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December 21, 2009

Mr. Joseph T. Martella II, Senior Engineer  
Rhode Island Department of Environmental Management  
Office of Waste Management  
Site Remediation Program  
235 Providence Street  
Providence, Rhode Island 02908

**RE: Quarterly Air Monitoring Report  
Retail Complex, Active Sub-Slab Depressurization System  
Former Gorham Manufacturing Facility  
333 Adelaide Avenue, Providence, Rhode Island  
MACTEC Project No. 3650080114**

Dear Mr. Martella:

This letter report presents the results of quarterly compliance sampling conducted by MACTEC Engineering and Consulting, Inc. (MACTEC) at the retail complex located at the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (the Site). The reporting period is from September 1, 2009 to November 30, 2009.

The sampling and this reporting were conducted consistent with the Short Term Response Action Order of Approval dated July 24, 2008 and the Addendum to the Order of Approval dated August 7, 2008 (collectively referred to as the Orders of Approval).

### **Background**

The active sub-slab depressurization (ASD) system, also called a mitigation system, in the large retail space consists of four extraction wells connected to a 3 hp Rotron regenerative blower. The blower is located in an enclosure located at the north, or rear, of the large retail space.

The small retail spaces consist of the eastern, central, and western retail spaces. The mitigation systems in the small retail spaces consist of one extraction well in each small retail space connected to individual radon-type fans, located at the north, or rear, of each small retail space.

### **Small Retail Spaces**

The first quarterly monitoring of the three small retail spaces, consistent with the requirements of the Orders of Approval, was completed on September 17, 2009.

Table 1 summarizes the small retail spaces' analytical results for the baseline sampling event conducted prior to system start-up and all nine sampling events conducted after system start-up. Results of the indoor air samples were compared to the Draft Connecticut Industrial/Commercial Indoor Target Air Concentrations (TAC), which were identified as action levels in the Orders of Approval. The laboratory report associated with the September 17, 2009 quarterly sampling event is provided in Appendix A of this letter report.

Each of the post-start-up sampling events included an indoor air sample from each of the small retail spaces (locations IA-5, IA-6, and IA-7), one outdoor air reference sample (location AA-1), and one air sample collected from each of the three vapor extraction wells (EW-5, EW-6, and EW-7). The sampling locations are shown in Figure 1. The outdoor reference air sample (AA-1) was located at an upwind location during each of the sampling rounds (dependent on weather conditions). Sub-slab vacuum monitoring (pressure differential measurements) was also conducted at locations VMW-5, VMW-6, and VMW-7 in conjunction with the quarterly air sampling program. The vacuum monitoring results are tabulated in Table 2.

The following conclusions are based on Site observations and the data from Table 1.

- Indoor air sample results are in compliance with action levels for the quarterly sampling event in the three small retail spaces (sample locations IA-5, IA-6, and IA-7).
- The eastern small retail space (indoor air sample location IA-5) is the only portion of the retail complex that is currently occupied.
- The mitigation systems are functioning as designed and are achieving desired results with respect to indoor quality in the three small retail units.

### **Large Retail Space**

Four weekly monitoring events of the large retail space, consistent with the requirements of the Orders of Approval, were completed on September 17 and 24, 2009 and October 1 and 8, 2009.

Table 3 summarizes the large retail space's analytical results for the baseline sampling event conducted prior to system start-up and all 12 sampling events conducted after system start-up.

The laboratory reports associated with the four most recent sampling events are provided in Appendix A of this letter report.

Each of the post-start-up sampling events included collection of samples from each of the indoor air sampling points in the large retail space (locations IA-1 through IA-4), one outdoor air reference sample (location AA-1), and one air sample collected from the vapor extraction well (EW Combined). The sampling locations are shown in Figure 1. The outdoor reference air sample (AA-1) was located at an upwind location during each of the sampling rounds (dependent on weather conditions). Sub-slab vacuum monitoring (pressure differential measurements) was also conducted at locations VMW-1 through VMW-4 in conjunction with the air sampling program. The vacuum monitoring results for the large retail space are tabulated in Table 4.

The following conclusions are based on Site observations and the data from Table 3.

