromethane)                 | <5.8                      |                   |                   | 6.3               |      | 8.5   |                   | 11    |      |
| Freon 12<br>(Dichlorodifluoromethane)                | <12                       |                   |                   | <2.2              |      | 2.6   |                   | 2.8   |      |
| Freon 113<br>(1,1,2-Trichloro-1,2,2-Trifluoroethane) |                           |                   |                   | 3.7               |      | 1.3   |                   | 1.6   |      |
| Hexane (n-)                                          |                           |                   | <300              | <1.6              |      | 1.1   |                   | <0.58 | U    |
| Isopropyl Alcohol (Isopropanol)                      |                           |                   | <300              | <5.5              |      | 7.6   |                   | 11    |      |
| Methylene Chloride<br>(Dichloromethane)              | <12                       |                   | <300              | 560               |      | 4.1   |                   | 29    |      |
| Naphthalene                                          | 2.1                       | J                 |                   |                   |      |       |                   |       |      |
| Tetrachloroethene (PCE)                              | 660                       |                   | 3,900             | 3,100             |      | 16    |                   | 24    |      |
| Toluene                                              | 0.96                      | J                 | <300              | 2.5               |      | 5.9   |                   | 0.72  |      |
| Trichloroethene (TCE)                                | <1.2                      |                   | <300              | 2.7               |      | 0.20  |                   | 0.20  |      |
| Vinyl chloride                                       | <2.3                      |                   |                   | 0.16              |      | 0.096 |                   | 0.15  |      |
| Xylene (m,p-)                                        | 6.1                       |                   |                   | 18                |      | 0.86  |                   | <0.29 | U    |
| Xylene (o-)                                          | 3.5                       |                   |                   | 7.1               |      | 0.31  |                   | <0.14 | U    |
| Xylenes (total)                                      | 9.6                       |                   | <1,200            | 25.1              |      | 1.17  |                   | ND    |      |
| VOC Tentatively Identified Compounds                 |                           |                   |                   |                   |      |       |                   |       |      |
| Acetaldehyde                                         |                           |                   |                   |                   |      | 3.2   | J                 | I     |      |
| Isobutane (Propane, 2-methyl-)                       |                           |                   |                   |                   |      | 12    | J                 | I     |      |
| Isopentane (2-Methylbutane)                          |                           |                   |                   |                   |      | 13    | J                 | I     |      |
| Methyl Vinyl Ketone (3-Butene-2-one)                 |                           |                   |                   |                   |      |       |                   |       |      |
| Pentane                                              |                           |                   |                   |                   |      | 4     | J                 | I     |      |
| Propyl-furan (2-)                                    |                           |                   |                   | 23                | J    |       |                   |       |      |
| Trifluoro-2-Butylenitrile (4,4,4-)                   |                           |                   |                   |                   |      | 9.9   | J                 | I     |      |
| Semi-Volatile Organic Compounds (SVOCs)              |                           |                   |                   |                   |      |       |                   |       |      |
| Benzyl Alcohol                                       | 420                       | J                 |                   |                   |      |       |                   |       |      |
| bis(2-Ethylhexyl)phthalate                           | 12,000                    |                   |                   | <5.2              |      |       |                   | <4.9  | UJ   |
| SVOC Tentatively Identified Compounds                |                           |                   |                   |                   |      |       |                   |       |      |
| Bromo-octadecane (1-)                                | 4,400                     | J                 |                   |                   |      |       |                   |       |      |
| Dimethylheptane (2,2-)                               |                           |                   |                   | 4.9               | J    |       |                   |       |      |
| Ethylhexanol (2-ethyl-1-hexanol)                     | 12,000                    | J                 |                   | 67                | J    |       |                   |       |      |
| Neopentyl glycol<br>(2,2-dimeth-1,3-propanediol)     | 150,000                   | J                 |                   | 53                | J    |       |                   |       |      |
| Trimethyldecane (2,6,7-)                             |                           |                   |                   | 5.2               | J    |       |                   |       |      |

Notes:

1. Samples were collected by SHPC personnel on the dates indicated. Only the analytes detected in one or more sample are depicted in this table; refer to the analytical laboratory reports for the full list of analytes reported.
2. Mastic sample BM-4000 was analyzed by Alpha Analytical of Westborough, Massachusetts, for volatile organic compounds using United States Environmental Protection Agency (USEPA) Method 8260C and semi-volatile organic compounds (SVOCs) using USEPA Methods 3540C/8270D. Results are presented in micrograms per kilogram (µg/kg). Tentatively identified compounds (TICs) were reported by Alpha. When available, analytes reported as "unknown" by Alpha were identified by Sanborn Head as the highest match indicated in the laboratory report.
3. Passive diffusion samples (PD-series) were collected using M3M-3500 media and deployed for durations of approximately 8 hours in a downward facing position. The sample was analyzed by Galson Laboratories (Galson) of Syracuse, New York list of 31 VOCs by NIOSH Methods 1003/1005/1022/1300/1400/1450/1501/1609. Results are presented in micrograms per cubic meter (µg/m<sup>3</sup>).
4. Indoor air (IA-series) and targeted air (TA-series) samples were analyzed by Eurofins Air Toxics, Inc. (Eurofins) of Folsom, California. VOC samples were collected in 6-Liter Summa® canisters with either 8-hour (IA-series) or 1-hour (TA-series) flow controllers and were analyzed using USEPA Method TO-15 Hi/Lo. Samples were analyzed for the full suite of VOCs with TICs reported. SVOC samples were collected concurrently with the samples for VOC analysis using sorbent tubes and were analyzed using USEPA Method TO-13A with TICs reported. Results are presented in µg/m<sup>3</sup> or parts per billion by volume (ppbv). SVOC samples were designated with the suffix "-ST" on the chain-of-custody form.
5. VOC TICs were reported by Eurofins in units of ppbv, and were converted to units of µg/m<sup>3</sup> by SHPC using molecular weights provided on the National Institute of Standards and Technology (NIST) Chemistry WebBook website (<http://webbook.nist.gov/chemistry/>) and standard temperature (25°C) and pressure (1 atmosphere); TICs which were reported as unknown were not converted by SHPC and are reported in this table in units of ppbv as the sum of the reported concentrations. SVOC TICs were reported by Eurofins in units of micrograms (µg), and were converted to units of µg/m<sup>3</sup> by SHPC using the sample volume included on the chain-of-custody.
6. Some analytes were reported as both target analytes and TICs. For this table, only the target concentrations are indicated. Refer to the laboratory reports for additional information.
7. "<" indicates the analyte was not detected at the indicated laboratory reporting limit.  
"J" indicates for unvalidated results that the laboratory reported an estimated value below the reporting limit, but above the method detection limit. For validated results (IA0404 and IA0436), see Note 8.
8. New Environmental Horizons, Inc. (NEH) performed an independent validation of data from location IA0404 and IA0436, as described in their In-Depth Data Usability Reviews. In some cases, NEH assigned the following qualifiers and biases to the data. An independent data validation was not performed on data for the remainder of the samples.  
"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.
9. **Bold** values indicate the analyte was detected above reporting limits.



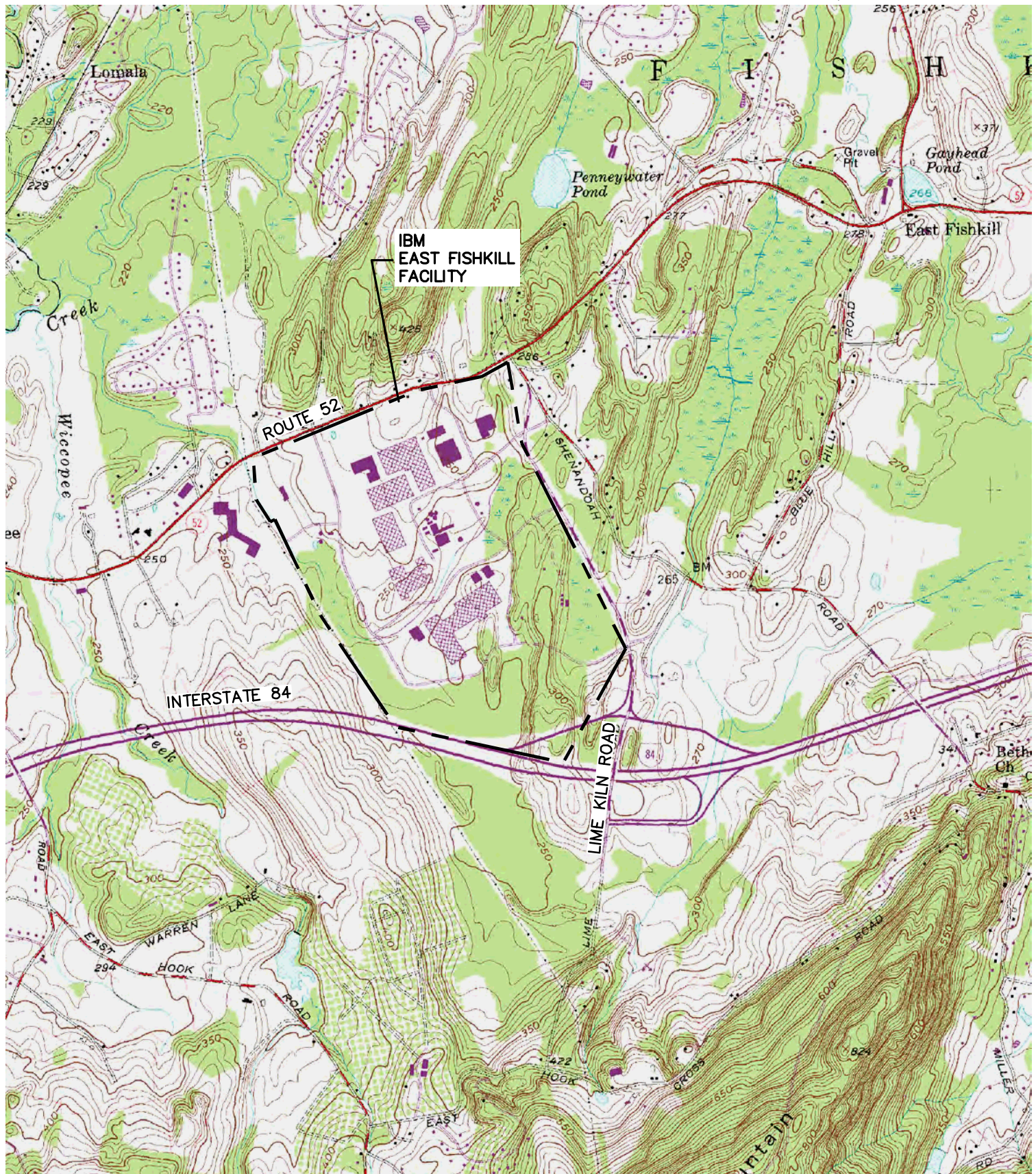
TABLE 3  
Summary of Portable GC/MS Indoor Air Screening Results  
Sintering Manufacturing Furnace Room #2  
Report of Supplemental Remedial Measures  
IBM East Fishkill Facility  
Hopewell Junction, New York

| Sample Location | Sample Type                  | Collection Date  | PID   | Tetrachloroethene (PCE) | Trichloroethene (TCE) | cis-1,2-Dichloroethene (cDCE) | trans-1,2-Dichloroethene (tDCE) | 1,1-Dichloroethene (DCE) | 1,1-Dichloroethane (DCA) | Vinyl Chloride (VC) |
|-----------------|------------------------------|------------------|-------|-------------------------|-----------------------|-------------------------------|---------------------------------|--------------------------|--------------------------|---------------------|
|                 |                              |                  | ppbv  | µg/m <sup>3</sup>       | µg/m <sup>3</sup>     | µg/m <sup>3</sup>             | µg/m <sup>3</sup>               | µg/m <sup>3</sup>        | µg/m <sup>3</sup>        | µg/m <sup>3</sup>   |
| IA0416          | HAPSITE - Indoor Air         | 11/29/2012 08:45 | 50    | 13                      | 14                    | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0416          | HAPSITE - Indoor Air         | 11/29/2012 14:59 | 110   | 370                     | 340                   | 0.44                          | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0416          | HAPSITE - Indoor Air         | 11/29/2012 16:11 | 55    | 290                     | 91                    | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0416          | HAPSITE - Indoor Air         | 11/30/2012 14:15 | 15    | 4.8                     | 3.7                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0416          | SUMMA Grab - Indoor Air      | 11/30/2012 14:20 |       | 6.4                     | 5.5                   | <0.68                         | NA                              | <0.68                    | NA                       | <0.044              |
| IA0416          | HAPSITE - Indoor Air         | 11/30/2012 14:50 | 17    | 6.2                     | 4.5                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0421          | HAPSITE - Indoor Air         | 11/29/2012 09:00 | 30    | 3.4                     | 2.6                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0421          | HAPSITE - Indoor Air         | 11/29/2012 15:51 | 25    | 58                      | 11                    | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0421          | HAPSITE - Indoor Air         | 11/30/2012 14:00 | 11    | 2.2                     | 1.2                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0423          | HAPSITE - Indoor Air         | 11/29/2012 09:12 | 20    | 3.4                     | 2.1                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0424          | HAPSITE - Indoor Air         | 11/29/2012 09:37 | 20    | 1.8                     | 0.97                  | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0427          | HAPSITE - Indoor Air         | 11/29/2012 09:27 | 25    | 8.1                     | 3.2                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0427          | HAPSITE - Indoor Air         | 11/29/2012 16:03 | 7     | 27                      | 9.7                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0429          | HAPSITE - Indoor Air         | 11/29/2012 10:13 | 31    | <0.68                   | <0.64                 | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0431          | HAPSITE - Indoor Air         | 11/29/2012 09:50 | 21    | 2.7                     | 1.8                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0432          | HAPSITE - Indoor Air         | 11/29/2012 09:59 | 20    | 3.0                     | 1.8                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0432          | HAPSITE - Indoor Air         | 11/29/2012 15:28 | 33    | 75                      | 17                    | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0432          | HAPSITE - Indoor Air         | 11/30/2012 14:40 | 8     | 2.4                     | 1.6                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0433          | HAPSITE - Indoor Air         | 11/29/2012 10:22 | 35    | 3.7                     | 2.0                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0434          | HAPSITE - Indoor Air         | 11/29/2012 10:46 | 35    | 16                      | 18                    | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0434          | SUMMA Grab - Indoor Air      | 11/29/2012 10:41 |       | 6.6                     | 4.0                   | <0.68                         | NA                              | <0.68                    | NA                       | <0.044              |
| IA0434          | HAPSITE - Indoor Air         | 11/29/2012 15:17 | 24    | 88                      | 46                    | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0434          | SUMMA Grab - Indoor Air      | 11/29/2012 15:12 |       | 25                      | 20                    | <0.56                         | NA                              | <0.56                    | NA                       | <0.036              |
| IA0434          | HAPSITE - Indoor Air         | 11/29/2012 16:20 | 76    | 81                      | 75                    | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0434          | HAPSITE - Indoor Air         | 11/30/2012 15:10 | 4     | 7.5                     | 6.4                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| IA0434          | SUMMA Grab - Indoor Air      | 11/30/2012 15:15 |       | 14                      | 12                    | <0.63                         | NA                              | <0.63                    | NA                       | <0.041              |
| IA0435          | HAPSITE - Indoor Air         | 11/29/2012 11:02 | 25    | 4.6                     | 1.6                   | <0.75                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/29/2012 08:25 | NA    | <0.68                   | 0.64                  | 0.75                          | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/29/2012 13:32 | NA    | 0.88                    | 1.7                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/29/2012 14:13 | NA    | 3.3                     | 4.9                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/29/2012 15:28 | NA    | 2.2                     | 2.0                   | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/30/2012 07:43 | NA    | <0.68                   | 0.64                  | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| Blank           | HAPSITE - Outside Air        | 11/30/2012 11:39 | NA    | <0.68                   | <0.54                 | <0.40                         | <0.40                           | <0.40                    | <0.40                    | <0.26               |
| TA-101          | HAPSITE - Expansion Joint    | 11/29/2012 11:11 | 1,100 | 2,600                   | 1,300                 | <1.5                          | <0.79                           | <0.79                    | <0.81                    | <0.51               |
| TA-101          | HAPSITE - Expansion Joint    | 11/29/2012 16:45 | 1,100 | 3,900                   | 1,400                 | 1.8                           | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-102          | HAPSITE - Expansion Joint    | 11/29/2012 11:23 | 1,988 | 1,200                   | 240                   | <1.5                          | <0.79                           | <0.79                    | <0.81                    | <0.51               |
| TA-103          | HAPSITE - Expansion Joint    | 11/29/2012 11:36 | 2,200 | 6,100                   | 6,400                 | 6.3                           | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-103          | SUMMA Grab - Expansion Joint | 11/29/2012 11:44 |       | 3,600                   | 5,800                 | <17                           | NA                              | <17                      | NA                       | <1.1                |
| TA-104          | HAPSITE - Expansion Joint    | 11/29/2012 11:59 | 698   | 1,900                   | 1,700                 | <3.0                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-104          | HAPSITE - Expansion Joint    | 11/29/2012 16:59 | 2,550 | 2,000                   | 540                   | <1.6                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-104          | HAPSITE - Expansion Joint    | 11/30/2012 14:30 | 1,500 | 14                      | 5.4                   | <1.6                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-105          | HAPSITE - Door Track         | 11/29/2012 12:09 | 400   | 45                      | 51                    | <3.0                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-105          | HAPSITE - Door Track         | 11/29/2012 17:09 | 354   | 21                      | 16                    | <1.6                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |
| TA-106          | HAPSITE - Expansion Joint    | 11/29/2012 16:32 | 1,981 | 3,600                   | 1,300                 | <1.6                          | <1.6                            | <1.6                     | <1.6                     | <1.0                |

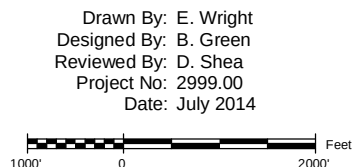
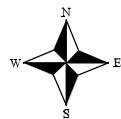
- Notes:
1. This table summarizes data recorded during field screening of indoor air and targeted air locations using a HAPSITE SmartPlus portable gas chromatograph/mass spectrometer (GC/MS), manufactured by Inficon. The field samples were collected by SHPC personnel directly into the GC/MS sampling probe from the locations and on the dates noted in the table. The samples were screened using the portable GC/MS in selective ion monitoring (SIM) mode. Results were converted to micrograms per cubic meter (µg/m<sup>3</sup>) by SHPC using standard temperatue (25°C) and pressure (1 atmosphere) for the conversion. Results were rounded to two significant figures.
2. The portable GC/MS was used as a field screening tool; therefore, the data should be considered estimated and not suitable for independent validation and decision-making. The findings should be considered in conjunction with the results of samples analyzed by a fixed laboratory.
3. Screening for volatile organic compounds (VOCs) was performed using a RAE Systems ppbRAE Photoionization Detector (PID) with a 10.6 eV lamp, calibrated to a 10 parts per million by volume (ppmv) isobutylene-in-air standard using a response factor of 1.0. PID screening results are presented in parts per billion by volume (ppbv).
4. SUMMA® Grab samples were collected as grab samples into 6 liter Summa canisters and submitted to Eurofins Air Toxics, Inc. (EATI) for laboratory analysis of the site-specific list of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 Hi/Lo. Trichloroethene, vinyl chloride, and carbon tetrachloride (not tabulated) were analyzed in SIM mode.
5. "<" - The method reporting limit was considered to be 0.1 ppbv for the portable GC/MS measurements. SHPC reviewed the quality of the data, and the results of the review are presented in this table.
6. "NA" indicates not analyzed for the indicated parameter.

## FIGURES





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



SANBORN HEAD ENGINEERING

Figure 1

## Site Location Plan

Report of Supplemental Remedial Measures  
Building 330C VOC Source Assessment

IBM East Fishkill Facility  
Hopewell Junction, New York





Figure 2

**Building Location Plan**

Report of Supplemental Remedial Measures  
Building 330C VOC Source Assessment

IBM East Fishkill Facility  
Hopewell Junction, New York

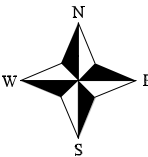
Drawn By: E. Wright  
Designed By: L. Atwell  
Reviewed By: D. Shea  
Project No: 2999.00  
Date: July 2014

**Figure Narrative**

This figure shows the buildings at the IBM East Fishkill facility. Building 330C is highlighted.

**Legend**

- IBM Property Line
- Unlabeled features include wastewater treatment tanks, pump houses, trailers, and other structures and features not intended for human occupancy
- B330C Indicates building number
- Indicates the location of Building 330C









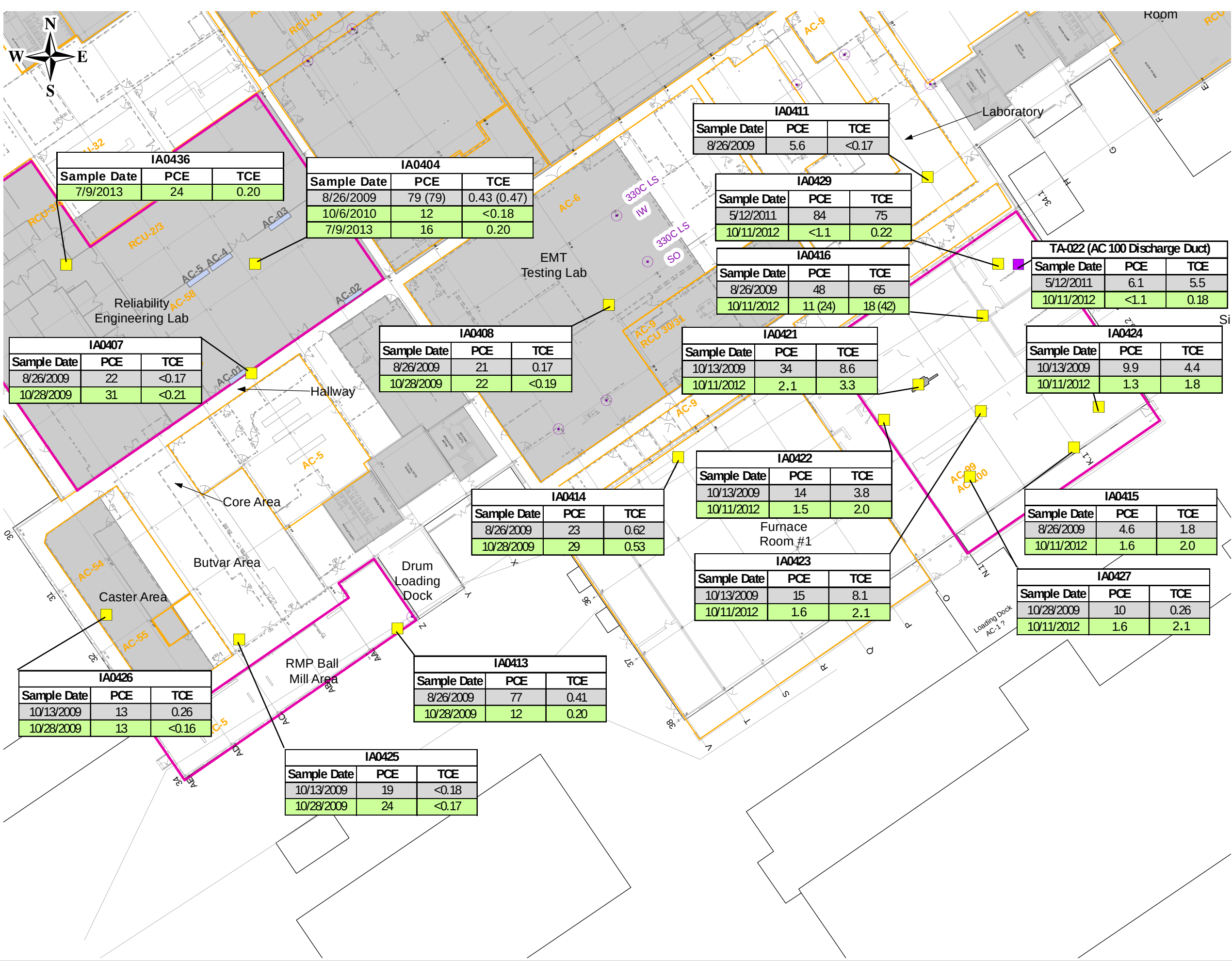


Figure 4  
**Pre- and Post-Remedial Measure Sampling Results for PCE and TCE**  
Report of Supplemental Remedial Measures Building 330C VOC Source Assessment

IBM East Fishkill Facility  
Hopewell Junction, New York

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

**Figure Narrative**

This figure shows the results of indoor air samples collected prior to and after completion of remedial measures. Remedial measures included: modifications to HVAC system operations, decommissioning (grouting/cementing) of a floor pit and trenches, exhaust fan shut-down, and adjustments to Liebert AC units.

Samples were collected on the dates indicated by vacuum into 6L Summa canisters with 8-hour flow controllers. Samples were submitted to Eurofins Air Toxics, Inc. of Folsom, California for analysis of volatile organic compounds (VOCs) using Method TO-15 for a site-specific list of compounds. All results are shown in micrograms per cubic meter (µg/m3). See Table 1 for complete results.

- Legend**
- Indoor air sampling location and designation
  - Targeted air sampling location and designation
  - Solid Waste Management Unit
  - HVAC zone
  - Area of additional assessment and remedial measure (see text for details)
  - "Liebert" cooling/recirculation unit location and designation

| IA0423      |     |     |
|-------------|-----|-----|
| Sample Date | PCE | TCE |
| 10/13/2009  | 15  | 8.1 |
| 10/11/2012  | 1.6 | 2.1 |

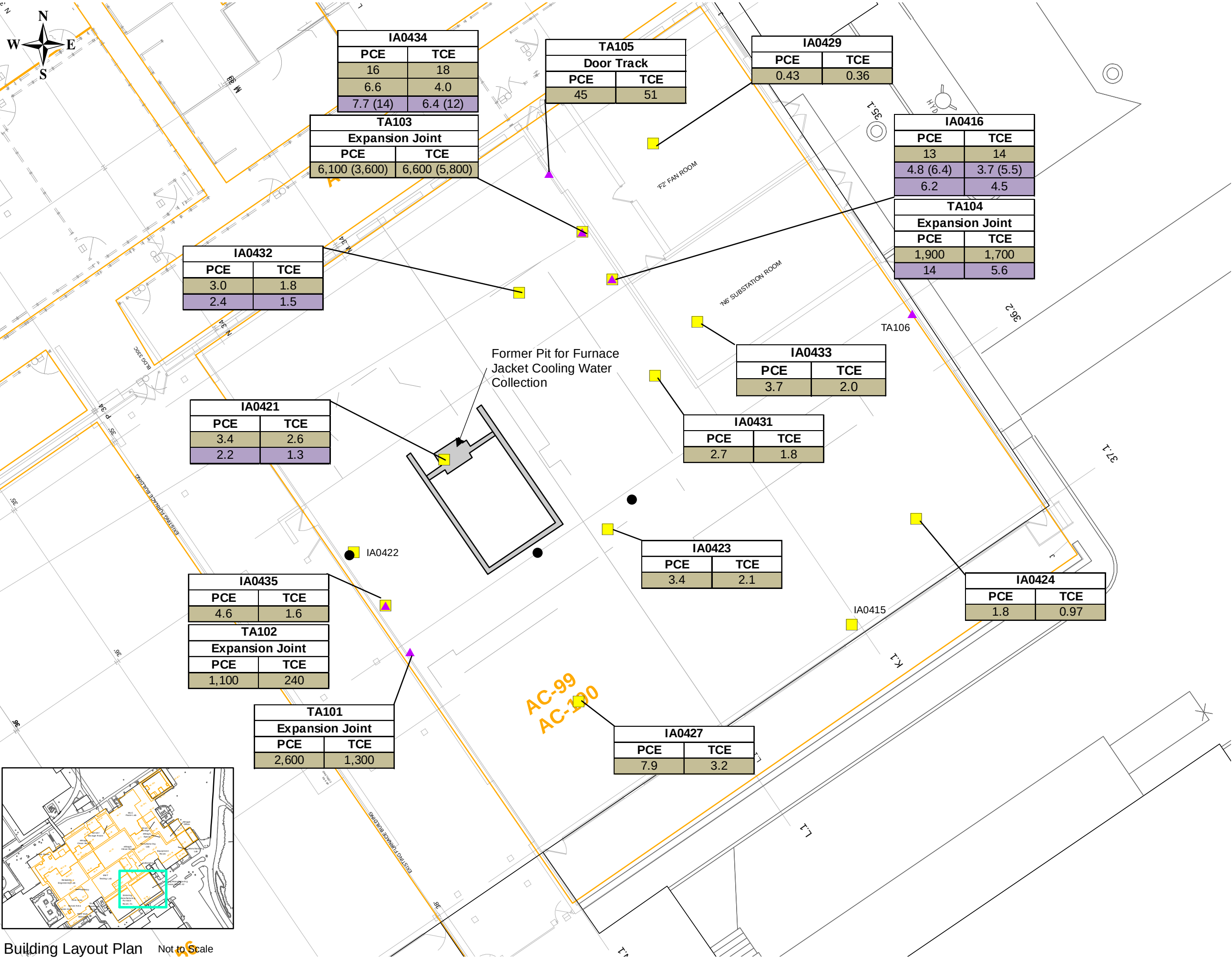
Concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) in micrograms per cubic meter (µg/m3)

Gray indicates pre-remedial results and green indicates post-remedial results

"<" indicates less than the specified laboratory reporting limit

"( )" indicates duplicate sample result







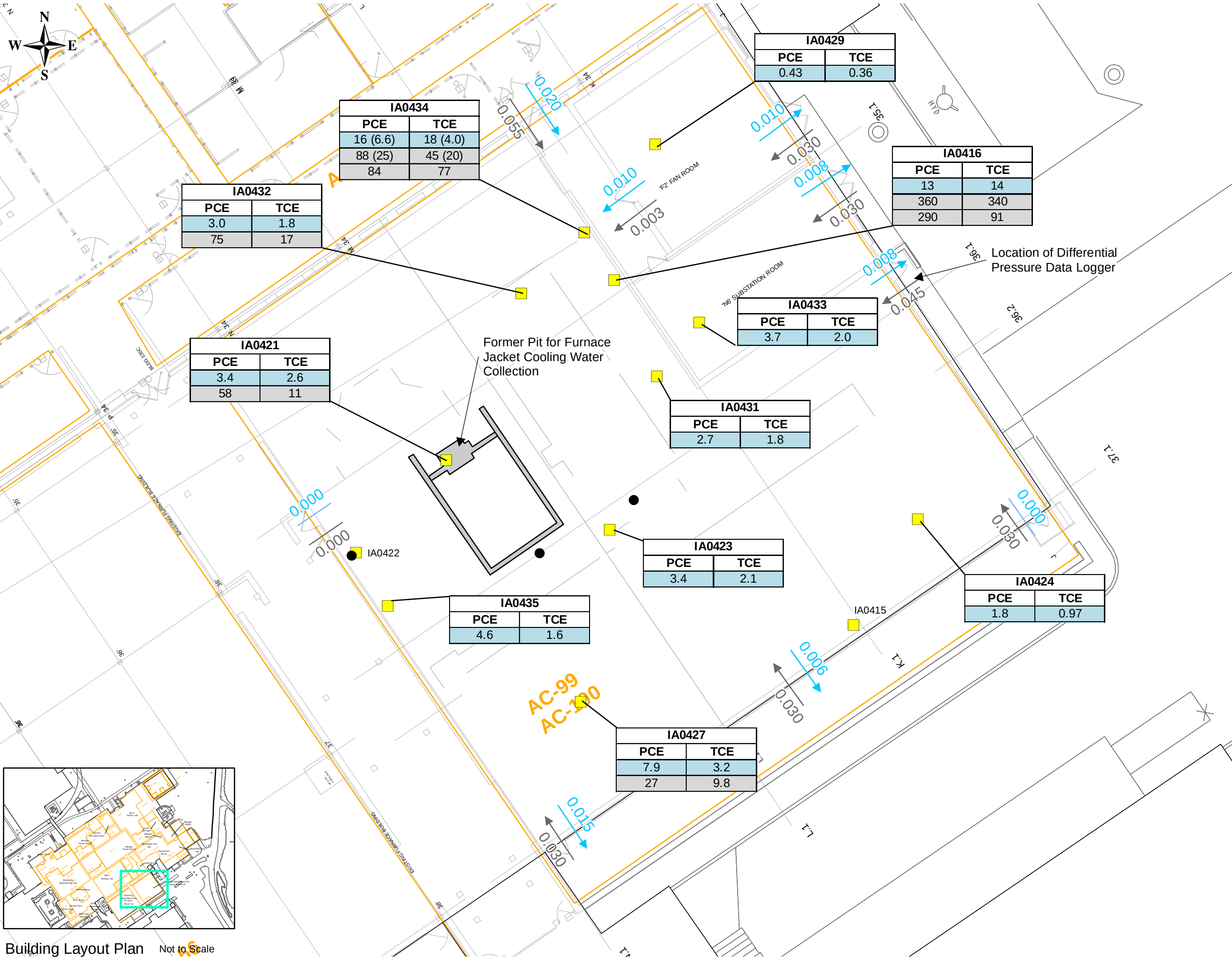




Figure 6

## Summary of Indoor Air Results for PCE and TCE

Report of Supplemental Remedial Measures  
Building 330C VOC Source Assessment

IBM East Fishkill Facility  
Hopewell Junction, New York

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

### Figure Narrative

This figure shows the results of indoor air sampling performed in Building 330C. All samples were collected by vacuum into 6L Summa canisters with 8-hour flow controllers. Results are shown in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). Refer to Table 1 for the complete analytical results for each sample.

### Legend

- Indoor air sampling location and designation
- Solid Waste Management Unit
- HVAC zone
- Area of additional assessment and remedial measures (see text for details)
- Above / below ground former solvent drain line
- Currently occupied area

Tetrachloroethene (PCE) and trichloroethene (TCE) results for samples collected on the dates indicated below (color represents date)

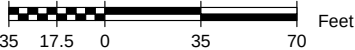
| Sample Date | IA0423 |     |
|-------------|--------|-----|
|             | PCE    | TCE |
| 8/26/2009   | -      | -   |
| 10/13/2009  | 15     | 8.1 |
| 10/28/2009  | 18     | 5.3 |
| 12/17/2009  | -      | -   |
| 7/29/2010   | -      | -   |
| 10/6/2010   | -      | -   |
| 2/9/2011    | 5.7    | 1.3 |
| 5/12/2011   | 4.8    | 4.3 |
| 1/26/2012   | 3.0    | 3.4 |
| 10/11/2012  | 1.6    | 2.1 |
| 7/9/2013    | -      | -   |

Sample Name  
Analyte

< Indicates less than reporting limit

- Indicates not sampled on that date

( ) Indicates duplicate sample result





# **APPENDIX A**

## **LIMITATIONS**

## **APPENDIX A**

### **LIMITATIONS**

1. The findings and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.
2. The conclusions contained in this report are based in part upon various types of chemical data, as well as historical and hydrogeologic information developed by previous investigators. While SHPC has reviewed that data available to us at the time the report was prepared and information as stated in this report, any of SHPC's interpretations and conclusions that have relied on that information will be contingent on its validity. SHPC has not performed an independent assessment of the reliability of the data; should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by SHPC and the interpretations and conclusions presented herein may be modified accordingly.
3. Sampling and quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, SHPC has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data. It must be noted that additional compounds not searched for during the current study may be present in indoor and ambient air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within indoor and ambient air may occur due to the passage of time, seasonal water table fluctuations, recharge events, and other factors.
4. This report has been prepared for the exclusive use of IBM for specific application to Building 330C at the East Fishkill facility in accordance with generally accepted engineering and scientific practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.
5. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

**APPENDIX B**

**ANALYTICAL LABORATORY  
DATA REPORTS**



1/6/2010

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

Concord NH 03301

Project Name: IBM-EF, B330C  
Project #: 2999.00/011  
Workorder #: 0912513

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 12/19/2009 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

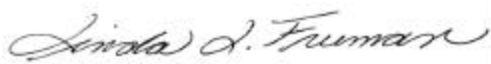
**WORK ORDER #: 0912513**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00/011 IBM-EF, B330C                                                                |
| <b>DATE RECEIVED:</b>  | 12/19/2009                                                                             | <b>CONTACT:</b>  | Bryanna Langley                                                                          |
| <b>DATE COMPLETED:</b> | 01/05/2010                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u>          | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|----------------------|----------------|-------------------------------|---------------------------|
| 01A               | TA-010               | Modified TO-15 | 7.0 "Hg                       | 15 psi                    |
| 02A               | TA-011               | Modified TO-15 | 4.4 "Hg                       | 15 psi                    |
| 03A               | TA-012               | Modified TO-15 | 7.0 "Hg                       | 15 psi                    |
| 04A               | TA-013               | Modified TO-15 | 5.6 "Hg                       | 15 psi                    |
| 05A               | TA-014               | Modified TO-15 | 5.0 "Hg                       | 15 psi                    |
| 05AA              | TA-014 Lab Duplicate | Modified TO-15 | 5.0 "Hg                       | 15 psi                    |
| 06A               | TA-015               | Modified TO-15 | 4.4 "Hg                       | 15 psi                    |
| 07A               | TA-016               | Modified TO-15 | 6.0 "Hg                       | 15 psi                    |
| 08A               | TA-017               | Modified TO-15 | 5.8 "Hg                       | 15 psi                    |
| 09A               | TA-018               | Modified TO-15 | 8.0 "Hg                       | 15 psi                    |
| 10A               | Lab Blank            | Modified TO-15 | NA                            | NA                        |
| 11A               | CCV                  | Modified TO-15 | NA                            | NA                        |
| 12A               | LCS                  | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 01/05/10

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.

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

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Sanborn, Head & Associates**  
**Workorder# 0912513**

Nine 1 Liter Summa Canister (100% Certified) samples were received on December 19, 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><b>Requirement</b></i> | <i><b>TO-15</b></i>        | <i><b>ATL Modifications</b></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-010**

**Lab ID#: 0912513-01A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Toluene           | 1.3                  | 2.3              | 5.0                   | 8.6               |
| Tetrachloroethene | 1.3                  | 19               | 9.0                   | 130               |

**Client Sample ID: TA-011**

**Lab ID#: 0912513-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 113         | 1.2                  | 1.9              | 9.1                   | 15                |
| Acetone           | 4.7                  | 24               | 11                    | 57                |
| Toluene           | 1.2                  | 3.0              | 4.5                   | 11                |
| Tetrachloroethene | 1.2                  | 39               | 8.0                   | 270               |

**Client Sample ID: TA-012**

**Lab ID#: 0912513-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.3                  | 9.4              | 12                    | 22                |
| Toluene           | 1.3                  | 3.7              | 5.0                   | 14                |
| Tetrachloroethene | 1.3                  | 16               | 9.0                   | 110               |

**Client Sample ID: TA-013**

**Lab ID#: 0912513-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.0                  | 8.7              | 12                    | 21                |
| Toluene           | 1.2                  | 3.1              | 4.7                   | 12                |
| Tetrachloroethene | 1.2                  | 15               | 8.4                   | 100               |

**Client Sample ID: TA-014**

**Lab ID#: 0912513-05A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Acetone  | 4.8                  | 8.0              | 11                    | 19                |
| Toluene  | 1.2                  | 3.5              | 4.6                   | 13                |

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

**Client Sample ID: TA-014**

**Lab ID#: 0912513-05A**

|                   |     |    |     |    |
|-------------------|-----|----|-----|----|
| Tetrachloroethene | 1.2 | 11 | 8.2 | 72 |
|-------------------|-----|----|-----|----|

**Client Sample ID: TA-014 Lab Duplicate**

**Lab ID#: 0912513-05AA**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Toluene           | 2.4                  | 3.6              | 9.1                   | 13                |
| Tetrachloroethene | 2.4                  | 10               | 16                    | 72                |

**Client Sample ID: TA-015**

**Lab ID#: 0912513-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 4.7                  | 7.9              | 11                    | 19                |
| Toluene           | 1.2                  | 3.0              | 4.5                   | 11                |
| Tetrachloroethene | 1.2                  | 68               | 8.0                   | 460               |

**Client Sample ID: TA-016**

**Lab ID#: 0912513-07A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.1                  | 12               | 12                    | 29                |
| Toluene           | 1.3                  | 4.0              | 4.8                   | 15                |
| Tetrachloroethene | 1.3                  | 10               | 8.6                   | 69                |

**Client Sample ID: TA-017**

**Lab ID#: 0912513-08A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.0                  | 12               | 12                    | 29                |
| Benzene           | 1.2                  | 1.4              | 4.0                   | 4.6               |
| Toluene           | 1.2                  | 4.4              | 4.7                   | 17                |
| Tetrachloroethene | 1.2                  | 9.6              | 8.5                   | 65                |

---

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

---

Client Sample ID: TA-018

Lab ID#: 0912513-09A

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 1.4                  | 17               | 6.8                   | 86                |
| Freon 113         | 1.4                  | 4.3              | 10                    | 33                |
| Acetone           | 5.5                  | 22               | 13                    | 53                |
| Trichloroethene   | 1.4                  | 65               | 7.4                   | 350               |
| Tetrachloroethene | 1.4                  | 380              | 9.4                   | 2600              |

Client Sample ID: TA-010

Lab ID#: 0912513-01A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122915 | Date of Collection: 12/17/09 11:21:00 AM |
| Dil. Factor: | 2.64    | Date of Analysis: 12/29/09 02:31 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               | Not Detected  | 12                 | Not Detected   |
| 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               | 2.3           | 5.0                | 8.6            |
| Tetrachloroethene      | 1.3               | 19            | 9.0                | 130            |
| 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            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |



Client Sample ID: TA-011

Lab ID#: 0912513-02A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122916 | Date of Collection: 12/17/09 11:43:00 AM |
| Dil. Factor: | 2.37    | Date of Analysis: 12/29/09 02:56 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.9                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.0                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Freon 113              | 1.2               | 1.9           | 9.1                | 15             |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.7                | Not Detected   |
| Acetone                | 4.7               | 24            | 11                 | 57             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.1                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.7                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.5                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.4                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.8                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.4                | Not Detected   |
| Toluene                | 1.2               | 3.0           | 4.5                | 11             |
| Tetrachloroethene      | 1.2               | 39            | 8.0                | 270            |
| Chlorobenzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.1                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.1                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.1                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.7               | Not Detected  | 35                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 95        | 70-130        |
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: TA-012

Lab ID#: 0912513-03A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122917 | Date of Collection: 12/17/09 11:23:00 AM |
| Dil. Factor: | 2.64    | Date of Analysis: 12/29/09 03:21 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               | 3.7           | 5.0                | 14             |
| Tetrachloroethene      | 1.3               | 16            | 9.0                | 110            |
| 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            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: TA-013

Lab ID#: 0912513-04A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122918 | Date of Collection: 12/17/09 11:45:00 AM |
| Dil. Factor: | 2.48    | Date of Analysis: 12/29/09 03:45 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.1                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.2                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 7.0                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.5                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 5.0               | 8.7           | 12                 | 21             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.8                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.8                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 4.0                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Toluene                | 1.2               | 3.1           | 4.7                | 12             |
| Tetrachloroethene      | 1.2               | 15            | 8.4                | 100            |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.4                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.4                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.0               | Not Detected  | 37                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 95        | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: TA-014

Lab ID#: 0912513-05A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122921 | Date of Collection: 12/17/09 11:36:00 AM |
| Dil. Factor: | 2.42    | Date of Analysis: 12/29/09 05:40 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               | 8.0           | 11                 | 19             |
| 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               | 3.5           | 4.6                | 13             |
| Tetrachloroethene      | 1.2               | 11            | 8.2                | 72             |
| 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            | 95        | 70-130        |
| 1,2-Dichloroethane-d4 | 103       | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |



Client Sample ID: TA-014 Lab Duplicate

Lab ID#: 0912513-05AA

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122920 | Date of Collection: 12/17/09 11:36:00 AM |
| Dil. Factor: | 4.84    | Date of Analysis: 12/29/09 05:10 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 2.4               | Not Detected  | 12                 | Not Detected   |
| Vinyl Chloride         | 2.4               | Not Detected  | 6.2                | Not Detected   |
| Freon 11               | 2.4               | Not Detected  | 14                 | Not Detected   |
| Freon 113              | 2.4               | Not Detected  | 18                 | Not Detected   |
| 1,1-Dichloroethene     | 2.4               | Not Detected  | 9.6                | Not Detected   |
| Acetone                | 9.7               | Not Detected  | 23                 | Not Detected   |
| Methylene Chloride     | 2.4               | Not Detected  | 8.4                | Not Detected   |
| cis-1,2-Dichloroethene | 2.4               | Not Detected  | 9.6                | Not Detected   |
| 1,1,1-Trichloroethane  | 2.4               | Not Detected  | 13                 | Not Detected   |
| Carbon Tetrachloride   | 2.4               | Not Detected  | 15                 | Not Detected   |
| Benzene                | 2.4               | Not Detected  | 7.7                | Not Detected   |
| Trichloroethene        | 2.4               | Not Detected  | 13                 | Not Detected   |
| Toluene                | 2.4               | 3.6           | 9.1                | 13             |
| Tetrachloroethene      | 2.4               | 10            | 16                 | 72             |
| Chlorobenzene          | 2.4               | Not Detected  | 11                 | Not Detected   |
| Ethyl Benzene          | 2.4               | Not Detected  | 10                 | Not Detected   |
| m,p-Xylene             | 2.4               | Not Detected  | 10                 | Not Detected   |
| o-Xylene               | 2.4               | Not Detected  | 10                 | Not Detected   |
| 1,3-Dichlorobenzene    | 2.4               | Not Detected  | 14                 | Not Detected   |
| 1,4-Dichlorobenzene    | 2.4               | Not Detected  | 14                 | Not Detected   |
| 1,2-Dichlorobenzene    | 2.4               | Not Detected  | 14                 | Not Detected   |
| 1,2,4-Trichlorobenzene | 9.7               | Not Detected  | 72                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: TA-015

Lab ID#: 0912513-06A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122919 | Date of Collection: 12/17/09 11:48:00 AM |
| Dil. Factor: | 2.37    | Date of Analysis: 12/29/09 04:45 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.9                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.0                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.1                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.7                | Not Detected   |
| Acetone                | 4.7               | 7.9           | 11                 | 19             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.1                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.7                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.5                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.4                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.8                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.4                | Not Detected   |
| Toluene                | 1.2               | 3.0           | 4.5                | 11             |
| Tetrachloroethene      | 1.2               | 68            | 8.0                | 460            |
| Chlorobenzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.1                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.1                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.1                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.7               | Not Detected  | 35                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 94        | 70-130        |
| 1,2-Dichloroethane-d4 | 102       | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: TA-016

Lab ID#: 0912513-07A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122922 | Date of Collection: 12/17/09 11:38:00 AM |
| Dil. Factor: | 2.53    | Date of Analysis: 12/29/09 06:14 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                 | 29             |
| 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               | 4.0           | 4.8                | 15             |
| Tetrachloroethene      | 1.3               | 10            | 8.6                | 69             |
| 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            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 104       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: TA-017

Lab ID#: 0912513-08A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122923 | Date of Collection: 12/17/09 11:10:00 AM |
| Dil. Factor: | 2.50    | Date of Analysis: 12/29/09 06:40 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.2                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.2                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 7.0                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.6                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 5.0                | Not Detected   |
| Acetone                | 5.0               | 12            | 12                 | 29             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 5.0                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.8                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.9                | Not Detected   |
| Benzene                | 1.2               | 1.4           | 4.0                | 4.6            |
| Trichloroethene        | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Toluene                | 1.2               | 4.4           | 4.7                | 17             |
| Tetrachloroethene      | 1.2               | 9.6           | 8.5                | 65             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.8                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.4                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.4                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.0               | Not Detected  | 37                 | Not Detected   |

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

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



Client Sample ID: TA-018

Lab ID#: 0912513-09A

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

|              |         |                                          |
|--------------|---------|------------------------------------------|
| File Name:   | 3122924 | Date of Collection: 12/17/09 11:40:00 AM |
| Dil. Factor: | 2.76    | Date of Analysis: 12/29/09 07:09 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.4               | 17            | 6.8                | 86             |
| Vinyl Chloride         | 1.4               | Not Detected  | 3.5                | Not Detected   |
| Freon 11               | 1.4               | Not Detected  | 7.8                | Not Detected   |
| Freon 113              | 1.4               | 4.3           | 10                 | 33             |
| 1,1-Dichloroethene     | 1.4               | Not Detected  | 5.5                | Not Detected   |
| Acetone                | 5.5               | 22            | 13                 | 53             |
| Methylene Chloride     | 1.4               | Not Detected  | 4.8                | Not Detected   |
| cis-1,2-Dichloroethene | 1.4               | Not Detected  | 5.5                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.4               | Not Detected  | 7.5                | Not Detected   |
| Carbon Tetrachloride   | 1.4               | Not Detected  | 8.7                | Not Detected   |
| Benzene                | 1.4               | Not Detected  | 4.4                | Not Detected   |
| Trichloroethene        | 1.4               | 65            | 7.4                | 350            |
| Toluene                | 1.4               | Not Detected  | 5.2                | Not Detected   |
| Tetrachloroethene      | 1.4               | 380           | 9.4                | 2600           |
| Chlorobenzene          | 1.4               | Not Detected  | 6.4                | Not Detected   |
| Ethyl Benzene          | 1.4               | Not Detected  | 6.0                | Not Detected   |
| m,p-Xylene             | 1.4               | Not Detected  | 6.0                | Not Detected   |
| o-Xylene               | 1.4               | Not Detected  | 6.0                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.4               | Not Detected  | 8.3                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.4               | Not Detected  | 8.3                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.4               | Not Detected  | 8.3                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.5               | Not Detected  | 41                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 102       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: Lab Blank

Lab ID#: 0912513-10A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | 3122905 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 12/29/09 09:37 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            | 94        | 70-130        |
| 1,2-Dichloroethane-d4 | 97        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: CCV

Lab ID#: 0912513-11A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | 3122902 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 12/29/09 07:58 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 89        |
| Vinyl Chloride         | 82        |
| Freon 11               | 95        |
| Freon 113              | 86        |
| 1,1-Dichloroethene     | 89        |
| Acetone                | 90        |
| Methylene Chloride     | 93        |
| cis-1,2-Dichloroethene | 92        |
| 1,1,1-Trichloroethane  | 87        |
| Carbon Tetrachloride   | 86        |
| Benzene                | 92        |
| Trichloroethene        | 89        |
| Toluene                | 88        |
| Tetrachloroethene      | 93        |
| Chlorobenzene          | 91        |
| Ethyl Benzene          | 98        |
| m,p-Xylene             | 97        |
| o-Xylene               | 96        |
| 1,3-Dichlorobenzene    | 81        |
| 1,4-Dichlorobenzene    | 81        |
| 1,2-Dichlorobenzene    | 80        |
| 1,2,4-Trichlorobenzene | 75        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 0912513-12A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | 3122903 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 12/29/09 08:42 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 88        |
| Vinyl Chloride         | 81        |
| Freon 11               | 79        |
| Freon 113              | 74        |
| 1,1-Dichloroethene     | 77        |
| Acetone                | 84        |
| Methylene Chloride     | 82        |
| cis-1,2-Dichloroethene | 87        |
| 1,1,1-Trichloroethane  | 82        |
| Carbon Tetrachloride   | 82        |
| Benzene                | 87        |
| Trichloroethene        | 84        |
| Toluene                | 81        |
| Tetrachloroethene      | 92        |
| Chlorobenzene          | 92        |
| Ethyl Benzene          | 99        |
| m,p-Xylene             | 100       |
| o-Xylene               | 96        |
| 1,3-Dichlorobenzene    | 84        |
| 1,4-Dichlorobenzene    | 86        |
| 1,2-Dichlorobenzene    | 83        |
| 1,2,4-Trichlorobenzene | 82        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 97        | 70-130        |
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |



# CHAIN-OF-CUSTODY RECORD

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Phone (603) 229-1900 Fax (603) 229-1919

### Project Info:

P.O. # \_\_\_\_\_  
Project # 2999.00/011  
Project Name IBM-EF, 3330C

### Turn Around Time:

☒ Normal  
☐ Rush

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N<sub>2</sub> He

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested                 | Canister Pressure <u>Vacuum</u> |       |         |            |
|----------|------------------------------|-------|--------------------|--------------------|------------------------------------|---------------------------------|-------|---------|------------|
|          |                              |       |                    |                    |                                    | Initial                         | Final | Receipt | Final (ps) |
| 01A      | TA-010                       | 1027  | 12/17/09           | 10:13 - 11:21      | TO-15 PROPER SPECIFIC ANALYTE LIST | 730                             | 7.5   |         |            |
| 02A      | TA-011                       | 4115  |                    | 10:21 - 11:43      |                                    | 730                             | 5.5   |         |            |
| 03A      | TA-012                       | 3340  |                    | 10:15 - 11:23      |                                    | 730                             | 7.0   |         |            |
| 04A      | TA-013                       | 3463  |                    | 10:28 - 11:45      |                                    | 29                              | 7.5   |         |            |
| 05A      | TA-014                       | 3349  |                    | 10:18 - 11:36      |                                    | 730                             | 7.0   |         |            |
| 06A      | TA-015                       | 3374  |                    | 10:25 - 11:48      |                                    | 730                             | 6.5   |         |            |
| 07A      | TA-016                       | 3459  |                    | 10:11 - 11:38      |                                    | 730                             | 7.0   |         |            |
| 08A      | TA-017                       | 3343  |                    | 10:10 - 11:10      |                                    | 29                              | 5     |         |            |
| 09A      | TA-018                       | 37316 |                    | 10:35 - 11:40      |                                    | 730                             | 7     |         |            |

Relinquished by: (signature) Pat Maione Date/Time 12/18/09 13:00  
Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

Received by: (signature) Brad Green Date/Time 12/19/09 9:45  
Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

### Notes:

PLEASE RUN TO-15 FOR SITE-SPECIFIC ANALYTE LIST

Lab Use Only  
Shipper Name Folsom Air Bill # 871536762739 Temp (°C) NA Condition good  
Custody Seals Intact? Yes No None Work Order # 0912513



1/6/2010

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

Concord NH 03301

Project Name: IBM-EF, B330C  
Project #: 2999.00/011  
Workorder #: 0912514

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 12/19/2009 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

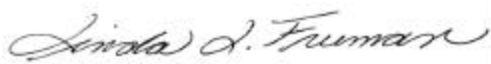
**WORK ORDER #: 0912514**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00/011 IBM-EF, B330C                                                                |
| <b>DATE RECEIVED:</b>  | 12/19/2009                                                                             | <b>CONTACT:</b>  | Bryanna Langley                                                                          |
| <b>DATE COMPLETED:</b> | 01/05/2010                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA-0404     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 01B               | IA-0404     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 02A               | AA-0430     | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 02B               | AA-0430     | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 03A               | DUP34205    | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 03B               | DUP34205    | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 04A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 04B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 05A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 05B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 06A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 06B               | LCS         | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 01/05/10

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.

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# 0912514**

Three 6 Liter Summa Canister (SIM Certified) samples were received on December 19, 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.

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For SIM:<br>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: IA-0404

Lab ID#: 0912514-01A

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.44             | 0.83                  | 2.2               |
| Freon 11          | 0.17                 | 0.36             | 0.94                  | 2.0               |
| Freon 113         | 0.17                 | 0.18             | 1.3                   | 1.4               |
| Acetone           | 0.84                 | 3.3              | 2.0                   | 7.8               |
| Toluene           | 0.17                 | 0.71             | 0.63                  | 2.7               |
| Tetrachloroethene | 0.17                 | 8.9              | 1.1                   | 61                |

Client Sample ID: IA-0404

Lab ID#: 0912514-01B

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.13             | 0.043                 | 0.33              |
| Carbon Tetrachloride | 0.034                | 0.065            | 0.21                  | 0.41              |
| Trichloroethene      | 0.034                | 0.069            | 0.18                  | 0.37              |

Client Sample ID: AA-0430

Lab ID#: 0912514-02A

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.15                 | 0.46             | 0.74                  | 2.2               |
| Freon 11 | 0.15                 | 0.19             | 0.84                  | 1.1               |
| Acetone  | 0.74                 | 1.4              | 1.8                   | 3.4               |
| Toluene  | 0.15                 | 0.19             | 0.56                  | 0.71              |

Client Sample ID: AA-0430

Lab ID#: 0912514-02B

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.030                | 0.074            | 0.19                  | 0.47              |

Client Sample ID: DUP34205

Lab ID#: 0912514-03A

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
|----------|----------------------|------------------|-----------------------|-------------------|



## Summary of Detected Compounds

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

Client Sample ID: DUP34205

Lab ID#: 0912514-03A

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.43             | 0.78                  | 2.1               |
| Freon 11          | 0.16                 | 0.36             | 0.89                  | 2.0               |
| Freon 113         | 0.16                 | 0.18             | 1.2                   | 1.4               |
| Acetone           | 0.79                 | 4.1              | 1.9                   | 9.7               |
| Toluene           | 0.16                 | 0.64             | 0.60                  | 2.4               |
| Tetrachloroethene | 0.16                 | 9.4              | 1.1                   | 64                |

Client Sample ID: DUP34205

Lab ID#: 0912514-03B

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | 0.12             | 0.040                 | 0.32              |
| Carbon Tetrachloride | 0.032                | 0.075            | 0.20                  | 0.47              |
| Trichloroethene      | 0.032                | 0.069            | 0.17                  | 0.37              |

Client Sample ID: IA-0404

Lab ID#: 0912514-01A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | s010407 | Date of Collection: 12/17/09 4:55:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 1/4/10 09:29 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              | 0.36          | 0.94               | 2.0            |
| Freon 113              | 0.17              | 0.18          | 1.3                | 1.4            |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 3.3           | 2.0                | 7.8            |
| 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              | Not Detected  | 0.54               | Not Detected   |
| Toluene                | 0.17              | 0.71          | 0.63               | 2.7            |
| Tetrachloroethene      | 0.17              | 8.9           | 1.1                | 61             |
| 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 | 110       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 91        | 70-130        |

Client Sample ID: IA-0404

Lab ID#: 0912514-01B

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

|              |            |                                         |
|--------------|------------|-----------------------------------------|
| File Name:   | s010407sim | Date of Collection: 12/17/09 4:55:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 1/4/10 09:29 PM       |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.13             | 0.043                 | 0.33              |
| Carbon Tetrachloride | 0.034                | 0.065            | 0.21                  | 0.41              |
| Trichloroethene      | 0.034                | 0.069            | 0.18                  | 0.37              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 95        | 70-130           |

Client Sample ID: AA-0430

Lab ID#: 0912514-02A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | s010408 | Date of Collection: 12/17/09 4:45:00 PM |
| Dil. Factor: | 1.49    | Date of Analysis: 1/4/10 10:21 PM       |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.15              | 0.46          | 0.74               | 2.2            |
| Freon 11               | 0.15              | 0.19          | 0.84               | 1.1            |
| Freon 113              | 0.15              | Not Detected  | 1.1                | Not Detected   |
| 1,1-Dichloroethene     | 0.15              | Not Detected  | 0.59               | Not Detected   |
| Acetone                | 0.74              | 1.4           | 1.8                | 3.4            |
| 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              | 0.19          | 0.56               | 0.71           |
| Tetrachloroethene      | 0.15              | Not Detected  | 1.0                | Not Detected   |
| 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 | 108       | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 92        | 70-130        |

Client Sample ID: AA-0430

Lab ID#: 0912514-02B

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

|              |            |                                         |
|--------------|------------|-----------------------------------------|
| File Name:   | s010408sim | Date of Collection: 12/17/09 4:45:00 PM |
| Dil. Factor: | 1.49       | Date of Analysis: 1/4/10 10:21 PM       |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.015                | Not Detected     | 0.038                 | Not Detected      |
| Carbon Tetrachloride | 0.030                | 0.074            | 0.19                  | 0.47              |
| Trichloroethene      | 0.030                | Not Detected     | 0.16                  | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130           |
| Toluene-d8            | 108       | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |



Client Sample ID: DUP34205

Lab ID#: 0912514-03A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | s010409 | Date of Collection: 12/17/09 4:55:00 PM |
| Dil. Factor: | 1.58    | Date of Analysis: 1/4/10 11:09 PM       |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.43          | 0.78               | 2.1            |
| Freon 11               | 0.16              | 0.36          | 0.89               | 2.0            |
| Freon 113              | 0.16              | 0.18          | 1.2                | 1.4            |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Acetone                | 0.79              | 4.1           | 1.9                | 9.7            |
| 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              | 0.64          | 0.60               | 2.4            |
| Tetrachloroethene      | 0.16              | 9.4           | 1.1                | 64             |
| Chlorobenzene          | 0.16              | Not Detected  | 0.73               | Not Detected   |
| Ethyl Benzene          | 0.16              | Not Detected  | 0.69               | Not Detected   |
| m,p-Xylene             | 0.16              | Not Detected  | 0.69               | Not Detected   |
| 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 | 109       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 92        | 70-130        |

Client Sample ID: DUP34205

Lab ID#: 0912514-03B

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

|              |            |                                         |
|--------------|------------|-----------------------------------------|
| File Name:   | s010409sim | Date of Collection: 12/17/09 4:55:00 PM |
| Dil. Factor: | 1.58       | Date of Analysis: 1/4/10 11:09 PM       |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | 0.12             | 0.040                 | 0.32              |
| Carbon Tetrachloride | 0.032                | 0.075            | 0.20                  | 0.47              |
| Trichloroethene      | 0.032                | 0.069            | 0.17                  | 0.37              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 0912514-04A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s010406 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 1/4/10 08:35 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 | 121       | 70-130        |
| Toluene-d8            | 110       | 70-130        |
| 4-Bromofluorobenzene  | 92        | 70-130        |

Client Sample ID: Lab Blank

Lab ID#: 0912514-04B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | s010406sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 1/4/10 08:35 PM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 118       | 70-130           |
| Toluene-d8            | 116       | 70-130           |
| 4-Bromofluorobenzene  | 95        | 70-130           |

Client Sample ID: CCV

Lab ID#: 0912514-05A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s010402 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 1/4/10 05:27 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 100       |
| Freon 11               | 99        |
| Freon 113              | 100       |
| 1,1-Dichloroethene     | 100       |
| Acetone                | 120       |
| Methylene Chloride     | 101       |
| cis-1,2-Dichloroethene | 86        |
| 1,1,1-Trichloroethane  | 89        |
| Benzene                | 85        |
| Toluene                | 90        |
| Tetrachloroethene      | 85        |
| Chlorobenzene          | 86        |
| Ethyl Benzene          | 86        |
| m,p-Xylene             | 86        |
| o-Xylene               | 88        |
| 1,3-Dichlorobenzene    | 87        |
| 1,4-Dichlorobenzene    | 88        |
| 1,2-Dichlorobenzene    | 84        |
| 1,2,4-Trichlorobenzene | 73        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130        |
| Toluene-d8            | 108       | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |



Client Sample ID: CCV

Lab ID#: 0912514-05B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | s010402sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 1/4/10 05:27 PM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 108       |
| Carbon Tetrachloride | 92        |
| Trichloroethene      | 87        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130        |
| Toluene-d8            | 113       | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |

Client Sample ID: LCS

Lab ID#: 0912514-06A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s010405 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 1/4/10 07:45 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 85        |
| Freon 11               | 86        |
| Freon 113              | 77        |
| 1,1-Dichloroethene     | 76        |
| Acetone                | 82        |
| Methylene Chloride     | 80        |
| cis-1,2-Dichloroethene | 88        |
| 1,1,1-Trichloroethane  | 89        |
| Benzene                | 90        |
| Toluene                | 79        |
| Tetrachloroethene      | 87        |
| Chlorobenzene          | 90        |
| Ethyl Benzene          | 91        |
| m,p-Xylene             | 91        |
| o-Xylene               | 91        |
| 1,3-Dichlorobenzene    | 91        |
| 1,4-Dichlorobenzene    | 94        |
| 1,2-Dichlorobenzene    | 88        |
| 1,2,4-Trichlorobenzene | 80        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: LCS

Lab ID#: 0912514-06B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | s010405sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 1/4/10 07:45 PM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 88        |
| Carbon Tetrachloride | 75        |
| Trichloroethene      | 88        |

Container Type: NA - Not Applicable

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



# 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) PATRICK MARONE Pat Marone  
Company SHA Email bgreen@carbonhead.com  
Address 20 Foundry St. City Concord State CA Zip 93301  
Phone (603) 229-1900 Fax (603) 229-1919

### Project Info:

P.O. # \_\_\_\_\_  
Project # 2999.00 / 011  
Project Name IBM-EF B330C

### Turn Around Time:

☒ Normal  
☐ Rush

Lab Use Only:

Pressurized by:

Date:

Pressurization Gas:

N<sub>2</sub> He

| Lab I.D.    | Field Sample I.D. (Location) | Can #        | Date of Collection | Time of Collection | Analyses Requested                  | Canister Pressure <u>vacuum</u> |            |         |            |
|-------------|------------------------------|--------------|--------------------|--------------------|-------------------------------------|---------------------------------|------------|---------|------------|
|             |                              |              |                    |                    |                                     | Initial                         | Final      | Receipt | Final (ps) |
| <u>01AB</u> | <u>1A0404</u>                | <u>35244</u> | <u>12/19/09</u>    | <u>8:52-16:55</u>  | <u>TO-15 H<sub>2</sub>O PROJECT</u> | <u>30</u>                       | <u>6</u>   |         |            |
| <u>02AB</u> | <u>AA-0430</u>               | <u>13842</u> | <u>↓</u>           | <u>8:50-16:45</u>  | <u>SPECIFIC ANALYTE</u>             | <u>730</u>                      | <u>6</u>   |         |            |
| <u>03AB</u> | <u>DUP34205</u>              | <u>34205</u> | <u>↓</u>           | <u>8:52-16:55</u>  | <u>LIST</u>                         | <u>730</u>                      | <u>6.5</u> |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |
|             |                              |              |                    |                    |                                     |                                 |            |         |            |

|                                                                                |                                                                      |                                                               |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------|
| Relinquished by: (signature) <u>Pat Marone</u> Date/Time <u>12/18/09 13:00</u> | Received by: (signature) <u>Chris</u> Date/Time <u>12/19/09 9:45</u> | Notes:<br><u>PLEASE RUN FOR PROJECT SPECIFIC ANALYTE LIST</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>Flex</u> | Air Bill # <u>871536762740</u> | Temp (°C) <u>MA</u> | Condition <u>Good</u> | Custody: Seals intact? <u>Yes</u> <u>No</u> <u>None</u> | Work Order # <u>0912514</u> |
|--------------|--------------------------|--------------------------------|---------------------|-----------------------|---------------------------------------------------------|-----------------------------|

8/12/2010

Mr. Brad Green

Sanborn, Head & Associates

20 Foundry Street

Concord NH 03301

Project Name: IBM - EFK Building 330C

Project #: 2999

Workorder #: 1007724A

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 7/31/2010 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott

Project Manager

**WORK ORDER #: 1007724A**

Work Order Summary

**CLIENT:** Mr. Brad Green  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

**BILL TO:** Accounts Payable  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

**PHONE:** 603-229-1900

**P.O. #**

**FAX:** 603-229-1919

**PROJECT #** 2999 IBM - EFK Building 330C

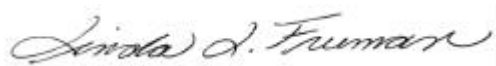
**DATE RECEIVED:** 07/31/2010

**CONTACT:** Ausha Scott

**DATE COMPLETED:** 08/12/2010

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0404      | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 01B               | IA0404      | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 02A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 02B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 03A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 03B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 04A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 04B               | LCS         | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 08/12/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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# 1007724A**

One 6 Liter Summa Canister (SIM Certified) sample was received on July 31, 2010. 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.

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For SIM:<br>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#: 1007724A-01A**

| <b>Compound</b>   | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|-------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Freon 12          | 0.16                         | 0.64                     | 0.77                          | 3.2                       |
| Freon 11          | 0.16                         | 1.4                      | 0.87                          | 8.0                       |
| Freon 113         | 0.16                         | 0.37                     | 1.2                           | 2.8                       |
| Acetone           | 0.78                         | 6.4                      | 1.8                           | 15                        |
| Toluene           | 0.16                         | 0.18                     | 0.58                          | 0.66                      |
| Tetrachloroethene | 0.16                         | 7.4                      | 1.0                           | 50                        |

**Client Sample ID: IA0404**

**Lab ID#: 1007724A-01B**

| <b>Compound</b>      | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|----------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Vinyl Chloride       | 0.016                        | 0.14                     | 0.040                         | 0.36                      |
| Carbon Tetrachloride | 0.031                        | 0.071                    | 0.20                          | 0.44                      |
| Trichloroethene      | 0.031                        | 0.067                    | 0.17                          | 0.36                      |

Client Sample ID: IA0404

Lab ID#: 1007724A-01A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | s080409 | Date of Collection: 7/29/10 2:30:00 PM |
| Dil. Factor: | 1.55    | Date of Analysis: 8/4/10 03:56 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.64          | 0.77               | 3.2            |
| Freon 11               | 0.16              | 1.4           | 0.87               | 8.0            |
| Freon 113              | 0.16              | 0.37          | 1.2                | 2.8            |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.61               | Not Detected   |
| Acetone                | 0.78              | 6.4           | 1.8                | 15             |
| 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              | 0.18          | 0.58               | 0.66           |
| Tetrachloroethene      | 0.16              | 7.4           | 1.0                | 50             |
| 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 | 96        | 70-130        |
| Toluene-d8            | 113       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: IA0404

Lab ID#: 1007724A-01B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | s080409sim | Date of Collection: 7/29/10 2:30:00 PM |
| Dil. Factor: | 1.55       | Date of Analysis: 8/4/10 03:56 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | 0.14             | 0.040                 | 0.36              |
| Carbon Tetrachloride | 0.031                | 0.071            | 0.20                  | 0.44              |
| Trichloroethene      | 0.031                | 0.067            | 0.17                  | 0.36              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 97        | 70-130           |
| Toluene-d8            | 112       | 70-130           |
| 4-Bromofluorobenzene  | 96        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1007724A-02A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s080406 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 8/4/10 12:49 PM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 91        | 70-130           |
| Toluene-d8            | 108       | 70-130           |
| 4-Bromofluorobenzene  | 89        | 70-130           |



Client Sample ID: Lab Blank

Lab ID#: 1007724A-02B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | s080406sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 8/4/10 12:49 PM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 93        | 70-130           |
| Toluene-d8            | 109       | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |

Client Sample ID: CCV

Lab ID#: 1007724A-03A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s080402 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 8/4/10 08:59 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 108       |
| Freon 11               | 108       |
| Freon 113              | 104       |
| 1,1-Dichloroethene     | 104       |
| Acetone                | 99        |
| Methylene Chloride     | 101       |
| cis-1,2-Dichloroethene | 93        |
| 1,1,1-Trichloroethane  | 99        |
| Benzene                | 95        |
| Toluene                | 96        |
| Tetrachloroethene      | 105       |
| Chlorobenzene          | 98        |
| Ethyl Benzene          | 99        |
| m,p-Xylene             | 96        |
| o-Xylene               | 97        |
| 1,3-Dichlorobenzene    | 95        |
| 1,4-Dichlorobenzene    | 90        |
| 1,2-Dichlorobenzene    | 94        |
| 1,2,4-Trichlorobenzene | 98        |

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 1007724A-03B

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

File Name: s080402sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 8/4/10 08:59 AM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 108       |
| Carbon Tetrachloride | 109       |
| Trichloroethene      | 109       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |

Client Sample ID: LCS

Lab ID#: 1007724A-04A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | s080403 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 8/4/10 09:52 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 102       |
| Freon 11               | 108       |
| Freon 113              | 88        |
| 1,1-Dichloroethene     | 88        |
| Acetone                | 89        |
| Methylene Chloride     | 90        |
| cis-1,2-Dichloroethene | 88        |
| 1,1,1-Trichloroethane  | 98        |
| Benzene                | 89        |
| Toluene                | 85        |
| Tetrachloroethene      | 98        |
| Chlorobenzene          | 94        |
| Ethyl Benzene          | 96        |
| m,p-Xylene             | 93        |
| o-Xylene               | 93        |
| 1,3-Dichlorobenzene    | 94        |
| 1,4-Dichlorobenzene    | 91        |
| 1,2-Dichlorobenzene    | 94        |
| 1,2,4-Trichlorobenzene | 110       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |

Client Sample ID: LCS

Lab ID#: 1007724A-04B

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

File Name: s080403sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 8/4/10 09:52 AM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 95        |
| Carbon Tetrachloride | 108       |
| Trichloroethene      | 106       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |

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

### Sample Transportation Notice

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

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

| Project Info:                                          |                   |       | Turn Around Time |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
|--------------------------------------------------------|-------------------|-------|------------------|-----------------|----------------------------------------|-------|------------------------------------|---------|-------------|
| Project Manager: Brad Green                            |                   |       | Normal<br>Rush   |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
| Email: bgreen@sanbornhead.com; latwell@sanbornhead.com |                   |       |                  |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
| P.O.#                                                  |                   |       | specify          |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
| Project #                                              |                   |       |                  |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
| Project Name:                                          |                   |       |                  |                 | Relinquished by: (signature) Date/Time |       | Received By: (signature) Date/Time |         |             |
| Analyses: 1 = TO-15 H/L<br>2 = TO-15                   |                   |       |                  |                 | 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                                                   | IA0404            | 33590 | 07/29/2010       | 1430            | 29                                     | 4.5   | 1                                  |         |             |
| 02A                                                    | TA010             | 3357  | 07/29/2010       | 0837            | 29                                     | 6     | 2                                  |         |             |
| 03A                                                    | TA011             | 3300  | 07/29/2010       | 0842            | >30                                    | 6     | 2                                  |         |             |
| 04A                                                    | TA014             | 3825  | 07/29/2010       | 0853            | >30                                    | 6     | 2                                  |         |             |
| 05A                                                    | TA015             | 3365  | 07/29/2010       | 0847            | >30                                    | 6.5   | 2                                  |         |             |
| 06A                                                    | TA019             | 3361  | 07/29/2010       | 0834            | >30                                    | 5     | 2                                  |         |             |
| 07A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 08A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 09A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 10A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 11A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 12A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 13A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 14A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 15A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 16A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 17A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 18A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 19A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 20A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 21A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 22A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 23A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 24A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 25A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 26A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 27A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 28A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 29A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 30A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 31A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 32A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 33A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 34A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 35A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 36A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 37A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 38A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 39A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 40A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 41A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 42A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 43A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 44A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 45A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 46A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 47A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 48A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 49A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 50A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 51A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 52A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 53A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |
| 54A                                                    |                   |       |                  |                 |                                        |       |                                    |         |             |

Felix  
CUSTODY SEAL INTACT?  
Y N NONE TEMP MA

871536762327



8/12/2010

Mr. Brad Green

Sanborn, Head & Associates

20 Foundry Street

Concord NH 03301

Project Name: IBM - EFK Building 330C

Project #: 2999

Workorder #: 1007724B

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 7/31/2010 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott

Project Manager

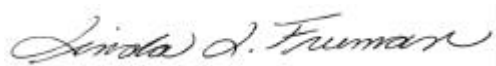
**WORK ORDER #: 1007724B**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999 IBM - EFK Building 330C                                                             |
| <b>DATE RECEIVED:</b>  | 07/31/2010                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 08/12/2010                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 02A               | TA010       | Modified TO-15 | 5.0 "Hg                       | 15 psi                    |
| 03A               | TA011       | Modified TO-15 | 3.8 "Hg                       | 15 psi                    |
| 04A               | TA014       | Modified TO-15 | 4.2 "Hg                       | 15 psi                    |
| 05A               | TA015       | Modified TO-15 | 5.2 "Hg                       | 15 psi                    |
| 06A               | TA019       | Modified TO-15 | 4.4 "Hg                       | 15 psi                    |
| 07A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 08A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 09A               | LCS         | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 08/12/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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  
EPA Method TO-15  
Sanborn, Head & Associates  
Workorder# 1007724B**

Five 1 Liter Summa Canister (100% Certified) samples were received on July 31, 2010. 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.

**Receiving Notes**

The Chain of Custody (COC) information for sample TA015 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**

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: TA010**

**Lab ID#: 1007724B-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 1.2                  | 1.6              | 6.8                   | 9.1               |
| Freon 113         | 1.2                  | 1.5              | 9.3                   | 11                |
| Acetone           | 4.8                  | 16               | 11                    | 38                |
| Benzene           | 1.2                  | 2.2              | 3.9                   | 7.0               |
| Toluene           | 1.2                  | 7.3              | 4.6                   | 27                |
| Tetrachloroethene | 1.2                  | 20               | 8.2                   | 130               |
| Ethyl Benzene     | 1.2                  | 1.4              | 5.2                   | 6.1               |
| m,p-Xylene        | 1.2                  | 4.2              | 5.2                   | 18                |
| o-Xylene          | 1.2                  | 1.3              | 5.2                   | 5.5               |

**Client Sample ID: TA011**

**Lab ID#: 1007724B-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 1.2                  | 1.3              | 6.5                   | 7.3               |
| Freon 113         | 1.2                  | 1.4              | 8.8                   | 11                |
| Acetone           | 4.6                  | 7.4              | 11                    | 18                |
| Toluene           | 1.2                  | 2.6              | 4.4                   | 9.8               |
| Tetrachloroethene | 1.2                  | 32               | 7.8                   | 220               |
| m,p-Xylene        | 1.2                  | 1.6              | 5.0                   | 7.2               |

**Client Sample ID: TA014**

**Lab ID#: 1007724B-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 1.2                  | 1.8              | 6.6                   | 10                |
| Acetone           | 4.7                  | 14               | 11                    | 32                |
| Toluene           | 1.2                  | 1.7              | 4.4                   | 6.3               |
| Tetrachloroethene | 1.2                  | 8.4              | 8.0                   | 57                |

## Summary of Detected Compounds

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

**Client Sample ID: TA015**

**Lab ID#: 1007724B-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 1.2                  | 1.7              | 6.8                   | 9.4               |
| Acetone           | 4.9                  | 17               | 12                    | 41                |
| Tetrachloroethene | 1.2                  | 8.2              | 8.3                   | 56                |

**Client Sample ID: TA019**

**Lab ID#: 1007724B-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 1.2                  | 1.7              | 6.6                   | 9.4               |
| Freon 113         | 1.2                  | 1.2              | 9.1                   | 9.1               |
| Acetone           | 4.7                  | 11               | 11                    | 27                |
| Tetrachloroethene | 1.2                  | 10               | 8.0                   | 71                |

Client Sample ID: TA010

Lab ID#: 1007724B-02A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | d081009 | Date of Collection: 7/29/10 8:37:00 AM |
| Dil. Factor: | 2.42    | Date of Analysis: 8/10/10 01:17 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               | 1.6           | 6.8                | 9.1            |
| Freon 113              | 1.2               | 1.5           | 9.3                | 11             |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.8                | Not Detected   |
| Acetone                | 4.8               | 16            | 11                 | 38             |
| 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               | 2.2           | 3.9                | 7.0            |
| Trichloroethene        | 1.2               | Not Detected  | 6.5                | Not Detected   |
| Toluene                | 1.2               | 7.3           | 4.6                | 27             |
| Tetrachloroethene      | 1.2               | 20            | 8.2                | 130            |
| Chlorobenzene          | 1.2               | Not Detected  | 5.6                | Not Detected   |
| Ethyl Benzene          | 1.2               | 1.4           | 5.2                | 6.1            |
| m,p-Xylene             | 1.2               | 4.2           | 5.2                | 18             |
| o-Xylene               | 1.2               | 1.3           | 5.2                | 5.5            |
| 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 | 102       | 70-130        |
| 4-Bromofluorobenzene  | 106       | 70-130        |



Client Sample ID: TA011

Lab ID#: 1007724B-03A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | d081008 | Date of Collection: 7/29/10 8:42:00 AM |
| Dil. Factor: | 2.31    | Date of Analysis: 8/10/10 11:51 AM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.0                | Not Detected   |
| Freon 11               | 1.2               | 1.3           | 6.5                | 7.3            |
| Freon 113              | 1.2               | 1.4           | 8.8                | 11             |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.6                | Not Detected   |
| Acetone                | 4.6               | 7.4           | 11                 | 18             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.0                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.6                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.3                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.3                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.7                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.2                | Not Detected   |
| Toluene                | 1.2               | 2.6           | 4.4                | 9.8            |
| Tetrachloroethene      | 1.2               | 32            | 7.8                | 220            |
| Chlorobenzene          | 1.2               | Not Detected  | 5.3                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.0                | Not Detected   |
| m,p-Xylene             | 1.2               | 1.6           | 5.0                | 7.2            |
| o-Xylene               | 1.2               | Not Detected  | 5.0                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 6.9                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 6.9                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 6.9                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.6               | Not Detected  | 34                 | Not Detected   |

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

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

Client Sample ID: TA014

Lab ID#: 1007724B-04A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | d081015 | Date of Collection: 7/29/10 8:53:00 AM |
| Dil. Factor: | 2.35    | Date of Analysis: 8/10/10 04:56 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.8                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.0                | Not Detected   |
| Freon 11               | 1.2               | 1.8           | 6.6                | 10             |
| Freon 113              | 1.2               | Not Detected  | 9.0                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.6                | Not Detected   |
| Acetone                | 4.7               | 14            | 11                 | 32             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.1                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.6                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.4                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.4                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.8                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.3                | Not Detected   |
| Toluene                | 1.2               | 1.7           | 4.4                | 6.3            |
| Tetrachloroethene      | 1.2               | 8.4           | 8.0                | 57             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.1                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.1                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.1                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.7               | Not Detected  | 35                 | Not Detected   |

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

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

Client Sample ID: TA015

Lab ID#: 1007724B-05A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | d081016 | Date of Collection: 7/29/10 8:47:00 AM |
| Dil. Factor: | 2.44    | Date of Analysis: 8/10/10 05:17 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               | 1.7           | 6.8                | 9.4            |
| Freon 113              | 1.2               | Not Detected  | 9.4                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.8                | Not Detected   |
| Acetone                | 4.9               | 17            | 12                 | 41             |
| 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  | 7.7                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.9                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.6                | Not Detected   |
| Tetrachloroethene      | 1.2               | 8.2           | 8.3                | 56             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.6                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.3                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.3                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.3                | 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 | 4.9               | Not Detected  | 36                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 97        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |

Client Sample ID: TA019

Lab ID#: 1007724B-06A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | d081017 | Date of Collection: 7/29/10 8:34:00 AM |
| Dil. Factor: | 2.37    | Date of Analysis: 8/10/10 05:46 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.9                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.0                | Not Detected   |
| Freon 11               | 1.2               | 1.7           | 6.6                | 9.4            |
| Freon 113              | 1.2               | 1.2           | 9.1                | 9.1            |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.7                | Not Detected   |
| Acetone                | 4.7               | 11            | 11                 | 27             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.1                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.7                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.5                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.4                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.8                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.4                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.5                | Not Detected   |
| Tetrachloroethene      | 1.2               | 10            | 8.0                | 71             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.1                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.1                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.1                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.1                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.7               | Not Detected  | 35                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 97        | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |

Client Sample ID: Lab Blank

Lab ID#: 1007724B-07A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | d081007 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 8/10/10 10:57 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            | 95        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 101       | 70-130        |

Client Sample ID: CCV

Lab ID#: 1007724B-08A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | d081002 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 8/10/10 07:49 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 91        |
| Vinyl Chloride         | 84        |
| Freon 11               | 93        |
| Freon 113              | 92        |
| 1,1-Dichloroethene     | 87        |
| Acetone                | 86        |
| Methylene Chloride     | 88        |
| cis-1,2-Dichloroethene | 84        |
| 1,1,1-Trichloroethane  | 95        |
| Carbon Tetrachloride   | 92        |
| Benzene                | 92        |
| Trichloroethene        | 91        |
| Toluene                | 94        |
| Tetrachloroethene      | 99        |
| Chlorobenzene          | 92        |
| Ethyl Benzene          | 100       |
| m,p-Xylene             | 103       |
| o-Xylene               | 100       |
| 1,3-Dichlorobenzene    | 100       |
| 1,4-Dichlorobenzene    | 101       |
| 1,2-Dichlorobenzene    | 100       |
| 1,2,4-Trichlorobenzene | 98        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 105       | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |



Client Sample ID: LCS

Lab ID#: 1007724B-09A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | d081003 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 8/10/10 08:32 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 96        |
| Vinyl Chloride         | 111       |
| Freon 11               | 96        |
| Freon 113              | 89        |
| 1,1-Dichloroethene     | 84        |
| Acetone                | 84        |
| Methylene Chloride     | 80        |
| cis-1,2-Dichloroethene | 89        |
| 1,1,1-Trichloroethane  | 103       |
| Carbon Tetrachloride   | 106       |
| Benzene                | 97        |
| Trichloroethene        | 96        |
| Toluene                | 94        |
| Tetrachloroethene      | 102       |
| Chlorobenzene          | 97        |
| Ethyl Benzene          | 107       |
| m,p-Xylene             | 111       |
| o-Xylene               | 111       |
| 1,3-Dichlorobenzene    | 112       |
| 1,4-Dichlorobenzene    | 114       |
| 1,2-Dichlorobenzene    | 113       |
| 1,2,4-Trichlorobenzene | 116       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 102       | 70-130        |
| 1,2-Dichloroethane-d4 | 97        | 70-130        |
| 4-Bromofluorobenzene  | 105       | 70-130        |



10/21/2010  
Mr. Brad Green  
Sanborn, Head & Associates  
20 Foundry Street

Concord NH 03301

Project Name: IBM - Bldg 330C Reliability Lab  
Project #: 2999.00  
Workorder #: 1010175A

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/8/2010 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1010175A**

Work Order Summary

**CLIENT:** Mr. Brad Green  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

**BILL TO:** Accounts Payable  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

**PHONE:** 603-229-1900

**P.O. #**

**FAX:** 603-229-1919

**PROJECT #** 2999.00 IBM - Bldg 330C Reliability

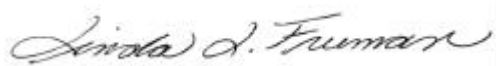
**DATE RECEIVED:** 10/08/2010

**CONTACT:** Lab.  
Ausha Scott

**DATE COMPLETED:** 10/20/2010

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0404      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 01B               | IA0404      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 02A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 02B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 03A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 03B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 04A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 04AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 04B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 04BB              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 10/20/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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: 06/30/11

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.

