



EA Engineering, Science, and Technology, Inc.

Airport Professional Park  
2350 Post Road  
Warwick, Rhode Island 02886  
Telephone: 401-736-3440  
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27 April 2009

Mr. Joseph T. Martella II, Senior Engineer  
RIDEM - Office of Waste Management  
Site Remediation Program  
235 Promenade Street  
Providence, RI 02908

RE: March 2009 Air Sampling Event Comment Letter  
Alvarez High School, 333 Adelaide Avenue, Providence, Rhode Island  
Case No. 2005-029  
EA Project No. 14613.01

Dear Mr. Martella:

On behalf of the City of Providence Department of Public Schools, EA Engineering, Science, and Technology, Inc. (EA) is providing this summary of data collected at the referenced Alvarez High School site (the Site) on 26 March 2009.

In accordance with the Order of Approval and amendments (Amended OA) for this Site, your office was notified via telephone that three compounds, 1,2-Dichloroethane, Trichloroethylene, and Methylene Chloride, were detected within several samples collected from the Alvarez High School at concentrations that exceed the State of Connecticut's Draft Proposed Indoor Residential Targeted Air Concentrations. The detections are detailed below:

- **1,2-Dichloroethane**
  - Standard: 0.07  $\mu\text{g}/\text{m}^3$
  - Gymnasium: 0.087  $\mu\text{g}/\text{m}^3$
  - Cafeteria: 0.084  $\mu\text{g}/\text{m}^3$
  
- **Trichloroethylene**
  - Standard: 1.00  $\mu\text{g}/\text{m}^3$
  - Gymnasium: 1.51  $\mu\text{g}/\text{m}^3$
  - Kitchen Storage Room: 4.00  $\mu\text{g}/\text{m}^3$
  - Room 145: 1.61  $\mu\text{g}/\text{m}^3$
  - Room 110: 1.18  $\mu\text{g}/\text{m}^3$
  - Ambient Outdoor Air: 6.87  $\mu\text{g}/\text{m}^3$
  
- **Methylene Chloride**
  - Standard: 3.0  $\mu\text{g}/\text{m}^3$
  - Gymnasium: 4.01  $\mu\text{g}/\text{m}^3$
  - Kitchen Storage Room: 7.54  $\mu\text{g}/\text{m}^3$
  - Room 145: 4.06  $\mu\text{g}/\text{m}^3$
  - Room 110: 3.23  $\mu\text{g}/\text{m}^3$
  - Ambient Outdoor Air: 11.6  $\mu\text{g}/\text{m}^3$



Upon receipt of this data, EA referenced monitoring field notes and analytical results of subslab vapor sampling, which was conducted concurrently with the indoor air sampling. Monitoring notes indicate the SSD System continues to operate effectively in accordance with design. Analytical results from subslab vapor sampling indicate that Trichloroethylene was detected at the subslab vapor points at concentrations ranging from 3.88 to 25.1  $\mu\text{g}/\text{m}^3$ , methylene chloride was detected in the subslab at concentrations ranging from non-detectable concentrations to 16.1  $\mu\text{g}/\text{m}^3$ , and 1,2-Dichloroethane was detected in the subslab at concentrations ranging from non-detectable concentrations to 0.133  $\mu\text{g}/\text{m}^3$ .

Please note ambient air concentrations of Methylene Chloride and Trichloroethylene at concentrations greater than those detected within the indoor air samples collected from within the school. The high indoor air concentrations are most likely directly attributable to the ambient air concentrations, as the outside air is used to ventilate the school. EA has researched ambient air concentrations in the vicinity of the school as well as potential sources of the compounds and has not found a direct source. The ambient air sample was taken from an upwind location (south) on the day of sampling.

EA has also noted a correlation between the detection of Methylene Chloride and Trichloroethylene as these compounds were detected in the same samples. The highest concentrations of Methlyene Chloride and Trichloroethylene were both detected in the ambient air sample as well. Considering Methylene Chloride is not a site contaminant and is a common laboratory contaminant, EA has questioned the validity of the analytical results. However, the laboratory (Alpha Analytical Laboratory) insists the data is valid.

Our April sampling event is scheduled for 28 April, and will serve as our supplementary sampling event to confirm or disprove the presence of these compounds. The City will continue to perform monthly monitoring at the school.

No SSD system modifications or other actions to address current site conditions are warranted or proposed at this time. Your office will be notified if it is determined that this issue persists or if any other issues arise. If you have any questions or require additional information, please contact me at 401-736-3440, Ext. 202.

Sincerely,

EA ENGINEERING, SCIENCE,  
AND TECHNOLOGY, INC.

Mark K. Speer, P.E.  
Senior Engineer

MKS/rgm

**Figures**

Figure 1: Indoor Air Sampling and Methane Monitoring Plan

Figure 2: As-Built Subslab Monitoring and Sampling Locations Plan



**Attachments**

Attachment A: Indoor Air Analytical Report, 26 March 2009

Attachment B: Subslab Vapor Analytical Report, 26 March 2009

cc: M. Dunham, Prov. Dept. of Public Schools  
S. Rapport, City of Prov. Law Department  
J. Fernandez, City of Prov. Law Department  
J. Boehnert, Partridge, Snow, & Hahn  
T. Slater, Representative  
Knight Memorial Library Repository  
S. Fischbach, RI Legal Services  
A. Sepe, Prov. Dept. of Public Property  
T. Deller, Prov. Redevelopment Agency  
J. Ryan, Partridge, Snow, & Hahn  
R. Dorr, Neighborhood Resident  
J. Pichardo, Senator  
G. Simpson, Textron  
Principal Torchon, Adelaide High School

# Figure 1

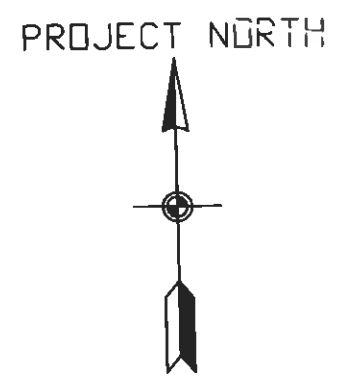
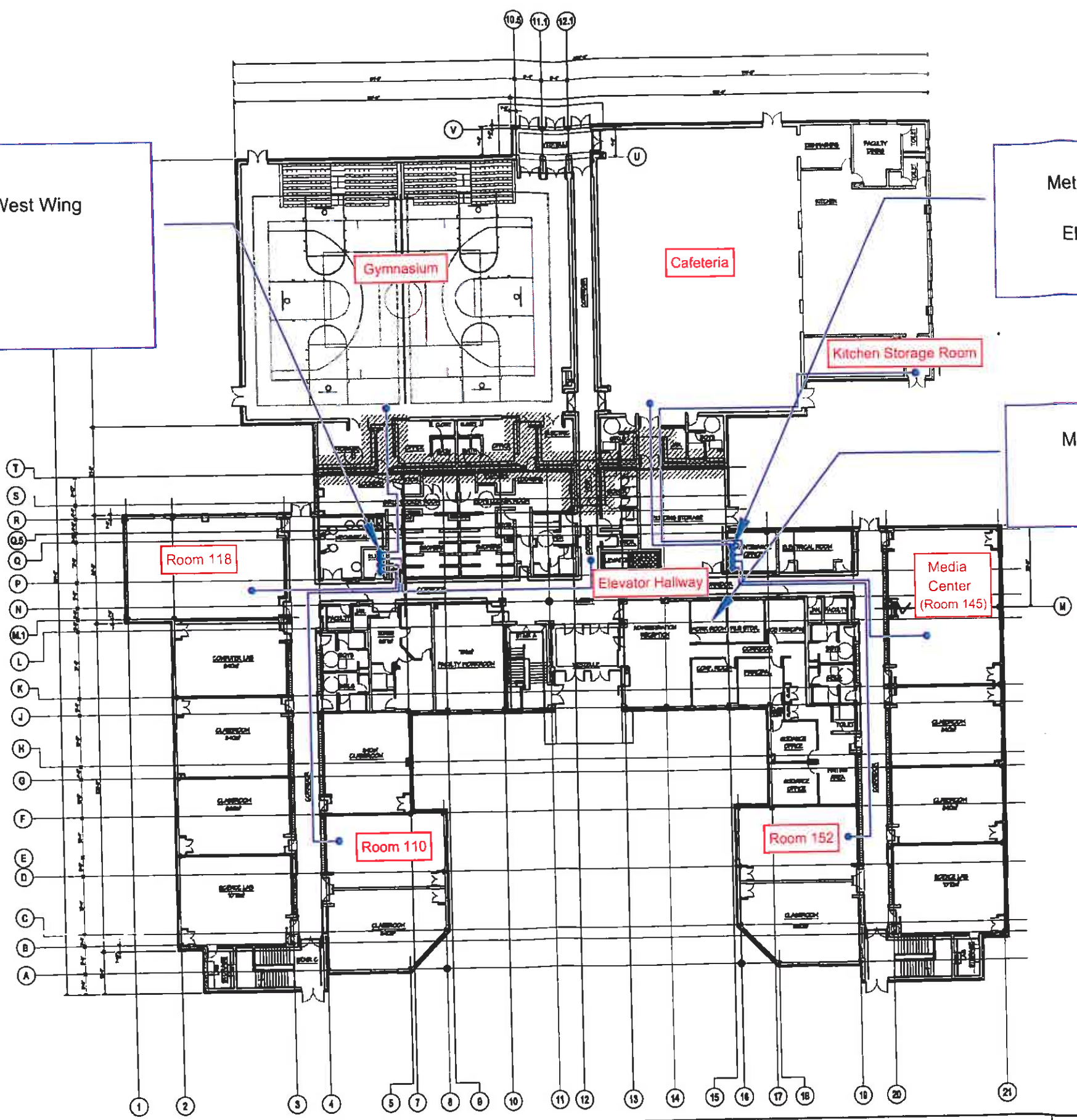
Indoor Air Sampling and  
Methane Monitoring Plan