- Indoor air sample results are in compliance with action levels for the weekly sampling events in the large retail space (sample locations IA-1 through IA-4), with the exception of slight exceedences of trichloroethene at locations IA-1, IA-3 and IA-4 in the October 1, 2009 round. It should be noted that the TCE standard identified within the order of approval of 1 µg/m<sup>3</sup> is outdated when compared to current, similar, risk-based values published by US EPA and other state agencies. For example, the August 2009 US EPA Regional Screening Level Table lists a risk-based screening level of 6.1 µg/m<sup>3</sup> for TCE in air in an industrial setting. Since the sub-slab depressurization system began operating in January 2009, TCE concentrations for the large retail space have been well below the current US EPA screening level.
- The mitigation systems are functioning as designed.
- An inspection of the HVAC system for the large retail space was conducted on November 10<sup>th</sup>. During the inspection, it became apparent that very little fresh air was entering the space and that the HVAC units induced a negative pressure throughout the interior of the space. A negative pressure within the interior would encourage upward migration of vapors from the sub-slab soils, through the slab and into the interior of the space. Further refinements to the mitigation system and the HVAC systems are planned.
- Upon completion of these refinements, weekly compliance monitoring will resume.

### **ASD System Monitoring**

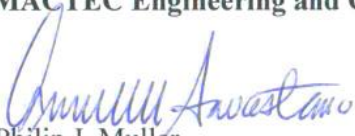
The ASD system performance is monitored biweekly by Clean Harbors Environmental Services. There were no system shutdowns during the reporting period.


### Next Reporting Period

The next quarterly report will cover December 2009, January 2010, and February 2010. The report will be prepared and submitted to the Rhode Island Department of Environmental Management (RIDEM) in March 2010.

Please contact me at 781-213-5603 if I can provide additional information or answer any questions concerning these monitoring events and system adjustments.

Sincerely,  
**MACTEC Engineering and Consulting, Inc.**

  
for Philip J. Muller  
Project Engineer *with permission*

  
Michael Murphy  
Sr. Principal Scientist

Enclosures: Table 1 – Summary of Analytical Results – Air Sampling for Small Retail Spaces  
Table 2 – Vacuum Monitoring Results – Small Retail Spaces  
Table 3 – Summary of Analytical Results – Air Sampling for Large Retail Space  
Table 4 – Vacuum Monitoring Results – Large Retail Space  
  
Figure 1 – Vapor Mitigation Sample Locations  
  
Appendix A – Laboratory Reports  
Appendix B – Analytical Laboratory Detection Limits

cc: T. Deller, City of Providence  
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## **TABLES**

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations									
	AA-1 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 041409 4/14/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.28	0.52	1.8	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.3
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.5	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.17	1.3	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.53	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
2-Butanone	0.58	1.2	2.4	3.2	1.6	0.67	0.11 U	1.6	1.1	1.7
2-Hexanone	0.2 U	0.22	0.57	0.35	0.2 U	0.2 U	0.14 U	0.39	0.2 U	0.34
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.6	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.27	0.63	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
Acetone	7.3	8	15	22	8.4	5.9	1.1	9.5	10	10
Benzene	0.69	0.62	1.3	4.7	0.43	0.69	0.12 U	0.4	0.49	0.38
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.38	0.44	0.52	0.56	0.43	0.61	0.22 U	0.78	0.43	0.4
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.1	0.9	1.4	1.5	1.1	1.1	1.1	1.1	1.2	0.85
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U

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Cyclohexane	0.17 U	0.17 U	0.35	1.1	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2	2.2	2.6	2.7	2.6	2.6	2	2.7	2.6	2.1
Ethanol	4	5.4	10	47	4.3	3.5	0.81	4.8	8.6	6.6
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.31	0.37 U	0.18 U	0.26 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.25	0.52	2	0.22 U	0.22 U	0.16 U	0.22 U	0.24	0.22 U
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U
Hexane	1.5	0.75	1.1	2.9	0.38	2.8	0.13 U	0.37	0.59	0.48
Isopropyl alcohol	1.4	1.4	1.8	4.3	1.4	0.67	0.18 U	1	2.5	2.8
m,p-Xylene	0.43 U	0.72	1.4	6.4	0.44	0.43 U	0.31 U	0.49	0.73	0.62
Methylene chloride	5.5	3.1	0.65	1.5	0.78	7.4	2.1	1.7	1.9	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.2 U	0.27	0.92	1.6	0.2 U	0.2 U	0.14 U	0.4	0.23	0.2 U
o-Xylene	0.22 U	0.27	0.53	2.2	0.22 U	0.22 U	0.16 U	0.24	0.27	0.23
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.13 U	0.09 U	0.09 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.28	0.21 U	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.34 U	0.34 U	0.73	0.77	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.52
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U
Toluene	0.94	1.5	3.2	14	0.71	0.99	0.14 U	2.6	2.1	1.9
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.27 U	0.27 U	0.39	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	1.3	1.2	1.7	2.4	1.5	2	0.92	1.5	2	1.1
Trichlorotrifluoroethane	0.68	0.53	0.5	0.47	0.64	0.48	0.27 U	0.67	0.56	0.47
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.5 U	0.18 U	0.18 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U

