



EA Engineering, Science, and Technology, Inc.

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30 December 2009

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

RE: Quarterly O&M Status Report No. 9  
Alvarez High School, 333 Adelaide Avenue, Providence, Rhode Island  
Case No. 2005-029  
EA Project No. 14687.01

Dear Mr. Martella:

On behalf of the City of Providence School Department (City), EA Engineering, Science, and Technology, Inc. (EA) is providing this Quarterly Operations and Maintenance (O&M) Status Report in accordance with Provision 6(f) of the Order of Approval and amendments (Amended OA) for the referenced Alvarez High School site (the Site, formerly Adelaide Avenue High School).

This O&M Report summarizes recently completed Site activities related to compliance subslab vapor and indoor air sampling from the period between September 2009 and December 2009.

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

cc: C. Jones, Prov. Dept. of Public Schools	A. Sepe, Prov. Dept. of Public Property
T. Deller, Prov. Redevelopment Agency	S. Fischbach, RI Legal Services
J. Fernandez, City of Prov. Law Department	J. Ryan, Partridge, Snow, & Hahn
J. Boehnert, Partridge, Snow, & Hahn	R. Dorr, Neighborhood Resident
Rep. Scott Slater	J. Pichardo, Senator
Knight Memorial Library Repository	Principal Torchon, Alvarez High School



## **Quarterly O&M Status Report No. 9**

### **Summarizing Subslab Depressurization and Indoor Air Monitoring and Sampling Activities**

#### **Alvarez High School Site (Formerly Adelaide Avenue High School) Providence, Rhode Island**

*Prepared for*

City of Providence School Department  
797 Westminster Street  
Providence, Rhode Island 02903

*Prepared by*

EA Engineering, Science, and Technology, Inc.  
2350 Post Road  
Warwick, Rhode Island 02886  
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December 2009  
EA Project No. 14687.01

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FIGURE 1: SITE LOCATION MAP

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**APPENDICES**

APPENDIX A: O&M FIELD FORMS

APPENDIX B: ORDER OF APPROVAL ADDENDUM 3, RIDEM, 14 JULY 2009

APPENDIX C: INDOOR AND AMBIENT OUTDOOR AIR ANALYTICAL SUMMARY  
AND LAB REPORT

APPENDIX D: SUBSLAB VAPOR ANALYTICAL SUMMARY AND LAB REPORT

APPENDIX E: ROOFTOP EFFLUENT ANALYTICAL SUMMARY AND LAB REPORT

APPENDIX F: LABORATORY REPORTING LIMITS CORRESPONDENCE

## 1. INTRODUCTION AND BACKGROUND

On behalf of the City of Providence School Department (the City), EA Engineering, Science, and Technology, Inc. (EA) has prepared this Quarterly Operations and Maintenance (O&M) Status Report No. 9 for the Parcel B area of the former Gorham Manufacturing site in Providence, Rhode Island, formerly referred to as the Adelaide Avenue High School and now referred to as the Alvarez High School site (the Site). A Site Location Map is provided as Figure 1. This report has been prepared to satisfy provision 6(f) of the Rhode Island Department of Environmental Management (RIDEM) Order of Approval (OA) issued in June 2006, as amended in February 2007, July 2007, and July 2009. For the purposes of this report, the original and the amended Orders of Approval will collectively be referred to as the Amended OA.

The Amended OA specifies the details of the approved remedy for the Site including, but not limited to, the installation of a subslab depressurization (SSD) system, installation of a continuous indoor air methane monitoring system, and implementation of an associated periodic monitoring and sampling program. In August 2007, the RIDEM-approved remedy for the Site was completed and a Remedial Action Closure Report (RACR) was submitted to RIDEM. In July 2009, the periodic indoor air and subslab vapor sampling schedule was reduced to quarterly sampling from previously required monthly sampling.

This report summarizes the O&M, monitoring, and sampling activities completed at the Site for the 3-month period from September 2009 through November 2009 (Quarterly Reporting Period No. 9) and also includes an overall evaluation of volatile organic compound (VOC) concentrations within soil gas as they pertain to a potential rebound effect at the Site. Please refer to the Quarterly O&M Status Reports No. 1 through No. 8 for information regarding monitoring and sampling at the Site during the previous quarters. The RACR and previously submitted monthly correspondence contain details regarding the results of the monitoring and sampling program for the period between March and August 2007.

## 2. SUMMARY OF SSD SYSTEM AND INDOOR METHANE MONITORING SYSTEM PERFORMANCE

### 2.1 SSD SYSTEM

During this reporting period, the following SSD System performance parameters were inspected and/or monitored at the frequencies indicated below in accordance with the Amended OA to evaluate system performance:

- Monthly subslab vacuum monitoring at 11 monitoring locations, as illustrated on the As-Built Subslab Monitoring and Sampling Plan included in Appendix C.
- Monthly inspections and monitoring of rooftop fans (air velocity and vacuum) to verify proper operation.
- Continuous electronic monitoring (with automatic alarm notification via audible signal and phone notification) at each of three SSD System extraction fans to ensure continuous operation.

All vacuum measurements taken at each interior and perimeter subslab monitoring/sampling location were between -0.02 and -0.13 in. of water column, indicating continuous negative pressure values beneath the building slab.

Inspections and monitoring of all other system equipment revealed proper system operation, and no equipment shutdowns, failures, alarms, or interruptions of any type occurred during this reporting period. The continuous, verified zone of negative pressure beneath the school's concrete slab, along with the monthly inspections and continuous monitoring of both the indoor air monitoring system and the subslab depressurization system, confirms proper operation of the SSD System during this reporting period.

Copies of O&M field forms summarizing SSD System monitoring data collected during this reporting period are provided in Appendix A.

### 2.2 INDOOR METHANE MONITORING SYSTEM

During this reporting period, indoor methane concentrations were not monitored continuously by the indoor methane monitoring system. The system is equipped with automatic alarm notification via audible signal and phone notification. However, during the September, October, and November 2009 sampling/monitoring events, EA observed that the indoor methane monitoring system power was off. EA noted the power outage, manually restarted the power, and recorded the initial readings. The methane monitoring system was then inspected further for any other abnormalities. EA has identified the uninterrupted power supply (UPS) as the cause of the temporary power outages. The UPS is a secondary power source that provides backup power to the monitoring system during primary source power loss events. The UPS will be replaced as soon as possible.

In September 2009, filter discs at each of the eight continuous methane sensors were replaced in accordance with a quarterly frequency schedule. The next filter replacement is scheduled for December 2009.

No other maintenance or repairs to the methane monitoring system or components were performed or required during this reporting period.

## 2.3 AMBIENT OUTDOOR AND INDOOR AIR SAMPLING

One outdoor ambient air sample and eight indoor air samples within the school at RIDEM-approved sampling locations were collected and analyzed for VOCs via Method TO-15 SIM (Selective Ion Monitoring) on 9 October 2009. The outdoor ambient sample was collected from the west corner of the school (upwind) to ensure that system effluent was not captured in the sample. The sampling frequency has been reduced to quarterly sampling, per Order of Approval Addendum 3 prepared by RIDEM and dated 19 July 2009 (Appendix B). Sampling locations are shown on the Indoor Air Sampling and Methane Monitoring System Diagram provided in Appendix B. In accordance with the Amended OA, the indoor air sampling results were compared to the State of Connecticut's Draft Proposed Indoor Residential Targeted Air Concentrations (CT RTACs). The laboratory reporting limits (RLs) for several VOCs reported via TO-15 analysis, even though analyzed via the SIM procedure are greater than the respective CT RTACs. In accordance with the Amended OA, EA contacted the laboratory prior to sample analysis to verify that the RLs provided would be the lowest currently achievable limits. An RL verification letter from Alpha Analytical Laboratory is provided in Appendix E. A data summary table and copies of the laboratory data reports associated with these two sampling events are provided in Appendix C. As detailed below, one contaminant was detected above the CT RTACs in each month of this quarter. All other compounds analyzed were below the applicable CT RTACs for all samples collected on 9 October 2009.

Carbon tetrachloride, a documented background ambient compound present at the Site and typical in urban communities, has consistently been detected in ambient outdoor air and inside the school during every sampling event completed at the Site at concentrations ranging between 0.19 to 0.77  $\mu\text{g}/\text{m}^3$ . Similarly, during this reporting period the ambient outdoor and indoor air concentrations of carbon tetrachloride ranged between 0.471 and 0.566  $\mu\text{g}/\text{m}^3$ . Based upon discussions and guidance provided by the Rhode Island Department of Health, RIDEM Office of Waste Management, and RIDEM Office of Air Resources, these carbon tetrachloride results do not constitute Indoor Air Action Level exceedances for the Site since they are consistent with documented background concentrations.

## 2.4 SUBSLAB VAPOR SAMPLING AND EVALUATION OF POTENTIAL VOC REBOUND EFFECT

A total of 12 RIDEM-approved subslab sampling locations exist at the Site. In accordance with the Amended OA, six subslab vapor samples were collected in accordance with a RIDEM-approved (Amended OA) rotating sampling schedule and analyzed for VOCs via Method TO-15 SIM on 9 October 2009. The subslab data is summarized in Appendix D, along with copies of the laboratory data reports associated with these sampling events.

In accordance with the Amended OA, the subslab data has been evaluated and there is no evidence of increasing VOCs (i.e., VOC rebound) beneath the school.

## **2.5 SUMMARY OF ROOFTOP VOC EMISSIONS**

The Amended OA requires that rooftop VOC sampling be completed on an annual basis. The previous rooftop VOC sampling event was completed in June 2008 and was summarized in correspondence submitted to RIDEM in October 2008. Please refer to the previously submitted Quarterly Status Report No. 4 (dated October 2008) for more details regarding the rooftop VOC data.

The 2009 annual rooftop effluent VOC sampling event was scheduled for June 2009 and then rescheduled to July 2009 to accommodate the revised quarterly sampling schedule. However, due to an EA oversight, the sampling was conducted on 11 September 2009.

Previous rooftop effluent sampling rounds conducted in March 2007 (immediately after SSD system startup), June 2007, and June 2008 indicated compliance with all Air Pollution Control Permit Applicability Thresholds. In general, the VOC concentrations in the rooftop effluent associated with the September 2009 sampling round indicate continuance of the decreasing trend of VOC concentrations in subsurface soils and do not exceed the Air Pollution Control Permit Applicability Thresholds. Tabulation of the data and the rooftop sampling analytical report is provided as Appendix E.

## **2.6 CONCLUSIONS**

Based upon the completed inspections, monitoring, and sampling performed during this reporting period, the following conclusions are made:

- Analytical results from indoor air sampling conducted this quarter indicate no contaminants present above the CT RTACs other than carbon tetrachloride, a documented background contaminant.
- Analytical results from rooftop fan effluent sampling indicate continuance of decreasing trends of subslab VOC concentrations.
- There is no evidence that soil vapor intrusion into the Alvarez High School is occurring.
- There is no evidence of VOC rebound in soil gas beneath the school.
- The continuous operation of the SSD System, with no equipment malfunctions or alarm conditions, and confirmation of continuous subslab vacuum beneath the school illustrates ongoing, effective operation of the SSD System and that no soil vapor intrusion pathway exists at the school while the SSD System is operational.

- EA is currently investigating the periodic power outages of the indoor air methane monitoring system that has interrupted its continuous operation. EA is currently confirming the cause and taking steps to resolve it. EA will make note of any equipment maintenance, replacements, or other course of action taken to maintain effective operation of the continuous indoor methane monitoring system.
- No SSD System modifications or other actions to address current site conditions are warranted or proposed at this time.



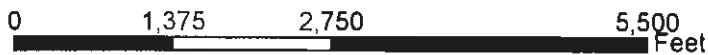
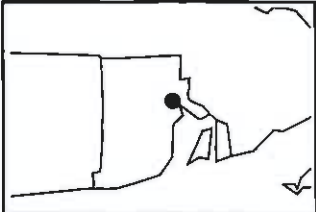
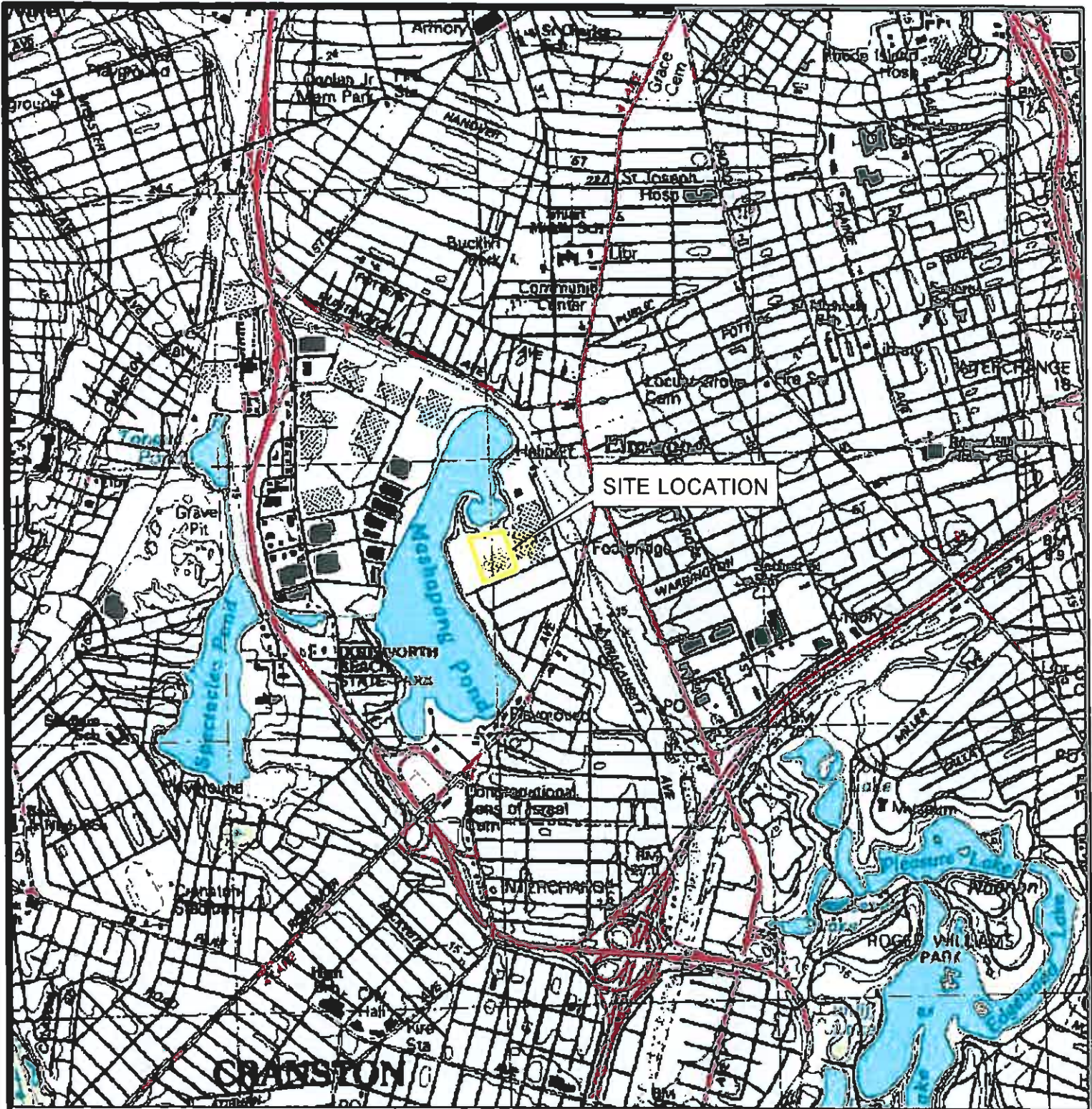
### 3. FUTURE ACTIVITIES AND NEXT QUARTERLY SUMMARY REPORT

During the next quarterly status reporting period ending 28 February 2010, the following activities will be completed in accordance with the Amended OA:

- Continuous indoor methane monitoring: periodic power outages to be identified and resolved
- Continuous monitoring of the operational status of the three rooftop fans
- Monthly site inspections and monitoring using a photoionization detector with part-per-billion sensitivity
- Collection of air samples from eight indoor locations, one ambient location, and six subslab monitoring points in January 2010.

These activities will be summarized in the next status report (Quarterly Status Report No. 10), expected to be submitted by the end of March 2010.