Methane Sensor Location in West Wing  
Electrical Room Area

Methane Sensor Location in East Wing  
Electrical Room/Maintenance Office Area.

Methane System Controller Location  
Administration Work Room

NOTE: NOT TO SCALE



DESIGNED BY PMG	DRAWN BY PMG	DATE 4-3-07	PROJECT NO. 61965.01	FILE NAME Gorham Layout
CHECKED BY PMG	PROJECT MGR. PMG	SCALE NTS	DRAWING NO. -	FIGURE N/A




INDOOR AIR SAMPLING AND METHANE MONITORING  
SYSTEM DIAGRAM - GORHAM HIGH SCHOOL  
PROVIDENCE, RHODE ISLAND

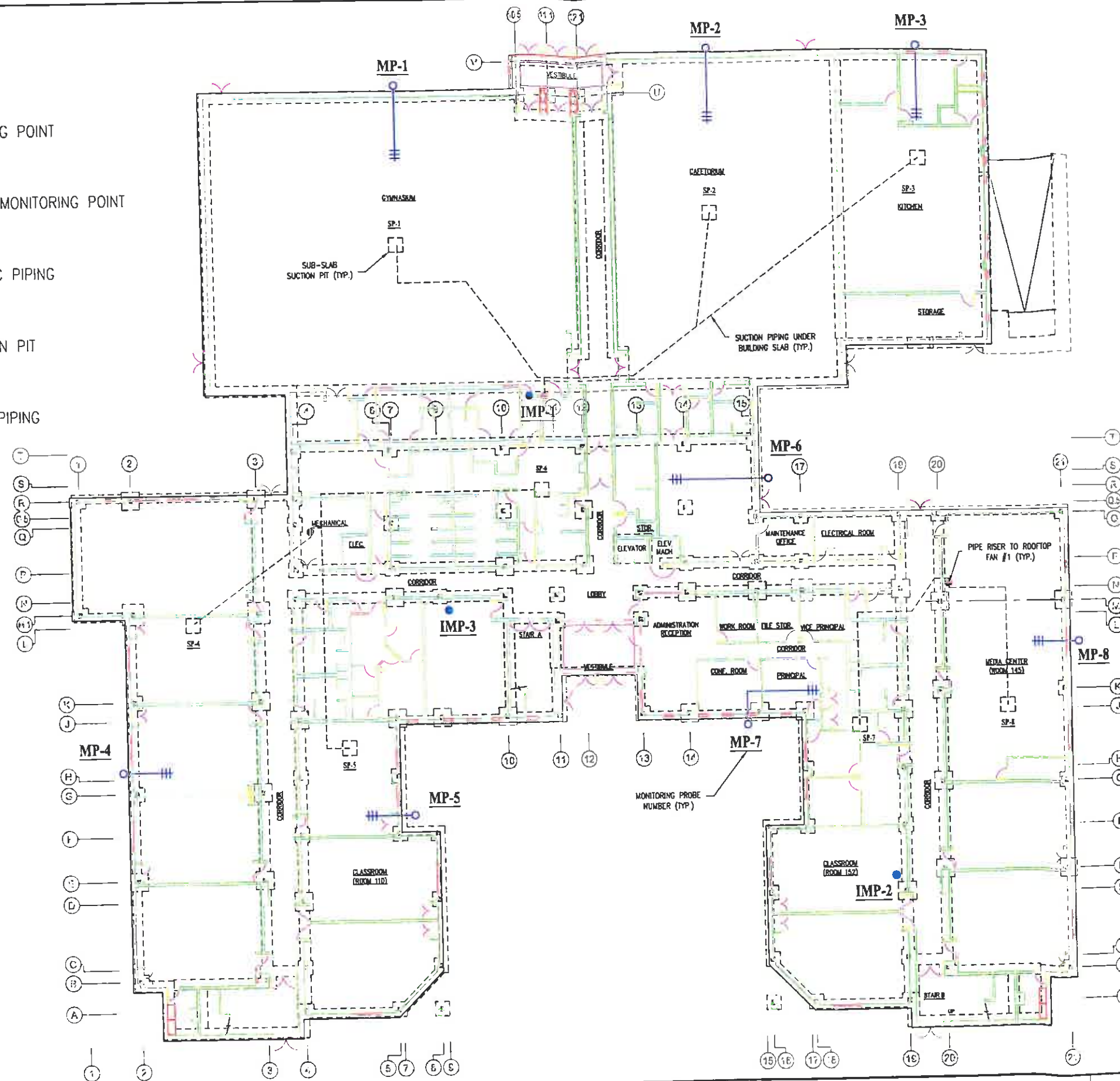
QUARTERLY STATUS REPORT  
APPENDIX B

## Figure 2

As-Built Subslab Monitoring and  
Sampling Locations Plan

**LEGEND:**

- MP-1** SUB-SLAB MONITORING POINT
- IMP-1** INTERIOR SUB-SLAB MONITORING POINT
-  SLOTTED 1 INCH PVC PIPING
-  SSD SYSTEM SUCTION PIT
-  SOLID 4 INCH PVC PIPING



DESIGNED BY PMG	DRAWN BY DMA	DATE AUG 27 2007	PROJECT NO. 61965.01	FILE NAME AS-BUILT08-07
CHECKED BY PMG	PROJECT MGR. PMG	SCALE NTS	DRAWING NO. 2 OF 3	FIGURE N/A

AS-BUILT  
SUB SLAB MONITORING AND SAMPLING LOCATIONS  
ADELAIDE AVE HIGH SCHOOL  
PROVIDENCE, RHODE ISLAND

REMEDIAL CLOSURE REPORT  
AS-BUILT SUB-SLAB  
MONITORING AND SAMPLING PLAN

# Attachment A

Indoor Air Analytical Report  
26 March 2009







## ANALYTICAL REPORT

Lab Number:	L0903759
Client:	EA Engineering, Science and Tech 2350 Post Road Warwick, RI 02886
ATTN:	Mark Speer
Project Name:	ALVEREZ HS
Project Number:	14613.01
Report Date:	04/06/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L0903759-01	GYMNASIUM	PROVIDENCE, RI	03/26/09 07:54
L0903759-02	CAFETERIA	PROVIDENCE, RI	03/26/09 07:41
L0903759-03	KITCHEN STORAGE	PROVIDENCE, RI	03/26/09 07:55
L0903759-04	ELEVATOR HALL	PROVIDENCE, RI	03/26/09 07:42
L0903759-05	RM 152	PROVIDENCE, RI	03/26/09 07:45
L0903759-06	RM 145	PROVIDENCE, RI	03/26/09 07:46
L0903759-07	RM 118	PROVIDENCE, RI	03/26/09 07:49
L0903759-08	RM 110	PROVIDENCE, RI	03/26/09 07:51
L0903759-09	AMBIENT OUTDOOR	PROVIDENCE, RI	03/26/09 07:48

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

### 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.

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.