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Parameter (ug/m <sup>3</sup> )	Extraction Well - Eastern Small Retail Space								
	EW-5-020309 2/3/2009	EW-5-021109 2/11/2009	EW-5-021809 2/18/2009	EW-5-022609 2/26/2009	EW-5-030609 3/6/2009	EW-5-041409 4/14/2009	EW-5-051509 5/15/2009	EW-5-061109 6/11/2009	EW-5-091709 9/17/2009
1,1,1-Trichloroethane	190000	41000	17000	7100	1800	2600	3100	1900	3500
1,1,2,2-Tetrachloroethane	6.8 U	6.8 U	6.8 U	6.8 U	1.7 U	68 U	3.4 U	3.4 U	3.4 U
1,1,2-Trichloroethane	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	54 U	2.7 U	2.7 U	2.7 U
1,1-Dichloroethane	11000	1900	890	770	190	360	450	430	230
1,1-Dichloroethene	2500	290	130	190	61	160	160	160	98
1,2,4-Trichlorobenzene	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	74 U	3.7 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U
1,2-Dichlorobenzene	6 U	6 U	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U
1,2-Dichloroethane	4 U	4 U	4 U	4 U	1 U	40 U	2 U	2 U	2 U
1,2-Dichloropropane	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U
1,2-Dichlorotetrafluoroethane	7 U	7 U	7 U	7 U	1.8 U	70 U	3.5 U	3.5 U	3.5 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U
1,3-Butadiene	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	22 U	1.1 U	1.1 U	2.3 U
1,3-Dichlorobenzene	6 U	6 U	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U
1,4-Dichlorobenzene	6 U	6 U	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U
2-Butanone	6.3	89	75	170	3700	64000	100000	230000	110000
2-Hexanone	4 U	4 U	4 U	4 U	1 U	40 U	2.7	2 U	2 U
4-Ethyltoluene	5 U	5 U	5 U	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	4 U	4 U	4 U	4 U	1 U	40 U	2 U	2 U	2 U
Acetone	530	32	52	29	460	5600	14000	6900	9200
Benzene	13	12	6.2	4.8	5.6	32 U	11	7.1	11
Benzyl chloride	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U
Bromodichloromethane	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	66 U	3.3 U	3.3 U	3.3 U
Bromoform	11 U	11 U	11 U	11 U	2.6 U	110 U	5.1 U	5.1 U	5.1 U
Bromomethane	3.8 U	3.8 U	3.8 U	3.8 U	0.95 U	38 U	1.9 U	1.9 U	1.9 U
Carbon disulfide	3.2 U	3.2 U	3.2 U	3.2 U	0.8 U	230	4	5.4	8.2
Carbon tetrachloride	6.2 U	6.2 U	6.2 U	6.2 U	1.6 U	62 U	3.1 U	3.1 U	3.1 U
Chlorobenzene	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U
Chloroethane	260	23	16	11	4.5	26 U	11	15	7
Chloroform	83	32	20	16	2.8	48 U	7.2	6.5	5.8
Chloromethane	2 U	2 U	2 U	2 U	0.5 U	20 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	2900	710	400	410	100	150	270	250	170
cis-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U