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# 1010175A**

One 6 Liter Summa Special (SIM Certified) sample was received on October 08, 2010. 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.

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For SIM:<br>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 exceedences 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#: 1010175A-01A**

| <b>Compound</b>   | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|-------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Freon 12          | 0.17                         | 0.41                     | 0.83                          | 2.0                       |
| Freon 11          | 0.17                         | 0.50                     | 0.94                          | 2.8                       |
| Acetone           | 0.84                         | 4.2                      | 2.0                           | 9.9                       |
| Toluene           | 0.17                         | 0.29                     | 0.63                          | 1.1                       |
| Tetrachloroethene | 0.17                         | 1.7                      | 1.1                           | 12                        |
| m,p-Xylene        | 0.17                         | 0.29                     | 0.73                          | 1.2                       |

**Client Sample ID: IA0404**

**Lab ID#: 1010175A-01B**

| <b>Compound</b>      | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|----------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Vinyl Chloride       | 0.017                        | 0.22                     | 0.043                         | 0.55                      |
| Carbon Tetrachloride | 0.034                        | 0.068                    | 0.21                          | 0.43                      |



Client Sample ID: IA0404

Lab ID#: 1010175A-01A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a101806 | Date of Collection: 10/6/10 4:12:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 10/18/10 11:47 AM    |

| 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              | 0.50            | 0.94               | 2.8             |
| Freon 113              | 0.17              | Not Detected    | 1.3                | Not Detected    |
| 1,1-Dichloroethene     | 0.17              | Not Detected    | 0.67               | Not Detected    |
| Acetone                | 0.84              | 4.2             | 2.0                | 9.9             |
| 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              | 0.29            | 0.63               | 1.1             |
| Tetrachloroethene      | 0.17              | 1.7             | 1.1                | 12              |
| 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 UJ | 6.2                | Not Detected UJ |

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

Container Type: 6 Liter Summa Special (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |

Client Sample ID: IA0404

Lab ID#: 1010175A-01B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a101806sim | Date of Collection: 10/6/10 4:12:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 10/18/10 11:47 AM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.22             | 0.043                 | 0.55              |
| Carbon Tetrachloride | 0.034                | 0.068            | 0.21                  | 0.43              |
| Trichloroethene      | 0.034                | Not Detected     | 0.18                  | Not Detected      |

Container Type: 6 Liter Summa Special (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 92        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1010175A-02A

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

|              |          |                                     |
|--------------|----------|-------------------------------------|
| File Name:   | a101805a | Date of Collection: NA              |
| Dil. Factor: | 1.00     | Date of Analysis: 10/18/10 10:47 AM |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|------------------------|-------------------|-----------------|--------------------|-----------------|
| Freon 12               | 0.10              | Not Detected    | 0.49               | Not Detected    |
| Freon 11               | 0.10              | Not Detected    | 0.56               | Not Detected    |
| Freon 113              | 0.10              | Not Detected    | 0.77               | Not Detected    |
| 1,1-Dichloroethene     | 0.10              | Not Detected    | 0.40               | Not Detected    |
| Acetone                | 0.50              | Not Detected    | 1.2                | Not Detected    |
| Methylene Chloride     | 0.20              | Not Detected    | 0.69               | Not Detected    |
| cis-1,2-Dichloroethene | 0.10              | Not Detected    | 0.40               | Not Detected    |
| 1,1,1-Trichloroethane  | 0.10              | Not Detected    | 0.54               | Not Detected    |
| Benzene                | 0.10              | Not Detected    | 0.32               | Not Detected    |
| Toluene                | 0.10              | Not Detected    | 0.38               | Not Detected    |
| Tetrachloroethene      | 0.10              | Not Detected    | 0.68               | Not Detected    |
| Chlorobenzene          | 0.10              | Not Detected    | 0.46               | Not Detected    |
| Ethyl Benzene          | 0.10              | Not Detected    | 0.43               | Not Detected    |
| m,p-Xylene             | 0.10              | Not Detected    | 0.43               | Not Detected    |
| o-Xylene               | 0.10              | Not Detected    | 0.43               | Not Detected    |
| 1,3-Dichlorobenzene    | 0.10              | Not Detected    | 0.60               | Not Detected    |
| 1,4-Dichlorobenzene    | 0.10              | Not Detected    | 0.60               | Not Detected    |
| 1,2-Dichlorobenzene    | 0.10              | Not Detected    | 0.60               | Not Detected    |
| 1,2,4-Trichlorobenzene | 0.50              | Not Detected 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 | 92        | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 90        | 70-130        |

Client Sample ID: Lab Blank

Lab ID#: 1010175A-02B

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

|              |             |                                     |
|--------------|-------------|-------------------------------------|
| File Name:   | a101805asim | Date of Collection: NA              |
| Dil. Factor: | 1.00        | Date of Analysis: 10/18/10 10:47 AM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 95        | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 93        | 70-130           |

Client Sample ID: CCV

Lab ID#: 1010175A-03A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | a101802 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/18/10 08:01 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 95        |
| Freon 11               | 87        |
| Freon 113              | 93        |
| 1,1-Dichloroethene     | 96        |
| Acetone                | 99        |
| Methylene Chloride     | 94        |
| cis-1,2-Dichloroethene | 93        |
| 1,1,1-Trichloroethane  | 93        |
| Benzene                | 94        |
| Toluene                | 95        |
| Tetrachloroethene      | 95        |
| Chlorobenzene          | 96        |
| Ethyl Benzene          | 93        |
| m,p-Xylene             | 93        |
| o-Xylene               | 93        |
| 1,3-Dichlorobenzene    | 90        |
| 1,4-Dichlorobenzene    | 85        |
| 1,2-Dichlorobenzene    | 88        |
| 1,2,4-Trichlorobenzene | 69 Q      |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 1010175A-03B

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

|              |            |                                     |
|--------------|------------|-------------------------------------|
| File Name:   | a101802sim | Date of Collection: NA              |
| Dil. Factor: | 1.00       | Date of Analysis: 10/18/10 08:01 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 104       |
| Carbon Tetrachloride | 97        |
| Trichloroethene      | 92        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1010175A-04A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | a101803 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/18/10 09:12 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 91        |
| Freon 11               | 87        |
| Freon 113              | 83        |
| 1,1-Dichloroethene     | 85        |
| Acetone                | 92        |
| Methylene Chloride     | 86        |
| cis-1,2-Dichloroethene | 87        |
| 1,1,1-Trichloroethane  | 89        |
| Benzene                | 89        |
| Toluene                | 86        |
| Tetrachloroethene      | 91        |
| Chlorobenzene          | 92        |
| Ethyl Benzene          | 91        |
| m,p-Xylene             | 91        |
| o-Xylene               | 89        |
| 1,3-Dichlorobenzene    | 89        |
| 1,4-Dichlorobenzene    | 84        |
| 1,2-Dichlorobenzene    | 87        |
| 1,2,4-Trichlorobenzene | 73        |

Container Type: NA - Not Applicable

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



Client Sample ID: LCSD

Lab ID#: 1010175A-04AA

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | a101804 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/18/10 09:58 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 88        |
| Freon 11               | 84        |
| Freon 113              | 80        |
| 1,1-Dichloroethene     | 82        |
| Acetone                | 89        |
| Methylene Chloride     | 83        |
| cis-1,2-Dichloroethene | 86        |
| 1,1,1-Trichloroethane  | 87        |
| Benzene                | 87        |
| Toluene                | 83        |
| Tetrachloroethene      | 87        |
| Chlorobenzene          | 89        |
| Ethyl Benzene          | 89        |
| m,p-Xylene             | 90        |
| o-Xylene               | 87        |
| 1,3-Dichlorobenzene    | 86        |
| 1,4-Dichlorobenzene    | 84        |
| 1,2-Dichlorobenzene    | 85        |
| 1,2,4-Trichlorobenzene | 75        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: LCS

Lab ID#: 1010175A-04B

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

|              |            |                                     |
|--------------|------------|-------------------------------------|
| File Name:   | a101803sim | Date of Collection: NA              |
| Dil. Factor: | 1.00       | Date of Analysis: 10/18/10 09:12 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 96        |
| Carbon Tetrachloride | 96        |
| Trichloroethene      | 89        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1010175A-04BB

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

|              |            |                                     |
|--------------|------------|-------------------------------------|
| File Name:   | a101804sim | Date of Collection: NA              |
| Dil. Factor: | 1.00       | Date of Analysis: 10/18/10 09:58 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 93        |
| Carbon Tetrachloride | 93        |
| Trichloroethene      | 86        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 100       | 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) Matthew Stein  
Company Sanborn Head Email \_\_\_\_\_  
Address 20 Foundry St City Concord State NH Zip 03301  
Phone 603 229-1900 Fax -

|                                                    |                                                                                              |                                                                                                  |
|----------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Project Info:                                      | Turn Around Time:                                                                            | Lab Use Only<br>Pressurized by:<br><br>Date:<br><br>Pressurization Gas:<br><br>N <sub>2</sub> He |
|                                                    | <input checked="" type="checkbox"/> Normal<br><input type="checkbox"/> Rush<br>specify _____ |                                                                                                  |
| P.O. # _____                                       |                                                                                              |                                                                                                  |
| Project # <u>2999.00</u>                           |                                                                                              |                                                                                                  |
| Project Name <u>IBM- Bldg 330c Reliability Lab</u> |                                                                                              |                                                                                                  |

| 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) |
| <u>DIAB</u> | <u>IA 0404</u>               | <u>25260</u> | <u>10/6/10</u>     | <u>0800-1612</u>   | <u>TD-15 high/low</u> | <u>30</u>                | <u>6</u>   |         |             |
|             | <u>TA-016</u>                | <u>37383</u> |                    | <u>0836-0954</u>   | <u>TD-15</u>          | <u>~31</u>               | <u>7</u>   |         |             |
|             | <u>017</u>                   | <u>3361</u>  |                    | <u>0839-0940</u>   |                       | <u>29.5</u>              | <u>6.5</u> |         |             |
|             | <u>014</u>                   | <u>37339</u> |                    | <u>0852-1005</u>   |                       | <u>30</u>                | <u>6</u>   |         |             |
|             | <u>015</u>                   | <u>3332</u>  |                    | <u>0858-1008</u>   |                       | <u>29</u>                | <u>6.5</u> |         |             |
|             | <u>019</u>                   | <u>36527</u> |                    | <u>0901-1048</u>   |                       | <u>30</u>                | <u>7</u>   |         |             |
|             | <u>012</u>                   | <u>36484</u> |                    | <u>0918-1031</u>   |                       | <u>30</u>                | <u>5.5</u> |         |             |
|             | <u>013</u>                   | <u>36376</u> |                    | <u>1011-1123</u>   |                       | <u>~30.5</u>             | <u>7</u>   |         |             |
|             | <u>020</u>                   | <u>2208</u>  |                    | <u>0931-1049</u>   |                       | <u>~31</u>               | <u>6.5</u> |         |             |
|             | <u>V 010</u>                 | <u>3363</u>  | <u>V</u>           | <u>1024-1137</u>   | <u>V</u>              | <u>29.5</u>              | <u>6</u>   |         |             |

|                                                                               |                                                                          |                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|
| Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>10/7/10 0900</u> | Received by: (signature) <u>[Signature]</u> Date/Time <u>10/8/10 900</u> | Notes:<br><u>* E. Fishkill project specific analyte list</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 | Air Bill # | Temp (°C)  | Condition   | Custody Seals Intact? | Work Order #   |
|              | <u>FEDEX</u> |            | <u>N/A</u> | <u>GOOD</u> | Yes No <u>None</u>    | <u>1010175</u> |

10/20/2010  
Mr. Brad Green  
Sanborn, Head & Associates  
20 Foundry Street

Concord NH 03301

Project Name: IBM - Bldg 330C Reliability Lab  
Project #: 2999.00  
Workorder #: 1010175B

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/8/2010 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager

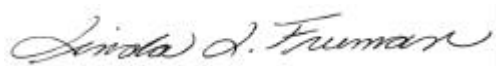
**WORK ORDER #: 1010175B**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM - Bldg 330C Reliability                                                      |
| <b>DATE RECEIVED:</b>  | 10/08/2010                                                                             | <b>CONTACT:</b>  | Lab.<br>Ausha Scott                                                                      |
| <b>DATE COMPLETED:</b> | 10/20/2010                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 02A               | TA-016      | Modified TO-15 | 5.4 "Hg                       | 15 psi                    |
| 03A               | TA-017      | Modified TO-15 | 7.4 "Hg                       | 15 psi                    |
| 04A               | TA-014      | Modified TO-15 | 5.4 "Hg                       | 15 psi                    |
| 05A               | TA-015      | Modified TO-15 | 5.8 "Hg                       | 15 psi                    |
| 06A               | TA-019      | Modified TO-15 | 6.0 "Hg                       | 15 psi                    |
| 07A               | TA-012      | Modified TO-15 | 5.0 "Hg                       | 15 psi                    |
| 08A               | TA-013      | Modified TO-15 | 5.6 "Hg                       | 15 psi                    |
| 09A               | TA-020      | Modified TO-15 | 4.8 "Hg                       | 15 psi                    |
| 10A               | TA-010      | Modified TO-15 | 5.6 "Hg                       | 15 psi                    |
| 11A               | TA-011      | Modified TO-15 | 5.0 "Hg                       | 15 psi                    |
| 12A               | TA-021      | Modified TO-15 | 5.4 "Hg                       | 15 psi                    |
| 13A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 14A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 15A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 15AA              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 10/20/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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: 06/30/11

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  
EPA Method TO-15  
Sanborn, Head & Associates  
Workorder# 1010175B**

Eleven 1 Liter Summa Canister (100% Certified) samples were received on October 08, 2010. 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.

**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-016**

**Lab ID#: 1010175B-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 4.9                  | 5.5              | 12                    | 13                |
| Tetrachloroethene | 1.2                  | 1.9              | 8.3                   | 13                |

**Client Sample ID: TA-017**

**Lab ID#: 1010175B-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.4                  | 8.0              | 13                    | 19                |
| Tetrachloroethene | 1.3                  | 1.8              | 9.1                   | 12                |

**Client Sample ID: TA-014**

**Lab ID#: 1010175B-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 1.2                  | 2.6              | 6.1                   | 13                |
| Acetone           | 4.9                  | 8.5              | 12                    | 20                |
| Toluene           | 1.2                  | 1.3              | 4.6                   | 4.8               |
| Tetrachloroethene | 1.2                  | 2.0              | 8.3                   | 14                |

**Client Sample ID: TA-015**

**Lab ID#: 1010175B-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.0                  | 6.8              | 12                    | 16                |
| Tetrachloroethene | 1.2                  | 1.7              | 8.5                   | 12                |

**Client Sample ID: TA-019**

**Lab ID#: 1010175B-06A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Acetone  | 5.0                  | 7.3              | 12                    | 17                |

## Summary of Detected Compounds

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

**Client Sample ID: TA-019**

**Lab ID#: 1010175B-06A**

|                   |     |     |     |    |
|-------------------|-----|-----|-----|----|
| Tetrachloroethene | 1.3 | 2.9 | 8.5 | 20 |
|-------------------|-----|-----|-----|----|

**Client Sample ID: TA-012**

**Lab ID#: 1010175B-07A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 4.8                  | 11               | 11                    | 27                |
| Toluene           | 1.2                  | 1.3              | 4.6                   | 5.0               |
| Tetrachloroethene | 1.2                  | 1.8              | 8.2                   | 12                |

**Client Sample ID: TA-013**

**Lab ID#: 1010175B-08A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.0                  | 9.2              | 12                    | 22                |
| Tetrachloroethene | 1.2                  | 2.3              | 8.4                   | 15                |

**Client Sample ID: TA-020**

**Lab ID#: 1010175B-09A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 4.8                  | 7.2              | 11                    | 17                |
| Tetrachloroethene | 1.2                  | 1.9              | 8.1                   | 13                |

**Client Sample ID: TA-010**

**Lab ID#: 1010175B-10A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Acetone           | 5.0                  | 11               | 12                    | 26                |
| Toluene           | 1.2                  | 1.8              | 4.7                   | 6.6               |
| Tetrachloroethene | 1.2                  | 2.4              | 8.4                   | 17                |

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

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**Client Sample ID: TA-011**

**Lab ID#: 1010175B-11A**

| <b>Compound</b>   | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|-------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Acetone           | 4.8                          | 5.9                      | 11                            | 14                        |
| Toluene           | 1.2                          | 1.4                      | 4.6                           | 5.2                       |
| Tetrachloroethene | 1.2                          | 3.4                      | 8.2                           | 23                        |

**Client Sample ID: TA-021**

**Lab ID#: 1010175B-12A**

| <b>Compound</b>   | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|-------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Acetone           | 4.9                          | 6.6                      | 12                            | 16                        |
| Tetrachloroethene | 1.2                          | 2.3                      | 8.3                           | 16                        |

Client Sample ID: TA-016

Lab ID#: 1010175B-02A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | p101915 | Date of Collection: 10/6/10 9:54:00 AM |
| Dil. Factor: | 2.46    | Date of Analysis: 10/19/10 05:56 PM    |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.1                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.1                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.9                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.4                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 4.9               | 5.5           | 12                 | 13             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.7                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.9                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.6                | Not Detected   |
| Tetrachloroethene      | 1.2               | 1.9           | 8.3                | 13             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.3                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.3                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.3                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.9               | Not Detected  | 36                 | Not Detected   |

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

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

Client Sample ID: TA-017

Lab ID#: 1010175B-03A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | p101918 | Date of Collection: 10/6/10 9:40:00 AM |
| Dil. Factor: | 2.68    | Date of Analysis: 10/19/10 07:07 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  | 7.5                | 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               | 8.0           | 13                 | 19             |
| Methylene Chloride     | 1.3               | Not Detected  | 4.6                | 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  | 8.4                | 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  | 5.0                | Not Detected   |
| Tetrachloroethene      | 1.3               | 1.8           | 9.1                | 12             |
| 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  | 8.0                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.3               | Not Detected  | 8.0                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.3               | Not Detected  | 8.0                | 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 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |

Client Sample ID: TA-014

Lab ID#: 1010175B-04A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101817 | Date of Collection: 10/6/10 10:05:00 AM |
| Dil. Factor: | 2.46    | Date of Analysis: 10/19/10 06:50 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | 2.6           | 6.1                | 13             |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.1                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.9                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.4                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 4.9               | 8.5           | 12                 | 20             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.7                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.9                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Toluene                | 1.2               | 1.3           | 4.6                | 4.8            |
| Tetrachloroethene      | 1.2               | 2.0           | 8.3                | 14             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.3                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.3                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.3                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.9               | Not Detected  | 36                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 95        | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: TA-015

Lab ID#: 1010175B-05A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101919 | Date of Collection: 10/6/10 10:08:00 AM |
| Dil. Factor: | 2.50    | Date of Analysis: 10/19/10 08:06 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.2                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.2                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 7.0                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.6                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 5.0                | Not Detected   |
| Acetone                | 5.0               | 6.8           | 12                 | 16             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 5.0                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.8                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.9                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 4.0                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.7                | Not Detected   |
| Tetrachloroethene      | 1.2               | 1.7           | 8.5                | 12             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.8                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.4                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.4                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.5                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.0               | Not Detected  | 37                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 96        | 70-130        |
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |



Client Sample ID: TA-019

Lab ID#: 1010175B-06A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101920 | Date of Collection: 10/6/10 10:48:00 AM |
| Dil. Factor: | 2.52    | Date of Analysis: 10/19/10 08:23 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  | 9.6                | Not Detected   |
| 1,1-Dichloroethene     | 1.3               | Not Detected  | 5.0                | Not Detected   |
| Acetone                | 5.0               | 7.3           | 12                 | 17             |
| 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  | 7.9                | 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  | 4.7                | Not Detected   |
| Tetrachloroethene      | 1.3               | 2.9           | 8.5                | 20             |
| 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 | 5.0               | Not Detected  | 37                 | Not Detected   |

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

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

Client Sample ID: TA-012

Lab ID#: 1010175B-07A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101921 | Date of Collection: 10/6/10 10:31:00 AM |
| Dil. Factor: | 2.42    | Date of Analysis: 10/19/10 08:43 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               | 11            | 11                 | 27             |
| 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               | 1.3           | 4.6                | 5.0            |
| Tetrachloroethene      | 1.2               | 1.8           | 8.2                | 12             |
| 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            | 97        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: TA-013

Lab ID#: 1010175B-08A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101922 | Date of Collection: 10/6/10 11:23:00 AM |
| Dil. Factor: | 2.48    | Date of Analysis: 10/19/10 09:08 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.1                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.2                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 7.0                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.5                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 5.0               | 9.2           | 12                 | 22             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.8                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.8                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 4.0                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.7                | Not Detected   |
| Tetrachloroethene      | 1.2               | 2.3           | 8.4                | 15             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.4                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.4                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.0               | Not Detected  | 37                 | Not Detected   |

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

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

Client Sample ID: TA-020

Lab ID#: 1010175B-09A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101923 | Date of Collection: 10/6/10 10:49:00 AM |
| Dil. Factor: | 2.40    | Date of Analysis: 10/19/10 09:26 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 5.9                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.1                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.2                | 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  | 6.5                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.6                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.8                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.4                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.5                | Not Detected   |
| Tetrachloroethene      | 1.2               | 1.9           | 8.1                | 13             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.5                | 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  | 7.2                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.2                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.2                | 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            | 98        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |

Client Sample ID: TA-010

Lab ID#: 1010175B-10A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101924 | Date of Collection: 10/6/10 11:37:00 AM |
| Dil. Factor: | 2.48    | Date of Analysis: 10/19/10 09:47 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.1                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.2                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 7.0                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.5                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 5.0               | 11            | 12                 | 26             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.8                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.8                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 4.0                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Toluene                | 1.2               | 1.8           | 4.7                | 6.6            |
| Tetrachloroethene      | 1.2               | 2.4           | 8.4                | 17             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.4                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.4                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.4                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 5.0               | Not Detected  | 37                 | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 99        | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: TA-011

Lab ID#: 1010175B-11A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101925 | Date of Collection: 10/6/10 11:42:00 AM |
| Dil. Factor: | 2.42    | Date of Analysis: 10/19/10 10:09 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               | 5.9           | 11                 | 14             |
| 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               | 1.4           | 4.6                | 5.2            |
| Tetrachloroethene      | 1.2               | 3.4           | 8.2                | 23             |
| 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            | 97        | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: TA-021

Lab ID#: 1010175B-12A

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

|              |         |                                         |
|--------------|---------|-----------------------------------------|
| File Name:   | p101926 | Date of Collection: 10/6/10 11:41:00 AM |
| Dil. Factor: | 2.46    | Date of Analysis: 10/19/10 10:29 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 1.2               | Not Detected  | 6.1                | Not Detected   |
| Vinyl Chloride         | 1.2               | Not Detected  | 3.1                | Not Detected   |
| Freon 11               | 1.2               | Not Detected  | 6.9                | Not Detected   |
| Freon 113              | 1.2               | Not Detected  | 9.4                | Not Detected   |
| 1,1-Dichloroethene     | 1.2               | Not Detected  | 4.9                | Not Detected   |
| Acetone                | 4.9               | 6.6           | 12                 | 16             |
| Methylene Chloride     | 1.2               | Not Detected  | 4.3                | Not Detected   |
| cis-1,2-Dichloroethene | 1.2               | Not Detected  | 4.9                | Not Detected   |
| 1,1,1-Trichloroethane  | 1.2               | Not Detected  | 6.7                | Not Detected   |
| Carbon Tetrachloride   | 1.2               | Not Detected  | 7.7                | Not Detected   |
| Benzene                | 1.2               | Not Detected  | 3.9                | Not Detected   |
| Trichloroethene        | 1.2               | Not Detected  | 6.6                | Not Detected   |
| Toluene                | 1.2               | Not Detected  | 4.6                | Not Detected   |
| Tetrachloroethene      | 1.2               | 2.3           | 8.3                | 16             |
| Chlorobenzene          | 1.2               | Not Detected  | 5.7                | Not Detected   |
| Ethyl Benzene          | 1.2               | Not Detected  | 5.3                | Not Detected   |
| m,p-Xylene             | 1.2               | Not Detected  | 5.3                | Not Detected   |
| o-Xylene               | 1.2               | Not Detected  | 5.3                | Not Detected   |
| 1,3-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,4-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2-Dichlorobenzene    | 1.2               | Not Detected  | 7.4                | Not Detected   |
| 1,2,4-Trichlorobenzene | 4.9               | 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 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |



Client Sample ID: Lab Blank

Lab ID#: 1010175B-13A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | p101914 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/10 05:23 PM |

| 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 | 97        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: CCV

Lab ID#: 1010175B-14A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | p101910 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/10 02:37 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 104       |
| Vinyl Chloride         | 102       |
| Freon 11               | 98        |
| Freon 113              | 104       |
| 1,1-Dichloroethene     | 101       |
| Acetone                | 99        |
| Methylene Chloride     | 104       |
| cis-1,2-Dichloroethene | 102       |
| 1,1,1-Trichloroethane  | 104       |
| Carbon Tetrachloride   | 103       |
| Benzene                | 103       |
| Trichloroethene        | 103       |
| Toluene                | 102       |
| Tetrachloroethene      | 103       |
| Chlorobenzene          | 103       |
| Ethyl Benzene          | 107       |
| m,p-Xylene             | 115       |
| o-Xylene               | 112       |
| 1,3-Dichlorobenzene    | 104       |
| 1,4-Dichlorobenzene    | 106       |
| 1,2-Dichlorobenzene    | 103       |
| 1,2,4-Trichlorobenzene | 95        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 100       | 70-130        |
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| 4-Bromofluorobenzene  | 106       | 70-130        |

Client Sample ID: LCS

Lab ID#: 1010175B-15A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | p101911 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/10 03:52 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 109       |
| Vinyl Chloride         | 108       |
| Freon 11               | 112       |
| Freon 113              | 97        |
| 1,1-Dichloroethene     | 96        |
| Acetone                | 99        |
| Methylene Chloride     | 95        |
| cis-1,2-Dichloroethene | 103       |
| 1,1,1-Trichloroethane  | 104       |
| Carbon Tetrachloride   | 102       |
| Benzene                | 103       |
| Trichloroethene        | 103       |
| Toluene                | 97        |
| Tetrachloroethene      | 102       |
| Chlorobenzene          | 105       |
| Ethyl Benzene          | 110       |
| m,p-Xylene             | 117       |
| o-Xylene               | 113       |
| 1,3-Dichlorobenzene    | 106       |
| 1,4-Dichlorobenzene    | 109       |
| 1,2-Dichlorobenzene    | 108       |
| 1,2,4-Trichlorobenzene | 100       |

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1010175B-15AA

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | p101912 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/10 04:16 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 104       |
| Vinyl Chloride         | 106       |
| Freon 11               | 104       |
| Freon 113              | 93        |
| 1,1-Dichloroethene     | 93        |
| Acetone                | 99        |
| Methylene Chloride     | 95        |
| cis-1,2-Dichloroethene | 103       |
| 1,1,1-Trichloroethane  | 102       |
| Carbon Tetrachloride   | 102       |
| Benzene                | 103       |
| Trichloroethene        | 102       |
| Toluene                | 98        |
| Tetrachloroethene      | 99        |
| Chlorobenzene          | 102       |
| Ethyl Benzene          | 108       |
| m,p-Xylene             | 114       |
| o-Xylene               | 111       |
| 1,3-Dichlorobenzene    | 105       |
| 1,4-Dichlorobenzene    | 107       |
| 1,2-Dichlorobenzene    | 106       |
| 1,2,4-Trichlorobenzene | 102       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 100       | 70-130        |
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |



# CHAIN-OF-CUSTODY RECORD

## Sample Transportation Notice

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(916) 985-1000 FAX (916) 985-1020

Page 1 of 2

Project Manager Brad Green  
Collected by: (Print and Sign) Matthew Stein  
Company Sanborn Head Email \_\_\_\_\_  
Address 20 Foundry St City Concord State NH Zip 03301  
Phone 603 229-1900 Fax \_\_\_\_\_

|                                                     |                                                                                              |                                                                                      |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Project Info:                                       | Turn Around Time:                                                                            | Lab Use Only<br>Pressurized by:<br>Date:<br>Pressurization Gas:<br>N <sub>2</sub> He |
|                                                     | <input checked="" type="checkbox"/> Normal<br><input type="checkbox"/> Rush<br>specify _____ |                                                                                      |
| P.O. # _____                                        |                                                                                              |                                                                                      |
| Project # <u>299900</u>                             |                                                                                              |                                                                                      |
| Project Name <u>IBM - Bldg 330c Reliability Lab</u> |                                                                                              |                                                                                      |

| 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) |
|          | IA 0404                      | 25260 | 10/6/10            | 0800-1612          | TD-15 high/low     | 30                       | 6     |         |             |
| 02A      | TA-016                       | 37383 |                    | 0836-0954          | TD-15              | ~31                      | 7     |         |             |
| 03A      | 017                          | 3361  |                    | 0839-0940          |                    | 29.5                     | 6.5   |         |             |
| 04A      | 014                          | 37339 |                    | 0852-1005          |                    | 30                       | 6     |         |             |
| 05A      | 015                          | 3332  |                    | 0858-1008          |                    | 29                       | 6.5   |         |             |
| 06A      | 019                          | 36527 |                    | 0901-1048          |                    | 30                       | 7     |         |             |
| 07A      | 012                          | 36484 |                    | 0918-1031          |                    | 30                       | 5.5   |         |             |
| 08A      | 013                          | 36376 |                    | 1011-1123          |                    | ~30.5                    | 7     |         |             |
| 09A      | 020                          | 2208  |                    | 0931-1049          |                    | ~31                      | 6.5   |         |             |
| 10A      | V 010                        | 3363  | V                  | 1024-1137          | V                  | 29.5                     | 6     |         |             |

|                                                                               |                                                                          |                                                              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|
| Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>10/7/10 0900</u> | Received by: (signature) <u>[Signature]</u> Date/Time <u>10/8/10 900</u> | Notes:<br><u>* E. Fishkill project specific analyte list</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 | Air Bill # | Temp (°C)  | Condition   | Custody Seals Intact? | Work Order #   |
|              | <u>FEDEX</u> |            | <u>N/A</u> | <u>Good</u> | Yes No <u>None</u>    | <u>1010175</u> |



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

Page 2 of 2

Project Manager Brad Green  
 Collected by: (Print and Sign) Matthew Stine   
 Company Saltbourn Head Email \_\_\_\_\_  
 Address 20 Foundry St City Concord State NH Zip 03301  
 Phone 603 229-1900 Fax -

P.O. #

Project # 2999.00

Project Name IBM - 330c

**Turn Around Time:**

☒ Normal

☐ Rush

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N<sub>2</sub>      He

|                                                                                                                                              |                                                                          |                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------|
| Relinquished by: (signature) Date/Time<br> 10/7/10 - 0900 | Received by: (signature) Date/Time<br>Samples to be delivered by courier | Notes:<br>* E. Fishkill project specific<br>analyte list |
| Relinquished by: (signature) Date/Time                                                                                                       | Received by: (signature) Date/Time<br>Brian Whittaker ATC 10/8/10        |                                                          |
| Relinquished by: (signature) Date/Time                                                                                                       | Received by: (signature) Date/Time                                       |                                                          |

**Notes:**

\* E. Fishkill project specific  
analyte list

| Lab  | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody | Seals Intact?  | Work Order # |
|------|--------------|------------|-----------|-----------|---------|----------------|--------------|
| Use  | FEDEX        |            | N/A       | Good      | Yes     | No <u>None</u> | 1010175      |
| Only |              |            |           |           |         |                |              |

2/28/2011

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

Concord NH 03301

Project Name: IBM B-330C  
Project #: 2999.00  
Workorder #: 1102209

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 2/11/2011 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager



## WORK ORDER #: 1102209

### Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM B-330C                                                                       |
| <b>DATE RECEIVED:</b>  | 02/11/2011                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 02/21/2011                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | AA 0428     | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 01B               | AA 0428     | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 02A               | IA 0416     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 02B               | IA 0416     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 03A               | IA 0421     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 03B               | IA 0421     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 04A               | IA 0423     | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 04B               | IA 0423     | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 05A               | IA 0424     | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 05B               | IA 0424     | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 06A               | DUP34222    | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 06B               | DUP34222    | Modified TO-15 | 3.0 "Hg                       | 5 psi                     |
| 07A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 07B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 08A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 08B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 09A               | LCS         | Modified TO-15 | NA                            | NA                        |

Continued on next page

**WORK ORDER #: 1102209**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM B-330C                                                                       |
| <b>DATE RECEIVED:</b>  | 02/11/2011                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 02/21/2011                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 09AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 09B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 09BB              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 02/21/11

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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: 06/30/11

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# 1102209**

Six 6 Liter Summa Canister (SIM Certified) samples were received on February 11, 2011. 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.

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For SIM:<br>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: AA 0428**

**Lab ID#: 1102209-01A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 0.51             | 0.77                  | 2.5               |
| Freon 11 | 0.16                 | 0.25             | 0.87                  | 1.4               |
| Acetone  | 0.78                 | 1.1              | 1.8                   | 2.5               |
| Benzene  | 0.16                 | 0.19             | 0.50                  | 0.61              |

**Client Sample ID: AA 0428**

**Lab ID#: 1102209-01B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.031                | 0.081            | 0.20                  | 0.51              |
| Trichloroethene      | 0.031                | 0.083            | 0.17                  | 0.44              |

**Client Sample ID: IA 0416**

**Lab ID#: 1102209-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.72             | 0.83                  | 3.6               |
| Freon 11          | 0.17                 | 0.32             | 0.94                  | 1.8               |
| Acetone           | 0.84                 | 1.0              | 2.0                   | 2.4               |
| Benzene           | 0.17                 | 0.20             | 0.54                  | 0.64              |
| Tetrachloroethene | 0.17                 | 3.5              | 1.1                   | 24                |

**Client Sample ID: IA 0416**

**Lab ID#: 1102209-02B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.069            | 0.21                  | 0.43              |
| Trichloroethene      | 0.034                | 0.38             | 0.18                  | 2.1               |

**Client Sample ID: IA 0421**

**Lab ID#: 1102209-03A**

## Summary of Detected Compounds

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

**Client Sample ID: IA 0421**

**Lab ID#: 1102209-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.70             | 0.81                  | 3.5               |
| Freon 11          | 0.16                 | 0.32             | 0.92                  | 1.8               |
| Acetone           | 0.82                 | 1.2              | 1.9                   | 2.9               |
| Benzene           | 0.16                 | 0.21             | 0.52                  | 0.67              |
| Tetrachloroethene | 0.16                 | 1.9              | 1.1                   | 13                |

**Client Sample ID: IA 0421**

**Lab ID#: 1102209-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.033                | 0.43             | 0.18                  | 2.3               |

**Client Sample ID: IA 0423**

**Lab ID#: 1102209-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.52             | 0.84                  | 2.6               |
| Freon 11          | 0.17                 | 0.35             | 0.96                  | 1.9               |
| Acetone           | 0.86                 | 1.2              | 2.0                   | 2.9               |
| Benzene           | 0.17                 | 0.18             | 0.55                  | 0.57              |
| Tetrachloroethene | 0.17                 | 0.84             | 1.2                   | 5.7               |

**Client Sample ID: IA 0423**

**Lab ID#: 1102209-04B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.049            | 0.22                  | 0.30              |
| Trichloroethene      | 0.034                | 0.24             | 0.18                  | 1.3               |

## Summary of Detected Compounds

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

**Client Sample ID: IA 0424**

**Lab ID#: 1102209-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.15                 | 0.57             | 0.74                  | 2.8               |
| Freon 11          | 0.15                 | 0.37             | 0.84                  | 2.1               |
| Acetone           | 0.74                 | 1.5              | 1.8                   | 3.7               |
| Benzene           | 0.15                 | 0.18             | 0.48                  | 0.59              |
| Tetrachloroethene | 0.15                 | 0.82             | 1.0                   | 5.6               |

**Client Sample ID: IA 0424**

**Lab ID#: 1102209-05B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.030                | 0.068            | 0.19                  | 0.43              |
| Trichloroethene      | 0.030                | 0.24             | 0.16                  | 1.3               |

**Client Sample ID: DUP34222**

**Lab ID#: 1102209-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.15                 | 0.82             | 0.74                  | 4.1               |
| Freon 11          | 0.15                 | 0.34             | 0.84                  | 1.9               |
| Acetone           | 0.74                 | 1.5              | 1.8                   | 3.5               |
| Benzene           | 0.15                 | 0.21             | 0.48                  | 0.68              |
| Tetrachloroethene | 0.15                 | 3.6              | 1.0                   | 24                |

**Client Sample ID: DUP34222**

**Lab ID#: 1102209-06B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.030                | 0.073            | 0.19                  | 0.46              |
| Trichloroethene      | 0.030                | 0.34             | 0.16                  | 1.8               |



Client Sample ID: AA 0428

Lab ID#: 1102209-01A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e021407 | Date of Collection: 2/9/11 4:47:00 PM |
| Dil. Factor: | 1.55    | Date of Analysis: 2/14/11 12:33 PM    |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.51          | 0.77               | 2.5            |
| Freon 11               | 0.16              | 0.25          | 0.87               | 1.4            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.61               | Not Detected   |
| Acetone                | 0.78              | 1.1           | 1.8                | 2.5            |
| 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              | 0.19          | 0.50               | 0.61           |
| Toluene                | 0.16              | Not Detected  | 0.58               | Not Detected   |
| 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 | 100       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |

Client Sample ID: AA 0428

Lab ID#: 1102209-01B

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

|              |            |                                       |
|--------------|------------|---------------------------------------|
| File Name:   | e021407sim | Date of Collection: 2/9/11 4:47:00 PM |
| Dil. Factor: | 1.55       | Date of Analysis: 2/14/11 12:33 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             | 0.081         | 0.20               | 0.51           |
| Trichloroethene      | 0.031             | 0.083         | 0.17               | 0.44           |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: IA 0416

Lab ID#: 1102209-02A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e021408 | Date of Collection: 2/9/11 4:45:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 2/14/11 01:16 PM    |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.72          | 0.83               | 3.6            |
| Freon 11               | 0.17              | 0.32          | 0.94               | 1.8            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 1.0           | 2.0                | 2.4            |
| 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               | 0.64           |
| Toluene                | 0.17              | Not Detected  | 0.63               | Not Detected   |
| Tetrachloroethene      | 0.17              | 3.5           | 1.1                | 24             |
| 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 | 104       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: IA 0416

Lab ID#: 1102209-02B

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

|              |            |                                       |
|--------------|------------|---------------------------------------|
| File Name:   | e021408sim | Date of Collection: 2/9/11 4:45:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 2/14/11 01:16 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             | 0.069         | 0.21               | 0.43           |
| Trichloroethene      | 0.034             | 0.38          | 0.18               | 2.1            |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: IA 0421

Lab ID#: 1102209-03A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e021409 | Date of Collection: 2/9/11 4:22:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis: 2/14/11 02:02 PM    |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.70          | 0.81               | 3.5            |
| Freon 11               | 0.16              | 0.32          | 0.92               | 1.8            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Acetone                | 0.82              | 1.2           | 1.9                | 2.9            |
| 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              | 0.21          | 0.52               | 0.67           |
| Toluene                | 0.16              | Not Detected  | 0.62               | Not Detected   |
| Tetrachloroethene      | 0.16              | 1.9           | 1.1                | 13             |
| 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 | 104       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |

Client Sample ID: IA 0421

Lab ID#: 1102209-03B

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

|              |            |                                       |
|--------------|------------|---------------------------------------|
| File Name:   | e021409sim | Date of Collection: 2/9/11 4:22:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis: 2/14/11 02:02 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.033                | 0.43             | 0.18                  | 2.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA 0423

Lab ID#: 1102209-04A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e021410 | Date of Collection: 2/9/11 4:23:00 PM |
| Dil. Factor: | 1.71    | Date of Analysis: 2/14/11 02:53 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              | 0.35          | 0.96               | 1.9            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.68               | Not Detected   |
| Acetone                | 0.86              | 1.2           | 2.0                | 2.9            |
| 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              | 0.18          | 0.55               | 0.57           |
| Toluene                | 0.17              | Not Detected  | 0.64               | Not Detected   |
| Tetrachloroethene      | 0.17              | 0.84          | 1.2                | 5.7            |
| 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 | 104       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |



Client Sample ID: IA 0423

Lab ID#: 1102209-04B

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

|              |            |                                       |
|--------------|------------|---------------------------------------|
| File Name:   | e021410sim | Date of Collection: 2/9/11 4:23:00 PM |
| Dil. Factor: | 1.71       | Date of Analysis: 2/14/11 02:53 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.044                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.049            | 0.22                  | 0.30              |
| Trichloroethene      | 0.034                | 0.24             | 0.18                  | 1.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA 0424

Lab ID#: 1102209-05A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e021411 | Date of Collection: 2/9/11 12:50:00 PM |
| Dil. Factor: | 1.49    | Date of Analysis: 2/14/11 03:42 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.15              | 0.57          | 0.74               | 2.8            |
| Freon 11               | 0.15              | 0.37          | 0.84               | 2.1            |
| Freon 113              | 0.15              | Not Detected  | 1.1                | Not Detected   |
| 1,1-Dichloroethene     | 0.15              | Not Detected  | 0.59               | Not Detected   |
| Acetone                | 0.74              | 1.5           | 1.8                | 3.7            |
| 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              | 0.18          | 0.48               | 0.59           |
| Toluene                | 0.15              | Not Detected  | 0.56               | Not Detected   |
| Tetrachloroethene      | 0.15              | 0.82          | 1.0                | 5.6            |
| 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 | 103       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: IA 0424

Lab ID#: 1102209-05B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e021411sim | Date of Collection: 2/9/11 12:50:00 PM |
| Dil. Factor: | 1.49       | Date of Analysis: 2/14/11 03:42 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.015                | Not Detected     | 0.038                 | Not Detected      |
| Carbon Tetrachloride | 0.030                | 0.068            | 0.19                  | 0.43              |
| Trichloroethene      | 0.030                | 0.24             | 0.16                  | 1.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 99        | 70-130           |

Client Sample ID: DUP34222

Lab ID#: 1102209-06A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e021412 | Date of Collection: 2/9/11 1:10:00 PM |
| Dil. Factor: | 1.49    | Date of Analysis: 2/14/11 04:27 PM    |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.15              | 0.82          | 0.74               | 4.1            |
| Freon 11               | 0.15              | 0.34          | 0.84               | 1.9            |
| Freon 113              | 0.15              | Not Detected  | 1.1                | Not Detected   |
| 1,1-Dichloroethene     | 0.15              | Not Detected  | 0.59               | Not Detected   |
| Acetone                | 0.74              | 1.5           | 1.8                | 3.5            |
| 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              | 0.21          | 0.48               | 0.68           |
| Toluene                | 0.15              | Not Detected  | 0.56               | Not Detected   |
| Tetrachloroethene      | 0.15              | 3.6           | 1.0                | 24             |
| 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 | 106       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: DUP34222

Lab ID#: 1102209-06B

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

|              |            |                                       |
|--------------|------------|---------------------------------------|
| File Name:   | e021412sim | Date of Collection: 2/9/11 1:10:00 PM |
| Dil. Factor: | 1.49       | Date of Analysis: 2/14/11 04:27 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.015                | Not Detected     | 0.038                 | Not Detected      |
| Carbon Tetrachloride | 0.030                | 0.073            | 0.19                  | 0.46              |
| Trichloroethene      | 0.030                | 0.34             | 0.16                  | 1.8               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1102209-07A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e021406 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 2/14/11 11:43 AM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 96        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1102209-07B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | e021406sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 2/14/11 11:43 AM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 98        | 70-130           |

Client Sample ID: CCV

Lab ID#: 1102209-08A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e021403 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 2/14/11 09:13 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 119       |
| Freon 11               | 112       |
| Freon 113              | 102       |
| 1,1-Dichloroethene     | 110       |
| Acetone                | 104       |
| Methylene Chloride     | 106       |
| cis-1,2-Dichloroethene | 107       |
| 1,1,1-Trichloroethane  | 110       |
| Benzene                | 104       |
| Toluene                | 105       |
| Tetrachloroethene      | 104       |
| Chlorobenzene          | 104       |
| Ethyl Benzene          | 105       |
| m,p-Xylene             | 106       |
| o-Xylene               | 106       |
| 1,3-Dichlorobenzene    | 105       |
| 1,4-Dichlorobenzene    | 104       |
| 1,2-Dichlorobenzene    | 104       |
| 1,2,4-Trichlorobenzene | 123       |

Container Type: NA - Not Applicable

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



Client Sample ID: CCV

Lab ID#: 1102209-08B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | e021403sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 2/14/11 09:13 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 103       |
| Carbon Tetrachloride | 107       |
| Trichloroethene      | 96        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1102209-09A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e021404 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 2/14/11 09:59 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 119       |
| Freon 11               | 115       |
| Freon 113              | 105       |
| 1,1-Dichloroethene     | 113       |
| Acetone                | 98        |
| Methylene Chloride     | 104       |
| cis-1,2-Dichloroethene | 112       |
| 1,1,1-Trichloroethane  | 114       |
| Benzene                | 112       |
| Toluene                | 111       |
| Tetrachloroethene      | 104       |
| Chlorobenzene          | 110       |
| Ethyl Benzene          | 111       |
| m,p-Xylene             | 110       |
| o-Xylene               | 110       |
| 1,3-Dichlorobenzene    | 111       |
| 1,4-Dichlorobenzene    | 107       |
| 1,2-Dichlorobenzene    | 108       |
| 1,2,4-Trichlorobenzene | 130       |

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1102209-09AA

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e021405 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 2/14/11 10:53 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 122       |
| Freon 11               | 115       |
| Freon 113              | 108       |
| 1,1-Dichloroethene     | 115       |
| Acetone                | 103       |
| Methylene Chloride     | 106       |
| cis-1,2-Dichloroethene | 113       |
| 1,1,1-Trichloroethane  | 113       |
| Benzene                | 108       |
| Toluene                | 109       |
| Tetrachloroethene      | 106       |
| Chlorobenzene          | 106       |
| Ethyl Benzene          | 106       |
| m,p-Xylene             | 104       |
| o-Xylene               | 107       |
| 1,3-Dichlorobenzene    | 106       |
| 1,4-Dichlorobenzene    | 101       |
| 1,2-Dichlorobenzene    | 103       |
| 1,2,4-Trichlorobenzene | 125       |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1102209-09B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | e021404sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 2/14/11 09:59 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 112       |
| Carbon Tetrachloride | 114       |
| Trichloroethene      | 102       |

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1102209-09BB

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

File Name: e021405sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 2/14/11 10:53 AM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 109       |
| Carbon Tetrachloride | 112       |
| Trichloroethene      | 99        |

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        |



# CHAIN-OF-CUSTODY RECORD

## Sample Transportation Notice

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(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

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

### Project Info:

P.O. #

Project # 2999-00

Project Name IBM B-330C

### Turn Around Time:

☒ Normal

☐ Rush

specify

### Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N<sub>2</sub> 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     | AA 042B                      | 10779 | 2/9/11             | 0847-1647          | TO-15 Hi/Lo *      | -30                      | -5    |         |             |
| 02AB     | 1A 0416                      | 25320 |                    | 0821-1645          |                    | ~ -32                    | -8    |         |             |
| 03AB     | 1A 0421                      | 24491 |                    | 0822-1622          |                    | ~ -31                    | -7    |         |             |
| 04AB     | 1A 0423                      | R-19  |                    | 0823-1623          |                    | -29                      | -5.5  |         |             |
| 05AB     | 1A 0424                      | 441   |                    | 0824-1250          |                    | -30                      | -4    |         |             |
| 06AB     | DVP 34222                    | 34222 | ↓                  | 0821-1310          | ↓                  | ~30.5                    | -4    |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |

Relinquished by: (signature) [Signature] Date/Time 2/10/11 - 0800

Relinquished by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time  
Delivery by FEDEX courier

Received by: (signature) Date/Time  
ARG AIR 02/11/11 0930

Received by: (signature) Date/Time

### Notes:

\* IBM EF list of 21 analytes

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition   | Custody Seals Intact? | Work Order #   |
|--------------|--------------|------------|-----------|-------------|-----------------------|----------------|
|              | <u>FEDEX</u> |            | <u>NA</u> | <u>Good</u> | Yes No <u>None</u>    | <u>1102209</u> |

6/1/2011

Mr. Brad Green

Sanborn, Head & Associates

20 Foundry Street

Concord NH 03301

Project Name: IBM - B330C (Sintering Area F2) EFK, NY

Project #: 2999.00

Workorder #: 1105322

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 5/16/2011 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott

Project Manager

## WORK ORDER #: 1105322

### Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM - B330C (Sintering Area                                                      |
| <b>DATE RECEIVED:</b>  | 05/16/2011                                                                             | <b>CONTACT:</b>  | F2) EFK, NY<br>Ausha Scott                                                               |
| <b>DATE COMPLETED:</b> | 05/30/2011                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA 0416     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 01B               | IA 0416     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 02A               | IA 0421     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 02B               | IA 0421     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 03A               | IA 0423     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 03B               | IA 0423     | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 04A               | IA 0424     | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 04B               | IA 0424     | Modified TO-15 | 4.0 "Hg                       | 5 psi                     |
| 05A               | IA 0429     | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 05B               | IA 0429     | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 06A               | AA 0428     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 06B               | AA 0428     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 07A               | DUP 14890   | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 07B               | DUP 14890   | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 08A               | TA-022      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 08B               | TA-022      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 09A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |

Continued on next page



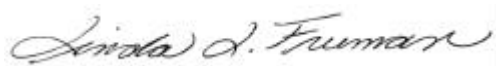
**WORK ORDER #: 1105322**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM - B330C (Sintering Area                                                      |
| <b>DATE RECEIVED:</b>  | 05/16/2011                                                                             | <b>CONTACT:</b>  | E2) EFK, NY<br>Ausha Scott                                                               |
| <b>DATE COMPLETED:</b> | 05/30/2011                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 09B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 10A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 10B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 11A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 11AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 11B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 11BB              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 05/30/11

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,  
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: 06/30/11

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.

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# 1105322**

Eight 6 Liter Summa Canister (SIM Certified) samples were received on May 16, 2011. 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.

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                     |
|-------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ ; flag and narrate outliers<br><br>For SIM:<br>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 AA 0428 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister 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.

### **Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

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

**Client Sample ID: IA 0416**

**Lab ID#: 1105322-01A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.56             | 0.81                  | 2.8               |
| Freon 11          | 0.16                 | 0.41             | 0.92                  | 2.3               |
| Acetone           | 0.82                 | 2.1              | 1.9                   | 5.0               |
| Tetrachloroethene | 0.16                 | 0.85             | 1.1                   | 5.8               |

**Client Sample ID: IA 0416**

**Lab ID#: 1105322-01B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.063            | 0.21                  | 0.40              |
| Trichloroethene      | 0.033                | 0.80             | 0.18                  | 4.3               |

**Client Sample ID: IA 0421**

**Lab ID#: 1105322-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.54             | 0.81                  | 2.7               |
| Freon 11          | 0.16                 | 0.45             | 0.92                  | 2.5               |
| Acetone           | 0.82                 | 2.0              | 1.9                   | 4.9               |
| Tetrachloroethene | 0.16                 | 0.71             | 1.1                   | 4.8               |

**Client Sample ID: IA 0421**

**Lab ID#: 1105322-02B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.063            | 0.21                  | 0.40              |
| Trichloroethene      | 0.033                | 0.78             | 0.18                  | 4.2               |

**Client Sample ID: IA 0423**

**Lab ID#: 1105322-03A**

## Summary of Detected Compounds

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

**Client Sample ID: IA 0423**

**Lab ID#: 1105322-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.51             | 0.81                  | 2.5               |
| Freon 11          | 0.16                 | 0.41             | 0.92                  | 2.3               |
| Acetone           | 0.82                 | 2.1              | 1.9                   | 4.9               |
| Tetrachloroethene | 0.16                 | 0.71             | 1.1                   | 4.8               |

**Client Sample ID: IA 0423**

**Lab ID#: 1105322-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.061            | 0.21                  | 0.38              |
| Trichloroethene      | 0.033                | 0.81             | 0.18                  | 4.3               |

**Client Sample ID: IA 0424**

**Lab ID#: 1105322-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11          | 0.16                 | 0.62             | 0.87                  | 3.5               |
| Acetone           | 0.78                 | 3.3              | 1.8                   | 7.9               |
| Tetrachloroethene | 0.16                 | 0.79             | 1.0                   | 5.3               |

**Client Sample ID: IA 0424**

**Lab ID#: 1105322-04B**

| Compound        | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-----------------|----------------------|------------------|-----------------------|-------------------|
| Trichloroethene | 0.031                | 0.86             | 0.17                  | 4.6               |

**Client Sample ID: IA 0429**

**Lab ID#: 1105322-05A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 1.8              | 0.80                  | 9.1               |

## Summary of Detected Compounds

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

**Client Sample ID: IA 0429**

**Lab ID#: 1105322-05A**

|                   |      |      |      |     |
|-------------------|------|------|------|-----|
| Freon 11          | 0.16 | 0.76 | 0.90 | 4.3 |
| Freon 113         | 0.16 | 0.46 | 1.2  | 3.5 |
| Acetone           | 0.80 | 2.5  | 1.9  | 5.9 |
| Tetrachloroethene | 0.16 | 12   | 1.1  | 84  |

**Client Sample ID: IA 0429**

**Lab ID#: 1105322-05B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.072            | 0.20                  | 0.45              |
| Trichloroethene      | 0.032                | 14               | 0.17                  | 75                |

**Client Sample ID: AA 0428**

**Lab ID#: 1105322-06A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.17                 | 0.43             | 0.83                  | 2.1               |
| Freon 11 | 0.17                 | 0.26             | 0.94                  | 1.4               |
| Acetone  | 0.84                 | 5.0              | 2.0                   | 12                |

**Client Sample ID: AA 0428**

**Lab ID#: 1105322-06B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.31             | 0.043                 | 0.79              |
| Carbon Tetrachloride | 0.034                | 0.074            | 0.21                  | 0.47              |

**Client Sample ID: DUP 14890**

**Lab ID#: 1105322-07A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 0.56             | 0.78                  | 2.8               |
| Freon 11 | 0.16                 | 0.40             | 0.89                  | 2.2               |

## Summary of Detected Compounds

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

**Client Sample ID: DUP 14890**

**Lab ID#: 1105322-07A**

|                   |      |      |     |     |
|-------------------|------|------|-----|-----|
| Acetone           | 0.79 | 2.2  | 1.9 | 5.4 |
| Tetrachloroethene | 0.16 | 0.81 | 1.1 | 5.5 |

**Client Sample ID: DUP 14890**

**Lab ID#: 1105322-07B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.066            | 0.20                  | 0.42              |
| Trichloroethene      | 0.032                | 0.79             | 0.17                  | 4.2               |

**Client Sample ID: TA-022**

**Lab ID#: 1105322-08A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.52             | 0.83                  | 2.6               |
| Freon 11          | 0.17                 | 0.35             | 0.94                  | 2.0               |
| Acetone           | 0.84                 | 2.5              | 2.0                   | 6.0               |
| Tetrachloroethene | 0.17                 | 0.90             | 1.1                   | 6.1               |

**Client Sample ID: TA-022**

**Lab ID#: 1105322-08B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.11             | 0.043                 | 0.27              |
| Carbon Tetrachloride | 0.034                | 0.071            | 0.21                  | 0.45              |
| Trichloroethene      | 0.034                | 1.0              | 0.18                  | 5.5               |

Client Sample ID: IA 0416

Lab ID#: 1105322-01A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051807 | Date of Collection: 5/12/11 3:38:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis: 5/18/11 10:44 AM     |

| 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              | 0.41          | 0.92               | 2.3            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Acetone                | 0.82              | 2.1           | 1.9                | 5.0            |
| 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              | 0.85          | 1.1                | 5.8            |
| 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 | 96        | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |



Client Sample ID: IA 0416

Lab ID#: 1105322-01B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051807sim | Date of Collection: 5/12/11 3:38:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis: 5/18/11 10:44 AM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.063            | 0.21                  | 0.40              |
| Trichloroethene      | 0.033                | 0.80             | 0.18                  | 4.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 97        | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |

Client Sample ID: IA 0421

Lab ID#: 1105322-02A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051808 | Date of Collection: 5/12/11 3:43:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis: 5/18/11 11:19 AM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.54          | 0.81               | 2.7            |
| Freon 11               | 0.16              | 0.45          | 0.92               | 2.5            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Acetone                | 0.82              | 2.0           | 1.9                | 4.9            |
| 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              | 0.71          | 1.1                | 4.8            |
| 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 | 92        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |

Client Sample ID: IA 0421

Lab ID#: 1105322-02B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051808sim | Date of Collection: 5/12/11 3:43:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis: 5/18/11 11:19 AM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.063            | 0.21                  | 0.40              |
| Trichloroethene      | 0.033                | 0.78             | 0.18                  | 4.2               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: IA 0423

Lab ID#: 1105322-03A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051809 | Date of Collection: 5/12/11 3:48:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis: 5/18/11 11:54 AM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.51          | 0.81               | 2.5            |
| Freon 11               | 0.16              | 0.41          | 0.92               | 2.3            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Acetone                | 0.82              | 2.1           | 1.9                | 4.9            |
| 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              | 0.71          | 1.1                | 4.8            |
| 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 | 92        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: IA 0423

Lab ID#: 1105322-03B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051809sim | Date of Collection: 5/12/11 3:48:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis: 5/18/11 11:54 AM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.061            | 0.21                  | 0.38              |
| Trichloroethene      | 0.033                | 0.81             | 0.18                  | 4.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: IA 0424

Lab ID#: 1105322-04A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051810 | Date of Collection: 5/12/11 3:46:00 PM |
| Dil. Factor: | 1.55    | Date of Analysis: 5/18/11 12:33 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | Not Detected  | 0.77               | Not Detected   |
| Freon 11               | 0.16              | 0.62          | 0.87               | 3.5            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.61               | Not Detected   |
| Acetone                | 0.78              | 3.3           | 1.8                | 7.9            |
| 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              | Not Detected  | 0.58               | Not Detected   |
| Tetrachloroethene      | 0.16              | 0.79          | 1.0                | 5.3            |
| 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 | 123       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: IA 0424

Lab ID#: 1105322-04B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051810sim | Date of Collection: 5/12/11 3:46:00 PM |
| Dil. Factor: | 1.55       | Date of Analysis: 5/18/11 12:33 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.040                 | Not Detected      |
| Carbon Tetrachloride | 0.031                | Not Detected     | 0.20                  | Not Detected      |
| Trichloroethene      | 0.031                | 0.86             | 0.17                  | 4.6               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 125       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 99        | 70-130           |

Client Sample ID: IA 0429

Lab ID#: 1105322-05A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051811 | Date of Collection: 5/12/11 3:33:00 PM |
| Dil. Factor: | 1.61    | Date of Analysis: 5/18/11 01:08 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 1.8           | 0.80               | 9.1            |
| Freon 11               | 0.16              | 0.76          | 0.90               | 4.3            |
| Freon 113              | 0.16              | 0.46          | 1.2                | 3.5            |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.64               | Not Detected   |
| Acetone                | 0.80              | 2.5           | 1.9                | 5.9            |
| 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              | Not Detected  | 0.61               | Not Detected   |
| Tetrachloroethene      | 0.16              | 12            | 1.1                | 84             |
| 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  | 6.0                | Not Detected   |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 94        | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |



Client Sample ID: IA 0429

Lab ID#: 1105322-05B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051811sim | Date of Collection: 5/12/11 3:33:00 PM |
| Dil. Factor: | 1.61       | Date of Analysis: 5/18/11 01:08 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.041                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.072            | 0.20                  | 0.45              |
| Trichloroethene      | 0.032                | 14               | 0.17                  | 75                |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: AA 0428

Lab ID#: 1105322-06A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051812 | Date of Collection: 5/12/11 3:31:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 5/18/11 01:44 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.43          | 0.83               | 2.1            |
| Freon 11               | 0.17              | 0.26          | 0.94               | 1.4            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 5.0           | 2.0                | 12             |
| 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 | 91        | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |

Client Sample ID: AA 0428

Lab ID#: 1105322-06B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051812sim | Date of Collection: 5/12/11 3:31:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 5/18/11 01:44 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.31             | 0.043                 | 0.79              |
| Carbon Tetrachloride | 0.034                | 0.074            | 0.21                  | 0.47              |
| Trichloroethene      | 0.034                | Not Detected     | 0.18                  | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 93        | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 101       | 70-130           |

Client Sample ID: DUP 14890

Lab ID#: 1105322-07A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051813 | Date of Collection: 5/12/11 3:38:00 PM |
| Dil. Factor: | 1.58    | Date of Analysis: 5/18/11 02:19 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.56          | 0.78               | 2.8            |
| Freon 11               | 0.16              | 0.40          | 0.89               | 2.2            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Acetone                | 0.79              | 2.2           | 1.9                | 5.4            |
| Methylene Chloride     | 0.32              | Not Detected  | 1.1                | Not Detected   |
| cis-1,2-Dichloroethene | 0.16              | Not Detected  | 0.63               | Not Detected   |
| 1,1,1-Trichloroethane  | 0.16              | Not Detected  | 0.86               | Not Detected   |
| Benzene                | 0.16              | Not Detected  | 0.50               | Not Detected   |
| Toluene                | 0.16              | Not Detected  | 0.60               | Not Detected   |
| Tetrachloroethene      | 0.16              | 0.81          | 1.1                | 5.5            |
| Chlorobenzene          | 0.16              | Not Detected  | 0.73               | Not Detected   |
| Ethyl Benzene          | 0.16              | Not Detected  | 0.69               | Not Detected   |
| m,p-Xylene             | 0.16              | Not Detected  | 0.69               | Not Detected   |
| 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 | 94        | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: DUP 14890

Lab ID#: 1105322-07B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051813sim | Date of Collection: 5/12/11 3:38:00 PM |
| Dil. Factor: | 1.58       | Date of Analysis: 5/18/11 02:19 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.040                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.066            | 0.20                  | 0.42              |
| Trichloroethene      | 0.032                | 0.79             | 0.17                  | 4.2               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 97        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: TA-022

Lab ID#: 1105322-08A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | a051814 | Date of Collection: 5/12/11 3:23:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 5/18/11 02:54 PM     |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.52          | 0.83               | 2.6            |
| Freon 11               | 0.17              | 0.35          | 0.94               | 2.0            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 2.5           | 2.0                | 6.0            |
| 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              | 0.90          | 1.1                | 6.1            |
| Chlorobenzene          | 0.17              | Not Detected  | 0.77               | Not Detected   |
| Ethyl Benzene          | 0.17              | Not Detected  | 0.73               | Not Detected   |
| m,p-Xylene             | 0.17              | 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 | 91        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |

Client Sample ID: TA-022

Lab ID#: 1105322-08B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | a051814sim | Date of Collection: 5/12/11 3:23:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 5/18/11 02:54 PM     |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.11             | 0.043                 | 0.27              |
| Carbon Tetrachloride | 0.034                | 0.071            | 0.21                  | 0.45              |
| Trichloroethene      | 0.034                | 1.0              | 0.18                  | 5.5               |

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: Lab Blank

Lab ID#: 1105322-09A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | a051806 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 5/18/11 09:53 AM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 91        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |



Client Sample ID: Lab Blank

Lab ID#: 1105322-09B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | a051806sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 5/18/11 09:53 AM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 93        | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |

Client Sample ID: CCV

Lab ID#: 1105322-10A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | a051802 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 5/18/11 07:22 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 103       |
| Freon 11               | 104       |
| Freon 113              | 100       |
| 1,1-Dichloroethene     | 92        |
| Acetone                | 98        |
| Methylene Chloride     | 92        |
| cis-1,2-Dichloroethene | 92        |
| 1,1,1-Trichloroethane  | 97        |
| Benzene                | 96        |
| Toluene                | 96        |
| Tetrachloroethene      | 97        |
| Chlorobenzene          | 93        |
| Ethyl Benzene          | 93        |
| m,p-Xylene             | 96        |
| o-Xylene               | 96        |
| 1,3-Dichlorobenzene    | 94        |
| 1,4-Dichlorobenzene    | 90        |
| 1,2-Dichlorobenzene    | 93        |
| 1,2,4-Trichlorobenzene | 77        |

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 1105322-10B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | a051802sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 5/18/11 07:22 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 107       |
| Carbon Tetrachloride | 106       |
| Trichloroethene      | 89        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1105322-11A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | a051803 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 5/18/11 08:06 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 86        |
| Freon 11               | 80        |
| Freon 113              | 82        |
| 1,1-Dichloroethene     | 79        |
| Acetone                | 88        |
| Methylene Chloride     | 82        |
| cis-1,2-Dichloroethene | 78        |
| 1,1,1-Trichloroethane  | 82        |
| Benzene                | 80        |
| Toluene                | 80        |
| Tetrachloroethene      | 83        |
| Chlorobenzene          | 81        |
| Ethyl Benzene          | 79        |
| m,p-Xylene             | 82        |
| o-Xylene               | 82        |
| 1,3-Dichlorobenzene    | 83        |
| 1,4-Dichlorobenzene    | 78        |
| 1,2-Dichlorobenzene    | 82        |
| 1,2,4-Trichlorobenzene | 96        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1105322-11AA

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | a051804 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 5/18/11 08:43 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 80        |
| Freon 11               | 75        |
| Freon 113              | 78        |
| 1,1-Dichloroethene     | 76        |
| Acetone                | 84        |
| Methylene Chloride     | 77        |
| cis-1,2-Dichloroethene | 74        |
| 1,1,1-Trichloroethane  | 77        |
| Benzene                | 77        |
| Toluene                | 77        |
| Tetrachloroethene      | 79        |
| Chlorobenzene          | 78        |
| Ethyl Benzene          | 75        |
| m,p-Xylene             | 78        |
| o-Xylene               | 79        |
| 1,3-Dichlorobenzene    | 80        |
| 1,4-Dichlorobenzene    | 75        |
| 1,2-Dichlorobenzene    | 81        |
| 1,2,4-Trichlorobenzene | 97        |

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1105322-11B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | a051803sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 5/18/11 08:06 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 86        |
| Carbon Tetrachloride | 88        |
| Trichloroethene      | 76        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1105322-11BB

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | a051804sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 5/18/11 08:43 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 83        |
| Carbon Tetrachloride | 85        |
| Trichloroethene      | 73        |

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        |



# 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 1

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

|                      |                                        |                                            |                     |
|----------------------|----------------------------------------|--------------------------------------------|---------------------|
| <b>Project Info:</b> |                                        | <b>Turn Around Time:</b>                   | <b>Lab Use Only</b> |
| P.O. #               |                                        | <input checked="" type="checkbox"/> Normal | Pressurized by:     |
| Project #            | <u>2999.00</u>                         | <input type="checkbox"/> Rush              | Date:               |
| Project Name         | <u>IBM - B330C (Sintering Furn F2)</u> | specify                                    | Pressurization Gas: |
|                      |                                        |                                            | N <sub>2</sub> 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     | IA 0416                      | 35144 | 5/12/11            | 0738 - 1538        | TD-15 Hi/Low *     | ~ -32                    | -7.5  |         |             |
| 02AB     | IA 0421                      | 33891 |                    | 0743 - 1543        |                    | ~ -31                    | -7.5  |         |             |
| 03AB     | IA 0423                      | 3740  |                    | 0748 - 1548        |                    | -27                      | -4.5  |         |             |
| 04AB     | IA 0424                      | 12671 |                    | 0746 - 1546        |                    | -30                      | -4.5  |         |             |
| 05AB     | IA 0429                      | 5608  |                    | 0733 - 1533        |                    | -30                      | -5.5  |         |             |
| 06AB     | AA 0428                      | 35954 |                    | 0731 - 1531        |                    | ~ -30.5                  | -5.5  |         |             |
| 07AB     | DUP 14890                    | 14890 |                    | 0738 - 1538        |                    | ~ -31                    | -6    |         |             |
| 08AB     | TA-022                       | 25249 | ↓                  | 0723 - 1523        | ↓                  | ~ -3.5                   | -6.5  |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |
|          |                              |       |                    |                    |                    |                          |       |         |             |

|                                                                                 |                                                                            |                                          |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------|
| Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>5/13/11 - 1100</u> | Received by: (signature) <u>Delivery by FED EX</u> Date/Time               | Notes:<br><u>* IBM-EF lot of 22 VOCs</u> |
| Relinquished by: (signature) _____ Date/Time _____                              | Received by: (signature) <u>B. Whittaker</u> Date/Time <u>5/16/11 0920</u> |                                          |
| Relinquished by: (signature) _____ Date/Time _____                              | Received by: (signature) _____ Date/Time _____                             |                                          |

|              |              |            |            |             |                       |                |
|--------------|--------------|------------|------------|-------------|-----------------------|----------------|
| Lab Use Only | Shipper Name | Air Bill # | Temp (°C)  | Condition   | Custody Seals Intact? | Work Order #   |
|              | <u>Fedex</u> |            | <u>N/A</u> | <u>Good</u> | Yes No <u>None</u>    | <u>1105322</u> |



2/9/2012

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

Concord NH 03301

Project Name: IBM - EFK Building 330C  
Project #: 2999  
Workorder #: 1201487

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 1/30/2012 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager

## WORK ORDER #: 1201487

### Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999 IBM - EFK Building 330C                                                             |
| <b>DATE RECEIVED:</b>  | 01/30/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 02/09/2012                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0415      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 01B               | IA0415      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 02A               | DUP33940    | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 02B               | DUP33940    | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 03A               | IA0416      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 03B               | IA0416      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 04A               | IA0421      | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 04B               | IA0421      | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 05A               | IA0422      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 05B               | IA0422      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 06A               | IA0423      | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 06B               | IA0423      | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 07A               | IA0424      | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 07B               | IA0424      | Modified TO-15 | 6.5 "Hg                       | 5 psi                     |
| 08A               | IA0427      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 08B               | IA0427      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 09A               | IA0429      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |

Continued on next page

## WORK ORDER #: 1201487

### Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999 IBM - EFK Building 330C                                                             |
| <b>DATE RECEIVED:</b>  | 01/30/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 02/09/2012                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 09B               | IA0429      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 10A               | AA0428      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 10B               | AA0428      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 11A               | TA-022      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 11B               | TA-022      | Modified TO-15 | 7.0 "Hg                       | 5 psi                     |
| 12A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 12B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 12C               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 12D               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 13A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 13B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 13C               | CCV         | Modified TO-15 | NA                            | NA                        |
| 13D               | CCV         | Modified TO-15 | NA                            | NA                        |
| 14A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 14AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 14B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 14BB              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 14C               | LCS         | Modified TO-15 | NA                            | NA                        |
| 14CC              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 14D               | LCS         | Modified TO-15 | NA                            | NA                        |

Continued on next page

**WORK ORDER #: 1201487**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999 IBM - EFK Building 330C                                                             |
| <b>DATE RECEIVED:</b>  | 01/30/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 02/09/2012                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 14DD              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Laboratory Director

DATE: 02/09/12

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,  
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935  
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.