For additional information, please contact Client Services at 800-624-9220.

TO15-SIM

L0903759-03 results for Acetone should be considered estimated due to co-elution with a non-target peak.

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:



Title: Technical Director/Representative

Date: 04/06/09

**AIR**

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-01  
Client ID: GYMNASIUM  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 20:09  
Analyst: RY

Date Collected: 03/26/09 07:54  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethane	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.305	0.020	1.50	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	0.022	0.020	0.087	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.129	0.020	0.634	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	ND	0.020	ND	0.120		1
Benzene	0.546	0.070	1.74	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.086	0.020	0.542	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.023	0.020	0.110	0.098		1
Chloromethane	0.522	0.500	2.55	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-01  
Client ID: GYMNASIUM  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:54  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.430	0.050	2.12	0.247		1
Ethylbenzene	0.259	0.020	1.12	0.087		1
Methylene chloride	1.15	0.800	4.01	1.74		1
Methyl tert. butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	1.04	0.040	4.53	0.174		1
o-Xylene	0.251	0.020	1.09	0.087		1
Styrene	0.026	0.020	0.110	0.085		1
Tetrachloroethene	0.173	0.020	1.17	0.136		1
Toluene	1.06	0.020	3.99	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.281	0.020	1.51	0.107		1
Trichlorofluoromethane	0.209	0.050	1.18	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	3.72	2.00	8.82	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-02  
 Client ID: CAFETERIA  
 Sample Location: PROVIDENCE, RI  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 04/01/09 20:43  
 Analyst: RY

Date Collected: 03/26/09 07:41  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.175	0.020	0.859	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	0.021	0.020	0.084	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.064	0.020	0.315	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.022	0.020	0.129	0.120		1
Benzene	0.575	0.070	1.84	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.094	0.020	0.592	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.029	0.020	0.142	0.098		1
Chloromethane	0.549	0.500	2.68	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1





Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-02  
 Client ID: CAFETERIA  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:41  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.444	0.050	2.19	0.247		1
Ethylbenzene	0.185	0.020	0.803	0.087		1
Methylene chloride	ND	0.800	1.87	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.657	0.040	2.85	0.174		1
o-Xylene	0.184	0.020	0.798	0.087		1
Styrene	0.027	0.020	0.113	0.085		1
Tetrachloroethene	0.179	0.020	1.21	0.136		1
Toluene	1.08	0.020	4.06	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.061	0.020	0.326	0.107		1
Trichlorofluoromethane	0.207	0.050	1.16	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	4.51	2.00	10.7	4.75		1
2-Butanone	0.531	0.500	1.56	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

### SAMPLE RESULTS

**Lab ID:** L0903759-03  
**Client ID:** KITCHEN STORAGE  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/01/09 21:16  
**Analyst:** RY

**Date Collected:** 03/26/09 07:55  
**Date Received:** 03/27/09  
**Field Prep:** Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.192	0.020	0.942	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	0.025	0.020	0.102	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.067	0.020	0.330	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.025	0.020	0.149	0.120		1
Benzene	0.730	0.070	2.33	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.090	0.020	0.568	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.048	0.020	0.236	0.098		1
Chloromethane	0.510	0.500	2.49	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-03  
 Client ID: KITCHEN STORAGE  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:55  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.450	0.050	2.22	0.247		1
Ethylbenzene	0.215	0.020	0.932	0.087		1
Methylene chloride	2.17	0.800	7.54	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.711	0.040	3.08	0.174		1
o-Xylene	0.248	0.020	1.08	0.087		1
Styrene	0.191	0.020	0.814	0.085		1
Tetrachloroethene	0.226	0.020	1.53	0.136		1
Toluene	1.62	0.020	6.11	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.746	0.020	4.00	0.107		1
Trichlorofluoromethane	0.218	0.050	1.22	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	14.5	2.00	34.4	4.75		1
2-Butanone	0.817	0.500	2.41	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-04  
Client ID: ELEVATOR HALL  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 21:50  
Analyst: RY

Date Collected: 03/26/09 07:42  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.264	0.020	1.30	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.110	0.020	0.540	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	ND	0.020	ND	0.120		1
Benzene	0.516	0.070	1.65	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.089	0.020	0.561	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.024	0.020	0.115	0.098		1
Chloromethane	0.598	0.500	2.92	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS  
 Project Number: 14613.01

Lab Number: L0903759  
 Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-04  
 Client ID: ELEVATOR HALL  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:42  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.424	0.050	2.09	0.247		1
Ethylbenzene	0.245	0.020	1.06	0.087		1
Methylene chloride	ND	0.800	2.10	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	1.00	0.040	4.34	0.174		1
o-Xylene	0.236	0.020	1.02	0.087		1
Styrene	0.026	0.020	0.110	0.085		1
Tetrachloroethene	0.145	0.020	0.980	0.136		1
Toluene	0.940	0.020	3.54	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.082	0.020	0.438	0.107		1
Trichlorofluoromethane	0.202	0.050	1.14	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	4.75	2.00	11.3	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-05  
Client ID: RM 152  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 22:23  
Analyst: RY

Date Collected: 03/26/09 07:45  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.115	0.020	0.564	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.040	0.020	0.198	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.025	0.020	0.150	0.120		1
Benzene	0.590	0.070	1.88	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.086	0.020	0.542	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.022	0.020	0.109	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-05  
Client ID: RM 152  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:45  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.430	0.050	2.12	0.247		1
Ethylbenzene	0.136	0.020	0.589	0.087		1
Methylene chloride	ND	0.800	1.99	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.431	0.040	1.87	0.174		1
o-Xylene	0.150	0.020	0.651	0.087		1
Styrene	0.032	0.020	0.138	0.085		1
Tetrachloroethene	0.279	0.020	1.89	0.136		1
Toluene	1.62	0.020	6.08	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethane	0.084	0.020	0.450	0.107		1
Trichlorofluoromethane	0.201	0.050	1.13	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	5.05	2.00	12.0	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-06  
Client ID: RM 145  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 22:56  
Analyst: RY

Date Collected: 03/26/09 07:46  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	0.020	0.020	0.109	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.150	0.020	0.737	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.050	0.020	0.246	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.020	0.020	0.120	0.120		1
Benzene	0.710	0.070	2.27	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.090	0.020	0.566	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.020	0.020	ND	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1





Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-06  
 Client ID: RM 145  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:46  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.420	0.050	2.08	0.247		1
Ethylbenzene	0.170	0.020	0.738	0.087		1
Methylene chloride	1.17	0.800	4.06	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.540	0.040	2.34	0.174		1
o-Xylene	0.190	0.020	0.824	0.087		1
Styrene	0.030	0.020	0.128	0.085		1
Tetrachloroethene	0.210	0.020	1.42	0.136		1
Toluene	1.56	0.020	5.87	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.300	0.020	1.61	0.107		1
Trichlorofluoromethane	0.200	0.050	1.12	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	4.44	2.00	10.5	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-07  
Client ID: RM 118  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 23:30  
Analyst: RY

Date Collected: 03/26/09 07:49  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.107	0.020	0.526	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.040	0.020	0.194	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.032	0.020	0.193	0.120		1
Benzene	0.483	0.070	1.54	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.093	0.020	0.584	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.027	0.020	0.133	0.098		1
Chloromethane	0.596	0.500	2.91	2.44		1
cis-1,2-Dichloroethene	0.020	0.020	0.079	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-07  
 Client ID: RM 118  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:49  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.449	0.050	2.22	0.247		1
Ethylbenzene	0.118	0.020	0.511	0.087		1
Methylene chloride	ND	0.800	1.85	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.365	0.040	1.58	0.174		1
o-Xylene	0.127	0.020	0.551	0.087		1
Styrene	0.029	0.020	0.125	0.085		1
Tetrachloroethene	0.160	0.020	1.08	0.136		1
Toluene	1.03	0.020	3.90	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.119	0.020	0.639	0.107		1
Trichlorofluoromethane	0.219	0.050	1.23	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	5.81	2.00	13.8	4.75		1
2-Butanone	0.541	0.500	1.59	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-08  
Client ID: RM 110  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/02/09 00:04  
Analyst: RY