## Figures



FORMER GORHAM MANUFACTURING SITE, PARCEL B  
 333 ADELAIDE AVENUE  
 PROVIDENCE, RHODE ISLAND

FIGURE 1  
 SITE LOCATION MAP

PROJECT MGR  
 TR

DESIGNED BY  
 DC

CREATED BY  
 DC

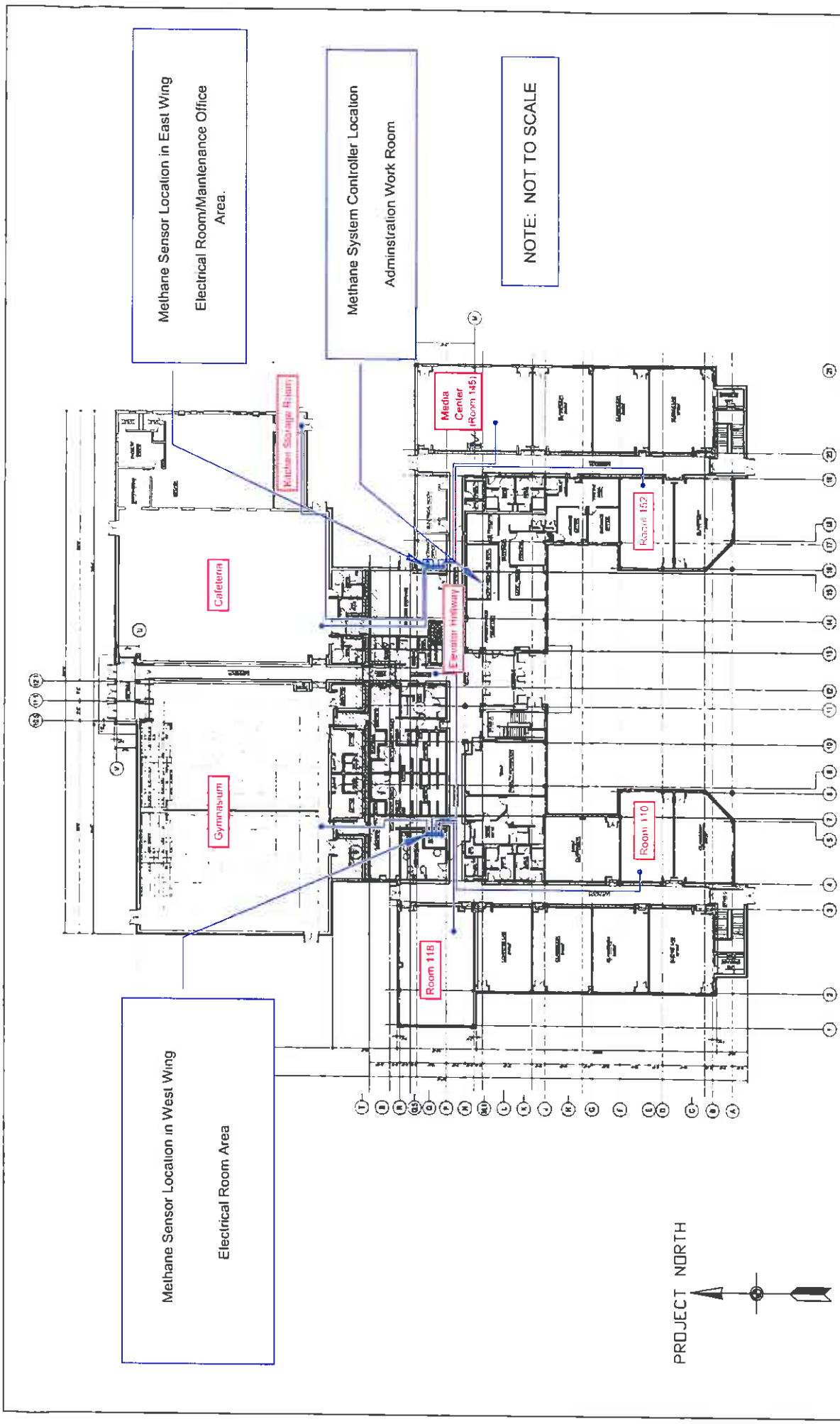
CHECKED BY  
 JP

SCALE:  
 AS SHOWN

DATE  
 FEBRUARY 2005

PROJECT NO.  
 6196501

FILE NO  
 I:\RIFIG1  
 333 ADELAIDE\_PROV.MXD

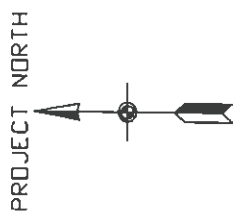


Methane Sensor Location in West Wing  
Electrical Room Area

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

Methane System Controller Location  
Administration Work Room

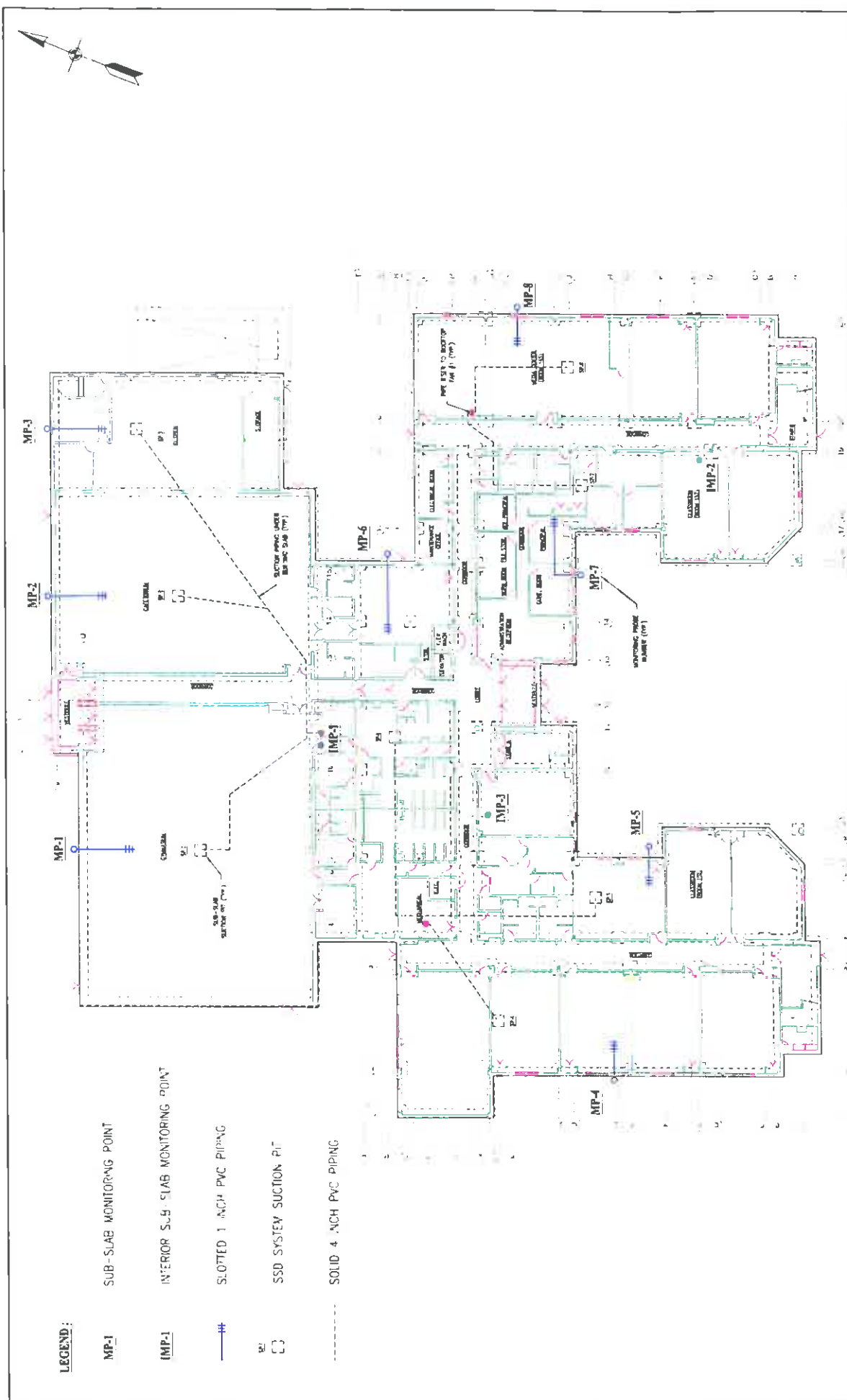
NOTE: NOT TO SCALE



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

DESIGNED BY	PKAC	DRAWN BY	PKAC	DATE	4-3-07	PROJECT NO.	61965 01	FILE NAME	Gorham Layout
CHECKED BY	PKAC	PROJECT MGR	PKAC	SCALE	NTS	DRAWING NO.	-	FIGURE	N/A





**LEGEND:**

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



QUARTERLY STATUS REPORT  
FIGURE 3

SUR SLAB MONITORING AND SAMPLING LOCATIONS  
AS-BUILT  
ALVAREZ HIGH SCHOOL  
PERFORMANCE RINCOE ISLAND

DESIGNED BY PMG	DRAWN BY DMA	DATE AUG 27 2007	PROJECT NO 14687.01	PIE NAME FIG 3
CHECKED BY PMG	PROJECT MGR PMG	SCALE N/A	DRAWING NO N/A	FIGURE 3

## **Appendix A**

### **O&M Field Forms**

**Adelaide Avenue School - SSD & Interior Methane Monitoring System O&M Form**

Date of O&M 9/11/2009 Performed by RGM

PID/Methane Calibration? US Environmental (yes/no)

Date of last Methane Sensor Filter Replacement 6/9/2009 Replaced this O&M Visit? Yes (yes/no)

General Status of SSD System: On-line

General Status of Methane Monitoring System: Methane monitoring system was off. EA personnel restarted the monitoring system and recorded initial readings

Eng Cap/Fence Inspection Performed/Notes: No deficiencies noted.

Monitoring/ Sampling Location	Sub-slab or gauge vacuum	Air Velocity (fpm)	VOC Monitoring PID (ppm)	Methane Monitoring		Air/Vapor Sample Collection				Comments/Notes (Ambient weather conditions, status of HVAC, possible monitoring/sampling interferences, etc. ... continue on separate sheet if needed)	
				Indoor Sensor (ppm)	(% Gas)	(% LEL)*	Summa Can ID	Controller ID	Start Time (inches Hg)		End Time (inches Hg)
Gymnasium	NA	NA	26.000								
Cafeteria	NA	NA	8.000								
Kitchen Storage Room	NA	NA	0.000								
Elevator Hallway	NA	NA	29.000								
Room 145	NA	NA	4.000								
Room 152	NA	NA	22.000								
Room 118	NA	NA	15.000								
Room 110	NA	NA	20.000								
MP-1	0.05	NA	3253.000	NA							
MP-2	0.06	NA	161.000	NA							
MP-3	.05	NA	2320.000	NA							
MP-4	0.04	NA	8056.000	NA							
MP-5	0.10	NA	102.000	NA							
MP-6	0.03	NA	119.000	NA							
MP-7	0.03	NA	93.000	NA							
MP-8	0.10	NA	44400.000	NA							
IMP-1	0.02	NA	31.000	NA							
IMP-2	0.03	NA	8.000	NA							
IMP-3	0.02	NA	16.000	NA							
Roof-Top Fan 1	2.20	2085	59.000	NA			139		11:30	18	1
Roof-Top Fan 2	3.80	2041	31.000	NA			455		11:25	28	4
Roof-Top Fan 3	2.4	1765	69.000	NA			231		10:37	30.000	1
Ambient Outdoor Air	NA	NA	0.000	NA							

NA: not applicable  
 NM: not monitored on this date.  
 NS: not sampled on this date.  
 \* RIDEEM Action Level for methane %LEL beneath the building is 10% and within the building is 1%. If these methane levels are exceeded, immediately notify EA Project Manager to initiate response protocol.

**Adelaide Avenue School - SSD & Interior Methane Monitoring System O&M Form**

Date of O&M: 10/9/2009 Performed by RGM/PT

PID/Methane Calibration? US Environmental (yes/no)

Date of last Methane Sensor Filter Replacement: 9/1/2009 Replaced this O&M Visit? No (yes/no)

General Status of SSD System: Observed in working order

General Status of Methane Monitoring System: Methane monitoring system was off. EA personnel restarted the monitoring system and recorded initial readings

Eng. Cap/Fence Inspection Performed/Notes: Observed in good condition

Monitoring/ Sampling Location	Sub-slab or gauge vacuum	Air Velocity (fpm)	VOC Monitoring		Methane Monitoring			Air/Vapor Sample Collection				Comments/Notes (Ambient weather conditions, status of HVAC, possible monitoring/sampling interferences, etc. ... continue on separate sheet if needed)	
			PID (ppm)	Indoor Sensor (ppm)	(% Gas)	(% LEL)*	Summa Can ID	Controller ID	Start Time (Inches Hg)	End Time (Inches Hg)	Start Vac (Inches Hg)		End Vac (Inches Hg)
Gymnasium	NA	NA	0.026	0	0	0	105	0401	0659	-29	0725	-4	
Cafeteria	NA	NA	0.000	0	0	0	460	0426	0658	-30+	0724	-4	
Kitchen Storage Room	NA	NA	0.004	0	0	0	113	0217	0707	-30+	0735	-3	
Elevator Hallway	NA	NA	0.028	0	0	0	199	0209	0701	-28	0726	-5	
Room 145	NA	NA	0.000	0	0	0	504	0007	0702	-28	0727	-4	
Room 152	NA	NA	0.000	0	0	0	148B	0446	0703	-30+	0728	-10	
Room 118	NA	NA	0.000	0	0	0	160	0132	0704	-30+	0730	-10	
Room 110	NA	NA	0.000	0	0	0	220	0417	0705	-30	0731	-8	
MP-1	0.02	NA	0.007	NA	0	0	---	---	---	---	---	---	
MP-2	0.12	NA	0.103	NA	0	0	501	0452	0848	30	0918	-5	
MP-3	0.11	NA	0.051	NA	0	0	---	---	---	---	---	---	
MP-4	0.08	NA	0.022	NA	0	0	---	---	---	---	---	---	
MP-5	0.11	NA	0.007	NA	0	0	345	0049	0934	30	1000	-5	
MP-6	0.02	NA	0.081	NA	0	0	---	---	---	---	---	---	
MP-7	0.02	NA	0.006	NA	0	0	529	0062	0915	30+	0941	-9	
MP-8	0.08	NA	0.009	NA	0	0	212	0125	0904	30	0929	-7	
IMP-1	.04	NA	0.111	NA	0	0	104	0067	0720	-30+	0748	-7	
IMP-2	.03	NA	0.313	NA	0	0	---	---	---	---	---	---	
IMP-3	.02	NA	0.041	NA	0	0	102	0332	0741	-29	0807	-6	
Roof-Top Fan 1	2.00	1258	0.088	NA	0	0	---	---	---	---	---	---	
Roof-Top Fan 2	3.70	2081	0.122	NA	0	0	---	---	---	---	---	---	
Roof-Top Fan 3	NA	1271	0.335	NA	0	0	---	---	---	---	---	---	
Ambient Outdoor Air	NA	NA	0.000	NA	0	0	155	0052	0933	-29	0959	-3	Upwind = south

NA: not applicable.  
 NM: not monitored on this date.  
 NS: not sampled on this date.  
 \* RIDEEM Action Level for methane %LEL beneath the building is 10% and within the building is 1%. If these methane levels are exceeded, immediately notify EA Project Manager to initiate response protocol.



**Adelaide Avenue School - SSD & Interior Methane Monitoring System O&M Form**

Date of O&M: 11/6/2009

Performed by DMA

PID/Methane Calibration? US Environmental (yes/no)

Replaced this O&M Visit? No (yes/no)

Date of last Methane Sensor Filter Replacement: Sept. 2009

General Status of SSD System: On-line

General Status of Methane Monitoring System: Methane monitoring system was off, EA personnel restarted the monitoring system and recorded initial readings

Eng Cap/Fence Inspection Performed/Notes: No deficiencies noted.

Monitoring/ Sampling Location	Sub-slab or gauge vacuum	Air Velocity (fpm)	VOC Monitoring PID (ppm)	Methane Monitoring		Air/Vapor Sample Collection				Comments/Notes (Ambient weather conditions, status of HVAC, possible monitoring/sampling interferences, etc ... continue on separate sheet if needed)
				Indoor Sensor (ppm)	(% Gas)	(% LEL)*	Summa Can ID	Controller ID	Start Time (Inches Hg)	
Gymnasium	NA	NA	0.057							Occupied
Cafeteria	NA	NA	0.051							Occupied
Kitchen Storage Room	NA	NA	0.005							Occupied
Elevator Hallway	NA	NA	0.052							Occupied
Room 145	NA	NA	0.022							Occupied
Room 152	NA	NA	0.167							Occupied
Room 118	NA	NA	0.092							Occupied
Room 110	NA	NA	0.025							Occupied
MP-1	0.10	NA	2.060	NA						
MP-2	0.13	NA	0.285	NA						
MP-3	0.04	NA	0.036	NA						
MP-4	0.05	NA	1.040	NA						
MP-5	0.04	NA	0.034	NA						
MP-6	0.05	NA	3.860	NA						
MP-7	0.02	NA	0.062	NA						
MP-8	0.08	NA	0.047	NA						
IMP-1	0.03	NA	0.018	NA						
IMP-2	0.04	NA	0.022	NA						
IMP-3	0.03	NA	0.028	NA						
Roof-Top Fan 1	2.20	2114	0.038	NA						
Roof-Top Fan 2	3.60	2295	0.026	NA						
Roof-Top Fan 3	2.4	1810	0.005	NA						Crack in concrete floor
Ambient Outdoor Air	NA	NA	0.000	NA						

NA not applicable.  
 NM not monitored on this date  
 NS not sampled on this date  
 \* RIDEEM Action Level for methane %LEL beneath the building is 10% and within the building is 1%. If these methane levels are exceeded, immediately notify EA Project Manager to initiate response protocol

## **Appendix B**

**Order of Approval Addendum 3  
RIDEM, 14 July 2009**



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

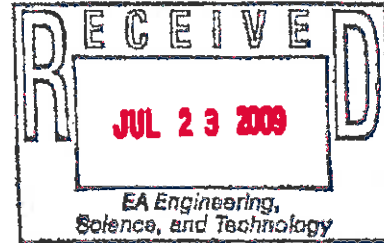
235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

CERTIFIED MAIL

July 14, 2009

Alan Sepe, Acting Director  
Department of Public Properties  
City of Providence  
25 Dorrance Street  
Providence, RI 02903



RE: Order of Approval Addendum 3, Providence Public High School Site – Parcel B  
Formerly a portion of the Gorham/Textron Dump site, 333 Adelaide Avenue, Providence  
City of Providence Tax Assessor's Office Plat 51, Lot 323, Parcel B  
Case No. 2005-029 (Formerly part of Case No. 97-030)

Dear Mr. Sepe:

Enclosed please find the Order of Approval Addendum 3 (OA Addendum 3) for the remediation plan for the above referenced facility. Please review the stipulations of the attached OA Addendum 3 thoroughly to ensure your compliance with the requirements. The original Order of Approval (Order) dated June 9, 2006, the Order of Approval Addendum 1 (OA Addendum 1) dated February 27, 2007, the Order of Approval Addendum 2 (OA Addendum 2) dated July 26, 2007, and this OA Addendum 3 (collectively the Amended Orders) place primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) and its associated remedy on the City of Providence (the City). In order to enable the Department to monitor the City's compliance with the RAWP, the Amended Orders require the City to notify the Department of any condition that is non-compliant with the Amended Orders, or that constitutes an interruption of the RAWP. In order to maintain compliance with the Amended Orders and the RAWP, the City's responsibilities under the Amended Orders necessarily include the responsibility to respond to and correct non-compliant conditions in a timely, proactive and professional manner that minimizes non-compliance with the Amended Orders and RAWP, and protects human health and the environment.

This OA Addendum 3 shall be recorded in the land evidence records of the City of Providence within 30 days of execution as required by law, and a recorded copy must be returned to the Department within 7 days of recording. If you have any questions regarding this matter, please contact me at (401) 222-2797 x7109.

Sincerely,

Joseph T. Martella II  
Senior Engineer  
Office of Waste Management

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C  
Leo Hellested, P.E., Chief, RIDEM/OWM  
Kelly J. Owens, RIDEM/OWM  
John Langlois, Esq., RIDEM/OLS  
Barbara Morin, RIDEM/OAR  
Robert Vanderslice, PhD, RIDQH  
Tammie A. McRae, ATSDK  
Hon. David N. Cicilline, Mayor, City of Providence  
Senator Juan M. Pignard, District 2  
Representative Thomas Slater  
Councilman Peter S. Mancini, President  
Councilman Leon F. Tejada, Ward 8  
Thomas Deller, City of Providence  
Thomas M. Brady, Superintendent, Providence Schools  
Robert Wise, President - Providence School Bd.  
Mark K. Speer, EA  
Gregory L. Simpson, Textron  
Robert Dorr  
Knight Memorial Library - Project Repository

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

In the matter of the application for a Remedial Action Approval at: Case No. 2005-029  
Providence Public High School Site – Parcel B  
(Formerly a portion of the Gorham/Textron Dump site)  
333 Adelaide Avenue, Providence, RI, Plat 51, Lot 323 (the Site)

ORDER OF APPROVAL ADDENDUM 3

In the above entitled matter the Rhode Island Department of Environmental Management (the Department), issued to the City of Providence (the City), in its capacity as owner and Responsible Party for the remediation of property located at 333 Adelaide Avenue, Providence, an Order of Approval (Order) dated June 9, 2006, a first Order of Approval Addendum (OA Addendum 1) dated February 27, 2007, and a second Order of Approval Addendum (OA Addendum 2) dated July 26, 2007.

On March 4, 2008, the Department received a written request from EA Engineering, Science, and Technology, Inc. (EA), to change the City's indoor air and sub slab vapor sampling frequency and amend the requirements of OA Addendum 2. In addition, on January 29, 2009, the Department met with representatives of EA to discuss the ongoing operation of the system and the air and soil vapor data results collected up to that date. Based upon discussions at that meeting, the Department requested a revised submittal detailing the City's request, including documentation demonstrating that the system has been operating properly, and supporting the requested reduction in sampling frequency. The following document was subsequently filed by EA on behalf of the City:

- Order of Approval Amendment Request, Alvarez High School, 333 Adelaide Avenue, Providence, Rhode Island, prepared by EA, and dated April 27, 2009.

Based on review of the above referenced document, and additional sampling data submitted to date, the Department has concluded that an additional modification to the prior Order is warranted.

Subject to the conditions herein, the listed document, as well as the documents listed in the Order dated June 9, 2006, the OA Addendum 1 dated February 27, 2007, and the OA Addendum 2 dated July 26, 2007, fulfill the requirements of Section 9.00 (Remedial Action Work Plan) of the Department's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations), as amended February 24, 2004, and describe a plan to remediate existing contamination pursuant to 23-19.14-1 et seq. and the Department's Remediation Regulations, in accordance therewith.