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

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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# 1201487**

Eleven 6 Liter Summa Canister (SIM Certified) samples were received on January 30, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For SIM:<br>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 and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

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

**Client Sample ID: IA0415**

**Lab ID#: 1201487-01A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.18                 | 0.53             | 0.86                  | 2.6               |
| Freon 11          | 0.18                 | 0.36             | 0.98                  | 2.0               |
| Acetone           | 0.88                 | 1.2              | 2.1                   | 2.8               |
| Benzene           | 0.18                 | 0.21             | 0.56                  | 0.66              |
| Tetrachloroethene | 0.18                 | 0.28             | 1.2                   | 1.9               |

**Client Sample ID: IA0415**

**Lab ID#: 1201487-01B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.035                | 0.082            | 0.22                  | 0.52              |
| Trichloroethene      | 0.035                | 0.35             | 0.19                  | 1.9               |

**Client Sample ID: DUP33940**

**Lab ID#: 1201487-02A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12           | 0.17                 | 0.53             | 0.83                  | 2.6               |
| Freon 11           | 0.17                 | 0.34             | 0.94                  | 1.9               |
| Acetone            | 0.84                 | 1.6              | 2.0                   | 3.9               |
| Methylene Chloride | 0.34                 | 0.60             | 1.2                   | 2.1               |
| Benzene            | 0.17                 | 0.41             | 0.54                  | 1.3               |
| Toluene            | 0.17                 | 0.45             | 0.63                  | 1.7               |
| Tetrachloroethene  | 0.17                 | 1.9              | 1.1                   | 13                |

**Client Sample ID: DUP33940**

**Lab ID#: 1201487-02B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.086            | 0.21                  | 0.54              |
| Trichloroethene      | 0.034                | 3.1              | 0.18                  | 17                |

## Summary of Detected Compounds

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

**Client Sample ID: IA0416**

**Lab ID#: 1201487-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.52             | 0.83                  | 2.6               |
| Freon 11          | 0.17                 | 0.36             | 0.94                  | 2.0               |
| Acetone           | 0.84                 | 1.7              | 2.0                   | 4.1               |
| Benzene           | 0.17                 | 0.47             | 0.54                  | 1.5               |
| Toluene           | 0.17                 | 0.65             | 0.63                  | 2.5               |
| Tetrachloroethene | 0.17                 | 2.4              | 1.1                   | 16                |

**Client Sample ID: IA0416**

**Lab ID#: 1201487-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.070            | 0.21                  | 0.44              |
| Trichloroethene      | 0.034                | 4.0              | 0.18                  | 22                |

**Client Sample ID: IA0421**

**Lab ID#: 1201487-04A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12           | 0.16                 | 0.55             | 0.80                  | 2.7               |
| Freon 11           | 0.16                 | 0.28             | 0.90                  | 1.6               |
| Acetone            | 0.80                 | 8.5              | 1.9                   | 20                |
| Methylene Chloride | 0.32                 | 1.8              | 1.1                   | 6.4               |
| Benzene            | 0.16                 | 0.25             | 0.51                  | 0.79              |
| Toluene            | 0.16                 | 3.1              | 0.61                  | 12                |
| Tetrachloroethene  | 0.16                 | 0.28             | 1.1                   | 1.9               |

**Client Sample ID: IA0421**

**Lab ID#: 1201487-04B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.088            | 0.20                  | 0.56              |



## Summary of Detected Compounds

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

**Client Sample ID: IA0421**

**Lab ID#: 1201487-04B**

|                 |       |      |      |     |
|-----------------|-------|------|------|-----|
| Trichloroethene | 0.032 | 0.61 | 0.17 | 3.3 |
|-----------------|-------|------|------|-----|

**Client Sample ID: IA0422**

**Lab ID#: 1201487-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.18                 | 0.91             | 0.86                  | 4.5               |
| Freon 11          | 0.18                 | 0.30             | 0.98                  | 1.7               |
| Acetone           | 0.88                 | 1.8              | 2.1                   | 4.2               |
| Benzene           | 0.18                 | 0.22             | 0.56                  | 0.71              |
| Toluene           | 0.18                 | 2.3              | 0.66                  | 8.6               |
| Tetrachloroethene | 0.18                 | 0.82             | 1.2                   | 5.6               |

**Client Sample ID: IA0422**

**Lab ID#: 1201487-05B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.035                | 0.091            | 0.22                  | 0.58              |
| Trichloroethene      | 0.035                | 0.67             | 0.19                  | 3.6               |

**Client Sample ID: IA0423**

**Lab ID#: 1201487-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.59             | 0.84                  | 2.9               |
| Freon 11          | 0.17                 | 0.35             | 0.96                  | 2.0               |
| Acetone           | 0.86                 | 0.97             | 2.0                   | 2.3               |
| Benzene           | 0.17                 | 0.20             | 0.55                  | 0.63              |
| Tetrachloroethene | 0.17                 | 0.45             | 1.2                   | 3.0               |

**Client Sample ID: IA0423**

**Lab ID#: 1201487-06B**

## Summary of Detected Compounds

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

**Client Sample ID: IA0423**

**Lab ID#: 1201487-06B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.088            | 0.22                  | 0.56              |
| Trichloroethene      | 0.034                | 0.63             | 0.18                  | 3.4               |

**Client Sample ID: IA0424**

**Lab ID#: 1201487-07A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.59             | 0.84                  | 2.9               |
| Freon 11          | 0.17                 | 0.42             | 0.96                  | 2.4               |
| Acetone           | 0.86                 | 1.2              | 2.0                   | 2.8               |
| Benzene           | 0.17                 | 0.20             | 0.55                  | 0.65              |
| Toluene           | 0.17                 | 0.18             | 0.64                  | 0.66              |
| Tetrachloroethene | 0.17                 | 0.30             | 1.2                   | 2.0               |

**Client Sample ID: IA0424**

**Lab ID#: 1201487-07B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.056            | 0.22                  | 0.35              |
| Trichloroethene      | 0.034                | 0.37             | 0.18                  | 2.0               |

**Client Sample ID: IA0427**

**Lab ID#: 1201487-08A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12           | 0.18                 | 0.70             | 0.86                  | 3.5               |
| Freon 11           | 0.18                 | 0.41             | 0.98                  | 2.3               |
| Acetone            | 0.88                 | 2.2              | 2.1                   | 5.1               |
| Methylene Chloride | 0.35                 | 1.3              | 1.2                   | 4.5               |
| Benzene            | 0.18                 | 0.21             | 0.56                  | 0.66              |
| Tetrachloroethene  | 0.18                 | 0.42             | 1.2                   | 2.9               |

## Summary of Detected Compounds

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

**Client Sample ID: IA0427**

**Lab ID#: 1201487-08B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.035                | 0.065            | 0.22                  | 0.41              |
| Trichloroethene      | 0.035                | 0.41             | 0.19                  | 2.2               |

**Client Sample ID: IA0429**

**Lab ID#: 1201487-09A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.17                 | 0.50             | 0.83                  | 2.5               |
| Freon 11 | 0.17                 | 0.26             | 0.94                  | 1.4               |
| Acetone  | 0.84                 | 3.2              | 2.0                   | 7.6               |
| Benzene  | 0.17                 | 0.21             | 0.54                  | 0.67              |

**Client Sample ID: IA0429**

**Lab ID#: 1201487-09B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.091            | 0.21                  | 0.57              |

**Client Sample ID: AA0428**

**Lab ID#: 1201487-10A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 0.49             | 0.81                  | 2.4               |
| Freon 11 | 0.16                 | 0.26             | 0.92                  | 1.5               |
| Acetone  | 0.82                 | 1.3              | 1.9                   | 3.1               |
| Benzene  | 0.16                 | 0.21             | 0.52                  | 0.68              |
| Toluene  | 0.16                 | 0.17             | 0.62                  | 0.65              |

**Client Sample ID: AA0428**

**Lab ID#: 1201487-10B**

## Summary of Detected Compounds

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

**Client Sample ID: AA0428**

**Lab ID#: 1201487-10B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.072            | 0.21                  | 0.46              |

**Client Sample ID: TA-022**

**Lab ID#: 1201487-11A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12           | 0.18                 | 0.48             | 0.86                  | 2.4               |
| Freon 11           | 0.18                 | 0.30             | 0.98                  | 1.7               |
| Acetone            | 0.88                 | 2.2              | 2.1                   | 5.2               |
| Methylene Chloride | 0.35                 | 1.7              | 1.2                   | 5.8               |
| Benzene            | 0.18                 | 0.47             | 0.56                  | 1.5               |
| Toluene            | 0.18                 | 0.54             | 0.66                  | 2.0               |

**Client Sample ID: TA-022**

**Lab ID#: 1201487-11B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.035                | 0.070            | 0.22                  | 0.44              |

Client Sample ID: IA0415

Lab ID#: 1201487-01A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020112 | Date of Collection: 1/26/12 3:57:00 PM |
| Dil. Factor: | 1.75    | Date of Analysis: 2/1/12 04:50 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.18              | 0.53          | 0.86               | 2.6            |
| Freon 11               | 0.18              | 0.36          | 0.98               | 2.0            |
| Freon 113              | 0.18              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.18              | Not Detected  | 0.69               | Not Detected   |
| Acetone                | 0.88              | 1.2           | 2.1                | 2.8            |
| 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              | 0.21          | 0.56               | 0.66           |
| Toluene                | 0.18              | Not Detected  | 0.66               | Not Detected   |
| Tetrachloroethene      | 0.18              | 0.28          | 1.2                | 1.9            |
| 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 | 110       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |

Client Sample ID: IA0415

Lab ID#: 1201487-01B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020112sim | Date of Collection: 1/26/12 3:57:00 PM |
| Dil. Factor: | 1.75       | Date of Analysis: 2/1/12 04:50 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.018                | Not Detected     | 0.045                 | Not Detected      |
| Carbon Tetrachloride | 0.035                | 0.082            | 0.22                  | 0.52              |
| Trichloroethene      | 0.035                | 0.35             | 0.19                  | 1.9               |

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: DUP33940

Lab ID#: 1201487-02A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020113 | Date of Collection: 1/26/12 3:49:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 2/1/12 05:33 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.53          | 0.83               | 2.6            |
| Freon 11               | 0.17              | 0.34          | 0.94               | 1.9            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 1.6           | 2.0                | 3.9            |
| Methylene Chloride     | 0.34              | 0.60          | 1.2                | 2.1            |
| 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              | 0.41          | 0.54               | 1.3            |
| Toluene                | 0.17              | 0.45          | 0.63               | 1.7            |
| Tetrachloroethene      | 0.17              | 1.9           | 1.1                | 13             |
| 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 | 109       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: DUP33940

Lab ID#: 1201487-02B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020113sim | Date of Collection: 1/26/12 3:49:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 2/1/12 05:33 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.086            | 0.21                  | 0.54              |
| Trichloroethene      | 0.034                | 3.1              | 0.18                  | 17                |

Container Type: 6 Liter Summa Canister (SIM Certified)

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



Client Sample ID: IA0416

Lab ID#: 1201487-03A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020115 | Date of Collection: 1/26/12 3:49:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 2/1/12 07:06 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.52          | 0.83               | 2.6            |
| Freon 11               | 0.17              | 0.36          | 0.94               | 2.0            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 1.7           | 2.0                | 4.1            |
| 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              | 0.47          | 0.54               | 1.5            |
| Toluene                | 0.17              | 0.65          | 0.63               | 2.5            |
| Tetrachloroethene      | 0.17              | 2.4           | 1.1                | 16             |
| 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 | 112       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: IA0416

Lab ID#: 1201487-03B

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

|              |            |                     |                    |
|--------------|------------|---------------------|--------------------|
| File Name:   | e020115sim | Date of Collection: | 1/26/12 3:49:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 2/1/12 07:06 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.070            | 0.21                  | 0.44              |
| Trichloroethene      | 0.034                | 4.0              | 0.18                  | 22                |

Container Type: 6 Liter Summa Canister (SIM Certified)

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

Client Sample ID: IA0421

Lab ID#: 1201487-04A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020116 | Date of Collection: 1/26/12 3:51:00 PM |
| Dil. Factor: | 1.61    | Date of Analysis: 2/1/12 07:50 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.55          | 0.80               | 2.7            |
| Freon 11               | 0.16              | 0.28          | 0.90               | 1.6            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.64               | Not Detected   |
| Acetone                | 0.80              | 8.5           | 1.9                | 20             |
| Methylene Chloride     | 0.32              | 1.8           | 1.1                | 6.4            |
| 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              | 0.25          | 0.51               | 0.79           |
| Toluene                | 0.16              | 3.1           | 0.61               | 12             |
| Tetrachloroethene      | 0.16              | 0.28          | 1.1                | 1.9            |
| 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  | 6.0                | Not Detected   |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 92        | 70-130        |

Client Sample ID: IA0421

Lab ID#: 1201487-04B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020116sim | Date of Collection: 1/26/12 3:51:00 PM |
| Dil. Factor: | 1.61       | Date of Analysis: 2/1/12 07:50 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.041                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.088            | 0.20                  | 0.56              |
| Trichloroethene      | 0.032                | 0.61             | 0.17                  | 3.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130           |
| Toluene-d8            | 101       | 70-130           |
| 4-Bromofluorobenzene  | 97        | 70-130           |

Client Sample ID: IA0422

Lab ID#: 1201487-05A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020210 | Date of Collection: 1/26/12 3:52:00 PM |
| Dil. Factor: | 1.75    | Date of Analysis: 2/2/12 03:15 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.18              | 0.91          | 0.86               | 4.5            |
| Freon 11               | 0.18              | 0.30          | 0.98               | 1.7            |
| Freon 113              | 0.18              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.18              | Not Detected  | 0.69               | Not Detected   |
| Acetone                | 0.88              | 1.8           | 2.1                | 4.2            |
| Methylene Chloride     | 0.35              | Not Detected  | 1.2                | Not Detected   |
| cis-1,2-Dichloroethene | 0.18              | Not Detected  | 0.69               | Not Detected   |
| 1,1,1-Trichloroethane  | 0.18              | Not Detected  | 0.95               | Not Detected   |
| Benzene                | 0.18              | 0.22          | 0.56               | 0.71           |
| Toluene                | 0.18              | 2.3           | 0.66               | 8.6            |
| Tetrachloroethene      | 0.18              | 0.82          | 1.2                | 5.6            |
| 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 | 113       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |

Client Sample ID: IA0422

Lab ID#: 1201487-05B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020210sim | Date of Collection: 1/26/12 3:52:00 PM |
| Dil. Factor: | 1.75       | Date of Analysis: 2/2/12 03:15 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.018                | Not Detected     | 0.045                 | Not Detected      |
| Carbon Tetrachloride | 0.035                | 0.091            | 0.22                  | 0.58              |
| Trichloroethene      | 0.035                | 0.67             | 0.19                  | 3.6               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 113       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: IA0423

Lab ID#: 1201487-06A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020211 | Date of Collection: 1/26/12 3:53:00 PM |
| Dil. Factor: | 1.71    | Date of Analysis: 2/2/12 03:57 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.59          | 0.84               | 2.9            |
| Freon 11               | 0.17              | 0.35          | 0.96               | 2.0            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.68               | Not Detected   |
| Acetone                | 0.86              | 0.97          | 2.0                | 2.3            |
| 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              | 0.20          | 0.55               | 0.63           |
| Toluene                | 0.17              | Not Detected  | 0.64               | Not Detected   |
| Tetrachloroethene      | 0.17              | 0.45          | 1.2                | 3.0            |
| 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 | 113       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: IA0423

Lab ID#: 1201487-06B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020211sim | Date of Collection: 1/26/12 3:53:00 PM |
| Dil. Factor: | 1.71       | Date of Analysis: 2/2/12 03:57 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.044                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.088            | 0.22                  | 0.56              |
| Trichloroethene      | 0.034                | 0.63             | 0.18                  | 3.4               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 114       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Client Sample ID: IA0424

Lab ID#: 1201487-07A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020212 | Date of Collection: 1/26/12 3:55:00 PM |
| Dil. Factor: | 1.71    | Date of Analysis: 2/2/12 04:39 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.59          | 0.84               | 2.9            |
| 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              | 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              | 0.20          | 0.55               | 0.65           |
| Toluene                | 0.17              | 0.18          | 0.64               | 0.66           |
| Tetrachloroethene      | 0.17              | 0.30          | 1.2                | 2.0            |
| 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 | 112       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: IA0424

Lab ID#: 1201487-07B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020212sim | Date of Collection: 1/26/12 3:55:00 PM |
| Dil. Factor: | 1.71       | Date of Analysis: 2/2/12 04:39 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             | 0.056         | 0.22               | 0.35           |
| Trichloroethene      | 0.034             | 0.37          | 0.18               | 2.0            |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 115       | 70-130        |
| Toluene-d8            | 103       | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |

Client Sample ID: IA0427

Lab ID#: 1201487-08A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020213 | Date of Collection: 1/26/12 4:00:00 PM |
| Dil. Factor: | 1.75    | Date of Analysis: 2/2/12 05:21 PM      |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.18                 | 0.70             | 0.86                  | 3.5               |
| Freon 11               | 0.18                 | 0.41             | 0.98                  | 2.3               |
| Freon 113              | 0.18                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.18                 | Not Detected     | 0.69                  | Not Detected      |
| Acetone                | 0.88                 | 2.2              | 2.1                   | 5.1               |
| Methylene Chloride     | 0.35                 | 1.3              | 1.2                   | 4.5               |
| 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                 | 0.21             | 0.56                  | 0.66              |
| Toluene                | 0.18                 | Not Detected     | 0.66                  | Not Detected      |
| Tetrachloroethene      | 0.18                 | 0.42             | 1.2                   | 2.9               |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |

Client Sample ID: IA0427

Lab ID#: 1201487-08B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020213sim | Date of Collection: 1/26/12 4:00:00 PM |
| Dil. Factor: | 1.75       | Date of Analysis: 2/2/12 05:21 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.018                | Not Detected     | 0.045                 | Not Detected      |
| Carbon Tetrachloride | 0.035                | 0.065            | 0.22                  | 0.41              |
| Trichloroethene      | 0.035                | 0.41             | 0.19                  | 2.2               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 115       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |

Client Sample ID: IA0429

Lab ID#: 1201487-09A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020214 | Date of Collection: 1/26/12 3:47:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis: 2/2/12 06:02 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.17              | 0.50          | 0.83               | 2.5            |
| Freon 11               | 0.17              | 0.26          | 0.94               | 1.4            |
| Freon 113              | 0.17              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Acetone                | 0.84              | 3.2           | 2.0                | 7.6            |
| 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              | 0.21          | 0.54               | 0.67           |
| 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 | 114       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 101       | 70-130        |

Client Sample ID: IA0429

Lab ID#: 1201487-09B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020214sim | Date of Collection: 1/26/12 3:47:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis: 2/2/12 06:02 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.091            | 0.21                  | 0.57              |
| Trichloroethene      | 0.034                | Not Detected     | 0.18                  | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 115       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: AA0428

Lab ID#: 1201487-10A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020215 | Date of Collection: 1/26/12 3:59:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis: 2/2/12 06:42 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.16              | 0.49          | 0.81               | 2.4            |
| Freon 11               | 0.16              | 0.26          | 0.92               | 1.5            |
| Freon 113              | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene     | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Acetone                | 0.82              | 1.3           | 1.9                | 3.1            |
| Methylene Chloride     | 0.33              | Not Detected  | 1.1                | Not Detected   |
| cis-1,2-Dichloroethene | 0.16              | Not Detected  | 0.65               | Not Detected   |
| 1,1,1-Trichloroethane  | 0.16              | Not Detected  | 0.89               | Not Detected   |
| Benzene                | 0.16              | 0.21          | 0.52               | 0.68           |
| Toluene                | 0.16              | 0.17          | 0.62               | 0.65           |
| 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 | 116       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: AA0428

Lab ID#: 1201487-10B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020215sim | Date of Collection: 1/26/12 3:59:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis: 2/2/12 06:42 PM      |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.072            | 0.21                  | 0.46              |
| Trichloroethene      | 0.033                | Not Detected     | 0.18                  | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 115       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Client Sample ID: TA-022

Lab ID#: 1201487-11A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | e020216 | Date of Collection: 1/26/12 3:46:00 PM |
| Dil. Factor: | 1.75    | Date of Analysis: 2/2/12 07:22 PM      |

| Compound               | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12               | 0.18              | 0.48          | 0.86               | 2.4            |
| Freon 11               | 0.18              | 0.30          | 0.98               | 1.7            |
| Freon 113              | 0.18              | Not Detected  | 1.3                | Not Detected   |
| 1,1-Dichloroethene     | 0.18              | Not Detected  | 0.69               | Not Detected   |
| Acetone                | 0.88              | 2.2           | 2.1                | 5.2            |
| Methylene Chloride     | 0.35              | 1.7           | 1.2                | 5.8            |
| 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              | 0.47          | 0.56               | 1.5            |
| Toluene                | 0.18              | 0.54          | 0.66               | 2.0            |
| 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 | 116       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |

Client Sample ID: TA-022

Lab ID#: 1201487-11B

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

|              |            |                                        |
|--------------|------------|----------------------------------------|
| File Name:   | e020216sim | Date of Collection: 1/26/12 3:46:00 PM |
| Dil. Factor: | 1.75       | Date of Analysis: 2/2/12 07:22 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             | 0.070         | 0.22               | 0.44           |
| 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 | 116       | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |

Client Sample ID: Lab Blank

Lab ID#: 1201487-12A

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

|              |          |                                   |
|--------------|----------|-----------------------------------|
| File Name:   | e020109a | Date of Collection: NA            |
| Dil. Factor: | 1.00     | Date of Analysis: 2/1/12 02:34 PM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 97        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1201487-12B

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

|              |             |                                   |
|--------------|-------------|-----------------------------------|
| File Name:   | e020109sima | Date of Collection: NA            |
| Dil. Factor: | 1.00        | Date of Analysis: 2/1/12 02:34 PM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 98        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1201487-12C

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

|              |          |                                   |
|--------------|----------|-----------------------------------|
| File Name:   | e020209a | Date of Collection: NA            |
| Dil. Factor: | 1.00     | Date of Analysis: 2/2/12 02:25 PM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |

Client Sample ID: Lab Blank

Lab ID#: 1201487-12D

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | e020209sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 2/2/12 02:25 PM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |

Client Sample ID: CCV

Lab ID#: 1201487-13A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020103 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/1/12 09:52 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 89        |
| Freon 11               | 91        |
| Freon 113              | 86        |
| 1,1-Dichloroethene     | 85        |
| Acetone                | 84        |
| Methylene Chloride     | 75        |
| cis-1,2-Dichloroethene | 86        |
| 1,1,1-Trichloroethane  | 92        |
| Benzene                | 82        |
| Toluene                | 84        |
| Tetrachloroethene      | 86        |
| Chlorobenzene          | 86        |
| Ethyl Benzene          | 87        |
| m,p-Xylene             | 91        |
| o-Xylene               | 88        |
| 1,3-Dichlorobenzene    | 88        |
| 1,4-Dichlorobenzene    | 89        |
| 1,2-Dichlorobenzene    | 90        |
| 1,2,4-Trichlorobenzene | 103       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |

Client Sample ID: CCV

Lab ID#: 1201487-13B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | e020103sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 2/1/12 09:52 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 84        |
| Carbon Tetrachloride | 90        |
| Trichloroethene      | 82        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 110       | 70-130        |
| Toluene-d8            | 105       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |



Client Sample ID: CCV

Lab ID#: 1201487-13C

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020203 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/2/12 09:12 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 91        |
| Freon 11               | 94        |
| Freon 113              | 85        |
| 1,1-Dichloroethene     | 84        |
| Acetone                | 83        |
| Methylene Chloride     | 78        |
| cis-1,2-Dichloroethene | 84        |
| 1,1,1-Trichloroethane  | 94        |
| Benzene                | 81        |
| Toluene                | 83        |
| Tetrachloroethene      | 83        |
| Chlorobenzene          | 83        |
| Ethyl Benzene          | 85        |
| m,p-Xylene             | 87        |
| o-Xylene               | 86        |
| 1,3-Dichlorobenzene    | 87        |
| 1,4-Dichlorobenzene    | 86        |
| 1,2-Dichlorobenzene    | 88        |
| 1,2,4-Trichlorobenzene | 99        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 91        | 70-130        |

Client Sample ID: CCV

Lab ID#: 1201487-13D

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | e020203sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 2/2/12 09:12 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 82        |
| Carbon Tetrachloride | 90        |
| Trichloroethene      | 80        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 114       | 70-130        |
| Toluene-d8            | 106       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |

Client Sample ID: LCS

Lab ID#: 1201487-14A

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020106 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/1/12 12:22 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 93        |
| Freon 11               | 96        |
| Freon 113              | 90        |
| 1,1-Dichloroethene     | 94        |
| Acetone                | 92        |
| Methylene Chloride     | 87        |
| cis-1,2-Dichloroethene | 90        |
| 1,1,1-Trichloroethane  | 99        |
| Benzene                | 86        |
| Toluene                | 86        |
| Tetrachloroethene      | 87        |
| Chlorobenzene          | 88        |
| Ethyl Benzene          | 89        |
| m,p-Xylene             | 93        |
| o-Xylene               | 92        |
| 1,3-Dichlorobenzene    | 93        |
| 1,4-Dichlorobenzene    | 92        |
| 1,2-Dichlorobenzene    | 95        |
| 1,2,4-Trichlorobenzene | 118       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 85        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1201487-14AA

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020107 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/1/12 01:02 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 89        |
| Freon 11               | 92        |
| Freon 113              | 86        |
| 1,1-Dichloroethene     | 92        |
| Acetone                | 87        |
| Methylene Chloride     | 84        |
| cis-1,2-Dichloroethene | 87        |
| 1,1,1-Trichloroethane  | 95        |
| Benzene                | 83        |
| Toluene                | 85        |
| Tetrachloroethene      | 87        |
| Chlorobenzene          | 87        |
| Ethyl Benzene          | 87        |
| m,p-Xylene             | 92        |
| o-Xylene               | 90        |
| 1,3-Dichlorobenzene    | 91        |
| 1,4-Dichlorobenzene    | 90        |
| 1,2-Dichlorobenzene    | 93        |
| 1,2,4-Trichlorobenzene | 120       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 90        | 70-130        |

Client Sample ID: LCS

Lab ID#: 1201487-14B

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | e020106sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 2/1/12 12:22 PM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 86        |
| Carbon Tetrachloride | 71        |
| Trichloroethene      | 85        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130        |
| Toluene-d8            | 104       | 70-130        |
| 4-Bromofluorobenzene  | 93        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1201487-14BB

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

File Name: e020107sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 2/1/12 01:02 PM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 86        |
| Carbon Tetrachloride | 70        |
| Trichloroethene      | 83        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130        |
| Toluene-d8            | 104       | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |

Client Sample ID: LCS

Lab ID#: 1201487-14C

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020206 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/2/12 11:42 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 90        |
| Freon 11               | 93        |
| Freon 113              | 84        |
| 1,1-Dichloroethene     | 89        |
| Acetone                | 84        |
| Methylene Chloride     | 78        |
| cis-1,2-Dichloroethene | 84        |
| 1,1,1-Trichloroethane  | 94        |
| Benzene                | 84        |
| Toluene                | 84        |
| Tetrachloroethene      | 85        |
| Chlorobenzene          | 86        |
| Ethyl Benzene          | 87        |
| m,p-Xylene             | 91        |
| o-Xylene               | 90        |
| 1,3-Dichlorobenzene    | 91        |
| 1,4-Dichlorobenzene    | 90        |
| 1,2-Dichlorobenzene    | 93        |
| 1,2,4-Trichlorobenzene | 120       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1201487-14CC

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

|              |         |                                   |
|--------------|---------|-----------------------------------|
| File Name:   | e020207 | Date of Collection: NA            |
| Dil. Factor: | 1.00    | Date of Analysis: 2/2/12 12:53 PM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 89        |
| Freon 11               | 92        |
| Freon 113              | 82        |
| 1,1-Dichloroethene     | 87        |
| Acetone                | 83        |
| Methylene Chloride     | 77        |
| cis-1,2-Dichloroethene | 83        |
| 1,1,1-Trichloroethane  | 93        |
| Benzene                | 81        |
| Toluene                | 81        |
| Tetrachloroethene      | 83        |
| Chlorobenzene          | 85        |
| Ethyl Benzene          | 85        |
| m,p-Xylene             | 90        |
| o-Xylene               | 88        |
| 1,3-Dichlorobenzene    | 89        |
| 1,4-Dichlorobenzene    | 88        |
| 1,2-Dichlorobenzene    | 91        |
| 1,2,4-Trichlorobenzene | 118       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 107       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |



Client Sample ID: LCS

Lab ID#: 1201487-14D

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

|              |            |                                   |
|--------------|------------|-----------------------------------|
| File Name:   | e020206sim | Date of Collection: NA            |
| Dil. Factor: | 1.00       | Date of Analysis: 2/2/12 11:42 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 84        |
| Carbon Tetrachloride | 70        |
| Trichloroethene      | 82        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130        |
| Toluene-d8            | 106       | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1201487-14DD

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

File Name: e020207sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 2/2/12 12:53 PM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 83        |
| Carbon Tetrachloride | 68 Q      |
| Trichloroethene      | 80        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130        |
| Toluene-d8            | 105       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |



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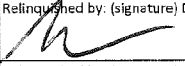
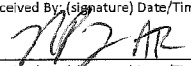
#### Sample Transportation Notice

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) 467-4522

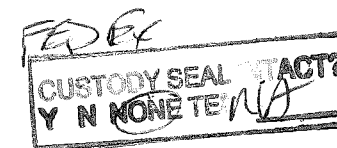
1201487



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

| Project Info:                                          |  | Turn Around Time                                |  | Relinquished by: (signature) Date/Time                                                            |  | Received By: (signature) Date/Time                                                               |  |
|--------------------------------------------------------|--|-------------------------------------------------|--|---------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|
| Project Manager: Brad Green                            |  | Normal <input checked="" type="checkbox"/> Rush |  |  1/27/12 - 1430 |  |  1/30/12 0900 |  |
| Email: bgreen@sanbornhead.com; latwell@sanbornhead.com |  |                                                 |  | Relinquished by: (signature) Date/Time                                                            |  | Received By: (signature) Date/Time                                                               |  |
| P.O.#                                                  |  |                                                 |  |                                                                                                   |  |                                                                                                  |  |
| Project # 2999                                         |  |                                                 |  |                                                                                                   |  |                                                                                                  |  |
| Project Name: IBM - EFK Building 330C                  |  |                                                 |  |                                                                                                   |  |                                                                                                  |  |
| Analyses: 1 = TO-15 H/L                                |  | specify                                         |  | 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   | IA0415            | 36039 | 01/26/2012      | 1557            | 29.5    | 7     | 1        |         |             |
| 02AB   | DUP33940          | 33940 | 01/26/2012      | 1549            | 31      | 6.5   | 1        |         |             |
| 03AB   | IA0416            | 12089 | 01/26/2012      | 1549            | 30      | 6.5   | 1        |         |             |
| 04AB   | IA0421            | 95639 | 01/26/2012      | 1551            | 28      | 6     | 1        |         |             |
| 05AB   | IA0422            | 21013 | 01/26/2012      | 1552            | 30      | 7.5   | 1        |         |             |
| 06AB   | IA0423            | 33928 | 01/26/2012      | 1553            | 31      | 7.5   | 1        |         |             |
| 07AB   | IA0424            | 5581  | 01/26/2012      | 1555            | 31      | 7     | 1        |         |             |
| 08AB   | IA0427            | 410   | 01/26/2012      | 1600            | 28.5    | 6.5   | 1        |         |             |
| 09AB   | IA0429            | 24477 | 01/26/2012      | 1547            | 30      | 6     | 1        |         |             |
| 10AB   | AA0428            | 34203 | 01/26/2012      | 1559            | 31      | 7.5   | 1        |         |             |
| 11AB   | TA-022            | 14012 | 01/26/2012      | 1546            | 29.5    | 6.5   | 1        |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |
|        |                   |       |                 |                 |         |       |          |         |             |



10/29/2012

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

Concord NH 03301

Project Name: IBM East Fishkill  
Project #: 2999.00 Task 430  
Workorder #: 1210316

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 10/15/2012 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1210316**

## Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 Task 430 IBM East Fishkill                                                       |
| <b>DATE RECEIVED:</b>  | 10/15/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 10/29/2012                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0415      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 01B               | IA0415      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 02A               | IA0416      | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 02B               | IA0416      | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 03A               | IA0421      | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 03B               | IA0421      | Modified TO-15 | 5.0 "Hg                       | 5 psi                     |
| 04A               | IA0422      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 04B               | IA0422      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 05A               | IA0423      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 05B               | IA0423      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 06A               | IA0424      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 06B               | IA0424      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 07A               | IA0427      | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 07B               | IA0427      | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 08A               | IA0429      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 08B               | IA0429      | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 09A               | TA022       | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 09B               | TA022       | Modified TO-15 | 4.5 "Hg                       | 5 psi                     |
| 10A               | AA0428      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 10B               | AA0428      | Modified TO-15 | 5.5 "Hg                       | 5 psi                     |
| 11A               | DUP9557     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 11B               | DUP9557     | Modified TO-15 | 6.0 "Hg                       | 5 psi                     |
| 12A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |

Continued on next page

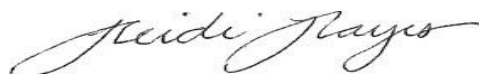
# WORK ORDER #: 1210316

## Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 Task 430 IBM East Fishkill                                                       |
| <b>DATE RECEIVED:</b>  | 10/15/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 10/29/2012                                                                             |                  |                                                                                          |

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

CERTIFIED BY:



Technical Director

DATE: 10/29/12

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,  
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

Eurofins 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# 1210316**

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

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

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

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                     |
|-------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ ; flag and narrate outliers<br><br>For SIM:<br>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 IA0424 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister 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.

**Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



## Summary of Detected Compounds

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

**Client Sample ID: IA0415**

**Lab ID#: 1210316-01A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.66             | 0.81                  | 3.3               |
| Freon 11          | 0.16                 | 0.44             | 0.92                  | 2.4               |
| Acetone           | 0.82                 | 3.2              | 1.9                   | 7.6               |
| Toluene           | 0.16                 | 0.21             | 0.62                  | 0.80              |
| Tetrachloroethene | 0.16                 | 0.24             | 1.1                   | 1.6               |
| m,p-Xylene        | 0.16                 | 0.44             | 0.71                  | 1.9               |
| o-Xylene          | 0.16                 | 0.20             | 0.71                  | 0.85              |

**Client Sample ID: IA0415**

**Lab ID#: 1210316-01B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.033                | 0.38             | 0.18                  | 2.0               |

**Client Sample ID: IA0416**

**Lab ID#: 1210316-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.61             | 0.78                  | 3.0               |
| Freon 11          | 0.16                 | 0.41             | 0.89                  | 2.3               |
| Freon 113         | 0.16                 | 0.16             | 1.2                   | 1.2               |
| Acetone           | 0.79                 | 2.9              | 1.9                   | 6.8               |
| Tetrachloroethene | 0.16                 | 1.6              | 1.1                   | 11                |

**Client Sample ID: IA0416**

**Lab ID#: 1210316-02B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.082            | 0.20                  | 0.52              |
| Trichloroethene      | 0.032                | 3.3              | 0.17                  | 18                |

## Summary of Detected Compounds

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

**Client Sample ID: IA0421**

**Lab ID#: 1210316-03A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.60             | 0.80                  | 3.0               |
| Freon 11          | 0.16                 | 0.40             | 0.90                  | 2.2               |
| Acetone           | 0.80                 | 1.5              | 1.9                   | 3.6               |
| Tetrachloroethene | 0.16                 | 0.31             | 1.1                   | 2.1               |

**Client Sample ID: IA0421**

**Lab ID#: 1210316-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.047            | 0.20                  | 0.29              |
| Trichloroethene      | 0.032                | 0.61             | 0.17                  | 3.3               |

**Client Sample ID: IA0422**

**Lab ID#: 1210316-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.56             | 0.83                  | 2.8               |
| Freon 11          | 0.17                 | 0.36             | 0.94                  | 2.0               |
| Acetone           | 0.84                 | 1.4              | 2.0                   | 3.4               |
| Tetrachloroethene | 0.17                 | 0.22             | 1.1                   | 1.5               |

**Client Sample ID: IA0422**

**Lab ID#: 1210316-04B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.066            | 0.21                  | 0.42              |
| Trichloroethene      | 0.034                | 0.38             | 0.18                  | 2.0               |

**Client Sample ID: IA0423**

**Lab ID#: 1210316-05A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
|----------|----------------------|------------------|-----------------------|-------------------|

## Summary of Detected Compounds

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

**Client Sample ID: IA0423**

**Lab ID#: 1210316-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.60             | 0.83                  | 3.0               |
| Freon 11          | 0.17                 | 0.35             | 0.94                  | 2.0               |
| Acetone           | 0.84                 | 2.4              | 2.0                   | 5.8               |
| Toluene           | 0.17                 | 0.27             | 0.63                  | 1.0               |
| Tetrachloroethene | 0.17                 | 0.24             | 1.1                   | 1.6               |

**Client Sample ID: IA0423**

**Lab ID#: 1210316-05B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.028            | 0.043                 | 0.071             |
| Carbon Tetrachloride | 0.034                | 0.080            | 0.21                  | 0.51              |
| Trichloroethene      | 0.034                | 0.38             | 0.18                  | 2.1               |

**Client Sample ID: IA0424**

**Lab ID#: 1210316-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.58             | 0.83                  | 2.9               |
| Freon 11          | 0.17                 | 0.44             | 0.94                  | 2.5               |
| Acetone           | 0.84                 | 1.8              | 2.0                   | 4.4               |
| Tetrachloroethene | 0.17                 | 0.19             | 1.1                   | 1.3               |

**Client Sample ID: IA0424**

**Lab ID#: 1210316-06B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.034                | 0.33             | 0.18                  | 1.8               |

**Client Sample ID: IA0427**

**Lab ID#: 1210316-07A**

## Summary of Detected Compounds

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

**Client Sample ID: IA0427**

**Lab ID#: 1210316-07A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.62             | 0.78                  | 3.0               |
| Freon 11          | 0.16                 | 0.41             | 0.89                  | 2.3               |
| Acetone           | 0.79                 | 1.8              | 1.9                   | 4.2               |
| Tetrachloroethene | 0.16                 | 0.24             | 1.1                   | 1.6               |

**Client Sample ID: IA0427**

**Lab ID#: 1210316-07B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.076            | 0.20                  | 0.48              |
| Trichloroethene      | 0.032                | 0.40             | 0.17                  | 2.1               |

**Client Sample ID: IA0429**

**Lab ID#: 1210316-08A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.17                 | 0.56             | 0.83                  | 2.8               |
| Freon 11 | 0.17                 | 0.27             | 0.94                  | 1.5               |
| Acetone  | 0.84                 | 1.7              | 2.0                   | 4.1               |

**Client Sample ID: IA0429**

**Lab ID#: 1210316-08B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.072            | 0.21                  | 0.45              |
| Trichloroethene      | 0.034                | 0.042            | 0.18                  | 0.22              |

**Client Sample ID: TA022**

**Lab ID#: 1210316-09A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 0.56             | 0.78                  | 2.8               |

## Summary of Detected Compounds

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

**Client Sample ID: TA022**

**Lab ID#: 1210316-09A**

|            |      |      |      |      |
|------------|------|------|------|------|
| Freon 11   | 0.16 | 0.25 | 0.89 | 1.4  |
| Acetone    | 0.79 | 2.0  | 1.9  | 4.8  |
| Toluene    | 0.16 | 0.22 | 0.60 | 0.84 |
| m,p-Xylene | 0.16 | 0.21 | 0.69 | 0.91 |

**Client Sample ID: TA022**

**Lab ID#: 1210316-09B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.054            | 0.20                  | 0.34              |
| Trichloroethene      | 0.032                | 0.033            | 0.17                  | 0.18              |

**Client Sample ID: AA0428**

**Lab ID#: 1210316-10A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.16                 | 0.56             | 0.81                  | 2.8               |
| Freon 11 | 0.16                 | 0.25             | 0.92                  | 1.4               |
| Acetone  | 0.82                 | 2.0              | 1.9                   | 4.6               |

**Client Sample ID: AA0428**

**Lab ID#: 1210316-10B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.033                | 0.091            | 0.21                  | 0.57              |

**Client Sample ID: DUP9557**

**Lab ID#: 1210316-11A**

| Compound  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12  | 0.17                 | 0.64             | 0.83                  | 3.2               |
| Freon 11  | 0.17                 | 0.40             | 0.94                  | 2.3               |
| Freon 113 | 0.17                 | 0.27             | 1.3                   | 2.1               |
| Acetone   | 0.84                 | 3.2              | 2.0                   | 7.6               |

## Summary of Detected Compounds

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

**Client Sample ID: DUP9557**

**Lab ID#: 1210316-11A**

|                   |      |     |     |    |
|-------------------|------|-----|-----|----|
| Tetrachloroethene | 0.17 | 3.5 | 1.1 | 24 |
|-------------------|------|-----|-----|----|

**Client Sample ID: DUP9557**

**Lab ID#: 1210316-11B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.034                | 7.8              | 0.18                  | 42                |



Air Toxics

Client Sample ID: IA0415

Lab ID#: 1210316-01A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101907 | Date of Collection: | 10/11/12 3:25:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis:   | 10/19/12 11:54 AM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.66             | 0.81                  | 3.3               |
| Freon 11               | 0.16                 | 0.44             | 0.92                  | 2.4               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.65                  | Not Detected      |
| Acetone                | 0.82                 | 3.2              | 1.9                   | 7.6               |
| 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                 | 0.21             | 0.62                  | 0.80              |
| Tetrachloroethene      | 0.16                 | 0.24             | 1.1                   | 1.6               |
| Chlorobenzene          | 0.16                 | Not Detected     | 0.76                  | Not Detected      |
| Ethyl Benzene          | 0.16                 | Not Detected     | 0.71                  | Not Detected      |
| m,p-Xylene             | 0.16                 | 0.44             | 0.71                  | 1.9               |
| o-Xylene               | 0.16                 | 0.20             | 0.71                  | 0.85              |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |



Air Toxics

Client Sample ID: IA0415

Lab ID#: 1210316-01B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101907sim | Date of Collection: | 10/11/12 3:25:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis:   | 10/19/12 11:54 AM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.033                | 0.38             | 0.18                  | 2.0               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 95        | 70-130           |





Air Toxics

Client Sample ID: IA0416

Lab ID#: 1210316-02A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101908 | Date of Collection: | 10/11/12 3:17:00 PM |
| Dil. Factor: | 1.58    | Date of Analysis:   | 10/19/12 12:43 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.61             | 0.78                  | 3.0               |
| Freon 11               | 0.16                 | 0.41             | 0.89                  | 2.3               |
| Freon 113              | 0.16                 | 0.16             | 1.2                   | 1.2               |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| Acetone                | 0.79                 | 2.9              | 1.9                   | 6.8               |
| 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                 | Not Detected     | 0.60                  | Not Detected      |
| Tetrachloroethene      | 0.16                 | 1.6              | 1.1                   | 11                |
| Chlorobenzene          | 0.16                 | Not Detected     | 0.73                  | Not Detected      |
| Ethyl Benzene          | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| m,p-Xylene             | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |



Air Toxics

Client Sample ID: IA0416

Lab ID#: 1210316-02B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101908sim | Date of Collection: | 10/11/12 3:17:00 PM |
| Dil. Factor: | 1.58       | Date of Analysis:   | 10/19/12 12:43 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.040                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.082            | 0.20                  | 0.52              |
| Trichloroethene      | 0.032                | 3.3              | 0.17                  | 18                |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 97        | 70-130           |



Air Toxics

Client Sample ID: IA0421

Lab ID#: 1210316-03A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101909 | Date of Collection: | 10/11/12 3:10:00 PM |
| Dil. Factor: | 1.61    | Date of Analysis:   | 10/19/12 01:20 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.60             | 0.80                  | 3.0               |
| Freon 11               | 0.16                 | 0.40             | 0.90                  | 2.2               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.64                  | Not Detected      |
| Acetone                | 0.80                 | 1.5              | 1.9                   | 3.6               |
| 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                 | Not Detected     | 0.61                  | Not Detected      |
| Tetrachloroethene      | 0.16                 | 0.31             | 1.1                   | 2.1               |
| 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     | 6.0                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 80        | 70-130           |



Air Toxics

Client Sample ID: IA0421

Lab ID#: 1210316-03B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101909sim | Date of Collection: | 10/11/12 3:10:00 PM |
| Dil. Factor: | 1.61       | Date of Analysis:   | 10/19/12 01:20 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.041                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.047            | 0.20                  | 0.29              |
| Trichloroethene      | 0.032                | 0.61             | 0.17                  | 3.3               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 85        | 70-130           |



Air Toxics

Client Sample ID: IA0422

Lab ID#: 1210316-04A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101910 | Date of Collection: | 10/11/12 5:00:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis:   | 10/19/12 01:56 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.56             | 0.83                  | 2.8               |
| Freon 11               | 0.17                 | 0.36             | 0.94                  | 2.0               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.67                  | Not Detected      |
| Acetone                | 0.84                 | 1.4              | 2.0                   | 3.4               |
| 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                 | 0.22             | 1.1                   | 1.5               |
| Chlorobenzene          | 0.17                 | Not Detected     | 0.77                  | Not Detected      |
| Ethyl Benzene          | 0.17                 | Not Detected     | 0.73                  | Not Detected      |
| m,p-Xylene             | 0.17                 | 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 104       | 70-130           |



Air Toxics

Client Sample ID: IA0422

Lab ID#: 1210316-04B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101910sim | Date of Collection: | 10/11/12 5:00:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 10/19/12 01:56 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.066            | 0.21                  | 0.42              |
| Trichloroethene      | 0.034                | 0.38             | 0.18                  | 2.0               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 106       | 70-130           |



Air Toxics

Client Sample ID: IA0423

Lab ID#: 1210316-05A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101911 | Date of Collection: | 10/11/12 3:20:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis:   | 10/19/12 02:35 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.60             | 0.83                  | 3.0               |
| Freon 11               | 0.17                 | 0.35             | 0.94                  | 2.0               |
| 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                 | Not Detected     | 0.54                  | Not Detected      |
| Toluene                | 0.17                 | 0.27             | 0.63                  | 1.0               |
| Tetrachloroethene      | 0.17                 | 0.24             | 1.1                   | 1.6               |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130           |
| Toluene-d8            | 86        | 70-130           |
| 4-Bromofluorobenzene  | 82        | 70-130           |



Air Toxics

Client Sample ID: IA0423

Lab ID#: 1210316-05B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101911sim | Date of Collection: | 10/11/12 3:20:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 10/19/12 02:35 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | 0.028            | 0.043                 | 0.071             |
| Carbon Tetrachloride | 0.034                | 0.080            | 0.21                  | 0.51              |
| Trichloroethene      | 0.034                | 0.38             | 0.18                  | 2.1               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 86        | 70-130           |
| 4-Bromofluorobenzene  | 84        | 70-130           |





Air Toxics

Client Sample ID: IA0424

Lab ID#: 1210316-06A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101912 | Date of Collection: | 10/11/12 3:15:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis:   | 10/19/12 03:25 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.58             | 0.83                  | 2.9               |
| Freon 11               | 0.17                 | 0.44             | 0.94                  | 2.5               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.67                  | Not Detected      |
| Acetone                | 0.84                 | 1.8              | 2.0                   | 4.4               |
| 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                 | 0.19             | 1.1                   | 1.3               |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: IA0424

Lab ID#: 1210316-06B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101912sim | Date of Collection: | 10/11/12 3:15:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 10/19/12 03:25 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.034                | 0.33             | 0.18                  | 1.8               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130           |
| Toluene-d8            | 99        | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |



Air Toxics

Client Sample ID: IA0427

Lab ID#: 1210316-07A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101913 | Date of Collection: | 10/11/12 3:13:00 PM |
| Dil. Factor: | 1.58    | Date of Analysis:   | 10/19/12 04:01 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.62             | 0.78                  | 3.0               |
| Freon 11               | 0.16                 | 0.41             | 0.89                  | 2.3               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| Acetone                | 0.79                 | 1.8              | 1.9                   | 4.2               |
| 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                 | Not Detected     | 0.60                  | Not Detected      |
| Tetrachloroethene      | 0.16                 | 0.24             | 1.1                   | 1.6               |
| Chlorobenzene          | 0.16                 | Not Detected     | 0.73                  | Not Detected      |
| Ethyl Benzene          | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| m,p-Xylene             | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130           |
| Toluene-d8            | 114       | 70-130           |
| 4-Bromofluorobenzene  | 95        | 70-130           |



Air Toxics

Client Sample ID: IA0427

Lab ID#: 1210316-07B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101913sim | Date of Collection: | 10/11/12 3:13:00 PM |
| Dil. Factor: | 1.58       | Date of Analysis:   | 10/19/12 04:01 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.040                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.076            | 0.20                  | 0.48              |
| Trichloroethene      | 0.032                | 0.40             | 0.17                  | 2.1               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 107       | 70-130           |
| Toluene-d8            | 115       | 70-130           |
| 4-Bromofluorobenzene  | 101       | 70-130           |



Air Toxics

Client Sample ID: IA0429

Lab ID#: 1210316-08A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101914 | Date of Collection: | 10/11/12 3:38:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis:   | 10/19/12 04:38 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.56             | 0.83                  | 2.8               |
| Freon 11               | 0.17                 | 0.27             | 0.94                  | 1.5               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.67                  | Not Detected      |
| Acetone                | 0.84                 | 1.7              | 2.0                   | 4.1               |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130           |
| Toluene-d8            | 101       | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |



Air Toxics

Client Sample ID: IA0429

Lab ID#: 1210316-08B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101914sim | Date of Collection: | 10/11/12 3:38:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 10/19/12 04:38 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.072            | 0.21                  | 0.45              |
| Trichloroethene      | 0.034                | 0.042            | 0.18                  | 0.22              |

Container Type: 6 Liter Summa Canister (SIM Certified)

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



Air Toxics

Client Sample ID: TA022

Lab ID#: 1210316-09A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101915 | Date of Collection: | 10/11/12 2:15:00 PM |
| Dil. Factor: | 1.58    | Date of Analysis:   | 10/19/12 05:14 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.56             | 0.78                  | 2.8               |
| Freon 11               | 0.16                 | 0.25             | 0.89                  | 1.4               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| Acetone                | 0.79                 | 2.0              | 1.9                   | 4.8               |
| 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                 | 0.22             | 0.60                  | 0.84              |
| Tetrachloroethene      | 0.16                 | Not Detected     | 1.1                   | Not Detected      |
| Chlorobenzene          | 0.16                 | Not Detected     | 0.73                  | Not Detected      |
| Ethyl Benzene          | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| m,p-Xylene             | 0.16                 | 0.21             | 0.69                  | 0.91              |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 97        | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 110       | 70-130           |



Air Toxics

Client Sample ID: TA022

Lab ID#: 1210316-09B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101915sim | Date of Collection: | 10/11/12 2:15:00 PM |
| Dil. Factor: | 1.58       | Date of Analysis:   | 10/19/12 05:14 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.040                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.054            | 0.20                  | 0.34              |
| Trichloroethene      | 0.032                | 0.033            | 0.17                  | 0.18              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 117       | 70-130           |





Air Toxics

Client Sample ID: AA0428

Lab ID#: 1210316-10A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101916 | Date of Collection: | 10/11/12 3:37:00 PM |
| Dil. Factor: | 1.64    | Date of Analysis:   | 10/19/12 05:51 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.56             | 0.81                  | 2.8               |
| Freon 11               | 0.16                 | 0.25             | 0.92                  | 1.4               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.65                  | Not Detected      |
| Acetone                | 0.82                 | 2.0              | 1.9                   | 4.6               |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Air Toxics

Client Sample ID: AA0428

Lab ID#: 1210316-10B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101916sim | Date of Collection: | 10/11/12 3:37:00 PM |
| Dil. Factor: | 1.64       | Date of Analysis:   | 10/19/12 05:51 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.042                 | Not Detected      |
| Carbon Tetrachloride | 0.033                | 0.091            | 0.21                  | 0.57              |
| Trichloroethene      | 0.033                | Not Detected     | 0.18                  | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 110       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: DUP9557

Lab ID#: 1210316-11A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v101917 | Date of Collection: | 10/11/12 3:17:00 PM |
| Dil. Factor: | 1.68    | Date of Analysis:   | 10/19/12 06:27 PM   |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.64             | 0.83                  | 3.2               |
| Freon 11               | 0.17                 | 0.40             | 0.94                  | 2.3               |
| Freon 113              | 0.17                 | 0.27             | 1.3                   | 2.1               |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.67                  | Not Detected      |
| Acetone                | 0.84                 | 3.2              | 2.0                   | 7.6               |
| 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                 | 3.5              | 1.1                   | 24                |
| 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Air Toxics

Client Sample ID: DUP9557

Lab ID#: 1210316-11B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v101917sim | Date of Collection: | 10/11/12 3:17:00 PM |
| Dil. Factor: | 1.68       | Date of Analysis:   | 10/19/12 06:27 PM   |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.043                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.078            | 0.21                  | 0.49              |
| Trichloroethene      | 0.034                | 7.8              | 0.18                  | 42                |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130           |
| Toluene-d8            | 98        | 70-130           |
| 4-Bromofluorobenzene  | 103       | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210316-12A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v101906 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/12 11:03 AM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130           |
| Toluene-d8            | 97        | 70-130           |
| 4-Bromofluorobenzene  | 89        | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210316-12B

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

|              |            |                                     |
|--------------|------------|-------------------------------------|
| File Name:   | v101906sim | Date of Collection: NA              |
| Dil. Factor: | 1.00       | Date of Analysis: 10/19/12 11:03 AM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 107       | 70-130           |
| Toluene-d8            | 97        | 70-130           |
| 4-Bromofluorobenzene  | 96        | 70-130           |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1210316-13A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v101902 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/12 07:52 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 102       |
| Freon 11               | 91        |
| Freon 113              | 87        |
| 1,1-Dichloroethene     | 88        |
| Acetone                | 90        |
| Methylene Chloride     | 91        |
| cis-1,2-Dichloroethene | 89        |
| 1,1,1-Trichloroethane  | 88        |
| Benzene                | 92        |
| Toluene                | 91        |
| Tetrachloroethene      | 87        |
| Chlorobenzene          | 85        |
| Ethyl Benzene          | 90        |
| m,p-Xylene             | 91        |
| o-Xylene               | 93        |
| 1,3-Dichlorobenzene    | 105       |
| 1,4-Dichlorobenzene    | 98        |
| 1,2-Dichlorobenzene    | 102       |
| 1,2,4-Trichlorobenzene | 109       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130        |
| Toluene-d8            | 106       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1210316-13B

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

|                     |                   |                                            |
|---------------------|-------------------|--------------------------------------------|
| <b>File Name:</b>   | <b>v101902sim</b> | <b>Date of Collection:</b> NA              |
| <b>Dil. Factor:</b> | <b>1.00</b>       | <b>Date of Analysis:</b> 10/19/12 07:52 AM |

| <b>Compound</b>      | <b>%Recovery</b> |
|----------------------|------------------|
| Vinyl Chloride       | 82               |
| Carbon Tetrachloride | 92               |
| Trichloroethene      | 80               |

**Container Type: NA - Not Applicable**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 108              | 70-130               |
| Toluene-d8            | 106              | 70-130               |
| 4-Bromofluorobenzene  | 102              | 70-130               |





Air Toxics

Client Sample ID: LCS

Lab ID#: 1210316-14A

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v101903 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/12 08:38 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 98        |
| Freon 11               | 90        |
| Freon 113              | 86        |
| 1,1-Dichloroethene     | 92        |
| Acetone                | 86        |
| Methylene Chloride     | 87        |
| cis-1,2-Dichloroethene | 85        |
| 1,1,1-Trichloroethane  | 89        |
| Benzene                | 90        |
| Toluene                | 80        |
| Tetrachloroethene      | 82        |
| Chlorobenzene          | 84        |
| Ethyl Benzene          | 84        |
| m,p-Xylene             | 77        |
| o-Xylene               | 77        |
| 1,3-Dichlorobenzene    | 78        |
| 1,4-Dichlorobenzene    | 70        |
| 1,2-Dichlorobenzene    | 76        |
| 1,2,4-Trichlorobenzene | 94        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210316-14AA

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

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v101904 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/19/12 09:21 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 102       |
| Freon 11               | 96        |
| Freon 113              | 89        |
| 1,1-Dichloroethene     | 96        |
| Acetone                | 90        |
| Methylene Chloride     | 92        |
| cis-1,2-Dichloroethene | 90        |
| 1,1,1-Trichloroethane  | 91        |
| Benzene                | 94        |
| Toluene                | 82        |
| Tetrachloroethene      | 88        |
| Chlorobenzene          | 86        |
| Ethyl Benzene          | 86        |
| m,p-Xylene             | 85        |
| o-Xylene               | 84        |
| 1,3-Dichlorobenzene    | 80        |
| 1,4-Dichlorobenzene    | 76        |
| 1,2-Dichlorobenzene    | 81        |
| 1,2,4-Trichlorobenzene | 97        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 92        | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1210316-14B

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

File Name: v101903sim  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 10/19/12 08:38 AM

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 89        |
| Carbon Tetrachloride | 99        |
| Trichloroethene      | 78        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 89        | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210316-14BB

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

|                     |                   |                                            |
|---------------------|-------------------|--------------------------------------------|
| <b>File Name:</b>   | <b>v101904sim</b> | <b>Date of Collection:</b> NA              |
| <b>Dil. Factor:</b> | <b>1.00</b>       | <b>Date of Analysis:</b> 10/19/12 09:21 AM |

| <b>Compound</b>      | <b>%Recovery</b> |
|----------------------|------------------|
| Vinyl Chloride       | 96               |
| Carbon Tetrachloride | 103              |
| Trichloroethene      | 82               |

**Container Type:** NA - Not Applicable

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 109              | 70-130               |
| Toluene-d8            | 96               | 70-130               |
| 4-Bromofluorobenzene  | 96               | 70-130               |



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

### Sample Transportation Notice

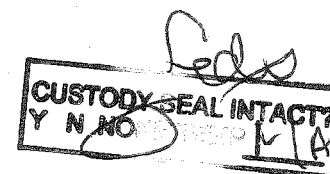
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping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

Hotline (800) 467-4922

1210316



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

[illegible]

12/19/2012

Mr. Brad Green

Sanborn, Head & Associates

20 Foundry Street

Concord NH 03301

Project Name: IBM East Fishkill

Project #: 2999.00

Workorder #: 1212054

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 12/4/2012 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott

Project Manager

**WORK ORDER #: 1212054**

## Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM East Fishkill                                                                |
| <b>DATE RECEIVED:</b>  | 12/04/2012                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 12/19/2012                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0434\G1   | Modified TO-15 | 6.6 "Hg                       | 5 psi                     |
| 01B               | IA0434\G1   | Modified TO-15 | 6.6 "Hg                       | 5 psi                     |
| 02A               | TA103\G     | Modified TO-15 | 20.6 "Hg                      | 5 psi                     |
| 02B               | TA103\G     | Modified TO-15 | 20.6 "Hg                      | 5 psi                     |
| 03A               | IA0434\G2   | Modified TO-15 | 1.8 "Hg                       | 5 psi                     |
| 03B               | IA0434\G2   | Modified TO-15 | 1.8 "Hg                       | 5 psi                     |
| 04A               | IA2032\G    | Modified TO-15 | 6.8 "Hg                       | 5 psi                     |
| 04B               | IA2032\G    | Modified TO-15 | 6.8 "Hg                       | 5 psi                     |
| 05A               | IA0416\G    | Modified TO-15 | 6.6 "Hg                       | 5 psi                     |
| 05B               | IA0416\G    | Modified TO-15 | 6.6 "Hg                       | 5 psi                     |
| 06A               | IA0434\G3   | Modified TO-15 | 4.8 "Hg                       | 5 psi                     |
| 06B               | IA0434\G3   | Modified TO-15 | 4.8 "Hg                       | 5 psi                     |
| 07A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 07B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 08A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 08B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 09A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 09AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 09B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 09BB              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Technical Director

DATE: 12/19/12

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,  
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

Eurofins 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 - 9563

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**LABORATORY NARRATIVE**  
**Modified TO-15 Std & LL Full Scan**  
**Sanborn, Head & Associates**  
**Workorder# 1212054**

Six 6 Liter Summa Canister (SIM Certified) samples were received on December 04, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan mode. The method involves concentrating up to 1.0 liter 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.

| <b>Requirement</b>            | <b>TO-14A</b>                                                   | <b>ATL Modifications</b>                                                                                                                                                                                                                  |
|-------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $\leq 40\%$ RSD | For LL Full Scan only:<br>$\leq 30\%$ RSD with 4 compounds allowed out to $\leq 40\%$ RSD                                                                                                                                                 |
| Daily Calibration             | $\pm 30\%$ Difference                                           | For Std. Full Scan:<br>$\leq 30\%$ Difference with two allowed out up to $\leq 40\%$ .; flag and narrate outliers<br><br>For LL Full Scan:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers |
| Blank and standards           | Zero air                                                        | For LL Full Scan only: 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                                               |
| 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                                                                                                            |

**Receiving Notes**

Sample TA103\G was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

**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.



Dilution was performed on sample TA103\G due to the presence of high level target species.

### **Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

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

**Client Sample ID: IA0434\G1**

**Lab ID#: 1212054-01A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.51             | 0.85                  | 2.5               |
| Freon 11          | 0.17                 | 0.35             | 0.97                  | 1.9               |
| Acetone           | 0.86                 | 10               | 2.0                   | 24                |
| Benzene           | 0.17                 | 0.17             | 0.55                  | 0.55              |
| Toluene           | 0.17                 | 0.24             | 0.65                  | 0.92              |
| Tetrachloroethene | 0.17                 | 0.98             | 1.2                   | 6.6               |

**Client Sample ID: IA0434\G1**

**Lab ID#: 1212054-01B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.12             | 0.22                  | 0.75              |
| Trichloroethene      | 0.034                | 0.75             | 0.18                  | 4.0               |

**Client Sample ID: TA103\G**

**Lab ID#: 1212054-02A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 113         | 4.3                  | 33               | 33                    | 250               |
| Trichloroethene   | 4.3                  | 1100             | 23                    | 5800              |
| Tetrachloroethene | 4.3                  | 540              | 29                    | 3600              |

**Client Sample ID: TA103\G**

**Lab ID#: 1212054-02B**

No Detections Were Found.

**Client Sample ID: IA0434\G2**

**Lab ID#: 1212054-03A**

| Compound | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------|----------------------|------------------|-----------------------|-------------------|
| Freon 12 | 0.14                 | 0.68             | 0.70                  | 3.4               |
| Freon 11 | 0.14                 | 0.38             | 0.80                  | 2.1               |

## Summary of Detected Compounds

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

**Client Sample ID: IA0434\G2**

**Lab ID#: 1212054-03A**

|                   |      |      |      |      |
|-------------------|------|------|------|------|
| Freon 113         | 0.14 | 0.20 | 1.1  | 1.5  |
| Acetone           | 0.71 | 2.0  | 1.7  | 4.7  |
| Benzene           | 0.14 | 0.16 | 0.45 | 0.53 |
| Toluene           | 0.14 | 0.14 | 0.54 | 0.54 |
| Tetrachloroethene | 0.14 | 3.6  | 0.96 | 25   |

**Client Sample ID: IA0434\G2**

**Lab ID#: 1212054-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.028                | 0.11             | 0.18                  | 0.69              |
| Trichloroethene      | 0.028                | 3.7              | 0.15                  | 20                |

**Client Sample ID: IA2032\G**

**Lab ID#: 1212054-04A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.42             | 0.86                  | 2.1               |
| Freon 11          | 0.17                 | 0.20             | 0.97                  | 1.1               |
| Acetone           | 0.86                 | 2.8              | 2.0                   | 6.7               |
| Benzene           | 0.17                 | 0.32             | 0.55                  | 1.0               |
| Toluene           | 0.17                 | 0.96             | 0.65                  | 3.6               |
| Tetrachloroethene | 0.17                 | 1.2              | 1.2                   | 8.5               |
| m,p-Xylene        | 0.17                 | 0.28             | 0.75                  | 1.2               |

**Client Sample ID: IA2032\G**

**Lab ID#: 1212054-04B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.035                | 0.086            | 0.22                  | 0.54              |
| Trichloroethene      | 0.035                | 0.041            | 0.18                  | 0.22              |

**Client Sample ID: IA0416\G**

**Lab ID#: 1212054-05A**

## Summary of Detected Compounds

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

**Client Sample ID: IA0416\G**

**Lab ID#: 1212054-05A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.17                 | 0.45             | 0.85                  | 2.2               |
| Freon 11          | 0.17                 | 0.25             | 0.97                  | 1.4               |
| Acetone           | 0.86                 | 4.1              | 2.0                   | 9.7               |
| Tetrachloroethene | 0.17                 | 0.94             | 1.2                   | 6.4               |

**Client Sample ID: IA0416\G**

**Lab ID#: 1212054-05B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.034                | 0.12             | 0.22                  | 0.73              |
| Trichloroethene      | 0.034                | 1.0              | 0.18                  | 5.5               |

**Client Sample ID: IA0434\G3**

**Lab ID#: 1212054-06A**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12          | 0.16                 | 0.51             | 0.79                  | 2.5               |
| Freon 11          | 0.16                 | 0.28             | 0.90                  | 1.6               |
| Acetone           | 0.80                 | 3.0              | 1.9                   | 7.1               |
| Tetrachloroethene | 0.16                 | 2.0              | 1.1                   | 14                |

**Client Sample ID: IA0434\G3**

**Lab ID#: 1212054-06B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Carbon Tetrachloride | 0.032                | 0.11             | 0.20                  | 0.69              |
| Trichloroethene      | 0.032                | 2.2              | 0.17                  | 12                |



Air Toxics

Client Sample ID: IA0434\G1

Lab ID#: 1212054-01A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120607 | Date of Collection: | 11/29/12 10:41:00 A |
| Dil. Factor: | 1.72    | Date of Analysis:   | 12/6/12 11:47 AM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.51             | 0.85                  | 2.5               |
| Freon 11               | 0.17                 | 0.35             | 0.97                  | 1.9               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| Acetone                | 0.86                 | 10               | 2.0                   | 24                |
| Methylene Chloride     | 0.34                 | Not Detected     | 1.2                   | Not Detected      |
| cis-1,2-Dichloroethene | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| 1,1,1-Trichloroethane  | 0.17                 | Not Detected     | 0.94                  | Not Detected      |
| Benzene                | 0.17                 | 0.17             | 0.55                  | 0.55              |
| Toluene                | 0.17                 | 0.24             | 0.65                  | 0.92              |
| Tetrachloroethene      | 0.17                 | 0.98             | 1.2                   | 6.6               |
| Chlorobenzene          | 0.17                 | Not Detected     | 0.79                  | Not Detected      |
| Ethyl Benzene          | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| m,p-Xylene             | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| o-Xylene               | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| 1,3-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,4-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2,4-Trichlorobenzene | 0.86                 | Not Detected     | 6.4                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 98        | 70-130           |
| Toluene-d8            | 105       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: IA0434\G1

Lab ID#: 1212054-01B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v120607sim | Date of Collection: | 11/29/12 10:41:00 A |
| Dil. Factor: | 1.72       | Date of Analysis:   | 12/6/12 11:47 AM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.044                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.12             | 0.22                  | 0.75              |
| Trichloroethene      | 0.034                | 0.75             | 0.18                  | 4.0               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 106       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: TA103\G

Lab ID#: 1212054-02A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120612 | Date of Collection: | 11/29/12 11:44:00 A |
| Dil. Factor: | 42.8    | Date of Analysis:   | 12/6/12 03:05 PM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 4.3                  | Not Detected     | 21                    | Not Detected      |
| Freon 11               | 4.3                  | Not Detected     | 24                    | Not Detected      |
| Freon 113              | 4.3                  | 33               | 33                    | 250               |
| 1,1-Dichloroethene     | 4.3                  | Not Detected     | 17                    | Not Detected      |
| Acetone                | 21                   | Not Detected     | 51                    | Not Detected      |
| Methylene Chloride     | 8.6                  | Not Detected     | 30                    | Not Detected      |
| cis-1,2-Dichloroethene | 4.3                  | Not Detected     | 17                    | Not Detected      |
| 1,1,1-Trichloroethane  | 4.3                  | Not Detected     | 23                    | Not Detected      |
| Benzene                | 4.3                  | Not Detected     | 14                    | Not Detected      |
| Trichloroethene        | 4.3                  | 1100             | 23                    | 5800              |
| Toluene                | 4.3                  | Not Detected     | 16                    | Not Detected      |
| Tetrachloroethene      | 4.3                  | 540              | 29                    | 3600              |
| Chlorobenzene          | 4.3                  | Not Detected     | 20                    | Not Detected      |
| Ethyl Benzene          | 4.3                  | Not Detected     | 18                    | Not Detected      |
| m,p-Xylene             | 4.3                  | Not Detected     | 18                    | Not Detected      |
| o-Xylene               | 4.3                  | Not Detected     | 18                    | Not Detected      |
| 1,3-Dichlorobenzene    | 4.3                  | Not Detected     | 26                    | Not Detected      |
| 1,4-Dichlorobenzene    | 4.3                  | Not Detected     | 26                    | Not Detected      |
| 1,2-Dichlorobenzene    | 4.3                  | Not Detected     | 26                    | Not Detected      |
| 1,2,4-Trichlorobenzene | 21                   | Not Detected     | 160                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 111       | 70-130           |



Air Toxics

Client Sample ID: TA103\G

Lab ID#: 1212054-02B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v120612sim | Date of Collection: | 11/29/12 11:44:00 A |
| Dil. Factor: | 42.8       | Date of Analysis:   | 12/6/12 03:05 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.43                 | Not Detected     | 1.1                   | Not Detected      |
| Carbon Tetrachloride | 0.86                 | Not Detected     | 5.4                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130           |
| Toluene-d8            | 104       | 70-130           |
| 4-Bromofluorobenzene  | 114       | 70-130           |





Air Toxics

Client Sample ID: IA0434\G2

Lab ID#: 1212054-03A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120608 | Date of Collection: | 11/29/12 3:12:00 PM |
| Dil. Factor: | 1.42    | Date of Analysis:   | 12/6/12 12:36 PM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.14                 | 0.68             | 0.70                  | 3.4               |
| Freon 11               | 0.14                 | 0.38             | 0.80                  | 2.1               |
| Freon 113              | 0.14                 | 0.20             | 1.1                   | 1.5               |
| 1,1-Dichloroethene     | 0.14                 | Not Detected     | 0.56                  | Not Detected      |
| Acetone                | 0.71                 | 2.0              | 1.7                   | 4.7               |
| Methylene Chloride     | 0.28                 | Not Detected     | 0.99                  | Not Detected      |
| cis-1,2-Dichloroethene | 0.14                 | Not Detected     | 0.56                  | Not Detected      |
| 1,1,1-Trichloroethane  | 0.14                 | Not Detected     | 0.77                  | Not Detected      |
| Benzene                | 0.14                 | 0.16             | 0.45                  | 0.53              |
| Toluene                | 0.14                 | 0.14             | 0.54                  | 0.54              |
| Tetrachloroethene      | 0.14                 | 3.6              | 0.96                  | 25                |
| Chlorobenzene          | 0.14                 | Not Detected     | 0.65                  | Not Detected      |
| Ethyl Benzene          | 0.14                 | Not Detected     | 0.62                  | Not Detected      |
| m,p-Xylene             | 0.14                 | Not Detected     | 0.62                  | Not Detected      |
| o-Xylene               | 0.14                 | Not Detected     | 0.62                  | Not Detected      |
| 1,3-Dichlorobenzene    | 0.14                 | Not Detected     | 0.85                  | Not Detected      |
| 1,4-Dichlorobenzene    | 0.14                 | Not Detected     | 0.85                  | Not Detected      |
| 1,2-Dichlorobenzene    | 0.14                 | Not Detected     | 0.85                  | Not Detected      |
| 1,2,4-Trichlorobenzene | 0.71                 | Not Detected     | 5.3                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130           |
| Toluene-d8            | 108       | 70-130           |
| 4-Bromofluorobenzene  | 111       | 70-130           |



Air Toxics

Client Sample ID: IA0434\G2

Lab ID#: 1212054-03B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v120608sim | Date of Collection: | 11/29/12 3:12:00 PM |
| Dil. Factor: | 1.42       | Date of Analysis:   | 12/6/12 12:36 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.014                | Not Detected     | 0.036                 | Not Detected      |
| Carbon Tetrachloride | 0.028                | 0.11             | 0.18                  | 0.69              |
| Trichloroethene      | 0.028                | 3.7              | 0.15                  | 20                |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 107       | 70-130           |
| Toluene-d8            | 107       | 70-130           |
| 4-Bromofluorobenzene  | 114       | 70-130           |



Air Toxics

Client Sample ID: IA2032\G

Lab ID#: 1212054-04A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120609 | Date of Collection: | 11/30/12 8:48:00 AM |
| Dil. Factor: | 1.73    | Date of Analysis:   | 12/6/12 01:12 PM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.42             | 0.86                  | 2.1               |
| Freon 11               | 0.17                 | 0.20             | 0.97                  | 1.1               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| Acetone                | 0.86                 | 2.8              | 2.0                   | 6.7               |
| Methylene Chloride     | 0.35                 | Not Detected     | 1.2                   | Not Detected      |
| cis-1,2-Dichloroethene | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| 1,1,1-Trichloroethane  | 0.17                 | Not Detected     | 0.94                  | Not Detected      |
| Benzene                | 0.17                 | 0.32             | 0.55                  | 1.0               |
| Toluene                | 0.17                 | 0.96             | 0.65                  | 3.6               |
| Tetrachloroethene      | 0.17                 | 1.2              | 1.2                   | 8.5               |
| Chlorobenzene          | 0.17                 | Not Detected     | 0.80                  | Not Detected      |
| Ethyl Benzene          | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| m,p-Xylene             | 0.17                 | 0.28             | 0.75                  | 1.2               |
| o-Xylene               | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| 1,3-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,4-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2,4-Trichlorobenzene | 0.86                 | Not Detected     | 6.4                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 100       | 70-130           |
| Toluene-d8            | 105       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: IA2032\G

Lab ID#: 1212054-04B

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

|                     |                   |                                                |
|---------------------|-------------------|------------------------------------------------|
| <b>File Name:</b>   | <b>v120609sim</b> | <b>Date of Collection:</b> 11/30/12 8:48:00 AM |
| <b>Dil. Factor:</b> | <b>1.73</b>       | <b>Date of Analysis:</b> 12/6/12 01:12 PM      |

| <b>Compound</b>      | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b> | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
|----------------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| Vinyl Chloride       | 0.017                        | Not Detected             | 0.044                         | Not Detected              |
| Carbon Tetrachloride | 0.035                        | 0.086                    | 0.22                          | 0.54                      |
| Trichloroethene      | 0.035                        | 0.041                    | 0.18                          | 0.22                      |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| 1,2-Dichloroethane-d4 | 106              | 70-130                   |
| Toluene-d8            | 107              | 70-130                   |
| 4-Bromofluorobenzene  | 116              | 70-130                   |



Air Toxics

Client Sample ID: IA0416\G

Lab ID#: 1212054-05A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120610 | Date of Collection: | 11/30/12 2:20:00 PM |
| Dil. Factor: | 1.72    | Date of Analysis:   | 12/6/12 01:49 PM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.17                 | 0.45             | 0.85                  | 2.2               |
| Freon 11               | 0.17                 | 0.25             | 0.97                  | 1.4               |
| Freon 113              | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| 1,1-Dichloroethene     | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| Acetone                | 0.86                 | 4.1              | 2.0                   | 9.7               |
| Methylene Chloride     | 0.34                 | Not Detected     | 1.2                   | Not Detected      |
| cis-1,2-Dichloroethene | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| 1,1,1-Trichloroethane  | 0.17                 | Not Detected     | 0.94                  | Not Detected      |
| Benzene                | 0.17                 | Not Detected     | 0.55                  | Not Detected      |
| Toluene                | 0.17                 | Not Detected     | 0.65                  | Not Detected      |
| Tetrachloroethene      | 0.17                 | 0.94             | 1.2                   | 6.4               |
| Chlorobenzene          | 0.17                 | Not Detected     | 0.79                  | Not Detected      |
| Ethyl Benzene          | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| m,p-Xylene             | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| o-Xylene               | 0.17                 | Not Detected     | 0.75                  | Not Detected      |
| 1,3-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,4-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2-Dichlorobenzene    | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2,4-Trichlorobenzene | 0.86                 | Not Detected     | 6.4                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 98        | 70-130           |
| Toluene-d8            | 110       | 70-130           |
| 4-Bromofluorobenzene  | 114       | 70-130           |



Air Toxics

Client Sample ID: IA0416\G

Lab ID#: 1212054-05B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v120610sim | Date of Collection: | 11/30/12 2:20:00 PM |
| Dil. Factor: | 1.72       | Date of Analysis:   | 12/6/12 01:49 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.017                | Not Detected     | 0.044                 | Not Detected      |
| Carbon Tetrachloride | 0.034                | 0.12             | 0.22                  | 0.73              |
| Trichloroethene      | 0.034                | 1.0              | 0.18                  | 5.5               |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 107       | 70-130           |
| 4-Bromofluorobenzene  | 116       | 70-130           |



Air Toxics

Client Sample ID: IA0434\G3

Lab ID#: 1212054-06A

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

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v120611 | Date of Collection: | 11/30/12 3:15:00 PM |
| Dil. Factor: | 1.60    | Date of Analysis:   | 12/6/12 02:25 PM    |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12               | 0.16                 | 0.51             | 0.79                  | 2.5               |
| Freon 11               | 0.16                 | 0.28             | 0.90                  | 1.6               |
| Freon 113              | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| 1,1-Dichloroethene     | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| Acetone                | 0.80                 | 3.0              | 1.9                   | 7.1               |
| Methylene Chloride     | 0.32                 | Not Detected     | 1.1                   | Not Detected      |
| cis-1,2-Dichloroethene | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| 1,1,1-Trichloroethane  | 0.16                 | Not Detected     | 0.87                  | Not Detected      |
| Benzene                | 0.16                 | Not Detected     | 0.51                  | Not Detected      |
| Toluene                | 0.16                 | Not Detected     | 0.60                  | Not Detected      |
| Tetrachloroethene      | 0.16                 | 2.0              | 1.1                   | 14                |
| Chlorobenzene          | 0.16                 | Not Detected     | 0.74                  | Not Detected      |
| Ethyl Benzene          | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| m,p-Xylene             | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| o-Xylene               | 0.16                 | Not Detected     | 0.69                  | Not Detected      |
| 1,3-Dichlorobenzene    | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| 1,4-Dichlorobenzene    | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| 1,2-Dichlorobenzene    | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| 1,2,4-Trichlorobenzene | 0.80                 | Not Detected     | 5.9                   | Not Detected      |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130           |
| Toluene-d8            | 104       | 70-130           |
| 4-Bromofluorobenzene  | 115       | 70-130           |



Air Toxics

Client Sample ID: IA0434\G3

Lab ID#: 1212054-06B

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

|              |            |                     |                     |
|--------------|------------|---------------------|---------------------|
| File Name:   | v120611sim | Date of Collection: | 11/30/12 3:15:00 PM |
| Dil. Factor: | 1.60       | Date of Analysis:   | 12/6/12 02:25 PM    |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride       | 0.016                | Not Detected     | 0.041                 | Not Detected      |
| Carbon Tetrachloride | 0.032                | 0.11             | 0.20                  | 0.69              |
| Trichloroethene      | 0.032                | 2.2              | 0.17                  | 12                |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 108       | 70-130           |
| Toluene-d8            | 107       | 70-130           |
| 4-Bromofluorobenzene  | 117       | 70-130           |





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1212054-07A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v120606 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 12/6/12 10:55 AM |

| Compound               | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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      |
| Trichloroethene        | 0.10                 | Not Detected     | 0.54                  | 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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 99        | 70-130           |
| Toluene-d8            | 107       | 70-130           |
| 4-Bromofluorobenzene  | 113       | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1212054-07B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | v120606sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 12/6/12 10:55 AM |

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(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<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 106       | 70-130           |
| Toluene-d8            | 107       | 70-130           |
| 4-Bromofluorobenzene  | 114       | 70-130           |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1212054-08A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v120602 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 12/6/12 07:18 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 100       |
| Freon 11               | 103       |
| Freon 113              | 95        |
| 1,1-Dichloroethene     | 92        |
| Acetone                | 87        |
| Methylene Chloride     | 86        |
| cis-1,2-Dichloroethene | 91        |
| 1,1,1-Trichloroethane  | 100       |
| Benzene                | 87        |
| Trichloroethene        | 90        |
| Toluene                | 94        |
| Tetrachloroethene      | 95        |
| Chlorobenzene          | 90        |
| Ethyl Benzene          | 94        |
| m,p-Xylene             | 94        |
| o-Xylene               | 94        |
| 1,3-Dichlorobenzene    | 95        |
| 1,4-Dichlorobenzene    | 87        |
| 1,2-Dichlorobenzene    | 89        |
| 1,2,4-Trichlorobenzene | 105       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 118       | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1212054-08B

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

|              |            |                                    |
|--------------|------------|------------------------------------|
| File Name:   | v120602sim | Date of Collection: NA             |
| Dil. Factor: | 1.00       | Date of Analysis: 12/6/12 07:18 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 77        |
| Carbon Tetrachloride | 89        |
| Trichloroethene      | 78        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 107       | 70-130        |
| Toluene-d8            | 104       | 70-130        |
| 4-Bromofluorobenzene  | 120       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1212054-09A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v120603 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 12/6/12 08:06 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 98        |
| Freon 11               | 98        |
| Freon 113              | 93        |
| 1,1-Dichloroethene     | 96        |
| Acetone                | 85        |
| Methylene Chloride     | 85        |
| cis-1,2-Dichloroethene | 91        |
| 1,1,1-Trichloroethane  | 97        |
| Benzene                | 87        |
| Trichloroethene        | 90        |
| Toluene                | 93        |
| Tetrachloroethene      | 88        |
| Chlorobenzene          | 88        |
| Ethyl Benzene          | 92        |
| m,p-Xylene             | 91        |
| o-Xylene               | 91        |
| 1,3-Dichlorobenzene    | 87        |
| 1,4-Dichlorobenzene    | 80        |
| 1,2-Dichlorobenzene    | 82        |
| 1,2,4-Trichlorobenzene | 85        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| Toluene-d8            | 104       | 70-130        |
| 4-Bromofluorobenzene  | 117       | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1212054-09AA

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v120604 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 12/6/12 08:52 AM |

| Compound               | %Recovery |
|------------------------|-----------|
| Freon 12               | 93        |
| Freon 11               | 94        |
| Freon 113              | 89        |
| 1,1-Dichloroethene     | 94        |
| Acetone                | 81        |
| Methylene Chloride     | 81        |
| cis-1,2-Dichloroethene | 86        |
| 1,1,1-Trichloroethane  | 93        |
| Benzene                | 80        |
| Trichloroethene        | 83        |
| Toluene                | 86        |
| Tetrachloroethene      | 85        |
| Chlorobenzene          | 83        |
| Ethyl Benzene          | 86        |
| m,p-Xylene             | 84        |
| o-Xylene               | 82        |
| 1,3-Dichlorobenzene    | 79        |
| 1,4-Dichlorobenzene    | 72        |
| 1,2-Dichlorobenzene    | 76        |
| 1,2,4-Trichlorobenzene | 79        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| Toluene-d8            | 103       | 70-130        |
| 4-Bromofluorobenzene  | 112       | 70-130        |

**Client Sample ID: LCS**

**Lab ID#: 1212054-09B**

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

|                     |                   |                                           |
|---------------------|-------------------|-------------------------------------------|
| <b>File Name:</b>   | <b>v120603sim</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>       | <b>Date of Analysis: 12/6/12 08:06 AM</b> |

| <b>Compound</b>      | <b>%Recovery</b> |
|----------------------|------------------|
| Vinyl Chloride       | 78               |
| Carbon Tetrachloride | 117              |
| Trichloroethene      | 77               |

**Container Type: NA - Not Applicable**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 105              | 70-130               |
| Toluene-d8            | 105              | 70-130               |
| 4-Bromofluorobenzene  | 121              | 70-130               |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1212054-09BB

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

|                     |                   |                                           |
|---------------------|-------------------|-------------------------------------------|
| <b>File Name:</b>   | <b>v120604sim</b> | <b>Date of Collection:</b> NA             |
| <b>Dil. Factor:</b> | <b>1.00</b>       | <b>Date of Analysis:</b> 12/6/12 08:52 AM |

| Compound             | %Recovery |
|----------------------|-----------|
| Vinyl Chloride       | 73        |
| Carbon Tetrachloride | 109       |
| Trichloroethene      | 72        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105       | 70-130        |
| Toluene-d8            | 104       | 70-130        |
| 4-Bromofluorobenzene  | 115       | 70-130        |





**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

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

Custody Seal Intact?  
Y N None Temp N/A  
7 day

**Analysis**

1 = TO-15 Modified

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



Mr. Brad Green  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

June 03, 2013

DOH ELAP# 11626  
AIHA # 100324

Account# 19241

Login# L291980

Dear Mr. Green:

Enclosed are the analytical results for the samples received by our laboratory on May 28, 2013. 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.

Current Scopes of Accreditation can be viewed at [www.galsonlabs.com](http://www.galsonlabs.com) in the accreditations section under the "about Galson" tab.

Please contact Caroline Hudson at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary G. Unangst  
Laboratory Director

Enclosure(s)



## LABORATORY ANALYSIS REPORT

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.galsonlabs.com

Client : Sanborn, Head & Associates  
Site : IBM-E Fishkill  
Project No. : 2999.00.521  
Date Sampled : 24-MAY-13  
Date Received : 28-MAY-13  
Date Analyzed : 30-MAY-13  
Report ID : 784824

Account No.: 19241  
Login No. : L291980

**Trichloroethylene**

| <u>Sample ID</u> | <u>Lab ID</u> | <u>Time</u><br><u>minutes</u> | <u>Raw</u><br><u>ug</u> | <u>Total</u><br><u>ug</u> | <u>Conc</u><br><u>mg/m3</u> | <u>ppm</u> |
|------------------|---------------|-------------------------------|-------------------------|---------------------------|-----------------------------|------------|
| PD-037 D         | L291980-1     | 976                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-037 U         | L291980-2     | 980                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-038 D         | L291980-3     | 979                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-038 U         | L291980-4     | 981                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-039 IA        | L291980-5     | 983                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-040 IA        | L291980-6     | 977                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-041 IA        | L291980-7     | 978                           | <5                      | <5                        | <0.2                        | <0.03      |

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: ARE  
Approved by : nkp  
Date : 03-JUN-13 NYS DOH # : 11626  
QC by: Tom Burgess

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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 ANALYSIS REPORT

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.galsonlabs.com

Client : Sanborn, Head & Associates  
Site : IBM-E Fishkill  
Project No. : 2999.00.521  
Date Sampled : 24-MAY-13  
Date Received : 28-MAY-13  
Date Analyzed : 30-MAY-13  
Report ID : 784825

Account No.: 19241  
Login No. : L291980

**Tetrachloroethylene**

| <u>Sample ID</u> | <u>Lab ID</u> | <u>Time</u><br><u>minutes</u> | <u>Raw</u><br><u>ug</u> | <u>Total</u><br><u>ug</u> | <u>Conc</u><br><u>mg/m3</u> | <u>ppm</u> |
|------------------|---------------|-------------------------------|-------------------------|---------------------------|-----------------------------|------------|
| PD-037 D         | L291980-1     | 976                           | 150                     | 150                       | 5.5                         | 0.81       |
| PD-037 U         | L291980-2     | 980                           | 25                      | 25                        | 0.90                        | 0.13       |
| PD-038 D         | L291980-3     | 979                           | 43                      | 43                        | 1.6                         | 0.23       |
| PD-038 U         | L291980-4     | 981                           | 13                      | 14                        | 0.49                        | 0.072      |
| PD-039 IA        | L291980-5     | 983                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-040 IA        | L291980-6     | 977                           | <5                      | <5                        | <0.2                        | <0.03      |
| PD-041 IA        | L291980-7     | 978                           | <5                      | <5                        | <0.2                        | <0.03      |

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: ARE  
Approved by : nkp  
Date : 03-JUN-13 NYS DOH # : 11626  
QC by: Tom Burgess

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.galsonlabs.com

Client Name : Sanborn, Head & Associates  
Site : IBM-E Fishkill  
Project No. : 2999.00.521

Date Sampled : 24-MAY-13  
Date Received: 28-MAY-13  
Date Analyzed: 30-MAY-13

Account No.: 19241  
Login No. : L291980

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 preceding 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).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

## L291980 (Report ID: 784824):

Total ug corrected for a desorption efficiency of 101%.  
The TRICHLOROETHYLENE results are considered accurate to within +/-3.3% based on a 95% confidence interval (k=2). This method has an average recovery of 95.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.  
SOPs: GC-SOP-12(5), GC-SOP-16(10), GC-SOP-9(8)

## L291980 (Report ID: 784825):

Total ug corrected for a desorption efficiency of 99%.  
The TETRACHLOROETHYLENE results are considered accurate to within +/-17% based on a 95% confidence interval (k=2). This method has an average recovery of 98.9%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.  
SOPs: GC-SOP-12(5), GC-SOP-16(10), GC-SOP-9(8)

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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 |                   |





Report To\*: Sanborn, Head E, Associates, Inc. Invoice To\*: same as "Report To"  
Attn: Brad Green  
 \*: 20 Foundry St.  
Concord, NH 03301

Client Account No.\* :

Phone No.\*: 603-415-6160

Cell No. : 603-545-4810

Phone No. :

Email :

Email Results To : Brad Green

Purchase Order No.:

Email Address : bareen@sanbornhead.com

Credit Card : ☐ Credit Card on File ☐ Call for Credit Card Info

☐ Samples submitted using the FreePumpLoan™ Program.