**Table 1.**  
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	EW-5-020309 2/3/2009	EW-5-021109 2/11/2009	EW-5-021809 2/18/2009	EW-5-022609 2/26/2009	EW-5-030609 3/6/2009	EW-5-041409 4/14/2009	EW-5-051509 5/15/2009	EW-5-061109 6/11/2009	EW-5-091709 9/17/2009
Cyclohexane	3.4 U	3.4 U	3.4 U	3.4 U	0.85 U	34 U	1.7 U	1.7 U	1.7 U
Dibromochloromethane	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	86 U	4.3 U	4.3 U	4.3 U
Dichlorodifluoromethane	5 U	5 U	5 U	5 U	2.7	50 U	3	3.2	2.5 U
Ethanol	320	36	46	33	22	130	30	26	3.8 U
Ethyl acetate	7.3 U	3.6 U	3.6 U	7.3 U	0.9 U	73 U	1.8 U	1.8 U	1.8 U
Ethylbenzene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U
Hexachlorobutadiene	22 U	22 U	22 U	22 U	5.4 U	220 U	11 U	11 U	5.3 U
Hexane	5	3.6 U	3.6 U	3.6 U	2.3	36 U	3.3	1.8 U	1.8 U
Isopropyl alcohol	190	5.1	4.6	5 U	4.6	290	24	57	35
m,p-Xylene	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	86 U	4.3 U	4.3 U	4.3 U
Methylene chloride	7.8	7 U	9.6	7 U	12	720	21	15	7 U
Methyl-t-butyl ether	3.6 U	3.6 U	3.6 U	3.6 U	0.9 U	36 U	1.8 U	1.8 U	1.8 U
n-Heptane	4 U	4 U	4 U	4 U	1 U	40 U	2 U	2 U	2 U
o-Xylene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U
Propylene (Propene)	3.5 U	1.8 U	1.8 U	3.5 U	0.45 U	35 U	0.9 U	0.9 U	3.5 U
Styrene	4.2 U	17	4.2 U	4.2 U	1.7	42 U	2.2	2.1 U	2.1 U
Tetrachloroethene	210	310	190	97	8	68 U	21	25	19
Tetrahydrofuran	16	110	69	140	2200	42000	61000	150000	94000
Toluene	13	4.7	3.8 U	3.8 U	0.95 U	38 U	2.2	3.4	1.9 U
trans-1,2-Dichloroethene	26	6.1	4 U	4.7	1 U	40 U	2.6	2.8	2 U
trans-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U
Trichloroethene	51000	20000	14000	8900	2400	3800	4400	2700	6800
Trichlorofluoromethane	3500	200	120	67	16	56 U	27	41	2.8 U
Trichlorotrifluoroethane	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U
Vinyl acetate	15 U	3.6 U	3.6 U	15 U	0.9 U	150 U	1.8 U	1.8 U	7.1 U
Vinyl chloride	2.6 U	2.6 U	2.6 U	2.6 U	0.65 U	26 U	1.3 U	5.3	1.3 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Center Small Retail Space								
	EW-6-020309 2/3/2009	EW-6-021109 2/11/2009	EW-6-021809 2/18/2009	EW-6-022609 2/26/2009	EW-6-030609 3/6/2009	EW-6-041409 4/14/2009	EW-6-051509 5/15/2009	EW-6-061109 6/11/2009	EW-6-091709 9/17/2009
1,1,1-Trichloroethane	69000	32000	21000	16000	16000	5600	8200	5700	5400
1,1,2,2-Tetrachloroethane	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	68 U	3.4 U	3.4 U	3.4 U
1,1,2-Trichloroethane	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	54 U	2.7 U	2.7 U	2.7 U
1,1-Dichloroethane	5200	2500	2100	2200	1600	780	1200	1100	930
1,1-Dichloroethene	850	210	100	110	55	74	87	83	80
1,2,4-Trichlorobenzene	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	74 U	3.7 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	16	6.2	50 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	76 U	3.8 U	3.8 U	3.8 U
1,2-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U
1,2-Dichloroethane	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U
1,2-Dichloropropane	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	46 U	2.3 U	2.3 U	2.3 U
1,2-Dichlorotetrafluoroethane	7 U	7 U	7 U	7 U	7 U	70 U	3.5 U	3.5 U	3.5 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	7.3	5 U	50 U	2.5 U	2.5 U	2.5 U
1,3-Butadiene	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	22 U	1.1 U	1.1 U	2.3 U
1,3-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U
1,4-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U
2-Butanone	120	280	300	130	97	160	37	65	8.7
2-Hexanone	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U
4-Ethyltoluene	5 U	5 U	5 U	5 U	5 U	50 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U
Acetone	580	64	81	33	22	410	16	20	4.8 U
Benzene	5.2	5.2	4.1	3.2 U	3.2 U	32 U	1.7	1.6 U	1.6 U
Benzyl chloride	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	2.6 U	2.6 U	2.6 U
Bromodichloromethane	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	66 U	3.3 U	3.3 U	3.3 U
Bromoform	11 U	11 U	11 U	11 U	11 U	110 U	5.1 U	5.1 U	5.1 U
Bromomethane	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	38 U	1.9 U	1.9 U	1.9 U
Carbon disulfide	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	180	1.6 U	1.6 U	1.6 U
Carbon tetrachloride	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	62 U	3.1 U	3.1 U	3.1 U
Chlorobenzene	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	46 U	2.3 U	2.3 U	2.3 U
Chloroethane	140	50	34	18	13	26 U	13	14	11
Chloroform	42	24	19	29	21	50	14	12	12
Chloromethane	2 U	2 U	2 U	2 U	2 U	34	1 U	1 U	1 U
cis-1,2-Dichloroethene	700	360	220	250	150	120	190	170	130
cis-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Center Small Retail Space								
	EW-6-020309 2/3/2009	EW-6-021109 2/11/2009	EW-6-021809 2/18/2009	EW-6-022609 2/26/2009	EW-6-030609 3/6/2009	EW-6-041409 4/14/2009	EW-6-051509 5/15/2009	EW-6-061109 6/11/2009	EW-6-091709 9/17/2009
Cyclohexane	3.4 U	5.3	3.4 U	3.4 U	3.4 U	34 U	1.7 U	1.7 U	1.7 U
Dibromochloromethane	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	86 U	4.3 U	4.3 U	4.3 U
Dichlorodifluoromethane	5 U	5 U	5 U	5 U	5 U	50 U	3.6	3.9	2.7
Ethanol	360	38	73	38	25	110	18	14	6.7