It is the Department's intent that all conditions set forth in the Order dated June 9, 2006, OA Addendum 1 dated February 27, 2007, and the OA Addendum 2 dated July 26, 2007, shall remain in full force and effect unless specifically altered by this third Order of Approval Addendum (OA Addendum 3). This OA Addendum 3 continues to place primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) and its associated remedy on the City. As the responsible party and performing

party, the City is expected to implement the RAWP in an expeditious and professional manner that prevents non-compliance with the original Order, OA Addendum 1, OA Addendum 2, OA Addendum 3, and the RAWP, and protects human health and the environment. For the convenience of the City and its contractors and consultants, the changes made to the original Order by this OA Addendum 3 have been highlighted below using boldfaced type and include a reference to the original paragraph of the Order as applicable.

Upon consideration thereof, and in accordance with Rule 10.1 (Remedial Action Approvals) of the Remediation Regulations, the Department approves said RAWP to remediate contamination through this OA Addendum 3, subject to the following amended conditions:

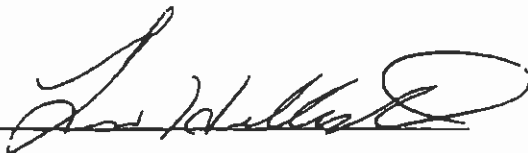
- 1) **All conditions set forth in the Order of Approval dated June 9, 2006, OA Addendum 1 dated February 27, 2007, and OA Addendum 2 dated July 26, 2007, shall remain in full force and effect unless specifically altered by this OA Addendum 3.**
- 2) **Sampling and laboratory analysis of all media involved in the Remedial Action shall be conducted in accordance with the requirements of the RAWP, the original Order, OA Addendum 1, OA Addendum 2, and this OA Addendum 3 [Ref. original Order ¶ 5].**
- 3) **The Site remedy as described in the RAWP, original Order, OA Addendum 1, and OA Addendum 2, shall also incorporate the following [Ref. original Order ¶ 6]:**
  - a) **A “complete round” of compliance sampling shall include 15 sample locations per sampling event, selected from the network as follows:**
    - i) **One (1) ambient outdoor air sample**
    - ii) **All eight (8) interior sampling locations;**
    - iii) **Four (4) of the eight (8) perimeter sub slab sample collection locations (MP-1 through MP-8), selected on a rotational basis such that each location is sampled at an equal frequency;**
    - iv) **Two (2) of the three (3) centrally located sub slab sample locations (IMP-1 through IMP-3), selected on a rotational basis such that each location is sampled at an equal frequency;**
    - v) **All samples shall be analyzed for volatile organic compounds (VOCs) by EPA TO-15 SIM.**
  - b) **The schedule for periodic compliance sampling and compliance monitoring shall be as follows [Ref. Order ¶ 6.e.iv]:**
    - i) **Starting with the completed April 2009 sampling round, and quarterly thereafter (i.e. the next scheduled quarterly sampling round shall be in July 2009), a “complete round” of VOC compliance sampling and analysis shall be performed at the locations identified in item a) above.**
    - ii) **Methane monitoring shall continue to be performed monthly at all interior and sub slab locations.**
    - iii) **In the event that a remedial Action Level exceedance is detected at an indoor air sampling location, the City shall conduct an evaluation to determine the source of**

- the exceedance. In the event that the source of the exceedance cannot be determined, or is determined to be resultant from soil vapor intrusion, then the sampling frequency for the non-compliant indoor sampling location and the closest sub-slab sampling location shall be adjusted to monthly until the problem is resolved and the concentrations measured at the non-compliant indoor sampling location are demonstrated to be compliant with the remedial Action Levels for a period of three (3) consecutive months.
- iv) During any period that the indoor air sampling frequency is adjusted to monthly, the City shall submit a monthly comment letter to the Department documenting the results of any additional sampling and monitoring conducted during the prior month.
  - v) The City shall continue to provide remedial Action Level exceedance notifications to the Department in accordance with the requirements of the original and amended Orders and to promptly investigate the potential source of any reported exceedance.
- c) Periodic monitoring of methane and compliance sampling and analysis of VOCs shall continue at the specified rate as long as a source of contamination exists, unless otherwise authorized by the Department in written correspondence to the City [Ref. Order ¶ 6.e.ix].
- 4) The City shall have this OA Addendum 3 recorded in the City of Providence, land evidence records of the subject property within thirty (30) days of execution of this OA Addendum 3 [Ref. Order ¶ 23].

Subject to future revisions or amendments by the Department, the original Order, OA Addendum 1, OA Addendum 2, and this OA Addendum 3 shall remain in full force and effect for as long as said RAWP shall be operated and maintained in a condition satisfactory to the Department. Failure to comply with all points outlined in the Department approved RAWP and stipulated in the original Order, OA Addendum 1, OA Addendum 2, and this OA Addendum 3 shall result in the issuance of a Notice of Violation and Order against the City.

The original Order, OA Addendum 1, OA Addendum 2, and this OA Addendum 3 shall be subject to modification or revocation in accordance with law.

Entered as an approval by the Department this 14<sup>th</sup> day of July, 2009.

By: 

Leo Hellested, P.E.  
Chief, Office of Waste Management  
Department of Environmental Management

## **Appendix C**

### **Indoor and Ambient Outdoor Air Analytical Summary and Lab Report**





Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2009

Volatile Organic Compound	Sample Date	CT Data Reported (Indoor, Outdoor, Target Air, Comments)	Chlorobenzene		Dichlorobenzene		Dibenzene		Ethylbenzene		Formaldehyde		Methane		Methane		Methane		
			Qual	Quant	Qual	Quant	Qual	Quant	Qual	Quant	Qual	Quant	Qual	Quant	Qual	Quant	Qual	Quant	
1,2, Trichloroethane	15-Mar-07		U	0.110	U	0.270	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	22-Apr-07		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	29-Apr-07		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	31-May-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	30-Jun-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	22-Aug-07	7.7	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	29-Sep-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	9-Oct-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	23-Nov-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	8-Dec-07		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	8-Jan-08		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	27-Feb-08		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	29-Mar-08		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	31-May-08		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	28-Jun-08		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	31-Jul-08		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	18-Oct-08		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	21-Nov-08		U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	U	0.110	
	24-Dec-08		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	25-Jan-09		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	22-Feb-09		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	8-Oct-09		U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	
	1,1-Dichloroethane	15-Mar-07		U	0.085	U	0.085	U	0.085	U	0.085	U	0.085	U	0.085	U	0.085	U	0.085
		22-Apr-07		U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081
		29-Apr-07		U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081
		31-May-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
		30-Jun-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
22-Aug-07		7.7	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
29-Sep-07			U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
9-Oct-07			U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
23-Nov-07			U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
8-Dec-07			U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
8-Jan-08			U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
27-Feb-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
29-Mar-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
31-May-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
28-Jun-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
31-Jul-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
18-Oct-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
21-Nov-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
24-Dec-08			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
25-Jan-09			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
22-Feb-09			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
8-Oct-09			U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	
1,1-Dichloroethane		15-Mar-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
		22-Apr-07		U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079
		29-Apr-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
		31-May-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
		30-Jun-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080
	22-Aug-07	7.7	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	29-Sep-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	9-Oct-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	23-Nov-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	8-Dec-07		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	8-Jan-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	27-Feb-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	29-Mar-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	31-May-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	28-Jun-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	31-Jul-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	18-Oct-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	21-Nov-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	24-Dec-08		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	25-Jan-09		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	22-Feb-09		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	
	8-Oct-09		U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	







Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
March 2007 - October 2008

Volatile Organic Compounds and TO-18 Brominated Compounds	Sampling Date	CT Direct Proportioned Indoor Residential Target Air Concentration (mg/m <sup>3</sup> )		Exhausted Volatiles		Rooms 118		Rooms 119		Medical Cost (Rm 163)		Rooms 152		Ambient Outdoor				
		Chad	U	Chad	U	Chad	U	Chad	U	Chad	U	Chad	U	Chad	U	Chad	U	
Stromboliene	15-Mar-07	0.126	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	24-Apr-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	24-Apr-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	24-Apr-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	21-May-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	26-Jun-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	30-Jul-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	21-Aug-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	8-Oct-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	15-Nov-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	8-Dec-07	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	8-Jan-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	15-Feb-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	27-Mar-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	31-Mar-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	31-Jul-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	28-Aug-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	30-Sep-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	31-Oct-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	18-Nov-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	25-Dec-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	28-Dec-08	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	21-Jan-09	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	22-Feb-09	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	9-Oct-09	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	0.134	U	
	C-Phenanthrene	15-Mar-07	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U
		24-Apr-07	0.206	U	0.206	U	0.206	U	0.206	U	0.206	U	0.206	U	0.206	U	0.206	U
24-Apr-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
24-Apr-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
21-May-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
26-Jun-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
30-Jul-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
21-Aug-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
8-Oct-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
15-Nov-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
8-Dec-07		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
8-Jan-08		0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	0.210	U	
15-Feb-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
27-Mar-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
31-Mar-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
31-Jul-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
28-Aug-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
30-Sep-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
31-Oct-08		0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	0.208	U	
15-Mar-07		0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	
22-Mar-07		0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	
24-Apr-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
24-Apr-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
24-Apr-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
21-May-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
26-Jun-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
30-Jul-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
21-Aug-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
9-Oct-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
7-Nov-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
6-Dec-07	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
8-Jan-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
15-Feb-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
27-Mar-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
31-Mar-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
31-Jul-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
28-Aug-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
30-Sep-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
31-Oct-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
18-Nov-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
25-Dec-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
28-Dec-08	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
21-Jan-09	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
22-Feb-09	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		
9-Oct-09	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U	0.170	U		







Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March, 2007 - October, 2009

Sample Date	CT Data Processing Status (Revised/Target/Advised/Action Level)	Michigan Benzene Rule	California	Drydown	Elementary Highway	Room 118	Room 110	Median Cdn (Rm 115)	Room 112	Ambient Children	Other
15-Mar-07		0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	U
21-Mar-07		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
28-Apr-07		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
21-May-07		0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	U
29-Jun-07		0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	U
21-Jul-07		0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	U
26-Sep-07	None	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
9-Oct-07		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
7-Nov-07		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
6-Dec-07		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
8-Jan-08		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
6-Feb-08		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
27-Mar-08		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
21-Jun-08		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	U
31-Jul-08		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
21-Aug-08		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
30-Sep-08		4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	U
7-Oct-08		4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	U
14-Nov-08		4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	U
11-Dec-08		4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	U
22-Jan-09		4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	4.200	U
28-Feb-09		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
28-Mar-09		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
27-Jun-09		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
8-Oct-09		0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	0.094	U
15-Mar-07		2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	U
22-Mar-07		2.870	2.870	2.870	2.870	2.870	2.870	2.870	2.870	2.870	U
24-Apr-07		3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030	U
21-May-07		1.840	1.840	1.840	1.840	1.840	1.840	1.840	1.840	1.840	U
29-Jun-07		2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	U
30-Jul-07		2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	U
20-Aug-07		2.170	2.170	2.170	2.170	2.170	2.170	2.170	2.170	2.170	U
26-Sep-07		2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	U
7-Oct-07	51	2.590	2.590	2.590	2.590	2.590	2.590	2.590	2.590	2.590	U
7-Nov-07		2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	U
6-Dec-07		2.590	2.590	2.590	2.590	2.590	2.590	2.590	2.590	2.590	U
8-Jan-08		2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	U
8-Feb-08		3.210	3.210	3.210	3.210	3.210	3.210	3.210	3.210	3.210	U
27-Mar-08		1.880	1.880	1.880	1.880	1.880	1.880	1.880	1.880	1.880	U
27-Apr-08		2.472	2.472	2.472	2.472	2.472	2.472	2.472	2.472	2.472	U
25-May-08		1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700	U
29-Jun-08		1.550	1.550	1.550	1.550	1.550	1.550	1.550	1.550	1.550	U
27-Jul-08		1.530	1.530	1.530	1.530	1.530	1.530	1.530	1.530	1.530	U
31-Aug-08		1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	U
28-Sep-08		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
26-Oct-08		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
23-Nov-08		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
20-Dec-08		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
18-Jan-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
15-Feb-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
12-Mar-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
9-Apr-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
6-May-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
3-Jun-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
3-Jul-09		1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	U
7-Oct-09		0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	U
15-Mar-07		100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	U
22-Mar-07		8.800	8.800	8.800	8.800	8.800	8.800	8.800	8.800	8.800	U
20-Apr-07		2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	U
24-May-07		2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	U
30-Jun-07		2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	U
27-Aug-07		0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470	U
20-Sep-07	53	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	U
9-Oct-07		0.480	0.480	0.480	0.480	0.480	0.480	0.480	0.480	0.480	U
7-Nov-07		0.570	0.570	0.570	0.570	0.570	0.570	0.570	0.570	0.570	U
8-Dec-07		0.590	0.590	0.590	0.590	0.590	0.590	0.590	0.590	0.590	U
6-Jan-08		0.541	0.541	0.541	0.541	0.541	0.541	0.541	0.541	0.541	U
27-Feb-08		0.770	0.770	0.770	0.770	0.770	0.770	0.770	0.770	0.770	U
30-Apr-08		1.140	1.140	1.140	1.140	1.140	1.140	1.140	1.140	1.140	U
29-May-08		0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	U
31-Jun-08		1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	U
24-Aug-08		2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	U
30-Sep-08		2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	U
25-Nov-08		2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	U
16-Dec-08		2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	U
21-Jan-09		2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	U
26-Feb-09		0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	U
23-Mar-09		1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	U
20-Apr-09		0.833	0.833	0.833	0.833	0.833	0.833	0.833	0.833	0.833	U
17-May-09		0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442	U
6-Oct-09		0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	U

Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
March 2007 - October 2009

Volatile Organic Compounds	Sample Date	CT Diesel Proprietary Indoor Residential Target for Commercial/Industrial/Institutional/Restaurant/Bar/Entertainment/Club/Event	Exterior Background Conc.	Calculations	Dimensions	Favorable Weather		Room 118		Room 110		Multiple Cuts (Per 1.5)		Breath 157	Airborne Indicator		
						Date	Conc.	Date	Conc.	Date	Conc.	Date	Conc.				
Methylene Chloride	15-Mar-07		14,800	16,000	U	2,800	U	6,300	U	1,600	U	2,600	U	5,000	U	2,800	
	21-Mar-07		2,760	2,760	U	7,150	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	26-Apr-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	31-May-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	26-Jun-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	20-Jul-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	22-Aug-07	3.0		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760
	29-Sep-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	7-Oct-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	14-Oct-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	8-Nov-07		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	3-Feb-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	27-Apr-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	25-May-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	27-Jun-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	20-Aug-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	21-Sep-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	18-Oct-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	21-Nov-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	26-Dec-08		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	23-Jan-09		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	9-Oct-09		2,760	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	U	2,760	
	Methyl tert-butyl ether (MTBE)	15-Mar-07		0.070	0.070	U	0.070	U	1.180	U	0.070	U	0.140	U	0.070	U	0.070
		21-Mar-07		0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070
26-Apr-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
31-May-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
26-Jun-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
20-Jul-07		1.80		0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070
22-Aug-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
29-Sep-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
7-Oct-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
14-Oct-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
8-Nov-07			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
3-Feb-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
27-Apr-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
25-May-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
27-Jun-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
20-Aug-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
21-Sep-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
18-Oct-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
21-Nov-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
26-Dec-08			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
23-Jan-09			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
9-Oct-09			0.070	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	U	0.070	
p,p'-DDE		15-Mar-07		340,000	340,000	U	340,000	U	84,000	U	570,000	U	410,000	U	450,000	U	4,000
		21-Mar-07		4,200	4,200	U	33,000	U	5,640	U	7,600	U	34,000	U	14,000	U	1,600
	26-Apr-07		7,600	7,600	U	8,800	U	14,000	U	1,200	U	12,000	U	2,500	U	3,000	
	31-May-07		6,740	6,740	U	12,300	U	1,800	U	4,270	U	6,640	U	1,000	U	1,000	
	26-Jun-07		9,800	9,800	U	8,600	U	5,000	U	6,600	U	3,300	U	1,100	U	1,100	
	20-Jul-07		1,900	1,900	U	3,100	U	3,140	U	1,100	U	1,100	U	1,500	U	1,500	
	22-Aug-07	2.70		0.300	0.300	U	1,870	U	3,000	U	6,400	U	6,400	U	1,100	U	1,100
	9-Oct-07		4,400	4,400	U	2,000	U	3,200	U	3,800	U	3,800	U	3,800	U	3,800	
	14-Oct-07		2,370	2,370	U	4,300	U	1,600	U	3,310	U	3,310	U	3,310	U	3,310	
	8-Nov-07		0,110	0,110	U	2,110	U	1,480	U	2,380	U	2,380	U	2,380	U	2,380	
	3-Feb-08		2,250	2,250	U	2,800	U	2,890	U	2,890	U	2,890	U	2,890	U	2,890	
	27-Apr-08		0,200	0,200	U	3,100	U	2,800	U	1,810	U	1,810	U	1,810	U	1,810	
	25-May-08		1,040	1,040	U	3,100	U	1,140	U	0,964	U	0,964	U	0,964	U	0,964	
	27-Jun-08		4,300	4,300	U	4,300	U	4,300	U	2,190	U	2,190	U	2,190	U	2,190	
	20-Aug-08		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	21-Sep-08		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	18-Oct-08		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	21-Nov-08		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	26-Dec-08		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	23-Jan-09		4,300	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	U	4,300	
	9-Oct-09		2,810	2,810	U	3,360	U	3,190	U	2,900	U	2,900	U	2,900	U	2,900	



Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
March 2007 - October 2009

Sample Date	CT Data Parameters Indoor Residential Target Air Concentrations (Micrograms per Cubic Meter)	Micrograms per Cubic Meter	Columns	Chromatogram	Ethanol Mixture	Hexam 118	Hexam 110	Methyl Cate (Hex 163)	Hexam 152	Ammonia Oxidation
15-Jan-07		110.000	180.000	180.000	130.000	21.000	170.000	150.000	145.000	0.000
21-Feb-07		14.100	16.000	16.000	19.000	25.000	34.000	16.000	15.000	0.000
28-Apr-07		9.800	19.400	19.400	17.000	31.000	18.000	11.000	17.000	0.000
21-May-07		7.800	5.040	5.040	4.300	2.300	8.600	6.700	8.000	0.000
29-Jun-07		8.800	5.800	5.800	4.500	3.700	1.800	2.400	2.900	0.000
30-Jul-07		8.400	1.900	1.900	1.800	0.800	1.800	1.610	1.610	0.000
23-Aug-07	710	4.820	3.100	3.100	2.240	0.870	3.240	1.440	1.440	0.000
20-Sep-07		1.700	1.550	1.550	1.870	2.410	1.870	2.470	1.450	0.000
7-Oct-07		2.000	1.470	1.470	1.880	0.800	1.870	1.210	1.450	0.000
8-Nov-07		0.680	0.890	0.890	0.890	0.800	0.800	0.800	0.800	0.000
8-Dec-07		4.240	3.770	3.770	3.900	1.240	3.900	3.300	3.300	0.000
8-Jan-08		6.470	1.140	1.140	1.170	0.870	1.170	0.870	0.870	0.000
27-Feb-08		4.920	4.000	4.000	4.150	5.920	4.210	4.010	4.010	0.000
25-Mar-08		0.820	1.210	1.210	1.320	0.870	1.320	1.270	1.270	0.000
28-Apr-08		0.830	4.000	4.000	3.000	0.870	1.600	4.010	4.010	0.000
7-May-08		0.870	3.240	3.240	3.850	4.110	1.900	3.840	3.840	0.000
11-Jun-08		2.760	2.920	2.920	1.990	2.720	2.200	2.640	2.640	0.000
24-Jul-08		5.230	5.860	5.860	7.800	5.970	1.400	6.880	6.880	0.000
28-Aug-08		1.900	1.800	1.800	2.500	2.200	1.800	1.800	1.800	0.000
30-Sep-08		6.700	8.700	8.700	1.900	3.200	5.500	3.000	3.000	0.000
27-Oct-08		5.900	1.900	1.900	2.100	1.900	1.900	1.900	1.900	0.000
25-Nov-08		1.100	1.900	1.900	1.600	1.900	1.900	1.900	1.900	0.000
18-Dec-08		1.900	1.900	1.900	1.900	1.900	1.900	1.900	1.900	0.000
21-Jan-09		1.900	1.900	1.900	1.900	1.900	1.900	1.900	1.900	0.000
25-Feb-09		1.900	1.900	1.900	1.900	1.900	1.900	1.900	1.900	0.000
25-Mar-09		8.110	4.060	4.060	3.990	3.800	4.730	5.970	5.970	0.000
28-Apr-09		0.779	0.868	0.868	0.779	1.050	0.865	0.810	0.810	0.000
16-May-09		1.550	1.510	1.510	1.180	2.540	1.180	3.180	3.180	0.000
22-Jun-09		4.740	3.890	3.890	3.900	4.300	4.170	4.720	4.720	0.000
9-Oct-09		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15-Jan-07		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21-Feb-07		0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.000
21-Mar-07		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
27-Apr-07		0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.000
30-May-07		0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.000
22-Jun-07		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
20-Jul-07	37	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
9-Oct-07		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
7-Nov-07		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
6-Dec-07		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
8-Jan-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
8-Feb-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
27-Mar-08		0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.000
25-Apr-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
29-May-08		0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.000
31-Jun-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
28-Jul-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
27-Aug-08		0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.000
29-Sep-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
31-Oct-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
28-Nov-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
22-Dec-08		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
19-Jan-09		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
21-Feb-09		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
25-Mar-09		0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.000
28-Apr-09		0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.000
22-May-09		0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.000
9-Oct-09		0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.000
15-Jan-07		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22-Jan-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
26-Feb-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
21-Mar-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
28-Apr-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
23-May-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
20-Jun-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
9-Oct-07	None	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
7-Nov-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
6-Dec-07		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
8-Jan-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
8-Feb-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
27-Mar-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
25-Apr-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
29-May-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
31-Jun-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
3-Jul-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
21-Aug-08		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
31-Jul-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
27-Oct-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
17-Dec-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
31-Jan-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
25-Feb-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
26-Mar-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
29-Apr-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
22-May-09		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000



Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2009

Sample Name	CT (Total Phosphorus) Indoor Replenishment Target for Commercial/Institutional/Health Care/Daycare/Child Day Care	ME-Non-Mercury Bin	Crabapple	Operation	Elementary Hallway	Room 118	Room 119	Mobile Ctr. (Room 143)	Room 123	Blank	Ambient Outdoors
Acrylonitrile		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
15-Jul-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Jul-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Jul-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
31-Jul-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
7-Aug-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
14-Aug-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Aug-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Aug-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
4-Sep-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
11-Sep-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
18-Sep-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
25-Sep-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
2-Oct-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
7-Oct-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
14-Oct-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Oct-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Oct-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
4-Nov-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
11-Nov-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
18-Nov-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
25-Nov-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
2-Dec-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
9-Dec-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
16-Dec-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
23-Dec-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
30-Dec-07		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
6-Jan-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
13-Jan-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
20-Jan-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
27-Jan-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
3-Feb-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
10-Feb-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
17-Feb-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
24-Feb-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
3-Mar-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
10-Mar-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
17-Mar-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
24-Mar-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
31-Mar-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
7-Apr-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
14-Apr-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Apr-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Apr-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
5-May-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
12-May-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
19-May-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
26-May-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
2-Jun-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
9-Jun-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
16-Jun-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
23-Jun-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
30-Jun-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
7-Jul-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
14-Jul-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Jul-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Jul-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
4-Aug-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
11-Aug-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
18-Aug-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
25-Aug-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
1-Sep-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
8-Sep-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
15-Sep-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
22-Sep-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
29-Sep-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
6-Oct-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
13-Oct-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
20-Oct-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
27-Oct-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
3-Nov-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
16-Nov-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
23-Nov-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
30-Nov-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
7-Dec-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
14-Dec-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
21-Dec-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
28-Dec-08		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
4-Jan-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
11-Jan-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
18-Jan-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
25-Jan-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
1-Feb-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
8-Feb-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
15-Feb-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
22-Feb-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
1-Mar-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
8-Mar-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
15-Mar-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
22-Mar-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
29-Mar-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
5-Apr-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
12-Apr-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
19-Apr-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
26-Apr-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
3-May-09		1.183	1.183	U	1.183	1.183	1.183	1.183	1.183	U	1.183
10-May-09		1.183	1.183								

Summary of Indoor Ambient Outdoor Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
March 2007 - October 2009

Validated Organic Compounds, not TO-16 Analytical Summary	Sample Date	OT Data Programmed Inboard of residential Target Air Concentration Above or Below Significant Action Level	Odour	Conductance	Oxymethane	Dist	Elemental Hydrogen	Return 11E	Return 11G	Methane Gas (flm 10E)	Return 11Z	Date	Asbestos Certificate	Qual	
Polynapthalene	15-Mar-07	2.480	U	13.000	34,000	U	19.000	2,400	5,100	6,800	19,000	U	2,500	U	
	22-Mar-07	2,480	U	13,000	34,000	U	2,480	2,400	2,480	2,480	2,480	U	2,480	U	
	29-Mar-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	31-Mar-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	29-Jun-07	2,500	U	2,500	2,500	U	2,500	2,500	2,500	2,500	2,500	U	2,500	U	
	30-Jun-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	22-Aug-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	7-Oct-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	6-Jan-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	25-Mar-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	21-Jun-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
Acetone	15-Mar-07	2,700	U	13,000	37,000	U	17,000	2,700	3,700	2,700	11,000	U	2,700	U	
	22-Mar-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	29-Mar-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	31-Mar-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	29-Jun-07	2,720	U	2,720	2,720	U	2,720	2,720	2,720	2,720	2,720	U	2,720	U	
	30-Jun-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	22-Aug-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	7-Oct-07	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	6-Jan-08	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	25-Mar-08	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
	21-Jun-08	2,740	U	2,740	2,740	U	2,740	2,740	2,740	2,740	2,740	U	2,740	U	
Acetone	15-Mar-07	3,400,000	U	1,000,000	1,400,000	U	370,000	1,000,000	1,600,000	8,400,000	8,170,000	U	14,000	U	
	22-Mar-07	41,700	U	54,000	88,400	U	21,000	21,000	88,800	88,800	38,200	U	14,000	U	
	29-Mar-07	14,400	U	11,100	8,140	U	12,100	15,800	8,640	8,640	19,700	U	14,000	U	
	31-Mar-07	20,400	U	13,000	9,600	U	18,300	10,000	7,800	7,800	28,200	U	14,000	U	
	29-Jun-07	21,000	U	18,000	14,000	U	20,000	10,000	7,800	7,800	13,000	U	14,000	U	
	30-Jun-07	22,000	U	18,000	13,100	U	20,000	10,000	7,800	7,800	13,000	U	14,000	U	
	22-Aug-07	28,800	U	40,000	16,800	U	16,800	16,800	16,800	16,800	16,800	U	14,000	U	
	7-Oct-07	18,900	U	8,100	8,800	U	7,700	14,800	8,800	8,800	8,800	U	14,000	U	
	6-Jan-08	108,000	U	18,000	17,000	U	17,300	16,800	25,000	34,700	24,800	23,800	U	14,000	U
	25-Mar-08	35,100	U	8,800	8,800	U	9,300	14,000	15,800	15,800	15,800	U	14,000	U	
	21-Jun-08	578,000	U	108,000	108,000	U	88,900	21,000	21,000	21,000	21,000	U	14,000	U	
Acetone	15-Mar-07	2,480	U	13,000	34,000	U	19,000	2,480	5,100	6,800	19,000	U	2,480	U	
	22-Mar-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	29-Mar-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	31-Mar-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	29-Jun-07	2,500	U	2,500	2,500	U	2,500	2,500	2,500	2,500	2,500	U	2,500	U	
	30-Jun-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	22-Aug-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	7-Oct-07	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	6-Jan-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	25-Mar-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	
	21-Jun-08	2,480	U	2,480	2,480	U	2,480	2,480	2,480	2,480	2,480	U	2,480	U	

Summary of Indoor Ambient Outdoor Air Sampling Data - Adelside Avenue School Project - Volatile Organic Compounds  
March 2007 - October 2009

Sample Date	CT Data Program Indoor Temperature (Range) for Comparison with EPA's Recommended Indoor Level	Richard Blasinger Bldg	Chickadee	Decorations	Elevation Meters	Room 118	Room 119	Middle Caf (Rm. 143)	Room 152	Amphib Chamber	Class
2-Jul-07		82,800	31,000	22,901	16,000	12,000	210,000	31,000	31,000	1,900	U
15-Jul-07		29,000	11,700	7,810	9,150	1,470	1,470	1,470	1,470	82,800	U
26-Apr-07		19,700	19,100	1,470	9,250	1,470	1,470	1,470	1,470	1,470	U
21-May-07		6,660	3,150	1,050	2,100	1,470	7,700	3,900	6,660	2,900	U
7-Jun-07		2,300	3,600	2,100	6,100	9,300	2,600,000	1,800	1,800	1,800	U
30-Jul-07	500	1,100	1,700	9,200	6,100	9,300	1,800	2,900	2,900	1,800	U
22-Aug-07		1,560	1,700	8,700	3,184	1,470	1,470	1,470	1,470	1,470	U
16-Sep-07		9,040	2,700	2,700	1,700	1,700	1,700	1,470	1,470	1,470	U
7-Oct-07		1,810	1,800	2,250	1,800	2,250	2,250	2,250	2,250	2,250	U
8-Dec-07		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
9-Jan-08		1,870	1,860	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
8-Feb-08		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
27-Mar-08		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
25-Apr-08		2,140	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
31-May-08		7,650	2,520	3,810	3,180	2,440	1,470	1,470	1,470	1,470	U
30-Sep-08		2,090	1,720	3,860	1,690	2,360	2,360	2,360	2,360	2,360	U
30-Sep-08		1,900	1,900	3,960	1,900	1,900	1,900	1,900	1,900	1,900	U
30-Sep-08		1,900	3,200	1,900	1,900	1,900	1,900	1,900	1,900	1,900	U
27-Oct-08		1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	U
16-Nov-08		1,800	1,500	1,600	1,500	1,500	1,500	1,500	1,500	1,500	U
16-Dec-08		1,800	1,500	1,600	1,500	1,500	1,500	1,500	1,500	1,500	U
21-Jan-09		3,410	1,500	1,560	NS	1,500	1,500	1,500	1,500	1,500	U
25-Feb-09		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
26-Mar-09		1,470	1,470	4,750	1,470	1,470	1,470	1,470	1,470	1,470	U
22-Apr-09		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
8-Oct-09		1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	U
4-Nov-09		2,600	3,700	5,100	4,700	2,800	3,800	8,800	8,800	2,600	U
12-Dec-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
16-Jan-10		6,180	4,470	2,600	4,230	2,600	3,400	2,600	2,600	2,600	U
21-Feb-10		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	U
30-Mar-10		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Apr-10	37	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
8-Oct-07		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
15-Nov-07		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
8-Dec-07		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
15-Jan-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Feb-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
1-Mar-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
8-Apr-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
15-May-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Jun-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
30-Jul-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
7-Aug-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
14-Sep-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Oct-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
29-Nov-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
7-Dec-08		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
14-Jan-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Feb-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
1-Mar-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
8-Apr-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
15-May-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
22-Jun-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
30-Jul-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U
6-Oct-09		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	U

Notes:  
 All data presented in this report was generated by the laboratory. Requested level shown in the same column.  
 U - Analytical indicates that the compound was not detected by the laboratory. Requested level shown in the same column.  
 NS - Not Analyzed.  
 Name: Has Dual Program CT Remediated 74C for the university.  
 1 - Site Specific Component of Contaminant per A15201 Health Guidelines - December 6, 2008.  
 2 - General Data Sheet of Analytical Contaminants per A15201 Health Guidelines - December 6, 2008.  
 3 - The 15201 Health Guidelines per A15201 Health Guidelines - December 6, 2008.  
 4 - The 15201 Health Guidelines per A15201 Health Guidelines - December 6, 2008.





## ANALYTICAL REPORT

Lab Number:	L0914455
Client:	EA Engineering, Science and Tech 2350 Post Road Warwick, RI 02886
ATTN:	Mark Speer
Project Name:	ALVAREZ HS
Project Number:	14613.01
Report Date:	10/15/09

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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L0914455-01	GYMNASIUM	PROVIDENCE, RI	10/09/09 07:25
L0914455-02	CAFETERIA	PROVIDENCE, RI	10/09/09 07:24
L0914455-03	KITCHEN STORAGE	PROVIDENCE, RI	10/09/09 07:35
L0914455-04	ELEVATOR HALLWAY	PROVIDENCE, RI	10/09/09 07:26
L0914455-05	RM 145	PROVIDENCE, RI	10/09/09 07:27
L0914455-06	RM 152	PROVIDENCE, RI	10/09/09 07:28
L0914455-07	RM 118	PROVIDENCE, RI	10/09/09 07:30
L0914455-08	RM 110	PROVIDENCE, RI	10/09/09 07:31
L0914455-09	AMBIENT OUTDOOR	PROVIDENCE, RI	10/09/09 09:59

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

### 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.

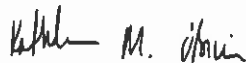
Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (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.

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: 10/15/09

**AIR**



**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

### SAMPLE RESULTS

**Lab ID:** L0914455-01  
**Client ID:** GYMNASIUM  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/14/09 21:07  
**Analyst:** RY

**Date Collected:** 10/09/09 07:25  
**Date Received:** 10/12/09  
**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	0.255	0.020	1.25	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	0.097	0.020	0.476	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.056	0.020	0.336	0.120		1
Benzene	0.283	0.070	0.903	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.075	0.020	0.471	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.058	0.020	0.283	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: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-01  
 Client ID: GYMNASIUM  
 Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:25  
 Date Received: 10/12/09  
 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	0.465	0.050	2.30	0.247		1
Ethylbenzene	0.251	0.020	1.09	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	0.774	0.040	3.36	0.174		1
o-Xylene	0.220	0.020	0.954	0.087		1
Styrene	0.035	0.020	0.149	0.085		1
Tetrachloroethene	0.233	0.020	1.58	0.136		1
Toluene	1.11	0.020	4.19	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	0.034	0.020	0.182	0.107		1
Trichlorofluoromethane	0.269	0.050	1.51	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	3.88	2.00	9.22	4.75		1
2-Butanone	0.522	0.500	1.54	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

### SAMPLE RESULTS

**Lab ID:** L0914455-02  
**Client ID:** CAFETERIA  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Air  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/14/09 21:45  
**Analyst:** RY

**Date Collected:** 10/09/09 07:24  
**Date Received:** 10/12/09  
**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	0.220	0.020	1.08	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	0.092	0.020	0.452	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.067	0.020	0.402	0.120		1
Benzene	0.299	0.070	0.954	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	0.077	0.020	0.376	0.098		1
Chloromethane	0.561	0.500	2.74	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-02  
Client ID: CAFETERIA  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:24  
Date Received: 10/12/09  
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	0.519	0.050	2.56	0.247		1
Ethylbenzene	0.175	0.020	0.759	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	0.517	0.040	2.24	0.174		1
o-Xylene	0.167	0.020	0.724	0.087		1
Styrene	0.036	0.020	0.153	0.085		1
Tetrachloroethene	0.229	0.020	1.55	0.136		1
Toluene	0.981	0.020	3.69	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	0.040	0.020	0.215	0.107		1
Trichlorofluoromethane	0.326	0.050	1.83	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
Acelone	4.25	2.00	10.1	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-03  
Client ID: KITCHEN STORAGE  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/14/09 22:23  
Analyst: RY

Date Collected: 10/09/09 07:35  
Date Received: 10/12/09  
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	0.253	0.020	1.24	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	0.112	0.020	0.550	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.060	0.020	0.360	0.120		1
Benzene	0.355	0.070	1.13	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.080	0.020	0.503	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.118	0.020	0.576	0.098		1
Chloromethane	0.707	0.500	3.45	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-03  
Client ID: KITCHEN STORAGE  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:35  
Date Received: 10/12/09  
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	0.463	0.050	2.29	0.247		1
Ethylbenzene	0.198	0.020	0.859	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	0.602	0.040	2.61	0.174		1
o-Xylene	0.196	0.020	0.850	0.087		1
Styrene	0.197	0.020	0.838	0.085		1
Tetrachloroethene	0.332	0.020	2.25	0.136		1
Toluene	1.26	0.020	4.74	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	0.043	0.020	0.231	0.107		1
Trichlorofluoromethane	0.270	0.050	1.52	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	8.23	2.00	19.5	4.75		1
2-Butanone	ND	0.500	1.47	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-04  
 Client ID: ELEVATOR HALLWAY  
 Sample Location: PROVIDENCE, RI  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/14/09 23:00  
 Analyst: RY

Date Collected: 10/09/09 07:26  
 Date Received: 10/12/09  
 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	0.297	0.020	1.46	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	0.122	0.020	0.599	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.060	0.020	0.360	0.120		1
Benzene	0.275	0.070	0.878	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.079	0.020	0.497	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.062	0.020	0.302	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-04  
Client ID: ELEVATOR HALLWAY  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:26  
Date Received: 10/12/09  
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	0.470	0.050	2.32	0.247		1
Ethylbenzene	0.238	0.020	1.03	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	0.736	0.040	3.19	0.174		1
o-Xylene	0.212	0.020	0.920	0.087		1
Styrene	0.041	0.020	0.174	0.085		1
Tetrachloroethene	0.233	0.020	1.58	0.136		1
Toluene	1.04	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	0.036	0.020	0.193	0.107		1
Trichlorofluoromethane	0.275	0.050	1.54	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	4.65	2.00	11.0	4.75		1
2-Butanone	0.558	0.500	1.64	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1

Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-05  
Client ID: RM 145  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/15/09 00:16  
Analyst: RY

Date Collected: 10/09/09 07:27  
Date Received: 10/12/09  
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	0.143	0.020	0.702	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	0.045	0.020	0.221	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.054	0.020	0.324	0.120		1
Benzene	0.336	0.070	1.07	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.076	0.020	0.478	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.066	0.020	0.322	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-05  
Client ID: RM 145  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:27  
Date Received: 10/12/09  
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	0.465	0.050	2.30	0.247		1
Ethylbenzene	0.154	0.020	0.668	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	0.451	0.040	1.96	0.174		1
o-Xylene	0.166	0.020	0.720	0.087		1
Styrene	0.033	0.020	0.140	0.085		1
Tetrachloroethene	0.307	0.020	2.08	0.136		1
Toluene	1.12	0.020	4.22	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	0.029	0.020	0.156	0.107		1
Trichlorofluoromethane	0.252	0.050	1.41	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	4.49	2.00	10.6	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-06  
Client ID: RM 152  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/15/09 00:54  
Analyst: RY

Date Collected: 10/09/09 07:28  
Date Received: 10/12/09  
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	0.146	0.020	0.717	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	0.049	0.020	0.241	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.061	0.020	0.366	0.120		1
Benzene	0.312	0.070	0.996	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.077	0.020	0.484	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.062	0.020	0.302	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-06  
Client ID: RM 152  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:28  
Date Received: 10/12/09  
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	0.464	0.050	2.29	0.247		1
Ethylbenzene	0.146	0.020	0.633	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	0.441	0.040	1.91	0.174		1
o-Xylene	0.161	0.020	0.698	0.087		1
Styrene	0.035	0.020	0.149	0.085		1
Tetrachloroethene	0.290	0.020	1.96	0.136		1
Toluene	1.09	0.020	4.09	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	0.029	0.020	0.156	0.107		1
Trichlorofluoromethane	0.255	0.050	1.43	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	4.91	2.00	11.6	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-07  
Client ID: RM 118  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/15/09 01:32  
Analyst: RY