☐ Samples submitted using the FreeSamplingBadges™ Program.

|                                                                                                                                                                                                                                                                                                                           |  |                                                 |                   |                                                                                                                                                               |                                           |                                  |                         |                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------|-------------------------|---------------------------------------------------------------------|
| Need Results By*:                                                                                                                                                                                                                                                                                                         |  | (surcharge)                                     |                   | <input type="checkbox"/> Samples submitted using the FreePumpLoan™ Program. <input type="checkbox"/> Samples submitted using the FreeSamplingBadges™ Program. |                                           |                                  |                         |                                                                     |
| <input checked="" type="checkbox"/> 15 Business Days<br><input type="checkbox"/> 14 Business Days<br><input type="checkbox"/> 13 Business Days<br><input type="checkbox"/> 12 Business Days<br><input type="checkbox"/> Next Day by 6pm<br><input type="checkbox"/> Next Day by Noon<br><input type="checkbox"/> Same Day |  | 0%<br>35%<br>50%<br>75%<br>100%<br>150%<br>200% |                   | Site Name : <u>TBM-E. Fishkill</u> Project : <u>2999.00.521</u> Sampled By : <u>D. Shea</u><br>Comments:                                                      |                                           |                                  |                         |                                                                     |
| List description of industry or process/interferences present in sampling area:                                                                                                                                                                                                                                           |  |                                                 |                   | State samples were collected in (ex. NY):<br><u>NY</u>                                                                                                        |                                           |                                  |                         |                                                                     |
| Please indicate which OEL this data will be used for:<br><input type="checkbox"/> OSHA PEL <input type="checkbox"/> ACGIH TLV <input type="checkbox"/> Cal OSHA<br><input type="checkbox"/> MSHA <input type="checkbox"/> Other (specify):                                                                                |  |                                                 |                   |                                                                                                                                                               |                                           |                                  |                         |                                                                     |
| Sample Identification*                                                                                                                                                                                                                                                                                                    |  | Date Sampled*                                   | Collection Medium | Sample Volume, Sample Time, or Sample Area*                                                                                                                   | Sample Units*: L, ml, min., in2, cm2, ft2 | Analysis Requested*              | Method Reference^       | Hexavalent Chromium Process (ex. welding, plating, painting, etc.)* |
| Maximum of 20 characters, ID's longer than 20 characters will be abbreviated.)<br><u>Example</u>                                                                                                                                                                                                                          |  | <u>01/01/11</u>                                 | <u>2pc UW PVC</u> | <u>960</u>                                                                                                                                                    | <u>L</u>                                  | <u>Hexavalent Chromium (Cr6)</u> | <u>mod. OSHA ID-215</u> | <u>Welding</u>                                                      |
| <u>PD-037(D)</u>                                                                                                                                                                                                                                                                                                          |  | <u>05/24/13</u>                                 | <u>3M 2500</u>    | <u>976</u>                                                                                                                                                    | <u>minutes</u>                            | <u>PCE, TCE</u>                  |                         |                                                                     |
| <u>PD-037(U)</u>                                                                                                                                                                                                                                                                                                          |  | ↓                                               | ↓                 | <u>980</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
| <u>PD-038(D)</u>                                                                                                                                                                                                                                                                                                          |  | ↓                                               | ↓                 | <u>979</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
| <u>PD-038(U)</u>                                                                                                                                                                                                                                                                                                          |  | ↓                                               | ↓                 | <u>981</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
| <u>PD-039(IA)</u>                                                                                                                                                                                                                                                                                                         |  | ↓                                               | ↓                 | <u>983</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
| <u>PD-040(IA)</u>                                                                                                                                                                                                                                                                                                         |  | ↓                                               | ↓                 | <u>977</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
| <u>PD-041(IA)</u>                                                                                                                                                                                                                                                                                                         |  | ↓                                               | ↓                 | <u>978</u>                                                                                                                                                    | ↓                                         | ↓                                |                         |                                                                     |
|                                                                                                                                                                                                                                                                                                                           |  |                                                 |                   |                                                                                                                                                               |                                           |                                  |                         |                                                                     |
|                                                                                                                                                                                                                                                                                                                           |  |                                                 |                   |                                                                                                                                                               |                                           |                                  |                         |                                                                     |
|                                                                                                                                                                                                                                                                                                                           |  |                                                 |                   |                                                                                                                                                               |                                           |                                  |                         |                                                                     |

☐ Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked: ☐ Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ please indicate if the lower LOQ is required (only available for certain analytes see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*:

| Chain of Custody  | Print Name | Signature         | Date/Time      |
|-------------------|------------|-------------------|----------------|
| Relinquished by : | David Shea | <i>David Shea</i> | 5-24-13 / 9:30 |
| Received by LAB : | M. Krause  | <i>M. Krause</i>  | 5/28/13 0955   |

Samples received after 3pm will be considered as next day's business.

**\*Required fields, failure to complete these fields may result in a delay in your samples being processed.**

Page 1 of 1

LAB ORIGINAL



Ms. Lea Anne Atwell  
Sanborn, Head & Associates  
20 Foundry Street  
Concord, NH 03301

July 18, 2013

DOH ELAP# 11626  
AIHA # 100324

Account# 19241

Login# L295049

Dear Ms. Anne Atwell:

Enclosed are the analytical results for the samples received by our laboratory on July 12, 2013. 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.

Current Scopes of Accreditation can be viewed at [www.galsonlabs.com](http://www.galsonlabs.com) in the accreditations section under the "about Galson" tab.

Please contact Caroline Hudson at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

Mary G. Unangst  
Laboratory Director

Enclosure(s)





## LABORATORY ANALYSIS REPORT

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.galsonlabs.com

Client : Sanborn, Head & Associates  
Site : IBM-EFK

Date Sampled : 09-JUL-13 - 10-JUL-13 Account No.: 19241  
Date Received : 12-JUL-13 Login No. : L295049  
Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-042-D  
Date Sampled : 07/10/13

Lab ID : L295049-1 Time : 480 Minutes  
Date Analyzed : 07/16/13

| Parameter              | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm   |
|------------------------|-----------|-----------|-------------|---------------|-------|
| Methyl Chloroform      | 5         | <5        | <5          | <0.3          | <0.06 |
| 1,1,2-Trichloroethane  | 5         | <5        | <5          | <0.3          | <0.06 |
| 1,1-Dichloroethane     | 5         | <5        | <5          | <0.3          | <0.08 |
| 1,2-Dichloroethane     | 5         | <5        | <5          | <0.3          | <0.07 |
| Acetone                | 10.       | <10       | <10         | <0.52         | <0.22 |
| Benzene                | 2         | <2        | <2          | <0.1          | <0.04 |
| Chlorobenzene          | 5         | <5        | <5          | <0.4          | <0.08 |
| Chloroform             | 5         | <5        | <5          | <0.3          | <0.07 |
| Cumene                 | 5         | <5        | <5          | <0.4          | <0.09 |
| Cyclohexane            | 5         | <5        | <5          | <0.3          | <0.09 |
| Cyclohexanone          | 5         | <5        | <5          | <0.4          | <0.09 |
| Cyclohexene            | 5         | <5        | <5          | <0.3          | <0.1  |
| Ethyl Alcohol          | 5         | <5        | <5          | <0.3          | <0.1  |
| Ethylbenzene           | 5         | <5        | <5          | <0.4          | <0.09 |
| Isopropyl Alcohol      | 5         | <5        | <5          | <0.3          | <0.1  |
| m-Dichlorobenzene      | 5         | <5        | <5          | <0.4          | <0.06 |
| Methyl Ethyl Ketone    | 5         | <5        | <5          | <0.3          | <0.1  |
| Methyl Isobutyl Ketone | 5         | <5        | <5          | <0.3          | <0.08 |
| Methyl n-Propyl Ketone | 5         | <5        | <5          | <0.3          | <0.09 |
| Methylene Chloride     | 5         | <5        | <5          | <0.3          | <0.08 |
| n-Butyl Acetate        | 5         | <5        | <5          | <0.3          | <0.07 |
| n-Hexane               | 5         | <5        | <5          | <0.3          | <0.09 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -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 LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.



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Report ID : 790351

Client ID : PD-042-D  
Date Sampled : 07/10/13

Lab ID : L295049-1 Time : 480 Minutes  
Date Analyzed : 07/16/13

| Parameter           | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm   |
|---------------------|-----------|-----------|-------------|---------------|-------|
| n-Propyl Acetate    | 5         | <5        | <5          | <0.3          | <0.08 |
| o-Dichlorobenzene   | 5         | <5        | <6          | <0.4          | <0.07 |
| p-Dichlorobenzene   | 5         | <5        | <5          | <0.4          | <0.07 |
| Pentane             | 5         | <5        | <5          | <0.3          | <0.1  |
| Tetrachloroethylene | 5         | 52        | 53          | 3.9           | 0.57  |
| Tetrahydrofuran     | 5         | <5        | <5          | <0.3          | <0.09 |
| Toluene             | 5         | <5        | <5          | <0.3          | <0.09 |
| Trichloroethylene   | 5         | <5        | <5          | <0.3          | <0.06 |
| Xylene              | 15        | <15       | <15         | <1.2          | <0.27 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

|                    |                  |                        |                           |
|--------------------|------------------|------------------------|---------------------------|
| < -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 | LOQ-Limit of Quantitation |

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Date Received : 12-JUL-13 Login No. : L295049  
Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-043-IA  
Date Sampled : 07/09/13

Lab ID : L295049-2  
Date Analyzed : 07/16/13

Time : 1365 Minutes

| Parameter              | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|------------------------|-----------|-----------|-------------|---------------|--------|
| Methyl Chloroform      | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1,2-Trichloroethane  | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| 1,2-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| Acetone                | 10.       | <10       | <10         | <0.18         | <0.078 |
| Benzene                | 2         | <2        | <2          | <0.04         | <0.01  |
| Chlorobenzene          | 5         | <5        | <5          | <0.1          | <0.03  |
| Chloroform             | 5         | <5        | <5          | <0.1          | <0.02  |
| Cumene                 | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexane            | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexanone          | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexene            | 5         | <5        | <5          | <0.1          | <0.04  |
| Ethyl Alcohol          | 5         | <5        | <5          | <0.09         | <0.05  |
| Ethylbenzene           | 5         | <5        | <5          | <0.1          | <0.03  |
| Isopropyl Alcohol      | 5         | <5        | <5          | <0.09         | <0.04  |
| m-Dichlorobenzene      | 5         | <5        | <5          | <0.1          | <0.02  |
| Methyl Ethyl Ketone    | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl Isobutyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl n-Propyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methylene Chloride     | 5         | <5        | <5          | <0.1          | <0.03  |
| n-Butyl Acetate        | 5         | <5        | <5          | <0.1          | <0.02  |
| n-Hexane               | 5         | <5        | <5          | <0.1          | <0.03  |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA

Approved by : tlh

Date : 18-JUL-13 NYS DOH # : 11626

QC by: Tom Burgess

< -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      LOQ-Limit of Quantitation

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Report ID : 790351

Client ID : PD-043-IA  
Date Sampled : 07/09/13

Lab ID : L295049-2 Time : 1365 Minutes  
Date Analyzed : 07/16/13

| Parameter           | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|---------------------|-----------|-----------|-------------|---------------|--------|
| n-Propyl Acetate    | 5         | <5        | <5          | <0.1          | <0.03  |
| o-Dichlorobenzene   | 5         | <5        | <6          | <0.1          | <0.02  |
| p-Dichlorobenzene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Pentane             | 5         | <5        | <5          | <0.1          | <0.03  |
| Tetrachloroethylene | 5         | <5        | <5          | <0.1          | <0.02  |
| Tetrahydrofuran     | 5         | <5        | <5          | <0.1          | <0.03  |
| Toluene             | 5         | <5        | <5          | <0.1          | <0.03  |
| Trichloroethylene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Xylene              | 15        | <15       | <15         | <0.41         | <0.096 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -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 LOQ-Limit of Quantitation

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Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-044-D  
Date Sampled : 07/09/13

Lab ID : L295049-3  
Date Analyzed : 07/16/13

Time : 1363 Minutes

| Parameter              | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|------------------------|-----------|-----------|-------------|---------------|--------|
| Methyl Chloroform      | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1,2-Trichloroethane  | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| 1,2-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| Acetone                | 10.       | <10       | <10         | <0.18         | <0.078 |
| Benzene                | 2         | <2        | <2          | <0.04         | <0.01  |
| Chlorobenzene          | 5         | <5        | <5          | <0.1          | <0.03  |
| Chloroform             | 5         | <5        | <5          | <0.1          | <0.02  |
| Cumene                 | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexane            | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexanone          | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexene            | 5         | <5        | <5          | <0.1          | <0.04  |
| Ethyl Alcohol          | 5         | <5        | <5          | <0.09         | <0.05  |
| Ethylbenzene           | 5         | <5        | <5          | <0.1          | <0.03  |
| Isopropyl Alcohol      | 5         | <5        | <5          | <0.1          | <0.04  |
| m-Dichlorobenzene      | 5         | <5        | <5          | <0.1          | <0.02  |
| Methyl Ethyl Ketone    | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl Isobutyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl n-Propyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methylene Chloride     | 5         | <5        | <5          | <0.1          | <0.03  |
| n-Butyl Acetate        | 5         | <5        | <5          | <0.1          | <0.02  |
| n-Hexane               | 5         | <5        | <5          | <0.1          | <0.03  |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -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 LOQ-Limit of Quantitation

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Client ID : PD-044-D  
Date Sampled : 07/09/13

Lab ID : L295049-3 Time : 1363 Minutes  
Date Analyzed : 07/16/13

| Parameter           | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|---------------------|-----------|-----------|-------------|---------------|--------|
| n-Propyl Acetate    | 5         | <5        | <5          | <0.1          | <0.03  |
| o-Dichlorobenzene   | 5         | <5        | <6          | <0.1          | <0.02  |
| p-Dichlorobenzene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Pentane             | 5         | <5        | <5          | <0.1          | <0.03  |
| Tetrachloroethylene | 5         | <5        | <5          | <0.1          | <0.02  |
| Tetrahydrofuran     | 5         | <5        | <5          | <0.1          | <0.03  |
| Toluene             | 5         | <5        | <5          | <0.1          | <0.03  |
| Trichloroethylene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Xylene              | 15        | <15       | <15         | <0.42         | <0.096 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -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 LOQ-Limit of Quantitation

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Date Received : 12-JUL-13 Login No. : L295049  
Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-045-IA  
Date Sampled : 07/09/13

Lab ID : L295049-4  
Date Analyzed : 07/16/13

Time : 1352 Minutes

| Parameter              | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|------------------------|-----------|-----------|-------------|---------------|--------|
| Methyl Chloroform      | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1,2-Trichloroethane  | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| 1,2-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| Acetone                | 10.       | <10       | <10         | <0.19         | <0.078 |
| Benzene                | 2         | <2        | <2          | <0.04         | <0.01  |
| Chlorobenzene          | 5         | <5        | <5          | <0.1          | <0.03  |
| Chloroform             | 5         | <5        | <5          | <0.1          | <0.02  |
| Cumene                 | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexane            | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexanone          | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexene            | 5         | <5        | <5          | <0.1          | <0.04  |
| Ethyl Alcohol          | 5         | <5        | <5          | <0.09         | <0.05  |
| Ethylbenzene           | 5         | <5        | <5          | <0.1          | <0.03  |
| Isopropyl Alcohol      | 5         | <5        | <5          | <0.1          | <0.04  |
| m-Dichlorobenzene      | 5         | <5        | <5          | <0.1          | <0.02  |
| Methyl Ethyl Ketone    | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl Isobutyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl n-Propyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methylene Chloride     | 5         | <5        | <5          | <0.1          | <0.03  |
| n-Butyl Acetate        | 5         | <5        | <5          | <0.1          | <0.02  |
| n-Hexane               | 5         | <5        | <5          | <0.1          | <0.03  |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms  
> -Greater Than ug -Micrograms l -Liters NS -Not Specified  
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Client ID : PD-045-IA  
Date Sampled : 07/09/13

Lab ID : L295049-4 Time : 1352 Minutes  
Date Analyzed : 07/16/13

| Parameter           | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|---------------------|-----------|-----------|-------------|---------------|--------|
| n-Propyl Acetate    | 5         | <5        | <5          | <0.1          | <0.03  |
| o-Dichlorobenzene   | 5         | <5        | <6          | <0.1          | <0.02  |
| p-Dichlorobenzene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Pentane             | 5         | <5        | <5          | <0.1          | <0.03  |
| Tetrachloroethylene | 5         | <5        | <5          | <0.1          | <0.02  |
| Tetrahydrofuran     | 5         | <5        | <5          | <0.1          | <0.03  |
| Toluene             | 5         | <5        | <5          | <0.1          | <0.03  |
| Trichloroethylene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Xylene              | 15        | <15       | <15         | <0.42         | <0.097 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
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> -Greater Than ug -Micrograms l -Liters NS -Not Specified  
NA -Not Applicable ND -Not Detected ppm -Parts per Million LOQ-Limit of Quantitation

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(315) 432-5227  
FAX: (315) 437-0571  
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Client : Sanborn, Head & Associates  
Site : IBM-EFK

Date Sampled : 09-JUL-13 - 10-JUL-13 Account No.: 19241  
Date Received : 12-JUL-13 Login No. : L295049  
Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-046-D  
Date Sampled : 07/09/13

Lab ID : L295049-5  
Date Analyzed : 07/16/13

Time : 1351 Minutes

| Parameter              | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|------------------------|-----------|-----------|-------------|---------------|--------|
| Methyl Chloroform      | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1,2-Trichloroethane  | 5         | <5        | <5          | <0.1          | <0.02  |
| 1,1-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| 1,2-Dichloroethane     | 5         | <5        | <5          | <0.1          | <0.03  |
| Acetone                | 10.       | <10       | <10         | <0.19         | <0.078 |
| Benzene                | 2         | <2        | <2          | <0.04         | <0.01  |
| Chlorobenzene          | 5         | <5        | <5          | <0.1          | <0.03  |
| Chloroform             | 5         | <5        | <5          | <0.1          | <0.02  |
| Cumene                 | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexane            | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexanone          | 5         | <5        | <5          | <0.1          | <0.03  |
| Cyclohexene            | 5         | <5        | <5          | <0.1          | <0.04  |
| Ethyl Alcohol          | 5         | <5        | <5          | <0.09         | <0.05  |
| Ethylbenzene           | 5         | <5        | <5          | <0.1          | <0.03  |
| Isopropyl Alcohol      | 5         | <5        | <5          | <0.1          | <0.04  |
| m-Dichlorobenzene      | 5         | <5        | <5          | <0.1          | <0.02  |
| Methyl Ethyl Ketone    | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl Isobutyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methyl n-Propyl Ketone | 5         | <5        | <5          | <0.1          | <0.03  |
| Methylene Chloride     | 5         | <5        | <5          | <0.1          | <0.03  |
| n-Butyl Acetate        | 5         | <5        | <5          | <0.1          | <0.02  |
| n-Hexane               | 5         | <5        | <5          | <0.1          | <0.03  |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA

Approved by : tlh

Date : 18-JUL-13 NYS DOH # : 11626

QC by: Tom Burgess

< -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      LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.



## LABORATORY ANALYSIS REPORT

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Client : Sanborn, Head & Associates  
Site : IBM-EFK

Date Sampled : 09-JUL-13 - 10-JUL-13 Account No.: 19241  
Date Received : 12-JUL-13 Login No. : L295049  
Date Analyzed : 16-JUL-13  
Report ID : 790351

Client ID : PD-046-D  
Date Sampled : 07/09/13

Lab ID : L295049-5 Time : 1351 Minutes  
Date Analyzed : 07/16/13

| Parameter           | LOQ<br>ug | Raw<br>ug | Total<br>ug | Conc<br>mg/m3 | ppm    |
|---------------------|-----------|-----------|-------------|---------------|--------|
| n-Propyl Acetate    | 5         | <5        | <5          | <0.1          | <0.03  |
| o-Dichlorobenzene   | 5         | <5        | <6          | <0.1          | <0.02  |
| p-Dichlorobenzene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Pentane             | 5         | <5        | <5          | <0.1          | <0.03  |
| Tetrachloroethylene | 5         | <5        | <5          | <0.1          | <0.02  |
| Tetrahydrofuran     | 5         | <5        | <5          | <0.1          | <0.03  |
| Toluene             | 5         | <5        | <5          | <0.1          | <0.03  |
| Trichloroethylene   | 5         | <5        | <5          | <0.1          | <0.02  |
| Xylene              | 15        | <15       | <15         | <0.42         | <0.097 |

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Collection Media : M3M-3500

Submitted by: JFA  
Approved by : tlh  
Date : 18-JUL-13 NYS DOH # : 11626  
QC by: Tom Burgess

< -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 LOQ-Limit of Quantitation

Field sampling was not performed by Galson. Galson presents results based on sampling data provided by clients.



## LABORATORY FOOTNOTE REPORT

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Site : IBM-EFK

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Date Analyzed: 16-JUL-13

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 preceding 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).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L295049 (Report ID: 790351):

1,1,2-Trichloroethane - Total ug corrected for a desorption efficiency of 101%.  
1,1-Dichloroethane - Total ug corrected for a desorption efficiency of 100%.  
1,2-Dichloroethane - Total ug corrected for a desorption efficiency of 104%.  
Acetone - Total ug corrected for a desorption efficiency of 99%.  
Benzene - Total ug corrected for a desorption efficiency of 100%.  
Chlorobenzene - Total ug corrected for a desorption efficiency of 99%.  
Chloroform - Total ug corrected for a desorption efficiency of 97%.  
Cumene - Total ug corrected for a desorption efficiency of 101%.  
Cyclohexane - Total ug corrected for a desorption efficiency of 104%.  
Cyclohexanone - Total ug corrected for a desorption efficiency of 99%.  
Cyclohexene - Total ug corrected for a desorption efficiency of 96%.  
Ethyl Alcohol - Total ug corrected for a desorption efficiency of 93%.  
Ethylbenzene - Total ug corrected for a desorption efficiency of 103%.  
Isopropyl Alcohol - Total ug corrected for a desorption efficiency of 98%.  
Methyl Chloroform - Total ug corrected for a desorption efficiency of 102%.  
Methyl Ethyl Ketone - Total ug corrected for a desorption efficiency of 100%.  
Methyl Isobutyl Ketone - Total ug corrected for a desorption efficiency of 102%.  
Methyl n-Propyl Ketone - Total ug corrected for a desorption efficiency of 99%.  
Methylene Chloride - Total ug corrected for a desorption efficiency of 99%.  
Pentane - Total ug corrected for a desorption efficiency of 103%.  
Tetrachloroethylene - Total ug corrected for a desorption efficiency of 99%.  
Tetrahydrofuran - Total ug corrected for a desorption efficiency of 100%.  
Toluene - Total ug corrected for a desorption efficiency of 102%.  
Trichloroethylene - Total ug corrected for a desorption efficiency of 101%.  
Xylene - Total ug corrected for a desorption efficiency of 97%.  
m-Dichlorobenzene - Total ug corrected for a desorption efficiency of 96%.  
n-Butyl Acetate - Total ug corrected for a desorption efficiency of 103%.  
n-Hexane - Total ug corrected for a desorption efficiency of 103%.  
n-Propyl Acetate - Total ug corrected for a desorption efficiency of 101%.  
o-Dichlorobenzene - Total ug corrected for a desorption efficiency of 89%.  
p-Dichlorobenzene - Total ug corrected for a desorption efficiency of 92%.  
The 1,1,2-TRICHLOROETHANE results are considered accurate to within +/-5.5% based on a 95% confidence interval (k=2). This method has an average recovery of 97.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.  
The 1,1-DICHLOROETHANE results are considered accurate to within +/-5.9% based on a 95% confidence interval (k=2). This method has an average recovery of 98%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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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Date Analyzed: 16-JUL-13

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The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

## L295049 (Report ID: 790351):

The 1,2-DICHLOROETHANE results are considered accurate to within +/-6.6% based on a 95% confidence interval (k=2). This method has an average recovery of 93.3%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The ACETONE results are considered accurate to within +/-8.9% based on a 95% confidence interval (k=2). This method has an average recovery of 93.4%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The BENZENE results are considered accurate to within +/-6.9% based on a 95% confidence interval (k=2). This method has an average recovery of 93.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CHLOROBENZENE results are considered accurate to within +/-7.4% based on a 95% confidence interval (k=2). This method has an average recovery of 97.1%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CHLOROFORM results are considered accurate to within +/-6.8% based on a 95% confidence interval (k=2). This method has an average recovery of 99.1%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CUMENE results are considered accurate to within +/-8.5% based on a 95% confidence interval (k=2). This method has an average recovery of 96.9%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CYCLOHEXANE results are considered accurate to within +/-4.9% based on a 95% confidence interval (k=2). This method has an average recovery of 93%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CYCLOHEXENE results are considered accurate to within +/-7.6% based on a 95% confidence interval (k=2). This method has an average recovery of 102%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The CYCLOHEXANONE results are considered accurate to within +/-9.4% based on a 95% confidence interval (k=2). This method has an average recovery of 92.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The ETHYL BENZENE results are considered accurate to within +/-8.1% based on a 95% confidence interval (k=2). This method has an average recovery of 92.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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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Date Analyzed: 16-JUL-13

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The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

## L295049 (Report ID: 790351):

The ETHYL ALCOHOL results are considered accurate to within +/-12.8% based on a 95% confidence interval (k=2). This method has an average recovery of 96.1%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The ISOPROPYL ALCOHOL results are considered accurate to within +/-9.8% based on a 95% confidence interval (k=2). This method has an average recovery of 92.5%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The 1,1,1-TRICHLOROETHANE results are considered accurate to within +/-4.7% based on a 95% confidence interval (k=2). This method has an average recovery of 94.9%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The M-DICHLOROBENZENE results are considered accurate to within +/-4.9% based on a 95% confidence interval (k=2). This method has an average recovery of 95.4%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The METHYLENE CHLORIDE results are considered accurate to within +/-9.3% based on a 95% confidence interval (k=2). This method has an average recovery of 96.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The METHYL ETHYL KETONE results are considered accurate to within +/-5.9% based on a 95% confidence interval (k=2). This method has an average recovery of 94%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The METHYL ISOBUTYL KETONE results are considered accurate to within +/-7.1% based on a 95% confidence interval (k=2). This method has an average recovery of 93%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The METHYL N-PROPYL KETONE results are considered accurate to within +/-8.8% based on a 95% confidence interval (k=2). This method has an average recovery of 98.5%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The N-BUTYL ACETATE results are considered accurate to within +/-6.3% based on a 95% confidence interval (k=2). This method has an average recovery of 94.8%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The N-HEXANE results are considered accurate to within +/-7.6% based on a 95% confidence interval (k=2). This method has an average recovery of 94.8%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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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The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

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## L295049 (Report ID: 790351):

The N-PROPYL ACETATE results are considered accurate to within +/-8.9% based on a 95% confidence interval (k=2). This method has an average recovery of 97.7%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The O-DICHLOROBENZENE results are considered accurate to within +/-8.7% based on a 95% confidence interval (k=2). This method has an average recovery of 97.5%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The P-DICHLOROBENZENE results are considered accurate to within +/-7.4% based on a 95% confidence interval (k=2). This method has an average recovery of 97%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The PENTANE results are considered accurate to within +/-4.6% based on a 95% confidence interval (k=2). This method has an average recovery of 97.3%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The TRICHLOROETHYLENE results are considered accurate to within +/-3.3% based on a 95% confidence interval (k=2). This method has an average recovery of 95.6%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The TETRACHLOROETHYLENE results are considered accurate to within +/-17% based on a 95% confidence interval (k=2). This method has an average recovery of 98.9%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The TETRAHYDROFURAN results are considered accurate to within +/-6% based on a 95% confidence interval (k=2). This method has an average recovery of 98.1%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The TOLUENE results are considered accurate to within +/-7.2% based on a 95% confidence interval (k=2). This method has an average recovery of 91.2%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

The XYLENE results are considered accurate to within +/-7.7% based on a 95% confidence interval (k=2). This method has an average recovery of 96.3%. The estimated uncertainty applies to the media, technology, and SOP(s) referenced in this report and does not account for any uncertainty associated with the sampling process.

SOPs: GC-SOP-12(5), GC-SOP-16(10), GC-SOP-9(8)

| Parameter             | Method                        | PEL    |
|-----------------------|-------------------------------|--------|
| 1,1,2-Trichloroethane | mod. NIOSH 1003; GC/FID BADGE | 10 ppm |

|                    |                  |                        |                   |
|--------------------|------------------|------------------------|-------------------|
| < -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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The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L295049 (Report ID: 790351):

| Parameter              | Method                                 | PEL         |
|------------------------|----------------------------------------|-------------|
| 1,1-Dichloroethane     | mod. NIOSH 1003; GC/FID BADGE          | 100 ppm     |
| 1,2-Dichloroethane     | mod. NIOSH 1003; GC/FID BADGE          | 50 ppm      |
| Acetone                | mod. NIOSH 1300; GC/FID BADGE          | 1000 ppm    |
| Benzene                | mod. NIOSH 1501; GC/FID BADGE          | 1 ppm       |
| Chlorobenzene          | mod. NIOSH 1003; GC/FID BADGE          | 75 ppm      |
| Chloroform             | mod. NIOSH 1003; GC/FID BADGE          | 50 ppm CELL |
| Cumene                 | mod. NIOSH 1501; GC/FID BADGE          | 50 ppm      |
| Cyclohexane            | mod. NIOSH 1500; GC/FID BADGE          | 300 ppm     |
| Cyclohexanone          | mod. NIOSH 1300; GC/FID BADGE          | 50 ppm      |
| Cyclohexene            | mod. NIOSH 1500; GC/FID BADGE          | 300 ppm     |
| Ethyl Alcohol          | mod. NIOSH 1400; GC/FID BADGE          | 1000 ppm    |
| Ethylbenzene           | mod. NIOSH 1501; GC/FID BADGE          | 100 ppm     |
| Isopropyl Alcohol      | mod. NIOSH 1400; GC/FID BADGE          | 400 ppm     |
| Methyl Chloroform      | mod. NIOSH 1003; GC/FID BADGE          | 350 ppm     |
| Methyl Ethyl Ketone    | mod. NIOSH 1300; GC/FID BADGE          | 200 ppm     |
| Methyl Isobutyl Ketone | mod. NIOSH 1300; GC/FID BADGE          | 100 ppm     |
| Methyl n-Propyl Ketone | mod. NIOSH 1300; GC/FID BADGE          | 200 ppm     |
| Methylene Chloride     | mod. NIOSH 1005; GC/FID BADGE          | 25 ppm      |
| Pentane                | mod. NIOSH 1500; GC/FID BADGE          | 1000 ppm    |
| Tetrachloroethylene    | mod. NIOSH 1003; GC/FID BADGE          | 100 ppm     |
| Tetrahydrofuran        | mod. NIOSH 1609; GC/FID BADGE          | 200 ppm     |
| Toluene                | mod. NIOSH 1501/OSHA 111; GC/FID BADGE | 200 ppm     |
| Trichloroethylene      | mod. NIOSH 1022; GC/FID BADGE          | 100 ppm     |
| Xylene                 | mod. NIOSH 1501; GC/FID BADGE          | 100 ppm     |
| m-Dichlorobenzene      | mod. NIOSH 1003; GC/FID BADGE          | NA          |
| n-Butyl Acetate        | mod. NIOSH 1450; GC/FID BADGE          | 150 ppm     |
| n-Hexane               | mod. NIOSH 1500; GC/FID BADGE          | 500 ppm     |
| n-Propyl Acetate       | mod. NIOSH 1450; GC/FID BADGE          | 200 ppm     |
| o-Dichlorobenzene      | mod. NIOSH 1003; GC/FID BADGE          | 50 ppm CELL |
| p-Dichlorobenzene      | mod. NIOSH 1003; GC/FID BADGE          | 75 ppm      |

< -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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☐ New Client?

Report To\*: Sanborn Head & Assoc.

Invoice To\*: Lea Anne Atwell

Client Account No.\*:

19241

Lea Anne Atwell

same

20 Foundry St

Concord, NH 03301

Phone No.\*: 603-229-1900

Phone No.:

Cell No.:

Email: latwell@sanbornhead.com

Email Results To: latwell@sanbornhead.com

Purchase Order No.: 2999,00

Email Address: Lea Anne Atwell

Credit Card: ☐ Credit Card on File ☐ Call for Credit Card Info

☐ Samples submitted using the FreePumpLoan™ Program.

☐ Samples submitted using the FreeSamplingBadges™ Program.

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%

Site Name: IBM-EFK

Project:

Sampled By: REW

Comments:

Please call Lea Anne Atwell with questions

List description of industry or process/interferences  
present in sampling area:

State samples were  
collected in (ex. NY):

NY

Please indicate which OEL this data will be used for:

☐ OSHA PEL

☐ ACGIH TLV

☐ Cal OSHA

☐ MSHA

☐ Other (specify):

Sample Identification\*

(Maximum of 20 characters. ID's longer than 20  
characters will be abbreviated.)

Date Sampled\*  
(mm/dd/yy)

Collection  
Medium

Sample Volume,  
Sample Time,  
or Sample Area\*

Sample Units\*:  
L, ml, min.,  
in2, cm2, ft2

Analysis Requested\*

Method Reference\*

Hexavalent Chromium  
Process (ex. welding,  
plating, painting, etc.)\*

Example

01/01/11

2pc UW PVC

960

L

Hexavalent Chromium (Cr6)

mod. OSHA ID:215

Welding

PD-042-D

07-10-13

1pc 3M 3500

480

min

NIOSH methods, 31 VOCs

PD-043-IA

07-09-13

1pc 3M 3500

1365

min

PD-044-D

07-09-13

↓

1363

min

PD-045-IA

07-09-13

↓

1352

min

PD-046-D

07-09-13

↓

1351

min

\*Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked: ☐ Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ please indicate if the lower LOQ is required (only available for certain analytes see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*:

| Chain of Custody | Print Name  | Signature | Date/Time     |
|------------------|-------------|-----------|---------------|
| Relinquished by: | Regan Welch | Regan     | 07-11-13 0945 |
| Received by LAB: |             |           |               |

Samples received after 3pm will be considered as next day's business.

\*Required fields, failure to complete these fields may result in a delay in your samples being processed.

Page 1 of 1

CUSTOMER COPY





## ANALYTICAL REPORT

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Lab Number:     | L1313056                                                                   |
| Client:         | Sanborn, Head & Associates, Inc.<br>20 Foundry Street<br>Concord, NH 03301 |
| ATTN:           | LeaAnne Atwell                                                             |
| Phone:          | (603) 229-1900                                                             |
| Project Name:   | IBM-EFK                                                                    |
| Project Number: | 2999.00                                                                    |
| Report Date:    | 07/23/13                                                                   |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> |
|----------------------------|------------------|----------------------------|---------------------------------|
| L1313056-01                | BM-4000          | NY                         | 07/10/13 16:30                  |

**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

### Case Narrative (continued)

#### Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

#### Volatile Organics

A copy of the sample chromatograms are included as an addendum to this report.

The surrogate recovery for L1313056-01 is below the acceptance criteria for Dibromofluoromethane (31%), due to a known matrix effect caused by the high pH of the sample (>10).

#### Semivolatile Organics

A copy of the sample chromatograms are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Cynthia McQueen

Title: Technical Director/Representative

Date: 07/23/13

# ORGANICS

# VOLATILES

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

**Lab ID:** L1313056-01  
**Client ID:** BM-4000  
**Sample Location:** NY  
**Matrix:** Concrete  
**Analytical Method:** 1,8260C  
**Analytical Date:** 07/13/13 16:46  
**Analyst:** BN  
**Percent Solids:** 86%

**Date Collected:** 07/10/13 16:30  
**Date Received:** 07/12/13  
**Field Prep:** Not Specified

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Methylene chloride                           | ND     |           | ug/kg | 12  | 2.3  | 1               |
| 1,1-Dichloroethane                           | ND     |           | ug/kg | 1.7 | 0.20 | 1               |
| Chloroform                                   | ND     |           | ug/kg | 1.7 | 0.43 | 1               |
| Carbon tetrachloride                         | ND     |           | ug/kg | 1.2 | 0.24 | 1               |
| 1,2-Dichloropropane                          | ND     |           | ug/kg | 4.0 | 0.26 | 1               |
| Dibromochloromethane                         | ND     |           | ug/kg | 1.2 | 0.36 | 1               |
| 1,1,2-Trichloroethane                        | ND     |           | ug/kg | 1.7 | 0.35 | 1               |
| Tetrachloroethene                            | 360    | E         | ug/kg | 1.2 | 0.16 | 1               |
| Chlorobenzene                                | ND     |           | ug/kg | 1.2 | 0.40 | 1               |
| Trichlorofluoromethane                       | ND     |           | ug/kg | 5.8 | 0.14 | 1               |
| 1,2-Dichloroethane                           | ND     |           | ug/kg | 1.2 | 0.17 | 1               |
| 1,1,1-Trichloroethane                        | ND     |           | ug/kg | 1.2 | 0.13 | 1               |
| Bromodichloromethane                         | ND     |           | ug/kg | 1.2 | 0.26 | 1               |
| trans-1,3-Dichloropropene                    | ND     |           | ug/kg | 1.2 | 0.14 | 1               |
| cis-1,3-Dichloropropene                      | ND     |           | ug/kg | 1.2 | 0.15 | 1               |
| 1,1-Dichloropropene                          | ND     |           | ug/kg | 5.8 | 0.53 | 1               |
| Bromoform                                    | ND     |           | ug/kg | 4.6 | 0.48 | 1               |
| 1,1,1,2-Tetrachloroethane                    | ND     |           | ug/kg | 1.2 | 0.20 | 1               |
| Benzene                                      | ND     |           | ug/kg | 1.2 | 0.14 | 1               |
| Toluene                                      | 0.96   | J         | ug/kg | 1.7 | 0.13 | 1               |
| Ethylbenzene                                 | 1.2    |           | ug/kg | 1.2 | 0.17 | 1               |
| Chloromethane                                | ND     |           | ug/kg | 5.8 | 0.91 | 1               |
| Bromomethane                                 | ND     |           | ug/kg | 2.3 | 0.39 | 1               |
| Vinyl chloride                               | ND     |           | ug/kg | 2.3 | 0.16 | 1               |
| Chloroethane                                 | ND     |           | ug/kg | 2.3 | 0.36 | 1               |
| 1,1-Dichloroethene                           | ND     |           | ug/kg | 1.2 | 0.24 | 1               |
| trans-1,2-Dichloroethene                     | ND     |           | ug/kg | 1.7 | 0.24 | 1               |
| Trichloroethene                              | ND     |           | ug/kg | 1.2 | 0.18 | 1               |
| 1,2-Dichlorobenzene                          | ND     |           | ug/kg | 5.8 | 0.21 | 1               |
| 1,3-Dichlorobenzene                          | ND     |           | ug/kg | 5.8 | 0.21 | 1               |
| 1,4-Dichlorobenzene                          | ND     |           | ug/kg | 5.8 | 0.28 | 1               |

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

Lab ID: L1313056-01

Date Collected: 07/10/13 16:30

Client ID: BM-4000

Date Received: 07/12/13

Sample Location: NY

Field Prep: Not Specified

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Methyl tert butyl ether                      | ND     |           | ug/kg | 2.3 | 0.12 | 1               |
| p/m-Xylene                                   | 6.1    |           | ug/kg | 2.3 | 0.37 | 1               |
| o-Xylene                                     | 3.5    |           | ug/kg | 2.3 | 0.31 | 1               |
| cis-1,2-Dichloroethene                       | ND     |           | ug/kg | 1.2 | 0.17 | 1               |
| Dibromomethane                               | ND     |           | ug/kg | 12  | 0.19 | 1               |
| Styrene                                      | ND     |           | ug/kg | 2.3 | 0.36 | 1               |
| Dichlorodifluoromethane                      | ND     |           | ug/kg | 12  | 0.25 | 1               |
| Acetone                                      | 560    | E         | ug/kg | 12  | 3.6  | 1               |
| Carbon disulfide                             | ND     |           | ug/kg | 12  | 2.3  | 1               |
| 2-Butanone                                   | ND     |           | ug/kg | 12  | 0.41 | 1               |
| Vinyl acetate                                | ND     |           | ug/kg | 12  | 0.56 | 1               |
| 4-Methyl-2-pentanone                         | ND     |           | ug/kg | 12  | 0.28 | 1               |
| 1,2,3-Trichloropropane                       | ND     |           | ug/kg | 12  | 0.26 | 1               |
| 2-Hexanone                                   | ND     |           | ug/kg | 12  | 0.22 | 1               |
| Bromochloromethane                           | ND     |           | ug/kg | 5.8 | 0.23 | 1               |
| 2,2-Dichloropropane                          | ND     |           | ug/kg | 5.8 | 0.26 | 1               |
| 1,2-Dibromoethane                            | ND     |           | ug/kg | 4.6 | 0.20 | 1               |
| 1,3-Dichloropropane                          | ND     |           | ug/kg | 5.8 | 0.20 | 1               |
| 1,1,1,2-Tetrachloroethane                    | ND     |           | ug/kg | 1.2 | 0.37 | 1               |
| Bromobenzene                                 | ND     |           | ug/kg | 5.8 | 0.24 | 1               |
| n-Butylbenzene                               | ND     |           | ug/kg | 1.2 | 0.23 | 1               |
| sec-Butylbenzene                             | ND     |           | ug/kg | 1.2 | 0.24 | 1               |
| tert-Butylbenzene                            | ND     |           | ug/kg | 5.8 | 0.65 | 1               |
| o-Chlorotoluene                              | ND     |           | ug/kg | 5.8 | 0.18 | 1               |
| p-Chlorotoluene                              | ND     |           | ug/kg | 5.8 | 0.18 | 1               |
| 1,2-Dibromo-3-chloropropane                  | ND     |           | ug/kg | 5.8 | 0.91 | 1               |
| Hexachlorobutadiene                          | ND     |           | ug/kg | 5.8 | 0.49 | 1               |
| Isopropylbenzene                             | ND     |           | ug/kg | 1.2 | 0.19 | 1               |
| p-Isopropyltoluene                           | ND     |           | ug/kg | 1.2 | 0.22 | 1               |
| Naphthalene                                  | 2.1    | J         | ug/kg | 5.8 | 0.89 | 1               |
| Acrylonitrile                                | ND     |           | ug/kg | 12  | 0.28 | 1               |
| n-Propylbenzene                              | ND     |           | ug/kg | 1.2 | 0.14 | 1               |
| 1,2,3-Trichlorobenzene                       | ND     |           | ug/kg | 5.8 | 0.19 | 1               |
| 1,2,4-Trichlorobenzene                       | ND     |           | ug/kg | 5.8 | 0.91 | 1               |
| 1,3,5-Trimethylbenzene                       | ND     |           | ug/kg | 5.8 | 0.16 | 1               |
| 1,2,4-Trimethylbenzene                       | ND     |           | ug/kg | 5.8 | 0.66 | 1               |
| 1,4-Dioxane                                  | ND     |           | ug/kg | 120 | 20.  | 1               |
| 1,4-Diethylbenzene                           | ND     |           | ug/kg | 4.6 | 0.18 | 1               |
| 4-Ethyltoluene                               | ND     |           | ug/kg | 4.6 | 0.14 | 1               |



**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

Lab ID: L1313056-01

Date Collected: 07/10/13 16:30

Client ID: BM-4000

Date Received: 07/12/13

Sample Location: NY

Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

**Volatile Organics by GC/MS - Westborough Lab**

|                             |    |  |       |     |      |   |
|-----------------------------|----|--|-------|-----|------|---|
| 1,2,4,5-Tetramethylbenzene  | ND |  | ug/kg | 4.6 | 0.15 | 1 |
| Ethyl ether                 | ND |  | ug/kg | 5.8 | 0.31 | 1 |
| trans-1,4-Dichloro-2-butene | ND |  | ug/kg | 5.8 | 0.52 | 1 |

**Tentatively Identified Compounds**

|                |    |    |       |  |  |   |
|----------------|----|----|-------|--|--|---|
| 2-Octene, (E)- | ND | NJ | ug/kg |  |  | 1 |
|----------------|----|----|-------|--|--|---|

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 105        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 31         | Q         | 70-130              |

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

Lab ID: L1313056-01 D  
 Client ID: BM-4000  
 Sample Location: NY  
 Matrix: Concrete  
 Analytical Method: 1,8260C  
 Analytical Date: 07/15/13 17:52  
 Analyst: BN  
 Percent Solids: 86%

Date Collected: 07/10/13 16:30  
 Date Received: 07/12/13  
 Field Prep: Not Specified

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Tetrachloroethene                            | 660    |           | ug/kg | 5.8 | 0.81 | 5               |
| Acetone                                      | 720    |           | ug/kg | 58  | 18.  | 5               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 100        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 32         | Q         | 70-130              |

Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/13/13 09:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-3 |        |           |       |     |      |
| Methylene chloride                                                               | ND     |           | ug/kg | 10  | 2.0  |
| 1,1-Dichloroethane                                                               | ND     |           | ug/kg | 1.5 | 0.18 |
| Chloroform                                                                       | ND     |           | ug/kg | 1.5 | 0.37 |
| Carbon tetrachloride                                                             | ND     |           | ug/kg | 1.0 | 0.21 |
| 1,2-Dichloropropane                                                              | ND     |           | ug/kg | 3.5 | 0.23 |
| Dibromochloromethane                                                             | ND     |           | ug/kg | 1.0 | 0.31 |
| 2-Chloroethylvinyl ether                                                         | ND     |           | ug/kg | 20  | 0.62 |
| 1,1,2-Trichloroethane                                                            | ND     |           | ug/kg | 1.5 | 0.30 |
| Tetrachloroethene                                                                | ND     |           | ug/kg | 1.0 | 0.14 |
| Chlorobenzene                                                                    | ND     |           | ug/kg | 1.0 | 0.35 |
| Trichlorofluoromethane                                                           | ND     |           | ug/kg | 5.0 | 0.12 |
| 1,2-Dichloroethane                                                               | ND     |           | ug/kg | 1.0 | 0.15 |
| 1,1,1-Trichloroethane                                                            | ND     |           | ug/kg | 1.0 | 0.11 |
| Bromodichloromethane                                                             | ND     |           | ug/kg | 1.0 | 0.23 |
| trans-1,3-Dichloropropene                                                        | ND     |           | ug/kg | 1.0 | 0.12 |
| cis-1,3-Dichloropropene                                                          | ND     |           | ug/kg | 1.0 | 0.13 |
| 1,1-Dichloropropene                                                              | ND     |           | ug/kg | 5.0 | 0.46 |
| Bromoform                                                                        | ND     |           | ug/kg | 4.0 | 0.41 |
| 1,1,2,2-Tetrachloroethane                                                        | ND     |           | ug/kg | 1.0 | 0.17 |
| Benzene                                                                          | ND     |           | ug/kg | 1.0 | 0.12 |
| Toluene                                                                          | 0.22   | J         | ug/kg | 1.5 | 0.11 |
| Ethylbenzene                                                                     | ND     |           | ug/kg | 1.0 | 0.15 |
| Chloromethane                                                                    | ND     |           | ug/kg | 5.0 | 0.78 |
| Bromomethane                                                                     | ND     |           | ug/kg | 2.0 | 0.34 |
| Vinyl chloride                                                                   | ND     |           | ug/kg | 2.0 | 0.14 |
| Chloroethane                                                                     | ND     |           | ug/kg | 2.0 | 0.32 |
| 1,1-Dichloroethene                                                               | ND     |           | ug/kg | 1.0 | 0.20 |
| trans-1,2-Dichloroethene                                                         | ND     |           | ug/kg | 1.5 | 0.21 |
| Trichloroethene                                                                  | ND     |           | ug/kg | 1.0 | 0.15 |
| 1,2-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.18 |
| 1,3-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.18 |



Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/13/13 09:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-3 |        |           |       |     |      |
| 1,4-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.24 |
| Methyl tert butyl ether                                                          | ND     |           | ug/kg | 2.0 | 0.10 |
| p/m-Xylene                                                                       | ND     |           | ug/kg | 2.0 | 0.32 |
| o-Xylene                                                                         | ND     |           | ug/kg | 2.0 | 0.27 |
| cis-1,2-Dichloroethene                                                           | ND     |           | ug/kg | 1.0 | 0.15 |
| Dibromomethane                                                                   | ND     |           | ug/kg | 10  | 0.16 |
| Styrene                                                                          | ND     |           | ug/kg | 2.0 | 0.31 |
| Dichlorodifluoromethane                                                          | ND     |           | ug/kg | 10  | 0.22 |
| Acetone                                                                          | ND     |           | ug/kg | 10  | 3.1  |
| Carbon disulfide                                                                 | ND     |           | ug/kg | 10  | 2.0  |
| 2-Butanone                                                                       | ND     |           | ug/kg | 10  | 0.36 |
| Vinyl acetate                                                                    | ND     |           | ug/kg | 10  | 0.48 |
| 4-Methyl-2-pentanone                                                             | ND     |           | ug/kg | 10  | 0.24 |
| 1,2,3-Trichloropropane                                                           | ND     |           | ug/kg | 10  | 0.22 |
| 2-Hexanone                                                                       | ND     |           | ug/kg | 10  | 0.19 |
| Bromochloromethane                                                               | ND     |           | ug/kg | 5.0 | 0.20 |
| 2,2-Dichloropropane                                                              | ND     |           | ug/kg | 5.0 | 0.22 |
| 1,2-Dibromoethane                                                                | ND     |           | ug/kg | 4.0 | 0.18 |
| 1,3-Dichloropropane                                                              | ND     |           | ug/kg | 5.0 | 0.17 |
| 1,1,1,2-Tetrachloroethane                                                        | ND     |           | ug/kg | 1.0 | 0.32 |
| Bromobenzene                                                                     | ND     |           | ug/kg | 5.0 | 0.21 |
| n-Butylbenzene                                                                   | ND     |           | ug/kg | 1.0 | 0.20 |
| sec-Butylbenzene                                                                 | ND     |           | ug/kg | 1.0 | 0.20 |
| tert-Butylbenzene                                                                | ND     |           | ug/kg | 5.0 | 0.56 |
| o-Chlorotoluene                                                                  | ND     |           | ug/kg | 5.0 | 0.16 |
| p-Chlorotoluene                                                                  | ND     |           | ug/kg | 5.0 | 0.15 |
| 1,2-Dibromo-3-chloropropane                                                      | ND     |           | ug/kg | 5.0 | 0.79 |
| Hexachlorobutadiene                                                              | ND     |           | ug/kg | 5.0 | 0.42 |
| Isopropylbenzene                                                                 | ND     |           | ug/kg | 1.0 | 0.17 |
| p-Isopropyltoluene                                                               | ND     |           | ug/kg | 1.0 | 0.19 |
| Naphthalene                                                                      | ND     |           | ug/kg | 5.0 | 0.77 |



Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/13/13 09:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-3 |        |           |       |     |      |
| Acrylonitrile                                                                    | ND     |           | ug/kg | 10  | 0.24 |
| Isopropyl Ether                                                                  | ND     |           | ug/kg | 4.0 | 0.14 |
| tert-Butyl Alcohol                                                               | ND     |           | ug/kg | 60  | 0.91 |
| n-Propylbenzene                                                                  | ND     |           | ug/kg | 1.0 | 0.12 |
| 1,2,3-Trichlorobenzene                                                           | ND     |           | ug/kg | 5.0 | 0.17 |
| 1,2,4-Trichlorobenzene                                                           | ND     |           | ug/kg | 5.0 | 0.79 |
| 1,3,5-Trimethylbenzene                                                           | ND     |           | ug/kg | 5.0 | 0.14 |
| 1,2,4-Trimethylbenzene                                                           | ND     |           | ug/kg | 5.0 | 0.57 |
| Methyl Acetate                                                                   | ND     |           | ug/kg | 20  | 0.76 |
| Ethyl Acetate                                                                    | ND     |           | ug/kg | 20  | 0.82 |
| Acrolein                                                                         | ND     |           | ug/kg | 25  | 9.2  |
| Cyclohexane                                                                      | ND     |           | ug/kg | 20  | 1.1  |
| 1,4-Dioxane                                                                      | ND     |           | ug/kg | 100 | 17.  |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane                                            | ND     |           | ug/kg | 20  | 0.27 |
| 1,4-Diethylbenzene                                                               | ND     |           | ug/kg | 4.0 | 0.16 |
| 4-Ethyltoluene                                                                   | ND     |           | ug/kg | 4.0 | 0.12 |
| 1,2,4,5-Tetramethylbenzene                                                       | ND     |           | ug/kg | 4.0 | 0.13 |
| Tetrahydrofuran                                                                  | ND     |           | ug/kg | 20  | 0.38 |
| Ethyl ether                                                                      | ND     |           | ug/kg | 5.0 | 0.26 |
| trans-1,4-Dichloro-2-butene                                                      | ND     |           | ug/kg | 5.0 | 0.45 |
| Methyl cyclohexane                                                               | ND     |           | ug/kg | 4.0 | 1.3  |
| Ethyl-Tert-Butyl-Ether                                                           | ND     |           | ug/kg | 4.0 | 0.42 |
| Tertiary-Amyl Methyl Ether                                                       | ND     |           | ug/kg | 4.0 | 0.58 |

#### Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg



**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 07/13/13 09:59

Analyst: BN

| Parameter | Result | Qualifier | Units | RL | MDL |
|-----------|--------|-----------|-------|----|-----|
|-----------|--------|-----------|-------|----|-----|

|                                                                                  |  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-3 |  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|--|

| Surrogate             | %Recovery | Qualifier | Acceptance<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 106       |           | 70-130                 |
| Toluene-d8            | 101       |           | 70-130                 |
| 4-Bromofluorobenzene  | 100       |           | 70-130                 |
| Dibromofluoromethane  | 108       |           | 70-130                 |

Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/15/13 08:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-6 |        |           |       |     |      |
| Methylene chloride                                                               | ND     |           | ug/kg | 10  | 2.0  |
| 1,1-Dichloroethane                                                               | ND     |           | ug/kg | 1.5 | 0.18 |
| Chloroform                                                                       | ND     |           | ug/kg | 1.5 | 0.37 |
| Carbon tetrachloride                                                             | ND     |           | ug/kg | 1.0 | 0.21 |
| 1,2-Dichloropropane                                                              | ND     |           | ug/kg | 3.5 | 0.23 |
| Dibromochloromethane                                                             | ND     |           | ug/kg | 1.0 | 0.31 |
| 2-Chloroethylvinyl ether                                                         | ND     |           | ug/kg | 20  | 0.62 |
| 1,1,2-Trichloroethane                                                            | ND     |           | ug/kg | 1.5 | 0.30 |
| Tetrachloroethene                                                                | ND     |           | ug/kg | 1.0 | 0.14 |
| Chlorobenzene                                                                    | ND     |           | ug/kg | 1.0 | 0.35 |
| Trichlorofluoromethane                                                           | ND     |           | ug/kg | 5.0 | 0.12 |
| 1,2-Dichloroethane                                                               | ND     |           | ug/kg | 1.0 | 0.15 |
| 1,1,1-Trichloroethane                                                            | ND     |           | ug/kg | 1.0 | 0.11 |
| Bromodichloromethane                                                             | ND     |           | ug/kg | 1.0 | 0.23 |
| trans-1,3-Dichloropropene                                                        | ND     |           | ug/kg | 1.0 | 0.12 |
| cis-1,3-Dichloropropene                                                          | ND     |           | ug/kg | 1.0 | 0.13 |
| 1,1-Dichloropropene                                                              | ND     |           | ug/kg | 5.0 | 0.46 |
| Bromoform                                                                        | ND     |           | ug/kg | 4.0 | 0.41 |
| 1,1,2,2-Tetrachloroethane                                                        | ND     |           | ug/kg | 1.0 | 0.17 |
| Benzene                                                                          | ND     |           | ug/kg | 1.0 | 0.12 |
| Toluene                                                                          | 0.22   | J         | ug/kg | 1.5 | 0.11 |
| Ethylbenzene                                                                     | ND     |           | ug/kg | 1.0 | 0.15 |
| Chloromethane                                                                    | ND     |           | ug/kg | 5.0 | 0.78 |
| Bromomethane                                                                     | ND     |           | ug/kg | 2.0 | 0.34 |
| Vinyl chloride                                                                   | ND     |           | ug/kg | 2.0 | 0.14 |
| Chloroethane                                                                     | ND     |           | ug/kg | 2.0 | 0.32 |
| 1,1-Dichloroethene                                                               | ND     |           | ug/kg | 1.0 | 0.20 |
| trans-1,2-Dichloroethene                                                         | ND     |           | ug/kg | 1.5 | 0.21 |
| Trichloroethene                                                                  | ND     |           | ug/kg | 1.0 | 0.15 |
| 1,2-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.18 |
| 1,3-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.18 |



Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/15/13 08:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-6 |        |           |       |     |      |
| 1,4-Dichlorobenzene                                                              | ND     |           | ug/kg | 5.0 | 0.24 |
| Methyl tert butyl ether                                                          | ND     |           | ug/kg | 2.0 | 0.10 |
| p/m-Xylene                                                                       | ND     |           | ug/kg | 2.0 | 0.32 |
| o-Xylene                                                                         | ND     |           | ug/kg | 2.0 | 0.27 |
| cis-1,2-Dichloroethene                                                           | ND     |           | ug/kg | 1.0 | 0.15 |
| Dibromomethane                                                                   | ND     |           | ug/kg | 10  | 0.16 |
| Styrene                                                                          | ND     |           | ug/kg | 2.0 | 0.31 |
| Dichlorodifluoromethane                                                          | ND     |           | ug/kg | 10  | 0.22 |
| Acetone                                                                          | ND     |           | ug/kg | 10  | 3.1  |
| Carbon disulfide                                                                 | ND     |           | ug/kg | 10  | 2.0  |
| 2-Butanone                                                                       | ND     |           | ug/kg | 10  | 0.36 |
| Vinyl acetate                                                                    | ND     |           | ug/kg | 10  | 0.48 |
| 4-Methyl-2-pentanone                                                             | ND     |           | ug/kg | 10  | 0.24 |
| 1,2,3-Trichloropropane                                                           | ND     |           | ug/kg | 10  | 0.22 |
| 2-Hexanone                                                                       | ND     |           | ug/kg | 10  | 0.19 |
| Bromochloromethane                                                               | ND     |           | ug/kg | 5.0 | 0.20 |
| 2,2-Dichloropropane                                                              | ND     |           | ug/kg | 5.0 | 0.22 |
| 1,2-Dibromoethane                                                                | ND     |           | ug/kg | 4.0 | 0.18 |
| 1,3-Dichloropropane                                                              | ND     |           | ug/kg | 5.0 | 0.17 |
| 1,1,1,2-Tetrachloroethane                                                        | ND     |           | ug/kg | 1.0 | 0.32 |
| Bromobenzene                                                                     | ND     |           | ug/kg | 5.0 | 0.21 |
| n-Butylbenzene                                                                   | ND     |           | ug/kg | 1.0 | 0.20 |
| sec-Butylbenzene                                                                 | ND     |           | ug/kg | 1.0 | 0.20 |
| tert-Butylbenzene                                                                | ND     |           | ug/kg | 5.0 | 0.56 |
| o-Chlorotoluene                                                                  | ND     |           | ug/kg | 5.0 | 0.16 |
| p-Chlorotoluene                                                                  | ND     |           | ug/kg | 5.0 | 0.15 |
| 1,2-Dibromo-3-chloropropane                                                      | ND     |           | ug/kg | 5.0 | 0.79 |
| Hexachlorobutadiene                                                              | ND     |           | ug/kg | 5.0 | 0.42 |
| Isopropylbenzene                                                                 | ND     |           | ug/kg | 1.0 | 0.17 |
| p-Isopropyltoluene                                                               | ND     |           | ug/kg | 1.0 | 0.19 |
| Naphthalene                                                                      | ND     |           | ug/kg | 5.0 | 0.77 |





Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 07/15/13 08:59  
 Analyst: BN

| Parameter                                                                        | Result | Qualifier | Units | RL  | MDL  |
|----------------------------------------------------------------------------------|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-6 |        |           |       |     |      |
| Acrylonitrile                                                                    | ND     |           | ug/kg | 10  | 0.24 |
| Isopropyl Ether                                                                  | ND     |           | ug/kg | 4.0 | 0.14 |
| tert-Butyl Alcohol                                                               | ND     |           | ug/kg | 60  | 0.91 |
| n-Propylbenzene                                                                  | ND     |           | ug/kg | 1.0 | 0.12 |
| 1,2,3-Trichlorobenzene                                                           | ND     |           | ug/kg | 5.0 | 0.17 |
| 1,2,4-Trichlorobenzene                                                           | ND     |           | ug/kg | 5.0 | 0.79 |
| 1,3,5-Trimethylbenzene                                                           | ND     |           | ug/kg | 5.0 | 0.14 |
| 1,2,4-Trimethylbenzene                                                           | ND     |           | ug/kg | 5.0 | 0.57 |
| Methyl Acetate                                                                   | ND     |           | ug/kg | 20  | 0.76 |
| Ethyl Acetate                                                                    | ND     |           | ug/kg | 20  | 0.82 |
| Acrolein                                                                         | ND     |           | ug/kg | 25  | 9.2  |
| Cyclohexane                                                                      | ND     |           | ug/kg | 20  | 1.1  |
| 1,4-Dioxane                                                                      | ND     |           | ug/kg | 100 | 17.  |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane                                            | ND     |           | ug/kg | 20  | 0.27 |
| 1,4-Diethylbenzene                                                               | ND     |           | ug/kg | 4.0 | 0.16 |
| 4-Ethyltoluene                                                                   | ND     |           | ug/kg | 4.0 | 0.12 |
| 1,2,4,5-Tetramethylbenzene                                                       | ND     |           | ug/kg | 4.0 | 0.13 |
| Tetrahydrofuran                                                                  | ND     |           | ug/kg | 20  | 0.38 |
| Ethyl ether                                                                      | ND     |           | ug/kg | 5.0 | 0.26 |
| trans-1,4-Dichloro-2-butene                                                      | ND     |           | ug/kg | 5.0 | 0.45 |
| Methyl cyclohexane                                                               | ND     |           | ug/kg | 4.0 | 1.3  |
| Ethyl-Tert-Butyl-Ether                                                           | ND     |           | ug/kg | 4.0 | 0.42 |
| Tertiary-Amyl Methyl Ether                                                       | ND     |           | ug/kg | 4.0 | 0.58 |

#### Tentatively Identified Compounds

No Tentatively Identified Compounds      ND      ug/kg



**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 07/15/13 08:59

Analyst: BN

| Parameter | Result | Qualifier | Units | RL | MDL |
|-----------|--------|-----------|-------|----|-----|
|-----------|--------|-----------|-------|----|-----|

|                                                                                  |  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG621630-6 |  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|--|

| Surrogate             | %Recovery | Qualifier | Acceptance<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 100       |           | 70-130                 |
| Toluene-d8            | 100       |           | 70-130                 |
| 4-Bromofluorobenzene  | 99        |           | 70-130                 |
| Dibromofluoromethane  | 102       |           | 70-130                 |

# **Lab Control Sample Analysis** Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-1 WG621630-2 |                  |      |                   |      |                     |     |      |            |
| Methylene chloride                                                                                 | 89               |      | 83                |      | 70-130              | 7   |      | 30         |
| 1,1-Dichloroethane                                                                                 | 91               |      | 85                |      | 70-130              | 7   |      | 30         |
| Chloroform                                                                                         | 96               |      | 89                |      | 70-130              | 8   |      | 30         |
| Carbon tetrachloride                                                                               | 99               |      | 92                |      | 70-130              | 7   |      | 30         |
| 1,2-Dichloropropane                                                                                | 89               |      | 84                |      | 70-130              | 6   |      | 30         |
| Dibromochloromethane                                                                               | 98               |      | 91                |      | 70-130              | 7   |      | 30         |
| 2-Chloroethylvinyl ether                                                                           | 96               |      | 92                |      |                     | 4   |      | 30         |
| 1,1,2-Trichloroethane                                                                              | 93               |      | 88                |      | 70-130              | 6   |      | 30         |
| Tetrachloroethene                                                                                  | 101              |      | 93                |      | 70-130              | 8   |      | 30         |
| Chlorobenzene                                                                                      | 98               |      | 92                |      | 70-130              | 6   |      | 30         |
| Trichlorofluoromethane                                                                             | 103              |      | 93                |      | 70-139              | 10  |      | 30         |
| 1,2-Dichloroethane                                                                                 | 94               |      | 87                |      | 70-130              | 8   |      | 30         |
| 1,1,1-Trichloroethane                                                                              | 94               |      | 90                |      | 70-130              | 4   |      | 30         |
| Bromodichloromethane                                                                               | 96               |      | 90                |      | 70-130              | 6   |      | 30         |
| trans-1,3-Dichloropropene                                                                          | 83               |      | 78                |      | 70-130              | 6   |      | 30         |
| cis-1,3-Dichloropropene                                                                            | 94               |      | 88                |      | 70-130              | 7   |      | 30         |
| 1,1-Dichloropropene                                                                                | 96               |      | 90                |      | 70-130              | 6   |      | 30         |
| Bromoform                                                                                          | 91               |      | 87                |      | 70-130              | 4   |      | 30         |
| 1,1,2,2-Tetrachloroethane                                                                          | 89               |      | 84                |      | 70-130              | 6   |      | 30         |
| Benzene                                                                                            | 93               |      | 88                |      | 70-130              | 6   |      | 30         |
| Toluene                                                                                            | 94               |      | 88                |      | 70-130              | 7   |      | 30         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-1 WG621630-2 |                  |      |                   |      |                     |     |      |            |
| Ethylbenzene                                                                                       | 100              |      | 93                |      | 70-130              | 7   |      | 30         |
| Chloromethane                                                                                      | 80               |      | 71                |      | 52-130              | 12  |      | 30         |
| Bromomethane                                                                                       | 98               |      | 93                |      | 57-147              | 5   |      | 30         |
| Vinyl chloride                                                                                     | 91               |      | 83                |      | 67-130              | 9   |      | 30         |
| Chloroethane                                                                                       | 89               |      | 83                |      | 50-151              | 7   |      | 30         |
| 1,1-Dichloroethene                                                                                 | 96               |      | 90                |      | 65-135              | 6   |      | 30         |
| trans-1,2-Dichloroethene                                                                           | 94               |      | 88                |      | 70-130              | 7   |      | 30         |
| Trichloroethene                                                                                    | 97               |      | 90                |      | 70-130              | 7   |      | 30         |
| 1,2-Dichlorobenzene                                                                                | 96               |      | 91                |      | 70-130              | 5   |      | 30         |
| 1,3-Dichlorobenzene                                                                                | 97               |      | 91                |      | 70-130              | 6   |      | 30         |
| 1,4-Dichlorobenzene                                                                                | 96               |      | 92                |      | 70-130              | 4   |      | 30         |
| Methyl tert butyl ether                                                                            | 75               |      | 73                |      | 66-130              | 3   |      | 30         |
| p/m-Xylene                                                                                         | 100              |      | 94                |      | 70-130              | 6   |      | 30         |
| o-Xylene                                                                                           | 102              |      | 97                |      | 70-130              | 5   |      | 30         |
| cis-1,2-Dichloroethene                                                                             | 95               |      | 89                |      | 70-130              | 7   |      | 30         |
| Dibromomethane                                                                                     | 97               |      | 89                |      | 70-130              | 9   |      | 30         |
| Styrene                                                                                            | 101              |      | 96                |      | 70-130              | 5   |      | 30         |
| Dichlorodifluoromethane                                                                            | 91               |      | 82                |      | 30-146              | 10  |      | 30         |
| Acetone                                                                                            | 111              |      | 93                |      | 54-140              | 18  |      | 30         |
| Carbon disulfide                                                                                   | 90               |      | 84                |      | 59-130              | 7   |      | 30         |
| 2-Butanone                                                                                         | 110              |      | 96                |      | 70-130              | 14  |      | 30         |

# **Lab Control Sample Analysis** Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-1 WG621630-2 |                  |      |                   |      |                     |     |      |            |
| Vinyl acetate                                                                                      | 83               |      | 79                |      | 70-130              | 5   |      | 30         |
| 4-Methyl-2-pentanone                                                                               | 87               |      | 83                |      | 70-130              | 5   |      | 30         |
| 1,2,3-Trichloropropane                                                                             | 88               |      | 84                |      | 68-130              | 5   |      | 30         |
| 2-Hexanone                                                                                         | 94               |      | 86                |      | 70-130              | 9   |      | 30         |
| Bromochloromethane                                                                                 | 94               |      | 89                |      | 70-130              | 5   |      | 30         |
| 2,2-Dichloropropane                                                                                | 93               |      | 89                |      | 70-130              | 4   |      | 30         |
| 1,2-Dibromoethane                                                                                  | 99               |      | 91                |      | 70-130              | 8   |      | 30         |
| 1,3-Dichloropropane                                                                                | 93               |      | 87                |      | 69-130              | 7   |      | 30         |
| 1,1,1,2-Tetrachloroethane                                                                          | 99               |      | 93                |      | 70-130              | 6   |      | 30         |
| Bromobenzene                                                                                       | 95               |      | 90                |      | 70-130              | 5   |      | 30         |
| n-Butylbenzene                                                                                     | 100              |      | 93                |      | 70-130              | 7   |      | 30         |
| sec-Butylbenzene                                                                                   | 98               |      | 93                |      | 70-130              | 5   |      | 30         |
| tert-Butylbenzene                                                                                  | 100              |      | 95                |      | 70-130              | 5   |      | 30         |
| o-Chlorotoluene                                                                                    | 92               |      | 87                |      | 70-130              | 6   |      | 30         |
| p-Chlorotoluene                                                                                    | 93               |      | 88                |      | 70-130              | 6   |      | 30         |
| 1,2-Dibromo-3-chloropropane                                                                        | 87               |      | 83                |      | 68-130              | 5   |      | 30         |
| Hexachlorobutadiene                                                                                | 105              |      | 99                |      | 67-130              | 6   |      | 30         |
| Isopropylbenzene                                                                                   | 105              |      | 98                |      | 70-130              | 7   |      | 30         |
| p-Isopropyltoluene                                                                                 | 101              |      | 95                |      | 70-130              | 6   |      | 30         |
| Naphthalene                                                                                        | 82               |      | 79                |      | 70-130              | 4   |      | 30         |
| Acrylonitrile                                                                                      | 86               |      | 82                |      | 70-130              | 5   |      | 30         |

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-1 WG621630-2 |                  |      |                   |      |                     |     |      |            |
| Isopropyl Ether                                                                                    | 84               |      | 81                |      | 66-130              | 4   |      | 30         |
| tert-Butyl Alcohol                                                                                 | 87               |      | 83                |      | 70-130              | 5   |      | 30         |
| n-Propylbenzene                                                                                    | 92               |      | 87                |      | 70-130              | 6   |      | 30         |
| 1,2,3-Trichlorobenzene                                                                             | 103              |      | 97                |      | 70-130              | 6   |      | 30         |
| 1,2,4-Trichlorobenzene                                                                             | 106              |      | 100               |      | 70-130              | 6   |      | 30         |
| 1,3,5-Trimethylbenzene                                                                             | 95               |      | 91                |      | 70-130              | 4   |      | 30         |
| 1,2,4-Trimethylbenzene                                                                             | 98               |      | 92                |      | 70-130              | 6   |      | 30         |
| Methyl Acetate                                                                                     | 83               |      | 80                |      | 51-146              | 4   |      | 30         |
| Ethyl Acetate                                                                                      | 85               |      | 82                |      | 70-130              | 4   |      | 30         |
| Acrolein                                                                                           | 96               |      | 89                |      | 70-130              | 8   |      | 30         |
| Cyclohexane                                                                                        | 99               |      | 92                |      | 59-142              | 7   |      | 30         |
| 1,4-Dioxane                                                                                        | 84               |      | 77                |      | 65-136              | 9   |      | 30         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane                                                              | 104              |      | 97                |      | 50-139              | 7   |      | 30         |
| 1,4-Diethylbenzene                                                                                 | 100              |      | 94                |      | 70-130              | 6   |      | 30         |
| 4-Ethyltoluene                                                                                     | 97               |      | 91                |      | 70-130              | 6   |      | 30         |
| 1,2,4,5-Tetramethylbenzene                                                                         | 94               |      | 89                |      | 70-130              | 5   |      | 30         |
| Tetrahydrofuran                                                                                    | 81               |      | 76                |      | 66-130              | 6   |      | 30         |
| Ethyl ether                                                                                        | 90               |      | 83                |      | 67-130              | 8   |      | 30         |
| trans-1,4-Dichloro-2-butene                                                                        | 90               |      | 84                |      | 70-130              | 7   |      | 30         |
| Methyl cyclohexane                                                                                 | 104              |      | 97                |      | 70-130              | 7   |      | 30         |
| Ethyl-Tert-Butyl-Ether                                                                             | 73               |      | 73                |      | 70-130              | 0   |      | 30         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-1 WG621630-2 |                  |      |                   |      |                     |     |      |            |
| Tertiary-Amyl Methyl Ether                                                                         | 75               |      | 73                |      | 70-130              | 3   |      | 30         |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 122              |      | 104               |      | 70-130                 |
| Toluene-d8            | 102              |      | 98                |      | 70-130                 |
| 4-Bromofluorobenzene  | 95               |      | 92                |      | 70-130                 |
| Dibromofluoromethane  | 118              |      | 105               |      | 70-130                 |

|                                                                                                    |     |  |     |  |        |   |  |    |
|----------------------------------------------------------------------------------------------------|-----|--|-----|--|--------|---|--|----|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-4 WG621630-5 |     |  |     |  |        |   |  |    |
| Methylene chloride                                                                                 | 88  |  | 87  |  | 70-130 | 1 |  | 30 |
| 1,1-Dichloroethane                                                                                 | 90  |  | 89  |  | 70-130 | 1 |  | 30 |
| Chloroform                                                                                         | 94  |  | 94  |  | 70-130 | 0 |  | 30 |
| Carbon tetrachloride                                                                               | 98  |  | 96  |  | 70-130 | 2 |  | 30 |
| 1,2-Dichloropropane                                                                                | 90  |  | 92  |  | 70-130 | 2 |  | 30 |
| Dibromochloromethane                                                                               | 98  |  | 99  |  | 70-130 | 1 |  | 30 |
| 2-Chloroethylvinyl ether                                                                           | 122 |  | 115 |  |        | 6 |  | 30 |
| 1,1,2-Trichloroethane                                                                              | 93  |  | 95  |  | 70-130 | 2 |  | 30 |
| Tetrachloroethene                                                                                  | 102 |  | 100 |  | 70-130 | 2 |  | 30 |

# **Lab Control Sample Analysis** **Batch Quality Control**

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-4 WG621630-5 |                  |      |                   |      |                     |     |      |            |
| Chlorobenzene                                                                                      | 97               |      | 98                |      | 70-130              | 1   |      | 30         |
| Trichlorofluoromethane                                                                             | 99               |      | 96                |      | 70-139              | 3   |      | 30         |
| 1,2-Dichloroethane                                                                                 | 90               |      | 92                |      | 70-130              | 2   |      | 30         |
| 1,1,1-Trichloroethane                                                                              | 98               |      | 96                |      | 70-130              | 2   |      | 30         |
| Bromodichloromethane                                                                               | 95               |      | 97                |      | 70-130              | 2   |      | 30         |
| trans-1,3-Dichloropropene                                                                          | 86               |      | 86                |      | 70-130              | 0   |      | 30         |
| cis-1,3-Dichloropropene                                                                            | 96               |      | 98                |      | 70-130              | 2   |      | 30         |
| 1,1-Dichloropropene                                                                                | 96               |      | 94                |      | 70-130              | 2   |      | 30         |
| Bromoform                                                                                          | 96               |      | 99                |      | 70-130              | 3   |      | 30         |
| 1,1,2,2-Tetrachloroethane                                                                          | 93               |      | 94                |      | 70-130              | 1   |      | 30         |
| Benzene                                                                                            | 92               |      | 92                |      | 70-130              | 0   |      | 30         |
| Toluene                                                                                            | 94               |      | 94                |      | 70-130              | 0   |      | 30         |
| Ethylbenzene                                                                                       | 100              |      | 99                |      | 70-130              | 1   |      | 30         |
| Chloromethane                                                                                      | 78               |      | 71                |      | 52-130              | 9   |      | 30         |
| Bromomethane                                                                                       | 96               |      | 95                |      | 57-147              | 1   |      | 30         |
| Vinyl chloride                                                                                     | 88               |      | 82                |      | 67-130              | 7   |      | 30         |
| Chloroethane                                                                                       | 89               |      | 85                |      | 50-151              | 5   |      | 30         |
| 1,1-Dichloroethene                                                                                 | 96               |      | 94                |      | 65-135              | 2   |      | 30         |
| trans-1,2-Dichloroethene                                                                           | 94               |      | 92                |      | 70-130              | 2   |      | 30         |
| Trichloroethene                                                                                    | 97               |      | 96                |      | 70-130              | 1   |      | 30         |
| 1,2-Dichlorobenzene                                                                                | 97               |      | 99                |      | 70-130              | 2   |      | 30         |



# Lab Control Sample Analysis

## Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-4 WG621630-5 |                  |      |                   |      |                     |     |      |            |
| 1,3-Dichlorobenzene                                                                                | 99               |      | 99                |      | 70-130              | 0   |      | 30         |
| 1,4-Dichlorobenzene                                                                                | 97               |      | 98                |      | 70-130              | 1   |      | 30         |
| Methyl tert butyl ether                                                                            | 103              |      | 104               |      | 66-130              | 1   |      | 30         |
| p/m-Xylene                                                                                         | 115              |      | 113               |      | 70-130              | 2   |      | 30         |
| o-Xylene                                                                                           | 111              |      | 109               |      | 70-130              | 2   |      | 30         |
| cis-1,2-Dichloroethene                                                                             | 106              |      | 109               |      | 70-130              | 3   |      | 30         |
| Dibromomethane                                                                                     | 104              |      | 108               |      | 70-130              | 4   |      | 30         |
| Styrene                                                                                            | 109              |      | 110               |      | 70-130              | 1   |      | 30         |
| Dichlorodifluoromethane                                                                            | 81               |      | 75                |      | 30-146              | 8   |      | 30         |
| Acetone                                                                                            | 108              |      | 90                |      | 54-140              | 18  |      | 30         |
| Carbon disulfide                                                                                   | 99               |      | 96                |      | 59-130              | 3   |      | 30         |
| 2-Butanone                                                                                         | 115              |      | 107               |      | 70-130              | 7   |      | 30         |
| Vinyl acetate                                                                                      | 103              |      | 107               |      | 70-130              | 4   |      | 30         |
| 4-Methyl-2-pentanone                                                                               | 124              |      | 117               |      | 70-130              | 6   |      | 30         |
| 1,2,3-Trichloropropane                                                                             | 92               |      | 92                |      | 68-130              | 0   |      | 30         |
| 2-Hexanone                                                                                         | 115              |      | 110               |      | 70-130              | 4   |      | 30         |
| Bromochloromethane                                                                                 | 94               |      | 94                |      | 70-130              | 0   |      | 30         |
| 2,2-Dichloropropane                                                                                | 101              |      | 96                |      | 70-130              | 5   |      | 30         |
| 1,2-Dibromoethane                                                                                  | 99               |      | 98                |      | 70-130              | 1   |      | 30         |
| 1,3-Dichloropropane                                                                                | 92               |      | 94                |      | 69-130              | 2   |      | 30         |
| 1,1,1,2-Tetrachloroethane                                                                          | 100              |      | 102               |      | 70-130              | 2   |      | 30         |