Date Collected: 03/26/09 07:51  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.115	0.020	0.563	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.038	0.020	0.185	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.024	0.020	0.146	0.120		1
Benzene	0.692	0.070	2.21	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.089	0.020	0.561	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.024	0.020	0.119	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## SAMPLE RESULTS

Lab ID: L0903759-08  
 Client ID: RM 110  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:51  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.440	0.050	2.18	0.247		1
Ethylbenzene	0.149	0.020	0.648	0.087		1
Methylene chloride	0.930	0.800	3.23	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.458	0.040	1.99	0.174		1
o-Xylene	0.166	0.020	0.718	0.087		1
Styrene	0.026	0.020	0.111	0.085		1
Tetrachloroethene	0.194	0.020	1.32	0.136		1
Toluene	1.26	0.020	4.73	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	0.220	0.020	1.18	0.107		1
Trichlorofluoromethane	0.212	0.050	1.19	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	5.05	2.00	12.0	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

**SAMPLE RESULTS**

**Lab ID:** L0903759-09  
**Client ID:** AMBIENT OUTDOOR  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Air  
**Anaytical Method:** 48,TO-15-SIM  
**Analytical Date:** 04/02/09 00:37  
**Analyst:** RY

**Date Collected:** 03/26/09 07:48  
**Date Received:** 03/27/09  
**Field Prep:** Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.150	0.020	0.739	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.048	0.020	0.238	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	ND	0.020	ND	0.120		1
Benzene	0.749	0.070	2.39	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.096	0.020	0.604	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.022	0.020	0.108	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

### SAMPLE RESULTS

Lab ID: L0903759-09  
Client ID: AMBIENT OUTDOOR  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:48  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.432	0.050	2.13	0.247		1
Ethylbenzene	0.168	0.020	0.727	0.087		1
Methylene chloride	3.36	0.800	11.6	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.533	0.040	2.31	0.174		1
o-Xylene	0.190	0.020	0.826	0.087		1
Styrene	0.029	0.020	0.122	0.085		1
Tetrachloroethene	0.204	0.020	1.38	0.136		1
Toluene	1.41	0.020	5.31	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	1.28	0.020	6.87	0.107		1
Trichlorofluoromethane	0.207	0.050	1.16	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	4.08	2.00	9.68	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 14:26

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG357471-3</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	ND	0.020	ND	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	ND	0.020	ND	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	ND	0.020	ND	0.120		1
Benzene	ND	0.070	ND	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	ND	0.020	ND	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	ND	0.020	ND	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1





Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903759  
Report Date: 04/06/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/01/09 14:26

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG357471-3</b>						
Dichlorodifluoromethane	ND	0.050	ND	0.247		1
Ethylbenzene	ND	0.020	ND	0.087		1
Methylene chloride	ND	0.800	ND	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	ND	0.040	ND	0.174		1
o-Xylene	ND	0.020	ND	0.087		1
Styrene	ND	0.020	ND	0.085		1
Tetrachloroethene	ND	0.020	ND	0.136		1
Toluene	ND	0.020	ND	0.075		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	ND	0.020	ND	0.107		1
Trichlorofluoromethane	ND	0.050	ND	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	ND	2.00	ND	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG357471-2</b>					
1,1,1-Trichloroethane	122	-	70-130	-	-
1,1,1,2-Tetrachloroethane	88	-	70-130	-	-
1,1,2,2-Tetrachloroethane	84	-	70-130	-	-
1,1,2-Trichloroethane	108	-	70-130	-	-
1,1-Dichloroethane	110	-	70-130	-	-
1,1-Dichloroethene	95	-	70-130	-	-
1,2,4-Trimethylbenzene	87	-	70-130	-	-
1,2-Dibromoethane	80	-	70-130	-	-
1,2-Dichlorobenzene	76	-	70-130	-	-
1,2-Dichloroethane	126	-	70-130	-	-
1,2-Dichloropropane	119	-	70-130	-	-
1,3,5-Trimethylbenzene	90	-	70-130	-	-
1,3-Butadiene	96	-	70-130	-	-
1,3-Dichlorobenzene	78	-	70-130	-	-
1,4-Dichlorobenzene	76	-	70-130	-	-
Benzene	107	-	70-130	-	-
Bromodichloromethane	117	-	70-130	-	-
Bromoform	83	-	70-130	-	-
Bromomethane	73	-	70-130	-	-
Carbon tetrachloride	117	-	70-130	-	-
Chlorobenzene	89	-	70-130	-	-



# Lab Control Sample Analysis

Batch Quality Control

Lab Number: L0903759  
 Report Date: 04/06/09

Project Name: ALVEREZ HS  
 Project Number: 14613.01

Parameter	LCS %Recovery	LCS %Recovery	LCS %Recovery	RPD	RPD Limits
<b>Volatle Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG357471-2</b>					
Chloroethane	95	-	70-130	-	-
Chloroform	106	-	70-130	-	-
Chloromethane	95	-	70-130	-	-
cis-1,2-Dichloroethene	111	-	70-130	-	-
cis-1,3-Dichloropropene	104	-	70-130	-	-
Dibromochloromethane	84	-	70-130	-	-
Dichlorodifluoromethane	98	-	70-130	-	-
Ethylbenzene	96	-	70-130	-	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	89	-	70-130	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	89	-	70-130	-	-
Methylene chloride	100	-	70-130	-	-
Methyl tert butyl ether	85	-	70-130	-	-
Naphthalene	70	-	70-130	-	-
p/m-Xylene	102	-	70-130	-	-
o-Xylene	100	-	70-130	-	-
Styrene	89	-	70-130	-	-
Tetrachloroethene	84	-	70-130	-	-
Toluene	90	-	70-130	-	-
trans-1,2-Dichloroethene	102	-	70-130	-	-
trans-1,3-Dichloropropene	88	-	70-130	-	-
Trichloroethene	102	-	70-130	-	-



**Lab Control Sample Analysis**  
Batch Quality Control

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG357471-2</b>					
1,2,4-Trichlorobenzene	74	-	70-130	-	-
Trichlorofluoromethane	100	-	70-130	-	-
Vinyl chloride	93	-	70-130	-	-
Acrylonitrile	90	-	70-130	-	-
n-Butylbenzene	78	-	70-130	-	-
sec-Butylbenzene	81	-	70-130	-	-
Isopropylbenzene	91	-	70-130	-	-
p-Isopropyltoluene	75	-	70-130	-	-
Acetone	79	-	70-130	-	-
2-Butanone	86	-	70-130	-	-
4-Methyl-2-pentanone	108	-	70-130	-	-



### Lab Duplicate Analysis Batch Quality Control

Lab Number: L0903759  
Report Date: 04/06/09

Project Name: ALVEREZ HS  
Project Number: 14613.01

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatiles Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG357471-4 QC Sample: L0903665-01 Client ID: DUP</b>					
Sample					
1,1,1-Trichloroethane	ND	ND	ppbV	NC	25
1,1,1,2-Tetrachloroethane	ND	ND	ppbV	NC	25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
1,1-Dichloroethane	ND	ND	ppbV	NC	25
1,1-Dichloroethene	ND	ND	ppbV	NC	25
1,2,4-Trimethylbenzene	0.436	0.410	ppbV	6	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2-Dichloroethane	0.030	0.026	ppbV	16	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
1,3,5-Trimethylbenzene	0.154	0.141	ppbV	9	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	0.228	0.211	ppbV	8	25
Benzene	0.240	0.209	ppbV	14	25
Bromodichloromethane	ND	ND	ppbV	NC	25
Bromoform	ND	ND	ppbV	NC	25
Carbon tetrachloride	0.108	0.095	ppbV	13	25
Chlorobenzene	ND	ND	ppbV	NC	25



## Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Sample</b>					
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG357471-4 QC Sample: L0903665-01 Client ID: DUP</b>					
Chloroethane	ND	ND	ppbV	NC	25
Chloroform	0.044	0.039	ppbV	13	25
Chloromethane	1.19	1.15	ppbV	3	25
cis-1,2-Dichloroethene	0.033	0.029	ppbV	13	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Dibromochloromethane	ND	ND	ppbV	NC	25
Dichlorodifluoromethane	0.470	0.436	ppbV	6	25
Ethylbenzene	0.332	0.290	ppbV	14	25
Methylene chloride	0.879	0.760	ppbV	15	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
p/m-Xylene	1.11	0.983	ppbV	12	25
o-Xylene	0.380	0.338	ppbV	12	25
Styrene	0.292	0.268	ppbV	9	25
Tetrachloroethene	2.72	2.35	ppbV	15	25
Toluene	3.72	3.17	ppbV	16	25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Trichloroethene	9.42	8.18	ppbV	14	25
Trichlorofluoromethane	0.242	0.217	ppbV	11	25



### Lab Duplicate Analysis Batch Quality Control

Lab Number: L0903759  
Report Date: 04/06/09

Project Name: ALVEREZ HS  
Project Number: 14613.01

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG357471-4 QC Sample: L0903665-01 Client ID: DUP					
Vinyl chloride	ND	ND	ppbV	NC	25



Project Name: ALVEREZ HS

Project Number: 14613.01

04060916:34

Lab Number: L0903759

Report Date: 04/06/09

### Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Cleaning Batch ID	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Out mL/min	Flow In mL/min	% RSD
L0903759-01	GYMNASIUM	0452	#90 SV		-	-	80	82	2
L0903759-01	GYMNASIUM	318	2.7L Can	10902478	-29.1	-1.0	-	-	-
L0903759-02	CAFETERIA	0116	#30 AMB		-	-	78	87	11
L0903759-02	CAFETERIA	558	2.7L Can	10902478	-29.5	-0.2	-	-	-
L0903759-03	KITCHEN STORAGE	0001	#16 AMB		-	-	77	72	7
L0903759-03	KITCHEN STORAGE	522	2.7L Can	10902478	-29.7	0.5	-	-	-
L0903759-04	ELEVATOR HALL	0075	#90 SV		-	-	76	81	6
L0903759-04	ELEVATOR HALL	210	2.7L Can	10902478	-29.6	-2.1	-	-	-
L0903759-05	RM 152	0043	#90 SV		-	-	78	78	0
L0903759-05	RM 152	145	2.7L Can	10902478	-29.7	-4.2	-	-	-
L0903759-06	RM 145	0360	#16 AMB		-	-	81	84	4
L0903759-06	RM 145	323	2.7L Can	10902478	-29.7	-2.5	-	-	-
L0903759-07	RM 118	0173	#16 AMB		-	-	80	83	4
L0903759-07	RM 118	163	2.7L Can	10902478	-29.7	-2.0	-	-	-
L0903759-08	RM 110	0409	#90 SV		-	-	76	82	8
L0903759-08	RM 110	506	2.7L Can	10902478	-29.7	-1.4	-	-	-
L0903759-09	AMBIENT OUTDOOR	0045	#90 SV		-	-	80	84	5





Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

## Canister and Flow Controller Information

Sample Num	Client ID	Media ID	Media Type	Cleaning Batch ID	Initial Pressure (In. Hg)	Pressure on Receipt (In. Hg)	Flow Out mL/min	Flow In mL/min	% RSD
L0903759-09	AMBIENT OUTDOOR	402	2.7L Can	I0902478	-29.7	-0.1	-	-	-



Project Name: ALVEREZ HS

Lab Number: L0903759

Project Number: 14613.01

Report Date: 04/06/09

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
N/A	Present/Intact

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis</b>
L0903759-01A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-02A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-03A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-04A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-05A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-06A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-07A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-08A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903759-09A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)

\*Hold days indicated by values in parentheses

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

## GLOSSARY

### Acronyms

- 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.
- 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.
- ND · Not detected at the reported detection limit for the sample.
- NI · Not Ignitable.
- RDL · Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL 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.

### 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

- \* · The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
- 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.
- 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.
- H · The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- N · The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
- P · The RPD between the results for the two columns exceeds the method-specified criteria.
- R · Analytical results are from sample re-analysis.
- RE · Analytical results are from sample re-extraction.
- J · Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**Report Format:** Data Usability Report



**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903759  
**Report Date:** 04/06/09

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

## 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 Woods Hole Labs 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 Woods Hole Labs.

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 February 18, 2009 – Mansfield 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-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Chloride, Fluoride, Sulfate, Sulfite, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), Total Cyanide, Bromide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Ignitability, Corrosivity, TCLP 1311, Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### Florida Department of Health Certificate/Lab ID: E87814.

*Non-Potable Water* (Inorganic Parameters: SM2320B, 4500NH<sub>3</sub>-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 365.2, EPA 150.1, 160.1, SM2540C, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 624, 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 9050, 7470, 7471, 9045, EPA 7.3.3.2, EPA 7.3.4.2, 9014, 9065. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

### Louisiana Department of Environmental Quality Certificate/Lab ID: 03090.

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

### Maine Department of Human Services Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

### New Hampshire Department of Environmental Services Certificate/Lab ID: 2206.

*Non-Potable Water* (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

**New Jersey Department of Environmental Protection Certificate/Lab ID:** MA015.

*Non-Potable Water* (Inorganic Parameters: SW-846 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

**New York Department of Health Certificate/Lab ID:** 11627.

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035.)

*Air & Emissions* (EPA TO-15.)

**Rhode Island Department of Health Certificate/Lab ID:** LAO00299.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality Certificate/Lab ID:** T104704419-08-TX.

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

**Pennsylvania Department of Environmental Protection Certificate/Lab ID:** 68-02089. Registered Laboratory.

**U.S. Army Corps of Engineers**



# AIR ANALYSIS

PAGE 1 of 1

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

**CHAIN OF CUSTODY**

**Client Information**

Client: EA Engineering  
 Address: 2350 Post Rd  
 Phone: 401-736-3440  
 Fax: 401-736-3423  
 Email: mark@eastco.com

Standard  
 RUSH (only confirmed if pre-approved)  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Other Project Specific Requirements/Comments:

**Project Information**

Project Name: Alvarez HS  
 Project Location: Providence, RI  
 Project #: 14613.01  
 Project Manager: Mark Spec  
 ALPHA Quote #:  
 Turn-Around Time

**Report Information - Data Deliverables**

Date Rec'd In Lab:  
 FAX  
 ADEX  
 Criteria Checker:  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats:  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)

**Billing Information**

ALPHA Job #: 20903759  
 Same as Client info  
 PO #:

**ANALYSIS**

Regulatory Requirements/Report Limits  
 State/Fed Program Criteria  
 Targeting for air concentrations

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection				Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Filter Controller	Sample Comments (i.e. PID)	
		Date	Start Time	End Time	Vacuum							
20903759-1	Cyprusaurus	3/21/19	7:24	7:54	30	3	AA	246	272	319	0452	DEID = -0.532
-2	Cafeteria	7/11	7:41	8:0	30	2		558	016			-0.38
-3	L.Hls. Storage	7/16	7:55	8:30	30	2		522	004			0
-4	Elemental Hds	7/12	7:42	8:20	30	2		210	005			-0.22
-5	RM 152	7/17	7:45	8:30	30	5		145	004			-0.18
-6	RM 145	7/16	7:46	8:30	30	5		323	036			-0.68
-7	RM 118	7:20	7:49	8:25	30	4		165	0125			-0.15
-8	RM 110	7:22	7:51	8:30	30	3		526	0409			-0.01
-9	Ambient Outdoor	7:19	7:48	8:30	30	2		402	0045			0

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gaseous  
 Other = Please Specify

**Container Type**

5

Requisitioned By:

Date/Time

Received By:

Date/Time:

*[Signature]*

3/22/19 13:30

*[Signature]*

3/27/19 13:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambient guidelines are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

# Attachment B

Subslab Vapor Analytical Report  
26 March 2009







## ANALYTICAL REPORT

Lab Number:	L0903761
Client:	EA Engineering, Science and Tech 2350 Post Road Warwick, RI 02886
ATTN:	Mark Speer
Project Name:	ALVEREZ HS
Project Number:	14613.01
Report Date:	04/07/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L0903761-01	MP-2	PROVIDENCE, RI	03/26/09 08:15
L0903761-02	MP-6	PROVIDENCE, RI	03/26/09 08:20
L0903761-03	IMP-2	PROVIDENCE, RI	03/26/09 07:58
L0903761-04	IMP-3	PROVIDENCE, RI	03/26/09 07:52

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

### 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.

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.