Date Collected: 10/09/09 07:30  
Date Received: 10/12/09  
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	0.145	0.020	0.712	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	0.052	0.020	0.255	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.059	0.020	0.354	0.120		1
Benzene	0.288	0.070	0.919	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.075	0.020	0.471	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.058	0.020	0.283	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: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-07  
 Client ID: RM 118  
 Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:30  
 Date Received: 10/12/09  
 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	0.466	0.050	2.30	0.247		1
Ethylbenzene	0.183	0.020	0.794	0.087		1
Methylene chloride	ND	0.800	ND	1.74		1
Methyl tert butyl ether	0.020	0.020	0.072	0.072		1
p/m-Xylene	0.506	0.040	2.20	0.174		1
o-Xylene	0.176	0.020	0.764	0.087		1
Styrene	0.133	0.020	0.566	0.085		1
Tetrachloroethene	0.203	0.020	1.38	0.136		1
Toluene	1.20	0.020	4.50	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	0.045	0.020	0.242	0.107		1
Trichlorofluoromethane	0.289	0.050	1.62	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	6.54	2.00	15.5	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-08  
Client ID: RM 110  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/15/09 02:10  
Analyst: RY

Date Collected: 10/09/09 07:31  
Date Received: 10/12/09  
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	0.162	0.020	0.796	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	0.054	0.020	0.265	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.081	0.020	0.487	0.120		1
Benzene	0.330	0.070	1.05	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.079	0.020	0.497	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.020	0.020	ND	0.053		1
Chloroform	0.063	0.020	0.307	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

## SAMPLE RESULTS

Lab ID: L0914455-08  
Client ID: RM 110  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:31  
Date Received: 10/12/09  
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	0.462	0.050	2.28	0.247		1
Ethylbenzene	0.157	0.020	0.681	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	0.482	0.040	2.09	0.174		1
o-Xylene	0.176	0.020	0.764	0.087		1
Styrene	0.042	0.020	0.179	0.085		1
Tetrachloroethene	0.251	0.020	1.70	0.136		1
Toluene	1.11	0.020	4.17	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	0.029	0.020	0.156	0.107		1
Trichlorofluoromethane	0.234	0.050	1.31	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	5.08	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-09  
Client ID: AMBIENT OUTDOOR  
Sample Location: PROVIDENCE, RI  
Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/14/09 20:29  
Analyst: RY

Date Collected: 10/09/09 09:59  
Date Received: 10/12/09  
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	0.141	0.020	0.693	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	0.046	0.020	0.226	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.031	0.020	0.186	0.120		1
Benzene	0.346	0.070	1.10	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.076	0.020	0.478	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.035	0.020	0.171	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914455  
Report Date: 10/15/09

### SAMPLE RESULTS

Lab ID: L0914455-09  
Client ID: AMBIENT OUTDOOR  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 09:59  
Date Received: 10/12/09  
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	0.447	0.050	2.21	0.247		1
Ethylbenzene	0.172	0.020	0.746	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	0.527	0.040	2.29	0.174		1
o-Xylene	0.175	0.020	0.759	0.087		1
Styrene	0.033	0.020	0.140	0.085		1
Tetrachloroethene	0.115	0.020	0.779	0.136		1
Toluene	1.22	0.020	4.58	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	0.211	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	3.61	2.00	8.57	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: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/14/09 17:13

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: WG384355-4</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: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/14/09 17:13

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: WG384355-4</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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	LCS		LCSD		%Recovery Limits		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Qual			
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG384355-3</b>									
1,1,1-Trichloroethane	96	-	-	-	70-130	-	-	-	-
1,1,1,2-Tetrachloroethane	98	-	-	-	70-130	-	-	-	-
1,1,1,2,2-Tetrachloroethane	117	-	-	-	70-130	-	-	-	-
1,1,1,2-Trichloroethane	109	-	-	-	70-130	-	-	-	-
1,1-Dichloroethane	100	-	-	-	70-130	-	-	-	-
1,1-Dichloroethene	104	-	-	-	70-130	-	-	-	-
1,2,4-Trimethylbenzene	117	-	-	-	70-130	-	-	-	-
1,2-Dibromoethane	95	-	-	-	70-130	-	-	-	-
1,2-Dichlorobenzene	113	-	-	-	70-130	-	-	-	-
1,2-Dichloroethane	109	-	-	-	70-130	-	-	-	-
1,2-Dichloropropane	108	-	-	-	70-130	-	-	-	-
1,3,5-Trimethylbenzene	114	-	-	-	70-130	-	-	-	-
1,3-Butadiene	106	-	-	-	70-130	-	-	-	-
1,3-Dichlorobenzene	112	-	-	-	70-130	-	-	-	-
1,4-Dichlorobenzene	111	-	-	-	70-130	-	-	-	-
Benzene	96	-	-	-	70-130	-	-	-	-
Bromodichloromethane	99	-	-	-	70-130	-	-	-	-
Bromoform	98	-	-	-	70-130	-	-	-	-
Bromomethane	87	-	-	-	70-130	-	-	-	-
Carbon tetrachloride	97	-	-	-	70-130	-	-	-	-
Chlorobenzene	103	-	-	-	70-130	-	-	-	-



### Lab Control Sample Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG384355-3									
Chloroethane	96	-	-	-	70-130	-	-	-	-
Chloroform	100	-	-	-	70-130	-	-	-	-
Chloromethane	103	-	-	-	70-130	-	-	-	-
cis-1,2-Dichloroethene	98	-	-	-	70-130	-	-	-	-
cis-1,3-Dichloropropene	91	-	-	-	70-130	-	-	-	-
Dibromochloromethane	96	-	-	-	70-130	-	-	-	-
Dichlorodifluoromethane	110	-	-	-	70-130	-	-	-	-
Ethylbenzene	107	-	-	-	70-130	-	-	-	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	105	-	-	-	70-130	-	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	112	-	-	-	70-130	-	-	-	-
Methylene chloride	90	-	-	-	70-130	-	-	-	-
Methyl tert butyl ether	124	-	-	-	70-130	-	-	-	-
Naphthalene	103	-	-	-	70-130	-	-	-	-
p/m-Xylene	110	-	-	-	70-130	-	-	-	-
o-Xylene	111	-	-	-	70-130	-	-	-	-
Styrene	108	-	-	-	70-130	-	-	-	-
Tetrachloroethene	92	-	-	-	70-130	-	-	-	-
Toluene	96	-	-	-	70-130	-	-	-	-
trans-1,2-Dichloroethene	93	-	-	-	70-130	-	-	-	-
trans-1,3-Dichloropropene	76	-	-	-	70-130	-	-	-	-
Trichloroethene	96	-	-	-	70-130	-	-	-	-



### Lab Control Sample Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG384355-3</b>									
1,2,4-Trichlorobenzene	117	-	-	-	-	70-130	-	-	-
Trichlorofluoromethane	112	-	-	-	-	70-130	-	-	-
Hexachlorobutadiene	112	-	-	-	-	70-130	-	-	-
Vinyl chloride	106	-	-	-	-	70-130	-	-	-
Acrylonitrile	117	-	-	-	-	70-130	-	-	-
n-Butylbenzene	124	-	-	-	-	70-130	-	-	-
sec-Butylbenzene	116	-	-	-	-	70-130	-	-	-
Isopropylbenzene	111	-	-	-	-	70-130	-	-	-
p-Isopropyltoluene	110	-	-	-	-	70-130	-	-	-
Acelone	107	-	-	-	-	70-130	-	-	-
2-Butanone	126	-	-	-	-	70-130	-	-	-
4-Methyl-2-pentanone	126	-	-	-	-	70-130	-	-	-
Halothane	110	-	-	-	-	70-130	-	-	-
1,2,3-Trichlorobenzene	118	-	-	-	-	70-130	-	-	-



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG384355-5 QC Sample: L0914455-04 Client ID: ELEVATOR HALLWAY</b>						
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	0.297	0.289	ppbv	3		25
1,2-Dibromoethane	ND	ND	ppbv	NC		25
1,2-Dichlorobenzene	ND	ND	ppbv	NC		25
1,2-Dichloroethane	ND	ND	ppbv	NC		25
1,2-Dichloropropane	ND	ND	ppbv	NC		25
1,3,5-Trimethylbenzene	0.122	0.118	ppbv	3		25
1,3-Dichlorobenzene	ND	ND	ppbv	NC		25
1,4-Dichlorobenzene	0.060	0.058	ppbv	3		25
Benzene	0.275	0.282	ppbv	3		25
Bromodichloromethane	ND	ND	ppbv	NC		25
Bromoform	ND	ND	ppbv	NC		25
Carbon tetrachloride	0.079	0.086	ppbv	8		25
Chlorobenzene	ND	ND	ppbv	NC		25



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG384355-5 QC Sample: L0914455-04 Client ID: ELEVATOR HALLWAY</b>					
Chloroethane	ND	ND	ppbv	NC	25
Chloroform	0.062	0.063	ppbv	2	25
Chloromethane	ND	0.500	ppbv	NC	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	0.470	0.481	ppbv	2	25
Ethylbenzene	0.238	0.233	ppbv	2	25
Methylene chloride	ND	ND	ppbv	NC	25
Methyl tert butyl ether	ND	ND	ppbv	NC	25
p/m-Xylene	0.736	0.719	ppbv	2	25
o-Xylene	0.212	0.207	ppbv	2	25
Styrene	0.041	0.039	ppbv	5	25
Tetrachloroethene	0.233	0.235	ppbv	1	25
Toluene	1.04	1.02	ppbv	2	25
trans-1,2-Dichloroethene	ND	ND	ppbv	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbv	NC	25
Trichloroethene	0.036	0.038	ppbv	5	25
Trichlorofluoromethane	0.275	0.281	ppbv	2	25



**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG384355-5 QC Sample: L0914455-04 Client ID: ELEVATOR HALLWAY</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	4.65	4.59	ppbv	1	25
2-Butanone	0.558	0.540	ppbv	3	25
4-Methyl-2-pentanone	ND	ND	ppbv	NC	25



Project Name: ALVAREZ HS

Project Number: 14613.01

10150918:49

Lab Number: L0914455

Report Date: 10/15/09

### 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
L0914455-01	GYMNASIUM	0401	#90 SV		-	-	77	76	1
L0914455-01	GYMNASIUM	105	2.7L Can	10913956	-29.4	-3.3	-	-	-
L0914455-02	CAFETERIA	0426	#30 AMB		-	-	77	78	1
L0914455-02	CAFETERIA	460	2.7L Can	10913956	-29.4	-2.6	-	-	-
L0914455-03	KITCHEN STORAGE	0217	#90 AMB		-	-	80	80	0
L0914455-03	KITCHEN STORAGE	113	2.7L Can	10913956	-29.4	-2.8	-	-	-
L0914455-04	ELEVATOR HALLWAY	0209	#90 SV		-	-	80	80	0
L0914455-04	ELEVATOR HALLWAY	199	2.7L Can	10913956	-29.1	-2.3	-	-	-
L0914455-05	RM 145	0007	#16 AMB		-	-	76	76	0
L0914455-05	RM 145	504	2.7L Can	10913956	-29.4	-4.2	-	-	-
L0914455-06	RM 152	0446	#90 SV		-	-	77	77	0
L0914455-06	RM 152	147B	2.7L Can	10913956	-29.4	-6.2	-	-	-
L0914455-07	RM 118	0132	#90 AMB		-	-	77	79	3
L0914455-07	RM 118	160	2.7L Can	10913956	-29.4	-7.2	-	-	-
L0914455-08	RM 110	0417	#90 SV		-	-	76	76	0
L0914455-08	RM 110	220	2.7L Can	10913956	-29.4	-6.9	-	-	-
L0914455-09	AMBIENT OUTDOOR	0052	#90 AMB		-	-	79	80	1



Project Name: ALVAREZ HS

Project Number: 14613.01

10150918:49

Lab Number: L0914455

Report Date: 10/15/09

### Canister and Flow Controller Information

Sample ID	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
L0914455-09	AMBIENT OUTDOOR	155	2.7L Can	I0913956	-29.2	-1.4	-	-	-





Project Name: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

## 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 deg C	Pres	Seal	Analysis
L0914455-01A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-02A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-03A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-04A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-05A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-06A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-07A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-08A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914455-09A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)

\*Hold days indicated by values in parentheses

Project Name: ALVAREZ HS

Lab Number: L0914455

Project Number: 14613.01

Report Date: 10/15/09

## 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*

- A · Spectra identified as "Aldol Condensation Product".
- B · The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- 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.
- P · The RPD between the results for the two columns exceeds the method-specified criteria.
- Q · The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- 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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914455  
**Report Date:** 10/15/09

## 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 June 17, 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, 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 Suspended Solids (non-filterable), Total Cyanide. 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, Corrosivity, TCLP 1311. 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. **NELAP Accredited.**

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

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

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

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

*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. **NELAP Accredited.**

*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. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, 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, 1312, 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)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

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

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, 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, 3570, 3051, 5035, 5030B.)

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

**Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.***

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. *NELAP Accredited.***

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

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



**ALPHA CHAIN OF CUSTODY**  
 320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

# AIR ANALYSIS

**Client Information**  
 Client: EA Engineering  
 Address: 2350 Putt Road  
 Warwick, RI 02886  
 Phone: 401-736-3440  
 Fax: 401-736-3423  
 Email: [mark@east.com](mailto:mark@east.com)

**Project Information**  
 Project Name: Aversa HS  
 Project Location: Providence, RI  
 Project #: 14613.01  
 Project Manager: Mike K. Spur, P.E.  
 ALPHA Quote #:  
 Standard  RUSH (only confirmed if pre-approved)  
 10 days  
 Date Due: Time:

**Report Information - Data Deliverables**  
 FAX  
 ADEX  
 Criteria Checker: (based on Regulatory Criteria Indicated)  
 Other Formats:  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)  
[mark@east.com](mailto:mark@east.com)  
[mspur@east.com](mailto:mspur@east.com)

**Billing Information**  
 Same as Client Info  
 PO #:  
**Regulatory Requirements/Report Limits**  
 State/Fed Program Criteria  
 CT Target index  
 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	1D Can	1D-Flow Controller	Date	Start Time	End Time	Vacuum	Initial Vacuum	Final Vacuum	Sample Comments (i.e. PID)
		Date	Start Time	End Time	Vacuum												
14455-1	Gymnasium	10/9/09	0659	0725	29	4	AA	RM/PT	2.7L	105	0401					0.022 ppb ppb	
2	Cafeteria		0658	0724	304	4				460	0426					0.0 ppb	
3	Kitchen Storage		0707	0735	30+	3				113	0217					0.004 ppb	
4	Elevator Hallway		0701	0726	28	5				89	0204					0.028 ppb	
5	Rm 145		0702	0727	28	4				504	0007					0.0 ppb	
6	Rm 152		0703	0728	30+	10				1478	0446					0.0 ppb	
7	Rm 118		0704	0730	30+	10				160	0132					0.0 ppb	
8	Rm 110		0705	0731	30	8				220	0417					0.0 ppb	
9	Ambient Outdoor		0935	0954	29	3				155	0052					0.0 ppb	

\*SAMPLE MATRIX CODES  
 AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Acquired By: *[Signature]*  
 Received By: *[Signature]*  
 Date/Time: 10/12/09 11:15

Container Type: 3

Date/Time: 10/12/09 10:40

Date/Time: 10/12/09 11:15

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

## **Appendix D**

### **Sub-Slab Air Analytical Summary and Lab Report**















Summary of Sub-Slab Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2009

Sample Date	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6	MP-7	MP-8	MP-1	MP-3	MP-3	Other
15-Mar-07	420,000	420,000	400,000	400,000	380,000	180,000	81,000	170,000	NS	NS	NS	NS
22-Mar-07	57,500	57,500	57,500	57,500	57,500	31,000	13,000	31,000	NS	NS	NS	NS
29-Mar-07	21,000	21,000	21,000	21,000	21,000	33,000	2,500	21,000	NS	NS	NS	NS
21-Apr-07	1,900	1,900	1,900	1,900	1,900	0,800	0,400	0,400	NS	NS	NS	NS
28-Apr-07	0,500	0,500	0,500	0,500	0,500	0,800	2,300	NS	NS	NS	NS	NS
30-May-07	0,400	0,400	0,400	0,400	0,400	0,800	NS	NS	NS	NS	NS	NS
27-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Oct-07	2,300	2,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	0,800	0,800	0,800	0,800	0,800	0,800	0,800	0,800	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-May-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Oct-08	2,300	2,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Mar-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-May-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Mar-07	240,000	240,000	240,000	240,000	220,000	81,000	35,000	88,000	NS	NS	NS	NS
22-Mar-07	33,000	33,000	33,000	33,000	33,000	33,000	13,000	13,000	NS	NS	NS	NS
28-Apr-07	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	NS	NS	NS	NS
21-May-07	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	NS	NS	NS	NS
29-Jun-07	0,200	0,200	0,200	0,200	0,200	0,200	0,200	0,200	NS	NS	NS	NS
30-Jul-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
22-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-07	1,300	1,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Nov-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Feb-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-May-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
23-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Mar-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
22-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Mar-07	440,000	420,000	420,000	420,000	410,000	170,000	64,000	180,000	NS	NS	NS	NS
22-Mar-07	81,000	81,000	81,000	81,000	81,000	61,000	81,000	24,400	NS	NS	NS	NS
29-Mar-07	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400	NS	NS	NS	NS
21-Apr-07	0,400	0,400	0,400	0,400	0,400	0,400	0,400	0,400	NS	NS	NS	NS
28-Apr-07	0,400	0,400	0,400	0,400	0,400	0,400	0,400	0,400	NS	NS	NS	NS
30-May-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-May-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Mar-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
22-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Summary of Sub-Slab Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2009

Sample Date	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6	MP-7	MP-8	MP-9	MP-10	MP-11	MP-12	MP-13
15-Mar-07	4700.000	4000.000	4000.000	4000.000	4400.000	1800.000	860.000	1600.000	U	NS	NS	NS	NS
22-Mar-07	25.800	U	U	U	U	U	U	U	U	U	U	U	U
29-Mar-07	10.300	U	U	U	U	U	U	U	U	U	U	U	U
05-Apr-07	10.300	U	U	U	U	U	U	U	U	U	U	U	U
11-Apr-07	10.300	U	U	U	U	U	U	U	U	U	U	U	U
18-Apr-07	0.410	U	U	U	U	U	U	U	U	U	U	U	U
25-Apr-07	5.200	U	U	U	U	U	U	U	U	U	U	U	U
02-May-07	U	U	U	U	U	U	U	U	U	U	U	U	U
09-May-07	81.000	U	U	U	U	U	U	U	U	U	U	U	U
16-May-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
23-May-07	81.000	U	U	U	U	U	U	U	U	U	U	U	U
30-May-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
06-Jun-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
13-Jun-07	2.440	U	U	U	U	U	U	U	U	U	U	U	U
20-Jun-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
27-Jun-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
04-Jul-07	3.820	U	U	U	U	U	U	U	U	U	U	U	U
11-Jul-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
18-Jul-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
25-Jul-07	1.000	U	U	U	U	U	U	U	U	U	U	U	U
01-Aug-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
08-Aug-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
15-Aug-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
22-Aug-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
29-Aug-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
05-Sep-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
12-Sep-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
19-Sep-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
26-Sep-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
03-Oct-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
10-Oct-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
17-Oct-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
24-Oct-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
31-Oct-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
07-Nov-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
14-Nov-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
21-Nov-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
28-Nov-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
05-Dec-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
12-Dec-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
19-Dec-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
26-Dec-07	NS	U	U	U	U	U	U	U	U	U	U	U	U
02-Jan-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
09-Jan-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
16-Jan-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
23-Jan-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
30-Jan-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
06-Feb-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
13-Feb-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
20-Feb-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
27-Feb-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
06-Mar-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
13-Mar-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
20-Mar-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
27-Mar-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
03-Apr-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
10-Apr-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
17-Apr-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
24-Apr-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
01-May-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
08-May-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
15-May-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
22-May-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
29-May-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
05-Jun-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
12-Jun-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
19-Jun-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
26-Jun-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
03-Jul-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
10-Jul-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
17-Jul-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
24-Jul-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
31-Jul-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
07-Aug-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
14-Aug-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
21-Aug-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
28-Aug-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
04-Sep-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
11-Sep-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
18-Sep-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
25-Sep-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
02-Oct-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
09-Oct-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
16-Oct-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
23-Oct-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
30-Oct-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
06-Nov-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
13-Nov-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
20-Nov-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
27-Nov-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
04-Dec-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
11-Dec-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
18-Dec-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
25-Dec-08	NS	U	U	U	U	U	U	U	U	U	U	U	U
01-Jan-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
08-Jan-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
15-Jan-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
22-Jan-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
29-Jan-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
05-Feb-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
12-Feb-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
19-Feb-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
26-Feb-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
05-Mar-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
12-Mar-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
19-Mar-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
26-Mar-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
02-Apr-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
09-Apr-09	NS	U	U	U	U	U	U	U	U	U	U	U	U
16-Apr-09	NS	U	U										