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-4 WG621630-5 |                  |      |                   |      |                     |     |      |            |
| Bromobenzene                                                                                       | 96               |      | 98                |      | 70-130              | 2   |      | 30         |
| n-Butylbenzene                                                                                     | 102              |      | 100               |      | 70-130              | 2   |      | 30         |
| sec-Butylbenzene                                                                                   | 103              |      | 101               |      | 70-130              | 2   |      | 30         |
| tert-Butylbenzene                                                                                  | 104              |      | 102               |      | 70-130              | 2   |      | 30         |
| o-Chlorotoluene                                                                                    | 94               |      | 93                |      | 70-130              | 1   |      | 30         |
| p-Chlorotoluene                                                                                    | 94               |      | 95                |      | 70-130              | 1   |      | 30         |
| 1,2-Dibromo-3-chloropropane                                                                        | 98               |      | 94                |      | 68-130              | 4   |      | 30         |
| Hexachlorobutadiene                                                                                | 110              |      | 107               |      | 67-130              | 3   |      | 30         |
| Isopropylbenzene                                                                                   | 107              |      | 105               |      | 70-130              | 2   |      | 30         |
| p-Isopropyltoluene                                                                                 | 106              |      | 103               |      | 70-130              | 3   |      | 30         |
| Naphthalene                                                                                        | 86               |      | 90                |      | 70-130              | 5   |      | 30         |
| Acrylonitrile                                                                                      | 104              |      | 104               |      | 70-130              | 0   |      | 30         |
| Isopropyl Ether                                                                                    | 89               |      | 90                |      | 66-130              | 1   |      | 30         |
| tert-Butyl Alcohol                                                                                 | 86               |      | 87                |      | 70-130              | 1   |      | 30         |
| n-Propylbenzene                                                                                    | 94               |      | 93                |      | 70-130              | 1   |      | 30         |
| 1,2,3-Trichlorobenzene                                                                             | 107              |      | 108               |      | 70-130              | 1   |      | 30         |
| 1,2,4-Trichlorobenzene                                                                             | 110              |      | 110               |      | 70-130              | 0   |      | 30         |
| 1,3,5-Trimethylbenzene                                                                             | 97               |      | 97                |      | 70-130              | 0   |      | 30         |
| 1,2,4-Trimethylbenzene                                                                             | 100              |      | 99                |      | 70-130              | 1   |      | 30         |
| Methyl Acetate                                                                                     | 84               |      | 84                |      | 51-146              | 0   |      | 30         |
| Ethyl Acetate                                                                                      | 91               |      | 90                |      | 70-130              | 1   |      | 30         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                          | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|----------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG621630-4 WG621630-5 |                  |      |                   |      |                     |     |      |            |
| Acrolein                                                                                           | 111              |      | 108               |      | 70-130              | 3   |      | 30         |
| Cyclohexane                                                                                        | 101              |      | 98                |      | 59-142              | 3   |      | 30         |
| 1,4-Dioxane                                                                                        | 90               |      | 104               |      | 65-136              | 14  |      | 30         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane                                                              | 105              |      | 101               |      | 50-139              | 4   |      | 30         |
| 1,4-Diethylbenzene                                                                                 | 104              |      | 102               |      | 70-130              | 2   |      | 30         |
| 4-Ethyltoluene                                                                                     | 101              |      | 98                |      | 70-130              | 3   |      | 30         |
| 1,2,4,5-Tetramethylbenzene                                                                         | 97               |      | 98                |      | 70-130              | 1   |      | 30         |
| Tetrahydrofuran                                                                                    | 88               |      | 87                |      | 66-130              | 1   |      | 30         |
| Ethyl ether                                                                                        | 87               |      | 88                |      | 67-130              | 1   |      | 30         |
| trans-1,4-Dichloro-2-butene                                                                        | 90               |      | 88                |      | 70-130              | 2   |      | 30         |
| Methyl cyclohexane                                                                                 | 108              |      | 104               |      | 70-130              | 4   |      | 30         |
| Ethyl-Tert-Butyl-Ether                                                                             | 92               |      | 93                |      | 70-130              | 1   |      | 30         |
| Tertiary-Amyl Methyl Ether                                                                         | 104              |      | 106               |      | 70-130              | 2   |      | 30         |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 135              | Q    | 109               |      | 70-130                 |
| Toluene-d8            | 112              |      | 106               |      | 70-130                 |
| 4-Bromofluorobenzene  | 103              |      | 101               |      | 70-130                 |
| Dibromofluoromethane  | 130              |      | 113               |      | 70-130                 |

# SEMIVOLATILES

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

**Lab ID:** L1313056-01  
**Client ID:** BM-4000  
**Sample Location:** NY  
**Matrix:** Concrete  
**Analytical Method:** 1,8270D  
**Analytical Date:** 07/19/13 13:42  
**Analyst:** JB  
**Percent Solids:** 86%

**Date Collected:** 07/10/13 16:30  
**Date Received:** 07/12/13  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3540C  
**Extraction Date:** 07/18/13 16:26

| Parameter                                        | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|--------------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Acenaphthene                                     | ND     |           | ug/kg | 890  | 230 | 1               |
| 1,2,4-Trichlorobenzene                           | ND     |           | ug/kg | 1100 | 370 | 1               |
| Hexachlorobenzene                                | ND     |           | ug/kg | 670  | 210 | 1               |
| Bis(2-chloroethyl)ether                          | ND     |           | ug/kg | 1000 | 310 | 1               |
| 2-Chloronaphthalene                              | ND     |           | ug/kg | 1100 | 360 | 1               |
| 1,2-Dichlorobenzene                              | ND     |           | ug/kg | 1100 | 370 | 1               |
| 1,3-Dichlorobenzene                              | ND     |           | ug/kg | 1100 | 350 | 1               |
| 1,4-Dichlorobenzene                              | ND     |           | ug/kg | 1100 | 340 | 1               |
| 3,3'-Dichlorobenzidine                           | ND     |           | ug/kg | 1100 | 300 | 1               |
| 2,4-Dinitrotoluene                               | ND     |           | ug/kg | 1100 | 240 | 1               |
| 2,6-Dinitrotoluene                               | ND     |           | ug/kg | 1100 | 290 | 1               |
| Fluoranthene                                     | ND     |           | ug/kg | 670  | 200 | 1               |
| 4-Chlorophenyl phenyl ether                      | ND     |           | ug/kg | 1100 | 340 | 1               |
| 4-Bromophenyl phenyl ether                       | ND     |           | ug/kg | 1100 | 260 | 1               |
| Bis(2-chloroisopropyl)ether                      | ND     |           | ug/kg | 1300 | 390 | 1               |
| Bis(2-chloroethoxy)methane                       | ND     |           | ug/kg | 1200 | 340 | 1               |
| Hexachlorobutadiene                              | ND     |           | ug/kg | 1100 | 320 | 1               |
| Hexachlorocyclopentadiene                        | ND     |           | ug/kg | 3200 | 720 | 1               |
| Hexachloroethane                                 | ND     |           | ug/kg | 890  | 200 | 1               |
| Isophorone                                       | ND     |           | ug/kg | 1000 | 300 | 1               |
| Naphthalene                                      | ND     |           | ug/kg | 1100 | 370 | 1               |
| Nitrobenzene                                     | ND     |           | ug/kg | 1000 | 260 | 1               |
| NitrosoDiPhenylAmine(NDPA)/DPA                   | ND     |           | ug/kg | 890  | 230 | 1               |
| n-Nitrosodi-n-propylamine                        | ND     |           | ug/kg | 1100 | 330 | 1               |
| Bis(2-Ethylhexyl)phthalate                       | 12000  |           | ug/kg | 1100 | 290 | 1               |
| Butyl benzyl phthalate                           | ND     |           | ug/kg | 1100 | 220 | 1               |
| Di-n-butylphthalate                              | ND     |           | ug/kg | 1100 | 220 | 1               |
| Di-n-octylphthalate                              | ND     |           | ug/kg | 1100 | 270 | 1               |
| Diethyl phthalate                                | ND     |           | ug/kg | 1100 | 240 | 1               |
| Dimethyl phthalate                               | ND     |           | ug/kg | 1100 | 280 | 1               |
| Benzo(a)anthracene                               | ND     |           | ug/kg | 670  | 220 | 1               |

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

Lab ID: L1313056-01

Date Collected: 07/10/13 16:30

Client ID: BM-4000

Date Received: 07/12/13

Sample Location: NY

Field Prep: Not Specified

| Parameter                                        | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|--------------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzo(a)pyrene                                   | ND     |           | ug/kg | 890  | 270  | 1               |
| Benzo(b)fluoranthene                             | ND     |           | ug/kg | 670  | 220  | 1               |
| Benzo(k)fluoranthene                             | ND     |           | ug/kg | 670  | 210  | 1               |
| Chrysene                                         | ND     |           | ug/kg | 670  | 220  | 1               |
| Acenaphthylene                                   | ND     |           | ug/kg | 890  | 210  | 1               |
| Anthracene                                       | ND     |           | ug/kg | 670  | 180  | 1               |
| Benzo(ghi)perylene                               | ND     |           | ug/kg | 890  | 230  | 1               |
| Fluorene                                         | ND     |           | ug/kg | 1100 | 320  | 1               |
| Phenanthrene                                     | ND     |           | ug/kg | 670  | 220  | 1               |
| Dibenzo(a,h)anthracene                           | ND     |           | ug/kg | 670  | 220  | 1               |
| Indeno(1,2,3-cd)Pyrene                           | ND     |           | ug/kg | 890  | 250  | 1               |
| Pyrene                                           | ND     |           | ug/kg | 670  | 220  | 1               |
| Biphenyl                                         | ND     |           | ug/kg | 2500 | 370  | 1               |
| 4-Chloroaniline                                  | ND     |           | ug/kg | 1100 | 290  | 1               |
| 2-Nitroaniline                                   | ND     |           | ug/kg | 1100 | 320  | 1               |
| 3-Nitroaniline                                   | ND     |           | ug/kg | 1100 | 310  | 1               |
| 4-Nitroaniline                                   | ND     |           | ug/kg | 1100 | 300  | 1               |
| Dibenzofuran                                     | ND     |           | ug/kg | 1100 | 370  | 1               |
| 2-Methylnaphthalene                              | ND     |           | ug/kg | 1300 | 360  | 1               |
| 1,2,4,5-Tetrachlorobenzene                       | ND     |           | ug/kg | 1100 | 350  | 1               |
| Acetophenone                                     | ND     |           | ug/kg | 1100 | 350  | 1               |
| 2,4,6-Trichlorophenol                            | ND     |           | ug/kg | 670  | 210  | 1               |
| P-Chloro-M-Cresol                                | ND     |           | ug/kg | 1100 | 320  | 1               |
| 2-Chlorophenol                                   | ND     |           | ug/kg | 1100 | 340  | 1               |
| 2,4-Dichlorophenol                               | ND     |           | ug/kg | 1000 | 360  | 1               |
| 2,4-Dimethylphenol                               | ND     |           | ug/kg | 1100 | 330  | 1               |
| 2-Nitrophenol                                    | ND     |           | ug/kg | 2400 | 350  | 1               |
| 4-Nitrophenol                                    | ND     |           | ug/kg | 1600 | 360  | 1               |
| 2,4-Dinitrophenol                                | ND     |           | ug/kg | 5400 | 1500 | 1               |
| 4,6-Dinitro-o-cresol                             | ND     |           | ug/kg | 2900 | 410  | 1               |
| Pentachlorophenol                                | ND     |           | ug/kg | 890  | 240  | 1               |
| Phenol                                           | ND     |           | ug/kg | 1100 | 330  | 1               |
| 2-Methylphenol                                   | ND     |           | ug/kg | 1100 | 360  | 1               |
| 3-Methylphenol/4-Methylphenol                    | ND     |           | ug/kg | 1600 | 370  | 1               |
| 2,4,5-Trichlorophenol                            | ND     |           | ug/kg | 1100 | 360  | 1               |
| Benzoic Acid                                     | ND     |           | ug/kg | 3600 | 1100 | 1               |
| Benzyl Alcohol                                   | 420    | J         | ug/kg | 1100 | 340  | 1               |
| Carbazole                                        | ND     |           | ug/kg | 1100 | 240  | 1               |

**Project Name:** IBM-EFK**Lab Number:** L1313056**Project Number:** 2999.00**Report Date:** 07/23/13**SAMPLE RESULTS**

Lab ID: L1313056-01

Date Collected: 07/10/13 16:30

Client ID: BM-4000

Date Received: 07/12/13

Sample Location: NY

Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Semivolatile Organics by GC/MS - Westborough Lab

## Tentatively Identified Compounds

|                |        |   |       |   |
|----------------|--------|---|-------|---|
| Unknown        | 150000 | J | ug/kg | 1 |
| Unknown        | 12000  | J | ug/kg | 1 |
| Unknown Alkane | 4400   | J | ug/kg | 1 |

| Surrogate            | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol       | 27         |           | 25-120              |
| Phenol-d6            | 57         |           | 10-120              |
| Nitrobenzene-d5      | 61         |           | 23-120              |
| 2-Fluorobiphenyl     | 67         |           | 30-120              |
| 2,4,6-Tribromophenol | 13         |           | 0-136               |
| 4-Terphenyl-d14      | 66         |           | 18-120              |

Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 07/19/13 12:16  
 Analyst: JB

Extraction Method: EPA 3540C  
 Extraction Date: 07/18/13 16:26

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG622673-1 |        |           |       |      |     |
| Acenaphthene                                                                         | ND     |           | ug/kg | 780  | 200 |
| 1,2,4-Trichlorobenzene                                                               | ND     |           | ug/kg | 980  | 320 |
| Hexachlorobenzene                                                                    | ND     |           | ug/kg | 590  | 180 |
| Bis(2-chloroethyl)ether                                                              | ND     |           | ug/kg | 880  | 280 |
| 2-Chloronaphthalene                                                                  | ND     |           | ug/kg | 980  | 320 |
| 1,2-Dichlorobenzene                                                                  | ND     |           | ug/kg | 980  | 320 |
| 1,3-Dichlorobenzene                                                                  | ND     |           | ug/kg | 980  | 310 |
| 1,4-Dichlorobenzene                                                                  | ND     |           | ug/kg | 980  | 300 |
| 3,3'-Dichlorobenzidine                                                               | ND     |           | ug/kg | 980  | 260 |
| 2,4-Dinitrotoluene                                                                   | ND     |           | ug/kg | 980  | 210 |
| 2,6-Dinitrotoluene                                                                   | ND     |           | ug/kg | 980  | 250 |
| Fluoranthene                                                                         | ND     |           | ug/kg | 590  | 180 |
| 4-Chlorophenyl phenyl ether                                                          | ND     |           | ug/kg | 980  | 300 |
| 4-Bromophenyl phenyl ether                                                           | ND     |           | ug/kg | 980  | 220 |
| Bis(2-chloroisopropyl)ether                                                          | ND     |           | ug/kg | 1200 | 340 |
| Bis(2-chloroethoxy)methane                                                           | ND     |           | ug/kg | 1100 | 300 |
| Hexachlorobutadiene                                                                  | ND     |           | ug/kg | 980  | 280 |
| Hexachlorocyclopentadiene                                                            | ND     |           | ug/kg | 2800 | 630 |
| Hexachloroethane                                                                     | ND     |           | ug/kg | 780  | 180 |
| Isophorone                                                                           | ND     |           | ug/kg | 880  | 260 |
| Naphthalene                                                                          | ND     |           | ug/kg | 980  | 330 |
| Nitrobenzene                                                                         | ND     |           | ug/kg | 880  | 230 |
| NitrosoDiPhenylAmine(NDPA)/DPA                                                       | ND     |           | ug/kg | 780  | 210 |
| n-Nitrosodi-n-propylamine                                                            | ND     |           | ug/kg | 980  | 290 |
| Bis(2-Ethylhexyl)phthalate                                                           | ND     |           | ug/kg | 980  | 260 |
| Butyl benzyl phthalate                                                               | ND     |           | ug/kg | 980  | 190 |
| Di-n-butylphthalate                                                                  | ND     |           | ug/kg | 980  | 190 |
| Di-n-octylphthalate                                                                  | ND     |           | ug/kg | 980  | 240 |
| Diethyl phthalate                                                                    | ND     |           | ug/kg | 980  | 210 |
| Dimethyl phthalate                                                                   | ND     |           | ug/kg | 980  | 250 |
| Benzo(a)anthracene                                                                   | ND     |           | ug/kg | 590  | 190 |





Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 07/19/13 12:16  
 Analyst: JB

Extraction Method: EPA 3540C  
 Extraction Date: 07/18/13 16:26

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG622673-1 |        |           |       |      |      |
| Benzo(a)pyrene                                                                       | ND     |           | ug/kg | 780  | 240  |
| Benzo(b)fluoranthene                                                                 | ND     |           | ug/kg | 590  | 200  |
| Benzo(k)fluoranthene                                                                 | ND     |           | ug/kg | 590  | 190  |
| Chrysene                                                                             | ND     |           | ug/kg | 590  | 190  |
| Acenaphthylene                                                                       | ND     |           | ug/kg | 780  | 180  |
| Anthracene                                                                           | ND     |           | ug/kg | 590  | 160  |
| Benzo(ghi)perylene                                                                   | ND     |           | ug/kg | 780  | 200  |
| Fluorene                                                                             | ND     |           | ug/kg | 980  | 280  |
| Phenanthrene                                                                         | ND     |           | ug/kg | 590  | 190  |
| Dibenzo(a,h)anthracene                                                               | ND     |           | ug/kg | 590  | 190  |
| Indeno(1,2,3-cd)Pyrene                                                               | ND     |           | ug/kg | 780  | 220  |
| Pyrene                                                                               | ND     |           | ug/kg | 590  | 190  |
| Biphenyl                                                                             | ND     |           | ug/kg | 2200 | 320  |
| 4-Chloroaniline                                                                      | ND     |           | ug/kg | 980  | 260  |
| 2-Nitroaniline                                                                       | ND     |           | ug/kg | 980  | 280  |
| 3-Nitroaniline                                                                       | ND     |           | ug/kg | 980  | 270  |
| 4-Nitroaniline                                                                       | ND     |           | ug/kg | 980  | 260  |
| Dibenzofuran                                                                         | ND     |           | ug/kg | 980  | 330  |
| 2-Methylnaphthalene                                                                  | ND     |           | ug/kg | 1200 | 310  |
| 1,2,4,5-Tetrachlorobenzene                                                           | ND     |           | ug/kg | 980  | 300  |
| Acetophenone                                                                         | ND     |           | ug/kg | 980  | 300  |
| 2,4,6-Trichlorophenol                                                                | ND     |           | ug/kg | 590  | 180  |
| P-Chloro-M-Cresol                                                                    | ND     |           | ug/kg | 980  | 280  |
| 2-Chlorophenol                                                                       | ND     |           | ug/kg | 980  | 300  |
| 2,4-Dichlorophenol                                                                   | ND     |           | ug/kg | 880  | 320  |
| 2,4-Dimethylphenol                                                                   | ND     |           | ug/kg | 980  | 290  |
| 2-Nitrophenol                                                                        | ND     |           | ug/kg | 2100 | 310  |
| 4-Nitrophenol                                                                        | ND     |           | ug/kg | 1400 | 320  |
| 2,4-Dinitrophenol                                                                    | ND     |           | ug/kg | 4700 | 1300 |
| 4,6-Dinitro-o-cresol                                                                 | ND     |           | ug/kg | 2600 | 360  |
| Pentachlorophenol                                                                    | ND     |           | ug/kg | 780  | 210  |



Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 07/19/13 12:16  
 Analyst: JB

Extraction Method: EPA 3540C  
 Extraction Date: 07/18/13 16:26

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG622673-1 |        |           |       |      |     |
| Phenol                                                                               | ND     |           | ug/kg | 980  | 290 |
| 2-Methylphenol                                                                       | ND     |           | ug/kg | 980  | 320 |
| 3-Methylphenol/4-Methylphenol                                                        | ND     |           | ug/kg | 1400 | 320 |
| 2,4,5-Trichlorophenol                                                                | ND     |           | ug/kg | 980  | 320 |
| Benzoic Acid                                                                         | ND     |           | ug/kg | 3200 | 990 |
| Benzyl Alcohol                                                                       | ND     |           | ug/kg | 980  | 300 |
| Carbazole                                                                            | ND     |           | ug/kg | 980  | 210 |

#### Tentatively Identified Compounds

Unknown 3800 J ug/kg

| Surrogate            | %Recovery | Qualifier | Acceptance<br>Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol       | 82        |           | 25-120                 |
| Phenol-d6            | 82        |           | 10-120                 |
| Nitrobenzene-d5      | 76        |           | 23-120                 |
| 2-Fluorobiphenyl     | 78        |           | 30-120                 |
| 2,4,6-Tribromophenol | 92        |           | 0-136                  |
| 4-Terphenyl-d14      | 87        |           | 18-120                 |

# **Lab Control Sample Analysis** Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG622673-2 WG622673-3 |                  |      |                   |      |                     |     |      |            |
| Acenaphthene                                                                                           | 76               |      | 78                |      | 31-137              | 3   |      | 50         |
| 1,2,4-Trichlorobenzene                                                                                 | 74               |      | 77                |      | 38-107              | 4   |      | 50         |
| Hexachlorobenzene                                                                                      | 74               |      | 73                |      | 40-140              | 1   |      | 50         |
| Bis(2-chloroethyl)ether                                                                                | 71               |      | 71                |      | 40-140              | 0   |      | 50         |
| 2-Chloronaphthalene                                                                                    | 75               |      | 79                |      | 40-140              | 5   |      | 50         |
| 1,2-Dichlorobenzene                                                                                    | 74               |      | 71                |      | 40-140              | 4   |      | 50         |
| 1,3-Dichlorobenzene                                                                                    | 75               |      | 74                |      | 40-140              | 1   |      | 50         |
| 1,4-Dichlorobenzene                                                                                    | 73               |      | 72                |      | 28-104              | 1   |      | 50         |
| 3,3'-Dichlorobenzidine                                                                                 | 75               |      | 73                |      | 40-140              | 3   |      | 50         |
| 2,4-Dinitrotoluene                                                                                     | 79               |      | 76                |      | 28-89               | 4   |      | 50         |
| 2,6-Dinitrotoluene                                                                                     | 71               |      | 73                |      | 40-140              | 3   |      | 50         |
| Fluoranthene                                                                                           | 85               |      | 84                |      | 40-140              | 1   |      | 50         |
| 4-Chlorophenyl phenyl ether                                                                            | 76               |      | 74                |      | 40-140              | 3   |      | 50         |
| 4-Bromophenyl phenyl ether                                                                             | 78               |      | 74                |      | 40-140              | 5   |      | 50         |
| Bis(2-chloroisopropyl)ether                                                                            | 70               |      | 71                |      | 40-140              | 1   |      | 50         |
| Bis(2-chloroethoxy)methane                                                                             | 68               |      | 71                |      | 40-117              | 4   |      | 50         |
| Hexachlorobutadiene                                                                                    | 77               |      | 78                |      | 40-140              | 1   |      | 50         |
| Hexachlorocyclopentadiene                                                                              | 55               |      | 56                |      | 40-140              | 2   |      | 50         |
| Hexachloroethane                                                                                       | 73               |      | 74                |      | 40-140              | 1   |      | 50         |
| Isophorone                                                                                             | 72               |      | 72                |      | 40-140              | 0   |      | 50         |
| Naphthalene                                                                                            | 74               |      | 78                |      | 40-140              | 5   |      | 50         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG622673-2 WG622673-3 |                  |      |                   |      |                     |     |      |            |
| Nitrobenzene                                                                                           | 76               |      | 80                |      | 40-140              | 5   |      | 50         |
| NitrosoDiPhenylAmine(NDPA)/DPA                                                                         | 81               |      | 78                |      |                     | 4   |      | 50         |
| n-Nitrosodi-n-propylamine                                                                              | 71               |      | 73                |      | 32-121              | 3   |      | 50         |
| Bis(2-Ethylhexyl)phthalate                                                                             | 79               |      | 77                |      | 40-140              | 3   |      | 50         |
| Butyl benzyl phthalate                                                                                 | 92               |      | 92                |      | 40-140              | 0   |      | 50         |
| Di-n-butylphthalate                                                                                    | 85               |      | 83                |      | 40-140              | 2   |      | 50         |
| Di-n-octylphthalate                                                                                    | 88               |      | 84                |      | 40-140              | 5   |      | 50         |
| Diethyl phthalate                                                                                      | 78               |      | 75                |      | 40-140              | 4   |      | 50         |
| Dimethyl phthalate                                                                                     | 77               |      | 76                |      | 40-140              | 1   |      | 50         |
| Benzo(a)anthracene                                                                                     | 83               |      | 80                |      | 40-140              | 4   |      | 50         |
| Benzo(a)pyrene                                                                                         | 84               |      | 80                |      | 40-140              | 5   |      | 50         |
| Benzo(b)fluoranthene                                                                                   | 82               |      | 75                |      | 40-140              | 9   |      | 50         |
| Benzo(k)fluoranthene                                                                                   | 76               |      | 75                |      | 40-140              | 1   |      | 50         |
| Chrysene                                                                                               | 78               |      | 78                |      | 40-140              | 0   |      | 50         |
| Acenaphthylene                                                                                         | 75               |      | 77                |      | 40-140              | 3   |      | 50         |
| Anthracene                                                                                             | 84               |      | 84                |      | 40-140              | 0   |      | 50         |
| Benzo(ghi)perylene                                                                                     | 81               |      | 78                |      | 40-140              | 4   |      | 50         |
| Fluorene                                                                                               | 79               |      | 78                |      | 40-140              | 1   |      | 50         |
| Phenanthrene                                                                                           | 79               |      | 79                |      | 40-140              | 0   |      | 50         |
| Dibenzo(a,h)anthracene                                                                                 | 84               |      | 80                |      | 40-140              | 5   |      | 50         |
| Indeno(1,2,3-cd)Pyrene                                                                                 | 83               |      | 80                |      | 40-140              | 4   |      | 50         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG622673-2 WG622673-3 |                  |      |                   |      |                     |     |      |            |
| Pyrene                                                                                                 | 85               |      | 85                |      | 35-142              | 0   |      | 50         |
| Biphenyl                                                                                               | 78               |      | 80                |      |                     | 3   |      | 50         |
| 4-Chloroaniline                                                                                        | 40               |      | 43                |      | 40-140              | 7   |      | 50         |
| 2-Nitroaniline                                                                                         | 72               |      | 76                |      | 47-134              | 5   |      | 50         |
| 3-Nitroaniline                                                                                         | 55               |      | 51                |      | 26-129              | 8   |      | 50         |
| 4-Nitroaniline                                                                                         | 74               |      | 72                |      | 41-125              | 3   |      | 50         |
| Dibenzofuran                                                                                           | 79               |      | 79                |      | 40-140              | 0   |      | 50         |
| 2-Methylnaphthalene                                                                                    | 72               |      | 75                |      | 40-140              | 4   |      | 50         |
| 1,2,4,5-Tetrachlorobenzene                                                                             | 77               |      | 79                |      | 40-117              | 3   |      | 50         |
| Acetophenone                                                                                           | 78               |      | 77                |      | 14-144              | 1   |      | 50         |
| 2,4,6-Trichlorophenol                                                                                  | 73               |      | 77                |      | 30-130              | 5   |      | 50         |
| P-Chloro-M-Cresol                                                                                      | 84               |      | 84                |      | 26-103              | 0   |      | 50         |
| 2-Chlorophenol                                                                                         | 77               |      | 78                |      | 25-102              | 1   |      | 50         |
| 2,4-Dichlorophenol                                                                                     | 81               |      | 87                |      | 30-130              | 7   |      | 50         |
| 2,4-Dimethylphenol                                                                                     | 69               |      | 69                |      | 30-130              | 0   |      | 50         |
| 2-Nitrophenol                                                                                          | 67               |      | 69                |      | 30-130              | 3   |      | 50         |
| 4-Nitrophenol                                                                                          | 92               |      | 92                |      | 11-114              | 0   |      | 50         |
| 2,4-Dinitrophenol                                                                                      | 49               |      | 48                |      | 4-130               | 2   |      | 50         |
| 4,6-Dinitro-o-cresol                                                                                   | 56               |      | 55                |      | 10-130              | 2   |      | 50         |
| Pentachlorophenol                                                                                      | 94               |      | 92                |      | 17-109              | 2   |      | 50         |
| Phenol                                                                                                 | 76               |      | 76                |      | 26-90               | 0   |      | 50         |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                              | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD Limits |
|--------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG622673-2 WG622673-3 |                  |      |                   |      |                     |     |      |            |
| 2-Methylphenol                                                                                         | 74               |      | 77                |      | 30-130.             | 4   |      | 50         |
| 3-Methylphenol/4-Methylphenol                                                                          | 77               |      | 76                |      | 30-130              | 1   |      | 50         |
| 2,4,5-Trichlorophenol                                                                                  | 81               |      | 80                |      | 30-130              | 1   |      | 50         |
| Benzoic Acid                                                                                           | 57               |      | 53                |      |                     | 7   |      | 50         |
| Benzyl Alcohol                                                                                         | 74               |      | 76                |      | 40-140              | 3   |      | 50         |
| Carbazole                                                                                              | 85               |      | 85                |      | 54-128              | 0   |      | 50         |

| Surrogate            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|----------------------|------------------|------|-------------------|------|------------------------|
| 2-Fluorophenol       | 78               |      | 79                |      | 25-120                 |
| Phenol-d6            | 74               |      | 77                |      | 10-120                 |
| Nitrobenzene-d5      | 69               |      | 70                |      | 23-120                 |
| 2-Fluorobiphenyl     | 73               |      | 76                |      | 30-120                 |
| 2,4,6-Tribromophenol | 74               |      | 74                |      | 0-136                  |
| 4-Terphenyl-d14      | 73               |      | 72                |      | 18-120                 |

# **INORGANICS & MISCELLANEOUS**

**Project Name:** IBM-EFK**Project Number:** 2999.00**Lab Number:** L1313056**Report Date:** 07/23/13**SAMPLE RESULTS****Lab ID:** L1313056-01**Client ID:** BM-4000**Sample Location:** NY**Matrix:** Concrete**Date Collected:** 07/10/13 16:30**Date Received:** 07/12/13**Field Prep:** Not Specified

| Parameter                           | Result | Qualifier | Units | RL    | MDL | Dilution<br>Factor | Date<br>Prepared | Date<br>Analyzed | Analytical<br>Method | Analyst |
|-------------------------------------|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab |        |           |       |       |     |                    |                  |                  |                      |         |
| Solids, Total                       | 86.4   |           | %     | 0.100 | NA  | 1                  | -                | 07/17/13 01:30   | 30,2540G             | RT      |





**Lab Duplicate Analysis**  
Batch Quality Control

Project Name: IBM-EFK

Project Number: 2999.00

Lab Number: L1313056

Report Date: 07/23/13

| Parameter                                                                                                                         | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG622097-1 QC Sample: L1313290-01 Client ID: DUP Sample |               |                  |       |     |      |            |
| Solids, Total                                                                                                                     | 56.9          | 74.4             | %     | 27  | Q    | 20         |

Project Name: IBM-EFK

Lab Number: L1313056

Project Number: 2999.00

Report Date: 07/23/13

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal****Cooler**

A Present/Intact

**Container Information**

| Container ID | Container Type          | Cooler | pH  | Temp<br>deg C | Pres | Seal           | Analysis(*)    |
|--------------|-------------------------|--------|-----|---------------|------|----------------|----------------|
| L1313056-01A | Vial Large unpreserved  | A      | N/A | 5.8           | Y    | Present/Intact | NYTCL-8260(14) |
| L1313056-01B | Amber 250ml unpreserved | A      | N/A | 5.8           | Y    | Present/Intact | NYTCL-8270(14) |
| L1313056-01C | Glass 60mL unpreserved  | A      | N/A | 5.8           | Y    | Present/Intact | TS(7)          |

\*Values in parentheses indicate holding time in days



**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

## GLOSSARY

### Acronyms

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EDL  | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                        |
| EPA  | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LCS  | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                         |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                      |
| LFB  | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                        |
| MDL  | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                         |
| MS   | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.                                                                                                                                                                                                                                                  |
| MSD  | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                             |
| NA   | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| NC   | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                          |
| NI   | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RL   | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                  |
| RPD  | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM  | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                    |

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: DU Report with "J" Qualifiers



**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

**Data Qualifiers**

due to obvious interference.

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with "J" Qualifiers



**Project Name:** IBM-EFK  
**Project Number:** 2999.00

**Lab Number:** L1313056  
**Report Date:** 07/23/13

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certificate/Approval Program Summary

Last revised July 2, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.  
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

### Connecticut Department of Public Health Certificate/Lab ID: PH-0574. NELAP Accredited Solid Waste/Soil.

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP (Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

### State of Illinois Certificate/Lab ID: 003155. NELAP Accredited.

*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

### Maine Department of Human Services Certificate/Lab ID: 2009024.

*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (Inorganic Parameters:* 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. *Organic Parameters:* ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.**

*Drinking Water (Inorganic Parameters:* (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO<sub>3</sub>-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. *Organic Parameters:* (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. *Microbiology Parameters:* SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (Inorganic Parameters:* (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH<sub>3</sub>-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO<sub>3</sub>-F, 353.2 for Nitrate-N, SM4500NH<sub>3</sub>-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

*Organic Parameters:* (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. *Microbiology Parameters:* (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.**

*Drinking Water (Inorganic Parameters:* SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO<sub>3</sub>-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. *Organic Parameters:* 504.1, 524.2.)

*Non-Potable Water (Inorganic Parameters:* SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH<sub>3</sub>-H, 4500NO<sub>3</sub>-F, 4500NO<sub>2</sub>-B, 4500P-E, 4500-S2-D, 4500SO<sub>3</sub>-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. *Organic Parameters:* SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials (Inorganic Parameters:* SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. *Organic Parameters:* SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. NELAP Accredited.**

*Drinking Water (Organic Parameters:* **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water (Organic Parameters:* **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials (Organic Parameters:* **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.**

*Drinking Water (Inorganic Parameters:* SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO<sub>3</sub>-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. *Organic Parameters:* EPA 332, 504.1, 524.2.)

*Non-Potable Water (Inorganic Parameters:* SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO<sub>3</sub>-F, 4500NO<sub>2</sub>-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH<sub>3</sub>-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO<sub>3</sub>-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. *Organic Parameters:* SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Page 47 of 91 *Solid & Chemical Materials (Inorganic Parameters:* SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.**

*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO<sub>3</sub>-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH<sub>3</sub>-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO<sub>3</sub>-F, 4500-NO<sub>2</sub>-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters**: SM2310B, 2320B, 4500CI-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO<sub>3</sub>-F, 353.2, 4500P-E, 4500SO<sub>4</sub>-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters*: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. NELAP Accredited.**

*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO<sub>3</sub>-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500CI-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH<sub>3</sub>-H, 4500NO<sub>2</sub>-B, 4500NO<sub>3</sub>-F, 4500S-D, 4500SO<sub>3</sub>-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH<sub>3</sub>-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health Certificate/Lab ID: LAO00065. NELAP Accredited via NJ-DEP.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commissoon on Environmental Quality Certificate/Lab ID: T104704476. NELAP Accredited.**

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH<sub>3</sub>-H, 4500NO<sub>2</sub>B, 4500P-E, 4500 S<sup>2-</sup>D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. NELAP Accredited.**

*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO<sub>3</sub>-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500CI-E, 4500F-B, 4500F-C, 4500NH<sub>3</sub>-H, 4500NO<sub>2</sub>-B, 4500NO<sub>3</sub>-F, 4500 SO<sub>3</sub>-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm



9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.

*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO<sub>2</sub> in a soil matrix, NO<sub>3</sub> in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.



WESTBORO, MA  
TEL: 508-898-9220  
FAX: 508-898-9193

MANSFIELD, MA  
TEL: 508-822-9300  
FAX: 508-822-3288

# MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 1

Serial No: 07231313:28

ALPHA Job #: 61313056

## Client Information

Client: Sanborn Head + Assoc

Address: 20 Foundry St  
Concord, NH 03301

Phone: 603-229-1900

Fax: 603-229-1919

Email: latwell@sanbornhead.com

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

## PLEASE NOTE

Extra VOC vial added for additional material if needed  
MS/MSD (at unit cost) will be omitted unless you check here: ☐

## Project Information

Project Name: 1BM-EFK

Project Location: NY

Project #: 2999.00

Project Manager: Lea Anne Atwell

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 7/18/13 Time:

Date Rec'd in Lab: 7/12/13

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL  
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program Criteria

| ANALYSIS                                       |  |  |  |  |  |  |  |  |  | SAMPLE HANDLING                                                                                                                                                                                             |  | TOTAL # BOTTLES |
|------------------------------------------------|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|
| <u>8260 with TLCS</u><br><u>8270 with TLCS</u> |  |  |  |  |  |  |  |  |  | Filtration _____<br><input type="checkbox"/> Done<br><input type="checkbox"/> Not needed<br><input type="checkbox"/> Lab to do Preservation<br><input type="checkbox"/> Lab to do<br>(Please specify below) |  |                 |
| Sample Specific Comments                       |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                             |  |                 |

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID | Collection |         | Sample Matrix | Sampler's Initials |     |   |   |  |  |  |  |  |  |  | (Please specify below) |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
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| 13056                          | 1         | BM-4000    | 7-10-13 | 1630          | X1                 | REW | X | X |  |  |  |  |  |  |  |                        |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |

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|                  |                      |                    |                      |
|------------------|----------------------|--------------------|----------------------|
| Relinquished By: | Date/Time            | Received By:       | Date/Time            |
| <u>Regan</u>     | <u>07-11-13 0950</u> | <u>[Signature]</u> | <u>7/12/13 09:51</u> |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D Page 1  
Report Date: 16-Jul-2013 11:50

## Alpha Analytical Labs

gc/ms voa - Curly  
Data file : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D  
Lab Smp Id:  
Inj Date : 13-JUL-2013 16:46  
Operator : BN Inst ID: curly.i  
Smp Info : L1313056-01,31,5.0  
Misc Info : wg621630,ical8299  
Comment :  
Method : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\s8260.m  
Meth Date : 13-Jul-2013 08:45 curly.i Quant Type: ISTD  
Cal Date : 02-JUL-2013 20:54 Cal File: 0702N03.D  
Als bottle: 24  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: NYTCL.sub  
Target Version: 4.12  
Processing Host: VIRTUALXP-23639

Concentration Formula: Amt \* DF \* CpndVariable  
Cpnd Variable Local Compound Variable

| Compounds                   | QUANT SIG<br>MASS | RT    | EXP RT | REL RT  | RESPONSE               | CONCENTRATIONS      |                 | REVIEW CODE |
|-----------------------------|-------------------|-------|--------|---------|------------------------|---------------------|-----------------|-------------|
|                             |                   |       |        |         |                        | ON-COLUMN<br>( ngs) | FINAL<br>( ngs) |             |
| =====                       | =====             | ===== | =====  | =====   | =====                  | =====               | =====           | =====       |
| 1 dichlorodifluoromethane   | 85                |       |        |         | Compound Not Detected. |                     |                 |             |
| 2 chloromethane             | 50                |       |        |         | Compound Not Detected. |                     |                 |             |
| 3 vinyl chloride            | 62                |       |        |         | Compound Not Detected. |                     |                 |             |
| 4 bromomethane              | 94                |       |        |         | Compound Not Detected. |                     |                 |             |
| 5 chloroethane              | 64                |       |        |         | Compound Not Detected. |                     |                 |             |
| 6 trichlorofluoromethane    | 101               |       |        |         | Compound Not Detected. |                     |                 |             |
| 7 ethyl ether               | 74                |       |        |         | Compound Not Detected. |                     |                 |             |
| 10 acetone                  | 43                | 4.312 | 4.293  | (0.490) | 660146                 | 2401.00             | 2401.003(A)     |             |
| 11 1,1-dichloroethene       | 96                |       |        |         | Compound Not Detected. |                     |                 |             |
| 15 carbon disulfide         | 76                |       |        |         | Compound Not Detected. |                     |                 |             |
| 14 methylene chloride       | 84                |       |        |         | Compound Not Detected. |                     |                 |             |
| 16 acrylonitrile            | 53                |       |        |         | Compound Not Detected. |                     |                 |             |
| 17 methyl tert butyl ether  | 73                |       |        |         | Compound Not Detected. |                     |                 |             |
| 18 trans-1,2-dichloroethene | 96                |       |        |         | Compound Not Detected. |                     |                 |             |
| 22 vinyl acetate            | 43                |       |        |         | Compound Not Detected. |                     |                 |             |
| 21 1,1-dichloroethane       | 63                |       |        |         | Compound Not Detected. |                     |                 |             |
| 25 2-butanone               | 43                |       |        |         | Compound Not Detected. |                     |                 |             |
| 26 2,2-dichloropropane      | 77                |       |        |         | Compound Not Detected. |                     |                 |             |
| 28 cis-1,2-dichloroethene   | 96                |       |        |         | Compound Not Detected. |                     |                 |             |
| 29 chloroform               | 83                |       |        |         | Compound Not Detected. |                     |                 |             |
| 30 bromochloromethane       | 128               |       |        |         | Compound Not Detected. |                     |                 |             |
| \$ 32 dibromofluoromethane  | 113               | 7.577 | 7.574  | (0.860) | 19481                  | 30.6724             | 30.672(R)       |             |
| 33 1,1,1-trichloroethane    | 97                |       |        |         | Compound Not Detected. |                     |                 |             |
| 35 1,1-dichloropropene      | 75                |       |        |         | Compound Not Detected. |                     |                 |             |
| 36 carbon tetrachloride     | 117               |       |        |         | Compound Not Detected. |                     |                 |             |
| \$ 38 1,2-dichloroethane-d4 | 65                | 8.317 | 8.314  | (0.944) | 106599                 | 105.493             | 105.492         |             |
| 39 1,2-dichloroethane       | 62                |       |        |         | Compound Not Detected. |                     |                 |             |
| 40 benzene                  | 78                |       |        |         | Compound Not Detected. |                     |                 |             |

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D Page 2  
Report Date: 16-Jul-2013 11:50

| Compounds                      | QUANT SIG |                        |        |         |         |          | CONCENTRATIONS      |                 | REVIEW CODE |
|--------------------------------|-----------|------------------------|--------|---------|---------|----------|---------------------|-----------------|-------------|
|                                |           | MASS                   | RT     | EXP RT  | REL RT  | RESPONSE | ON-COLUMN<br>( ngs) | FINAL<br>( ngs) |             |
| =====                          | =====     | =====                  | =====  | =====   | =====   | =====    | =====               | =====           | =====       |
| * 41 flourobenzene             | 96        | 8.806                  | 8.804  | (1.000) | 294569  | 100.000  |                     |                 |             |
| 42 trichloroethene             | 95        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 44 1,2-dichloropropane         | 63        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 45 bromodichloromethane        | 83        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 46 1,4-Dioxane                 | 88        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 47 dibromomethane              | 93        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 50 4-methyl-2-pentanone        | 58        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 51 cis-1,3-dichloropropene     | 75        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| \$ 52 toluene-d8               | 98        | 11.304                 | 11.302 | (0.818) | 251161  | 97.8834  | 97.883              |                 |             |
| 53 toluene                     | 92        | 11.429                 | 11.432 | (0.827) | 8388    | 4.13767  | 4.137               |                 |             |
| 54 trans-1,3-dichloropropene   | 75        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 55 ethyl methacrylate          | 69        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 56 1,1,2-trichloroethane       | 83        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 57 2-hexanone                  | 43        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 58 1,3-dichloropropane         | 76        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 59 tetrachloroethene           | 166       | 12.512                 | 12.510 | (0.905) | 1069091 | 1567.45  | 1567.448(A)         |                 |             |
| 60 chlorodibromomethane        | 129       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 61 1,2-dibromoethane           | 107       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| * 62 chlorobenzene-d5          | 117       | 13.818                 | 13.816 | (1.000) | 197842  | 100.000  |                     |                 |             |
| 63 chlorobenzene               | 112       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 64 1,1,1,2-tetrachloroethane   | 131       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 65 ethylbenzene                | 91        | 13.987                 | 13.984 | (1.012) | 21151   | 5.43349  | 5.433               |                 |             |
| 66 p/m-xylene                  | 106       | 14.128                 | 14.126 | (1.022) | 37538   | 26.5364  | 26.536              |                 |             |
| 67 o-xylene                    | 106       | 14.873                 | 14.877 | (1.076) | 20476   | 15.3153  | 15.315              |                 |             |
| 68 styrene                     | 104       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 69 bromoform                   | 173       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 70 isopropylbenzene            | 105       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 71 1,4-dichlorobutane          | 55        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 72 1,1,2,2-tetrachloroethane   | 83        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| \$ 73 4-bromofluorobenzene     | 95        | 15.940                 | 15.938 | (0.882) | 106718  | 95.0897  | 95.089              |                 |             |
| 74 1,2,3-trichloropropane      | 75        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 75 trans-1,4-dichloro-2-butene | 53        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 76 n-propylbenzene             | 91        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 77 bromobenzene                | 156       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 78 4-ethyltoluene              | 105       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 79 1,3,5-trimethylbenzene      | 105       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 80 2-chlorotoluene             | 91        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 81 4-chlorotoluene             | 91        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 82 tert-butylbenzene           | 119       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 83 1,2,4-trimethylbenzene      | 105       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 84 sec-butylbenzene            | 105       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 85 p-isopropyltoluene          | 119       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 86 1,3-dichlorobenzene         | 146       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| * 87 1,4-dichlorobenzene-d4    | 152       | 18.073                 | 18.071 | (1.000) | 97006   | 100.000  |                     |                 |             |
| 88 1,4-dichlorobenzene         | 146       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 89 n-butylbenzene              | 91        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 90 p-Diethylbenzene            | 119       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 91 1,2-dichlorobenzene         | 146       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 92 1,2,4,5-tetramethylbenzene  | 119       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 93 1,2-dibromo-3-chloropropane | 75        | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 95 1,2,4-trichlorobenzene      | 182       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 96 hexachlorobutadiene         | 225       | Compound Not Detected. |        |         |         |          |                     |                 |             |
| 97 naphthalene                 | 128       | 22.257                 | 22.255 | (1.232) | 10198   | 9.13130  | 9.131               |                 |             |
| 98 1,2,3-trichlorobenzene      | 180       | Compound Not Detected. |        |         |         |          |                     |                 |             |

Data File: \\orgserv2\ff\chem\GCMSV0A\Curly.i\130713.b\0713A15.D Page 3  
Report Date: 16-Jul-2013 11:50

| Compounds | QUANT SIG<br>MASS | RT    | EXP RT | REL RT | RESPONSE | CONCENTRATIONS |        | REVIEW CODE |
|-----------|-------------------|-------|--------|--------|----------|----------------|--------|-------------|
|           |                   |       |        |        |          | ON-COLUMN      | FINAL  |             |
| =====     | =====             | ===== | =====  | =====  | =====    | ( ngs)         | ( ngs) | =====       |

#### QC Flag Legend

A - Target compound detected but, quantitated amount  
exceeded maximum amount.  
R - Spike/Surrogate failed recovery limits.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D Page 4  
 Report Date: 16-Jul-2013 11:50

## Alpha Analytical Labs

gc/ms voa - Curly  
 Data file : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D  
 Lab Smp Id:  
 Inj Date : 13-JUL-2013 16:46  
 Operator : BN Inst ID: curly.i  
 Smp Info : L1313056-01,31,5.0  
 Misc Info : wg621630,ical8299  
 Comment :  
 Method : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\s8260.m  
 Meth Date : 13-Jul-2013 08:45 curly.i Quant Type: ISTD  
 Cal Date : 02-JUL-2013 20:54 Cal File: 0702N03.D  
 Als bottle: 24  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: NYTCL.sub  
 Target Version: 4.12  
 Processing Host: VIRTUALXP-23639

Concentration Formula: Amt \* DF \* CpndVariable  
 Cpnd Variable Local Compound Variable

| ISTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | RT       | AREA         | AMOUNT      |                |                   |           |        |             |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|-------------|----------------|-------------------|-----------|--------|-------------|-------|--|--|--|--|----|------|--------------|-------------|------|---------|-----------|--------|-------------|------|------|-------|-------|------|-------|-------|-------|-------|----------------|--|--|--|--|--|--|--|--|--------|----------|------------|-------|----|-------------------|----------|------|--|
| =====                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | =====    | =====        | =====       |                |                   |           |        |             |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
| <table border="1"> <thead> <tr> <th colspan="5">CONCENTRATIONS</th> <th colspan="3">QUANT</th> <th></th> <th></th> </tr> <tr> <th>RT</th> <th>AREA</th> <th>ON-COL( ngs)</th> <th>FINAL( ngs)</th> <th>QUAL</th> <th>LIBRARY</th> <th>LIB ENTRY</th> <th>CPND #</th> <th>REVIEW CODE</th> </tr> <tr> <th>====</th> <th>====</th> <th>=====</th> <th>=====</th> <th>====</th> <th>=====</th> <th>=====</th> <th>=====</th> <th>=====</th> </tr> </thead> <tbody> <tr> <td colspan="9">2-Octene, (E)-</td> </tr> <tr> <td>17.578</td> <td>53364868</td> <td>0.00000000</td> <td>0.000</td> <td>87</td> <td>CAS #: 13389-42-9</td> <td>NIST02.L</td> <td>6470</td> <td></td> </tr> </tbody> </table> |          |              |             | CONCENTRATIONS |                   |           |        |             | QUANT |  |  |  |  | RT | AREA | ON-COL( ngs) | FINAL( ngs) | QUAL | LIBRARY | LIB ENTRY | CPND # | REVIEW CODE | ==== | ==== | ===== | ===== | ==== | ===== | ===== | ===== | ===== | 2-Octene, (E)- |  |  |  |  |  |  |  |  | 17.578 | 53364868 | 0.00000000 | 0.000 | 87 | CAS #: 13389-42-9 | NIST02.L | 6470 |  |
| CONCENTRATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |              |             |                | QUANT             |           |        |             |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
| RT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AREA     | ON-COL( ngs) | FINAL( ngs) | QUAL           | LIBRARY           | LIB ENTRY | CPND # | REVIEW CODE |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
| ====                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ====     | =====        | =====       | ====           | =====             | =====     | =====  | =====       |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
| 2-Octene, (E)-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |              |             |                |                   |           |        |             |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |
| 17.578                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 53364868 | 0.00000000   | 0.000       | 87             | CAS #: 13389-42-9 | NIST02.L  | 6470   |             |       |  |  |  |  |    |      |              |             |      |         |           |        |             |      |      |       |       |      |       |       |       |       |                |  |  |  |  |  |  |  |  |        |          |            |       |    |                   |          |      |  |

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D Page 5  
 Report Date: 16-Jul-2013 11:50

## Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS  
AREA AND RT SUMMARY

Instrument ID: curly.i

Lab File ID: 0713A15.D

Lab Smp Id:

Analysis Type: VOA

Quant Type: ISTD

Operator: BN

Method File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\s8260.m

Misc Info: wg621630, ical8299

Calibration Date: 13-JUL-2013

Calibration Time: 08:51

Level: LOW

Sample Type: SOIL

Test Mode:

Use Last Continuing Calibrator.

If Continuing Cal. use Initial Cal. Level 3

| COMPOUND             | STANDARD | AREA LIMIT |        | SAMPLE | %DIFF |
|----------------------|----------|------------|--------|--------|-------|
|                      |          | LOWER      | UPPER  |        |       |
| 41 flourobenezene    | 296628   | 148314     | 593256 | 294569 | -0.69 |
| 62 chlorobenzene-d5  | 202363   | 101182     | 404726 | 197842 | -2.23 |
| 87 1,4-dichlorobenze | 102037   | 51019      | 204074 | 97006  | -4.93 |

| COMPOUND             | STANDARD | RT LIMIT |       | SAMPLE | %DIFF |
|----------------------|----------|----------|-------|--------|-------|
|                      |          | LOWER    | UPPER |        |       |
| 41 flourobenezene    | 8.80     | 8.30     | 9.30  | 8.81   | 0.03  |
| 62 chlorobenzene-d5  | 13.82    | 13.32    | 14.32 | 13.82  | 0.02  |
| 87 1,4-dichlorobenze | 18.07    | 17.57    | 18.57 | 18.07  | 0.01  |

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\0713A15.D Page 6  
 Report Date: 16-Jul-2013 11:50

## Alpha Analytical Labs

## RECOVERY REPORT

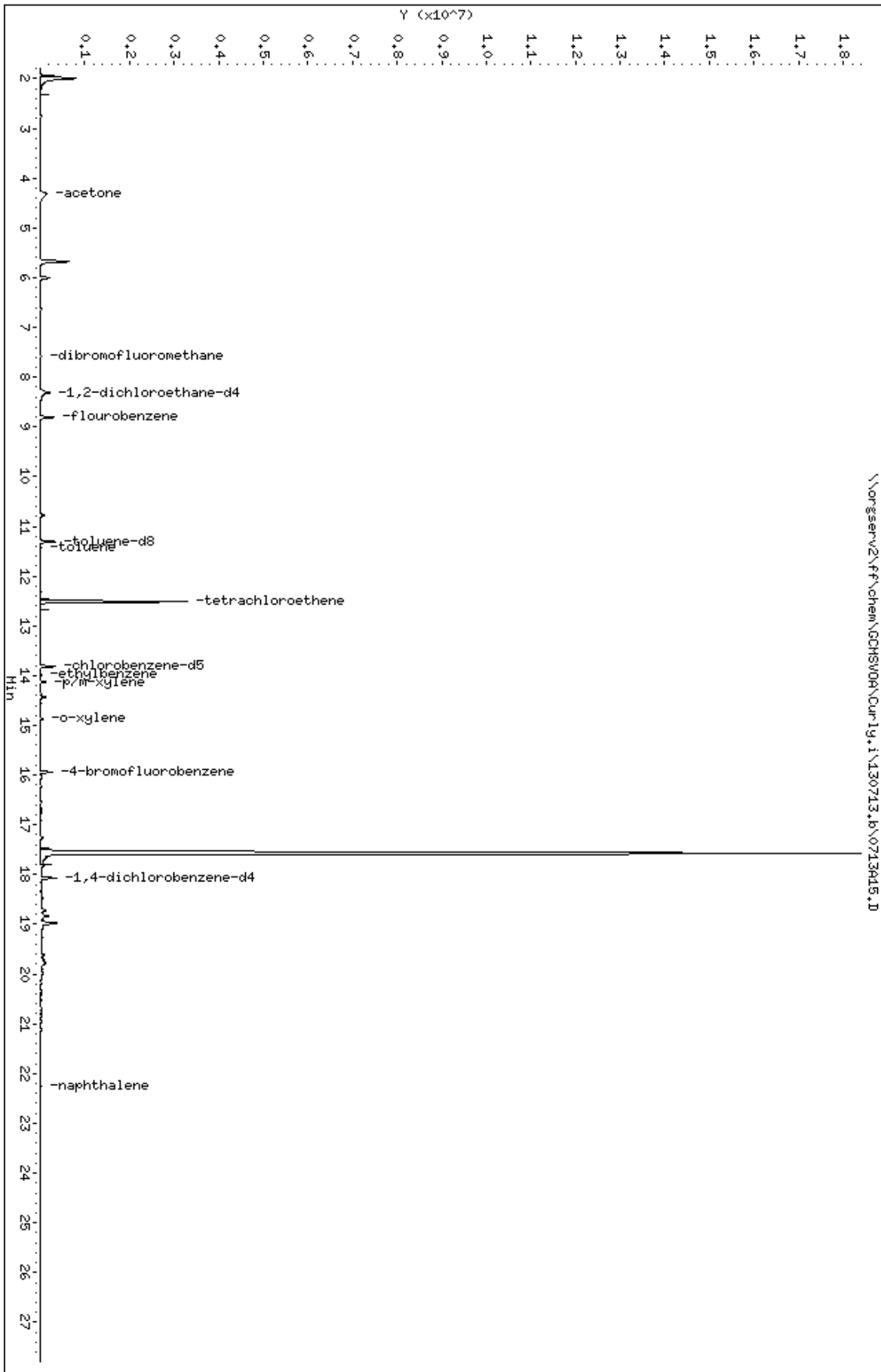
Client Name: Client SDG: SDGa00470  
 Sample Matrix: SOLID Fraction: VOA  
 Lab Smp Id:  
 Level: LOW Operator: BN  
 Data Type: MS DATA SampleType: SAMPLE  
 SpikeList File: curve.spk Quant Type: ISTD  
 Sublist File: NYTCL.sub  
 Method File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130713.b\s8260.m  
 Misc Info: wg621630,ical8299

| SURROGATE COMPOUND       | AMOUNT<br>ADDED<br>ngs | AMOUNT<br>RECOVERED<br>ngs | %<br>RECOVERED | LIMITS |
|--------------------------|------------------------|----------------------------|----------------|--------|
| \$ 32 dibromofluorometha | 100.000                | 30.672                     | 30.67*         | 70-130 |
| \$ 38 1,2-dichloroethane | 100.000                | 105.492                    | 105.49         | 70-130 |
| \$ 52 toluene-d8         | 100.000                | 97.883                     | 97.88          | 70-130 |
| \$ 73 4-bromofluorobenze | 100.000                | 95.089                     | 95.09          | 70-130 |



Data File: \\norserv2\ff\chem\GCHSV08\Curly,i\130713,b\07130415.D  
 Date : 13-JUL-2013 16:46  
 Client ID:  
 Sample Info: L1313056-01,31,5.0  
 Volume Injected (uL): 0.1  
 Column phase:

Instrument: curly,i  
 Operator: BN  
 Column diameter: 0.53



Data File: \\ongserv2\ff\chem\GCMS\00A\Curly.i\130713.b\0713A15.D

Page 8

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

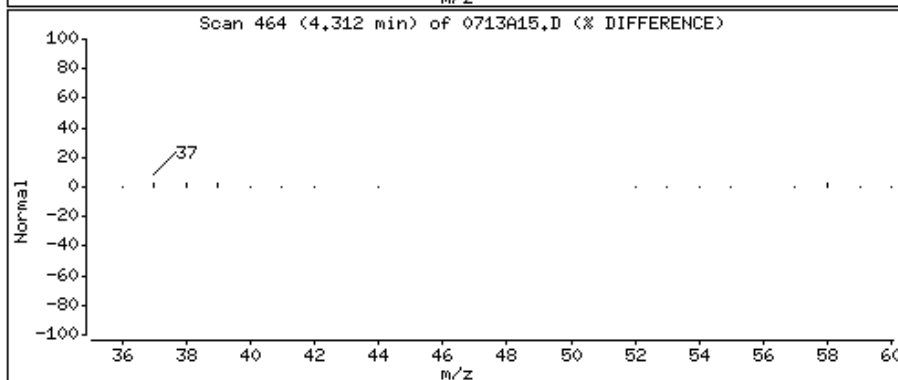
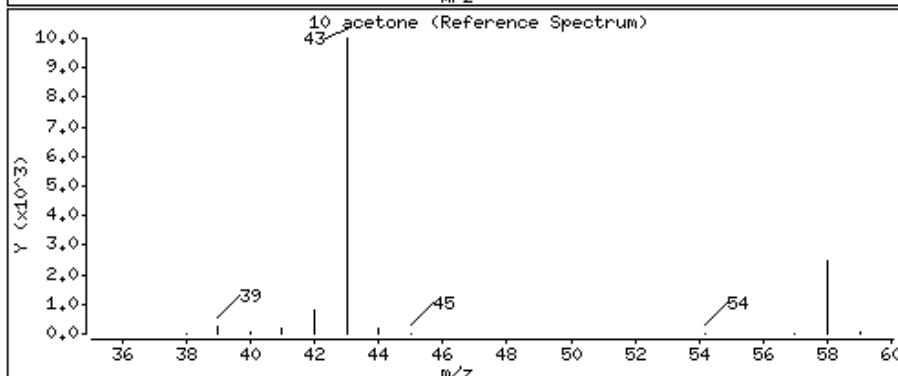
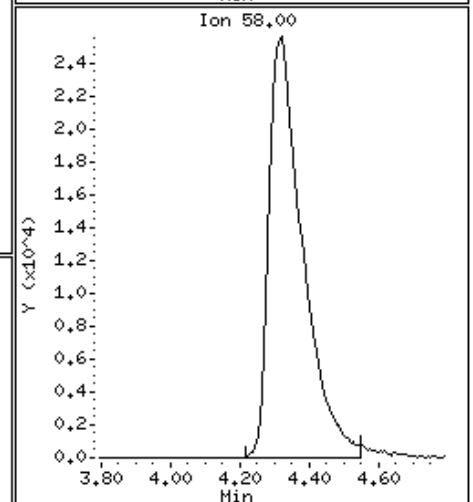
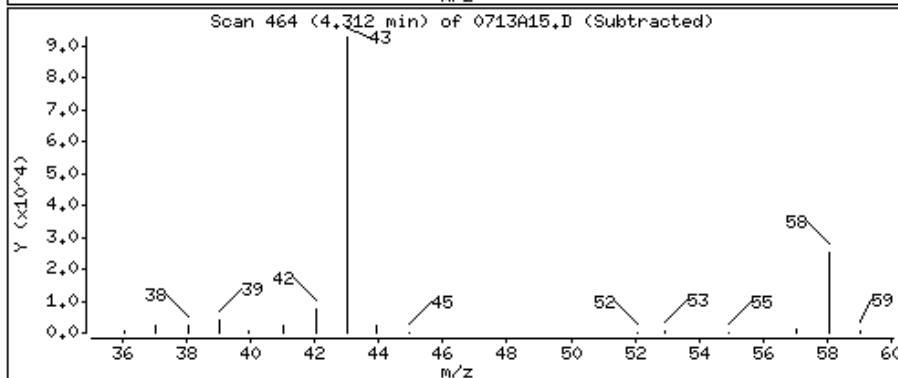
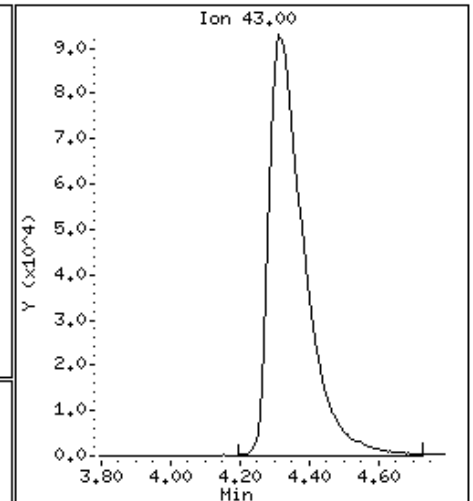
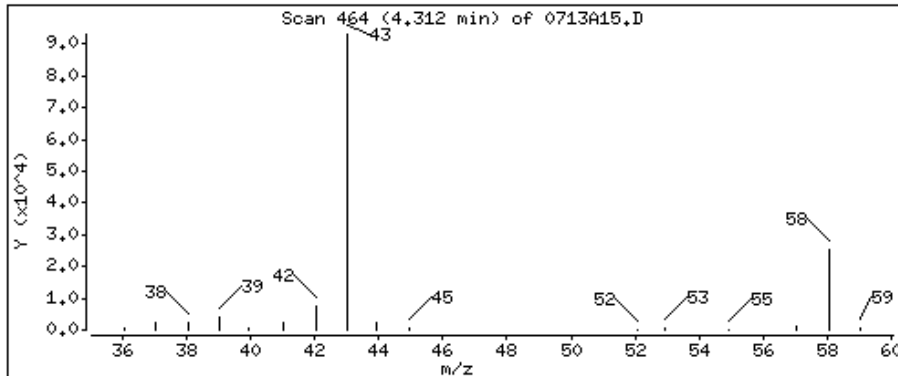
Operator: BN

Column phase:

Column diameter: 0.53

10 acetone

Concentration: 2401.003 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713.b\0713A15.D

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Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

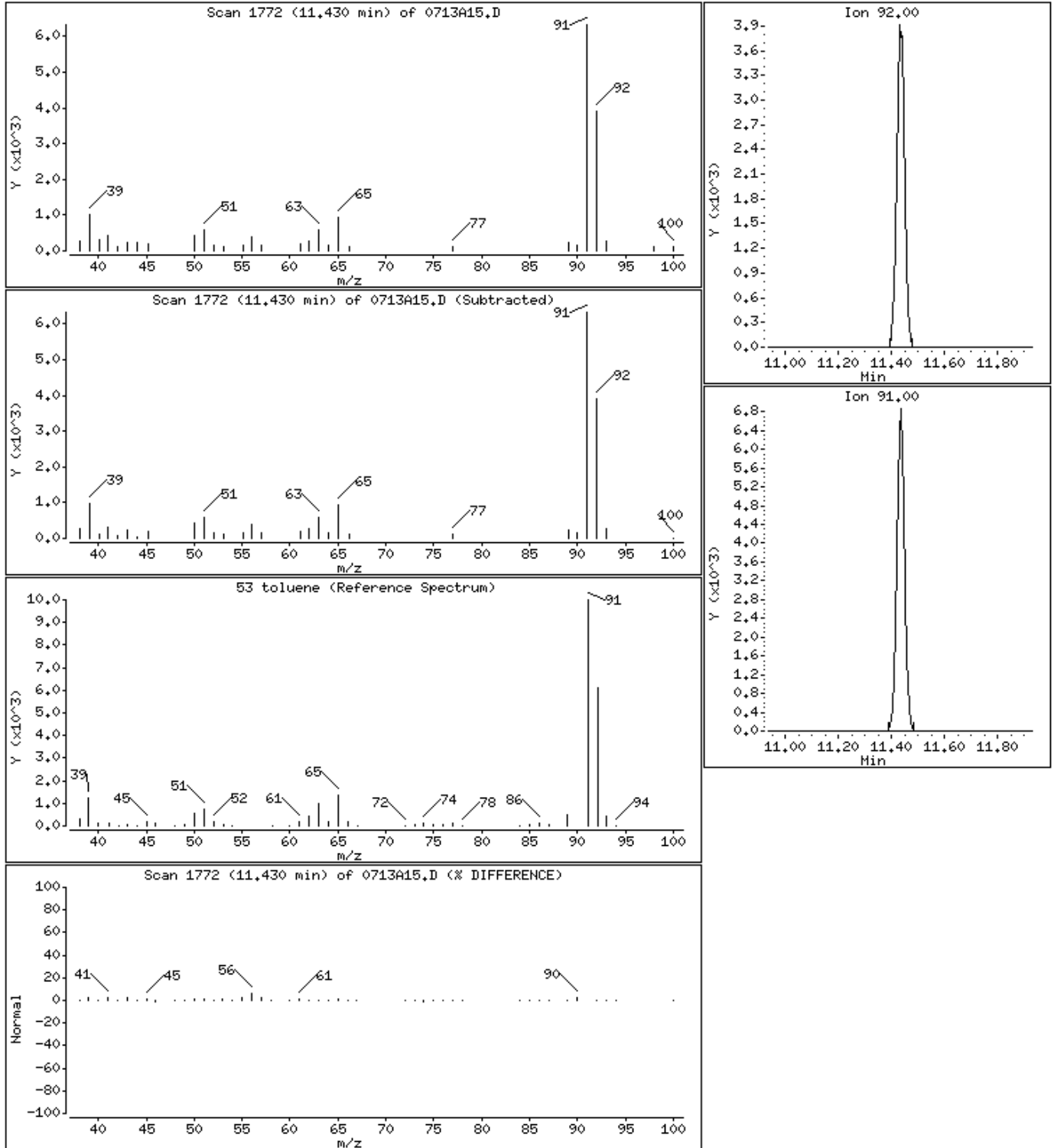
Operator: BN

Column phase:

Column diameter: 0.53

53 toluene

Concentration: 4.137 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713,b\0713A15.D

Page 10

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0,1

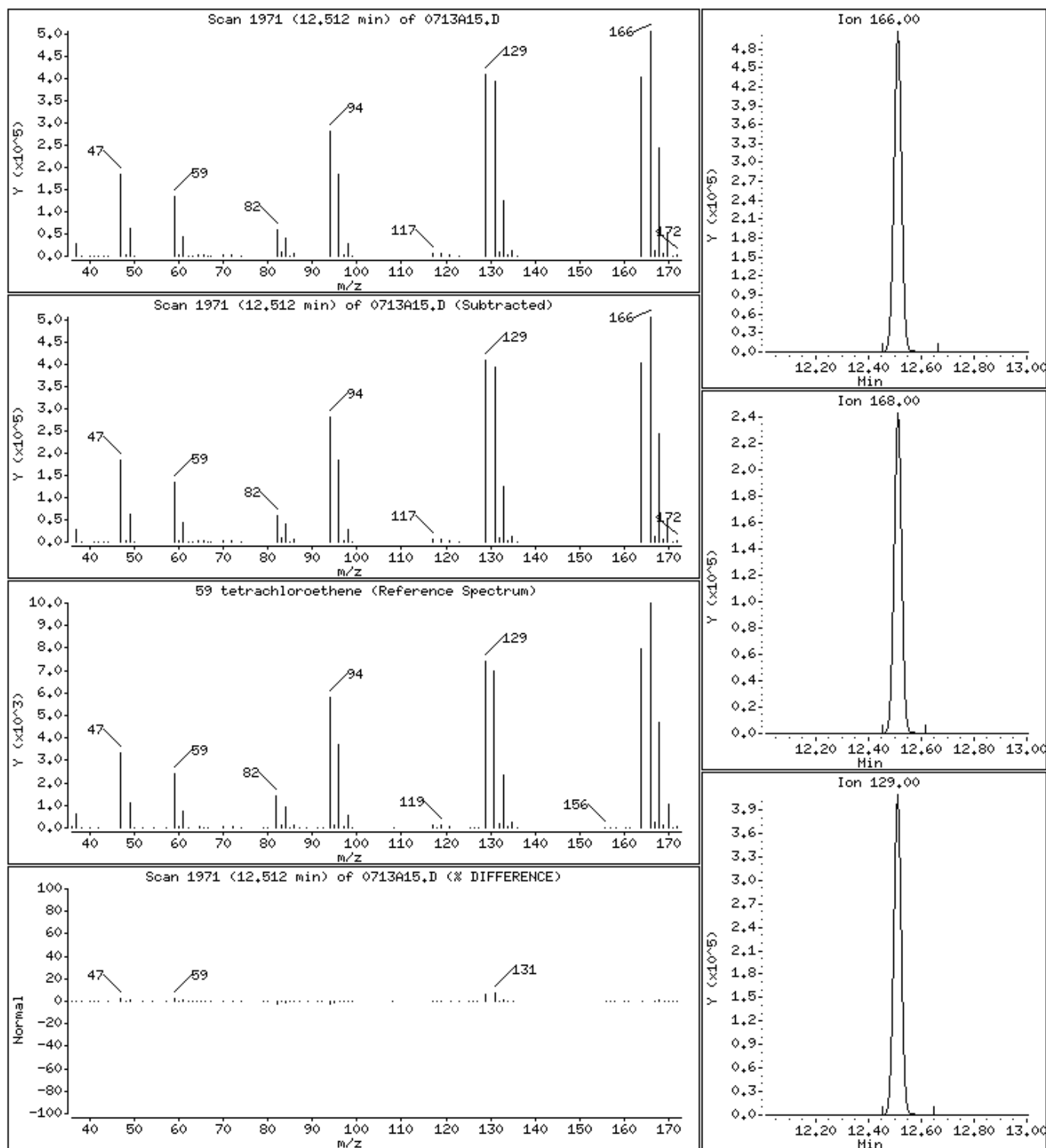
Operator: BN

Column phase:

Column diameter: 0,53

59 tetrachloroethene

Concentration: 1567,448 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713.b\0713A15.D

Page 11

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

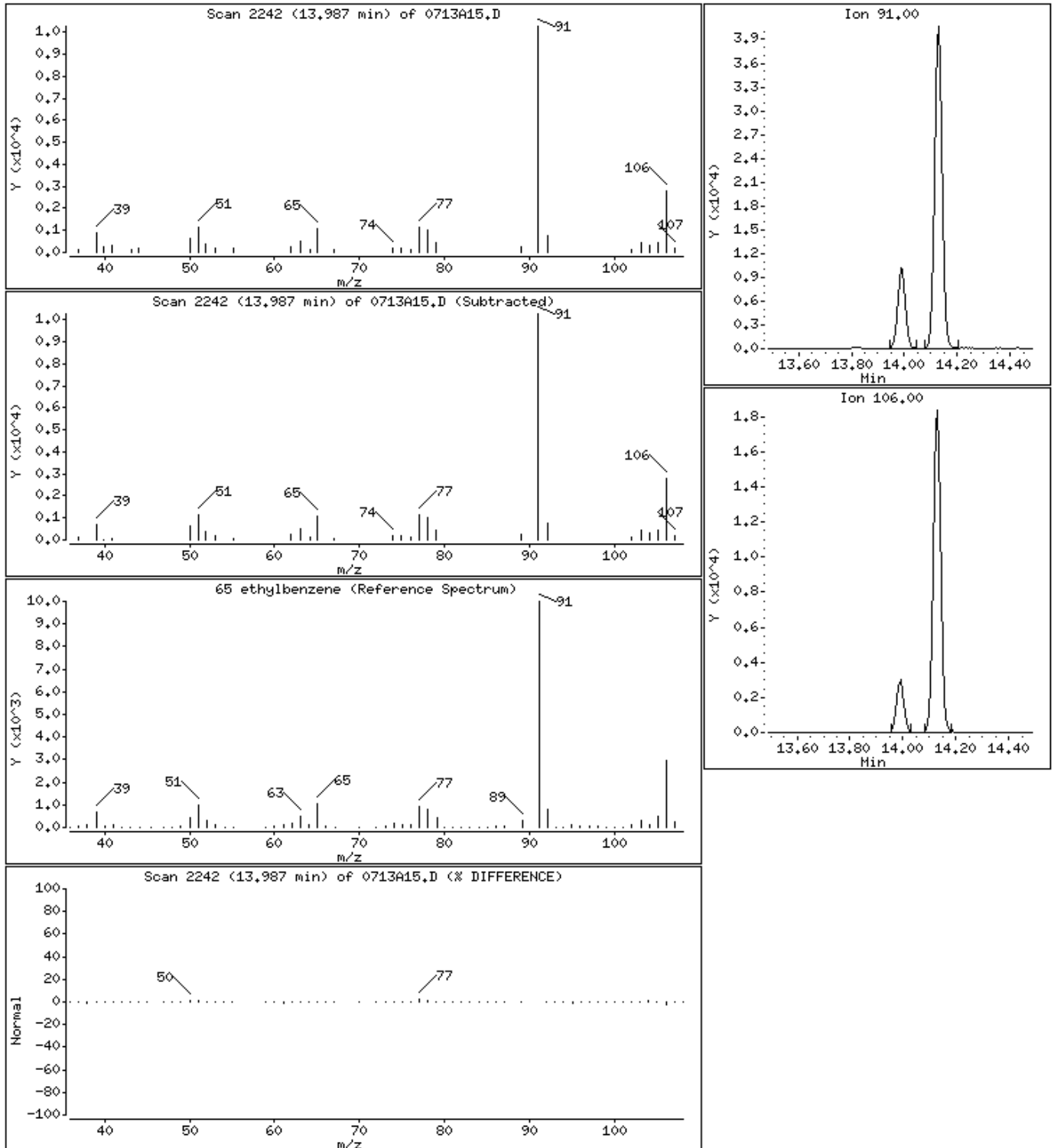
Operator: BN

Column phase:

Column diameter: 0.53

65 ethylbenzene

Concentration: 5.433 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713.b\0713A15.D

Page 12

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

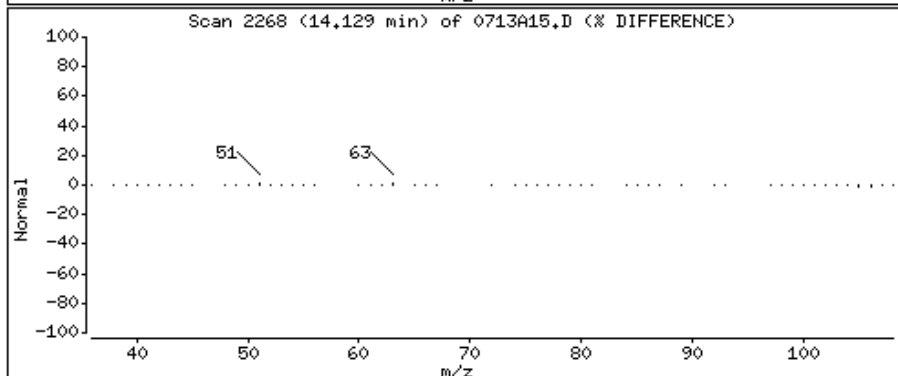
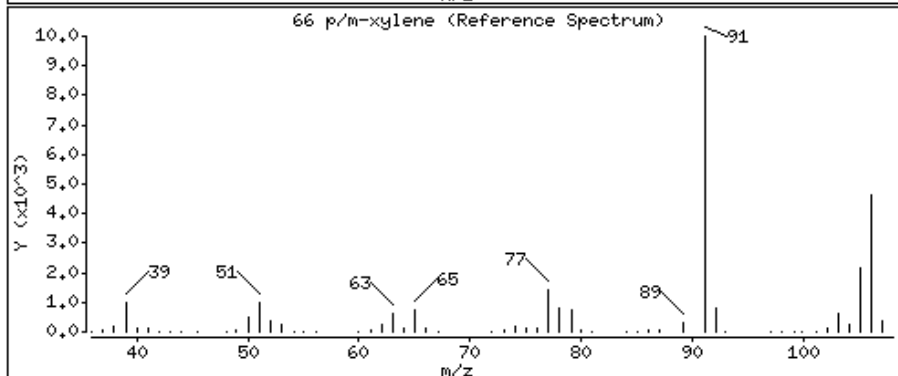
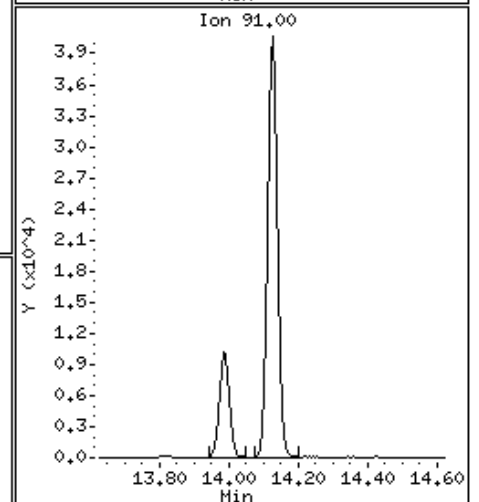
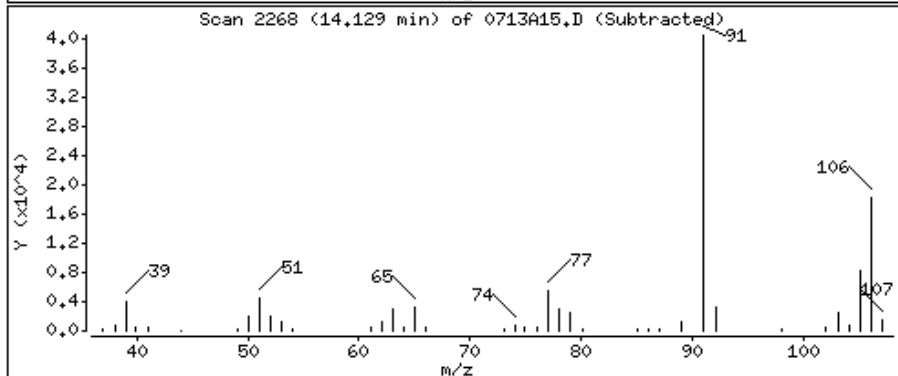
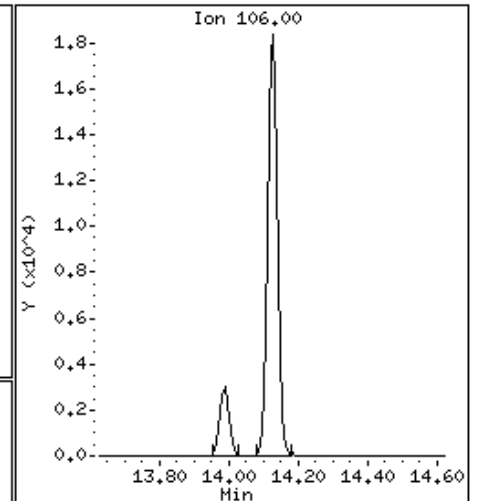
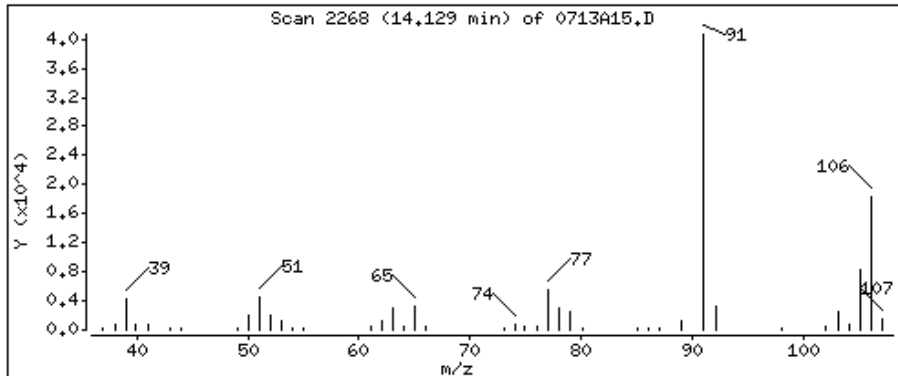
Operator: BN

Column phase:

Column diameter: 0.53

66 p/m-xylene

Concentration: 26.536 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713,b\0713A15.D