Ethyl acetate	7.3 U	3.6 U	3.6 U	7.3 U	3.6 U	73 U	1.8 U	1.8 U	1.8 U
Ethylbenzene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U
Hexachlorobutadiene	22 U	22 U	22 U	22 U	22 U	220 U	11 U	11 U	5.3 U
Hexane	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	36 U	1.8 U	1.8 U	1.8 U
Isopropyl alcohol	210	18	33	15	10	230	8.2	11	20
m,p-Xylene	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	120	4.3 U	4.3 U	4.3 U
Methylene chloride	7 U	7 U	7.5	7 U	7 U	780	12	15	7 U
Methyl-t-butyl ether	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	36 U	1.8 U	1.8 U	1.8 U
n-Heptane	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U
o-Xylene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U
Propylene (Propene)	3.5 U	1.8 U	1.8 U	3.5 U	1.8 U	35 U	0.9 U	0.9 U	3.5 U
Styrene	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	42 U	2.1 U	2.1 U	2.1 U
Tetrachloroethene	330	290	130	290	190	300	190	210	250
Tetrahydrofuran	75	480	260	730	570	130	110	87	9.1
Toluene	12	3.8 U	3.8 U	3.8 U	3.8 U	38 U	1.9 U	1.9 U	1.9 U
trans-1,2-Dichloroethene	12	6.3	4.2	6.4	4 U	40 U	2.6	2.7	2
trans-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U
Trichloroethene	12000	6900	4200	4400	4800	3900	5400	4700	6100
Trichlorofluoromethane	2300	870	630	350	250	150	230	440	700
Trichlorotrifluoroethane	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	76 U	3.8 U	3.8 U	3.8 U
Vinyl acetate	15 U	3.6 U	3.6 U	15 U	3.6 U	150 U	1.8 U	1.8 U	7.1 U
Vinyl chloride	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	26 U	1.3 U	1.3 U	1.3 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Western Small Retail Space								
	EW-7-020309 2/3/2009	EW-7-021109 2/11/2009	EW-7-021809 2/18/2009	EW-7-022609 2/26/2009	EW-7-030609 3/6/2009	EW-7-041409 4/14/2009	EW-7-051509 5/15/2009	EW-7-061109 6/11/2009	EW-7-091709 9/17/2009
1,1,1-Trichloroethane	5600	8500	7800	8200	8100	1600	3600	2600	1400
1,1,2,2-Tetrachloroethane	6.8 U	1.4 U	1.7 U	1.7 U	1.7 U	6.8 U	3.4 U	3.4 U	3.4 U
1,1,2-Trichloroethane	5.4 U	1.1 U	1.4 U	1.4 U	1.4 U	5.4 U	2.7 U	2.7 U	2.7 U
1,1-Dichloroethane	1700	1800	1600	2100	1700	590	1000	1100	970
1,1-Dichloroethene	14	15	8.5	9.4	6.6	4 U	4.2	4.2	4.5
1,2,4-Trichlorobenzene	7.4 U	1.5 U	1.9 U	1.9 U	1.9 U	7.4 U	3.7 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	5 U	1 U	1.3 U	1.3 U	1.3 U	5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane (EDB)	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 U	3.8 U
1,2-Dichloroethane	6 U	1.2 U	1.5 U	1.5 U	1.5 U	6 U	3 U	3 U	3 U
1,2-Dichloroethane	4 U	0.8 U	1 U	1 U	1 U	4 U	2 U	2 U	2 U
1,2-Dichloropropane	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U	2.3 U
1,2-Dichlorotetrafluoroethane	7 U	1.4 U	1.8 U	1.8 U	1.8 U	7 U	3.5 U	3.5 U	3.5 U
1,3,5-Trimethylbenzene	5 U	1 U	1.3 U	1.3 U	1.3 U	5 U	2.5 U	2.5 U	2.5 U
1,3-Butadiene	2.2 U	0.44 U	0.55 U	0.55 U	0.55 U	2.2 U	1.1 U	1.1 U	2.3 U
1,3-Dichlorobenzene	6 U	1.2 U	1.5 U	1.5 U	1.5 U	6 U	3 U	3 U	3 U
1,4-Dichlorobenzene	6 U	1.2 U	1.5 U	1.5 U	1.5 U	6 U	3 U	3 U	3 U
2-Butanone	8.7	12	7.3	8.5	5.5	4.5	7.1	16	4.9
2-Hexanone	4 U	0.8 U	1 U	1 U	1 U	4 U	2 U	2 U	2 U
4-Ethyltoluene	5 U	1 U	1.3 U	1.3 U	1.3 U	5 U	2.5 U	2.5 U	2.5 U
4-Methyl-2-pentanone	4 U	0.8 U	1 U	1 U	1 U	4 U	2 U	2 U	2 U
Acetone	580	38	58	30	24	15	24	24	7.9
Benzene	3.2 U	3.9	4.5	1.9	2.3	3.2 U	2.6	2.8	3
Benzyl chloride	5.2 U	1.1 U	1.3 U	1.3 U	1.3 U	5.2 U	2.6 U	2.6 U	2.6 U
Bromodichloromethane	6.6 U	1.4 U	1.7 U	1.7 U	1.7 U	6.6 U	3.3 U	3.3 U	3.3 U
Bromoform	11 U	2.1 U	2.6 U	2.6 U	2.6 U	11 U	5.1 U	5.1 U	5.1 U
Bromomethane	3.8 U	0.76 U	0.95 U	0.95 U	0.95 U	3.8 U	1.9 U	1.9 U	1.9 U
Carbon disulfide	5.7	3.4	2.7	3.7	3.3	3.2 U	3.2	2.7	2.1
Carbon tetrachloride	6.2 U	1.3 U	1.6 U	1.6 U	1.6 U	6.2 U	3.1 U	3.1 U	3.1 U
Chlorobenzene	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U	2.3 U
Chloroethane	170	150	88	41	33	7.1	9.6	10	8.1
Chloroform	4.8 U	1	1.2 U	1.3	1.2 U	4.8 U	2.7	2.6	4.6
Chloromethane	2 U	0.4 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1100	1300	1200	1700	1200	520	1100	1200	1300
cis-1,3-Dichloropropene	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U	2.2 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Western Small Retail Space								
	EW-7-020309 2/3/2009	EW-7-021109 2/11/2009	EW-7-021809 2/18/2009	EW-7-022609 2/26/2009	EW-7-030609 3/6/2009	EW-7-041409 4/14/2009	EW-7-051509 5/15/2009	EW-7-061109 6/11/2009	EW-7-091709 9/17/2009
Cyclohexane	3.4 U	5.6	5	3.7	2.1	3.4 U	1.7 U	1.7 U	1.7 U
Dibromochloromethane	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 U	4.3 U
Dichlorodifluoromethane	5 U	2.5	3.2	770	2.6	5 U	2.9	3.3	2.5 U
Ethanol	350	26	29	17	15	3.8 U	19	18	12
Ethyl acetate	7.3 U	0.72 U	0.9 U	1.9 U	0.9 U	7.3 U	1.8 U	1.8 U	1.8 U
Ethylbenzene	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U	2.2 U
Hexachlorobutadiene	22 U	4.3 U	5.4 U	5.4 U	5.4 U	22 U	11 U	11 U	5.3 U
Hexane	10	10	7.6	5.5	3.1	3.6 U	4	2.1	1.8 U
Isopropyl alcohol	210	18	21	12	8.5	5 U	12	17	2.5 U
m,p-Xylene	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 U	4.3 U
Methylene chloride	9.3	2.6	8	1.8	1.8 U	20	29	16	7 U