For additional information, please contact Client Services at 800-624-9220.

#### TO15-SIM

L0903761-01 has elevated detection limits due to the 5x dilution required by the elevated concentrations of target compounds in the sample. The sample was re-analyzed on a 10x dilution in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

L0903761-02 has elevated detection limits due to the 10x dilution required by the elevated concentrations of non-target compounds in the sample.

The WG358026-2 LCS recoveries for trans-1,3-Dichloropropene and n-Butylbenzene are outside the 70%-

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

**Case Narrative (continued)**

130% acceptance limit. The LCS was within overall method allowances, therefore the analysis proceeded.

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:



Title: Technical Director/Representative

Date: 04/07/09

**AIR**

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-01 D  
Client ID: MP-2  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/04/09 16:53  
Analyst: AJ

Date Collected: 03/26/09 08:15  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	0.292	0.100	1.59	0.545		5
1,1,1,2-Tetrachloroethane	ND	0.100	ND	0.686		5
1,1,2,2-Tetrachloroethane	ND	0.100	ND	0.686		5
1,1,2-Trichloroethane	ND	0.100	ND	0.545		5
1,1-Dichloroethane	ND	0.100	ND	0.404		5
1,1-Dichloroethene	ND	0.100	ND	0.396		5
1,2,4-Trimethylbenzene	ND	0.100	ND	0.491		5
1,2-Dibromoethane	ND	0.100	ND	0.768		5
1,2-Dichlorobenzene	ND	0.100	ND	0.601		5
1,2-Dichloroethane	ND	0.100	ND	0.404		5
1,2-Dichloropropane	ND	0.100	ND	0.462		5
1,3,5-Trimethylbenzene	ND	0.100	ND	0.491		5
1,3-Dichlorobenzene	ND	0.100	ND	0.601		5
1,4-Dichlorobenzene	0.904	0.100	5.43	0.601		5
Benzene	0.658	0.350	2.10	1.12		5
Bromodichloromethane	ND	0.100	ND	0.670		5
Bromoform	ND	0.100	ND	1.03		5
Carbon tetrachloride	ND	0.100	ND	0.629		5
Chlorobenzene	ND	0.100	ND	0.460		5
Chloroethane	ND	0.100	ND	0.264		5
Chloroform	ND	0.100	ND	0.488		5
Chloromethane	ND	2.50	ND	12.2		5
cis-1,2-Dichloroethene	ND	0.100	ND	0.396		5
cis-1,3-Dichloropropene	ND	0.100	ND	0.453		5
Dibromochloromethane	ND	0.100	ND	0.480		5



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-01 D  
Client ID: MP-2  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 08:15  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.516	0.250	2.55	1.24		5
Ethylbenzene	0.119	0.100	0.516	0.434		5
Methylene chloride	4.63	2.50	16.1	8.68		5
Methyl tert butyl ether	ND	0.100	ND	0.360		5
p/m-Xylene	0.312	0.200	1.35	0.868		5
o-Xylene	0.112	0.100	0.486	0.434		5
Styrene	ND	0.200	ND	0.851		5
Tetrachloroethene	0.190	0.100	1.28	0.678		5
Toluene	0.936	0.200	3.53	0.753		5
trans-1,2-Dichloroethene	ND	0.100	ND	0.396		5
trans-1,3-Dichloropropene	ND	0.100	ND	0.453		5
Trichloroethene	1.71	0.100	9.20	0.537		5
Trichlorofluoromethane	0.255	0.250	1.43	1.40		5
Vinyl chloride	ND	0.100	ND	0.255		5
Acrylonitrile	ND	2.50	ND	5.42		5
n-Butylbenzene	ND	2.50	ND	13.7		5
sec-Butylbenzene	ND	2.50	ND	13.7		5
Isopropylbenzene	ND	2.50	ND	12.3		5
p-Isopropyltoluene	ND	2.50	ND	13.7		5
Acetone	43.2	10.0	102	23.7		5
2-Butanone	314	2.50	926	7.37	E	5
4-Methyl-2-pentanone	ND	2.50	ND	10.2		5





Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

## SAMPLE RESULTS

Lab ID: L0903761-01 D2  
 Client ID: MP-2  
 Sample Location: PROVIDENCE, RI  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 04/07/09 03:24  
 Analyst: AJ

Date Collected: 03/26/09 08:15  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
2-Butanone	328	5.00	966	14.7		10



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-02  
Client ID: MP-6  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/04/09 17:29  
Analyst: AJ

Date Collected: 03/26/09 08:20  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		10
1,1,1,2-Tetrachloroethane	ND	0.200	ND	1.37		10
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		10
1,1,2-Trichloroethane	ND	0.200	ND	1.09		10
1,1-Dichloroethane	ND	0.200	ND	0.809		10
1,1-Dichloroethene	ND	0.200	ND	0.792		10
1,2,4-Trimethylbenzene	ND	0.200	ND	0.982		10
1,2-Dibromoethane	ND	0.200	ND	1.54		10
1,2-Dichlorobenzene	ND	0.200	ND	1.20		10
1,2-Dichloroethane	ND	0.200	ND	0.809		10
1,2-Dichloropropane	ND	0.200	ND	0.924		10
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		10
1,3-Dichlorobenzene	ND	0.200	ND	1.20		10
1,4-Dichlorobenzene	0.810	0.200	4.87	1.20		10
Benzene	ND	0.700	ND	2.23		10
Bromodichloromethane	ND	0.200	ND	1.34		10
Bromoform	ND	0.200	ND	2.06		10
Carbon tetrachloride	ND	0.200	ND	1.26		10
Chlorobenzene	ND	0.200	ND	0.920		10
Chloroethane	ND	0.200	ND	0.527		10
Chloroform	0.265	0.200	1.29	0.976		10
Chloromethane	ND	5.00	ND	24.4		10
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		10
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		10
Dibromochloromethane	ND	0.200	ND	0.960		10



Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

## SAMPLE RESULTS

Lab ID: L0903761-02  
 Client ID: MP-6  
 Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 08:20  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.503	0.500	2.48	2.47		10
Ethylbenzene	ND	0.200	ND	0.868		10
Methylene chloride	ND	5.00	ND	17.4		10
Methyl tert butyl ether	ND	0.200	ND	0.720		10
p/m-Xylene	ND	0.400	ND	1.74		10
o-Xylene	ND	0.200	ND	0.868		10
Styrene	ND	0.400	ND	1.70		10
Tetrachloroethene	ND	0.200	ND	1.36		10
Toluene	1.04	0.400	3.92	1.51		10
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		10
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		10
Trichloroethene	0.723	0.200	3.88	1.07		10
Trichlorofluoromethane	ND	0.500	ND	2.81		10
Vinyl chloride	ND	0.200	ND	0.511		10
Acrylonitrile	ND	5.00	ND	10.8		10
n-Butylbenzene	ND	5.00	ND	27.4		10
sec-Butylbenzene	ND	5.00	ND	27.4		10
Isopropylbenzene	ND	5.00	ND	24.6		10
p-Isopropyltoluene	ND	5.00	ND	27.4		10
Acetone	ND	20.0	ND	47.5		10
2-Butanone	9.88	5.00	29.1	14.7		10
4-Methyl-2-pentanone	ND	5.00	ND	20.5		10

Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

## SAMPLE RESULTS

Lab ID: L0903761-03  
 Client ID: IMP-2  
 Sample Location: PROVIDENCE, RI  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 04/04/09 18:06  
 Analyst: AJ