Page 13

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

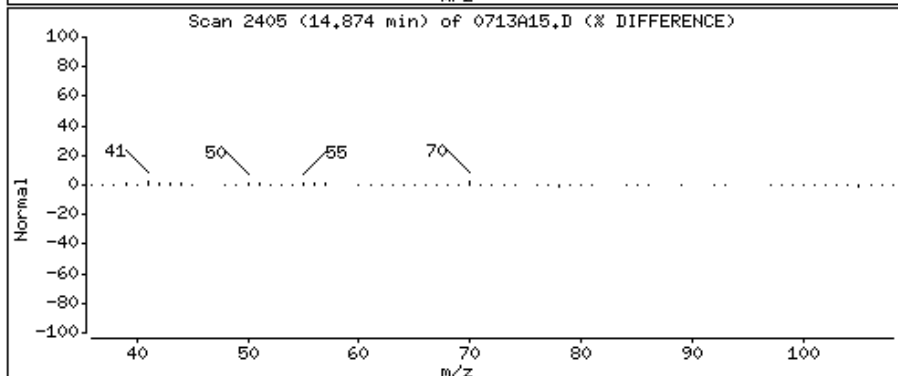
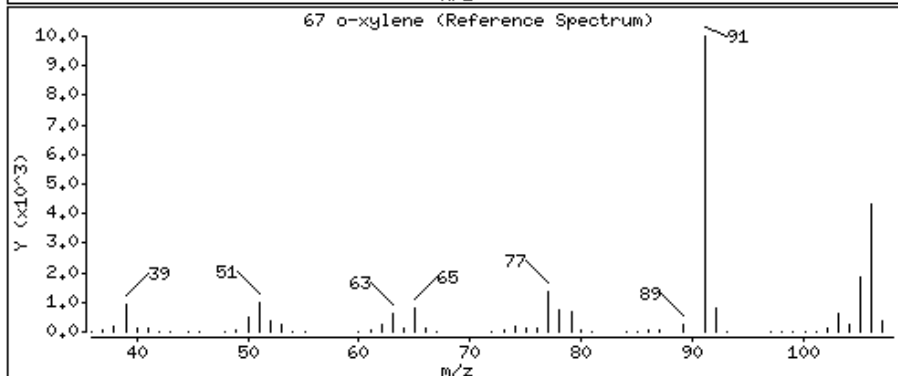
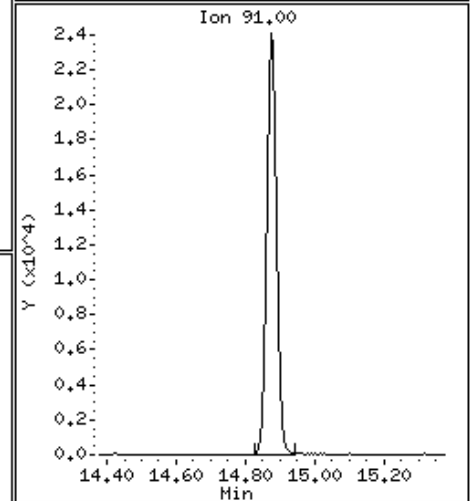
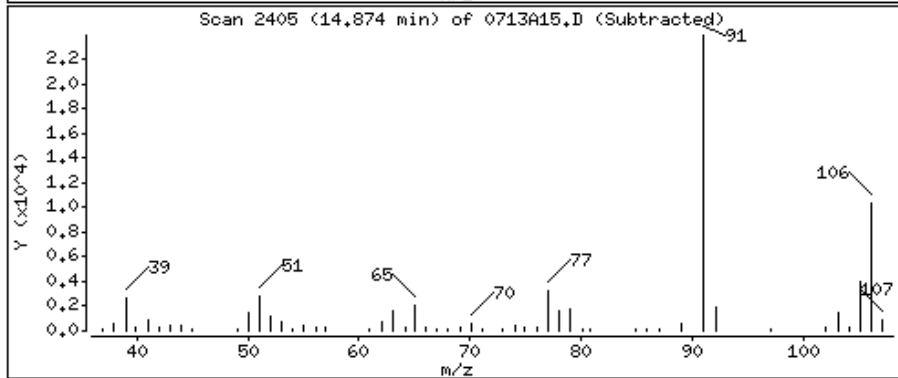
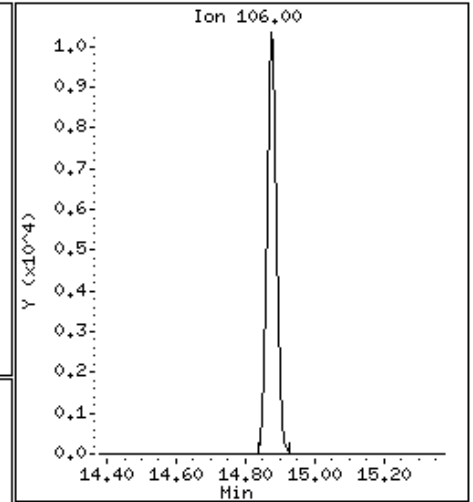
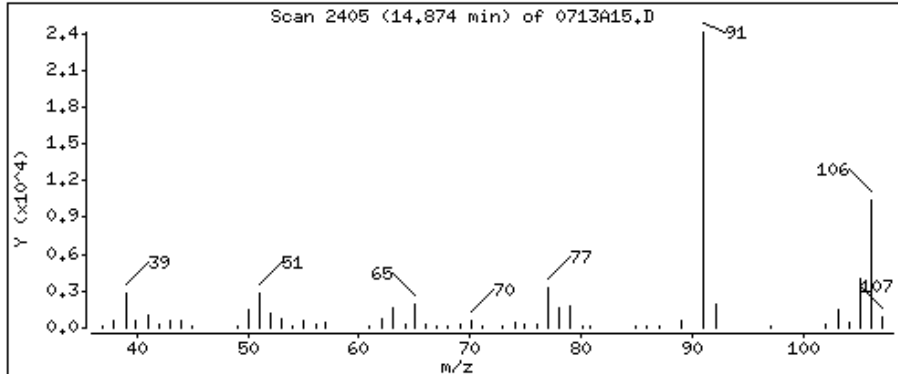
Operator: BN

Column phase:

Column diameter: 0.53

67 o-xylene

Concentration: 15.315 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713.b\0713A15.D

Page 14

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

Volume Injected (uL): 0.1

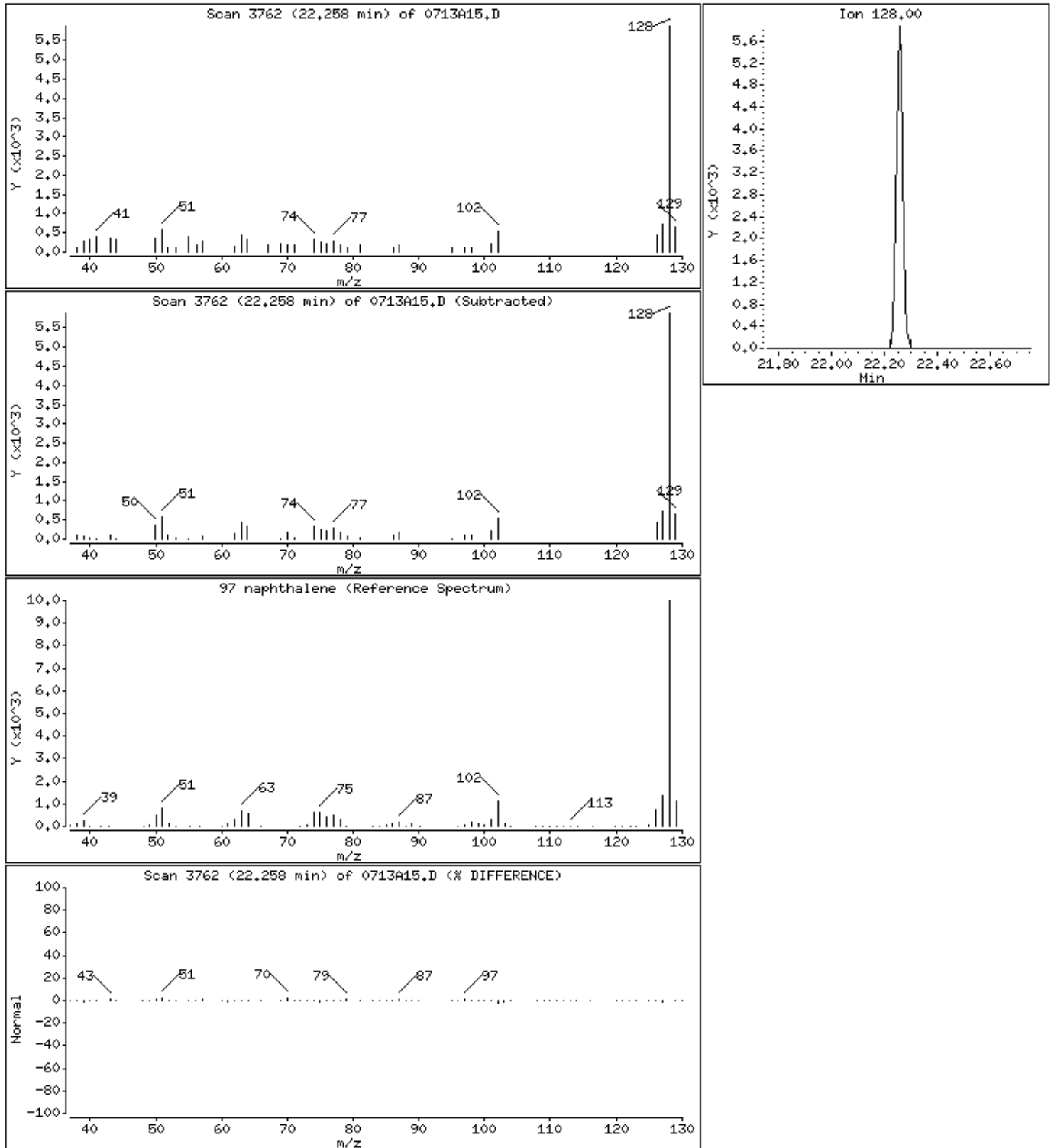
Operator: BN

Column phase:

Column diameter: 0.53

97 naphthalene

Concentration: 9.131 ngs





Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130713.b\0713A15.D

Page 15

Date : 13-JUL-2013 16:46

Client ID:

Instrument: curly.i

Sample Info: L1313056-01,31,5,0

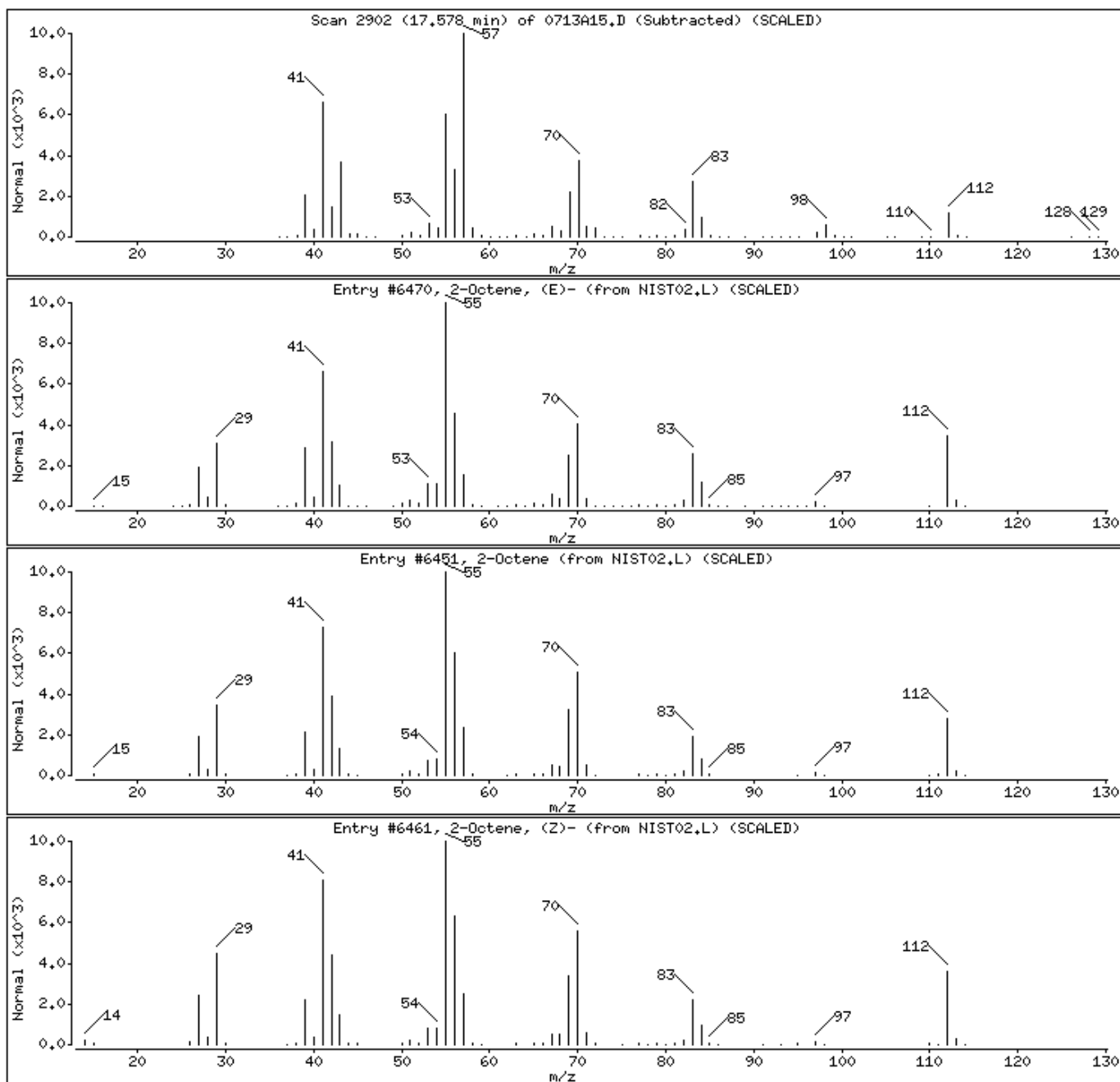
Volume Injected (uL): 0.1

Operator: BN

Column phase:

Column diameter: 0.53

| Library Search Compound Match | CAS Number | Library  | Entry | Quality | Formula | Weight |
|-------------------------------|------------|----------|-------|---------|---------|--------|
| 2-Octene, (E)-                | 13389-42-9 | NIST02.L | 6470  | 87      | C8H16   | 112    |
| 2-Octene                      | 111-67-1   | NIST02.L | 6451  | 76      | C8H16   | 112    |
| 2-Octene, (Z)-                | 7642-04-8  | NIST02.L | 6461  | 70      | C8H16   | 112    |



## Alpha Analytical Labs

## Manual Integration

Sample Info : L1313056-01,31,5.0  
wg621630,ical8299

Instrument ID : curly.i  
Method : s8260.m  
File : 0713A15.D  
Injection Date : 13-JUL-2013 16:46  
Quantitation : ISTD Integrator : HP RTE  
Dilution Factor : 1.00 Sample Type: SAMPLE

There are no manual integrations in this file.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\0715A18.D Page 1  
Report Date: 17-Jul-2013 11:16

## Alpha Analytical Labs

gc/ms voa - Curly  
Data file : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\0715A18.D  
Lab Smp Id:  
Inj Date : 15-JUL-2013 17:52  
Operator : BN Inst ID: curly.i  
Smp Info : L1313056-01D,31,1.0  
Misc Info : wg621630,ical8299  
Comment :  
Method : \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\s8260.m  
Meth Date : 15-Jul-2013 17:49 pduczmalew Quant Type: ISTD  
Cal Date : 02-JUL-2013 20:54 Cal File: 0702N03.D  
Als bottle: 27  
Dil Factor: 5.00000  
Integrator: HP RTE Compound Sublist: curve.sub  
Target Version: 4.12  
Processing Host: A1-001722

Concentration Formula: Amt \* DF \* CpndVariable  
Cpnd Variable Local Compound Variable

| Compounds                   | QUANT SIG<br>MASS |        |                |        |          | CONCENTRATIONS      |                 | REVIEW CODE |
|-----------------------------|-------------------|--------|----------------|--------|----------|---------------------|-----------------|-------------|
|                             |                   | RT     | EXP RT         | REL RT | RESPONSE | ON-COLUMN<br>( ngs) | FINAL<br>( ngs) |             |
| =====                       | =====             | =====  | =====          | =====  | =====    | =====               | =====           | =====       |
| 10 acetone                  | 43                | 4.305  | 4.339 (0.489)  |        | 211860   | 619.359             | 3096.793        |             |
| \$ 32 dibromofluoromethane  | 113               | 7.580  | 7.577 (0.860)  |        | 19296    | 31.8927             | 31.892(R)       |             |
| \$ 38 1,2-dichloroethane-d4 | 65                | 8.320  | 8.312 (0.944)  |        | 96378    | 100.123             | 100.123         |             |
| * 41 flouorobenzene         | 96                | 8.810  | 8.807 (1.000)  |        | 280608   | 100.000             |                 |             |
| \$ 52 toluene-d8            | 98                | 11.313 | 11.304 (0.819) |        | 241425   | 98.4345             | 98.434          |             |
| 53 toluene                  | 92                | 11.433 | 11.435 (0.827) |        | 3040     | 1.56884             | 7.844           |             |
| 59 tetrachloroethene        | 166               | 12.515 | 12.507 (0.906) |        | 374197   | 573.968             | 2869.839        |             |
| * 62 chlorobenzene-d5       | 117               | 13.821 | 13.813 (1.000) |        | 189108   | 100.000             |                 |             |
| 65 ethylbenzene             | 91                | 13.996 | 13.987 (1.013) |        | 7733     | 2.07828             | 10.391          |             |
| 66 p/m-xylene               | 106               | 14.132 | 14.123 (1.022) |        | 14001    | 10.3547             | 51.773          |             |
| 67 o-xylene                 | 106               | 14.882 | 14.874 (1.077) |        | 8073     | 6.31719             | 31.585          |             |
| \$ 73 4-bromofluorobenzene  | 95                | 15.944 | 15.940 (0.882) |        | 102030   | 93.5769             | 93.576          |             |
| * 87 1,4-dichlorobenzene-d4 | 152               | 18.077 | 18.068 (1.000) |        | 94244    | 100.000             |                 |             |
| 97 naphthalene              | 128               | 22.261 | 22.258 (1.231) |        | 4876     | 7.37108             | 36.855          |             |

## QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\0715A18.D Page 2  
 Report Date: 17-Jul-2013 11:16

## Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS  
AREA AND RT SUMMARY

Instrument ID: curly.i

Lab File ID: 0715A18.D

Lab Smp Id:

Analysis Type: VOA

Quant Type: ISTD

Operator: BN

Method File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\s8260.m

Misc Info: wg621630,ical8299

Calibration Date: 15-JUL-2013

Calibration Time: 07:50

Level: LOW

Sample Type: SOIL

Test Mode:

Use Last Continuing Calibrator.

If Continuing Cal. use Initial Cal. Level 3

| COMPOUND             | STANDARD | AREA LIMIT |        | SAMPLE | %DIFF |
|----------------------|----------|------------|--------|--------|-------|
|                      |          | LOWER      | UPPER  |        |       |
| 41 flourobenezene    | 298687   | 149344     | 597374 | 280608 | -6.05 |
| 62 chlorobenzene-d5  | 204964   | 102482     | 409928 | 189108 | -7.74 |
| 87 1,4-dichlorobenze | 101787   | 50894      | 203574 | 94244  | -7.41 |

| COMPOUND             | STANDARD | RT LIMIT |       | SAMPLE | %DIFF |
|----------------------|----------|----------|-------|--------|-------|
|                      |          | LOWER    | UPPER |        |       |
| 41 flourobenezene    | 8.81     | 8.31     | 9.31  | 8.81   | 0.04  |
| 62 chlorobenzene-d5  | 13.81    | 13.31    | 14.31 | 13.82  | 0.06  |
| 87 1,4-dichlorobenze | 18.07    | 17.57    | 18.57 | 18.08  | 0.05  |

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\0715A18.D Page 3  
 Report Date: 17-Jul-2013 11:16

## Alpha Analytical Labs

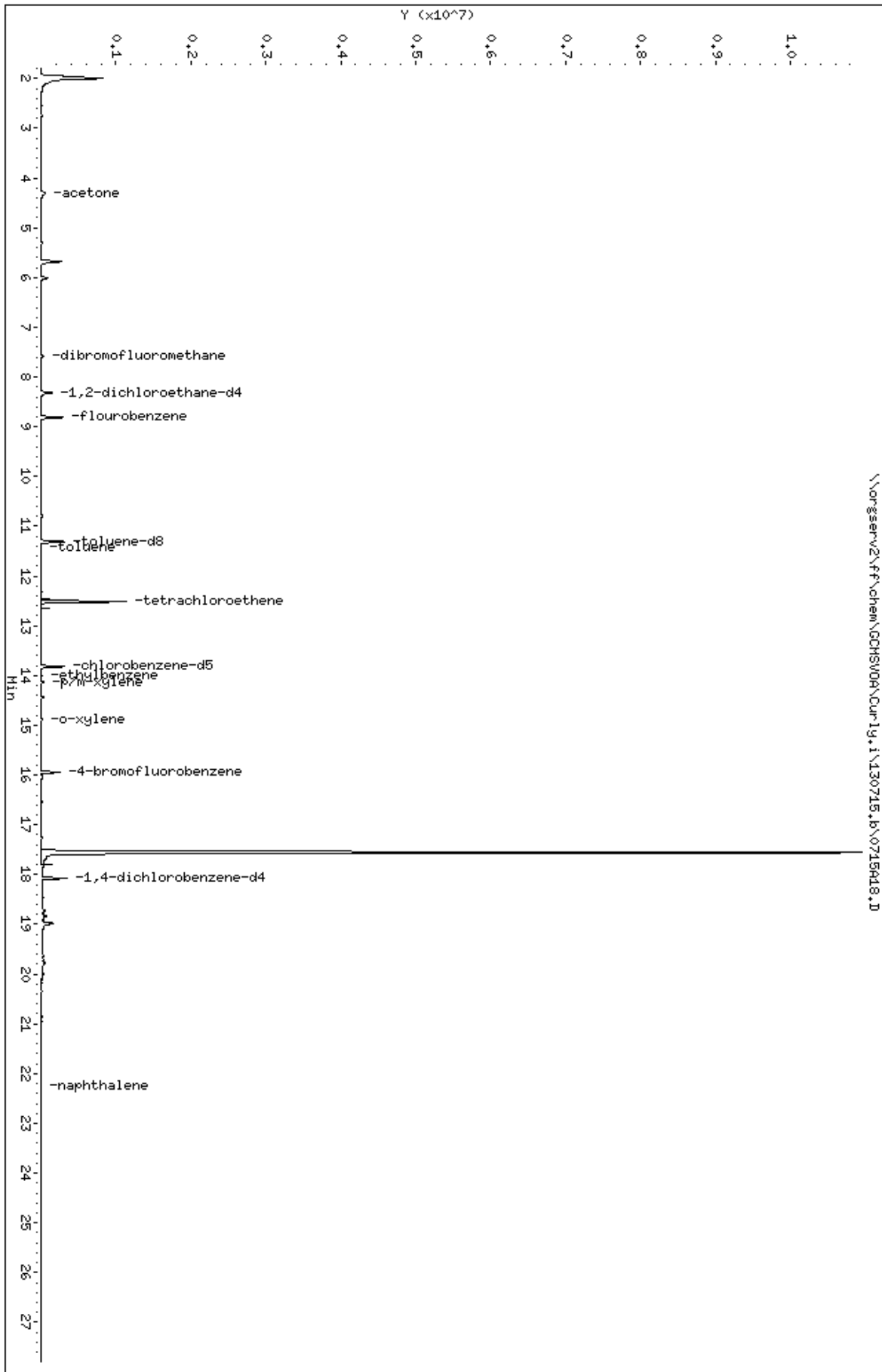
## RECOVERY REPORT

Client Name: Client SDG: SDGa00470  
 Sample Matrix: SOLID Fraction: VOA  
 Lab Smp Id:  
 Level: LOW Operator: BN  
 Data Type: MS DATA SampleType: SAMPLE  
 SpikeList File: curve.spk Quant Type: ISTD  
 Sublist File: curve.sub  
 Method File: \\orgserv2\ff\chem\GCMSVOA\Curly.i\130715.b\s8260.m  
 Misc Info: wg621630,ical8299

| SURROGATE COMPOUND       | AMOUNT<br>ADDED<br>ngs | AMOUNT<br>RECOVERED<br>ngs | %<br>RECOVERED | LIMITS |
|--------------------------|------------------------|----------------------------|----------------|--------|
| \$ 32 dibromofluorometha | 100.000                | 31.892                     | 31.89*         | 70-130 |
| \$ 38 1,2-dichloroethane | 100.000                | 100.123                    | 100.12         | 70-130 |
| \$ 52 toluene-d8         | 100.000                | 98.434                     | 98.43          | 70-130 |
| \$ 73 4-bromofluorobenze | 100.000                | 93.576                     | 93.58          | 70-130 |

Data File: \\norserv2\ff\chem\GCHSV08\Curly,i\130715,b\0715048.D  
Date : 15-JUL-2013 17:52  
Client ID:  
Sample Info: L1313056-01D,31.4.0  
Volume Injected (uL): 0.1  
Column phase:

Instrument: curly.i  
Operator: BN  
Column diameter: 0.53



Data File: \\ongserv2\ff\chem\GCMS\00A\Curly.i\130715.b\0715A18.D

Page 5

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

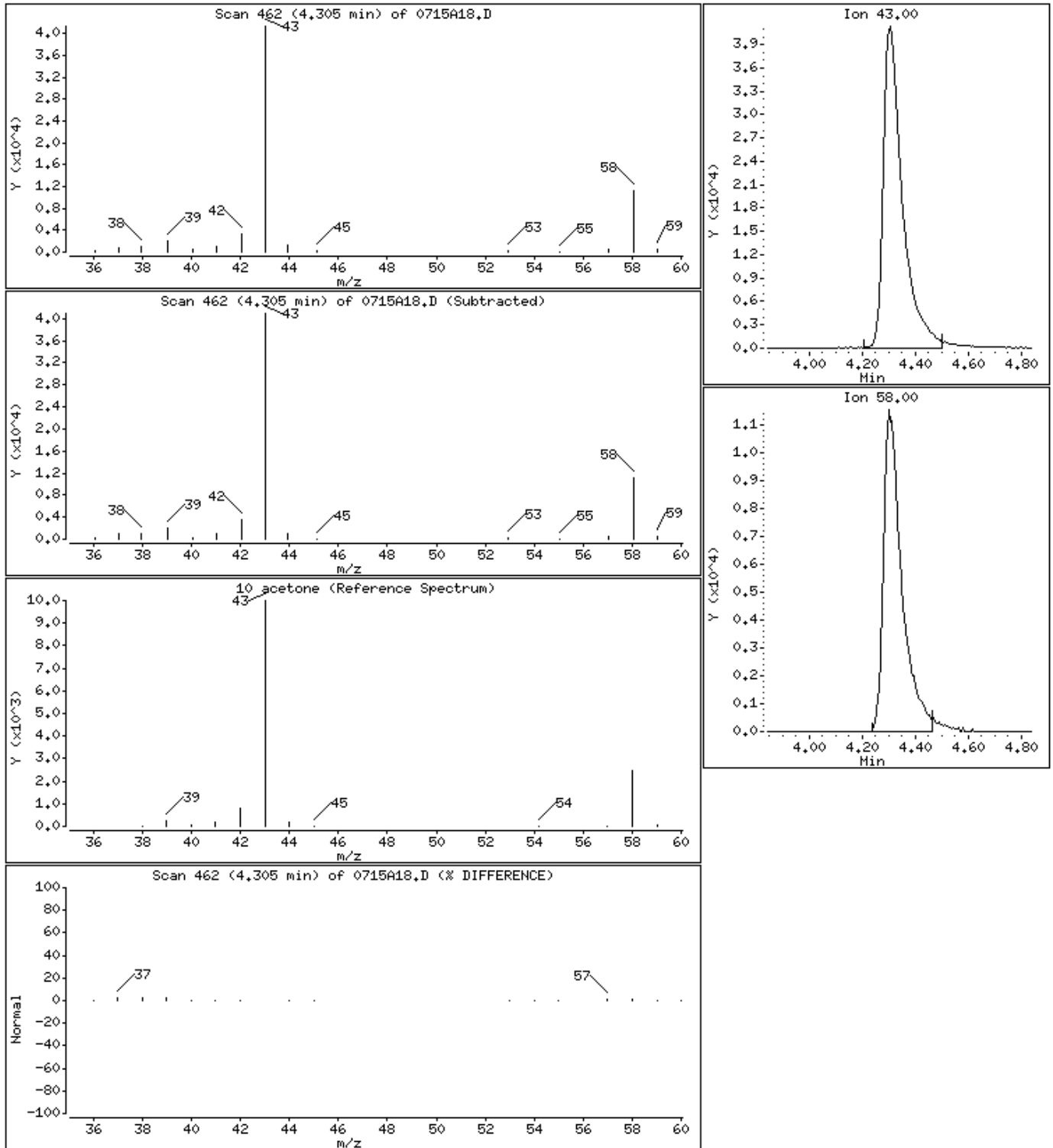
Operator: BN

Column phase:

Column diameter: 0.53

10 acetone

Concentration: 3096.793 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 6

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

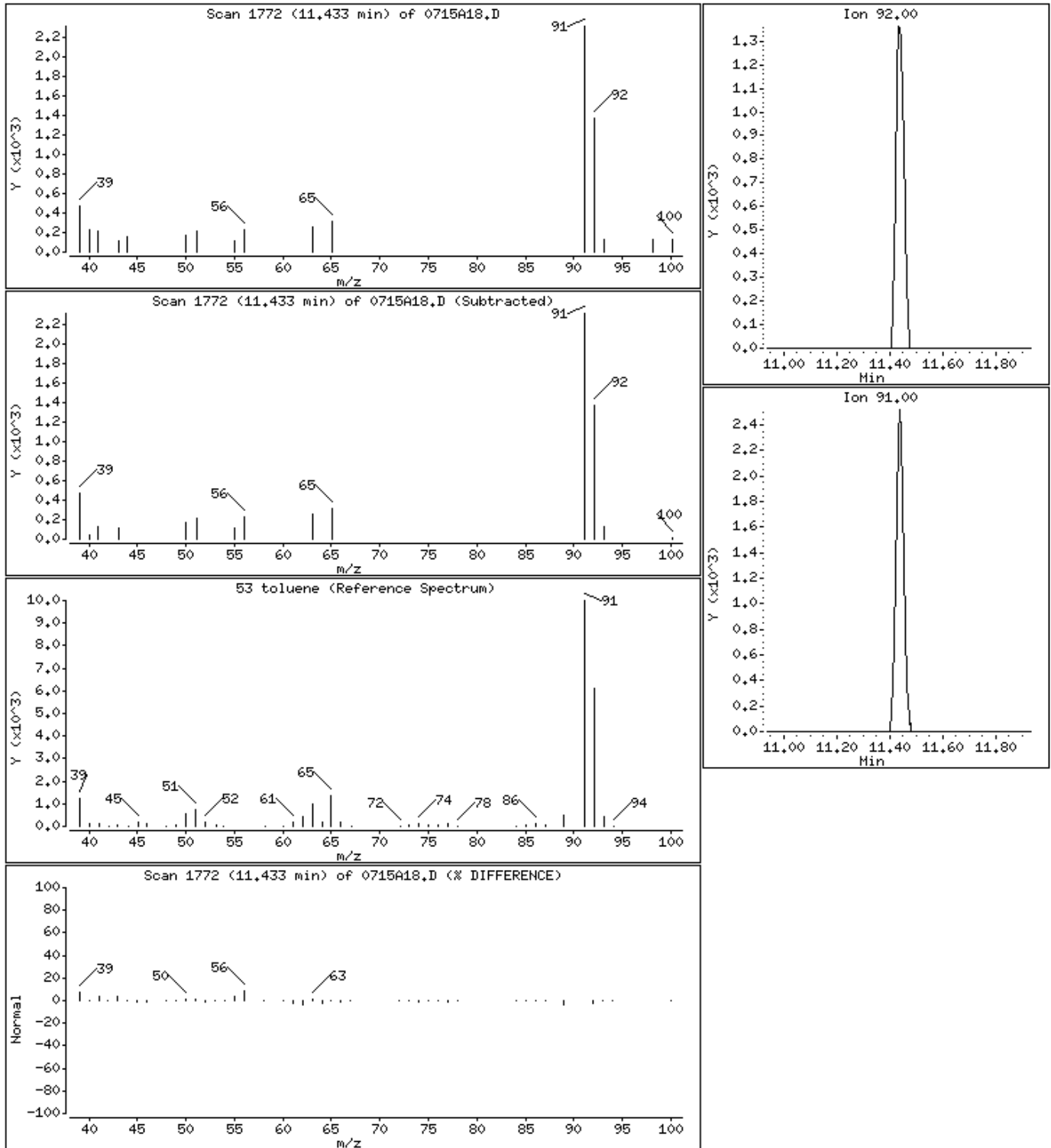
Operator: BN

Column phase:

Column diameter: 0.53

53 toluene

Concentration: 7.844 ngs





Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 7

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

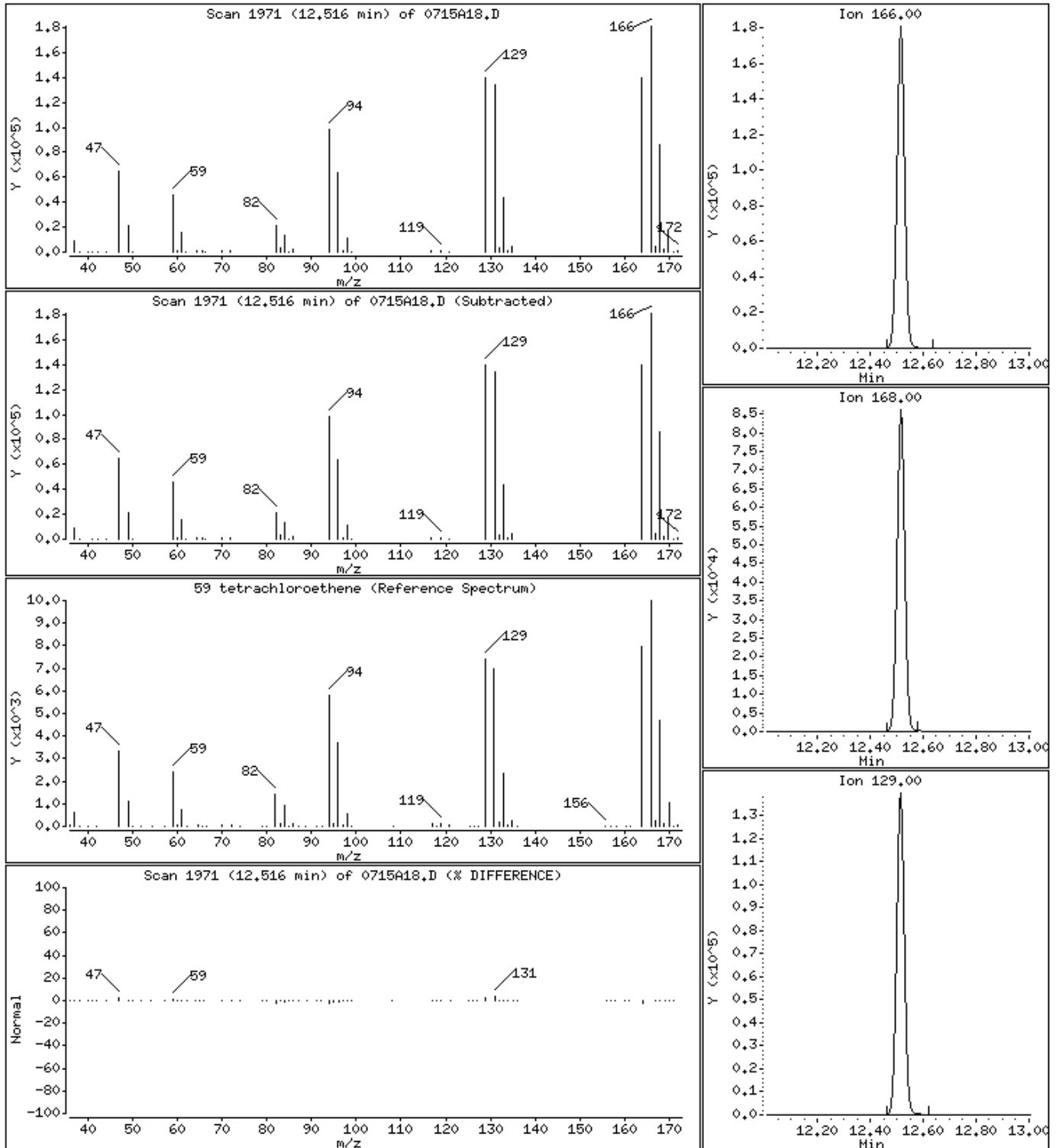
Operator: BN

Column phase:

Column diameter: 0.53

59 tetrachloroethene

Concentration: 2869.839 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 8

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

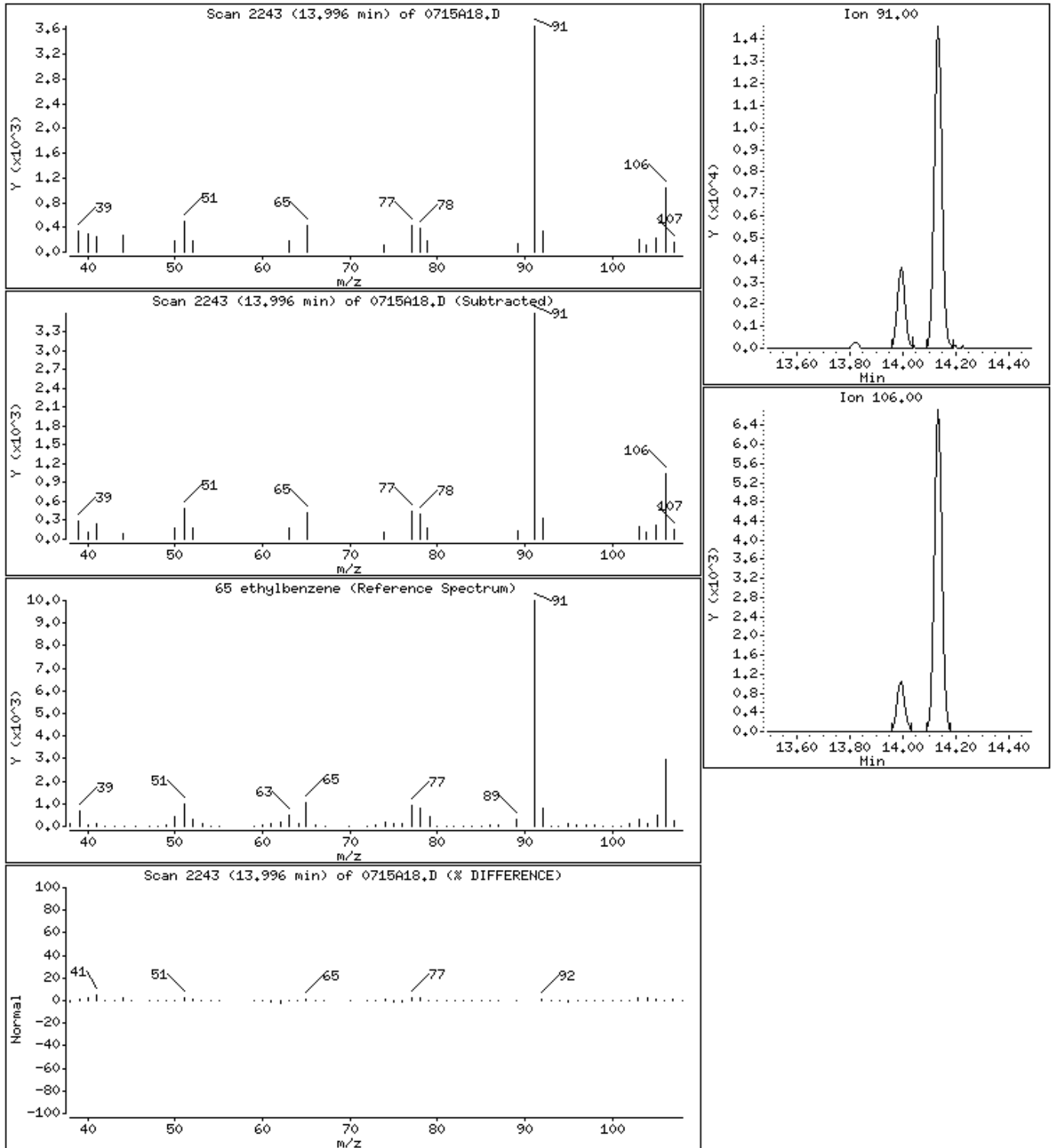
Operator: BN

Column phase:

Column diameter: 0.53

65 ethylbenzene

Concentration: 10.391 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 9

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

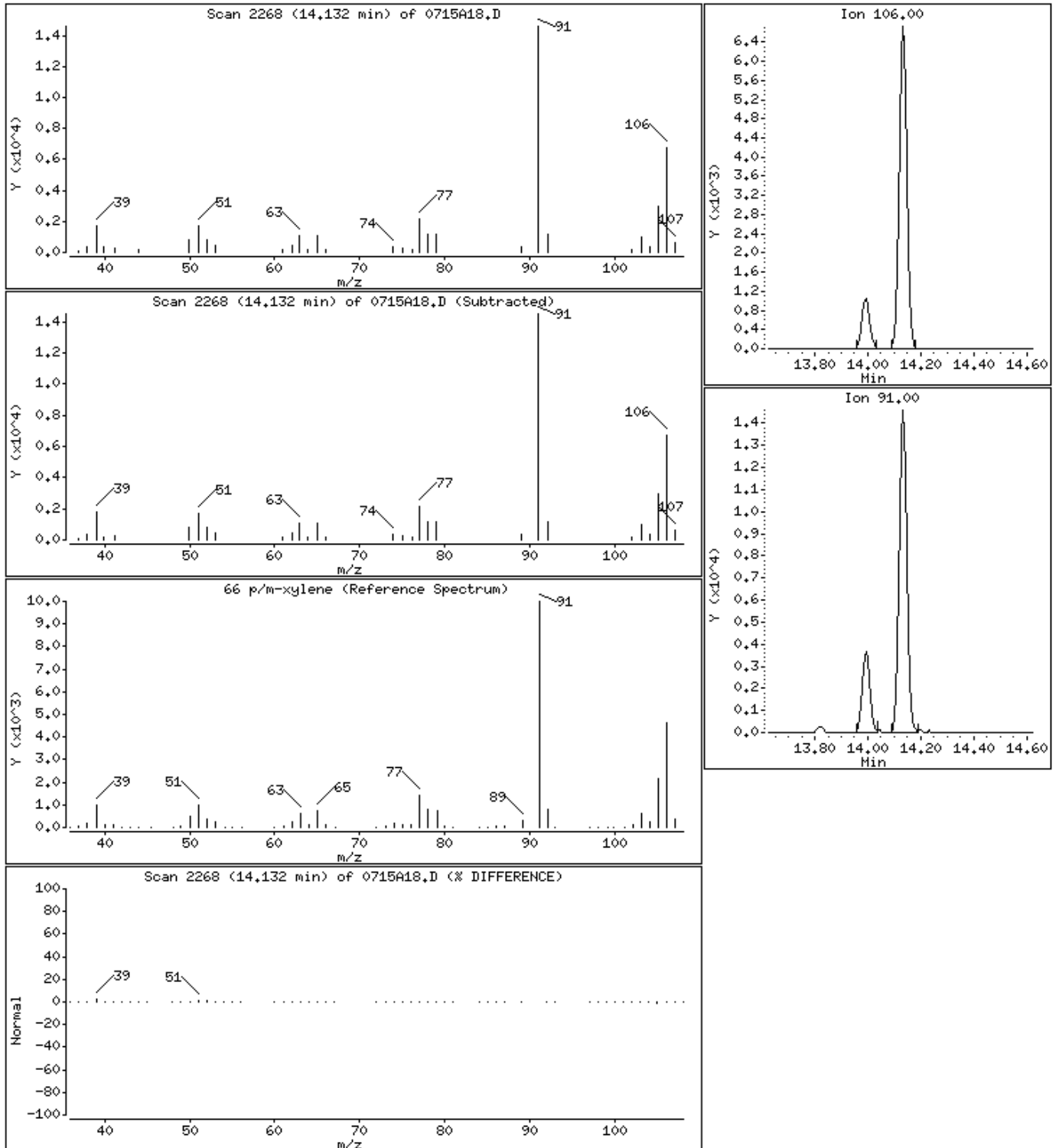
Operator: BN

Column phase:

Column diameter: 0.53

66 p/m-xylene

Concentration: 51.773 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 10

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

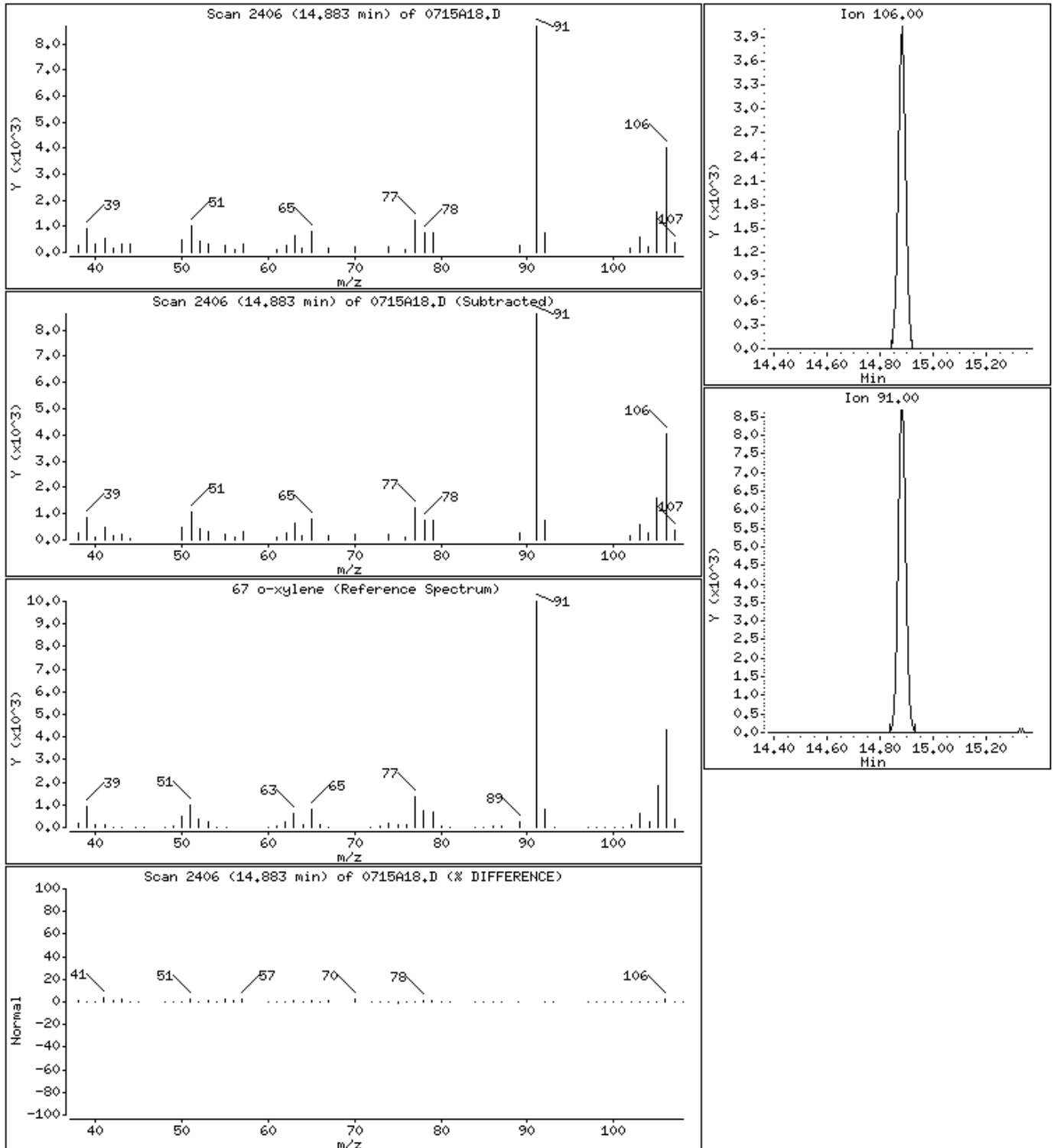
Operator: BN

Column phase:

Column diameter: 0.53

67 o-xylene

Concentration: 31.585 ngs



Data File: \\ongserv2\ff\chem\GCMS\0A\Curly.i\130715.b\0715A18.D

Page 11

Date : 15-JUL-2013 17:52

Client ID:

Instrument: curly.i

Sample Info: L1313056-01D,31,1,0

Volume Injected (uL): 0.1

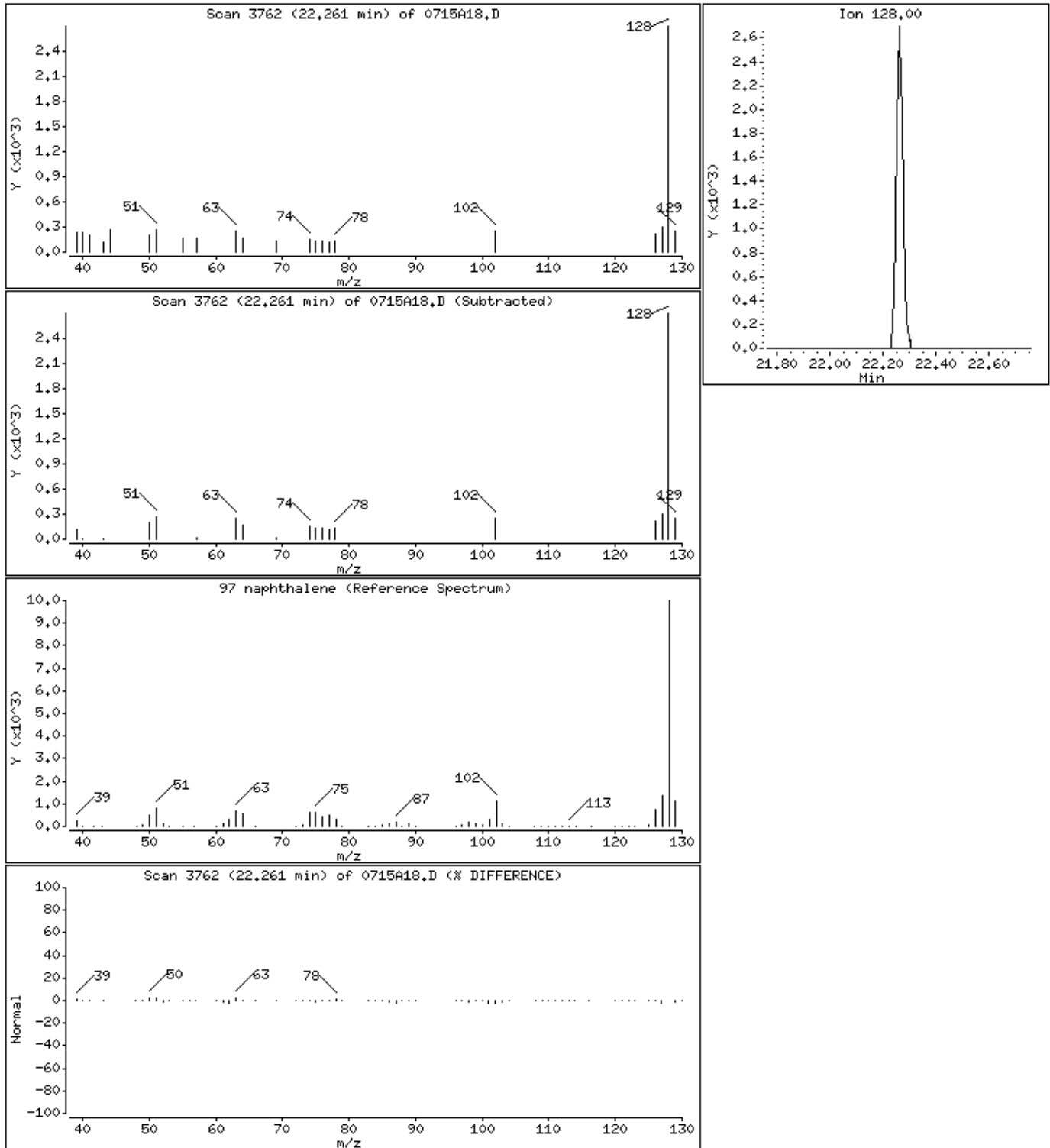
Operator: BN

Column phase:

Column diameter: 0.53

97 naphthalene

Concentration: 36.855 ngs



## Alpha Analytical Labs

## Manual Integration

Sample Info : L1313056-01D,31,1.0  
wg621630,ical8299

Instrument ID : curly.i  
Method : s8260.m  
File : 0715A18.D  
Injection Date : 15-JUL-2013 17:52  
Quantitation : ISTD Integrator : HP RTE  
Dilution Factor : 5.00 Sample Type: SAMPLE

There are no manual integrations in this file.

Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 1  
Report Date: 20-Jul-2013 11:03

## Alpha Analytical Labs

## GC/MS Semi - Quantitation Report

Data file : \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D  
Lab Smp Id:  
Inj Date : 19-JUL-2013 13:42  
Operator : jb Inst ID: Gcms5.i  
Smp Info : l1313056-01,32,re,ny,jb  
Misc Info : wg623083,wg622673,ICAL8345  
Comment : Rev. 071219 (Megamix ICAL)  
Method : \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\HP2ABNv2.m  
Meth Date : 20-Jul-2013 11:02 jbenenson Quant Type: ISTD  
Cal Date : 18-JUL-2013 07:11 Cal File: ADPL9.D  
Als bottle: 12  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: nytcl.sub  
Target Version: 4.12  
Processing Host: A1-001720

Concentration Formula: Amt \* DF \* 1000\*(1/wt)\*vf \* CpndVariable

| Name          | Value  | Description               |
|---------------|--------|---------------------------|
| DF            | 1.000  | Dilution Factor           |
| wt            | 30.000 | weight of sample in grams |
| vf            | 1.000  | Extract Final Volume (mL) |
| Cpnd Variable |        | Local Compound Variable   |

|           |                                  |           |                        |        |         | CONCENTRATIONS |           |         |             |
|-----------|----------------------------------|-----------|------------------------|--------|---------|----------------|-----------|---------|-------------|
|           |                                  | QUANT SIG |                        |        |         |                | ON-COLUMN | FINAL   |             |
| Compounds |                                  | MASS      | RT                     | EXP RT | REL RT  | RESPONSE       | ( ng)     | (ug/Kg) | REVIEW CODE |
| =====     |                                  | =====     | =====                  | =====  | =====   | =====          | =====     | =====   | =====       |
| \$ 3      | 2-Fluorophenol                   | 112       | 3.855                  | 3.850  | (0.789) | 47974          | 13.3165   | 444     |             |
| \$ 6      | Phenol-d6                        | 99        | 4.630                  | 4.614  | (0.948) | 134403         | 28.4214   | 947     |             |
|           | 7 Phenol                         | 94        | Compound Not Detected. |        |         |                |           |         |             |
|           | 8 Bis(2-chloroethyl)ether        | 93        | Compound Not Detected. |        |         |                |           |         |             |
|           | 9 2-Chlorophenol                 | 128       | Compound Not Detected. |        |         |                |           |         |             |
|           | 10 1,3-Dichlorobenzene           | 146       | Compound Not Detected. |        |         |                |           |         |             |
| *         | 12 1,4-Dichlorobenzene-d4        | 152       | 4.886                  | 4.886  | (1.000) | 119312         | 40.0000   |         |             |
|           | 13 1,4-Dichlorobenzene           | 146       | Compound Not Detected. |        |         |                |           |         |             |
|           | 15 Benzyl alcohol                | 79        | 5.009                  | 5.004  | (1.025) | 7280           | 1.87425   | 62.5    |             |
|           | 16 1,2-Dichlorobenzene           | 146       | Compound Not Detected. |        |         |                |           |         |             |
|           | 18 2-Methylphenol                | 108       | Compound Not Detected. |        |         |                |           |         |             |
|           | 17 Bis(2-chloroisopropyl)ether   | 45        | Compound Not Detected. |        |         |                |           |         |             |
|           | 21 3-Methylphenol/4-Methylphenol | 108       | Compound Not Detected. |        |         |                |           |         |             |
|           | 19 Acetophenone                  | 105       | Compound Not Detected. |        |         |                |           |         |             |
|           | 20 n-Nitrosodi-n-propylamine     | 70        | Compound Not Detected. |        |         |                |           |         |             |
|           | 23 Hexachloroethane              | 117       | Compound Not Detected. |        |         |                |           |         |             |
| \$        | 24 Nitrobenzene-d5               | 82        | 5.335                  | 5.329  | (1.092) | 69859          | 15.2258   | 508     |             |
|           | 25 Nitrobenzene                  | 77        | Compound Not Detected. |        |         |                |           |         |             |
|           | 26 Isophorone                    | 82        | Compound Not Detected. |        |         |                |           |         |             |
|           | 28 2-Nitrophenol                 | 139       | Compound Not Detected. |        |         |                |           |         |             |
|           | 29 2,4-Dimethylphenol            | 107       | Compound Not Detected. |        |         |                |           |         |             |
|           | 30 Bis(2-chloroethoxy)methane    | 93        | Compound Not Detected. |        |         |                |           |         |             |

Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 2  
Report Date: 20-Jul-2013 11:03

| Compounds                      | QUANT SIG |       |          |        |           |          | CONCENTRATIONS     |                  | REVIEW CODE |
|--------------------------------|-----------|-------|----------|--------|-----------|----------|--------------------|------------------|-------------|
|                                |           | MASS  | RT       | EXP RT | REL RT    | RESPONSE | ON-COLUMN<br>( ng) | FINAL<br>(ug/Kg) |             |
| =====                          | =====     | ===== | =====    | =====  | =====     | =====    | =====              | =====            | =====       |
| 31 Benzoic acid                | 105       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 32 2,4-Dichlorophenol          | 162       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 33 1,2,4-Trichlorobenzene      | 180       |       | Compound | Not    | Detected. |          |                    |                  |             |
| * 34 Naphthalene-d8            | 136       |       | 5.912    | 5.912  | (1.000)   | 488170   | 40.0000            |                  |             |
| 35 Naphthalene                 | 128       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 38 4-Chloroaniline             | 65        |       | Compound | Not    | Detected. |          |                    |                  |             |
| 39 Hexachlorobutadiene         | 225       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 42 p-Chloro-m-cresol           | 107       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 43 2-Methylnaphthalene         | 142       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 46 1,2,4,5-Tetrachlorobenzene  | 216       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 45 Hexachlorocyclopentadiene   | 237       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 47 2,4,6-Trichlorophenol       | 196       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 48 2,4,5-Trichlorophenol       | 196       |       | Compound | Not    | Detected. |          |                    |                  |             |
| \$ 49 2-Fluorobiphenyl         | 172       |       | 6.804    | 6.799  | (1.151)   | 158630   | 16.6291            | 554              |             |
| 50 Biphenyl                    | 154       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 51 2-Chloronaphthalene         | 162       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 52 2-Nitroaniline              | 138       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 54 Dimethyl phthalate          | 163       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 57 2,6-Dinitrotoluene          | 165       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 58 Acenaphthylene              | 152       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 59 3-Nitroaniline              | 138       |       | Compound | Not    | Detected. |          |                    |                  |             |
| * 60 Acenaphthene-d10          | 164       |       | 7.343    | 7.344  | (1.000)   | 327637   | 40.0000            |                  |             |
| 61 Acenaphthene                | 154       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 62 2,4-Dinitrophenol           | 184       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 65 4-Nitrophenol               | 65        |       | Compound | Not    | Detected. |          |                    |                  |             |
| 63 Dibenzofuran                | 168       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 64 2,4-Dinitrotoluene          | 165       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 68 Diethyl phthalate           | 149       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 70 4-Chlorophenyl phenyl ether | 204       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 69 Fluorene                    | 166       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 71 4-Nitroaniline              | 138       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 72 4,6-Dinitro-o-cresol        | 198       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 73 NDPA/DPA                    | 169       |       | Compound | Not    | Detected. |          |                    |                  |             |
| \$ 76 2,4,6-Tribromophenol     | 330       |       | 8.001    | 8.001  | (0.931)   | 8294     | 6.67026            | 222              |             |
| 77 4-Bromophenyl phenyl ether  | 248       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 78 Hexachlorobenzene           | 284       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 82 Pentachlorophenol           | 266       |       | Compound | Not    | Detected. |          |                    |                  |             |
| * 84 Phenanthrene-d10          | 188       |       | 8.594    | 8.594  | (1.000)   | 667936   | 40.0000            |                  |             |
| 85 Phenanthrene                | 178       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 86 Anthracene                  | 178       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 87 Carbazole                   | 167       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 88 Di-n-butylphthalate         | 149       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 92 Fluoranthene                | 202       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 94 Pyrene                      | 202       |       | Compound | Not    | Detected. |          |                    |                  |             |
| \$ 95 4-Terphenyl-d14          | 244       |       | 10.057   | 10.057 | (1.170)   | 264288   | 16.5885            | 553              |             |
| 97 Butyl benzyl phthalate      | 149       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 100 Benzo(a)anthracene         | 228       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 99 3,3'-Dichlorobenzidine      | 252       |       | Compound | Not    | Detected. |          |                    |                  |             |
| * 101 Chrysene-d12             | 240       |       | 11.046   | 11.040 | (1.000)   | 984737   | 40.0000            |                  |             |
| 102 Chrysene                   | 228       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 103 Bis(2-ethylhexyl)phthalate | 149       |       | 11.115   | 11.110 | (1.006)   | 852212   | 52.3533            | 1740             |             |
| 104 Di-n-octylphthalate        | 149       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 105 Benzo(b)fluoranthene       | 252       |       | Compound | Not    | Detected. |          |                    |                  |             |
| 106 Benzo(k)fluoranthene       | 252       |       | Compound | Not    | Detected. |          |                    |                  |             |



Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 3  
 Report Date: 20-Jul-2013 11:03

| Compounds                  | QUANT SIG |                        |        |         |         |          | CONCENTRATIONS     |                  | REVIEW CODE |
|----------------------------|-----------|------------------------|--------|---------|---------|----------|--------------------|------------------|-------------|
|                            |           | MASS                   | RT     | EXP RT  | REL RT  | RESPONSE | ON-COLUMN<br>( ng) | FINAL<br>(ug/Kg) |             |
| =====                      | =====     | =====                  | =====  | =====   | =====   | =====    | =====              | =====            | =====       |
| 108 Benzo(a)pyrene         | 252       | Compound Not Detected. |        |         |         |          |                    |                  |             |
| * 109 Perylene-d12         | 264       | 12.370                 | 12.344 | (1.000) | 1178810 | 40.0000  |                    |                  |             |
| 111 Indeno(1,2,3-cd)pyrene | 276       | Compound Not Detected. |        |         |         |          |                    |                  |             |
| 112 Dibenzo(a,h)anthracene | 278       | Compound Not Detected. |        |         |         |          |                    |                  |             |
| 113 Benzo(ghi)perylene     | 276       | Compound Not Detected. |        |         |         |          |                    |                  |             |

Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 4  
Report Date: 20-Jul-2013 11:03

## Alpha Analytical Labs

## GC/MS Semi - Quantitation Report

Data file : \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D  
Lab Smp Id:  
Inj Date : 19-JUL-2013 13:42  
Operator : jb Inst ID: Gcms5.i  
Smp Info : l1313056-01,32,re,ny,jb  
Misc Info : wg623083,wg622673,ICAL8345  
Comment : Rev. 071219 (Megamix ICAL)  
Method : \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\HP2ABNv2.m  
Meth Date : 20-Jul-2013 11:02 jbenenson Quant Type: ISTD  
Cal Date : 18-JUL-2013 07:11 Cal File: ADPL9.D  
Als bottle: 12  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: nytcl.sub  
Target Version: 4.12  
Processing Host: A1-001720

Concentration Formula: Amt \* DF \* 1000\*(1/wt)\*vf \* CpndVariable

| Name          | Value  | Description               |
|---------------|--------|---------------------------|
| DF            | 1.000  | Dilution Factor           |
| wt            | 30.000 | weight of sample in grams |
| vf            | 1.000  | Extract Final Volume (mL) |
| Cpnd Variable |        | Local Compound Variable   |

| ISTD                | RT     | AREA    | AMOUNT |
|---------------------|--------|---------|--------|
| =====               | =====  | =====   | =====  |
| * 34 Naphthalene-d8 | 5.912  | 1034969 | 40.000 |
| * 101 Chrysene-d12  | 11.046 | 2198004 | 40.000 |

| RT             | AREA     | CONCENTRATIONS |              | QUAL | QUANT   |           | CPND # | REVIEW CODE |
|----------------|----------|----------------|--------------|------|---------|-----------|--------|-------------|
|                |          | ON-COL( ng)    | FINAL(ug/Kg) |      | LIBRARY | LIB ENTRY |        |             |
| ====           | ====     | =====          | =====        | ==== | =====   | =====     | =====  | =====       |
| Unknown        |          |                |              |      | CAS #:  |           |        |             |
| 4.363          | 17209625 | 665.125637     | 22200        | 0    |         | 0         | 34     |             |
| Unknown        |          |                |              |      | CAS #:  |           |        |             |
| 4.961          | 1380075  | 53.3377957     | 1780         | 0    |         | 0         | 34     |             |
| Unknown Alkane |          |                |              |      | CAS #:  |           |        |             |
| 10.469         | 1078248  | 19.6223072     | 654          | 0    |         | 0         | 101    |             |

Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 5  
 Report Date: 20-Jul-2013 11:03

## Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS  
AREA AND RT SUMMARY

Instrument ID: Gcms5.i  
 Lab File ID: 13056-01.D

Calibration Date: 19-JUL-2013  
 Calibration Time: 06:52

Lab Smp Id:  
 Analysis Type: SV

Level: LOW

Quant Type: ISTD

Sample Type: SOIL

Operator: jb

Method File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\HP2ABNv2.m

Misc Info: wg623083, wg622673, ICAL8345

Test Mode:

Use Last Continuing Calibrator.

If Continuing Cal. use Initial Cal. Level 5

| COMPOUND             | STANDARD | AREA LIMIT |         | SAMPLE  | %DIFF  |
|----------------------|----------|------------|---------|---------|--------|
|                      |          | LOWER      | UPPER   |         |        |
| 12 1,4-Dichlorobenze | 134215   | 67108      | 268430  | 119312  | -11.10 |
| 34 Naphthalene-d8    | 579606   | 289803     | 1159212 | 488170  | -15.78 |
| 60 Acenaphthene-d10  | 407231   | 203616     | 814462  | 327637  | -19.55 |
| 84 Phenanthrene-d10  | 823801   | 411901     | 1647602 | 667936  | -18.92 |
| 101 Chrysene-d12     | 1094089  | 547045     | 2188178 | 984737  | -9.99  |
| 109 Perylene-d12     | 1165681  | 582841     | 2331362 | 1178810 | 1.13   |

| COMPOUND             | STANDARD | RT LIMIT |       | SAMPLE | %DIFF |
|----------------------|----------|----------|-------|--------|-------|
|                      |          | LOWER    | UPPER |        |       |
| 12 1,4-Dichlorobenze | 4.89     | 4.39     | 5.39  | 4.89   | -0.00 |
| 34 Naphthalene-d8    | 5.91     | 5.41     | 6.41  | 5.91   | -0.00 |
| 60 Acenaphthene-d10  | 7.34     | 6.84     | 7.84  | 7.34   | -0.00 |
| 84 Phenanthrene-d10  | 8.59     | 8.09     | 9.09  | 8.59   | -0.00 |
| 101 Chrysene-d12     | 11.04    | 10.54    | 11.54 | 11.05  | 0.05  |
| 109 Perylene-d12     | 12.34    | 11.84    | 12.84 | 12.37  | 0.22  |

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D Page 6  
 Report Date: 20-Jul-2013 11:03

## Alpha Analytical Labs

## RECOVERY REPORT

Client Name: Client SDG: 130718.b  
 Sample Matrix: SOLID Fraction: SV  
 Lab Smp Id:  
 Level: LOW Operator: jb  
 Data Type: MS DATA SampleType: SAMPLE  
 SpikeList File: mcp8270spk.spk Quant Type: ISTD  
 Sublist File: nytcl.sub  
 Method File: \\orgserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\HP2ABNv2.m  
 Misc Info: wg623083, wg622673, ICAL8345

| SURROGATE COMPOUND       | CONC<br>ADDED<br>ug/Kg | CONC<br>RECOVERED<br>ug/Kg | %<br>RECOVERED | LIMITS |
|--------------------------|------------------------|----------------------------|----------------|--------|
| \$ 3 2-Fluorophenol      | 1670                   | 444                        | 26.63          | 25-120 |
| \$ 6 Phenol-d6           | 1670                   | 947                        | 56.84          | 10-120 |
| \$ 24 Nitrobenzene-d5    | 833                    | 508                        | 60.90          | 23-120 |
| \$ 49 2-Fluorobiphenyl   | 833                    | 554                        | 66.52          | 30-120 |
| \$ 76 2,4,6-Tribromophen | 1670                   | 222                        | 13.34          | 0-136  |
| \$ 95 4-Terphenyl-d14    | 833                    | 553                        | 66.35          | 18-120 |

Date : 19-JUL-2013 13:42

Client ID:

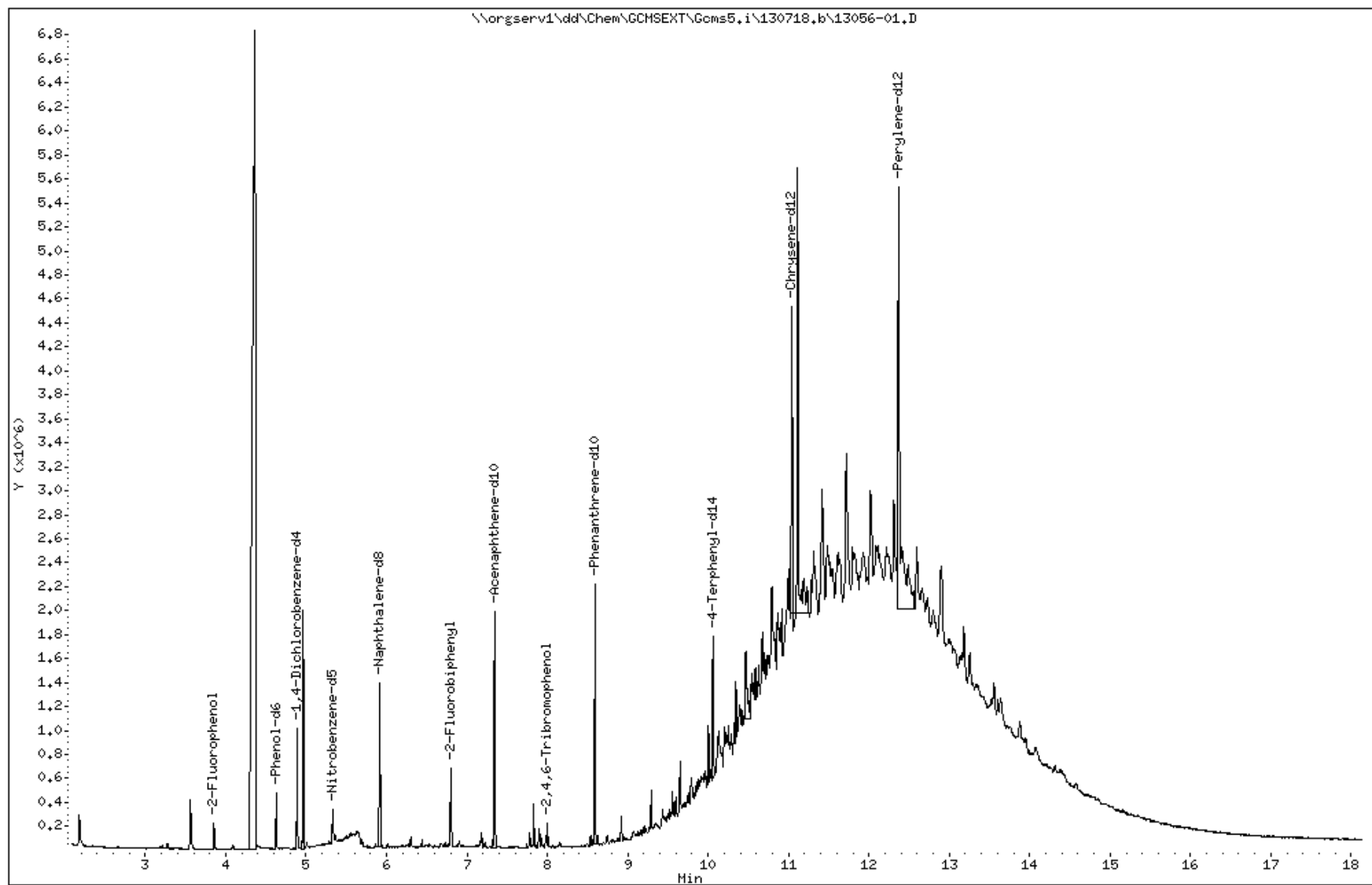
Sample Info: 11313056-01,32,re,ny,jb

Instrument: Gcms5.i

Operator: jlb

Column diameter: 0.32

Column phase: RTX-5



Data File: \\ongserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D

Page 8

Date : 19-JUL-2013 13:42

Client ID:

Instrument: Gcms5.i

Sample Info: 11313056-01,32,re,ny,jb

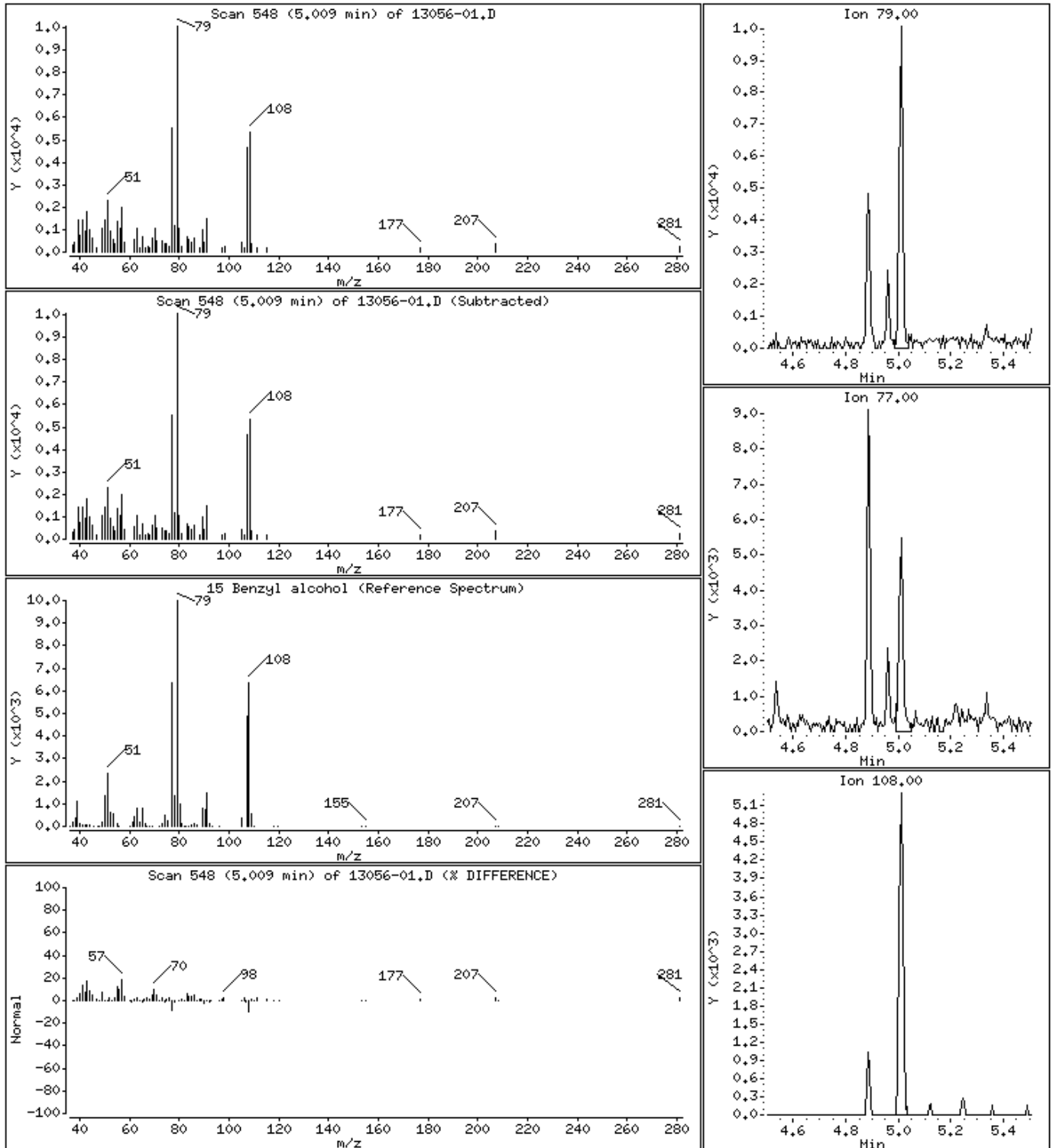
Operator: jb

Column phase: RTX-5

Column diameter: 0.32

15 Benzyl alcohol

Concentration: 62.5 ug/Kg



Data File: \\ongserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D

Page 9

Date : 19-JUL-2013 13:42

Client ID:

Instrument: Gcms5.i

Sample Info: 11313056-01,32,re,ny,jb

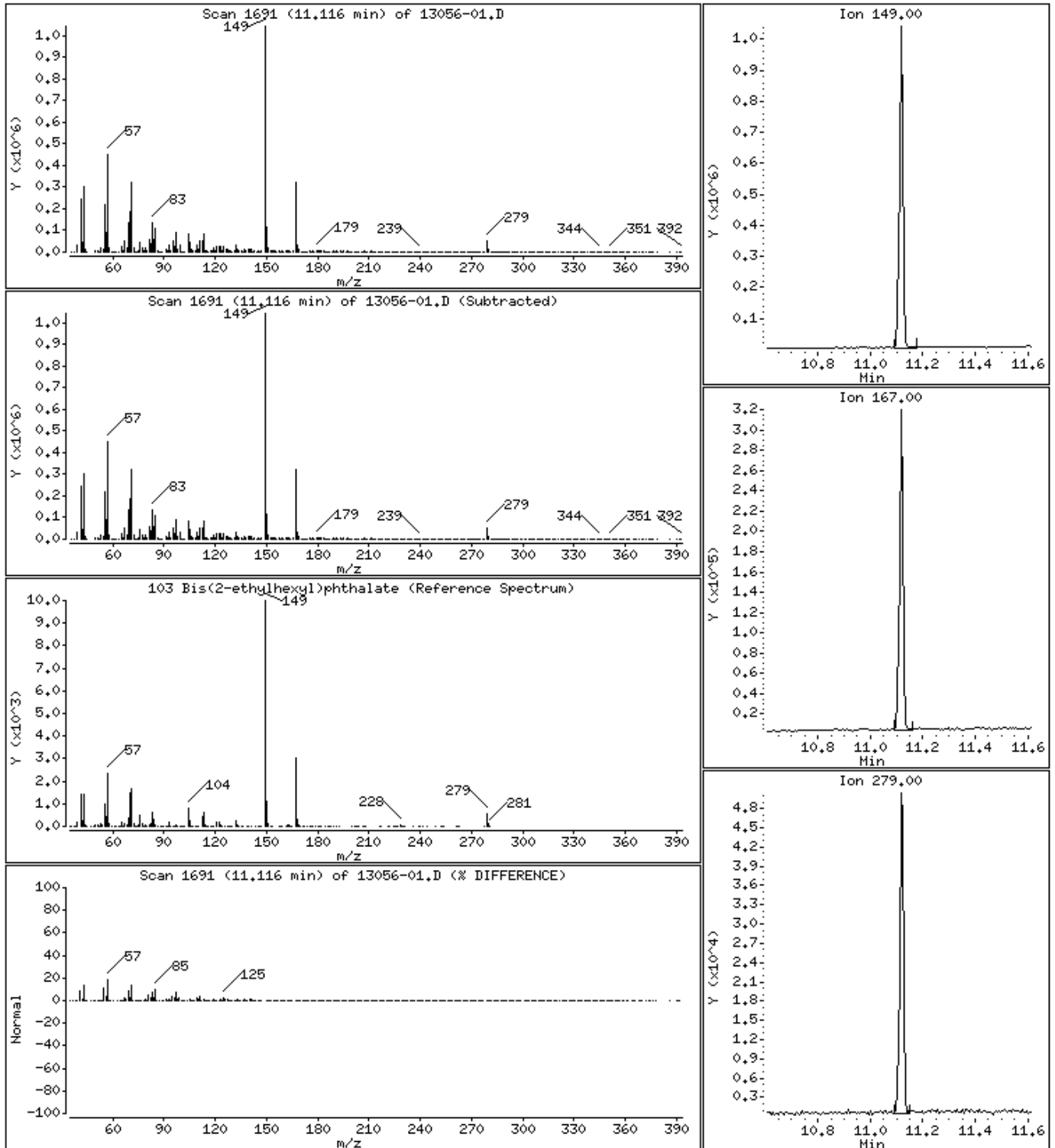
Operator: jb

Column phase: RTX-5

Column diameter: 0.32

103 Bis(2-ethylhexyl)phthalate

Concentration: 1740 ug/Kg



Data File: \\ongserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D

Page 10

Date : 19-JUL-2013 13:42

Client ID:

Instrument: Gcms5.i

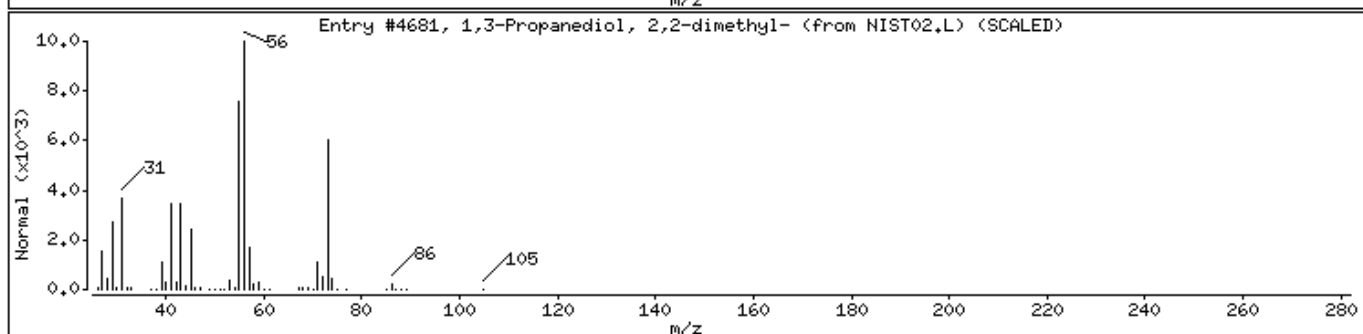
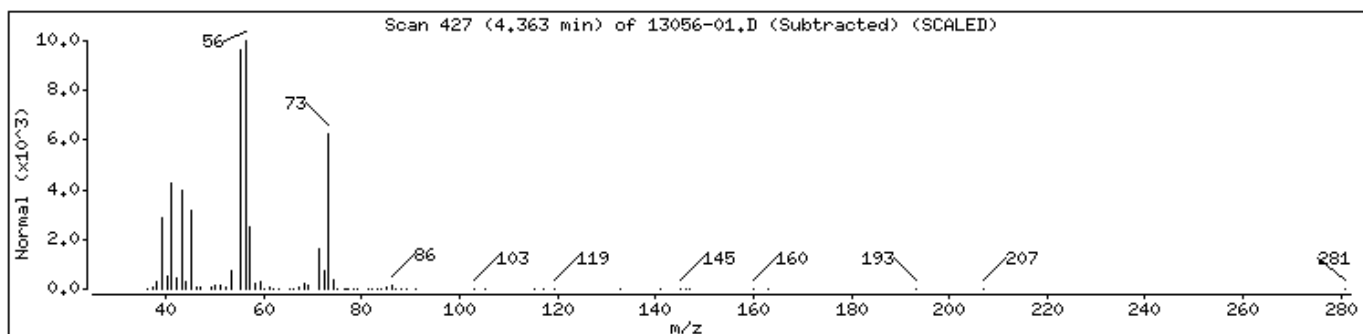
Sample Info: 11313056-01,32,re,ny,jb

Operator: jb

Column phase: RTX-5

Column diameter: 0.32

| Library Search Compound Match | CAS Number | Library  | Entry | Quality | Formula | Weight |
|-------------------------------|------------|----------|-------|---------|---------|--------|
| Unknown                       |            |          |       |         |         |        |
| 1,3-Propanediol, 2,2-dimeth   | 126-30-7   | NIST02.L | 4681  | 78      | C5H12O2 | 104    |





Data File: \\ongserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D

Page 11

Date : 19-JUL-2013 13:42

Client ID:

Instrument: Gcms5.i

Sample Info: 11313056-01,32,re,ny,jb

Operator: jb

Column phase: RTX-5

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Unknown

1-Hexanol, 2-ethyl-

104-76-7

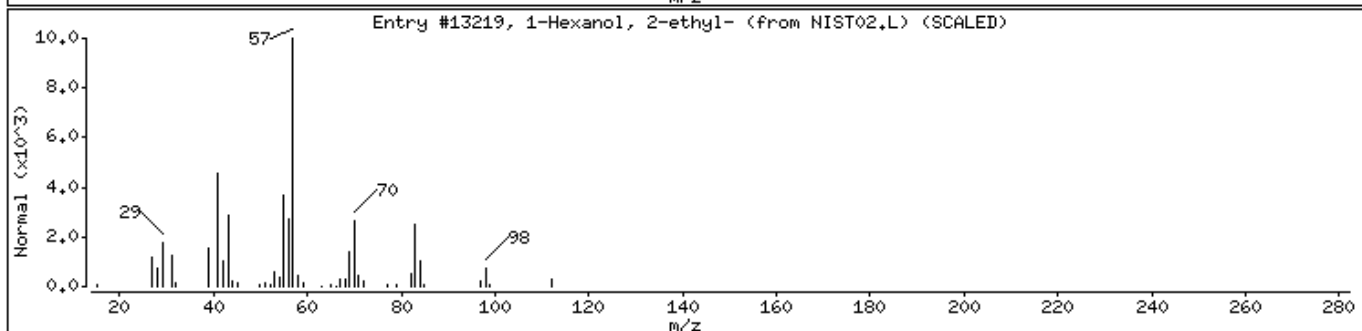
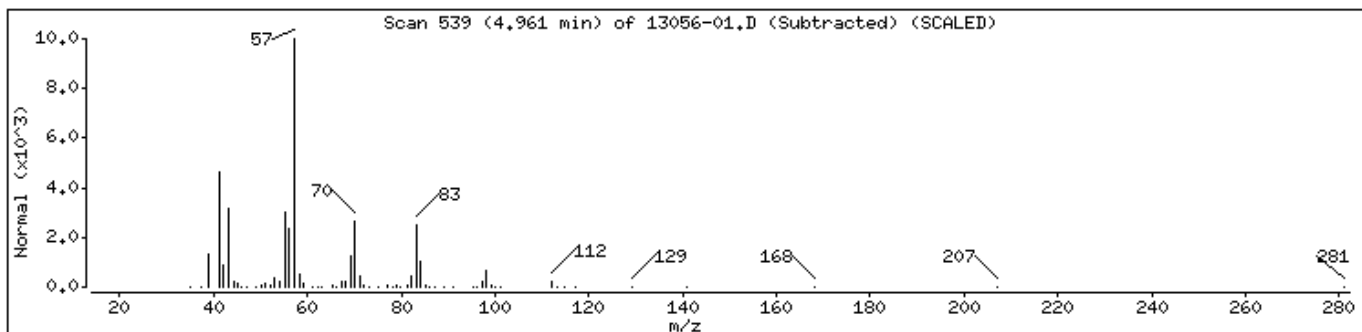
NIST02.L

13219

83

C8H18O

130



Data File: \\ongserv1\dd\Chem\GCMSEXT\Gcms5.i\130718.b\13056-01.D

Page 12

Date : 19-JUL-2013 13:42

Client ID:

Instrument: Gcms5.i

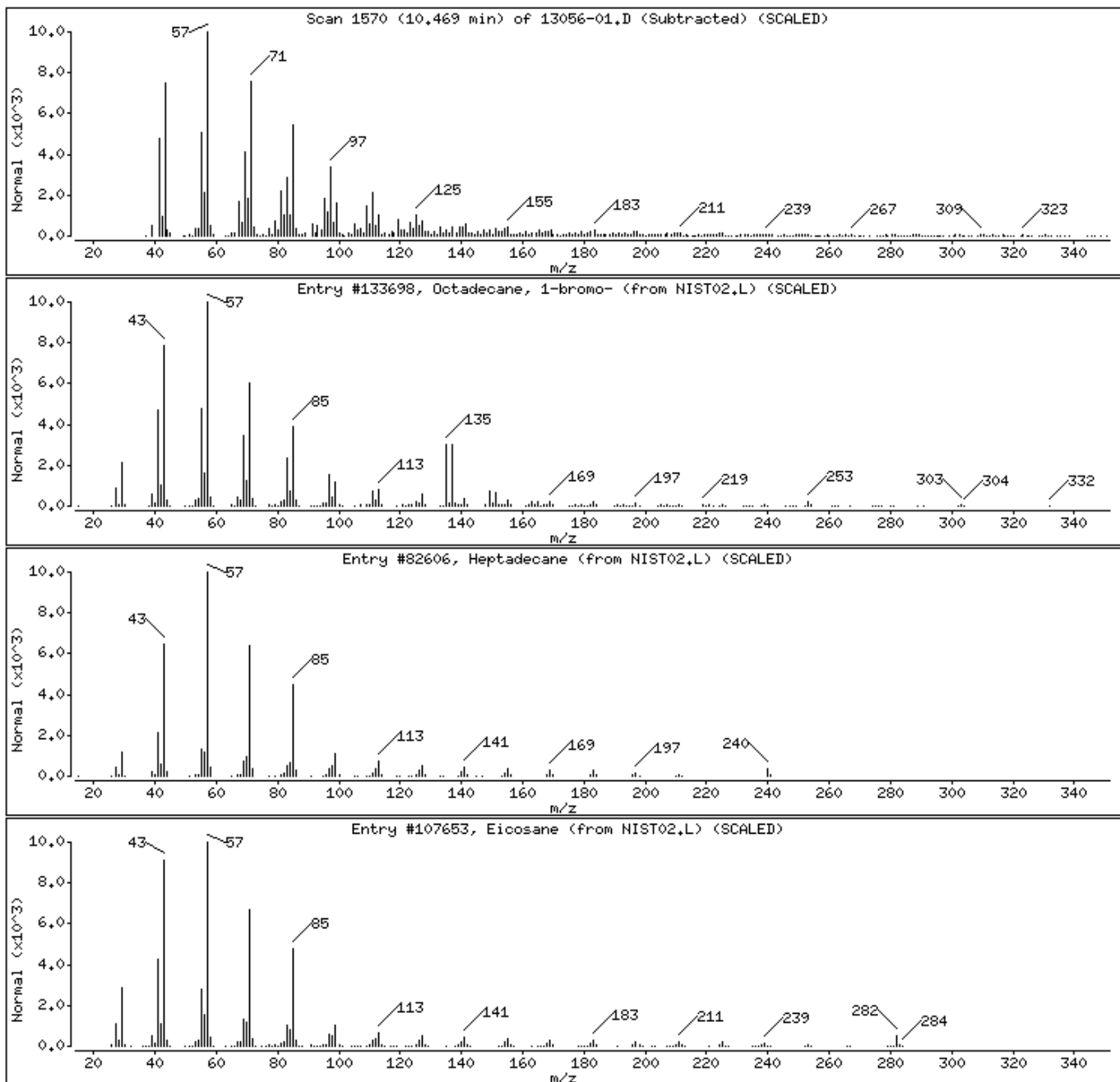
Sample Info: 11313056-01,32,re,ny,jb

Operator: jb

Column phase: RTX-5

Column diameter: 0.32

| Library Search Compound Match | CAS Number | Library  | Entry  | Quality | Formula                            | Weight |
|-------------------------------|------------|----------|--------|---------|------------------------------------|--------|
| Unknown Alkane                |            |          |        |         |                                    |        |
| Octadecane, 1-bromo-          | 112-89-0   | NIST02.L | 133698 | 93      | C <sub>18</sub> H <sub>37</sub> Br | 332    |
| Heptadecane                   | 629-78-7   | NIST02.L | 82606  | 92      | C <sub>17</sub> H <sub>36</sub>    | 240    |
| Eicosane                      | 112-95-8   | NIST02.L | 107653 | 92      | C <sub>20</sub> H <sub>42</sub>    | 282    |



## Alpha Analytical Labs

## Manual Integration

Sample Info : l1313056-01,32,re,ny,jb  
wg623083,wg622673,ICAL8345

Instrument ID : Gcms5.i  
Method : HP2ABNv2.m  
File : 13056-01.D  
Injection Date : 19-JUL-2013 13:42  
Quantitation : ISTD Integrator : HP RTE  
Dilution Factor : 1.00 Sample Type: SAMPLE

This File has no version history.