Summary of Sub-Slab Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2008

Sample Date	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6	MP-7	MP-8	MP-11	MP-12	MP-13
15-Mar-07	12000.000	12000.000	12000.000	12000.000	14000.000	4800.000	1600.000	5000.000	NS	NS	NS
21-Mar-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Apr-07	34.700	34.700	34.700	34.700	34.700	34.700	34.700	34.700	NS	NS	NS
26-Apr-07	34.700	34.700	34.700	34.700	34.700	34.700	34.700	34.700	NS	NS	NS
30-May-07	8.700	8.700	8.700	8.700	8.700	8.700	8.700	8.700	NS	NS	NS
30-May-07	14.000	NS	NS	NS	NS	14.000	NS	NS	NS	NS	NS
22-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-07	43.400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Nov-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Jan-08	2.350	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-May-08	4.330	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Mar-07	330.000	310.000	310.000	310.000	310.000	120.000	48.000	140.000	NS	NS	NS
22-Mar-07	45.000	45.000	45.000	45.000	45.000	45.000	45.000	45.000	NS	NS	NS
26-Apr-07	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	NS	NS	NS
21-May-07	27.800	18.000	18.000	18.000	18.000	18.000	18.000	18.000	NS	NS	NS
26-Jun-07	0.940	0.380	0.380	0.380	0.380	0.380	0.380	0.380	NS	NS	NS
30-Jul-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-07	1.800	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Nov-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Feb-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Mar-07	750.000	750.000	750.000	750.000	750.000	300.000	120.000	320.000	NS	NS	NS
22-Mar-07	128.000	128.000	128.000	128.000	128.000	128.000	128.000	128.000	NS	NS	NS
26-Apr-07	43.400	43.400	43.400	43.400	43.400	43.400	43.400	43.400	NS	NS	NS
21-May-07	79.000	43.400	43.400	43.400	43.400	43.400	43.400	43.400	NS	NS	NS
26-Jun-07	25.000	43.400	43.400	43.400	43.400	43.400	43.400	43.400	NS	NS	NS
30-Jul-07	2.300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Feb-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
26-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Dec-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS









Summary of Sub-Slab Air Sampling Data - Adelaide Avenue School Project - Volatile Organic Compounds  
 March 2007 - October 2009

Sample Date	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6	MP-7	MP-8	MP-9	MP-10	MP-11	MP-12	MP-13	MP-14	MP-15
15-Mar-07	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000	11000.000
22-Mar-07	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400	81.400
29-Mar-07	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800	24.800
21-May-07	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000
20-Jun-07	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000	17.000
30-Jul-07	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000
20-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
23-Sep-07	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400	61.400
8-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7-Nov-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Feb-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
22-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Mar-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Jun-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
15-Mar-07	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000	12000.000
22-Mar-07	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800	88.800
29-Mar-07	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400	27.400
21-May-07	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800	48.800
20-Jun-07	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
30-Jul-07	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
22-Aug-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-07	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800
23-Oct-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Nov-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6-Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Jan-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Feb-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Apr-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jul-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Aug-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
22-Oct-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Nov-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jan-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Feb-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Mar-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29-Apr-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Jun-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8-Oct-09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS





## ANALYTICAL REPORT

Lab Number: L0914454

Client: EA Engineering, Science and Tech  
2350 Post Road  
Warwick, RI 02886

ATTN: Mark Speer

Project Name: ALVAREZ HS

Project Number: 14613.01

Report Date: 10/19/09

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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L0914454-01	MP-2	PROVIDENCE, RI	10/09/09 09:18
L0914454-02	MP-5	PROVIDENCE, RI	10/09/09 10:00
L0914454-03	MP-7	PROVIDENCE, RI	10/09/09 09:41
L0914454-04	MP-8	PROVIDENCE, RI	10/09/09 09:29
L0914454-05	IMP-1	PROVIDENCE, RI	10/09/09 07:48
L0914454-06	IMP-3	PROVIDENCE, RI	10/09/09 08:07

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

### 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.

#### Volatile Organics in Air (SIM)

L0914454-01 and WG384558-5 were re-analyzed on 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.

L0914454-02, -03, and -05: The presence of Chloromethane could not be determined in this sample due to non-target compounds interfering with the identification and quantification of this compound.

Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

**Case Narrative (continued)**

L0914454-04 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. Sample was re-analyzed due to quality control failure on original analysis. The re-analysis was reported.

L0914454-05 a re-analysis was performed due to quality control failure on the original analysis. The re-analysis was reported.

The WG384558-3 LCS recovery for trans-1,3-Dichloropropene (64%) is outside the 70%-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: 10/19/09

**AIR**

Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-01  
Client ID: MP-2  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/15/09 23:13  
Analyst: RY

Date Collected: 10/09/09 09:18  
Date Received: 10/12/09  
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
1,1,1,2,2-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	0.144	0.020	0.707	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	0.044	0.020	0.216	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.551	0.020	3.31	0.120		1
Benzene	0.360	0.070	1.15	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.110	0.020	0.691	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.042	0.020	0.205	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-01  
Client ID: MP-2  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 09:18  
Date Received: 10/12/09  
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	0.553	0.050	2.73	0.247		1
Ethylbenzene	0.130	0.020	0.564	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	0.373	0.040	1.62	0.174		1
o-Xylene	0.125	0.020	0.542	0.087		1
Styrene	ND	0.020	ND	0.085		1
Tetrachloroethene	0.082	0.020	0.556	0.136		1
Toluene	0.937	0.020	3.53	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	0.029	0.020	0.156	0.107		1
Trichlorofluoromethane	0.307	0.050	1.72	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	10.8	2.00	25.7	4.75		1
2-Butanone	98.1	0.500	289	1.47	E	1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HS  
 Project Number: 14613.01

Lab Number: L0914454  
 Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-01 RID  
 Client ID: MP-2  
 Sample Location: PROVIDENCE, RI  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 10/16/09 12:25  
 Analyst: RY

Date Collected: 10/09/09 09:18  
 Date Received: 10/12/09  
 Field Prep: Not Specified

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatfile Organics in Air by SIM - Mansfield Lab</b>						
2-Butanone	67.6	2.50	199	7.37		5



Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-02  
Client ID: MP-5  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/16/09 00:30  
Analyst: RY

Date Collected: 10/09/09 10:00  
Date Received: 10/12/09  
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	0.029	0.020	0.158	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	0.159	0.020	0.781	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	0.049	0.020	0.241	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.573	0.020	3.44	0.120		1
Benzene	0.305	0.070	0.974	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.106	0.020	0.666	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.022	0.020	0.058	0.053		1
Chloroform	0.054	0.020	0.263	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: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

## SAMPLE RESULTS

Lab ID: L0914454-02  
 Client ID: MP-5  
 Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 10:00  
 Date Received: 10/12/09  
 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	0.560	0.050	2.77	0.247		1
Ethylbenzene	0.129	0.020	0.560	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	0.375	0.040	1.63	0.174		1
o-Xylene	0.135	0.020	0.586	0.087		1
Styrene	0.023	0.020	0.098	0.085		1
Tetrachloroethene	0.305	0.020	2.07	0.136		1
Toluene	0.812	0.020	3.06	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	4.85	0.020	26.0	0.107		1
Trichlorofluoromethane	3.55	0.050	20.0	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	20.9	2.00	49.7	4.75		1
2-Butanone	47.5	0.500	140	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

### SAMPLE RESULTS

**Lab ID:** L0914454-03  
**Client ID:** MP-7  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 10/16/09 01:09  
**Analyst:** RY

**Date Collected:** 10/09/09 09:41  
**Date Received:** 10/12/09  
**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	0.035	0.020	0.191	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	0.132	0.020	0.648	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	0.187	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.465	0.020	2.79	0.120		1
Benzene	0.135	0.070	0.431	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.074	0.020	0.465	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.154	0.020	0.406	0.053		1
Chloroform	0.055	0.020	0.268	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: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

## SAMPLE RESULTS

Lab ID: L0914454-03  
 Client ID: MP-7  
 Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 09:41  
 Date Received: 10/12/09  
 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	0.743	0.050	3.67	0.247		1
Ethylbenzene	0.067	0.020	0.291	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	0.211	0.040	0.915	0.174		1
o-Xylene	0.079	0.020	0.343	0.087		1
Styrene	ND	0.020	ND	0.085		1
Tetrachloroethene	0.100	0.020	0.678	0.136		1
Toluene	0.285	0.020	1.07	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	0.232	0.020	1.24	0.107		1
Trichlorofluoromethane	1.96	0.050	11.0	0.281		1
Vinyl chloride	0.040	0.020	0.102	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	3.88	2.00	9.20	4.75		1
2-Butanone	6.49	0.500	19.1	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-04 R\D  
Client ID: MP-8  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/16/09 15:13  
Analyst: RY

Date Collected: 10/09/09 09:29  
Date Received: 10/12/09  
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	4.18	ND	22.8		208.8
1,1,1,2-Tetrachloroethane	ND	4.18	ND	28.6		208.8
1,1,2,2-Tetrachloroethane	ND	4.18	ND	28.6		208.8
1,1,2-Trichloroethane	ND	4.18	ND	22.8		208.8
1,1-Dichloroethane	ND	4.18	ND	16.9		208.8
1,1-Dichloroethene	ND	4.18	ND	16.5		208.8
1,2,4-Trimethylbenzene	ND	4.18	ND	20.5		208.8
1,2-Dibromoethane	ND	4.18	ND	32.1		208.8
1,2-Dichlorobenzene	ND	4.18	ND	25.1		208.8
1,2-Dichloroethane	ND	4.18	ND	16.9		208.8
1,2-Dichloropropane	ND	4.18	ND	19.3		208.8
1,3,5-Trimethylbenzene	ND	4.18	ND	20.5		208.8
1,3-Dichlorobenzene	ND	4.18	ND	25.1		208.8
1,4-Dichlorobenzene	ND	4.18	ND	25.1		208.8
Benzene	ND	14.6	ND	46.6		208.8
Bromodichloromethane	ND	4.18	ND	28.0		208.8
Bromoform	ND	4.18	ND	43.1		208.8
Carbon tetrachloride	ND	4.18	ND	26.2		208.8
Chlorobenzene	ND	4.18	ND	19.2		208.8
Chloroethane	ND	4.18	ND	11.0		208.8
Chloroform	ND	4.18	ND	20.4		208.8
Chloromethane	ND	104	ND	509		208.8
cis-1,2-Dichloroethene	ND	4.18	ND	16.5		208.8
cis-1,3-Dichloropropene	ND	4.18	ND	18.9		208.8
Dibromochloromethane	ND	4.18	ND	20.0		208.8



Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-04 R\D  
Client ID: MP-8  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 09:29  
Date Received: 10/12/09  
Field Prep: Not Specified

Parameter	ppbV		ug/m3		Dilution Factor
	Results	RDL	Results	RDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>					
Dichlorodifluoromethane	ND	10.4	ND	51.6	208.8
Ethylbenzene	ND	4.18	ND	18.1	208.8
Methylene chloride	ND	104	ND	362	208.8
Methyl tert butyl ether	ND	4.18	ND	15.0	208.8
p/m-Xylene	ND	8.35	ND	36.2	208.8
o-Xylene	ND	4.18	ND	18.1	208.8
Styrene	ND	4.18	ND	17.8	208.8
Tetrachloroethene	ND	4.18	ND	28.3	208.8
Toluene	6.26	4.18	23.6	15.7	208.8
trans-1,2-Dichloroethene	ND	4.18	ND	16.5	208.8
trans-1,3-Dichloropropene	ND	4.18	ND	18.9	208.8
Trichloroethene	ND	4.18	ND	22.4	208.8
Trichlorofluoromethane	ND	10.4	ND	58.6	208.8
Vinyl chloride	ND	4.18	ND	10.7	208.8
Acrylonitrile	ND	104.	ND	226.	208.8
n-Butylbenzene	ND	104.	ND	573.	208.8
sec-Butylbenzene	ND	104.	ND	573.	208.8
Isopropylbenzene	ND	104.	ND	513.	208.8
p-Isopropyltoluene	ND	104.	ND	573.	208.8
Acetone	4670	418	11100	991	208.8
2-Butanone	7700	104	22700	308	208.8
4-Methyl-2-pentanone	ND	104.	ND	427.	208.8



Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-05 R  
Client ID: IMP-1  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/16/09 10:34  
Analyst: RY

Date Collected: 10/09/09 07:48  
Date Received: 10/12/09  
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	0.277	0.020	1.36	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	0.079	0.020	0.388	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	1.16	0.020	6.95	0.120		1
Benzene	0.194	0.070	0.619	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.113	0.020	0.710	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.065	0.020	0.317	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: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-05 R  
Client ID: IMP-1  
Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 07:48  
Date Received: 10/12/09  
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	0.535	0.050	2.64	0.247		1
Ethylbenzene	0.125	0.020	0.542	0.087		1
Methylene chloride	ND	0.800	ND	1.74		1
Methyl tert butyl ether	0.024	0.020	0.086	0.072		1
p/m-Xylene	0.400	0.040	1.74	0.174		1
o-Xylene	0.145	0.020	0.629	0.087		1
Styrene	0.036	0.020	0.153	0.085		1
Tetrachloroethene	0.173	0.020	1.17	0.136		1
Toluene	0.829	0.020	3.12	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	0.034	0.020	0.182	0.107		1
Trichlorofluoromethane	0.294	0.050	1.65	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	2.74	2.00	6.51	4.75		1
2-Butanone	0.933	0.500	2.75	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HS  
Project Number: 14613.01

Lab Number: L0914454  
Report Date: 10/19/09

### SAMPLE RESULTS

Lab ID: L0914454-06  
Client ID: IMP-3  
Sample Location: PROVIDENCE, RI  
Matrix: Soil\_Vapor  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 10/16/09 03:05  
Analyst: RY

Date Collected: 10/09/09 08:07  
Date Received: 10/12/09  
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	0.025	0.020	0.136	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	0.119	0.020	0.584	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	0.046	0.020	0.226	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	0.636	0.020	3.82	0.120		1
Benzene	0.258	0.070	0.824	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.110	0.020	0.691	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.064	0.020	0.312	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: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

## SAMPLE RESULTS

Lab ID: L0914454-06  
 Client ID: IMP-3  
 Sample Location: PROVIDENCE, RI

Date Collected: 10/09/09 08:07  
 Date Received: 10/12/09  
 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	0.565	0.050	2.79	0.247		1
Ethylbenzene	0.125	0.020	0.542	0.087		1
Methylene chloride	ND	0.800	ND	1.74		1
Methyl tert butyl ether	0.023	0.020	0.083	0.072		1
p/m-Xylene	0.391	0.040	1.70	0.174		1
o-Xylene	0.142	0.020	0.616	0.087		1
Styrene	0.048	0.020	0.204	0.085		1
Tetrachloroethene	0.215	0.020	1.46	0.136		1
Toluene	0.975	0.020	3.67	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	0.608	0.020	3.26	0.107		1
Trichlorofluoromethane	1.66	0.050	9.32	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	7.08	2.00	16.8	4.75		1
2-Butanone	4.29	0.500	12.6	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

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

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/15/09 17:54

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG384558-4</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: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 10/15/09 17:54

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG384558-4</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
Acelone	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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

Parameter	LCS		LCSD		%Recovery Limits		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Qual			
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG384558-3									
1,1,1-Trichloroethane	109	-	-	-	70-130	-	-	-	70-130
1,1,1,2-Tetrachloroethane	97	-	-	-	70-130	-	-	-	70-130
1,1,1,2,2-Tetrachloroethane	98	-	-	-	70-130	-	-	-	70-130
1,1,1,2-Trichloroethane	100	-	-	-	70-130	-	-	-	70-130
1,1-Dichloroethane	95	-	-	-	70-130	-	-	-	70-130
1,1-Dichloroethene	100	-	-	-	70-130	-	-	-	70-130
1,2,4-Trimethylbenzene	95	-	-	-	70-130	-	-	-	70-130
1,2-Dibromoethane	89	-	-	-	70-130	-	-	-	70-130
1,2-Dichlorobenzene	93	-	-	-	70-130	-	-	-	70-130
1,2-Dichloroethane	111	-	-	-	70-130	-	-	-	70-130
1,2-Dichloropropane	90	-	-	-	70-130	-	-	-	70-130
1,3,5-Trimethylbenzene	94	-	-	-	70-130	-	-	-	70-130
1,3-Butadiene	89	-	-	-	70-130	-	-	-	70-130
1,3-Dichlorobenzene	96	-	-	-	70-130	-	-	-	70-130
1,4-Dichlorobenzene	94	-	-	-	70-130	-	-	-	70-130
Benzene	83	-	-	-	70-130	-	-	-	70-130
Bromodichloromethane	98	-	-	-	70-130	-	-	-	70-130
Bromoform	102	-	-	-	70-130	-	-	-	70-130
Bromomethane	84	-	-	-	70-130	-	-	-	70-130
Carbon tetrachloride	115	-	-	-	70-130	-	-	-	70-130
Chlorobenzene	88	-	-	-	70-130	-	-	-	70-130



### Lab Control Sample Analysis

Lab Number: L0914454  
 Report Date: 10/19/09

Project Name: ALVAREZ HS  
 Project Number: 14613.01

Batch Quality Control

Parameter	LCS		LCSD		%Recovery Limits		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Qual			
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG384558-3									
Chloroethane	96		-		70-130		-		70-130
Chloroform	109		-		70-130		-		70-130
Chloromethane	92		-		70-130		-		70-130
cis-1,2-Dichloroethene	91		-		70-130		-		70-130
cis-1,3-Dichloropropene	79		-		70-130		-		70-130
Dibromochloromethane	102		-		70-130		-		70-130
Dichlorodifluoromethane	121		-		70-130		-		70-130
Ethylbenzene	84		-		70-130		-		70-130
1,1,2-Trichloro-1,2,2-Trifluoroethane	107		-		70-130		-		70-130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	104		-		70-130		-		70-130
Methylene chloride	99		-		70-130		-		70-130
Methyl tert butyl ether	90		-		70-130		-		70-130
Naphthalene	80		-		70-130		-		70-130
p/m-Xylene	90		-		70-130		-		70-130
o-Xylene	90		-		70-130		-		70-130
Styrene	81		-		70-130		-		70-130
Tetrachloroethene	101		-		70-130		-		70-130
Toluene	79		-		70-130		-		70-130
trans-1,2-Dichloroethene	85		-		70-130		-		70-130
trans-1,3-Dichloropropene	64	Q	-		70-130		-		70-130
Trichloroethene	92		-		70-130		-		70-130