Date Collected: 03/26/09 07:58  
 Date Received: 03/27/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	0.125	0.020	0.682	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.222	0.020	1.09	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	0.024	0.020	0.098	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.069	0.020	0.337	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	3.43	0.020	20.6	0.120		1
Benzene	0.296	0.070	0.945	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.096	0.020	0.601	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.046	0.020	0.121	0.053		1
Chloroform	0.054	0.020	0.265	0.098		1
Chloromethane	0.939	0.500	4.58	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-03  
Client ID: IMP-2  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:58  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.497	0.050	2.46	0.247		1
Ethylbenzene	0.195	0.020	0.845	0.087		1
Methylene chloride	ND	0.500	ND	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.596	0.040	2.59	0.174		1
o-Xylene	0.212	0.020	0.922	0.087		1
Styrene	0.069	0.040	0.292	0.170		1
Tetrachloroethene	1.05	0.020	7.11	0.136		1
Toluene	1.92	0.040	7.23	0.151		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	4.68	0.020	25.1	0.107		1
Trichlorofluoromethane	3.49	0.050	19.6	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	21.3	2.00	50.6	4.75		1
2-Butanone	0.901	0.500	2.66	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-04  
Client ID: IMP-3  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/04/09 19:22  
Analyst: AJ

Date Collected: 03/26/09 07:52  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
1,1,1-Trichloroethane	0.039	0.020	0.213	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.315	0.020	1.55	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	0.033	0.020	0.133	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.087	0.020	0.425	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	5.49	0.020	33.0	0.120		1
Benzene	0.465	0.070	1.48	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.090	0.020	0.565	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.024	0.020	0.063	0.053		1
Chloroform	0.041	0.020	0.200	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

### SAMPLE RESULTS

Lab ID: L0903761-04  
Client ID: IMP-3  
Sample Location: PROVIDENCE, RI

Date Collected: 03/26/09 07:52  
Date Received: 03/27/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Dichlorodifluoromethane	0.488	0.050	2.41	0.247		1
Ethylbenzene	0.271	0.020	1.18	0.087		1
Methylene chloride	0.519	0.500	1.80	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	0.820	0.040	3.56	0.174		1
o-Xylene	0.296	0.020	1.28	0.087		1
Styrene	0.085	0.040	0.361	0.170		1
Tetrachloroethene	0.307	0.020	2.08	0.136		1
Toluene	2.59	0.040	9.75	0.151		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	1.02	0.020	5.49	0.107		1
Trichlorofluoromethane	1.83	0.050	10.3	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	27.3	2.00	64.8	4.75		1
2-Butanone	1.02	0.500	3.02	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 48.TO-15-SIM  
Analytical Date: 04/04/09 13:46

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG358026-3</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,2-Trichloroethane	ND	0.020	ND	0.109		1
1,1-Dichloroethane	ND	0.020	ND	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	ND	0.020	ND	0.098		1
1,2-Dibromoethane	ND	0.020	ND	0.154		1
1,2-Dichlorobenzene	ND	0.020	ND	0.120		1
1,2-Dichloroethane	ND	0.020	ND	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	ND	0.020	ND	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	ND	0.020	ND	0.120		1
Benzene	ND	0.070	ND	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	ND	0.020	ND	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	ND	0.020	ND	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	ND	0.020	ND	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1





Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/04/09 13:46

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG358026-3</b>						
Dichlorodifluoromethane	ND	0.050	ND	0.247		1
Ethylbenzene	ND	0.020	ND	0.087		1
Methylene chloride	ND	0.500	ND	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
p/m-Xylene	ND	0.040	ND	0.174		1
o-Xylene	ND	0.020	ND	0.087		1
Styrene	ND	0.040	ND	0.170		1
Tetrachloroethene	ND	0.020	ND	0.136		1
Toluene	ND	0.040	ND	0.151		1
trans-1,2-Dichloroethene	ND	0.020	ND	0.079		1
trans-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Trichloroethene	ND	0.020	ND	0.107		1
Trichlorofluoromethane	ND	0.050	ND	0.281		1
Vinyl chloride	ND	0.020	ND	0.051		1
Acrylonitrile	ND	0.500	ND	1.08		1
n-Butylbenzene	ND	0.500	ND	2.74		1
sec-Butylbenzene	ND	0.500	ND	2.74		1
Isopropylbenzene	ND	0.500	ND	2.46		1
p-Isopropyltoluene	ND	0.500	ND	2.74		1
Acetone	ND	2.00	ND	4.75		1
2-Butanone	ND	0.500	ND	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 04/06/09 19:55

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG358026-7						
2-Butanone	ND	0.500	ND	1.47		1



### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

Parameter	LCS %Recovery	LCS %Recovery	LCS %Recovery	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG358026-2</b>					
1,1,1-Trichloroethane	106	-	70-130	-	70-130
1,1,1,2-Tetrachloroethane	89	-	70-130	-	70-130
1,1,2,2-Tetrachloroethane	100	-	70-130	-	70-130
1,1,2-Trichloroethane	92	-	70-130	-	70-130
1,1-Dichloroethane	108	-	70-130	-	70-130
1,1-Dichloroethene	109	-	70-130	-	70-130
1,2,4-Trimethylbenzene	97	-	70-130	-	70-130
1,2-Dibromoethane	84	-	70-130	-	70-130
1,2-Dichlorobenzene	102	-	70-130	-	70-130
1,2-Dichloroethane	104	-	70-130	-	70-130
1,2-Dichloropropane	97	-	70-130	-	70-130
1,3,5-Trimethylbenzene	90	-	70-130	-	70-130
1,3-Dichlorobenzene	95	-	70-130	-	70-130
1,4-Dichlorobenzene	96	-	70-130	-	70-130
Benzene	87	-	70-130	-	70-130
Bromodichloromethane	100	-	70-130	-	70-130
Bromoform	86	-	70-130	-	70-130
Carbon tetrachloride	101	-	70-130	-	70-130
Chlorobenzene	87	-	70-130	-	70-130
Chloroethane	109	-	70-130	-	70-130
Chloroform	109	-	70-130	-	70-130



### Lab Control Sample Analysis Batch Quality Control

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

Parameter	LCS %Recovery	LCS %Recovery	LCS %Recovery	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG358026-2</b>					
Chloromethane	105	-	70-130	-	70-130
cis-1,2-Dichloroethane	105	-	70-130	-	70-130
cis-1,3-Dichloropropene	79	-	70-130	-	70-130
Dibromochloromethane	95	-	70-130	-	70-130
Dichlorodifluoromethane	111	-	70-130	-	70-130
Ethylbenzene	87	-	70-130	-	70-130
Methylene chloride	93	-	70-130	-	70-130
Methyl tert butyl ether	104	-	70-130	-	70-130
p/m-Xylene	87	-	70-130	-	70-130
o-Xylene	90	-	70-130	-	70-130
Styrene	70	-	70-130	-	70-130
Tetrachloroethane	108	-	70-130	-	70-130
Toluene	84	-	70-130	-	70-130
trans-1,2-Dichloroethene	98	-	70-130	-	70-130
trans-1,3-Dichloropropene	64	-	70-130	-	70-130
Trichloroethene	105	-	70-130	-	70-130
Trichlorofluoromethane	114	-	70-130	-	70-130
Vinyl chloride	111	-	70-130	-	70-130
Acrylonitrile	87	-	70-130	-	70-130
n-Butylbenzene	140	-	70-130	-	70-130
sec-Butylbenzene	94	-	70-130	-	70-130



### Lab Control Sample Analysis

Batch Quality Control

Project Name: ALVEREZ HS  
 Project Number: 14613.01

Lab Number: L0903761  
 Report Date: 04/07/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG358026-2</b>					
Isopropylbenzene	85	-	70-130	-	-
p-Isopropyltoluene	99	-	70-130	-	-
Acetone	101	-	70-130	-	-
2-Butanone	103	-	70-130	-	-
4-Methyl-2-pentanone	100	-	70-130	-	-

<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG358026-6</b>					
2-Butanone	104	-	70-130	-	-



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG358026-4 QC Sample: L0903761-03 Client ID: IMP-2</b>					
1,1,1-Trichloroethane	0.125	0.127	ppbV	2	25
1,1,1,2-Tetrachloroethane	ND	ND	ppbV	NC	25
1,1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
1,1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
1,1-Dichloroethane	ND	ND	ppbV	NC	25
1,1-Dichloroethene	ND	ND	ppbV	NC	25
1,2,4-Trimethylbenzene	0.222	0.239	ppbV	7	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2-Dichloroethane	0.024	0.025	ppbV	2	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
1,3,5-Trimethylbenzene	0.069	0.073	ppbV	6	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	3.43	3.60	ppbV	5	25
Benzene	0.296	0.371	ppbV	22	25
Bromodichloromethane	ND	ND	ppbV	NC	25
Bromoform	ND	ND	ppbV	NC	25
Carbon tetrachloride	0.096	0.095	ppbV	0	25
Chlorobenzene	ND	ND	ppbV	NC	25