//orgserv1/dd/Chem/GCMSEXT/Gcms5.i/130718.b/original/13056-01.D

8/13/2013

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

Concord NH 03301

Project Name: IBM - EFK

Project #:

Workorder #: 1307220R1

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 7/12/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-13A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Ausha Scott

Project Manager

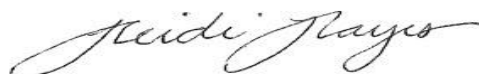
**WORK ORDER #: 1307220R1**

Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    | 299.00                                                                                   |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | IBM - EFK                                                                                |
| <b>DATE RECEIVED:</b>  | 07/12/2013                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 07/25/2013                                                                             |                  |                                                                                          |
| <b>DATE REISSUED:</b>  | 08/13/2013                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>     |
|-------------------|-------------|-----------------|
| 01A               | IA0436ST    | Modified TO-13A |
| 02A               | TA-023ST    | Modified TO-13A |
| 03A               | Lab Blank   | Modified TO-13A |
| 04A               | CCV         | Modified TO-13A |
| 05A               | LCS         | Modified TO-13A |

CERTIFIED BY:



Technical Director

DATE: 08/13/13

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

Eurofins Air Toxics Inc., 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 Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563

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

**LABORATORY NARRATIVE**  
**Modified TO-13A**  
**Sanborn, Head & Associates**  
**Workorder# 1307220R1**

Two PUF Cartridge-Low Volume samples were received on July 12, 2013. The laboratory performed the analysis for polycyclic aromatic hydrocarbons in air by modified EPA Method TO-13A. The PUF/XAD samples were extracted using Pressurized Fluid Extraction (PFE) by EPA Method 3545A. The sample extract was then concentrated to 1.0 mL and analyzed by GC/MS in the full scan mode.

To meet the quality control objectives outlined in Method TO-13A, a field blank is required for each sampling episode. If field blanks are not provided to the laboratory, any attendant risk to data quality is the responsibility of the data user.

The frequency of matrix spikes are determined by the different monitoring programs. Matrix spikes are not included in the routine calibration specifications for TO-13A.

**Receiving Notes**

A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within  $4 \pm 2$  °C. Coolant in the form of blue ice was present. Analysis proceeded.

**Analytical Notes**

The sample cartridges were pre-spiked with Fluoranthene-d10 and Benzo(a)Pyrene-d12 on 6/24/2013.

Sampling volumes were supplied by the client. A sample volume of 1022 L was used to report the Lab Blank.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

THE WORK ORDER WAS REISSUED ON 8/13/13 TO AMEND IDENTIFICATION OF SAMPLE IA0436ST PER REVISED CHAIN OF CUSTODY (COC) PROVIDED BY THE CLIENT ON 8/9/13.

**Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

E - Exceeds instrument calibration range.

Q - Exceeds quality control limits.

S - Saturated peak.

J - Estimated value.

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

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

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-13A GC/MS FULL SCAN

**Client Sample ID:** IA0436ST

**Lab ID#:** 1307220R1-01A

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound             | CAS Number | Match Quality | Amount (ug) |
|----------------------|------------|---------------|-------------|
| Ethene, tetrachloro- | 127-18-4   | 96%           | 5.1 NJ      |

**Client Sample ID:** TA-023ST

**Lab ID#:** 1307220R1-02A

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound                       | CAS Number | Match Quality | Amount (ug) |
|--------------------------------|------------|---------------|-------------|
| Ethene, tetrachloro-           | 127-18-4   | 98%           | 340 NJ      |
| Benzene, 1,2-dimethyl-         | 95-47-6    | 91%           | 12 NJ       |
| Benzene, 1,3-dimethyl-         | 108-38-3   | 90%           | 4.4 NJ      |
| 1,3-Propanediol, 2,2-dimethyl- | 126-30-7   | 83%           | 51 NJ       |
| Heptane, 2,2-dimethyl-         | 1071-26-7  | 53%           | 4.7 NJ      |
| 1-Hexanol, 2-ethyl-            | 104-76-7   | 78%           | 64 NJ       |
| Decane, 2,6,7-trimethyl-       | 62108-25-2 | 72%           | 5.0 NJ      |





Air Toxics

Client Sample ID: IA0436ST

Lab ID#: 1307220R1-01A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: 12071716

Date of Collection: 7/9/13 5:04:00 PM

Dil. Factor: 1.00

Date of Analysis: 7/17/13 08:33 PM

Date of Extraction: 7/16/13

| Compound                      | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug)  | Amount<br>(ug/m3) |
|-------------------------------|--------------------|-----------------------|-----------------|-------------------|
| Phenol                        | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| bis(2-Chloroethyl) Ether      | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2-Chlorophenol                | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 1,3-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 1,4-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 1,2-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2-Methylphenol (o-Cresol)     | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| bis(2-Chloroisopropyl) Ether  | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| N-Nitroso-di-n-propylamine    | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 4-Methylphenol/3-Methylphenol | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| Hexachloroethane              | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| Nitrobenzene                  | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| Isophorone                    | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2-Nitrophenol                 | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 2,4-Dimethylphenol            | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| Benzoic Acid                  | 30                 | 29                    | Not Detected UJ | Not Detected UJ   |
| bis(2-Chloroethoxy) Methane   | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2,4-Dichlorophenol            | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 1,2,4-Trichlorobenzene        | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| Naphthalene                   | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 4-Chloroaniline               | 10                 | 9.8                   | Not Detected    | Not Detected      |
| Hexachlorobutadiene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 4-Chloro-3-methylphenol       | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 2-Methylnaphthalene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| Hexachlorocyclopentadiene     | 20                 | 20                    | Not Detected    | Not Detected      |
| 2,4,6-Trichlorophenol         | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 2,4,5-Trichlorophenol         | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 2-Chloronaphthalene           | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2-Nitroaniline                | 10                 | 9.8                   | Not Detected    | Not Detected      |
| Dimethylphthalate             | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| Acenaphthylene                | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2,6-Dinitrotoluene            | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| 3-Nitroaniline                | 10                 | 9.8                   | Not Detected    | Not Detected      |
| Acenaphthene                  | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 2,4-Dinitrophenol             | 20                 | 20                    | Not Detected UJ | Not Detected UJ   |
| 4-Nitrophenol                 | 20                 | 20                    | Not Detected    | Not Detected      |
| 2,4-Dinitrotoluene            | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| Dibenzofuran                  | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| Diethylphthalate              | 5.0                | 4.9                   | Not Detected    | Not Detected      |
| Fluorene                      | 1.0                | 0.98                  | Not Detected    | Not Detected      |
| 4-Chlorophenyl-phenyl Ether   | 1.0                | 0.98                  | Not Detected    | Not Detected      |



Air Toxics

Client Sample ID: IA0436ST

Lab ID#: 1307220R1-01A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: 12071716

Date of Collection: 7/9/13 5:04:00 PM

Dil. Factor: 1.00

Date of Analysis: 7/17/13 08:33 PM

Date of Extraction: 7/16/13

| Compound                   | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug) | Amount<br>(ug/m3) |
|----------------------------|--------------------|-----------------------|----------------|-------------------|
| 4-Nitroaniline             | 10                 | 9.8                   | Not Detected   | Not Detected      |
| 4,6-Dinitro-2-methylphenol | 10                 | 9.8                   | Not Detected   | Not Detected      |
| N-Nitrosodiphenylamine     | 10                 | 9.8                   | Not Detected   | Not Detected      |
| 4-Bromophenyl-phenyl Ether | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Hexachlorobenzene          | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Pentachlorophenol          | 20                 | 20                    | Not Detected   | Not Detected      |
| Phenanthrene               | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Anthracene                 | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| di-n-Butylphthalate        | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Fluoranthene               | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Pyrene                     | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Butylbenzylphthalate       | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 3,3'-Dichlorobenzidine     | 20                 | 20                    | Not Detected   | Not Detected      |
| Chrysene                   | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(a)anthracene         | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| bis(2-Ethylhexyl)phthalate | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Di-n-Octylphthalate        | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Benzo(b)fluoranthene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(k)fluoranthene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(a)pyrene             | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Indeno(1,2,3-c,d)pyrene    | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Dibenz(a,h)anthracene      | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(g,h,i)perylene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |

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

## TENTATIVELY IDENTIFIED COMPOUNDS

| Compound             | CAS Number | Match Quality | Amount<br>(ug) |
|----------------------|------------|---------------|----------------|
| Ethene, tetrachloro- | 127-18-4   | 96%           | 5.1 NJ         |

NJ =The identification is based on presumptive evidence; estimated value.

## Container Type: PUF Cartridge-Low Volume

| Surrogates           | %Recovery | Method<br>Limits |
|----------------------|-----------|------------------|
| 2-Fluorophenol       | 65        | 50-150           |
| Phenol-d5            | 69        | 50-150           |
| Nitrobenzene-d5      | 80        | 50-150           |
| 2,4,6-Tribromophenol | 78        | 50-150           |
| Fluorene-d10         | 75        | 60-120           |
| Pyrene-d10           | 88        | 60-120           |



Air Toxics

Client Sample ID: IA0436ST

Lab ID#: 1307220R1-01A

**MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN**

|              |          |                                       |
|--------------|----------|---------------------------------------|
| File Name:   | 12071716 | Date of Collection: 7/9/13 5:04:00 PM |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 08:33 PM    |
|              |          | Date of Extraction: 7/16/13           |

| Surrogates         | %Recovery | Method Limits |
|--------------------|-----------|---------------|
| Benzo(a)pyrene-d12 | 67        | 50-150        |
| Fluoranthene-d10   | 83        | 50-150        |



Air Toxics

Client Sample ID: TA-023ST

Lab ID#: 1307220R1-02A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: 12071717

Date of Collection: 7/10/13 4:13:00 PM

Dil. Factor: 1.00

Date of Analysis: 7/17/13 09:03 PM

Date of Extraction: 7/16/13

| Compound                      | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug)  | Amount<br>(ug/m3) |
|-------------------------------|--------------------|-----------------------|-----------------|-------------------|
| Phenol                        | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| bis(2-Chloroethyl) Ether      | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2-Chlorophenol                | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 1,3-Dichlorobenzene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 1,4-Dichlorobenzene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 1,2-Dichlorobenzene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2-Methylphenol (o-Cresol)     | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| bis(2-Chloroisopropyl) Ether  | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| N-Nitroso-di-n-propylamine    | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 4-Methylphenol/3-Methylphenol | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| Hexachloroethane              | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| Nitrobenzene                  | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| Isophorone                    | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2-Nitrophenol                 | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 2,4-Dimethylphenol            | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| Benzoic Acid                  | 30                 | 31                    | Not Detected UJ | Not Detected UJ   |
| bis(2-Chloroethoxy) Methane   | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2,4-Dichlorophenol            | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 1,2,4-Trichlorobenzene        | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| Naphthalene                   | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 4-Chloroaniline               | 10                 | 10                    | Not Detected    | Not Detected      |
| Hexachlorobutadiene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 4-Chloro-3-methylphenol       | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 2-Methylnaphthalene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| Hexachlorocyclopentadiene     | 20                 | 21                    | Not Detected    | Not Detected      |
| 2,4,6-Trichlorophenol         | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 2,4,5-Trichlorophenol         | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 2-Chloronaphthalene           | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2-Nitroaniline                | 10                 | 10                    | Not Detected    | Not Detected      |
| Dimethylphthalate             | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| Acenaphthylene                | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2,6-Dinitrotoluene            | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| 3-Nitroaniline                | 10                 | 10                    | Not Detected    | Not Detected      |
| Acenaphthene                  | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 2,4-Dinitrophenol             | 20                 | 21                    | Not Detected UJ | Not Detected UJ   |
| 4-Nitrophenol                 | 20                 | 21                    | Not Detected    | Not Detected      |
| 2,4-Dinitrotoluene            | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| Dibenzofuran                  | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| Diethylphthalate              | 5.0                | 5.2                   | Not Detected    | Not Detected      |
| Fluorene                      | 1.0                | 1.0                   | Not Detected    | Not Detected      |
| 4-Chlorophenyl-phenyl Ether   | 1.0                | 1.0                   | Not Detected    | Not Detected      |



Air Toxics

Client Sample ID: TA-023ST

Lab ID#: 1307220R1-02A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: 12071717

Date of Collection: 7/10/13 4:13:00 PM

Dil. Factor: 1.00

Date of Analysis: 7/17/13 09:03 PM

Date of Extraction: 7/16/13

| Compound                   | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug) | Amount<br>(ug/m3) |
|----------------------------|--------------------|-----------------------|----------------|-------------------|
| 4-Nitroaniline             | 10                 | 10                    | Not Detected   | Not Detected      |
| 4,6-Dinitro-2-methylphenol | 10                 | 10                    | Not Detected   | Not Detected      |
| N-Nitrosodiphenylamine     | 10                 | 10                    | Not Detected   | Not Detected      |
| 4-Bromophenyl-phenyl Ether | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Hexachlorobenzene          | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Pentachlorophenol          | 20                 | 21                    | Not Detected   | Not Detected      |
| Phenanthrene               | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Anthracene                 | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| di-n-Butylphthalate        | 5.0                | 5.2                   | Not Detected   | Not Detected      |
| Fluoranthene               | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Pyrene                     | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Butylbenzylphthalate       | 5.0                | 5.2                   | Not Detected   | Not Detected      |
| 3,3'-Dichlorobenzidine     | 20                 | 21                    | Not Detected   | Not Detected      |
| Chrysene                   | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Benzo(a)anthracene         | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| bis(2-Ethylhexyl)phthalate | 5.0                | 5.2                   | Not Detected   | Not Detected      |
| Di-n-Octylphthalate        | 5.0                | 5.2                   | Not Detected   | Not Detected      |
| Benzo(b)fluoranthene       | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Benzo(k)fluoranthene       | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Benzo(a)pyrene             | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Indeno(1,2,3-c,d)pyrene    | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Dibenz(a,h)anthracene      | 1.0                | 1.0                   | Not Detected   | Not Detected      |
| Benzo(g,h,i)perylene       | 1.0                | 1.0                   | Not Detected   | Not Detected      |

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

## TENTATIVELY IDENTIFIED COMPOUNDS

| Compound                       | CAS Number | Match Quality | Amount<br>(ug) |
|--------------------------------|------------|---------------|----------------|
| Ethene, tetrachloro-           | 127-18-4   | 98%           | 340 NJ         |
| Benzene, 1,2-dimethyl-         | 95-47-6    | 91%           | 12 NJ          |
| Benzene, 1,3-dimethyl-         | 108-38-3   | 90%           | 4.4 NJ         |
| 1,3-Propanediol, 2,2-dimethyl- | 126-30-7   | 83%           | 51 NJ          |
| Heptane, 2,2-dimethyl-         | 1071-26-7  | 53%           | 4.7 NJ         |
| 1-Hexanol, 2-ethyl-            | 104-76-7   | 78%           | 64 NJ          |
| Decane, 2,6,7-trimethyl-       | 62108-25-2 | 72%           | 5.0 NJ         |

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: PUF Cartridge-Low Volume

| Surrogates | %Recovery | Method<br>Limits |
|------------|-----------|------------------|
|------------|-----------|------------------|



Air Toxics

Client Sample ID: TA-023ST

Lab ID#: 1307220R1-02A

**MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN**

|              |          |                                        |
|--------------|----------|----------------------------------------|
| File Name:   | 12071717 | Date of Collection: 7/10/13 4:13:00 PM |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 09:03 PM     |
|              |          | Date of Extraction: 7/16/13            |

| Surrogates           | %Recovery | Method Limits |
|----------------------|-----------|---------------|
| 2-Fluorophenol       | 71        | 50-150        |
| Phenol-d5            | 73        | 50-150        |
| Nitrobenzene-d5      | 85        | 50-150        |
| 2,4,6-Tribromophenol | 79        | 50-150        |
| Fluorene-d10         | 77        | 60-120        |
| Pyrene-d10           | 100       | 60-120        |
| Benzo(a)pyrene-d12   | 66        | 50-150        |
| Fluoranthene-d10     | 77        | 50-150        |

Client Sample ID: Lab Blank

Lab ID#: 1307220R1-03A

**MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN**

|                     |                 |                                           |
|---------------------|-----------------|-------------------------------------------|
| <b>File Name:</b>   | <b>12071714</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>     | <b>Date of Analysis: 7/17/13 07:32 PM</b> |
|                     |                 | <b>Date of Extraction: 7/16/13</b>        |

| Compound                      | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug) | Amount<br>(ug/m3) |
|-------------------------------|--------------------|-----------------------|----------------|-------------------|
| Phenol                        | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| bis(2-Chloroethyl) Ether      | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2-Chlorophenol                | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 1,3-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 1,4-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 1,2-Dichlorobenzene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2-Methylphenol (o-Cresol)     | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| bis(2-Chloroisopropyl) Ether  | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| N-Nitroso-di-n-propylamine    | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 4-Methylphenol/3-Methylphenol | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Hexachloroethane              | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Nitrobenzene                  | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Isophorone                    | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2-Nitrophenol                 | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 2,4-Dimethylphenol            | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Benzoic Acid                  | 30                 | 29                    | Not Detected   | Not Detected      |
| bis(2-Chloroethoxy) Methane   | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2,4-Dichlorophenol            | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 1,2,4-Trichlorobenzene        | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Naphthalene                   | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 4-Chloroaniline               | 10                 | 9.8                   | Not Detected   | Not Detected      |
| Hexachlorobutadiene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 4-Chloro-3-methylphenol       | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 2-Methylnaphthalene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Hexachlorocyclopentadiene     | 20                 | 20                    | Not Detected   | Not Detected      |
| 2,4,6-Trichlorophenol         | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 2,4,5-Trichlorophenol         | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 2-Chloronaphthalene           | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2-Nitroaniline                | 10                 | 9.8                   | Not Detected   | Not Detected      |
| Dimethylphthalate             | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Acenaphthylene                | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2,6-Dinitrotoluene            | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 3-Nitroaniline                | 10                 | 9.8                   | Not Detected   | Not Detected      |
| Acenaphthene                  | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 2,4-Dinitrophenol             | 20                 | 20                    | Not Detected   | Not Detected      |
| 4-Nitrophenol                 | 20                 | 20                    | Not Detected   | Not Detected      |
| 2,4-Dinitrotoluene            | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Dibenzofuran                  | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Diethylphthalate              | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Fluorene                      | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| 4-Chlorophenyl-phenyl Ether   | 1.0                | 0.98                  | Not Detected   | Not Detected      |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307220R1-03A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

File Name: 12071714

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/17/13 07:32 PM

Date of Extraction: 7/16/13

| Compound                   | Rpt. Limit<br>(ug) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug) | Amount<br>(ug/m3) |
|----------------------------|--------------------|-----------------------|----------------|-------------------|
| 4-Nitroaniline             | 10                 | 9.8                   | Not Detected   | Not Detected      |
| 4,6-Dinitro-2-methylphenol | 10                 | 9.8                   | Not Detected   | Not Detected      |
| N-Nitrosodiphenylamine     | 10                 | 9.8                   | Not Detected   | Not Detected      |
| 4-Bromophenyl-phenyl Ether | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Hexachlorobenzene          | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Pentachlorophenol          | 20                 | 20                    | Not Detected   | Not Detected      |
| Phenanthrene               | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Anthracene                 | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| di-n-Butylphthalate        | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Fluoranthene               | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Pyrene                     | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Butylbenzylphthalate       | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| 3,3'-Dichlorobenzidine     | 20                 | 20                    | Not Detected   | Not Detected      |
| Chrysene                   | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(a)anthracene         | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| bis(2-Ethylhexyl)phthalate | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Di-n-Octylphthalate        | 5.0                | 4.9                   | Not Detected   | Not Detected      |
| Benzo(b)fluoranthene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(k)fluoranthene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(a)pyrene             | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Indeno(1,2,3-c,d)pyrene    | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Dibenz(a,h)anthracene      | 1.0                | 0.98                  | Not Detected   | Not Detected      |
| Benzo(g,h,i)perylene       | 1.0                | 0.98                  | Not Detected   | Not Detected      |

## TENTATIVELY IDENTIFIED COMPOUNDS

| Compound        | CAS Number | Match Quality | Amount<br>ug |
|-----------------|------------|---------------|--------------|
| None Identified |            |               |              |

Container Type: NA - Not Applicable

| Surrogates           | %Recovery | Method<br>Limits |
|----------------------|-----------|------------------|
| 2-Fluorophenol       | 64        | 50-150           |
| Phenol-d5            | 71        | 50-150           |
| Nitrobenzene-d5      | 75        | 50-150           |
| 2,4,6-Tribromophenol | 84        | 50-150           |
| Fluorene-d10         | 74        | 60-120           |
| Pyrene-d10           | 84        | 60-120           |
| Benzo(a)pyrene-d12   | 71        | 50-150           |
| Fluoranthene-d10     | 84        | 50-150           |





Air Toxics

Client Sample ID: CCV

Lab ID#: 1307220R1-04A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 12071703 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 01:54 PM |
|              |          | Date of Extraction: NA             |

| Compound                      | %Recovery |
|-------------------------------|-----------|
| Phenol                        | 83        |
| bis(2-Chloroethyl) Ether      | 81        |
| 2-Chlorophenol                | 86        |
| 1,3-Dichlorobenzene           | 93        |
| 1,4-Dichlorobenzene           | 92        |
| 1,2-Dichlorobenzene           | 92        |
| 2-Methylphenol (o-Cresol)     | 83        |
| bis(2-Chloroisopropyl) Ether  | 88        |
| N-Nitroso-di-n-propylamine    | 85        |
| 4-Methylphenol/3-Methylphenol | 82        |
| Hexachloroethane              | 97        |
| Nitrobenzene                  | 101       |
| Isophorone                    | 92        |
| 2-Nitrophenol                 | 98        |
| 2,4-Dimethylphenol            | 92        |
| Benzoic Acid                  | 63 Q      |
| bis(2-Chloroethoxy) Methane   | 89        |
| 2,4-Dichlorophenol            | 91        |
| 1,2,4-Trichlorobenzene        | 99        |
| Naphthalene                   | 90        |
| 4-Chloroaniline               | 86        |
| Hexachlorobutadiene           | 110       |
| 4-Chloro-3-methylphenol       | 95        |
| 2-Methylnaphthalene           | 92        |
| Hexachlorocyclopentadiene     | 126       |
| 2,4,6-Trichlorophenol         | 105       |
| 2,4,5-Trichlorophenol         | 107       |
| 2-Chloronaphthalene           | 102       |
| 2-Nitroaniline                | 104       |
| Dimethylphthalate             | 98        |
| Acenaphthylene                | 98        |
| 2,6-Dinitrotoluene            | 100       |
| 3-Nitroaniline                | 86        |
| Acenaphthene                  | 95        |
| 2,4-Dinitrophenol             | 50 Q      |
| 4-Nitrophenol                 | 115       |
| 2,4-Dinitrotoluene            | 98        |
| Dibenzofuran                  | 94        |
| Diethylphthalate              | 99        |
| Fluorene                      | 95        |
| 4-Chlorophenyl-phenyl Ether   | 95        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307220R1-04A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 12071703 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 01:54 PM |
|              |          | Date of Extraction: NA             |

| Compound                   | %Recovery |
|----------------------------|-----------|
| 4-Nitroaniline             | 81        |
| 4,6-Dinitro-2-methylphenol | 86        |
| N-Nitrosodiphenylamine     | 99        |
| 4-Bromophenyl-phenyl Ether | 100       |
| Hexachlorobenzene          | 96        |
| Pentachlorophenol          | 112       |
| Phenanthrene               | 93        |
| Anthracene                 | 94        |
| di-n-Butylphthalate        | 101       |
| Fluoranthene               | 89        |
| Pyrene                     | 103       |
| Butylbenzylphthalate       | 106       |
| 3,3'-Dichlorobenzidine     | 94        |
| Chrysene                   | 92        |
| Benzo(a)anthracene         | 96        |
| bis(2-Ethylhexyl)phthalate | 104       |
| Di-n-Octylphthalate        | 118       |
| Benzo(b)fluoranthene       | 102       |
| Benzo(k)fluoranthene       | 104       |
| Benzo(a)pyrene             | 98        |
| Indeno(1,2,3-c,d)pyrene    | 95        |
| Dibenz(a,h)anthracene      | 95        |
| Benzo(g,h,i)perylene       | 90        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates           | %Recovery | Method Limits |
|----------------------|-----------|---------------|
| 2-Fluorophenol       | 93        | 50-150        |
| Phenol-d5            | 84        | 50-150        |
| Nitrobenzene-d5      | 105       | 50-150        |
| 2,4,6-Tribromophenol | 101       | 50-150        |
| Fluorene-d10         | 92        | 60-120        |
| Pyrene-d10           | 100       | 60-120        |
| Benzo(a)pyrene-d12   | 101       | 50-150        |
| Fluoranthene-d10     | 92        | 50-150        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307220R1-05A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 12071715 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 08:02 PM |
|              |          | Date of Extraction: 7/16/13        |

| Compound                      | %Recovery  |
|-------------------------------|------------|
| Phenol                        | 68         |
| bis(2-Chloroethyl) Ether      | Not Spiked |
| 2-Chlorophenol                | 67         |
| 1,3-Dichlorobenzene           | Not Spiked |
| 1,4-Dichlorobenzene           | 67         |
| 1,2-Dichlorobenzene           | Not Spiked |
| 2-Methylphenol (o-Cresol)     | Not Spiked |
| bis(2-Chloroisopropyl) Ether  | Not Spiked |
| N-Nitroso-di-n-propylamine    | 70         |
| 4-Methylphenol/3-Methylphenol | Not Spiked |
| Hexachloroethane              | Not Spiked |
| Nitrobenzene                  | Not Spiked |
| Isophorone                    | Not Spiked |
| 2-Nitrophenol                 | Not Spiked |
| 2,4-Dimethylphenol            | Not Spiked |
| Benzoic Acid                  | Not Spiked |
| bis(2-Chloroethoxy) Methane   | Not Spiked |
| 2,4-Dichlorophenol            | Not Spiked |
| 1,2,4-Trichlorobenzene        | 79         |
| Naphthalene                   | Not Spiked |
| 4-Chloroaniline               | Not Spiked |
| Hexachlorobutadiene           | Not Spiked |
| 4-Chloro-3-methylphenol       | 84         |
| 2-Methylnaphthalene           | Not Spiked |
| Hexachlorocyclopentadiene     | Not Spiked |
| 2,4,6-Trichlorophenol         | Not Spiked |
| 2,4,5-Trichlorophenol         | Not Spiked |
| 2-Chloronaphthalene           | Not Spiked |
| 2-Nitroaniline                | Not Spiked |
| Dimethylphthalate             | Not Spiked |
| Acenaphthylene                | Not Spiked |
| 2,6-Dinitrotoluene            | Not Spiked |
| 3-Nitroaniline                | Not Spiked |
| Acenaphthene                  | 82         |
| 2,4-Dinitrophenol             | Not Spiked |
| 4-Nitrophenol                 | 81         |
| 2,4-Dinitrotoluene            | 76         |
| Dibenzofuran                  | Not Spiked |
| Diethylphthalate              | Not Spiked |
| Fluorene                      | Not Spiked |
| 4-Chlorophenyl-phenyl Ether   | Not Spiked |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307220R1-05A

## MODIFIED EPA METHOD TO-13A GC/MS FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 12071715 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 08:02 PM |
|              |          | Date of Extraction: 7/16/13        |

| Compound                   | %Recovery  |
|----------------------------|------------|
| 4-Nitroaniline             | Not Spiked |
| 4,6-Dinitro-2-methylphenol | Not Spiked |
| N-Nitrosodiphenylamine     | Not Spiked |
| 4-Bromophenyl-phenyl Ether | Not Spiked |
| Hexachlorobenzene          | Not Spiked |
| Pentachlorophenol          | 77         |
| Phenanthrene               | Not Spiked |
| Anthracene                 | Not Spiked |
| di-n-Butylphthalate        | Not Spiked |
| Fluoranthene               | Not Spiked |
| Pyrene                     | 87         |
| Butylbenzylphthalate       | Not Spiked |
| 3,3'-Dichlorobenzidine     | Not Spiked |
| Chrysene                   | Not Spiked |
| Benzo(a)anthracene         | Not Spiked |
| bis(2-Ethylhexyl)phthalate | Not Spiked |
| Di-n-Octylphthalate        | Not Spiked |
| Benzo(b)fluoranthene       | Not Spiked |
| Benzo(k)fluoranthene       | Not Spiked |
| Benzo(a)pyrene             | Not Spiked |
| Indeno(1,2,3-c,d)pyrene    | Not Spiked |
| Dibenz(a,h)anthracene      | Not Spiked |
| Benzo(g,h,i)perylene       | Not Spiked |

Container Type: NA - Not Applicable

| Surrogates           | %Recovery | Method Limits |
|----------------------|-----------|---------------|
| 2-Fluorophenol       | 67        | 50-150        |
| Phenol-d5            | 70        | 50-150        |
| Nitrobenzene-d5      | 82        | 50-150        |
| 2,4,6-Tribromophenol | 86        | 50-150        |
| Fluorene-d10         | 77        | 60-120        |
| Pyrene-d10           | 87        | 60-120        |
| Benzo(a)pyrene-d12   | 73        | 50-150        |
| Fluoranthene-d10     | 85        | 50-150        |

**SORBENT SAMPLE COLLECTION**

**CHAIN-OF-CUSTODY RECORD**
**Sample Transportation Notice**

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

Page 1 of 1

Project Manager Lea Anne Atwell

Collected by: (Print and Sign) Regan Welch

Company Sunborn Head & Assoc. Email latwell@sunbornhead.com

Address 20 Foundry St City Concord State NH Zip 03301

Phone 603-229-1900 Fax \_\_\_\_\_

|                                                                                          |                                                                                                                   |                                                                                   |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Project Info:<br>P.O. # <u>2999.00</u><br>Project # _____<br>Project Name <u>IBM-EFK</u> | Turn Around Time:<br><input checked="" type="checkbox"/> Normal<br><input type="checkbox"/> Rush<br>_____ specify | Circle Reporting Units:<br>ppbv ppmv<br><u>ug/m<sup>3</sup></u> mg/m <sup>3</sup> |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

| Lab I.D.   | Field Sample I.D. (Location) | Tube # / Cartridge # | Date of Collection | Start Time  | End Time    | Duration (mins) | Final Volume L              | Analysis Requested                        |
|------------|------------------------------|----------------------|--------------------|-------------|-------------|-----------------|-----------------------------|-------------------------------------------|
| <u>01A</u> | <u>IA0431ST TC0422 ST</u>    |                      | <u>07-09-13</u>    | <u>0833</u> | <u>1704</u> | <u>511</u>      | <u>1.022</u>                | <u>TO-13 SVOC extended list with TICs</u> |
| <u>02A</u> | <u>TA-023ST</u>              |                      | <u>07-10-13</u>    | <u>0813</u> | <u>1613</u> | <u>480</u>      | <u>960 <del>1.022</del></u> | <u>↓</u>                                  |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |
|            |                              |                      |                    |             |             |                 |                             |                                           |

|                                                                          |                                                                            |                                                                                                                                            |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Relinquished by: (signature) <u>Regan</u> Date/Time <u>07-11-13 0945</u> | Received by: (signature) <u>Karu Becker</u> Date/Time <u>07/12/13 1000</u> | <b>Pump Calibration Information</b><br>Pre-test Flow Rate: _____<br>Post-test Flow Rate: _____<br>Average Flow Rate: _____<br>Notes: _____ |
| 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      | Air Bill # | Temp (°C)    | Condition  | Custody Seals Intact? | Work Order #   |
|--------------|-------------------|------------|--------------|------------|-----------------------|----------------|
|              | <u>Ed &amp; X</u> |            | <u>8.8°C</u> | <u>SDR</u> | Yes No <u>None</u>    | <u>1307220</u> |

Revised COC 08/09/13

**SORBENT SAMPLE COLLECTION**

**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

(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Lea Anne Atwell  
Collected by: (Print and Sign) Regan Welch  
Company Sunborn Head & Assoc. Email latwell@sunbornhead.com  
Address 20 Foundry St City Concord State NH Zip 03301  
Phone 603-229-1900 Fax \_\_\_\_\_

|                                                                                                 |                                                                                                                          |                                                                                          |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Project Info:</b><br>P.O. # <u>2999.00</u><br>Project # _____<br>Project Name <u>IBM-EFK</u> | <b>Turn Around Time:</b><br><input checked="" type="checkbox"/> Normal<br><input type="checkbox"/> Rush<br>_____ specify | <b>Circle Reporting Units:</b><br>ppbv ppmv<br><u>ug/m<sup>3</sup></u> mg/m <sup>3</sup> |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|

| Lab I.D. | Field Sample I.D. (Location) | Tube # / Cartridge # | Date of Collection | Start Time | End Time | Duration (mins) | Final Volume L      | Analysis Requested                 |
|----------|------------------------------|----------------------|--------------------|------------|----------|-----------------|---------------------|------------------------------------|
| 01A      | JA0431ST                     |                      | 07-09-13           | 0833       | 1704     | 511             | 1,022               | T0-13 SVOC extended list with TICs |
| 02A      | TA-023ST                     |                      | 07-10-13           | 0813       | 1613     | 480             | 960 <del>1000</del> | ↓                                  |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |
|          |                              |                      |                    |            |          |                 |                     |                                    |

|                                                                                                                        |                                                                            |                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Relinquished by: (signature) <u>Regan</u> Date/Time <u>07-11-13 0945</u>                                               | Received by: (signature) <u>Kate Becker</u> Date/Time <u>07/12/13 1000</u> | <b>Pump Calibration Information</b><br>Pre-test Flow Rate: _____<br>Post-test Flow Rate: _____<br>Average Flow Rate: _____<br>Notes: _____ |
| Relinquished by: (signature) _____ Date/Time _____                                                                     | Received by: (signature) _____ Date/Time _____                             |                                                                                                                                            |
| Relinquished by: (signature) _____ Date/Time _____                                                                     | Received by: (signature) _____ Date/Time _____                             |                                                                                                                                            |
| <b>Lab Use Only</b><br>Shipper Name <u>FedEx</u><br>Air Bill # _____<br>Temp (°C) <u>8.8°C</u><br>Condition <u>SDR</u> | Custody Seals Intact? Yes No <u>None</u><br>Work Order # <u>1307220</u>    |                                                                                                                                            |

8/13/2013

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

Concord NH 03301

Project Name: IBM East Fishkill  
Project #: 2999.00  
Workorder #: 1307242R1

Dear Mr. Brad Green

The following report includes the data for the above referenced project for sample(s) received on 7/12/2013 at Air Toxics Ltd.

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

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

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1307242R1**

## Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM East Fishkill                                                                |
| <b>DATE RECEIVED:</b>  | 07/12/2013                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 07/25/2013                                                                             |                  |                                                                                          |
| <b>DATE REISSUED:</b>  | 08/10/2013                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA0404      | Modified TO-15 | 4.7 "Hg                       | 5.2 psi                   |
| 01B               | IA0404      | Modified TO-15 | 4.7 "Hg                       | 5.2 psi                   |
| 02A               | IA0436      | Modified TO-15 | 5.7 "Hg                       | 4.9 psi                   |
| 02B               | IA0436      | Modified TO-15 | 5.7 "Hg                       | 4.9 psi                   |
| 03A               | IA0401      | Modified TO-15 | 6.5 "Hg                       | 5.2 psi                   |
| 03B               | IA0401      | Modified TO-15 | 6.5 "Hg                       | 5.2 psi                   |
| 04A               | TA-023      | Modified TO-15 | 7.8 "Hg                       | 4.9 psi                   |
| 04B               | TA-023      | Modified TO-15 | 7.8 "Hg                       | 4.9 psi                   |
| 04C               | TA-023      | Modified TO-15 | 7.8 "Hg                       | 4.9 psi                   |
| 05A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 05B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 05C               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 05D               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 06A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 06B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 06C               | CCV         | Modified TO-15 | NA                            | NA                        |
| 06D               | CCV         | Modified TO-15 | NA                            | NA                        |
| 07A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 07AA              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 07B               | LCS         | Modified TO-15 | NA                            | NA                        |
| 07BB              | LCSD        | Modified TO-15 | NA                            | NA                        |
| 07C               | LCS         | Modified TO-15 | NA                            | NA                        |
| 07CC              | LCSD        | Modified TO-15 | NA                            | NA                        |

Continued on next page



# WORK ORDER #: 1307242R1

## Work Order Summary

|                        |                                                                                        |                  |                                                                                          |
|------------------------|----------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| <b>CLIENT:</b>         | Mr. Brad Green<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 | <b>BILL TO:</b>  | Accounts Payable<br>Sanborn, Head & Associates<br>20 Foundry Street<br>Concord, NH 03301 |
| <b>PHONE:</b>          | 603-229-1900                                                                           | <b>P.O. #</b>    |                                                                                          |
| <b>FAX:</b>            | 603-229-1919                                                                           | <b>PROJECT #</b> | 2999.00 IBM East Fishkill                                                                |
| <b>DATE RECEIVED:</b>  | 07/12/2013                                                                             | <b>CONTACT:</b>  | Ausha Scott                                                                              |
| <b>DATE COMPLETED:</b> | 07/25/2013                                                                             |                  |                                                                                          |
| <b>DATE REISSUED:</b>  | 08/10/2013                                                                             |                  |                                                                                          |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 07D               | LCS         | Modified TO-15 | NA                            | NA                        |
| 07DD              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:



Technical Director

DATE: 08/13/13

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.

Eurofins Air Toxics Inc., 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# 1307242R1**

Four 6 Liter Summa Canister (SIM Certified) samples were received on July 12, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

| <b>Requirement</b>            | <b>TO-15</b>                                                 | <b>ATL Modifications</b>                                                                                                                                                                                                                                                     |
|-------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICAL %RSD acceptance criteria | $\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to $< 40\%$ RSD<br><br>For SIM:<br>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:<br>$\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ ; flag and narrate outliers<br><br>For SIM:<br>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 exceedances and affected sample results are noted by flags. Each flag is

defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Dilution was performed on sample TA-023 due to the presence of high level target species.

THE WORK ORDER WAS REISSUED ON 8/13/13 TO AMEND IDENTIFICATION OF SAMPLE IA0436 PER REVISED CHAIN OF CUSTODY (COC) PROVIDED BY THE CLIENT ON 8/9/13.

### **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#: 1307242R1-01A**

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.16                 | 0.53             | 0.79                  | 2.6               |
| Freon 11                         | 0.16                 | 1.5              | 0.90                  | 8.5               |
| Ethanol                          | 0.80                 | 6.7              | 1.5                   | 13                |
| Freon 113                        | 0.16                 | 0.17             | 1.2                   | 1.3               |
| Acetone                          | 0.80                 | 18               | 1.9                   | 44                |
| 2-Propanol                       | 0.80                 | 3.1              | 2.0                   | 7.6               |
| Methylene Chloride               | 0.32                 | 1.2              | 1.1                   | 4.1               |
| Hexane                           | 0.16                 | 0.32             | 0.56                  | 1.1               |
| 2-Butanone (Methyl Ethyl Ketone) | 0.80                 | 1.2              | 2.4                   | 3.5               |
| Cyclohexane                      | 0.16                 | 0.17             | 0.55                  | 0.57              |

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound                          | CAS Number | Match Quality | Amount<br>(ppbv) |
|-----------------------------------|------------|---------------|------------------|
| Propane, 2-methyl-                | 75-28-5    | 59%           | 12 NJ            |
| Unknown                           | NA         | NA            | 2.6 J            |
| 2-Butynenitrile, 4,4,4-trifluoro- | 66051-48-7 | 52%           | 9.9 NJ           |
| Acetaldehyde                      | 75-07-0    | 74%           | 3.2 NJ           |
| Unknown                           | NA         | NA            | 17 J             |
| Unknown                           | NA         | NA            | 24 J             |
| Butane, 2-methyl-                 | 78-78-4    | 72%           | 13 NJ            |
| Pentane                           | 109-66-0   | 78%           | 4.0 NJ           |
| Unknown                           | NA         | NA            | 0.97 J           |

**Client Sample ID: IA0404**

**Lab ID#: 1307242R1-01B**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride     | 0.016                | 0.037            | 0.041                 | 0.096             |
| Benzene            | 0.080                | 0.13             | 0.26                  | 0.41              |
| 1,2-Dichloroethane | 0.032                | 0.038 J          | 0.13                  | 0.15 J            |
| Trichloroethene    | 0.032                | 0.038            | 0.17                  | 0.20              |
| Toluene            | 0.032                | 1.6              | 0.12                  | 5.9               |
| Tetrachloroethene  | 0.032                | 2.3              | 0.22                  | 16                |

## Summary of Detected Compounds

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

**Client Sample ID: IA0404**

**Lab ID#: 1307242R1-01B**

|                      |       |       |      |      |
|----------------------|-------|-------|------|------|
| Ethyl Benzene        | 0.032 | 0.071 | 0.14 | 0.31 |
| m,p-Xylene           | 0.064 | 0.20  | 0.28 | 0.86 |
| o-Xylene             | 0.032 | 0.070 | 0.14 | 0.31 |
| Carbon Tetrachloride | 0.032 | 0.093 | 0.20 | 0.58 |

**Client Sample ID: IA0436**

**Lab ID#: 1307242R1-02A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12           | 0.16                 | 0.58             | 0.82                  | 2.8               |
| Freon 11           | 0.16                 | 2.0              | 0.93                  | 11                |
| Ethanol            | 0.82                 | 1.7              | 1.6                   | 3.3               |
| Freon 113          | 0.16                 | 0.20             | 1.3                   | 1.6               |
| Acetone            | 0.82                 | 3.9              | 2.0                   | 9.3               |
| 2-Propanol         | 0.82                 | 4.6              | 2.0                   | 11                |
| Methylene Chloride | 0.33                 | 8.4              | 1.1                   | 29                |

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound | CAS Number | Match Quality | Amount<br>(ppbv) |
|----------|------------|---------------|------------------|
| Unknown  | NA         | NA            | 1.5 J            |
| Unknown  | NA         | NA            | 5.1 J            |
| Unknown  | NA         | NA            | 18 J             |
| Unknown  | NA         | NA            | 0.94 J           |
| Unknown  | NA         | NA            | 4.8 J            |
| Unknown  | NA         | NA            | 6.9 J            |
| Unknown  | NA         | NA            | 1.0 J            |

**Client Sample ID: IA0436**

**Lab ID#: 1307242R1-02B**

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride    | 0.016                | 0.059            | 0.042                 | 0.15              |
| Trichloroethene   | 0.033                | 0.038            | 0.18                  | 0.20              |
| Toluene           | 0.033                | 0.19             | 0.12                  | 0.72              |
| Tetrachloroethene | 0.033                | 3.5              | 0.22                  | 24                |

## Summary of Detected Compounds

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

**Client Sample ID: IA0436**

**Lab ID#: 1307242R1-02B**

|                      |       |       |      |      |
|----------------------|-------|-------|------|------|
| Carbon Tetrachloride | 0.033 | 0.086 | 0.21 | 0.54 |
|----------------------|-------|-------|------|------|

**Client Sample ID: IA0401**

**Lab ID#: 1307242R1-03A**

| Compound   | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12   | 0.17                 | 0.65             | 0.86                  | 3.2               |
| Freon 11   | 0.17                 | 1.8              | 0.97                  | 10                |
| Ethanol    | 0.86                 | 4.3              | 1.6                   | 8.2               |
| Acetone    | 0.86                 | 9.0              | 2.0                   | 21                |
| 2-Propanol | 0.86                 | 46               | 2.1                   | 110               |

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound      | CAS Number | Match Quality | Amount<br>(ppbv) |
|---------------|------------|---------------|------------------|
| Unknown       | NA         | NA            | 1.2 J            |
| 3-Buten-2-one | 78-94-4    | 59%           | 1.4 NJ           |
| Unknown       | NA         | NA            | 2.8 J            |

**Client Sample ID: IA0401**

**Lab ID#: 1307242R1-03B**

| Compound             | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------|----------------------|------------------|-----------------------|-------------------|
| Toluene              | 0.035                | 0.36             | 0.13                  | 1.4               |
| Tetrachloroethene    | 0.035                | 0.32             | 0.23                  | 2.2               |
| Carbon Tetrachloride | 0.035                | 0.082            | 0.22                  | 0.51              |

**Client Sample ID: TA-023**

**Lab ID#: 1307242R1-04A**

| Compound  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-----------|----------------------|------------------|-----------------------|-------------------|
| Freon 11  | 0.45                 | 1.1              | 2.5                   | 6.3               |
| Ethanol   | 2.2                  | 6.6              | 4.2                   | 12                |
| Freon 113 | 0.45                 | 0.48             | 3.4                   | 3.7               |
| Acetone   | 2.2                  | 22               | 5.3                   | 52                |

## Summary of Detected Compounds

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

**Client Sample ID: TA-023**

**Lab ID#: 1307242R1-04A**

|                    |      |     |     |     |
|--------------------|------|-----|-----|-----|
| Methylene Chloride | 0.90 | 160 | 3.1 | 560 |
|--------------------|------|-----|-----|-----|

#### TENTATIVELY IDENTIFIED COMPOUNDS

| Compound               | CAS Number | Match Quality | Amount (ppbv) |
|------------------------|------------|---------------|---------------|
| Unknown                | NA         | NA            | 7.4 J         |
| Unknown                | NA         | NA            | 26 J          |
| Unknown                | NA         | NA            | 5.9 J         |
| Unknown                | NA         | NA            | 8.9 J         |
| Furan, 2-propyl-       | 4229-91-8  | 78%           | 5.2 NJ        |
| Benzene, 1,4-dimethyl- | 106-42-3   | 93%           | 6.9 NJ        |
| Benzene, 1,2-dimethyl- | 95-47-6    | 81%           | 3.9 NJ        |

**Client Sample ID: TA-023**

**Lab ID#: 1307242R1-04B**

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Vinyl Chloride       | 0.045             | 0.064         | 0.12               | 0.16           |
| Trichloroethene      | 0.090             | 0.51          | 0.48               | 2.7            |
| Toluene              | 0.090             | 0.67          | 0.34               | 2.5            |
| Ethyl Benzene        | 0.090             | 1.0           | 0.39               | 4.5            |
| m,p-Xylene           | 0.18              | 4.1           | 0.78               | 18             |
| o-Xylene             | 0.090             | 1.6           | 0.39               | 7.1            |
| Carbon Tetrachloride | 0.090             | 0.090         | 0.57               | 0.57           |

**Client Sample ID: TA-023**

**Lab ID#: 1307242R1-04C**

| Compound          | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-------------------|-------------------|---------------|--------------------|----------------|
| Tetrachloroethene | 1.8               | 460           | 12                 | 3100           |

Client Sample ID: IA0404

Lab ID#: 1307242R1-01A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e071708 | Date of Collection: 7/9/13 4:48:00 PM |
| Dil. Factor: | 1.60    | Date of Analysis: 7/17/13 03:37 PM    |

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.16                 | 0.53             | 0.79                  | 2.6               |
| Freon 114                        | 0.16                 | Not Detected     | 1.1                   | Not Detected      |
| Chloromethane                    | 0.80                 | Not Detected     | 1.6                   | Not Detected      |
| 1,3-Butadiene                    | 0.16                 | Not Detected     | 0.35                  | Not Detected      |
| Bromomethane                     | 0.80                 | Not Detected     | 3.1                   | Not Detected      |
| Chloroethane                     | 0.80                 | Not Detected     | 2.1                   | Not Detected      |
| Freon 11                         | 0.16                 | 1.5              | 0.90                  | 8.5               |
| Ethanol                          | 0.80                 | 6.7              | 1.5                   | 13                |
| Freon 113                        | 0.16                 | 0.17             | 1.2                   | 1.3               |
| Acetone                          | 0.80                 | 18               | 1.9                   | 44                |
| 2-Propanol                       | 0.80                 | 3.1              | 2.0                   | 7.6               |
| Carbon Disulfide                 | 0.80                 | Not Detected     | 2.5                   | Not Detected      |
| Methylene Chloride               | 0.32                 | 1.2              | 1.1                   | 4.1               |
| Hexane                           | 0.16                 | 0.32             | 0.56                  | 1.1               |
| 2-Butanone (Methyl Ethyl Ketone) | 0.80                 | 1.2              | 2.4                   | 3.5               |
| Tetrahydrofuran                  | 0.80                 | Not Detected     | 2.4                   | Not Detected      |
| Chloroform                       | 0.16                 | Not Detected     | 0.78                  | Not Detected      |
| Cyclohexane                      | 0.16                 | 0.17             | 0.55                  | 0.57              |
| Heptane                          | 0.16                 | Not Detected     | 0.66                  | Not Detected      |
| 1,2-Dichloropropane              | 0.16                 | Not Detected     | 0.74                  | Not Detected      |
| 1,4-Dioxane                      | 0.16                 | Not Detected     | 0.58                  | Not Detected      |
| Bromodichloromethane             | 0.16                 | Not Detected     | 1.1                   | Not Detected      |
| cis-1,3-Dichloropropene          | 0.16                 | Not Detected     | 0.73                  | Not Detected      |
| 4-Methyl-2-pentanone             | 0.16                 | Not Detected     | 0.66                  | Not Detected      |
| trans-1,3-Dichloropropene        | 0.16                 | Not Detected     | 0.73                  | Not Detected      |
| 2-Hexanone                       | 0.80                 | Not Detected     | 3.3                   | Not Detected      |
| Dibromochloromethane             | 0.16                 | Not Detected     | 1.4                   | Not Detected      |
| 1,2-Dibromoethane (EDB)          | 0.16                 | Not Detected     | 1.2                   | Not Detected      |
| Chlorobenzene                    | 0.16                 | Not Detected     | 0.74                  | Not Detected      |
| Styrene                          | 0.16                 | Not Detected     | 0.68                  | Not Detected      |
| Bromoform                        | 0.16                 | Not Detected     | 1.6                   | Not Detected      |
| Cumene                           | 0.16                 | Not Detected     | 0.79                  | Not Detected      |
| Propylbenzene                    | 0.16                 | Not Detected     | 0.79                  | Not Detected      |
| 4-Ethyltoluene                   | 0.16                 | Not Detected     | 0.79                  | Not Detected      |
| 1,3,5-Trimethylbenzene           | 0.16                 | Not Detected     | 0.79                  | Not Detected      |
| 1,2,4-Trimethylbenzene           | 0.16                 | Not Detected     | 0.79                  | Not Detected      |
| 1,3-Dichlorobenzene              | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| 1,4-Dichlorobenzene              | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| alpha-Chlorotoluene              | 0.16                 | Not Detected     | 0.83                  | Not Detected      |
| 1,2-Dichlorobenzene              | 0.16                 | Not Detected     | 0.96                  | Not Detected      |
| 1,2,4-Trichlorobenzene           | 0.80                 | Not Detected     | 5.9                   | Not Detected      |
| Hexachlorobutadiene              | 0.80                 | Not Detected     | 8.5                   | Not Detected      |





Air Toxics

Client Sample ID: IA0404

Lab ID#: 1307242R1-01A

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

File Name: e071708

Date of Collection: 7/9/13 4:48:00 PM

Dil. Factor: 1.60

Date of Analysis: 7/17/13 03:37 PM

## TENTATIVELY IDENTIFIED COMPOUNDS

| Compound                          | CAS Number | Match Quality | Amount ((ppbv)) |
|-----------------------------------|------------|---------------|-----------------|
| Propane, 2-methyl-                | 75-28-5    | 59%           | 12 NJ           |
| Unknown                           | NA         | NA            | 2.6 J           |
| 2-Butynenitrile, 4,4,4-trifluoro- | 66051-48-7 | 52%           | 9.9 NJ          |
| Acetaldehyde                      | 75-07-0    | 74%           | 3.2 NJ          |
| Unknown                           | NA         | NA            | 17 J            |
| Unknown                           | NA         | NA            | 24 J            |
| Butane, 2-methyl-                 | 78-78-4    | 72%           | 13 NJ           |
| Pentane                           | 109-66-0   | 78%           | 4.0 NJ          |
| Unknown                           | NA         | NA            | 0.97 J          |

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 121       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |



Air Toxics

Client Sample ID: IA0404

Lab ID#: 1307242R1-01B

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

File Name: e071708sim

Date of Collection: 7/9/13 4:48:00 PM

Dil. Factor: 1.60

Date of Analysis: 7/17/13 03:37 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.016                | 0.037            | 0.041                 | 0.096             |
| 1,1-Dichloroethene        | 0.016                | Not Detected     | 0.063                 | Not Detected      |
| 1,1-Dichloroethane        | 0.032                | Not Detected     | 0.13                  | Not Detected      |
| cis-1,2-Dichloroethene    | 0.032                | Not Detected     | 0.13                  | Not Detected      |
| 1,1,1-Trichloroethane     | 0.032                | Not Detected     | 0.17                  | Not Detected      |
| Benzene                   | 0.080                | 0.13             | 0.26                  | 0.41              |
| 1,2-Dichloroethane        | 0.032                | 0.038 J          | 0.13                  | 0.15 J            |
| Trichloroethene           | 0.032                | 0.038            | 0.17                  | 0.20              |
| Toluene                   | 0.032                | 1.6              | 0.12                  | 5.9               |
| 1,1,2-Trichloroethane     | 0.032                | Not Detected     | 0.17                  | Not Detected      |
| Tetrachloroethene         | 0.032                | 2.3              | 0.22                  | 16                |
| Ethyl Benzene             | 0.032                | 0.071            | 0.14                  | 0.31              |
| m,p-Xylene                | 0.064                | 0.20             | 0.28                  | 0.86              |
| o-Xylene                  | 0.032                | 0.070            | 0.14                  | 0.31              |
| 1,1,2,2-Tetrachloroethane | 0.032                | Not Detected     | 0.22                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.16                 | Not Detected     | 0.63                  | Not Detected      |
| Methyl tert-butyl ether   | 0.16                 | Not Detected     | 0.58                  | Not Detected      |
| Carbon Tetrachloride      | 0.032                | 0.093            | 0.20                  | 0.58              |

J = Estimated value due to bias in the CCV.

## Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 126       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 99        | 70-130           |



Air Toxics

Client Sample ID: IA0436

Lab ID#: 1307242R1-02A

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

|              |         |                     |                   |
|--------------|---------|---------------------|-------------------|
| File Name:   | e071709 | Date of Collection: | 7/9/13 5:04:00 PM |
| Dil. Factor: | 1.65    | Date of Analysis:   | 7/17/13 04:32 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                         | 0.16              | 0.58          | 0.82               | 2.8            |
| Freon 114                        | 0.16              | Not Detected  | 1.2                | Not Detected   |
| Chloromethane                    | 0.82              | Not Detected  | 1.7                | Not Detected   |
| 1,3-Butadiene                    | 0.16              | Not Detected  | 0.36               | Not Detected   |
| Bromomethane                     | 0.82              | Not Detected  | 3.2                | Not Detected   |
| Chloroethane                     | 0.82              | Not Detected  | 2.2                | Not Detected   |
| Freon 11                         | 0.16              | 2.0           | 0.93               | 11             |
| Ethanol                          | 0.82              | 1.7           | 1.6                | 3.3            |
| Freon 113                        | 0.16              | 0.20          | 1.3                | 1.6            |
| Acetone                          | 0.82              | 3.9           | 2.0                | 9.3            |
| 2-Propanol                       | 0.82              | 4.6           | 2.0                | 11             |
| Carbon Disulfide                 | 0.82              | Not Detected  | 2.6                | Not Detected   |
| Methylene Chloride               | 0.33              | 8.4           | 1.1                | 29             |
| Hexane                           | 0.16              | Not Detected  | 0.58               | Not Detected   |
| 2-Butanone (Methyl Ethyl Ketone) | 0.82              | Not Detected  | 2.4                | Not Detected   |
| Tetrahydrofuran                  | 0.82              | Not Detected  | 2.4                | Not Detected   |
| Chloroform                       | 0.16              | Not Detected  | 0.80               | Not Detected   |
| Cyclohexane                      | 0.16              | Not Detected  | 0.57               | Not Detected   |
| Heptane                          | 0.16              | Not Detected  | 0.68               | Not Detected   |
| 1,2-Dichloropropane              | 0.16              | Not Detected  | 0.76               | Not Detected   |
| 1,4-Dioxane                      | 0.16              | Not Detected  | 0.59               | Not Detected   |
| Bromodichloromethane             | 0.16              | Not Detected  | 1.1                | Not Detected   |
| cis-1,3-Dichloropropene          | 0.16              | Not Detected  | 0.75               | Not Detected   |
| 4-Methyl-2-pentanone             | 0.16              | Not Detected  | 0.68               | Not Detected   |
| trans-1,3-Dichloropropene        | 0.16              | Not Detected  | 0.75               | Not Detected   |
| 2-Hexanone                       | 0.82              | Not Detected  | 3.4                | Not Detected   |
| Dibromochloromethane             | 0.16              | Not Detected  | 1.4                | Not Detected   |
| 1,2-Dibromoethane (EDB)          | 0.16              | Not Detected  | 1.3                | Not Detected   |
| Chlorobenzene                    | 0.16              | Not Detected  | 0.76               | Not Detected   |
| Styrene                          | 0.16              | Not Detected  | 0.70               | Not Detected   |
| Bromoform                        | 0.16              | Not Detected  | 1.7                | Not Detected   |
| Cumene                           | 0.16              | Not Detected  | 0.81               | Not Detected   |
| Propylbenzene                    | 0.16              | Not Detected  | 0.81               | Not Detected   |
| 4-Ethyltoluene                   | 0.16              | Not Detected  | 0.81               | Not Detected   |
| 1,3,5-Trimethylbenzene           | 0.16              | Not Detected  | 0.81               | Not Detected   |
| 1,2,4-Trimethylbenzene           | 0.16              | Not Detected  | 0.81               | Not Detected   |
| 1,3-Dichlorobenzene              | 0.16              | Not Detected  | 0.99               | Not Detected   |
| 1,4-Dichlorobenzene              | 0.16              | Not Detected  | 0.99               | Not Detected   |
| alpha-Chlorotoluene              | 0.16              | Not Detected  | 0.85               | 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   |
| Hexachlorobutadiene              | 0.82              | Not Detected  | 8.8                | Not Detected   |

Client Sample ID: IA0436

Lab ID#: 1307242R1-02A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e071709 | Date of Collection: 7/9/13 5:04:00 PM |
| Dil. Factor: | 1.65    | Date of Analysis: 7/17/13 04:32 PM    |

**TENTATIVELY IDENTIFIED COMPOUNDS**

| Compound | CAS Number | Match Quality | Amount ((ppbv)) |
|----------|------------|---------------|-----------------|
| Unknown  | NA         | NA            | 1.5 J           |
| Unknown  | NA         | NA            | 5.1 J           |
| Unknown  | NA         | NA            | 18 J            |
| Unknown  | NA         | NA            | 0.94 J          |
| Unknown  | NA         | NA            | 4.8 J           |
| Unknown  | NA         | NA            | 6.9 J           |
| Unknown  | NA         | NA            | 1.0 J           |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 121       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |



Air Toxics

Client Sample ID: IA0436

Lab ID#: 1307242R1-02B

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

File Name: e071709sim

Date of Collection: 7/9/13 5:04:00 PM

Dil. Factor: 1.65

Date of Analysis: 7/17/13 04:32 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.016                | 0.059            | 0.042                 | 0.15              |
| 1,1-Dichloroethene        | 0.016                | Not Detected     | 0.065                 | Not Detected      |
| 1,1-Dichloroethane        | 0.033                | Not Detected     | 0.13                  | Not Detected      |
| cis-1,2-Dichloroethene    | 0.033                | Not Detected     | 0.13                  | Not Detected      |
| 1,1,1-Trichloroethane     | 0.033                | Not Detected     | 0.18                  | Not Detected      |
| Benzene                   | 0.082                | Not Detected     | 0.26                  | Not Detected      |
| 1,2-Dichloroethane        | 0.033                | Not Detected     | 0.13                  | Not Detected      |
| Trichloroethene           | 0.033                | 0.038            | 0.18                  | 0.20              |
| Toluene                   | 0.033                | 0.19             | 0.12                  | 0.72              |
| 1,1,2-Trichloroethane     | 0.033                | Not Detected     | 0.18                  | Not Detected      |
| Tetrachloroethene         | 0.033                | 3.5              | 0.22                  | 24                |
| Ethyl Benzene             | 0.033                | Not Detected     | 0.14                  | Not Detected      |
| m,p-Xylene                | 0.066                | Not Detected     | 0.29                  | Not Detected      |
| o-Xylene                  | 0.033                | Not Detected     | 0.14                  | Not Detected      |
| 1,1,2,2-Tetrachloroethane | 0.033                | Not Detected     | 0.23                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.16                 | Not Detected     | 0.65                  | Not Detected      |
| Methyl tert-butyl ether   | 0.16                 | Not Detected     | 0.59                  | Not Detected      |
| Carbon Tetrachloride      | 0.033                | 0.086            | 0.21                  | 0.54              |

## Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 128       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Air Toxics

Client Sample ID: IA0401

Lab ID#: 1307242R1-03A

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

|              |         |                     |                   |
|--------------|---------|---------------------|-------------------|
| File Name:   | e071710 | Date of Collection: | 7/9/13 6:35:00 PM |
| Dil. Factor: | 1.73    | Date of Analysis:   | 7/17/13 05:29 PM  |

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.17                 | 0.65             | 0.86                  | 3.2               |
| Freon 114                        | 0.17                 | Not Detected     | 1.2                   | Not Detected      |
| Chloromethane                    | 0.86                 | Not Detected     | 1.8                   | Not Detected      |
| 1,3-Butadiene                    | 0.17                 | Not Detected     | 0.38                  | Not Detected      |
| Bromomethane                     | 0.86                 | Not Detected     | 3.4                   | Not Detected      |
| Chloroethane                     | 0.86                 | Not Detected     | 2.3                   | Not Detected      |
| Freon 11                         | 0.17                 | 1.8              | 0.97                  | 10                |
| Ethanol                          | 0.86                 | 4.3              | 1.6                   | 8.2               |
| Freon 113                        | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| Acetone                          | 0.86                 | 9.0              | 2.0                   | 21                |
| 2-Propanol                       | 0.86                 | 46               | 2.1                   | 110               |
| Carbon Disulfide                 | 0.86                 | Not Detected     | 2.7                   | Not Detected      |
| Methylene Chloride               | 0.35                 | Not Detected     | 1.2                   | Not Detected      |
| Hexane                           | 0.17                 | Not Detected     | 0.61                  | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 0.86                 | Not Detected     | 2.6                   | Not Detected      |
| Tetrahydrofuran                  | 0.86                 | Not Detected     | 2.6                   | Not Detected      |
| Chloroform                       | 0.17                 | Not Detected     | 0.84                  | Not Detected      |
| Cyclohexane                      | 0.17                 | Not Detected     | 0.60                  | Not Detected      |
| Heptane                          | 0.17                 | Not Detected     | 0.71                  | Not Detected      |
| 1,2-Dichloropropane              | 0.17                 | Not Detected     | 0.80                  | Not Detected      |
| 1,4-Dioxane                      | 0.17                 | Not Detected     | 0.62                  | Not Detected      |
| Bromodichloromethane             | 0.17                 | Not Detected     | 1.2                   | Not Detected      |
| cis-1,3-Dichloropropene          | 0.17                 | Not Detected     | 0.78                  | Not Detected      |
| 4-Methyl-2-pentanone             | 0.17                 | Not Detected     | 0.71                  | Not Detected      |
| trans-1,3-Dichloropropene        | 0.17                 | Not Detected     | 0.78                  | Not Detected      |
| 2-Hexanone                       | 0.86                 | Not Detected     | 3.5                   | Not Detected      |
| Dibromochloromethane             | 0.17                 | Not Detected     | 1.5                   | Not Detected      |
| 1,2-Dibromoethane (EDB)          | 0.17                 | Not Detected     | 1.3                   | Not Detected      |
| Chlorobenzene                    | 0.17                 | Not Detected     | 0.80                  | Not Detected      |
| Styrene                          | 0.17                 | Not Detected     | 0.74                  | Not Detected      |
| Bromoform                        | 0.17                 | Not Detected     | 1.8                   | Not Detected      |
| Cumene                           | 0.17                 | Not Detected     | 0.85                  | Not Detected      |
| Propylbenzene                    | 0.17                 | Not Detected     | 0.85                  | Not Detected      |
| 4-Ethyltoluene                   | 0.17                 | Not Detected     | 0.85                  | Not Detected      |
| 1,3,5-Trimethylbenzene           | 0.17                 | Not Detected     | 0.85                  | Not Detected      |
| 1,2,4-Trimethylbenzene           | 0.17                 | Not Detected     | 0.85                  | Not Detected      |
| 1,3-Dichlorobenzene              | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,4-Dichlorobenzene              | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| alpha-Chlorotoluene              | 0.17                 | Not Detected     | 0.90                  | Not Detected      |
| 1,2-Dichlorobenzene              | 0.17                 | Not Detected     | 1.0                   | Not Detected      |
| 1,2,4-Trichlorobenzene           | 0.86                 | Not Detected     | 6.4                   | Not Detected      |
| Hexachlorobutadiene              | 0.86                 | Not Detected     | 9.2                   | Not Detected      |



Air Toxics

Client Sample ID: IA0401

Lab ID#: 1307242R1-03A

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

|              |         |                                       |
|--------------|---------|---------------------------------------|
| File Name:   | e071710 | Date of Collection: 7/9/13 6:35:00 PM |
| Dil. Factor: | 1.73    | Date of Analysis: 7/17/13 05:29 PM    |

**TENTATIVELY IDENTIFIED COMPOUNDS**

| Compound      | CAS Number | Match Quality | Amount ((ppbv)) |
|---------------|------------|---------------|-----------------|
| Unknown       | NA         | NA            | 1.2 J           |
| 3-Buten-2-one | 78-94-4    | 59%           | 1.4 NJ          |
| Unknown       | NA         | NA            | 2.8 J           |

NJ =The identification is based on presumptive evidence; estimated value.