### Lab Control Sample Analysis

Batch Quality Control

Lab Number: L0914454  
Report Date: 10/19/09

Project Name: ALVAREZ HS  
Project Number: 14613.01

Parameter	LCS		LCSD		%Recovery Limits		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG384558-3									
1,2,4-Trichlorobenzene	93	-	-	-	70-130	-	-	-	-
Trichlorofluoromethane	115	-	-	-	70-130	-	-	-	-
Hexachlorobutadiene	96	-	-	-	70-130	-	-	-	-
Vinyl chloride	95	-	-	-	70-130	-	-	-	-
Acrylonitrile	81	-	-	-	70-130	-	-	-	-
n-Butylbenzene	75	-	-	-	70-130	-	-	-	-
sec-Butylbenzene	77	-	-	-	70-130	-	-	-	-
Isopropylbenzene	78	-	-	-	70-130	-	-	-	-
p-Isopropyltoluene	72	-	-	-	70-130	-	-	-	-
Acetone	94	-	-	-	70-130	-	-	-	-
2-Butanone	91	-	-	-	70-130	-	-	-	-
4-Methyl-2-pentanone	104	-	-	-	70-130	-	-	-	-
Haloethane	112	-	-	-	70-130	-	-	-	-
1,2,3-Trichlorobenzene	91	-	-	-	70-130	-	-	-	-



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>						
Associated sample(s): 01-06 QC Batch ID: WG384558-5 QC Sample: L0914454-01 Client ID: MP-2						
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	0.144	0.134	ppbv	7		25
1,2-Dibromoethane	ND	ND	ppbv	NC		25
1,2-Dichlorobenzene	ND	ND	ppbv	NC		25
1,2-Dichloroethane	ND	ND	ppbv	NC		25
1,2-Dichloropropane	ND	ND	ppbv	NC		25
1,3,5-Trimethylbenzene	0.044	0.041	ppbv	7		25
1,3-Dichlorobenzene	ND	ND	ppbv	NC		25
1,4-Dichlorobenzene	0.551	0.570	ppbv	3		25
Benzene	0.360	0.358	ppbv	1		25
Bromodichloromethane	ND	ND	ppbv	NC		25
Bromoform	ND	ND	ppbv	NC		25
Carbon tetrachloride	0.110	0.108	ppbv	2		25
Chlorobenzene	ND	ND	ppbv	NC		25



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG884558-5 QC Sample: L0914454-01 Client ID: MP-2</b>					
Chloroethane	ND	ND	ppbV	NC	25
Chloroform	0.042	0.040	ppbV	5	25
Chloromethane	ND	ND	ppbV	NC	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	0.553	0.560	ppbV	1	25
Ethylbenzene	0.130	0.124	ppbV	5	25
Methylene chloride	ND	ND	ppbV	NC	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
p/m-Xylene	0.373	0.352	ppbV	6	25
o-Xylene	0.125	0.117	ppbV	7	25
Styrene	ND	0.020	ppbV	NC	25
Tetrachloroethene	0.082	0.081	ppbV	1	25
Toluene	0.937	0.916	ppbV	2	25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Trichloroethene	0.029	0.029	ppbV	0	25
Trichlorofluoromethane	0.307	0.301	ppbV	2	25





**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG384558-5 QC Sample: L0914454-01 Client ID: MP-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	10.8	10.2	ppbV	6	25
2-Butanone	98.1E	89.5	ppbV	9	25
4-Methyl-2-pentanone	ND	ND	ppbV	NC	25

<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG384558-5 QC Sample: L0914454-01 Client ID: MP-2</b>					
2-Butanone	67.6	63.4	ppbV	8	25



Project Name: ALVAREZ HS

Project Number: 14613.01

10190915:52

Lab Number: L0914454

Report Date: 10/19/09

### 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
L0914454-01	MP-2	0452	#90 SV		-	-	76	76	0
L0914454-01	MP-2	501	2.7L Can	I0912672	-29.4	-3.7	-	-	-
L0914454-02	MP-5	0049	#16 AMB		-	-	77	83	8
L0914454-02	MP-5	345	2.7L Can	I0913956	-29.4	-4.1	-	-	-
L0914454-03	MP-7	0062	#20 AMB		-	-	78	79	1
L0914454-03	MP-7	529	2.7L Can	I0912672	-29.4	-5.8	-	-	-
L0914454-04	MP-8	0125	#90 SV		-	-	77	78	1
L0914454-04	MP-8	212	2.7L Can	I0913956	-29.4	-6.4	-	-	-
L0914454-05	IMP-1	0067	#90 SV		-	-	76	77	1
L0914454-05	IMP-1	104	2.7L Can	I0912672	-29.4	-3.6	-	-	-
L0914454-06	IMP-3	0332	#90 AMB		-	-	77	80	4
L0914454-06	IMP-3	102	2.7L Can	I0912672	-29.4	-7.1	-	-	-



Project Name: ALVAREZ HS

Lab Number: L0914454

Project Number: 14613.01

Report Date: 10/19/09

**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 deg C	Pres	Seal	Analysis
L0914454-01A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914454-02A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914454-03A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914454-04A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914454-05A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)
L0914454-06A	Canister - 2.7 Liter	N/A	N/A		NA	Present/Intact	TO15-SIM(30)

\*Hold days indicated by values in parentheses

**Project Name:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

## 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

- A** · Spectra identified as "Aldol Condensation Product".
- B** · The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- 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.
- P** · The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** · The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- 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:** ALVAREZ HS  
**Project Number:** 14613.01

**Lab Number:** L0914454  
**Report Date:** 10/19/09

## 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 June 17, 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, 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 Suspended Solids (non-filterable), Total Cyanide. 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, Corrosivity, TCLP 1311. 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. **NELAP Accredited.**

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

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

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

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

*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. **NELAP Accredited.**

*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. NELAP Accredited.**

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, 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, 1312, 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)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

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

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, 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, 3570, 3051, 5035, 5030B.)

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

**Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.**

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.**

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. NELAP Accredited.**

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

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



**CHAIN OF CUSTODY**  
 320 Forbes Blvd, Mansfield, MA 02048  
 TEL: 508-822-9300 FAX: 508-822-3288

# AIR ANALYSIS

PAGE 1 OF 1

**Client Information**

Client: EA Engineering  
 Address: 2350 Post Road  
Warwick, RI 02886

**Project Information**

Project Name: Alvarez 2 HS  
 Project Location: Providence, RI  
 Project #: 14613 01  
 Project Manager: Mark K. Surr, P.E.  
 ALPHA Quote #:

**Turn-Around Time**

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

Phone: 401-736-3440  
 Fax: 401-736-3423  
 Email: cmack@east.com

These samples have been previously analyzed by Alpha  
 Other Project Specific Requirements/Comments:

Date Rec'd in Lab:

**Report Information - Data Deliverables**

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)  
cmack@east.com  
mspec@east.com

ALPHA Job #: L0914454

**Billing Information**

Same as Client Info  
 PO #: \_\_\_\_\_

**Regulatory Requirements/Report Limits**

State/Fed Program Criteria  
CT TAGET indoor  
Air Ionization

**ANALYSIS**

TO-14A by TO-15  
 TO-15  
 TO-15 SIM  
 APH  
 FIXED GASES  
 TO-13A  
 TO-4/ TO-10

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID-Flow Controller	Sample Comments (i.e. PID)
14454-1	MP-2					10/9/09	0848	0918	30	5	SV	RM/pT	2.7L	501	0452	0.103 ppb
	MP-5						0854	1000	30	5						0.007 ppb
	MP-7						0915	0941	30+	9						0.006 ppb
	MP-8						0904	0929	30	7						0.009 ppb
	IMP-1						0720	0748	30+	7						0.111 ppb
	IMP-3						0741	0807	29	6						0.041 ppb

**\*SAMPLE MATRIX CODES**

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

**Container Type**

5

Requested By: Paul Miller

Date/Time: 10/20/09 11:15

Received By: Paul Miller

Date/Time: 10/20/09 11:15

Paul Miller

10/20/09 11:15

Paul Miller

10/20/09 11:15

Please print clearly, legibly, and completely. Samples can not be logged in and turned around if clock will not start until any sample quites are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



## **Appendix E**

### **Rooftop Effluent Analytical Summary and Lab Report**

**A delinde Avenue School - Sub Slab Depressurization System Emissions Calculations**  
Sample Date - 11 September 2009

Volatile Organic Compounds	ROOFTOP FAN 1 (Measured air flow = 108 cubic feet per minute)			ROOFTOP FAN 2 (Measured air flow = 190 cubic feet per minute)			ROOFTOP FAN 3 (Measured air flow = 124 cubic feet per minute)			CUMULATIVE EMISSIONS (3 fans combined)			
	Concentration (ppm)	Hourly Emission (lb/hr)	Daily Emission (lb/day)	Concentration (ppm)	Hourly Emission (lb/hr)	Daily Emission (lb/day)	Concentration (ppm)	Hourly Emission (lb/hr)	Daily Emission (lb/day)	Concentration (ppm)	Hourly Emission (lb/hr)	Daily Emission (lb/day)	Yearly Emission (lb/year)
1,1,1-Trichloroethane	0.14	5.76E-08	1.65E-06	0.17	5.13E-08	1.23E-06	0.17	2.31E-08	4.44E-07	0.17	2.31E-08	4.44E-07	1.06E-01
1,1,1,2-Tetrachloroethane	3.80	1.18E-06	3.38E-05	3.14	1.18E-06	3.23E-05	3.11	1.01E-06	2.92E-05	3.11	1.01E-06	2.92E-05	8.54E-03
1,1,2,2-Tetrachloroethane	0.137	5.28E-08	1.28E-06	0.137	5.13E-08	1.23E-06	0.137	4.44E-08	1.06E-06	0.137	4.44E-08	1.06E-06	3.64E-06
1,1,2-Trichloroethane	0.109	4.19E-08	1.01E-06	0.109	4.08E-08	9.98E-07	0.109	3.53E-08	8.47E-07	0.109	3.53E-08	8.47E-07	2.81E-06
1,2-Dichloroethane	0.117	4.50E-08	1.08E-06	0.081	3.03E-08	7.88E-07	0.081	2.62E-08	6.59E-07	0.081	2.62E-08	6.59E-07	2.04E-06
1,2-Dichlorobenzene	0.079	3.04E-08	7.95E-07	0.079	2.96E-08	7.10E-07	0.079	2.58E-08	6.14E-07	0.079	2.58E-08	6.14E-07	2.05E-06
1,2,4-Trimethylbenzene	0.040	1.27E-08	3.28E-07	0.035	1.13E-07	2.91E-06	0.035	4.93E-07	1.19E-05	0.035	4.93E-07	1.19E-05	3.17E-04
1,2-Dibromobenzene	0.154	5.92E-08	1.42E-06	0.154	4.99E-08	1.38E-06	0.154	4.99E-08	1.20E-06	0.154	4.99E-08	1.20E-06	4.00E-06
1,2-Dichlorobenzene	0.120	4.19E-08	1.01E-06	0.120	4.08E-08	9.98E-07	0.120	3.88E-08	9.72E-07	0.120	3.88E-08	9.72E-07	3.12E-06
1,2-Dichloroethane	0.109	3.54E-08	8.69E-07	0.092	3.45E-08	8.78E-07	0.092	2.98E-08	7.50E-07	0.092	2.98E-08	7.50E-07	2.36E-06
1,3,5-Trimethylbenzene	0.378	1.45E-07	3.11E-06	0.285	1.07E-07	2.56E-06	0.285	2.27E-07	5.91E-06	0.285	2.27E-07	5.91E-06	1.95E-01
1,3-Dichlorobenzene	6.010	4.61E-08	1.19E-06	8.1	4.49E-08	1.08E-06	0.120	3.88E-08	9.72E-07	0.120	3.88E-08	9.72E-07	3.12E-06
2-Buonane	0.791	3.04E-07	7.90E-06	1.47	5.51E-07	1.23E-05	2.79	9.03E-07	2.17E-05	2.79	9.03E-07	2.17E-05	6.48E-02
4-Methyl-2-pentanone	0.500	1.92E-07	4.91E-06	2.05	7.68E-07	1.84E-05	2.05	6.64E-07	1.59E-05	2.05	6.64E-07	1.59E-05	4.81E-01
Acetone	10.600	4.07E-06	1.08E-05	15.0	5.62E-06	1.35E-04	0.48	1.74E-06	4.34E-05	0.48	1.74E-06	4.34E-05	1.27E-01
Acrylonitrile	0.405	1.92E-07	4.91E-06	1.08	4.05E-07	9.91E-06	0.48	1.74E-06	4.34E-05	0.48	1.74E-06	4.34E-05	1.27E-01
Benzene	0.500	1.92E-07	4.91E-06	1.08	4.05E-07	9.91E-06	0.48	1.74E-06	4.34E-05	0.48	1.74E-06	4.34E-05	1.27E-01
Bromochloromethane	0.206	7.92E-08	1.98E-06	0.134	5.02E-08	1.20E-06	0.206	6.67E-08	1.69E-06	0.206	6.67E-08	1.69E-06	5.35E-06
Carbon tetrachloride	0.616	2.37E-07	5.98E-06	0.616	2.31E-07	5.84E-06	0.635	2.06E-07	4.91E-06	0.635	2.06E-07	4.91E-06	1.62E-05
Chlorobenzene	0.092	3.54E-08	8.69E-07	0.092	3.45E-08	8.27E-07	0.092	2.98E-08	7.50E-07	0.092	2.98E-08	7.50E-07	2.36E-06
Chloroform	0.161	6.19E-08	1.48E-06	0.145	5.43E-08	1.30E-06	0.053	1.72E-08	4.21E-07	0.053	1.72E-08	4.21E-07	1.17E-01
Chloromethane	0.439	1.69E-07	4.03E-06	5.80	2.17E-07	5.21E-06	0.610	2.19E-07	4.74E-06	0.610	2.19E-07	4.74E-06	1.40E-01
Chloroethane	2.440	9.38E-07	2.23E-05	2.44	9.14E-07	2.19E-05	2.44	7.90E-07	1.90E-05	2.44	7.90E-07	1.90E-05	6.34E-02
1,2-Dichlorobenzene	0.127	4.83E-08	1.17E-06	0.079	2.96E-08	7.10E-07	0.079	2.56E-08	6.14E-07	0.079	2.56E-08	6.14E-07	1.91E-04
1,2-Dichloroethane	0.091	3.50E-08	8.95E-07	0.091	3.41E-08	8.48E-07	0.091	2.98E-08	7.07E-07	0.091	2.98E-08	7.07E-07	2.36E-06
Dibromochloromethane	0.096	3.69E-08	9.38E-07	0.096	3.60E-08	8.63E-07	0.096	3.11E-08	7.46E-07	0.096	3.11E-08	7.46E-07	2.49E-06
Dichlorodifluoromethane	2.660	1.02E-06	2.45E-05	2.65	9.91E-07	2.38E-05	2.63	9.16E-07	2.20E-05	2.63	9.16E-07	2.20E-05	7.03E-02
Ethylbenzene	0.226	8.68E-08	2.08E-06	0.212	7.94E-08	1.91E-06	1.04	3.37E-07	8.08E-06	1.04	3.37E-07	8.08E-06	2.41E-01
Isopropylbenzene	2.460	9.45E-07	2.27E-05	2.46	9.21E-07	2.21E-05	2.46	7.96E-07	1.91E-05	2.46	7.96E-07	1.91E-05	6.98E-02
Methyl tert-butyl ether	0.072	2.72E-08	6.94E-07	0.072	2.70E-08	6.47E-07	0.072	2.31E-08	5.99E-07	0.072	2.31E-08	5.99E-07	1.87E-06
Methylene chloride	1.740	6.69E-07	1.60E-05	1.74	6.52E-07	1.65E-05	1.74	5.87E-07	1.34E-05	1.74	5.87E-07	1.34E-05	4.32E-02
n-Butylbenzene	0.271	1.05E-06	2.52E-05	0.271	1.03E-06	2.46E-05	0.271	8.87E-07	2.13E-05	0.271	8.87E-07	2.13E-05	6.25E-02
n-Hexane	2.740	1.05E-06	2.52E-05	2.74	1.03E-06	2.46E-05	2.74	8.87E-07	2.13E-05	2.74	8.87E-07	2.13E-05	6.25E-02
Isopropyltoluene	0.271	1.05E-06	2.52E-05	0.271	1.03E-06	2.46E-05	0.271	8.87E-07	2.13E-05	0.271	8.87E-07	2.13E-05	6.25E-02
n-Propylbenzene	2.740	1.05E-06	2.52E-05	2.74	1.03E-06	2.46E-05	2.74	8.87E-07	2.13E-05	2.74	8.87E-07	2.13E-05	6.25E-02
Styrene	0.170	6.80E-08	1.63E-06	0.136	5.09E-08	1.23E-06	0.098	3.17E-08	7.61E-07	0.098	3.17E-08	7.61E-07	2.31E-01
Toluene	31.000	1.27E-05	3.04E-04	13.8	4.79E-06	1.14E-04	11.4	3.69E-06	8.66E-04	11.4	3.69E-06	8.66E-04	2.51E-01
1,1,2,2-Tetrachloroethane	0.936	3.67E-07	8.01E-06	0.817	3.06E-07	7.14E-06	2.32	2.51E-07	1.89E-05	2.32	2.51E-07	1.89E-05	6.42E-02
trans-1,2-Dichloroethane	0.079	3.04E-08	7.95E-07	0.079	2.96E-08	7.10E-07	0.079	2.58E-08	6.14E-07	0.079	2.58E-08	6.14E-07	2.05E-06
trans-1,2-Dichlorobenzene	0.091	3.50E-08	8.95E-07	0.091	3.41E-08	8.48E-07	0.091	2.98E-08	7.07E-07	0.091	2.98E-08	7.07E-07	2.36E-06
Tribromobenzene	100.000	3.84E-05	9.22E-04	100	3.72E-05	8.99E-04	40.9	1.33E-05	3.18E-04	40.9	1.33E-05	3.18E-04	7.14E-01
Tribromochloromethane	119.000	4.57E-05	1.10E-03	214	8.76E-05	2.10E-03	22.1	2.33E-05	5.60E-04	22.1	2.33E-05	5.60E-04	1.71E-01
Vinyl chloride	0.051	1.96E-08	4.92E-07	0.051	1.91E-08	4.88E-07	0.051	1.53E-08	3.86E-07	0.051	1.53E-08	3.86E-07	1.13E-06
Total VOCs	2.99E+02	Not Applicable	Not Applicable	3.87E+02	Not Applicable	Not Applicable	2.93E+02	Not Applicable	Not Applicable	2.93E+02	Not Applicable	Not Applicable	1.06E+00
RIDM Air Pollution Control Permit Applicable Thresholds (lb/y)		10	100	Not Applicable	10	100	Not Applicable	10	100	Not Applicable	10	100	20,000 (Individual VOCs) 50,000 (Total VOCs)

U indicates that chemical was not detected by the laboratory. To be conservative, the reporting limit shown in the concentration column was used in the emissions calculations.  
 Hourly Emissions (lb/hr) = VOC concentration (ug/m<sup>3</sup>) x measured flow rate (lpm) x 0.02832 m<sup>3</sup>/l x 60 min/hr x 0.001 mg/ug x 0.001 g/mg x 0.0022 lb/g  
 Daily Emissions (lb/day) = Hourly Emissions x 24 hours/day  
 Yearly Emissions (lb/year) = Daily Emissions x 365 days/year

\* RIDM Air Pollution Control Regulation No. 9 (August 1971, Amended April 2004)



## ANALYTICAL REPORT

Lab Number: L0912807

Client: EA Engineering, Science and Tech  
2350 Post Road  
Warwick, RI 02886

ATTN: Mark Speer

Project Name: ALVAREZ HIGH SCHOOL

Project Number: 14687.01

Report Date: 09/21/09

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:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L0912807-01	ROOFTOP FAN 1	PROVIDENCE, RI	09/11/09 11:30
L0912807-02	ROOFTOP FAN 2	PROVIDENCE, RI	09/11/09 11:25
L0912807-03	ROOFTOP FAN 3	PROVIDENCE, RI	09/11/09 10:32

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

### 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.

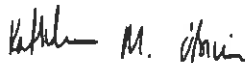
Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (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.