Methyl-t-butyl ether	3.6 U	3.5	2.9	4.9	3.1	3.6 U	1.8 U	1.8 U	1.8 U
n-Heptane	4 U	1.4	1 U	1 U	1 U	4 U	2 U	2 U	2 U
o-Xylene	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U	2.2 U
Propylene (Propene)	3.5 U	160	110	0.87 U	0.45 U	3.5 U	0.9 U	0.9 U	3.5 U
Styrene	4.2 U	0.84 U	1.1 U	1.1 U	1.1 U	4.2 U	2.1 U	2.1 U	2.1 U
Tetrachloroethene	66	69	56	84	69	40	140	230	410
Tetrahydrofuran	41	23	12	14	7.5	3 U	5.6	15	4.1
Toluene	14	2.9	3.6	1.7	0.95 U	3.8 U	1.9 U	1.9 U	1.9 U
trans-1,2-Dichloroethene	150	140	90	90	80	48	120	140	150
trans-1,3-Dichloropropene	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U	2.2 U
Trichloroethene	230	210	180	180	200	110	330	420	920
Trichlorofluoromethane	1800	1400	900	690	640	190	310	660	1400
Trichlorotrifluoroethane	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 U	3.8 U
Vinyl acetate	15 U	0.72 U	0.9 U	3.6 U	0.9 U	15 U	1.8 U	1.8 U	7.1 U
Vinyl chloride	280	370	180	48	21	2.6 U	2.7	3.2	1.3 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	CT IACTIND 2003 (ug/m3)	Indoor Air - Eastern Small Retail Space									
		IA-5 1/16/2009	IA-5-020309 2/3/2009	IA-5-021109 2/11/2009	IA-5-021809 2/18/2009	IA-5-022609 2/26/2009	IA-5-030609 3/6/2009	IA-5-041409 4/14/2009	IA-5-051509 5/15/2009	IA-5-061109 6/11/2009	IA-5-091709 9/17/2009
1,1,1-Trichloroethane	500	48	0.92	0.27 U	0.27 U	0.27 U	0.27 U	0.98	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	430	1.8	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	20	0.58	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	52	0.25 U	0.32	0.33	0.36	0.25 U	0.25 U	0.2	0.25 U	0.35	0.25 U
1,2-Dibromoethane (EDB)	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	NA	0.11 U	0.11 U	0.11 U	0.25	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U
1,3-Dichlorobenzene	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	24	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
2-Butanone	500	7.2	2.4	2.7	2.6	0.75	0.45	3.8	1.9	5.3	2.1
2-Hexanone	NA	0.2 U	0.48	0.38	0.27	0.2 U	0.2 U	0.47	0.45	1.1	0.48
4-Ethyltoluene	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.18	0.2 U	0.68	0.23
Acetone	500	32	11	21	20	9.5	6.5	14	14	46	16
Benzene	3.3	0.79	0.6	0.99	1.6	0.41	0.55	0.62	0.49	0.53	0.35
Benzyl chloride	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U
Bromoform	7.3	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U
Bromomethane	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.23	0.19 U	0.19 U
Carbon disulfide	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.27	0.16 U
Carbon tetrachloride	0.54	0.33	0.44	0.5	<b>0.55 [a]</b>	0.47	<b>0.61 [a]</b>	0.44	<b>0.64 [a]</b>	0.46	0.39
Chlorobenzene	200	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
Chloroethane	500	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U
Chloroform	0.5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	<b>0.55</b>	0.24 U
Chloromethane	80	1.1	1	1.5	1.4	1.1	1.1	1.1	1	1.4	1
cis-1,2-Dichloroethene	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	CT IACTIND 2003 (ug/m3)	Indoor Air - Eastern Small Retail Space									
		IA-5 1/16/2009	IA-5-020309 2/3/2009	IA-5-021109 2/11/2009	IA-5-021809 2/18/2009	IA-5-022609 2/26/2009	IA-5-030609 3/6/2009	IA-5-041409 4/14/2009	IA-5-051509 5/15/2009	IA-5-061109 6/11/2009	IA-5-091709 9/17/2009
Cyclohexane	NA	0.17 U	0.17 U	0.38	0.41	0.17 U	0.17 U	0.12 U	0.17 U	0.4	0.17 U
Dibromochloromethane	NA	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	500	2	2.2	2.5	2.7	2.6	2.6	1.9	2.5	2.2	2.1
Ethanol	NA	590	12	23	140	85	32	41	180	500	62
Ethyl acetate	NA	0.75	0.37 U	0.18 U	0.18 U	0.37 U	0.18 U	0.26 U	0.18 U	0.31	0.18 U
Ethylbenzene	290	0.22 U	0.25	0.33	0.43	0.22 U	0.22 U	0.24	0.22 U	0.3	0.23
Hexachlorobutadiene	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U
Hexane	NA	0.84	0.54	1.1	0.99	0.39	0.5	0.71	0.58	1	0.52
Isopropyl alcohol	NA	3.8	3.5	580	2.9	3	1.3	1.7	2	19	3.5
m,p-Xylene	500	0.6	0.74	0.91	1.2	0.43 U	0.43 U	0.68	0.51	0.88	0.59
Methylene chloride	17	2	3.6	5.2	1.1	1.2	0.74	2.5	2.9	2	0.7 U
Methyl-t-butyl ether	190	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U
n-Heptane	NA	0.2 U	0.2 U	0.36	0.35	0.2 U	0.2 U	0.23	0.38	0.48	0.2 U
o-Xylene	500	0.23	0.27	0.35	0.47	0.22 U	0.22 U	0.23	0.23	0.32	0.22 U
Propylene (Propene)	NA	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.13 U	0.09 U	0.09 U	0.35 U
Styrene	290	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.15 U	0.21 U	1.5	0.3
Tetrachloroethene	5	0.39	0.34 U	0.43	0.43	0.34 U	0.34 U	0.24 U	0.47	0.34 U	0.41
Tetrahydrofuran	NA	3.2	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U
Toluene	500	1.3	1.1	3	3.3	0.65	0.51	1.5	2.8	2.8	1.5
trans-1,2-Dichloroethene	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U
Trichloroethene	1	5.5	0.39	0.27 U	0.27 U	0.27 U	0.27 U	0.22	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	500	3	1.3	1.7	1.8	1.5	1.7	1.2	1.3	2	1.2
Trichlorotrifluoroethane	NA	0.62	0.54	0.48	0.45	0.64	0.48	0.53	0.61	0.54	0.5
Vinyl acetate	NA	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.5 U	0.18 U	0.18 U	0.71 U
Vinyl chloride	1.9	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U