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 119       | 70-130        |
| Toluene-d8            | 93        | 70-130        |
| 4-Bromofluorobenzene  | 108       | 70-130        |



Air Toxics

Client Sample ID: IA0401

Lab ID#: 1307242R1-03B

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

File Name: e071710sim

Date of Collection: 7/9/13 6:35:00 PM

Dil. Factor: 1.73

Date of Analysis: 7/17/13 05:29 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.017                | Not Detected     | 0.044                 | Not Detected      |
| 1,1-Dichloroethene        | 0.017                | Not Detected     | 0.068                 | Not Detected      |
| 1,1-Dichloroethane        | 0.035                | Not Detected     | 0.14                  | Not Detected      |
| cis-1,2-Dichloroethene    | 0.035                | Not Detected     | 0.14                  | Not Detected      |
| 1,1,1-Trichloroethane     | 0.035                | Not Detected     | 0.19                  | Not Detected      |
| Benzene                   | 0.086                | Not Detected     | 0.28                  | Not Detected      |
| 1,2-Dichloroethane        | 0.035                | Not Detected     | 0.14                  | Not Detected      |
| Trichloroethene           | 0.035                | Not Detected     | 0.18                  | Not Detected      |
| Toluene                   | 0.035                | 0.36             | 0.13                  | 1.4               |
| 1,1,2-Trichloroethane     | 0.035                | Not Detected     | 0.19                  | Not Detected      |
| Tetrachloroethene         | 0.035                | 0.32             | 0.23                  | 2.2               |
| Ethyl Benzene             | 0.035                | Not Detected     | 0.15                  | Not Detected      |
| m,p-Xylene                | 0.069                | Not Detected     | 0.30                  | Not Detected      |
| o-Xylene                  | 0.035                | Not Detected     | 0.15                  | Not Detected      |
| 1,1,2,2-Tetrachloroethane | 0.035                | Not Detected     | 0.24                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.17                 | Not Detected     | 0.68                  | Not Detected      |
| Methyl tert-butyl ether   | 0.17                 | Not Detected     | 0.62                  | Not Detected      |
| Carbon Tetrachloride      | 0.035                | 0.082            | 0.22                  | 0.51              |

## Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 128       | 70-130           |
| Toluene-d8            | 102       | 70-130           |
| 4-Bromofluorobenzene  | 111       | 70-130           |





Air Toxics

Client Sample ID: TA-023

Lab ID#: 1307242R1-04A

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

|              |         |                     |                    |
|--------------|---------|---------------------|--------------------|
| File Name:   | v071913 | Date of Collection: | 7/10/13 9:16:00 AM |
| Dil. Factor: | 4.50    | Date of Analysis:   | 7/19/13 07:59 PM   |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                         | 0.45              | Not Detected  | 2.2                | Not Detected   |
| Freon 114                        | 0.45              | Not Detected  | 3.1                | Not Detected   |
| Chloromethane                    | 2.2               | Not Detected  | 4.6                | Not Detected   |
| 1,3-Butadiene                    | 0.45              | Not Detected  | 1.0                | Not Detected   |
| Bromomethane                     | 2.2               | Not Detected  | 8.7                | Not Detected   |
| Chloroethane                     | 2.2               | Not Detected  | 5.9                | Not Detected   |
| Freon 11                         | 0.45              | 1.1           | 2.5                | 6.3            |
| Ethanol                          | 2.2               | 6.6           | 4.2                | 12             |
| Freon 113                        | 0.45              | 0.48          | 3.4                | 3.7            |
| Acetone                          | 2.2               | 22            | 5.3                | 52             |
| 2-Propanol                       | 2.2               | Not Detected  | 5.5                | Not Detected   |
| Carbon Disulfide                 | 2.2               | Not Detected  | 7.0                | Not Detected   |
| Methylene Chloride               | 0.90              | 160           | 3.1                | 560            |
| Hexane                           | 0.45              | Not Detected  | 1.6                | Not Detected   |
| 2-Butanone (Methyl Ethyl Ketone) | 2.2               | Not Detected  | 6.6                | Not Detected   |
| Tetrahydrofuran                  | 2.2               | Not Detected  | 6.6                | Not Detected   |
| Chloroform                       | 0.45              | Not Detected  | 2.2                | Not Detected   |
| Cyclohexane                      | 0.45              | Not Detected  | 1.5                | Not Detected   |
| Heptane                          | 0.45              | Not Detected  | 1.8                | Not Detected   |
| 1,2-Dichloropropane              | 0.45              | Not Detected  | 2.1                | Not Detected   |
| 1,4-Dioxane                      | 0.45              | Not Detected  | 1.6                | Not Detected   |
| Bromodichloromethane             | 0.45              | Not Detected  | 3.0                | Not Detected   |
| cis-1,3-Dichloropropene          | 0.45              | Not Detected  | 2.0                | Not Detected   |
| 4-Methyl-2-pentanone             | 0.45              | Not Detected  | 1.8                | Not Detected   |
| trans-1,3-Dichloropropene        | 0.45              | Not Detected  | 2.0                | Not Detected   |
| 2-Hexanone                       | 2.2               | Not Detected  | 9.2                | Not Detected   |
| Dibromochloromethane             | 0.45              | Not Detected  | 3.8                | Not Detected   |
| 1,2-Dibromoethane (EDB)          | 0.45              | Not Detected  | 3.4                | Not Detected   |
| Chlorobenzene                    | 0.45              | Not Detected  | 2.1                | Not Detected   |
| Styrene                          | 0.45              | Not Detected  | 1.9                | Not Detected   |
| Bromoform                        | 0.45              | Not Detected  | 4.6                | Not Detected   |
| Cumene                           | 0.45              | Not Detected  | 2.2                | Not Detected   |
| Propylbenzene                    | 0.45              | Not Detected  | 2.2                | Not Detected   |
| 4-Ethyltoluene                   | 0.45              | Not Detected  | 2.2                | Not Detected   |
| 1,3,5-Trimethylbenzene           | 0.45              | Not Detected  | 2.2                | Not Detected   |
| 1,2,4-Trimethylbenzene           | 0.45              | Not Detected  | 2.2                | Not Detected   |
| 1,3-Dichlorobenzene              | 0.45              | Not Detected  | 2.7                | Not Detected   |
| 1,4-Dichlorobenzene              | 0.45              | Not Detected  | 2.7                | Not Detected   |
| alpha-Chlorotoluene              | 0.45              | Not Detected  | 2.3                | Not Detected   |
| 1,2-Dichlorobenzene              | 0.45              | Not Detected  | 2.7                | Not Detected   |
| 1,2,4-Trichlorobenzene           | 2.2               | Not Detected  | 17                 | Not Detected   |
| Hexachlorobutadiene              | 2.2               | Not Detected  | 24                 | Not Detected   |



Air Toxics

Client Sample ID: TA-023

Lab ID#: 1307242R1-04A

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

|              |         |                                        |
|--------------|---------|----------------------------------------|
| File Name:   | v071913 | Date of Collection: 7/10/13 9:16:00 AM |
| Dil. Factor: | 4.50    | Date of Analysis: 7/19/13 07:59 PM     |

## TENTATIVELY IDENTIFIED COMPOUNDS

| Compound               | CAS Number | Match Quality | Amount ((ppbv)) |
|------------------------|------------|---------------|-----------------|
| Unknown                | NA         | NA            | 7.4 J           |
| Unknown                | NA         | NA            | 26 J            |
| Unknown                | NA         | NA            | 5.9 J           |
| Unknown                | NA         | NA            | 8.9 J           |
| Furan, 2-propyl-       | 4229-91-8  | 78%           | 5.2 NJ          |
| Benzene, 1,4-dimethyl- | 106-42-3   | 93%           | 6.9 NJ          |
| Benzene, 1,2-dimethyl- | 95-47-6    | 81%           | 3.9 NJ          |

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 94        | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 98        | 70-130        |



Air Toxics

Client Sample ID: TA-023

Lab ID#: 1307242R1-04B

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

File Name: v071913sim

Date of Collection: 7/10/13 9:16:00 AM

Dil. Factor: 4.50

Date of Analysis: 7/19/13 07:59 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.045                | 0.064            | 0.12                  | 0.16              |
| 1,1-Dichloroethene        | 0.045                | Not Detected     | 0.18                  | Not Detected      |
| 1,1-Dichloroethane        | 0.090                | Not Detected     | 0.36                  | Not Detected      |
| cis-1,2-Dichloroethene    | 0.090                | Not Detected     | 0.36                  | Not Detected      |
| 1,1,1-Trichloroethane     | 0.090                | Not Detected     | 0.49                  | Not Detected      |
| Benzene                   | 0.22                 | Not Detected     | 0.72                  | Not Detected      |
| 1,2-Dichloroethane        | 0.090                | Not Detected     | 0.36                  | Not Detected      |
| Trichloroethene           | 0.090                | 0.51             | 0.48                  | 2.7               |
| Toluene                   | 0.090                | 0.67             | 0.34                  | 2.5               |
| 1,1,2-Trichloroethane     | 0.090                | Not Detected     | 0.49                  | Not Detected      |
| Ethyl Benzene             | 0.090                | 1.0              | 0.39                  | 4.5               |
| m,p-Xylene                | 0.18                 | 4.1              | 0.78                  | 18                |
| o-Xylene                  | 0.090                | 1.6              | 0.39                  | 7.1               |
| 1,1,2,2-Tetrachloroethane | 0.090                | Not Detected     | 0.62                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.45                 | Not Detected     | 1.8                   | Not Detected      |
| Methyl tert-butyl ether   | 0.45                 | Not Detected     | 1.6                   | Not Detected      |
| Carbon Tetrachloride      | 0.090                | 0.090            | 0.57                  | 0.57              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 98        | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 101       | 70-130           |



Air Toxics

Client Sample ID: TA-023

Lab ID#: 1307242R1-04C

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

|              |         |                     |                    |
|--------------|---------|---------------------|--------------------|
| File Name:   | v071907 | Date of Collection: | 7/10/13 9:16:00 AM |
| Dil. Factor: | 18.0    | Date of Analysis:   | 7/19/13 03:33 PM   |

| Compound          | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|-------------------|----------------------|------------------|-----------------------|-------------------|
| Tetrachloroethene | 1.8                  | 460              | 12                    | 3100              |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 100       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 95        | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05A

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

| File Name:                       | e071707a             | Date of Collection: NA             |                       |                   |
|----------------------------------|----------------------|------------------------------------|-----------------------|-------------------|
| Dil. Factor:                     | 1.00                 | Date of Analysis: 7/17/13 02:06 PM |                       |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)                   | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| Freon 114                        | 0.10                 | Not Detected                       | 0.70                  | Not Detected      |
| Chloromethane                    | 0.50                 | Not Detected                       | 1.0                   | Not Detected      |
| 1,3-Butadiene                    | 0.10                 | Not Detected                       | 0.22                  | Not Detected      |
| Bromomethane                     | 0.50                 | Not Detected                       | 1.9                   | Not Detected      |
| Chloroethane                     | 0.50                 | Not Detected                       | 1.3                   | Not Detected      |
| Freon 11                         | 0.10                 | Not Detected                       | 0.56                  | Not Detected      |
| Ethanol                          | 0.50                 | Not Detected                       | 0.94                  | Not Detected      |
| Freon 113                        | 0.10                 | Not Detected                       | 0.77                  | Not Detected      |
| Acetone                          | 0.50                 | Not Detected                       | 1.2                   | Not Detected      |
| 2-Propanol                       | 0.50                 | Not Detected                       | 1.2                   | Not Detected      |
| Carbon Disulfide                 | 0.50                 | Not Detected                       | 1.6                   | Not Detected      |
| Methylene Chloride               | 0.20                 | Not Detected                       | 0.69                  | Not Detected      |
| Hexane                           | 0.10                 | Not Detected                       | 0.35                  | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50                 | Not Detected                       | 1.5                   | Not Detected      |
| Tetrahydrofuran                  | 0.50                 | Not Detected                       | 1.5                   | Not Detected      |
| Chloroform                       | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| Cyclohexane                      | 0.10                 | Not Detected                       | 0.34                  | Not Detected      |
| Heptane                          | 0.10                 | Not Detected                       | 0.41                  | Not Detected      |
| 1,2-Dichloropropane              | 0.10                 | Not Detected                       | 0.46                  | Not Detected      |
| 1,4-Dioxane                      | 0.10                 | Not Detected                       | 0.36                  | Not Detected      |
| Bromodichloromethane             | 0.10                 | Not Detected                       | 0.67                  | Not Detected      |
| cis-1,3-Dichloropropene          | 0.10                 | Not Detected                       | 0.45                  | Not Detected      |
| 4-Methyl-2-pentanone             | 0.10                 | Not Detected                       | 0.41                  | Not Detected      |
| trans-1,3-Dichloropropene        | 0.10                 | Not Detected                       | 0.45                  | Not Detected      |
| 2-Hexanone                       | 0.50                 | Not Detected                       | 2.0                   | Not Detected      |
| Dibromochloromethane             | 0.10                 | Not Detected                       | 0.85                  | Not Detected      |
| 1,2-Dibromoethane (EDB)          | 0.10                 | Not Detected                       | 0.77                  | Not Detected      |
| Chlorobenzene                    | 0.10                 | Not Detected                       | 0.46                  | Not Detected      |
| Styrene                          | 0.10                 | Not Detected                       | 0.42                  | Not Detected      |
| Bromoform                        | 0.10                 | Not Detected                       | 1.0                   | Not Detected      |
| Cumene                           | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| Propylbenzene                    | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| 4-Ethyltoluene                   | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| 1,3,5-Trimethylbenzene           | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| 1,2,4-Trimethylbenzene           | 0.10                 | Not Detected                       | 0.49                  | Not Detected      |
| 1,3-Dichlorobenzene              | 0.10                 | Not Detected                       | 0.60                  | Not Detected      |
| 1,4-Dichlorobenzene              | 0.10                 | Not Detected                       | 0.60                  | Not Detected      |
| alpha-Chlorotoluene              | 0.10                 | Not Detected                       | 0.52                  | 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      |
| Hexachlorobutadiene              | 0.50                 | Not Detected                       | 5.3                   | Not Detected      |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05A

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

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | e071707a | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/17/13 02:06 PM |

**TENTATIVELY IDENTIFIED COMPOUNDS**

| Compound        | CAS Number | Match Quality | Amount<br>((ppbv)) |
|-----------------|------------|---------------|--------------------|
| None Identified |            |               |                    |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 126       | 70-130           |
| Toluene-d8            | 95        | 70-130           |
| 4-Bromofluorobenzene  | 94        | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05B

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

File Name: e071707sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/17/13 02:06 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.010                | Not Detected     | 0.026                 | Not Detected      |
| 1,1-Dichloroethene        | 0.010                | Not Detected     | 0.040                 | Not Detected      |
| 1,1-Dichloroethane        | 0.020                | Not Detected     | 0.081                 | Not Detected      |
| cis-1,2-Dichloroethene    | 0.020                | Not Detected     | 0.079                 | Not Detected      |
| 1,1,1-Trichloroethane     | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Benzene                   | 0.050                | Not Detected     | 0.16                  | Not Detected      |
| 1,2-Dichloroethane        | 0.020                | Not Detected     | 0.081                 | Not Detected      |
| Trichloroethene           | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Toluene                   | 0.020                | Not Detected     | 0.075                 | Not Detected      |
| 1,1,2-Trichloroethane     | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Tetrachloroethene         | 0.020                | Not Detected     | 0.14                  | Not Detected      |
| Ethyl Benzene             | 0.020                | Not Detected     | 0.087                 | Not Detected      |
| m,p-Xylene                | 0.040                | Not Detected     | 0.17                  | Not Detected      |
| o-Xylene                  | 0.020                | Not Detected     | 0.087                 | Not Detected      |
| 1,1,2,2-Tetrachloroethane | 0.020                | Not Detected     | 0.14                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.10                 | Not Detected     | 0.40                  | Not Detected      |
| Methyl tert-butyl ether   | 0.10                 | Not Detected     | 0.36                  | Not Detected      |
| Carbon Tetrachloride      | 0.020                | Not Detected     | 0.12                  | Not Detected      |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 127       | 70-130           |
| Toluene-d8            | 103       | 70-130           |
| 4-Bromofluorobenzene  | 98        | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05C

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

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | v071906a | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/19/13 01:09 PM |

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| Freon 114                        | 0.10                 | Not Detected     | 0.70                  | Not Detected      |
| Chloromethane                    | 0.50                 | Not Detected     | 1.0                   | Not Detected      |
| 1,3-Butadiene                    | 0.10                 | Not Detected     | 0.22                  | Not Detected      |
| Bromomethane                     | 0.50                 | Not Detected     | 1.9                   | Not Detected      |
| Chloroethane                     | 0.50                 | Not Detected     | 1.3                   | Not Detected      |
| Freon 11                         | 0.10                 | Not Detected     | 0.56                  | Not Detected      |
| Ethanol                          | 0.50                 | Not Detected     | 0.94                  | Not Detected      |
| Freon 113                        | 0.10                 | Not Detected     | 0.77                  | Not Detected      |
| Acetone                          | 0.50                 | Not Detected     | 1.2                   | Not Detected      |
| 2-Propanol                       | 0.50                 | Not Detected     | 1.2                   | Not Detected      |
| Carbon Disulfide                 | 0.50                 | Not Detected     | 1.6                   | Not Detected      |
| Methylene Chloride               | 0.20                 | Not Detected     | 0.69                  | Not Detected      |
| Hexane                           | 0.10                 | Not Detected     | 0.35                  | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50                 | Not Detected     | 1.5                   | Not Detected      |
| Tetrahydrofuran                  | 0.50                 | Not Detected     | 1.5                   | Not Detected      |
| Chloroform                       | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| Cyclohexane                      | 0.10                 | Not Detected     | 0.34                  | Not Detected      |
| Heptane                          | 0.10                 | Not Detected     | 0.41                  | Not Detected      |
| 1,2-Dichloropropane              | 0.10                 | Not Detected     | 0.46                  | Not Detected      |
| 1,4-Dioxane                      | 0.10                 | Not Detected     | 0.36                  | Not Detected      |
| Bromodichloromethane             | 0.10                 | Not Detected     | 0.67                  | Not Detected      |
| cis-1,3-Dichloropropene          | 0.10                 | Not Detected     | 0.45                  | Not Detected      |
| 4-Methyl-2-pentanone             | 0.10                 | Not Detected     | 0.41                  | Not Detected      |
| trans-1,3-Dichloropropene        | 0.10                 | Not Detected     | 0.45                  | Not Detected      |
| Tetrachloroethene                | 0.10                 | Not Detected     | 0.68                  | Not Detected      |
| 2-Hexanone                       | 0.50                 | Not Detected     | 2.0                   | Not Detected      |
| Dibromochloromethane             | 0.10                 | Not Detected     | 0.85                  | Not Detected      |
| 1,2-Dibromoethane (EDB)          | 0.10                 | Not Detected     | 0.77                  | Not Detected      |
| Chlorobenzene                    | 0.10                 | Not Detected     | 0.46                  | Not Detected      |
| Styrene                          | 0.10                 | Not Detected     | 0.42                  | Not Detected      |
| Bromoform                        | 0.10                 | Not Detected     | 1.0                   | Not Detected      |
| Cumene                           | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| Propylbenzene                    | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| 4-Ethyltoluene                   | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| 1,3,5-Trimethylbenzene           | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| 1,2,4-Trimethylbenzene           | 0.10                 | Not Detected     | 0.49                  | Not Detected      |
| 1,3-Dichlorobenzene              | 0.10                 | Not Detected     | 0.60                  | Not Detected      |
| 1,4-Dichlorobenzene              | 0.10                 | Not Detected     | 0.60                  | Not Detected      |
| alpha-Chlorotoluene              | 0.10                 | Not Detected     | 0.52                  | 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      |





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05C

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

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | v071906a | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 7/19/13 01:09 PM |

| Compound            | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------|----------------------|------------------|-----------------------|-------------------|
| Hexachlorobutadiene | 0.50                 | Not Detected     | 5.3                   | Not Detected      |

**TENTATIVELY IDENTIFIED COMPOUNDS**

| Compound        | CAS Number | Match Quality | Amount<br>(ppbv) |
|-----------------|------------|---------------|------------------|
| None Identified |            |               |                  |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130           |
| Toluene-d8            | 101       | 70-130           |
| 4-Bromofluorobenzene  | 101       | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1307242R1-05D

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

File Name: v071906asim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/19/13 01:09 PM

| Compound                  | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|---------------------------|----------------------|------------------|-----------------------|-------------------|
| Vinyl Chloride            | 0.010                | Not Detected     | 0.026                 | Not Detected      |
| 1,1-Dichloroethene        | 0.010                | Not Detected     | 0.040                 | Not Detected      |
| 1,1-Dichloroethane        | 0.020                | Not Detected     | 0.081                 | Not Detected      |
| cis-1,2-Dichloroethene    | 0.020                | Not Detected     | 0.079                 | Not Detected      |
| 1,1,1-Trichloroethane     | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Benzene                   | 0.050                | Not Detected     | 0.16                  | Not Detected      |
| 1,2-Dichloroethane        | 0.020                | Not Detected     | 0.081                 | Not Detected      |
| Trichloroethene           | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Toluene                   | 0.020                | Not Detected     | 0.075                 | Not Detected      |
| 1,1,2-Trichloroethane     | 0.020                | Not Detected     | 0.11                  | Not Detected      |
| Ethyl Benzene             | 0.020                | Not Detected     | 0.087                 | Not Detected      |
| m,p-Xylene                | 0.040                | Not Detected     | 0.17                  | Not Detected      |
| o-Xylene                  | 0.020                | Not Detected     | 0.087                 | Not Detected      |
| 1,1,2,2-Tetrachloroethane | 0.020                | Not Detected     | 0.14                  | Not Detected      |
| trans-1,2-Dichloroethene  | 0.10                 | Not Detected     | 0.40                  | Not Detected      |
| Methyl tert-butyl ether   | 0.10                 | Not Detected     | 0.36                  | Not Detected      |
| Carbon Tetrachloride      | 0.020                | Not Detected     | 0.12                  | Not Detected      |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| 1,2-Dichloroethane-d4 | 104       | 70-130           |
| Toluene-d8            | 100       | 70-130           |
| 4-Bromofluorobenzene  | 102       | 70-130           |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307242R1-06A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e071703 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/17/13 10:23 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 108       |
| Freon 114                        | 97        |
| Chloromethane                    | 90        |
| 1,3-Butadiene                    | 92        |
| Bromomethane                     | 97        |
| Chloroethane                     | 89        |
| Freon 11                         | 114       |
| Ethanol                          | 82        |
| Freon 113                        | 87        |
| Acetone                          | 81        |
| 2-Propanol                       | 84        |
| Carbon Disulfide                 | 81        |
| Methylene Chloride               | 80        |
| Hexane                           | 87        |
| 2-Butanone (Methyl Ethyl Ketone) | 84        |
| Tetrahydrofuran                  | 91        |
| Chloroform                       | 100       |
| Cyclohexane                      | 82        |
| Heptane                          | 104       |
| 1,2-Dichloropropane              | 98        |
| 1,4-Dioxane                      | 96        |
| Bromodichloromethane             | 119       |
| cis-1,3-Dichloropropene          | 97        |
| 4-Methyl-2-pentanone             | 130       |
| trans-1,3-Dichloropropene        | 105       |
| 2-Hexanone                       | 95        |
| Dibromochloromethane             | 115       |
| 1,2-Dibromoethane (EDB)          | 105       |
| Chlorobenzene                    | 96        |
| Styrene                          | 101       |
| Bromoform                        | 109       |
| Cumene                           | 104       |
| Propylbenzene                    | 106       |
| 4-Ethyltoluene                   | 121       |
| 1,3,5-Trimethylbenzene           | 112       |
| 1,2,4-Trimethylbenzene           | 115       |
| 1,3-Dichlorobenzene              | 107       |
| 1,4-Dichlorobenzene              | 109       |
| alpha-Chlorotoluene              | 115       |
| 1,2-Dichlorobenzene              | 107       |
| 1,2,4-Trichlorobenzene           | 124       |
| Hexachlorobutadiene              | 123       |

Client Sample ID: CCV

Lab ID#: 1307242R1-06A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e071703 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/17/13 10:23 AM |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 129       | 70-130        |
| Toluene-d8            | 105       | 70-130        |
| 4-Bromofluorobenzene  | 108       | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307242R1-06B

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

File Name: e071703sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/17/13 10:23 AM

| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 86        |
| 1,1-Dichloroethene        | 79        |
| 1,1-Dichloroethane        | 93        |
| cis-1,2-Dichloroethene    | 86        |
| 1,1,1-Trichloroethane     | 102       |
| Benzene                   | 85        |
| 1,2-Dichloroethane        | 132 Q     |
| Trichloroethene           | 93        |
| Toluene                   | 100       |
| 1,1,2-Trichloroethane     | 102       |
| Tetrachloroethene         | 102       |
| Ethyl Benzene             | 100       |
| m,p-Xylene                | 101       |
| o-Xylene                  | 101       |
| 1,1,2,2-Tetrachloroethane | 94        |
| trans-1,2-Dichloroethene  | 87        |
| Methyl tert-butyl ether   | 92        |
| Carbon Tetrachloride      | 107       |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 120       | 70-130        |
| Toluene-d8            | 111       | 70-130        |
| 4-Bromofluorobenzene  | 106       | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307242R1-06C

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071902 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 09:27 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 110       |
| Freon 114                        | 107       |
| Chloromethane                    | 104       |
| 1,3-Butadiene                    | 110       |
| Bromomethane                     | 108       |
| Chloroethane                     | 108       |
| Freon 11                         | 106       |
| Ethanol                          | 108       |
| Freon 113                        | 108       |
| Acetone                          | 106       |
| 2-Propanol                       | 105       |
| Carbon Disulfide                 | 108       |
| Methylene Chloride               | 107       |
| Hexane                           | 100       |
| 2-Butanone (Methyl Ethyl Ketone) | 112       |
| Tetrahydrofuran                  | 100       |
| Chloroform                       | 107       |
| Cyclohexane                      | 108       |
| Heptane                          | 105       |
| 1,2-Dichloropropane              | 100       |
| 1,4-Dioxane                      | 110       |
| Bromodichloromethane             | 107       |
| cis-1,3-Dichloropropene          | 109       |
| 4-Methyl-2-pentanone             | 100       |
| trans-1,3-Dichloropropene        | 104       |
| Tetrachloroethene                | 105       |
| 2-Hexanone                       | 100       |
| Dibromochloromethane             | 106       |
| 1,2-Dibromoethane (EDB)          | 108       |
| Chlorobenzene                    | 104       |
| Styrene                          | 113       |
| Bromoform                        | 109       |
| Cumene                           | 108       |
| Propylbenzene                    | 114       |
| 4-Ethyltoluene                   | 101       |
| 1,3,5-Trimethylbenzene           | 133 Q     |
| 1,2,4-Trimethylbenzene           | 115       |
| 1,3-Dichlorobenzene              | 105       |
| 1,4-Dichlorobenzene              | 103       |
| alpha-Chlorotoluene              | 104       |
| 1,2-Dichlorobenzene              | 105       |
| 1,2,4-Trichlorobenzene           | 81        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307242R1-06C

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071902 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 09:27 AM |

| Compound            | %Recovery |
|---------------------|-----------|
| Hexachlorobutadiene | 95        |

Q = Exceeds Quality Control limits.

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        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1307242R1-06D

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

File Name: v071902sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/19/13 09:27 AM

| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 104       |
| 1,1-Dichloroethene        | 102       |
| 1,1-Dichloroethane        | 105       |
| cis-1,2-Dichloroethene    | 105       |
| 1,1,1-Trichloroethane     | 102       |
| Benzene                   | 94        |
| 1,2-Dichloroethane        | 102       |
| Trichloroethene           | 94        |
| Toluene                   | 100       |
| 1,1,2-Trichloroethane     | 104       |
| Ethyl Benzene             | 107       |
| m,p-Xylene                | 100       |
| o-Xylene                  | 105       |
| 1,1,2,2-Tetrachloroethane | 91        |
| trans-1,2-Dichloroethene  | 105       |
| Methyl tert-butyl ether   | 105       |
| Carbon Tetrachloride      | 130       |

Container Type: NA - Not Applicable

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





Air Toxics

Client Sample ID: LCS

Lab ID#: 1307242R1-07A

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e071704 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/17/13 11:13 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 117       |
| Freon 114                        | 105       |
| Chloromethane                    | 100       |
| 1,3-Butadiene                    | 100       |
| Bromomethane                     | 105       |
| Chloroethane                     | 98        |
| Freon 11                         | 124       |
| Ethanol                          | 93        |
| Freon 113                        | 114       |
| Acetone                          | 87        |
| 2-Propanol                       | 94        |
| Carbon Disulfide                 | 108       |
| Methylene Chloride               | 85        |
| Hexane                           | 94        |
| 2-Butanone (Methyl Ethyl Ketone) | 94        |
| Tetrahydrofuran                  | 86        |
| Chloroform                       | 108       |
| Cyclohexane                      | 89        |
| Heptane                          | 107       |
| 1,2-Dichloropropane              | 105       |
| 1,4-Dioxane                      | 108       |
| Bromodichloromethane             | 127       |
| cis-1,3-Dichloropropene          | 103       |
| 4-Methyl-2-pentanone             | 145 Q     |
| trans-1,3-Dichloropropene        | 114       |
| 2-Hexanone                       | 111       |
| Dibromochloromethane             | 120       |
| 1,2-Dibromoethane (EDB)          | 113       |
| Chlorobenzene                    | 101       |
| Styrene                          | 106       |
| Bromoform                        | 117       |
| Cumene                           | 110       |
| Propylbenzene                    | 113       |
| 4-Ethyltoluene                   | 125       |
| 1,3,5-Trimethylbenzene           | 118       |
| 1,2,4-Trimethylbenzene           | 118       |
| 1,3-Dichlorobenzene              | 112       |
| 1,4-Dichlorobenzene              | 113       |
| alpha-Chlorotoluene              | 116       |
| 1,2-Dichlorobenzene              | 112       |
| 1,2,4-Trichlorobenzene           | 131 Q     |
| Hexachlorobutadiene              | 123       |

**Client Sample ID: LCS**

**Lab ID#: 1307242R1-07A**

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

|                     |                |                                           |
|---------------------|----------------|-------------------------------------------|
| <b>File Name:</b>   | <b>e071704</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>    | <b>Date of Analysis: 7/17/13 11:13 AM</b> |

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 129              | 70-130               |
| Toluene-d8            | 105              | 70-130               |
| 4-Bromofluorobenzene  | 108              | 70-130               |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1307242R1-07AA

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e071705 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/17/13 12:02 PM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 116       |
| Freon 114                        | 104       |
| Chloromethane                    | 100       |
| 1,3-Butadiene                    | 101       |
| Bromomethane                     | 104       |
| Chloroethane                     | 98        |
| Freon 11                         | 122       |
| Ethanol                          | 83        |
| Freon 113                        | 114       |
| Acetone                          | 88        |
| 2-Propanol                       | 95        |
| Carbon Disulfide                 | 108       |
| Methylene Chloride               | 87        |
| Hexane                           | 93        |
| 2-Butanone (Methyl Ethyl Ketone) | 98        |
| Tetrahydrofuran                  | 86        |
| Chloroform                       | 108       |
| Cyclohexane                      | 90        |
| Heptane                          | 105       |
| 1,2-Dichloropropane              | 102       |
| 1,4-Dioxane                      | 104       |
| Bromodichloromethane             | 123       |
| cis-1,3-Dichloropropene          | 103       |
| 4-Methyl-2-pentanone             | 142 Q     |
| trans-1,3-Dichloropropene        | 107       |
| 2-Hexanone                       | 107       |
| Dibromochloromethane             | 113       |
| 1,2-Dibromoethane (EDB)          | 107       |
| Chlorobenzene                    | 96        |
| Styrene                          | 101       |
| Bromoform                        | 111       |
| Cumene                           | 105       |
| Propylbenzene                    | 106       |
| 4-Ethyltoluene                   | 117       |
| 1,3,5-Trimethylbenzene           | 112       |
| 1,2,4-Trimethylbenzene           | 111       |
| 1,3-Dichlorobenzene              | 108       |
| 1,4-Dichlorobenzene              | 107       |
| alpha-Chlorotoluene              | 112       |
| 1,2-Dichlorobenzene              | 105       |
| 1,2,4-Trichlorobenzene           | 126       |
| Hexachlorobutadiene              | 117       |

Client Sample ID: LCSD

Lab ID#: 1307242R1-07AA

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | e071705 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/17/13 12:02 PM |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 123       | 70-130        |
| Toluene-d8            | 106       | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307242R1-07B

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

File Name: e071704sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/17/13 11:13 AM

| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 96        |
| 1,1-Dichloroethene        | 92        |
| 1,1-Dichloroethane        | 99        |
| cis-1,2-Dichloroethene    | 93        |
| 1,1,1-Trichloroethane     | 111       |
| Benzene                   | 90        |
| 1,2-Dichloroethane        | 138 Q     |
| Trichloroethene           | 97        |
| Toluene                   | 104       |
| 1,1,2-Trichloroethane     | 108       |
| Tetrachloroethene         | 106       |
| Ethyl Benzene             | 104       |
| m,p-Xylene                | 107       |
| o-Xylene                  | 106       |
| 1,1,2,2-Tetrachloroethane | 102       |
| trans-1,2-Dichloroethene  | 105       |
| Methyl tert-butyl ether   | 99        |
| Carbon Tetrachloride      | 113       |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 118       | 70-130        |
| Toluene-d8            | 111       | 70-130        |
| 4-Bromofluorobenzene  | 105       | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1307242R1-07BB

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

File Name: e071705sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/17/13 12:02 PM

| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 96        |
| 1,1-Dichloroethene        | 94        |
| 1,1-Dichloroethane        | 99        |
| cis-1,2-Dichloroethene    | 93        |
| 1,1,1-Trichloroethane     | 110       |
| Benzene                   | 88        |
| 1,2-Dichloroethane        | 133 Q     |
| Trichloroethene           | 95        |
| Toluene                   | 102       |
| 1,1,2-Trichloroethane     | 105       |
| Tetrachloroethene         | 103       |
| Ethyl Benzene             | 103       |
| m,p-Xylene                | 106       |
| o-Xylene                  | 105       |
| 1,1,2,2-Tetrachloroethane | 100       |
| trans-1,2-Dichloroethene  | 105       |
| Methyl tert-butyl ether   | 100       |
| Carbon Tetrachloride      | 112       |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 117       | 70-130        |
| Toluene-d8            | 110       | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307242R1-07C

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071903 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 10:16 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 106       |
| Freon 114                        | 99        |
| Chloromethane                    | 100       |
| 1,3-Butadiene                    | 105       |
| Bromomethane                     | 111       |
| Chloroethane                     | 101       |
| Freon 11                         | 101       |
| Ethanol                          | 98        |
| Freon 113                        | 101       |
| Acetone                          | 99        |
| 2-Propanol                       | 98        |
| Carbon Disulfide                 | 127       |
| Methylene Chloride               | 100       |
| Hexane                           | 94        |
| 2-Butanone (Methyl Ethyl Ketone) | 106       |
| Tetrahydrofuran                  | 91        |
| Chloroform                       | 104       |
| Cyclohexane                      | 103       |
| Heptane                          | 102       |
| 1,2-Dichloropropane              | 96        |
| 1,4-Dioxane                      | 103       |
| Bromodichloromethane             | 102       |
| cis-1,3-Dichloropropene          | 104       |
| 4-Methyl-2-pentanone             | 96        |
| trans-1,3-Dichloropropene        | 99        |
| Tetrachloroethene                | 99        |
| 2-Hexanone                       | 101       |
| Dibromochloromethane             | 99        |
| 1,2-Dibromoethane (EDB)          | 104       |
| Chlorobenzene                    | 101       |
| Styrene                          | 113       |
| Bromoform                        | 102       |
| Cumene                           | 106       |
| Propylbenzene                    | 114       |
| 4-Ethyltoluene                   | 97        |
| 1,3,5-Trimethylbenzene           | 129       |
| 1,2,4-Trimethylbenzene           | 109       |
| 1,3-Dichlorobenzene              | 106       |
| 1,4-Dichlorobenzene              | 100       |
| alpha-Chlorotoluene              | 101       |
| 1,2-Dichlorobenzene              | 103       |
| 1,2,4-Trichlorobenzene           | 83        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307242R1-07C

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071903 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 10:16 AM |

| Compound            | %Recovery |
|---------------------|-----------|
| Hexachlorobutadiene | 95        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 102       | 70-130        |
| Toluene-d8            | 105       | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |





Air Toxics

Client Sample ID: LCSD

Lab ID#: 1307242R1-07CC

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071904 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 11:04 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 108       |
| Freon 114                        | 101       |
| Chloromethane                    | 102       |
| 1,3-Butadiene                    | 106       |
| Bromomethane                     | 113       |
| Chloroethane                     | 106       |
| Freon 11                         | 103       |
| Ethanol                          | 102       |
| Freon 113                        | 102       |
| Acetone                          | 102       |
| 2-Propanol                       | 98        |
| Carbon Disulfide                 | 130       |
| Methylene Chloride               | 101       |
| Hexane                           | 98        |
| 2-Butanone (Methyl Ethyl Ketone) | 109       |
| Tetrahydrofuran                  | 95        |
| Chloroform                       | 104       |
| Cyclohexane                      | 106       |
| Heptane                          | 101       |
| 1,2-Dichloropropane              | 94        |
| 1,4-Dioxane                      | 102       |
| Bromodichloromethane             | 100       |
| cis-1,3-Dichloropropene          | 103       |
| 4-Methyl-2-pentanone             | 94        |
| trans-1,3-Dichloropropene        | 100       |
| Tetrachloroethene                | 98        |
| 2-Hexanone                       | 102       |
| Dibromochloromethane             | 99        |
| 1,2-Dibromoethane (EDB)          | 106       |
| Chlorobenzene                    | 102       |
| Styrene                          | 111       |
| Bromoform                        | 102       |
| Cumene                           | 107       |
| Propylbenzene                    | 116       |
| 4-Ethyltoluene                   | 95        |
| 1,3,5-Trimethylbenzene           | 132 Q     |
| 1,2,4-Trimethylbenzene           | 110       |
| 1,3-Dichlorobenzene              | 104       |
| 1,4-Dichlorobenzene              | 102       |
| alpha-Chlorotoluene              | 103       |
| 1,2-Dichlorobenzene              | 103       |
| 1,2,4-Trichlorobenzene           | 84        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1307242R1-07CC

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

|              |         |                                    |
|--------------|---------|------------------------------------|
| File Name:   | v071904 | Date of Collection: NA             |
| Dil. Factor: | 1.00    | Date of Analysis: 7/19/13 11:04 AM |

| Compound            | %Recovery |
|---------------------|-----------|
| Hexachlorobutadiene | 97        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 104       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1307242R1-07D

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

File Name: v071903sim

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 7/19/13 10:16 AM

| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 103       |
| 1,1-Dichloroethene        | 105       |
| 1,1-Dichloroethane        | 102       |
| cis-1,2-Dichloroethene    | 102       |
| 1,1,1-Trichloroethane     | 100       |
| Benzene                   | 90        |
| 1,2-Dichloroethane        | 98        |
| Trichloroethene           | 90        |
| Toluene                   | 96        |
| 1,1,2-Trichloroethane     | 98        |
| Ethyl Benzene             | 103       |
| m,p-Xylene                | 99        |
| o-Xylene                  | 104       |
| 1,1,2,2-Tetrachloroethane | 89        |
| trans-1,2-Dichloroethene  | 114       |
| Methyl tert-butyl ether   | 103       |
| Carbon Tetrachloride      | 106       |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 103       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 109       | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1307242R1-07DD

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

File Name: v071904sim

Date of Collection: NA

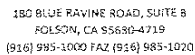
Dil. Factor: 1.00

Date of Analysis: 7/19/13 11:04 AM

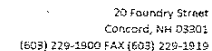
| Compound                  | %Recovery |
|---------------------------|-----------|
| Vinyl Chloride            | 102       |
| 1,1-Dichloroethene        | 105       |
| 1,1-Dichloroethane        | 102       |
| cis-1,2-Dichloroethene    | 102       |
| 1,1,1-Trichloroethane     | 100       |
| Benzene                   | 91        |
| 1,2-Dichloroethane        | 97        |
| Trichloroethene           | 90        |
| Toluene                   | 95        |
| 1,1,2-Trichloroethane     | 98        |
| Ethyl Benzene             | 102       |
| m,p-Xylene                | 98        |
| o-Xylene                  | 103       |
| 1,1,2,2-Tetrachloroethane | 88        |
| trans-1,2-Dichloroethene  | 113       |
| Methyl tert-butyl ether   | 104       |
| Carbon Tetrachloride      | 105       |

Container Type: NA - Not Applicable

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



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Page 1 of 1

Revised COC  
08/09/13

1307242

*Tested*  
Custody Seal Intact?  
Y N None Temp



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

### Sample Transportation Notice

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Hotline (800) 467-4922



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

[illegible]

1307242

*Red Box*  
Custody Seal Intact?  
Y N None Temp NA

**APPENDIX C**

**DATA VALIDATION REPORTS**

**APPENDIX C.1**

**DATA VALIDATION REPORTS**

**OCTOBER 2010**





## 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:** 1010175A

**Date(s) of Collection:** October 6, 2010

**Number and Type  
Samples & Analyses:** 1 Indoor 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 19, 2012

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    | 1010175A-01A  | 10/6/2010       | 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, one result was estimated (UJ) due to QC issues. Table 2 summarizes the action 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 Chain-of-Custody (COC) contained nine additional samples that were not reported in this Work Order.

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 duplicate (FD) samples associated with the sample reported in this Work Order; therefore, precision from sample collection through analysis could not be evaluated.

There was no Field Blank associated with the sample in this Work Order.

Sensitivity requirements compared to the Reporting Limits (RLs) defined in Table B.1 of the Workplan were met for all results in this Work Order.

All other quality control information associated with accuracy, precision, and sensitivity for the project-specific list of VOCs reported met project criteria for the sample in this Work Order with the exception included in Table 2.

Table 2. Summary of Data Validation Actions

| Field Sample ID | Analyte                | Qualifier | Bias | Validation Comments          |
|-----------------|------------------------|-----------|------|------------------------------|
| IA0404          | 1,2,4-Trichlorobenzene | UJ        | L    | Low Calibration verification |

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

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

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

Lab: eurofins/Air Toxics Ltd.

Date Sampled: 10/6/2010

Method of Analysis: TO-15 Hi/Lo

No. Samples 1 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                      |                  |    | Estimated (UJ)<br>1 result in sample |                            |     |                      |                  |             |

*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 3 of this checklist. The full scan analysis was reported with an "A" suffix and the SIM analysis with a "B" suffix appended to the laboratory sample ID.*

The sample was received intact on 10/8/2010. The COC contained 10 samples; however, only 1 Indoor air sample was reported in this Work Order

Canister was Certified pre-cleaned - certificate of analysis was within the data package and all Target compounds were non-detect in the canister prior to being sent to the field.

The canister vacuums (field initial, field final and lab receipt) were all acceptable; therefore, no action required. There were no COC issues noted by lab upon sample receipt.

Sample was analyzed on 10/18/10 (within 12 days of collection); therefore HT was met. No Action required.

ICALs: Instrument A Full Scan and SIM performed on 10/14/10. 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. 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.

CCALs: a101802 and a101802sim - % Recovery 70-130% for all 22 Target compounds except 1,2,4-Trichlorobenzene %Rec low (69%).

*\*ACTION: 1,2,4-trichlorobenzene estimated (UJ) in sample IA0404 with possible low bias due to low calibration verification*

Date: 11/16/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blank: a101805 (Full Scan and SIM)

Field Blanks: none

| Blank ID | Contaminant / Level ( $\mu\text{g}/\text{m}^3$ ) | Action Level<br>DF= | Sample and reported result ( $\mu\text{g}/\text{m}^3$ ) | Corrected<br>Database<br>Result |
|----------|--------------------------------------------------|---------------------|---------------------------------------------------------|---------------------------------|
| a101805  | None                                             |                     | No Blank Action Required                                |                                 |
|          |                                                  |                     |                                                         |                                 |

Additional Notes:

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

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

*LCS/LCSD :* a101803/a101804 & a101803sim/a101804sim - %Recovery acceptable for all 22 Targets in LCS and LCSD; therefore, acceptable accuracy for method demonstrated. LCS/LCSD precision (RPD) acceptable for all 22 targets as well. No Action required.

LD analysis not performed for the samples in this Work Order. LCS/LCSD reported instead, which reported acceptable precision. No Action required.

*FD Pair :* There were no Field Duplicates associated with the samples in this Work Order.

There were no results reported at < RL and qualified "J" by the lab. There were no other data qualifiers which need to be addressed.

All reporting limits were at a level below the Project required RL (as shown in Table 3); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

Date: 11/16/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

***Compound List and Project-required Reporting Limits (RL)***

| Target Analyte Name                               | Full Scan<br>(Full) or SIM | RL (µg/m <sup>3</sup> ) |
|---------------------------------------------------|----------------------------|-------------------------|
| 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: 11/16/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

**Actions (see References below):**

*Canister Integrity:* If certification forms indicate issues, J/U or UJ results in samples

*Canister Vacuum (Vac):* Initial Field Vac < 25" Hg, J/UJ all results; Lab Receipt Vac > 15" Hg, J/UJ results; Lab Receipt Vac > ± 5" Hg of Final Field Vac, J/UJ

*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: 11/16/12

Data Reviewer: Nancy C. Rothman, Ph.D.



environmental chemistry consultants

## 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:** 1210316

**Date(s) of Collection:** October 11, 2012

**Number and Type  
Samples & Analyses:** 10 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 19, 2012

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               |
|-----------|---------------|-----------------|-------------|-----------------------|---------------------------|
| IA0415    | 1210316-01A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0416    | 1210316-02A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0421    | 1210316-03A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0422    | 1210316-04A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0423    | 1210316-05A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0424    | 1210316-06A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0427    | 1210316-07A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| IA0429    | 1210316-08A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| TA022     | 1210316-09A   | 10/11/12        | Indoor Air  | VOCs                  | Field Sample              |
| AA0428    | 1210316-10A   | 10/11/12        | Ambient Air | VOCs                  | Field Sample              |
| DUP9557   | 1210316-11A   | 10/11/12        | 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) 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 canister ID on the Chain-of-Custody (COC) for sample IA0424 was different than the ID on the actual canister tag. The canister tag ID was used for association with 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.

Field Duplicate precision was acceptable for all 22 Target VOCs in the FD pair IA0416 and DUP9557 except for tetrachloroethene and trichloroethene, which were estimated (J) in this FD pair with indeterminate bias due to the observed imprecision as shown in Table 2. The FD results are an indication of variable precision for field collection through analysis for these air samples.

There was no Field Blank associated with the samples in this Work Order.

Sensitivity requirements compared to the Reporting Limits (RLs) defined in Table B.1 of the Workplan were met for all samples in this Work Order.

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 with the exceptions included in Table 2.

Table 2. Summary of Data Validation Actions

| Field Sample ID   | Analyte                              | Qualifier | Bias | Validation Comments |
|-------------------|--------------------------------------|-----------|------|---------------------|
| IA0416<br>DUP9557 | Tetrachloroethene<br>Trichloroethene | 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 used in Table 2:  
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.

Lab: eurofins/Air Toxics Ltd.

Date Sampled: 10/11/2012

Method of Analysis: TO-15 Hi/Lo

No. Samples

9 IA + 1AA + 1FD

| Data Element Acceptable | Canister Receipt | HT | GC/MS Tunes + Calibrations | Internal Stds + Surrogates | LCS | Lab Dup (LCS and LD) | Field Duplicates          | RL & Quant. |
|-------------------------|------------------|----|----------------------------|----------------------------|-----|----------------------|---------------------------|-------------|
| Yes                     | √                | √  | √                          | √                          | √   | √                    |                           | √           |
| No                      |                  |    |                            |                            |     |                      | Estimate (J)<br>4 results |             |

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

The samples were received intact on 10/15/2012. The COC Canister ID (#25294) and Canister Tag on sample (#25274) disagreed for sample IA0424. The canister Tag ID was used for association with the sample (note, canister certification reported for canister #25274 and there was none for #25294).

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

The canister vacuums (field initial, field final and lab receipt) were all acceptable; therefore, no action required. There were no COC issues noted by lab upon sample receipt.

Samples were analyzed on 10/19/12 (within 8 days of collection); therefore HT was met. No Action required.

ICALs: Instrument V Full Scan and SIM performed on 9/15-9/26/12. 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. 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.

Date: 11/18/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Associated Blanks: Method Blank: v101906 (Full Scan and SIM)

Field Blanks: There were no Field Blanks associated with the samples

| Blank ID | Contaminant / Level ( $\mu\text{g}/\text{m}^3$ ) | Action Level<br>DF= | Sample and reported result ( $\mu\text{g}/\text{m}^3$ ) | Corrected<br>Database Result |
|----------|--------------------------------------------------|---------------------|---------------------------------------------------------|------------------------------|
| v101906  | None                                             |                     | No Blank Action Required                                |                              |
|          |                                                  |                     |                                                         |                              |

Additional Notes:

*CCALs*: v101902 / v101902sim - % Recovery 70-130% for all 22 Target compounds - no action required.

*BFB Tunes*: Instrument V 4 Tunes (3 for ICAL + 1 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune; therefore, No Action Required.

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

*LCS/LCSD*: v101903/v101904 & v101903sim/v101904sim - %Recovery acceptable for all 22 Targets in LCS and LCSD; therefore, acceptable accuracy for method demonstrated. LCS/LCSD precision (RPD) acceptable for all 22 targets as well - No Action required.

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

There were no "J" data reported and no qualifiers, other than "U", on any of the data.

All reporting limits were at a level below the Project required RL (as shown in Table 4); therefore, all results are considered usable as reported.

The narrative did not raise any additional issues that may affect data quality.

Date: 11/18/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

Field Duplicate Evaluation\_ Sample IDs:

Sample = IA0416

FD = DUP9557

| Analyte Name           | CAS No.           | DF = 1.58*<br>RL (µg/m <sup>3</sup> ) | Sample Result<br>µg/m <sup>3</sup> | Q | FD<br>Level | FD Result<br>µg/m <sup>3</sup> | Q | Level  | RPD  | Action        |
|------------------------|-------------------|---------------------------------------|------------------------------------|---|-------------|--------------------------------|---|--------|------|---------------|
| Freon 12               | 75-71-8           | 0.78                                  | 3                                  |   | < 5xRL      | 3.2                            |   | < 5xRL | 6.5  | None          |
| Freon 11               | 75-69-4           | 0.89                                  | 2.3                                |   | < 5xRL      | 2.3                            |   | < 5xRL | 0.0  | None          |
| Freon 113              | 76-13-1           | 1.2                                   | 1.2                                |   | RL          | 2.1                            |   | < 5xRL | 54.5 | None **       |
| 1,1-Dichloroethene     | 75-35-4           | 0.63                                  | 0.63                               | U | RL          | 0.67                           | U | RL     | NA   | None          |
| Acetone                | 67-64-1           | 1.9                                   | 6.8                                |   | > 5xRL      | 7.6                            |   | > 5xRL | 11.1 | None          |
| Methylene Chloride     | 75-09-2           | 1.1                                   | 1.1                                | U | RL          | 1.2                            | U | RL     | NA   | None          |
| cis-1,2-Dichloroethene | 156-59-2          | 0.63                                  | 0.63                               | U | RL          | 0.67                           | U | RL     | NA   | None          |
| 1,1,1-Trichloroethane  | 71-55-6           | 0.86                                  | 0.86                               | U | RL          | 0.92                           | U | RL     | NA   | None          |
| Benzene                | 71-43-2           | 0.5                                   | 0.5                                | U | RL          | 0.54                           | U | RL     | NA   | None          |
| Toluene                | 108-88-3          | 0.6                                   | 0.6                                | U | RL          | 0.63                           | U | RL     | 4.9  | None          |
| Tetrachloroethene      | 127-18-4          | 1.1                                   | 11                                 |   | > 5xRL      | 24                             |   | > 5xRL | 74.3 | <b>J Both</b> |
| Chlorobenzene          | 108-90-7          | 0.73                                  | 0.73                               | U | RL          | 0.77                           | U | RL     | NA   | None          |
| Ethyl Benzene          | 100-41-4          | 0.69                                  | 0.69                               | U | RL          | 0.73                           | U | RL     | NA   | None          |
| m,p-Xylene             | 108-38-3/106-42-3 | 0.69                                  | 0.69                               | U | RL          | 0.73                           | U | RL     | NA   | None          |
| o-Xylene               | 95-47-6           | 0.69                                  | 0.69                               | U | RL          | 0.73                           | U | RL     | NA   | None          |
| 1,3-Dichlorobenzene    | 541-73-1          | 0.95                                  | 0.95                               | U | RL          | 1                              | U | RL     | NA   | None          |
| 1,4-Dichlorobenzene    | 106-46-7          | 0.95                                  | 0.95                               | U | RL          | 1                              | U | RL     | NA   | None          |
| 1,2-Dichlorobenzene    | 95-50-1           | 0.95                                  | 0.95                               | U | RL          | 1                              | U | RL     | NA   | None          |
| 1,2,4-Trichlorobenzene | 120-82-1          | 5.9                                   | 5.9                                | U | RL          | 6.2                            | U | RL     | NA   | None          |
| Vinyl Chloride         | 75-01-4           | 0.04                                  | 0.04                               | U | RL          | 0.043                          | U | RL     | NA   | None          |
| Carbon Tetrachloride   | 56-23-5           | 0.2                                   | 0.52                               |   | < 5xRL      | 0.49                           |   | < 5xRL | 5.9  | None          |
| Trichloroethene        | 79-01-6           | 0.17                                  | 18                                 |   | > 5xRL      | 42                             |   | > 5xRL | 80.0 | <b>J Both</b> |

\*The FD DF was 1.68

\*\* No action required even if RPD > 20% when results are < 5 x RL

Q = Data Qualifier as reported by ATL and/or NEH; U = non-detect, J = estimated result; UJ = non-detect is estimated

NA = Not Applicable. RPD not calculated since one or both results were non-detect.

FD precision was acceptable for all 22 Target VOCs in the FD pair except for Tetrachloroethene and Trichloroethene with RPD > 20% for results > 5 x RL

*\*ACTION: Tetrachloroethene and trichloroethene estimated (J) in IA0416 and DUP9557 with indeterminate bias due to FD imprecision*

Date: 11/18/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

***Compound List and Project-required Reporting Limits (RL)***

| Target Analyte Name                               | Full Scan<br>(Full) or SIM | RL (µg/m <sup>3</sup> ) |
|---------------------------------------------------|----------------------------|-------------------------|
| 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: 11/18/12

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-15 Hi/Lo

**Actions (see References below):**

*Canister Integrity:* If certification forms indicate issues, J/U or UJ results in samples

*Canister Vacuum (Vac):* Initial Field Vac < 25" Hg, J/UJ all results; Lab Receipt Vac > 15" Hg, J/UJ results; Lab Receipt Vac > ± 5" Hg of Final Field Vac, J/UJ results

*Hold Time (HT):* HT > 30 days, J detects/ UJ non-detects

*Blank Actions:* Action Level = 5 x Level in Blank; Sample-specific Blank Action Level = Action Level x (Sample DF/Blank DF)

Method Blank (MB): Result < RL, U result at RL; RL < Result < Blank Action, U result at level reported

Equipment Blank (EB): Result < Blank Action, EB result at level reported

*BFB Tune:* SW-846 method 8260B tune criteria not met, professional judgment on R of all data; samples analyzed > 12-hours after tune; professional judgment on J/UJ or R of results

*LCS and CCV:* Percent Recovery (%Rec) < 10%, J detects, R non-detects; 10% < %Rec < 70%; J/UJ all associated data; %Rec > 130%, J detects - no action for non-detects

*Initial Calibration (ICAL):* %RSD > 30%, J/UJ associated results

*Internal Standard (IS):* RT > ±0.33 min of IS RT in daily CCV, J/UJ associated results;

Area < 25% Area in CCV, J detects, R non-detects (or professional judgment); 25% < Area < 60% of CCV Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects

*Surrogates:* %Rec < 10%, J detects, R non-detects; 10% < %Rec < 70%; J/UJ all associated data; %Rec > 130%, J detects - no action for non-detects

*Laboratory Duplicates:* LCS/LCSD RPD or Sample/LD RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL

*Field Duplicates:* RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL

*RLs + Quant:* Compound reported outside calibration range (< RL or at ppbV level > sample-specific highest ICAL standard for compound), J data. Note if RL > expected RL from Table B.1 of Work Plan (see above)

**References:** *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment IBM East Fishkill Facility, Hopewell Junction, New York*, prepared by Sanborn, Head & Associates, June 2009; NYSDEC Analytical Services Protocol, June 2005 with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria, February 2008; USEPA Region II SOP HW-31, Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, Rev. 4, October 2006; and Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Publication EPA/625/R-96/010b, January 1999

Date: 11/18/12

Data Reviewer: Nancy C. Rothman, Ph.D.



**APPENDIX C.2**

**DATA VALIDATION REPORTS**

**OCTOBER 2012**



environmental chemistry consultants

## Data Usability Report

### Method TO-15 Hi/Lo and TO-13A Analyses

**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:** 1307220 & 1307242

**Date(s) of Collection:** July 9, 2013

**Number and Type  
Samples & Analyses:** 3 Indoor Air samples for sixty VOCs + Tentatively Identified Compounds (TICs) by Method TO-15 Hi/Lo  
1 Indoor Air sample for sixty-four SVOCs + Tentatively Identified Compounds (TICs) by Method TO-13A

**Senior Data Reviewers:** Dr. Nancy C. Rothman, New Environmental Horizons, Inc.  
Susan D. Chapnick, New Environmental Horizons, Inc.

**Date Completed:** August 29, 2013

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; Method TO-13A, *Determination of Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using 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    | 1307242R1-01B | 7/9/13          | Indoor Air | VOCs                  | Field Sample |
| IA0436    | 1307242R1-02B | 7/9/13          | Indoor Air | VOCs                  | Field Sample |
| IA0401    | 1307242R1-03B | 7/9/13          | Indoor Air | VOCs                  | Field Sample |
| IA0436ST  | 1307220R1-01A | 7/9/13          | Indoor Air | SVOCs                 | Field Sample |

Analytical method reference:

VOC: TO-15 Hi/Lo – analysis of air samples collected in Summa® Canisters by Method TO-15 with simultaneous Full Scan and Selected Ion Monitoring (SIM) analysis for sixty VOCs + Tentatively Identified Compounds (TICs)

SVOC: TO-13A – analysis of air samples collected on PUF/XAD cartridges by Method TO-13A for sixty-four SVOCs + Tentatively Identified Compounds (TICs)

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

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 and SVOCs, one TIC result was rejected (R) and several results were estimated (J or UJ) due to QC issues. Table 2 summarizes the actions taken during this review. NEH generated validated data spreadsheets based on the electronic project database files received from ATL for these Work Orders. The rejected TIC result from Method TO-13A analysis for Tetrachloroethene is unusable; however, it did not present a data gap as Tetrachloroethene was reported as a valid result from Method TO-15. All other results were considered acceptable compared to QAPP and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

Targeted Air samples (samples with “TA” prefix to name) were received for TO-15 and TO-13A analysis; however, at the client’s request, these samples were not evaluated during this assessment.

The laboratory reported results for all 60 VOCs 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. The Data Review Checklist (pages 4 and 5) indicates the compounds reported from each of the two modes of MS operation. The full scan analysis was reported with an “A” suffix and the SIM analysis with a “B” suffix appended to the laboratory sample ID.

Accuracy was compromised for 46 SVOC compounds in sample IA0436ST. The TO-13A method and ATL SOP for TO-13A is used for the determination of Polycyclic Aromatic Hydrocarbons (PAHs) in air collected on absorbent material (PUF/XAD). The documentation within Work Order 1307220 does not indicate that the sampling and analysis methodology would have been able to accurately report all 64 SVOCs had the compounds been present in the indoor air. There was no initial or ongoing demonstration of proficiency for the sampling or extraction and analysis of all 64 SVOCs from the PUF/XAD. Therefore, results for all compounds except the 18 PAHs listed in ATL TO-13A SOP and Method TO-13A are uncertain and have been qualified as estimated (UJ) in sample IA0436ST with indeterminate bias as shown in Table 2.

Precision was acceptable for the 60 VOCs analyzed in the LCS/LCSD by Method TO-15. There were no measures of precision available for assessment for Method TO-13A.

There were no Field Blanks associated with the samples in these Work Orders.

A review of the sample chromatograms and of the Tentatively Identified Compounds (TICs) reported indicated that the laboratory reported all TIC peaks observed. TICs were reported with a "Match Quality", which is a measure of the comparability of the mass spectra of a peak of interest in the sample with the mass spectra of a compound found within the GC/MS data system mass spectral reference library.

For VOCs by Method TO-15, the TICs were reported as either “Unknown” (qualified "J" by the laboratory since identification of the compound was not possible) or reported with a definitive identification (compound name with CAS# reported and qualified "NJ" by the laboratory) based on computer matching. However, since the “Match Quality” for these “NJ” qualified data did not meet NYSDEC ASP2005 or CLP criteria of  $\geq 85\%$ , the identification of these compounds is not reliable. Therefore, all TO-15 TIC data have been estimated (J), as shown in Table 2, due to both qualitative (identification) and quantitative uncertainty.

One TIC was reported by Method TO-13A in sample IA0436ST as the volatile compound Ethene, tetrachloro (Tetrachloroethene), with "Match Quality" of 96% and qualified by the laboratory "NJ". However, since this compound is definitively identified and quantitated using VOC Method TO-15 in sample IA0436, the Tetrachloroethene TIC result from TO-13A has been rejected (R) due to uncertainty in quantitation (not included in the initial calibration for Method TO-13A). The result reported by Method TO-15 is accepted as the valid result for Tetrachloroethene at sampling location IA0436.

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

Table 2. Summary of Data Validation Actions

| Field Sample ID            | Analyte                                                            | Qualifier | Bias | Validation Comments                                                            |
|----------------------------|--------------------------------------------------------------------|-----------|------|--------------------------------------------------------------------------------|
| IA0404                     | 1,2-Dichloroethane                                                 | J         | I    | High Calibration verification + Result uncertain below the calibration range   |
| IA0404<br>IA0436<br>IA0401 | 19 results reported as unknowns or non-target VOCs by Method TO-15 | J         | I    | TIC                                                                            |
| IA0436ST                   | Benzoic Acid<br>2,4-Dinitrophenol                                  | UJ        | I    | Low Calibration verification + Result uncertain: unsupported by method         |
| IA0436ST                   | Pentachlorophenol                                                  | UJ        | I    | RL not supported by ICAL + Result uncertain: unsupported by method             |
| IA0436ST                   | TIC reported as:<br>Ethene, tetrachloro-                           | R         |      | TO-13A result Unusable: valid result for Tetrachloroethene from TO-15 analysis |

Table 2. Summary of Data Validation Actions

| Field Sample ID | Analyte                                                                                                                                                                                                                                                                                                                                                                                                                                     | Qualifier | Bias | Validation Comments                     |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|-----------------------------------------|
| IA0436ST        | All 64 Target SVOCs<br>except:<br>Benzoic Acid<br>2,4-Dinitrophenol<br>Pentachlorophenol<br>2-Chloronaphthalene<br>2-Methylnaphthalene<br>Acenaphthene<br>Acenaphthylene<br>Anthracene<br>Benzo(a)anthracene<br>Benzo(a)pyrene<br>Benzo(b)fluoranthene<br>Benzo(g,h,i)perylene<br>Benzo(k)fluoranthene<br>Chrysene<br>Dibenzo(a,h)anthracene<br>Fluoranthene<br>Fluorene<br>Indeno(1,2,3-cd)pyrene<br>Naphthalene<br>Phenanthrene<br>Pyrene | UJ        | I    | Result uncertain: unsupported by method |

*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 used in Table 2:*

*ICAL = Initial Calibration*

*TIC = Tentatively Identified Compound*

The attached Data Review Checklists 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.

Lab: eurofins/Air Toxics Ltd.

Date Sampled: 7/9/2013

Method of Analysis: TO-13A modified

No. Samples

1 IA PUF/XAD sample

| Data<br>Element<br>Acceptable | Sample<br>receipt<br>& HT | Surrogates      |                             |  | LCS<br>(60-120%) | MS/MSD<br>(60-120%) | Lab Dup<br>(RPD ≤ 25%) | Field<br>Duplicates | GC/MS<br>Tunes +<br>Calibrations | RL<br>& Quant.                                                                 |
|-------------------------------|---------------------------|-----------------|-----------------------------|--|------------------|---------------------|------------------------|---------------------|----------------------------------|--------------------------------------------------------------------------------|
|                               |                           | Field (50-150%) | Ext (50-150% or<br>60-120%) |  |                  |                     |                        |                     |                                  |                                                                                |
| Yes                           | √                         | √               |                             |  | √                | NA                  | NA                     | NA                  |                                  |                                                                                |
| No                            |                           |                 |                             |  |                  |                     |                        |                     | Estimate<br>(UJ) 3<br>results    | 1 TIC result<br>rejected (R)<br>46 results<br>estimated<br>(UJ) - see<br>below |

**Other Issues :**

All non-PAHs (46 compounds) estimated (UJ) due to uncertainty in applicability of method for analysis of non-PAH analytes

Tentatively Identified Compound (TIC) result for tetrachloroethene rejected; valid result from TO-15 analysis

**Method TO-13A was developed for the determination of PAHs in Ambient Air collected on absorbent material (PUF/XAD, etc.). The current application of this method expanded the analysis to include evaluation of 64 SVOCs as shown on pages 4 and 5 of this checklist plus Tentatively Identified Compounds (TICs).**

One PUF/XAD sample was received intact on 7/12/13 at 8.8°C, outside 4 ± 2°C. In addition to the 1 Indoor Air (IA) sample validated here, a Targeted Air ("TA") sample was received which did not require validation per SHA. The total volume of air drawn through the PUF/XAD was provided on the COC (1,022 L for the Indoor Air sample). Decision was made to not qualify the sample data for temperature upon receipt above criteria since field surrogates were acceptable.

The PUF/XAD sample cartridges were spiked with Field Surrogates, Fluoranthene-d10 and Benzo(a)Pyrene-d12, on 6/24/2013 by the lab prior to being shipped to the field for sample collection.

The PUF/XAD sample was solvent extracted on 7/16/13, within 7 days of sample collection, and the extract was analyzed on 7/17/13 - within HT.

**Surrogates :** field surrogates (fluoranthene-d10 and benzo(a)pyrene-d12) and extraction surrogates (2-fluorophenol, phenol-d5, nitrobenzene-d5, 2,4,6-tribromophenol, fluorene-d10, and pyrene-d10) were recovered within criteria in the sample - no action required.

**LCS :** 11 out of 64 compounds spiked into LCS. The compounds spiked representing a few acid compounds (phenolics), basic compounds (amines), neutral compounds (PAHs). %Rec was acceptable for all 11 spiked compounds - no information available for accuracy of extraction for 53 compounds not spiked into LCS. No action taken based on LCS since decision made to estimate (UJ) all non-PAH compounds (see discussion on page 3)

Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-13A modified

Associated Blanks: Method Blank: 12071714

Field Blanks: There were no Field Blanks associated with the samples

| Blank ID | Contaminant / Level ( $\mu\text{g}/\text{m}^3$ ) | Action Level<br>DF= | Sample and reported result ( $\mu\text{g}/\text{m}^3$ ) | Corrected<br>Database Result |
|----------|--------------------------------------------------|---------------------|---------------------------------------------------------|------------------------------|
| 12071714 | None                                             |                     | No Blank Action Required                                |                              |
|          |                                                  |                     |                                                         |                              |

Additional Notes:

*MS/MSD, LCSD, LD, and FD* : there were no duplicate analyses performed on the sample reported in this SDG; therefore, precision for the data could not be evaluated.

*ICALs* : Instrument 12 Full Scan on 6/6/13. Full Scan = 5- to 9-level calibration from 1, 5, 10, 20, or 40 to 160 ug on-column for 64 SVOC compounds plus several non-target compounds.  $\%RSD \leq 30\%$  for all Target Compounds and  $RRFs > 0.05$ . RLs reported (as indicated in the table on pages 4 and 5 of this checklist for DF=1 analysis) were supported by the ICAL except Pentachlorophenol lowest level ICAL standard was 40 ug but lab reported RL at 20 ug.

**\*ACTION: Pentachlorophenol result estimated (UJ) with indeterminate bias since RL not supported by ICAL.**

*CCALs* : 12071703 - % Recovery 70-130% for all 64 Target compounds except benzoic acid and 2,4-dinitrophenol %Rec low but  $> 10\%$ .

**\*ACTION: Benzoic Acid and 2,4-dinitrophenol estimated (UJ) in sample due to low calibration verification - overall bias indeterminate due to other QC issues.**

*DFTPP Tunes*: Instrument 2 Tunes (1 for ICAL + 1 for CCAL) - tunes were acquired properly (average of 3 scans with background subtraction performed) and all criteria, based on tune criteria from method TO-13A, in both tunes were met and the sample was analyzed within 12 hours of tune; therefore, No Action Required.

*Internal Standards* : All 6 IS' had areas and RTs within criteria; therefore, No Action Required.

Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.



Lab: Air Toxics Ltd.

Method of Analysis: TO-13A modified

Additional Notes:

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There were no "J" reported nor were there any other data qualifiers which indicated a quality issue.

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*Tentatively Identified Compounds (TICs):* TICs were reported for the Indoor Air sample. A review of the sample chromatogram and TIC reported indicated that sample IA0436ST reported one TIC as the volatile compound Tetrachloroethene (with "Match Quality" of 96% and qualified by the laboratory "NJ"), which is consistent with what was determined in this sample IA0436 for Indoor Air collected into Summa canister and analyzed by method TO-15. Since this TIC is uncertain in quantitation (the analysis was not calibrated for reporting this compound accurately as it was not part of the instrument calibration for method TO-13A), and since data users should have one valid result for each compound for each sample location, this TIC result should not be used and the definitive result for tetrachloroethene in sample location IA0436 is the result reported using Method TO-15.

***\*ACTION: Reject (R) the TIC Tetrachloroethene result reported using Method TO-13A due to quantitative uncertainty. The valid result for Tetrachloroethene in sample location IA0436 is reported in the Method TO-15 analysis.***

---

RLs reported were consistent with RLs given in Table on pages 4 and 5 of this checklist; however, the TO-13A method and ATL SOP for TO-13A is for PAHs only. The information provided does not clearly indicate that the sampling methodology would have been able to collect all of the 64 SVOCs reported had they been present in the indoor air. There was no initial demonstration of proficiency for the sampling or for extraction of the compounds of interest from the PUF/XAD for all 64 compounds. Therefore, results for all compounds except 2-chloronaphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene (18 compounds listed in ATL TO-13A and Method TO-13A) are uncertain.

***\*ACTION: Results for 46 compounds estimated (UJ) with indeterminate bias since the method of sampling and analysis was not shown to support determination of these compounds.***

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The narrative did not raise any additional issues that may affect data quality.

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Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-13A modified

***Compound List and Project-required Reporting Limits (RL)***

| Target Analyte Name           | RL (µg) |
|-------------------------------|---------|
| Phenol                        | 5       |
| bis(2-Chloroethyl)Ether       | 1       |
| 2-Chlorophenol                | 5       |
| 1,3-Dichlorobenzene           | 1       |
| 1,4-Dichlorobenzene           | 1       |
| 1,2-Dichlorobenzene           | 1       |
| 2-Methylphenol                | 5       |
| bis(2-Chloroisopropyl) Ether  | 1       |
| N-Nitroso-di-n-propylamine    | 1       |
| 4-Methylphenol/3-Methylphenol | 5       |
| Hexachloroethane              | 1       |
| Nitrobenzene                  | 1       |
| Isophorone                    | 1       |
| 2-Nitrophenol                 | 5       |
| 2,4-Dimethylphenol            | 5       |
| Benzoic Acid                  | 30      |
| bis(2-Chloroethoxy)methane    | 1       |
| 2,4-Dichlorophenol            | 5       |
| 1,2,4-Trichlorobenzene        | 1       |
| Naphthalene                   | 1       |
| 4-Chloroaniline               | 10      |
| Hexachlorobutadiene           | 1       |
| 4-Chloro-3-methylphenol       | 5       |
| 2-Methylnaphthalene           | 1       |
| Hexachlorocyclopentadiene     | 20      |
| 2,4,6-Trichlorophenol         | 5       |
| 2,4,5-Trichlorophenol         | 5       |
| 2-Chloronaphthalene           | 1       |
| 2-Nitroaniline                | 10      |
| Dimethylphthalate             | 5       |
| Acenaphthylene                | 1       |
| 2,6-Dinitrotoluene            | 5       |
| 3-Nitroaniline                | 10      |

*continued on next page*

Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-13A modified

***Compound List and Project-required Reporting Limits (RL) - continued***

| Target Analyte Name         | RL (µg) |
|-----------------------------|---------|
| Acenaphthene                | 1       |
| 2,4-Dinitrophenol           | 20      |
| 4-Nitrophenol               | 20      |
| 2,4-Dinitrotoluene          | 5       |
| Dibenzofuran                | 1       |
| Diethylphthalate            | 5       |
| Fluorene                    | 1       |
| 4-Chlorophenyl-phenyl Ether | 1       |
| 4-Nitroaniline              | 10      |
| 4,6-Dinitro-2-methylphenol  | 10      |
| N-Nitrosodiphenylamine      | 10      |
| 4-Bromophenyl-phenyl Ether  | 1       |
| Hexachlorobenzene           | 1       |
| Pentachlorophenol           | 20      |
| Phenanthrene                | 1       |
| Anthracene                  | 1       |
| di-n-Butylphthalate         | 5       |
| Fluoranthene                | 1       |
| Pyrene                      | 1       |
| Butylbenzylphthalate        | 5       |
| 3,3'-Dichlorobenzidine      | 20      |
| Chrysene                    | 1       |
| Benzo(a)anthracene          | 1       |
| bis(2-Ethylhexyl)phthalate  | 5       |
| Di-n-Octylphthalate         | 5       |
| Benzo(b)fluoranthene        | 1       |
| Benzo(k)fluoranthene        | 1       |
| Benzo(a)pyrene              | 1       |
| Indeno(1,2,3-c,d)pyrene     | 1       |
| Dibenz(a,h)anthracene       | 1       |
| Benzo(g,h,i)perylene        | 1       |

Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: Air Toxics Ltd.

Method of Analysis: TO-13A modified

**Actions (see References below):**

*Sample Receipt:* If received outside  $4 \pm 2^{\circ}\text{C}$ , use professional judgment

*Hold Time (HT):* Extraction: 14d < HT < 28 d, J det/ J NDs; HT > 28 d, J det/ R ND; Analysis of extract: 40d < Extract HT < 60d, J det/ J NDs; Extract HT > 60d; J det/ R NDs

*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

*Surrogates:* %Rec < 10%, J detects, R non-detects;  $10\% < \% \text{Rec} < 50$  or  $60\%$  (surrogate dependent); J/UJ all associated data; %Rec > 120 or 150% (surrogate dependent), J detects - no action for non-detects

*LCS:* Percent Recovery (%Rec) < 10%, J detects, R non-detects;  $10\% < \% \text{Rec} < 60\%$ ; J/UJ all associated data; %Rec > 120%, J detects - no action for non-detects

*DFTPP Tune:* TO-13A/ Method 8270C tune criteria not met, professional judgment

*ICAL:*  $\geq 5$ -Level;  $30\% < \% \text{RSD} < 90\%$ , J det/ J ND, RRF < 0.05 or  $\% \text{RSD} > 90\%$ , J det/ R ND

*CCV:* %D >  $\pm 30\%$ , J det/ J ND. If RRF < min. RRF J det/ R ND

*Internal Standard (IS):* RT >  $\pm 0.33$  min of IS RT in daily CCV, J/UJ associated results;

Area < 25% Area in CCV, J detects, R non-detects (or professional judgment);  $25\% < \text{Area} < 60\%$  of CCV Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects

*Laboratory Duplicates:* LCS/LCSD RPD or Sample/LD RPD > 25% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL

*Field Duplicates:* RPD > 25% 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 Tables on pages 4 & 5

**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; and Method TO-13A, Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatography/Mass Spectrometry (GC/MS), Publication EPA/625/R-96/010b, January 1999

Date: 8/28/13

Data Reviewer: Nancy C. Rothman, Ph.D.

Lab: eurofins/Air Toxics Ltd.

Date Sampled: 7/9/2013

Method of Analysis: TO-15 Hi/Lo

No. Samples 3 IA

| Data<br>Element<br>Acceptable | Canister<br>Receipt | HT | GC/MS<br>Tunes +<br>Calibrations | Internal Stds +<br>Surrogates | LCS | Lab Dup<br>(LCS and LD) | Field<br>Duplicates | RL<br>& Quant.        |
|-------------------------------|---------------------|----|----------------------------------|-------------------------------|-----|-------------------------|---------------------|-----------------------|
| Yes                           | √                   | √  |                                  | √                             | √   | √                       | NA                  |                       |
| No                            |                     |    | Estimate (J) 1<br>result         |                               |     |                         |                     | Accept 1 "J"<br>value |

**Other Issues :** Tentatively Identified Compounds (TICs) should be considered estimated (J) due to quantitative and qualitative uncertainty

***A combined Full Scan and SIM Analysis was performed for each sample for 60 VOCs as shown on pages 4 and 5 of this checklist. Tentatively Identified Compounds (TICs) were reported from the Full Scan analyses. The Full Scan analysis was reported with an "A" suffix and the SIM analysis with a "B" suffix appended to the laboratory sample ID.***

The samples were received intact on 7/12/13 and there were no COC issues. In addition to the 3 Indoor Air (IA) samples validated here, a "TA" sample was received which did not require validation per SHA.

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

The canister vacuums (field initial, field final and lab receipt) were all acceptable; therefore, no action required.

Samples were analyzed on 7/17/13 (within 9 days of collection); therefore HT was met. No Action required.

ICALs: Instrument E Full Scan and SIM performed on 6/4/13-6/11/13. Full Scan = 6- to 9-level calibration from 0.05, 0.1, 0.2, or 0.5 to 40 ppbV for 42 Target compounds plus several non-target compounds. SIM = 9- to 11-level calibration from 0.003, 0.005, or 0.01 to 20 ppbV for 18 Target plus several other non-target compounds. %RSD ≤ 30% for all 60 Target Compounds. RLs reported (as indicated in the table on pages 4 and 5 of this checklist for DF=1 analysis) were supported by the ICALs.

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Associated Blanks: Method Blank: e071707a (Full Scan and SIM)

Field Blanks: There were no Field Blanks associated with the samples

| Blank ID | Contaminant / Level ( $\mu\text{g}/\text{m}^3$ ) | Action Level<br>DF= | Sample and reported result ( $\mu\text{g}/\text{m}^3$ ) | Corrected<br>Database Result |
|----------|--------------------------------------------------|---------------------|---------------------------------------------------------|------------------------------|
| e071707a | None                                             |                     | No Blank Action Required                                |                              |
|          |                                                  |                     |                                                         |                              |

Additional Notes:

CCALs: e071703 / e071703sim - % Recovery 70-130% for all 60 Target compounds except 1,2-Dichloroethane by SIM %Rec high (> 130%). All samples except IA0404 were non-detect for this compound so only action will be for IA0404 (i.e., non-detects accurate as reported).

**\*ACTION: 1,2-Dichloroethane estimated (J) in IA0404 due to high Calibration verification - overall bias indeterminate due to other QC issues affecting the result.**

BFB Tunes: Instrument E 4 Tunes (3 for ICAL + 1 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune; therefore, No Action Required.

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

LCS/LCSD: e071704/e071705 & e071704sim/e071705sim - %Recovery acceptable for all 60 Targets in LCS and LCSD except: 1,2,4-trichlorobenzene LCS %Rec > 130% and 4-methyl-2-pentanone LCS & LCSD %Rec > 130%. Since neither of these compounds were detected in the associated samples, no action required. LCS/LCSD RPDs all OK; therefore, acceptable accuracy and precision demonstrated for analysis of the 60 VOCs by Full Scan + SIM analysis.

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

There were no Field Duplicate samples associated with the samples in this SDG; therefore, precision from sample collection through analysis could not be evaluated.

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Additional Notes:

There was 1 "J" result reported. This "J" was accepted with indeterminate bias due to uncertainty in quantitation below the instrument calibration range. There were no other qualifiers (except "U") reported on the data.

*Tentatively Identified Compounds (TICs):* TICs were reported for all 3 Indoor Air samples. A review of the sample chromatograms and TICs reported indicated that laboratory did not miss reporting any peaks as TICs (all peaks in chromatogram are either targets, surrogates, IS, or TICs). The TICs were reported as either unknown (qualified "J" by the laboratory since there was too low a concentration of the compound or interferences were present preventing identification of the compound) or reported with a definitive identification (compound name with CAS# reported and qualified "NJ" by the laboratory) based on computer matching. None of the definitive compounds identified have a "Match Quality" which is generally acceptable by analytical standards, including the Contract Laboratory Protocol (CLP) standards. The "Match Quality" compares the mass spectra of the sample to the mass spectra of a library spectra for a compound and expresses how closely the sample spectra matches that of a reference spectra: a 100% "Match Quality" indicates that the sample and reference agree completely. CLP criteria indicates the "Match Quality" must be  $\geq 85\%$  for the laboratory to actually report the TIC with a definitive name and CAS#; however, in these data, the best "Match Quality" is only 78%. Therefore, the user should not consider the TICs with definitive names (those qualified "NJ" by the laboratory) to be reliable.

***\*ACTION: All TIC data are considered estimated (J) data due to qualitative and quantitative uncertainty.***

All reporting limits were almost twice as high as the RLs shown on pages 4 and 5 due to sample-specific Dilution Factors (DF) used for analysis of the samples (DFs ranged from 1.60 to 1.73).

The narrative did not raise any additional issues that may affect data quality.

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***Compound List and Project-required Reporting Limits (RL)***

| Target Analyte Name              | Full Scan<br>(Full) or SIM | RL (ppbV) | RL (µg/m <sup>3</sup> ) |
|----------------------------------|----------------------------|-----------|-------------------------|
| Freon 12                         | Full                       | 0.1       | 0.49                    |
| Freon 114                        | Full                       | 0.1       | 0.7                     |
| Chloromethane                    | Full                       | 0.5       | 1                       |
| 1,3-Butadiene                    | Full                       | 0.1       | 0.22                    |
| Bromomethane                     | Full                       | 0.5       | 1.9                     |
| Chloroethane                     | Full                       | 0.5       | 1.3                     |
| Freon 11                         | Full                       | 0.1       | 0.56                    |
| Ethanol                          | Full                       | 0.5       | 0.94                    |
| Freon 113                        | Full                       | 0.1       | 0.77                    |
| Acetone                          | Full                       | 0.5       | 1.2                     |
| 2-Propanol                       | Full                       | 0.5       | 1.2                     |
| Carbon Disulfide                 | Full                       | 0.5       | 1.6                     |
| Methylene Chloride               | Full                       | 0.2       | 0.69                    |
| Hexane                           | Full                       | 0.1       | 0.35                    |
| 2-Butanone (Methyl Ethyl Ketone) | Full                       | 0.5       | 1.5                     |
| Tetrahydrofuran                  | Full                       | 0.5       | 1.5                     |
| Chloroform                       | Full                       | 0.1       | 0.49                    |
| Cyclohexane                      | Full                       | 0.1       | 0.34                    |
| Heptane                          | Full                       | 0.1       | 0.41                    |
| 1,2-Dichloropropane              | Full                       | 0.1       | 0.46                    |
| 1,4-Dioxane                      | Full                       | 0.1       | 0.36                    |
| Bromodichloromethane             | Full                       | 0.1       | 0.67                    |
| cis-1,3-Dichloropropene          | Full                       | 0.1       | 0.45                    |
| 4-Methyl-2-pentanone             | Full                       | 0.1       | 0.41                    |
| trans-1,3-Dichloropropene        | Full                       | 0.1       | 0.45                    |
| 2-Hexanone                       | Full                       | 0.5       | 2                       |
| Dibromochloromethane             | Full                       | 0.1       | 0.85                    |
| 1,2-Dibromoethane (EDB)          | Full                       | 0.1       | 0.77                    |
| Chlorobenzene                    | Full                       | 0.1       | 0.46                    |
| Styrene                          | Full                       | 0.1       | 0.42                    |
| Bromoform                        | Full                       | 0.1       | 1                       |
| Cumene                           | Full                       | 0.1       | 0.49                    |
| Propylbenzene                    | Full                       | 0.1       | 0.49                    |

*continued on next page*

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***Compound List and Project-required Reporting Limits (RL) - continued***

| Target Analyte Name       | Full Scan<br>(Full) or SIM | RL (ppbV) | RL (µg/m <sup>3</sup> ) |
|---------------------------|----------------------------|-----------|-------------------------|
| 4-Ethyltoluene            | Full                       | 0.1       | 0.49                    |
| 1,3,5-Trimethylbenzene    | Full                       | 0.1       | 0.49                    |
| 1,2,4-Trimethylbenzene    | Full                       | 0.1       | 0.49                    |
| 1,3-Dichlorobenzene       | Full                       | 0.1       | 0.6                     |
| 1,4-Dichlorobenzene       | Full                       | 0.1       | 0.6                     |
| alpha-Chlorotoluene       | Full                       | 0.1       | 0.52                    |
| 1,2-Dichlorobenzene       | Full                       | 0.1       | 0.6                     |
| 1,2,4-Trichlorobenzene    | Full                       | 0.5       | 3.7                     |
| Hexachlorobutadiene       | Full                       | 0.5       | 5.3                     |
| Vinyl Chloride            | SIM                        | 0.01      | 0.026                   |
| 1,1-Dichloroethene        | SIM                        | 0.01      | 0.04                    |
| 1,1-Dichloroethane        | SIM                        | 0.02      | 0.081                   |
| cis-1,2-Dichloroethene    | SIM                        | 0.02      | 0.079                   |
| 1,1,1-Trichloroethane     | SIM                        | 0.02      | 0.11                    |
| Benzene                   | SIM                        | 0.05      | 0.16                    |
| 1,2-Dichloroethane        | SIM                        | 0.02      | 0.081                   |
| Trichloroethene           | SIM                        | 0.02      | 0.11                    |
| Toluene                   | SIM                        | 0.02      | 0.075                   |
| 1,1,2-Trichloroethane     | SIM                        | 0.02      | 0.11                    |
| Tetrachloroethene         | SIM                        | 0.02      | 0.14                    |
| Ethyl Benzene             | SIM                        | 0.02      | 0.087                   |
| m,p-Xylene                | SIM                        | 0.04      | 0.17                    |
| o-Xylene                  | SIM                        | 0.02      | 0.087                   |
| 1,1,2,2-Tetrachloroethane | SIM                        | 0.02      | 0.14                    |
| trans-1,2-Dichloroethene  | SIM                        | 0.1       | 0.4                     |
| Methyl tert-butyl ether   | SIM                        | 0.1       | 0.36                    |
| Carbon Tetrachloride      | SIM                        | 0.02      | 0.12                    |

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**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

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