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: 09/21/09

# AIR



**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

### SAMPLE RESULTS

**Lab ID:** L0912807-01  
**Client ID:** ROOFTOP FAN 1  
**Sample Location:** PROVIDENCE, RI  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 48,TO-15-SIM  
**Analytical Date:** 09/18/09 22:29  
**Analyst:** RY

**Date Collected:** 09/11/09 11:30  
**Date Received:** 09/14/09  
**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	0.656	0.020	3.58	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	0.029	0.020	0.117	0.081		1
1,1-Dichloroethene	ND	0.020	ND	0.079		1
1,2,4-Trimethylbenzene	0.171	0.020	0.840	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	0.027	0.020	0.109	0.081		1
1,2-Dichloropropane	ND	0.020	ND	0.092		1
1,3,5-Trimethylbenzene	0.077	0.020	0.378	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	1.00	0.020	6.01	0.120		1
Benzene	0.155	0.070	0.495	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.098	0.020	0.616	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.061	0.020	0.161	0.053		1
Chloroform	0.090	0.020	0.439	0.098		1
Chloromethane	ND	0.500	ND	2.44		1
cis-1,2-Dichloroethene	0.032	0.020	0.127	0.079		1
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1



Project Name: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Lab Number: L0912807  
 Report Date: 09/21/09

### SAMPLE RESULTS

Lab ID: L0912807-01  
 Client ID: ROOFTOP FAN 1  
 Sample Location: PROVIDENCE, RI

Date Collected: 09/11/09 11:30  
 Date Received: 09/14/09  
 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	0.538	0.050	2.66	0.247		1
Ethylbenzene	0.052	0.020	0.226	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	0.176	0.040	0.764	0.174		1
o-Xylene	0.063	0.020	0.273	0.087		1
Styrene	0.042	0.020	0.179	0.085		1
Tetrachloroethene	4.87	0.020	33.0	0.136		1
Toluene	0.254	0.020	0.956	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	18.7	0.020	100	0.107		1
Trichlorofluoromethane	21.2	0.050	119	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
Acelone	10.6	2.00	25.2	4.75		1
2-Butanone	0.791	0.500	2.33	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1





Project Name: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Lab Number: L0912807  
 Report Date: 09/21/09

### SAMPLE RESULTS

Lab ID: L0912807-02  
 Client ID: ROOFTOP FAN 2  
 Sample Location: PROVIDENCE, RI  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/18/09 23:46  
 Analyst: RY

Date Collected: 09/11/09 11:25  
 Date Received: 09/14/09  
 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	0.577	0.020	3.14	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	0.170	0.020	0.835	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	0.058	0.020	0.285	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	1.35	0.020	8.10	0.120		1
Benzene	0.184	0.070	0.587	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.098	0.020	0.616	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	0.055	0.020	0.145	0.053		1
Chloroform	0.119	0.020	0.580	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: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Lab Number: L0912807  
 Report Date: 09/21/09

### SAMPLE RESULTS

Lab ID: L0912807-02  
 Client ID: ROOFTOP FAN 2  
 Sample Location: PROVIDENCE, RI

Date Collected: 09/11/09 11:25  
 Date Received: 09/14/09  
 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	0.537	0.050	2.65	0.247		1
Ethylbenzene	0.049	0.020	0.212	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	0.175	0.040	0.759	0.174		1
o-Xylene	0.062	0.020	0.269	0.087		1
Styrene	0.032	0.020	0.136	0.085		1
Tetrachloroethene	1.90	0.020	12.8	0.136		1
Toluene	0.217	0.020	0.817	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	18.7	0.020	100	0.107		1
Trichlorofluoromethane	41.7	0.050	234	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	6.34	2.00	15.0	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: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Lab Number: L0912807  
 Report Date: 09/21/09

### SAMPLE RESULTS

Lab ID: L0912807-03  
 Client ID: ROOFTOP FAN 3  
 Sample Location: PROVIDENCE, RI  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/19/09 00:25  
 Analyst: RY

Date Collected: 09/11/09 10:32  
 Date Received: 09/14/09  
 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	0.571	0.020	3.11	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	0.311	0.020	1.53	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	0.143	0.020	0.702	0.098		1
1,3-Dichlorobenzene	ND	0.020	ND	0.120		1
1,4-Dichlorobenzene	1.58	0.020	9.51	0.120		1
Benzene	0.138	0.070	0.440	0.223		1
Bromodichloromethane	ND	0.020	ND	0.134		1
Bromoform	ND	0.020	ND	0.206		1
Carbon tetrachloride	0.101	0.020	0.635	0.126		1
Chlorobenzene	ND	0.020	ND	0.092		1
Chloroethane	ND	0.020	ND	0.053		1
Chloroform	0.125	0.020	0.610	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: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Lab Number: L0912807  
 Report Date: 09/21/09

### SAMPLE RESULTS

Lab ID: L0912807-03  
 Client ID: ROOFTOP FAN 3  
 Sample Location: PROVIDENCE, RI

Date Collected: 09/11/09 10:32  
 Date Received: 09/14/09  
 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	0.572	0.050	2.83	0.247		1
Ethylbenzene	0.239	0.020	1.04	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	0.486	0.040	2.11	0.174		1
o-Xylene	0.122	0.020	0.529	0.087		1
Styrene	0.023	0.020	0.098	0.085		1
Tetrachloroethene	16.9	0.020	114	0.136		1
Toluene	0.617	0.020	2.32	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	7.62	0.020	40.9	0.107		1
Trichlorofluoromethane	12.8	0.050	72.1	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	12.7	2.00	30.1	4.75		1
2-Butanone	0.946	0.500	2.79	1.47		1
4-Methyl-2-pentanone	ND	0.500	ND	2.05		1



Project Name: ALVAREZ HIGH SCHOOL

Lab Number: L0912807

Project Number: 14687.01

Report Date: 09/21/09

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/18/09 15:39

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG380459-4</b>						
1,1,1-Trichloroethane	ND	0.020	ND	0.109		1
1,1,1,2-Tetrachloroethane	ND	0.020	ND	0.137		1
1,1,1,2,2-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-Butadiene	ND	0.020	ND	0.044		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
Bromomethane	ND	0.020	ND	0.078		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



Project Name: ALVAREZ HIGH SCHOOL

Lab Number: L0912807

Project Number: 14687.01

Report Date: 09/21/09

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

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/18/09 15:39

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatile Organics In Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG380459-4</b>						
cis-1,3-Dichloropropene	ND	0.020	ND	0.091		1
Dibromochloromethane	ND	0.020	ND	0.096		1
Dichlorodifluoromethane	ND	0.050	ND	0.247		1
Ethylbenzene	ND	0.020	ND	0.087		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	ND	0.383		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	ND	0.349		1
Methylene chloride	ND	0.500	ND	1.74		1
Methyl tert butyl ether	ND	0.020	ND	0.072		1
Naphthalene	ND	0.050	ND	0.262		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
1,2,4-Trichlorobenzene	ND	0.050	ND	0.371		1
Trichlorofluoromethane	ND	0.050	ND	0.281		1
Hexachlorobutadiene	ND	0.050	ND	0.192		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



Project Name: ALVAREZ HIGH SCHOOL

Lab Number: L0912807

Project Number: 14687.01

Report Date: 09/21/09

**Method Blank Analysis**  
Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 09/18/09 15:39

Parameter	ppbV		ug/m3		Qualifier	Dilution Factor
	Results	RDL	Results	RDL		
<b>Volatiles Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG380459-4</b>						
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
Halothane	ND	0.050	ND	0.403		1
1,2,3-Trichlorobenzene	ND	0.050	ND	0.371		1



### Lab Control Sample Analysis

Batch Quality Control

Lab Number: L0912807  
Report Date: 09/21/09

Project Name: ALVAREZ HIGH SCHOOL  
Project Number: 14687.01

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG380459-3					
1,1,1-Trichloroethane	116	-	70-130	-	-
1,1,1,2-Tetrachloroethane	105	-	70-130	-	-
1,1,2,2-Tetrachloroethane	103	-	70-130	-	-
1,1,2-Trichloroethane	113	-	70-130	-	-
1,1-Dichloroethane	105	-	70-130	-	-
1,1-Dichloroethene	99	-	70-130	-	-
1,2,4-Trimethylbenzene	100	-	70-130	-	-
1,2-Dibromoethane	98	-	70-130	-	-
1,2-Dichlorobenzene	101	-	70-130	-	-
1,2-Dichloroethane	123	-	70-130	-	-
1,2-Dichloropropane	105	-	70-130	-	-
1,3,5-Trimethylbenzene	100	-	70-130	-	-
1,3-Butadiene	98	-	70-130	-	-
1,3-Dichlorobenzene	102	-	70-130	-	-
1,4-Dichlorobenzene	99	-	70-130	-	-
Benzene	92	-	70-130	-	-
Bromodichloromethane	106	-	70-130	-	-
Bromoform	107	-	70-130	-	-
Bromomethane	91	-	70-130	-	-
Carbon tetrachloride	120	-	70-130	-	-
Chlorobenzene	107	-	70-130	-	-





## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

Parameter	LCS %Recovery	LCS %Recovery	LCS %Recovery	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG380459-3</b>					
Chloroethane	102	-	70-130	-	-
Chloroform	117	-	70-130	-	-
Chloromethane	100	-	70-130	-	-
cis-1,2-Dichloroethene	104	-	70-130	-	-
cis-1,3-Dichloropropene	93	-	70-130	-	-
Dibromochloromethane	106	-	70-130	-	-
Dichlorodifluoromethane	121	-	70-130	-	-
Ethylbenzene	104	-	70-130	-	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	105	-	70-130	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	118	-	70-130	-	-
Methylene chloride	96	-	70-130	-	-
Methyl tert butyl ether	99	-	70-130	-	-
Naphthalene	70	-	70-130	-	-
p/m-Xylene	106	-	70-130	-	-
o-Xylene	105	-	70-130	-	-
Styrene	100	-	70-130	-	-
Tetrachloroethene	104	-	70-130	-	-
Toluene	92	-	70-130	-	-
trans-1,2-Dichloroethene	96	-	70-130	-	-
trans-1,3-Dichloropropene	78	-	70-130	-	-
Trichloroethene	101	-	70-130	-	-



### Lab Control Sample Analysis

Batch Quality Control

Lab Number: L0912807  
 Report Date: 09/21/09

Project Name: ALVAREZ HIGH SCHOOL  
 Project Number: 14687.01

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
<b>Volatiles Organics in Air by SIM - Mansfield Lab. Associated sample(s): 01-03 Batch: WG380459-3</b>					
1,2,4-Trichlorobenzene	79	-	70-130	-	-
Trichlorofluoromethane	126	-	70-130	-	-
Hexachlorobutadiene	88	-	70-130	-	-
Vinyl chloride	105	-	70-130	-	-
Acrylonitrile	92	-	70-130	-	-
n-Butylbenzene	75	-	70-130	-	-
sec-Butylbenzene	83	-	70-130	-	-
Isopropylbenzene	89	-	70-130	-	-
p-Isopropyltoluene	74	-	70-130	-	-
Acetone	91	-	70-130	-	-
2-Butanone	88	-	70-130	-	-
4-Methyl-2-pentanone	100	-	70-130	-	-
Halothane	120	-	70-130	-	-
1,2,3-Trichlorobenzene	77	-	70-130	-	-



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG380459-5 QC Sample: L0912807-01 Client ID: ROOFTOP FAN 1</b>					
1,1,1-Trichloroethane	0.656	0.660	ppbv	1	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	0.029	0.031	ppbv	7	25
1,1-Dichloroethene	ND	ND	ppbv	NC	25
1,2,4-Trimethylbenzene	0.171	0.163	ppbv	5	25
1,2-Dibromoethane	ND	ND	ppbv	NC	25
1,2-Dichlorobenzene	ND	ND	ppbv	NC	25
1,2-Dichloroethane	0.027	0.026	ppbv	4	25
1,2-Dichloropropane	ND	ND	ppbv	NC	25
1,3,5-Trimethylbenzene	0.077	0.071	ppbv	8	25
1,3-Dichlorobenzene	ND	ND	ppbv	NC	25
1,4-Dichlorobenzene	1.00	0.951	ppbv	5	25
Benzene	0.155	0.195	ppbv	23	25
Bromodichloromethane	ND	ND	ppbv	NC	25
Bromoform	ND	ND	ppbv	NC	25
Carbon tetrachloride	0.098	0.099	ppbv	1	25
Chlorobenzene	ND	ND	ppbv	NC	25



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG380459-5 QC Sample: L0912807-01 Client ID: ROOFTOP</b>					
<b>FAN 1</b>					
Chloroethane	0.061	0.059	ppbV	3	25
Chloroform	0.090	0.090	ppbV	0	25
Chloromethane	ND	ND	ppbV	NC	25
cis-1,2-Dichloroethene	0.032	0.033	ppbV	3	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Dibromochloromethane	ND	ND	ppbV	NC	25
Dichlorodifluoromethane	0.538	0.549	ppbV	2	25
Ethylbenzene	0.052	0.049	ppbV	6	25
Methylene chloride	ND	ND	ppbV	NC	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
p/m-Xylene	0.176	0.167	ppbV	5	25
o-Xylene	0.063	0.059	ppbV	7	25
Styrene	0.042	0.041	ppbV	2	25
Tetrachloroethene	4.87	4.83	ppbV	1	25
Toluene	0.254	0.250	ppbV	2	25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
Trichloroethene	18.7	18.7	ppbV	0	25
Trichlorofluoromethane	21.2	22.0	ppbV	4	25



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG380459-5 QC Sample: L0912807-01 Client ID: ROOFTOP</b>					
<b>FAN 1</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	10.6	10.4	ppbv	2	25
2-Butanone	0.791	0.768	ppbv	3	25
4-Methyl-2-pentanone	ND	ND	ppbv	NC	25



Project Name: ALVAREZ HIGH SCHOOL

Project Number: 14687.01

09210915:19

Lab Number: L0912807

Report Date: 09/21/09

**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
L0912807-01	ROOFTOP FAN 1	139	2.7L Can	I0912468	-29.8	-3.3	-	-	-
L0912807-02	ROOFTOP FAN 2	455	2.7L Can	I0912468	-29.8	-1.6	-	-	-
L0912807-03	ROOFTOP FAN 3	231	2.7L Can	I0912468	-29.8	-1.7	-	-	-



Project Name: ALVAREZ HIGH SCHOOL

Lab Number: L0912807

Project Number: 14687.01

Report Date: 09/21/09

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
N/A	Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis</b>
L0912807-01A	Canister - 2.7 Liter	N/A	N/A		NA	Absent	TO15-SIM(30)
L0912807-02A	Canister - 2.7 Liter	N/A	N/A		NA	Absent	TO15-SIM(30)
L0912807-03A	Canister - 2.7 Liter	N/A	N/A		NA	Absent	TO15-SIM(30)

\*Hold days indicated by values in parentheses

**Project Name:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

## 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

- A · Spectra identified as "Aldol Condensation Product".
- B · The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- 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.
- P · The RPD between the results for the two columns exceeds the method-specified criteria.
- Q · The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- 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:** ALVAREZ HIGH SCHOOL  
**Project Number:** 14687.01

**Lab Number:** L0912807  
**Report Date:** 09/21/09

## 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 June 17, 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, 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 Suspended Solids (non-filterable), Total Cyanide. 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, Corrosivity, TCLP 1311. 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. **NELAP Accredited.**

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

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

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

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

*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. **NELAP Accredited.**

*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. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, 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, 1312, 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)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

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

*Non-Potable Water* (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, 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, 3570, 3051, 5035, 5030B.)

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

**Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.***

*Non-Potable Water* (Organic Parameters: EPA 5030B, EPA 8260)

**Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.***

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. *NELAP Accredited.***

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

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



# AIR ANALYSIS

PAGE 1 OF 1

Date Rec'd in Lab: 6/29/12

ALPHA Job #: 60912807

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

## CHAIN OF CUSTODY

### Project Information

Project Name: Alvarez High School

Project Location: Providence RI

Project #: 141087.01

Project Manager: Mark Steer

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Email: mark@alpha-analytical.com

Other Project Specific Requirements/Comments:

### Report Information - Data Deliverables

FAX  
 GRADEX  
Criteria Checker: Robert Serrano

(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 Limits

State/Fed Program Criteria

### ANALYSIS

- TO-14A by TO-15
- TO-15
- TO-15 SIM
- APH
- FIXED GASES
- TO-13A
- TO-4 / TO-10

### All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix*	Sampler's Initials	Can Size	I.D. Can	I.D. Flow Controller	Sample Comments (i.e. PID)
		Date	Start Time						
12	ROOFTOP FAN 1	9/11/09	11:30	—	18	1	SV	PU	No ID on controller
2	ROOFTOP FAN 2	11:25	—	—	28	4	↓	↓	PID=31 ppb
3	ROOFTOP FAN 3	10:32	—	—	30+	1	↓	↓	PID=69 ppb

### \*SAMPLE MATRIX CODES

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

Container Type

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

*[Handwritten Signature]*

*[Handwritten Date/Time]*

*[Handwritten Signature]*

*[Handwritten Date/Time]*

Please print clearly, legibly and consistently. Samples can not be logged to end turn-around time unless all not start until any ambient air is received. All samples submitted are subject to Alpha's standard conditions. Please use side.

## **Appendix F**

### **Laboratory Reporting Limits Correspondence**



October 19, 2009

**To:** Ron Mack  
EA Engineering, Science, & Technology  
2350 Post Road  
Warwick, RI 02886

**From:** Katie O'Brien  
Alpha Analytical  
320 Forbes Blvd  
Mansfield, MA 01581

**Re:** TO15 SIM Reporting Limits

Dear Ron,

As we communicated prior to the TO-15 SIM analyses completed for the Alvarez High School air samples collected on October 9th; the SIM Reporting Limits achieved for the following compounds are the lowest that we can currently achieve at Alpha. Please note that these reporting limits are above the Draft Proposed CT RSR (Residential) Criteria for these compounds:

1,2-Dichloroethane SIM RL = 0.08 ug/m<sup>3</sup>  
Ethylene Dibromide (a.k.a. 1,2-Dibromoethane) SIM RL = 0.15 ug/m<sup>3</sup>  
1,1,1,2- Tetrachloroethane SIM RL = 0.14 ug/m<sup>3</sup>  
1,1,2,2-Tetrachloroethane SIM RL = 0.14 ug/m<sup>3</sup>  
Bromodichloromethane SIM RL = 0.13 ug/m<sup>3</sup>

Please don't hesitate to contact me at 508-844-4156 if you have any questions.

Best Regards,

Katie O'Brien



September 21, 2009

**To:** Ron Mack  
EA Engineering, Science, & Technology  
2350 Post Road  
Warwick, RI 02886

**From:** Katie O'Brien  
Alpha Analytical  
320 Forbes Blvd  
Mansfield, MA 01581

**Re:** TO15 SIM Reporting Limits

Dear Ron,

As we communicated prior to the TO-15 SIM analyses completed for the Alverez High School air samples collected on September 11th; the SIM Reporting Limits achieved for the following compounds are the lowest that we can currently achieve at Alpha. Please note that these reporting limits are above the Draft Proposed CT RSR (Residential) Criteria for these compounds:

1,2-Dichloroethane SIM RL = 0.08 ug/m<sup>3</sup>  
Ethylene Dibromide (a.k.a. 1,2-Dibromoethane) SIM RL = 0.15 ug/m<sup>3</sup>  
1,1,1,2- Tetrachloroethane SIM RL = 0.14 ug/m<sup>3</sup>  
1,1,2,2-Tetrachloroethane SIM RL = 0.14 ug/m<sup>3</sup>  
Bromodichloromethane SIM RL = 0.13 ug/m<sup>3</sup>

Please don't hesitate to contact me at 508-844-4156 if you have any questions.

Best Regards,

Katie O'Brien