**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Center Small Retail Space									
	IA-6 1/16/2009	IA-6- 020309 2/3/2009	IA-6- 021109 2/11/2009	IA-6- 021809 2/18/2009	IA-6- 022609 2/26/2009	IA-6- 030609 3/6/2009	IA-6- 041409 4/14/2009	IA-6- 051509 5/15/2009	IA-6- 061109 6/11/2009	IA-6- 091709 9/17/2009
1,1,1-Trichloroethane	110	3.9	0.27 U	0.29	0.27 U	0.27 U	1.6	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	3.9	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	1.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.75	0.32	0.29	1.5	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.34
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.38	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	1.1	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.41	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
2-Butanone	120	10	3.2	2.9	2.4	2.3	1	2.5	4.1	2.4
2-Hexanone	0.2 U	0.42	0.37	0.34	0.2 U	0.37	0.14 U	0.62	0.72	0.7
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.47	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.2 U	0.36	0.2 U	0.2 U	0.14 U	0.34	0.7	0.29
Acetone	44	14	14	25	11	8.5	6.1	11	28	20
Benzene	1	0.6	0.98	4.1 [a]	0.41	0.7	0.59	0.47	0.43	0.31
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.39	0.42	0.52	0.59 [a]	0.47	0.6 [a]	0.42	0.77 [a]	0.45	0.42
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.3	0.9	1.4	1.5	1	1.1	1.1	1.1	1.9	0.97
cis-1,2-Dichloroethene	0.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U