### Lab Duplicate Analysis Batch Quality Control

Lab Number: L0903761  
Report Date: 04/07/09

Project Name: ALVEREZ HS  
Project Number: 14613.01

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG358026-4 QC Sample: L0903761-03 Client ID: IMP-2</b>					
Chloroethane	0.046	0.046	ppbV	0	25
Chloroform	0.054	0.056	ppbV	2	25
Chloromethane	0.939	0.935	ppbV	0	25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Dibromochloromethane	ND	ND	ppbV	NC	25
Dichlorodifluoromethane	0.497	0.499	ppbV	0	25
Ethylbenzene	0.195	0.200	ppbV	3	25
Methylene chloride	ND	ND	ppbV	NC	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
p/m-Xylene	0.596	0.611	ppbV	2	25
o-Xylene	0.212	0.219	ppbV	3	25
Styrene	0.069	0.071	ppbV	4	25
Tetrachloroethene	1.05	1.07	ppbV	2	25
Toluene	1.92	1.96	ppbV	2	25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Trichloroethene	4.68	4.80	ppbV	3	25
Trichlorofluoromethane	3.49	3.47	ppbV	1	25



### Lab Duplicate Analysis Batch Quality Control

Project Name: ALVEREZ HS  
Project Number: 14613.01

Lab Number: L0903761  
Report Date: 04/07/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG358026-4 QC Sample: L0903761-03 Client ID: IMP-2</b>					
Vinyl chloride	ND	ND	ppbV	NC	25
Acrylonitrile	ND	ND	ppbV	NC	25
n-Butylbenzene	ND	ND	ppbV	NC	25
sec-Butylbenzene	ND	ND	ppbV	NC	25
Isopropylbenzene	ND	ND	ppbV	NC	25
p-Isopropyltoluene	ND	ND	ppbV	NC	25
Acetone	21.3	21.4	ppbV	0	25
2-Butanone	0.901	0.900	ppbV	0	25
4-Methyl-2-pentanone	ND	ND	ppbV	NC	25





Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

## Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Cleaning Batch ID	Initial Pressure (In. Hg)	Pressure on Receipt (In. Hg)	Flow Out mL/min	Flow In mL/min	% RSD
L0903761-01	MP-2	0165	#90 SV		-	-	81	82	1
L0903761-01	MP-2	381	2.7L Can	10902478	-29.7	-0.2	-	-	-
L0903761-02	MP-6	0362	#90 SV		-	-	81	75	8
L0903761-02	MP-6	502	2.7L Can	10902478	-29.5	-2.2	-	-	-
L0903761-03	IMP-2	0367	#90 SV		-	-	80	85	6
L0903761-03	IMP-2	140	2.7L Can	10902478	-29.7	-0.5	-	-	-
L0903761-04	IMP-3	0161	#90 SV		-	-	81	76	6
L0903761-04	IMP-3	409	2.7L Can	10902478	-29.7	-4.7	-	-	-



Project Name: ALVEREZ HS

Lab Number: L0903761

Project Number: 14613.01

Report Date: 04/07/09

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
N/A	Present/Intact

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0903761-01A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903761-02A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903761-03A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)
L0903761-04A	Canister - 2.7 Liter	N/A	NA		NA	Present/Intact	TO15-SIM(30)

\*Hold days indicated by values in parentheses

**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

## GLOSSARY

### Acronyms

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.
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.
ND	· Not detected at the reported detection limit for the sample.
NI	· Not Ignitable.
RDL	· Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL 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.

### 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

*	· The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
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.
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.
H	· The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
N	· The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
P	· The RPD between the results for the two columns exceeds the method-specified criteria.
R	· Analytical results are from sample re-analysis.
RE	· Analytical results are from sample re-extraction.
J	· Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**Report Format:** Data Usability Report



**Project Name:** ALVEREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0903761  
**Report Date:** 04/07/09

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

## 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 Woods Hole Labs 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 Woods Hole Labs.

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 February 18, 2009 – Mansfield 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-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Chloride, Fluoride, Sulfate, Sulfite, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), Total Cyanide, Bromide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Ignitability, Corrosivity, TCLP 1311, Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### Florida Department of Health Certificate/Lab ID: E87814.

*Non-Potable Water* (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 365.2, EPA 150.1, 160.1, SM2540C, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 624, 625, 608.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 9050, 7470, 7471, 9045, EPA 7.3.3.2, EPA 7.3.4.2, 9014, 9065. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

### Louisiana Department of Environmental Quality Certificate/Lab ID: 03090.

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270, )

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

*Biological Tissue* (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

### Maine Department of Human Services Certificate/Lab ID: MA0030.

*Wastewater* (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

### Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

*Non-Potable Water* (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

### New Hampshire Department of Environmental Services Certificate/Lab ID: 2206.

*Non-Potable Water (Inorganic Parameters:* EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. *Organic Parameters:* EPA 625, 608.)

**New Jersey Department of Environmental Protection Certificate/Lab ID:** MA015.

*Non-Potable Water (Inorganic Parameters:* SW-846 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, SW-846 9040B, 6020, 9010B, 9014 *Organic Parameters:* EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

*Solid & Chemical Materials (Inorganic Parameters:* SW-846 6020, 9010B, 9014, 1311, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. *Organic Parameters:* SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

*Atmospheric Organic Parameters (EPA TO-15)*

**New York Department of Health Certificate/Lab ID:** 11627.

*Non-Potable Water (Inorganic Parameters:* EPA 310.1, SM2320B, EPA 365.2, 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. *Organic Parameters:* EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

*Solid & Hazardous Waste (Inorganic Parameters:* EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. *Organic Parameters:* EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035.)

*Air & Emissions (EPA TO-15.)*

**Rhode Island Department of Health Certificate/Lab ID:** LAO00299.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality Certificate/Lab ID:** T104704419-08-TX.

*Solid & Chemical Materials (Inorganic Parameters:* EPA 6020, 7471. *Organic Parameters:* EPA 8015, 8270.)

**Pennsylvania Department of Environmental Protection Certificate/Lab ID:** 68-02089. Registered Laboratory.

**U.S. Army Corps of Engineers**

**ALPHA ANALYSIS**

CHAIN OF CUSTODY

ANALYSIS

ALPHA Job #: 20903761

320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: EA Engineers  
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 Lowell, RI 02886  
 Phone: 401-736-3440  
 Fax: 401-736-3423  
 Email: rhaik@eastcoast.com

**Project Information**

Project Name: Alvarez HS  
 Project Location: Providence, RI  
 Project #: 14613 01  
 Project Manager: Mark Spear  
 ALPHA Quote #:  
 Turn-Around Time  
 Standard  RUSH (only confirmed if pre-approved)  
 Date Due: Time:

**Report Information - Data Deliverables**

Date Rec'd In Lab:  
 FAX  
 ADEX  
 Criteria Checker:  
 (Default based on Regulatory Criteria indicated)  
 Other Formats:  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)

**Billing Information**

Same as Client info  
 PO #:  
 Regulatory Requirements Report (URLs)  
 State/Fed Program Criteria  
 CT Target Indoor Air Concentrations

Other Project Specific Requirements/Comments:

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	Sample Comments (i.e. PID)
		Date	Start Time						
10903761-1	MR-2	3/24/09	744	815	30	2	SV	DAL	2.2.58/01.5
	2 MR 6		752	800	30*	6			502.0362
	-3 IMP-2		228	258	30	1			142.0362
	-4 IMP-3		283	252	30*	2			409.0161

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

**Container Type**

S

Relinquished By:

Date/Time

Received By:

Date/Time:

3/22/09 1330  
 3/27/09 1435

3/27/09 1330  
 3/27/09 1435

3/27/09 1330  
 3/27/09 1435

3/27/09 1330  
 3/27/09 1435

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.