**Table 1.**  
**Summary of Analytical Results - Air Sampling for Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Center Small Retail Space									
	IA-6 1/16/2009	IA-6- 020309 2/3/2009	IA-6- 021109 2/11/2009	IA-6- 021809 2/18/2009	IA-6- 022609 2/26/2009	IA-6- 030609 3/6/2009	IA-6- 041409 4/14/2009	IA-6- 051509 5/15/2009	IA-6- 061109 6/11/2009	IA-6- 091709 9/17/2009
Cyclohexane	0.17 U	0.17 U	0.25	0.91	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2	2.1	2.6	2.8	2.6	2.6	2	2.7	2.5	2.2
Ethanol	41	23	12	40	13	12	8.6	51	31	12
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.22	0.37 U	0.18 U	0.26 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.29	0.25	0.33	1.6	0.22 U	0.22 U	0.21	0.22 U	0.24	0.23
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U
Hexane	1.2	0.78	0.7	2.6	0.33	0.4	0.63	0.38	0.68	0.45
Isopropyl alcohol	4.7	6.6	3.2	4.9	1.7	1.6	0.18 U	4.5	22	7
m,p-Xylene	0.82	0.72	0.84	4.9	0.43 U	0.43 U	0.51	0.43 U	0.67	0.62
Methylene chloride	2.5	5.2	0.59	1.6	0.83	0.69	2	2	2.6	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.27	0.2 U	0.32	1.3	0.2 U	0.2 U	0.21	0.2 U	0.26	0.2 U
o-Xylene	0.36	0.26	0.34	1.8	0.22 U	0.22 U	0.19	0.22 U	0.25	0.23
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.13 U	0.09 U	0.09 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.28	0.21 U	0.21 U	0.15 U	0.25	0.21 U	0.23
Tetrachloroethene	1.2	0.34 U	0.45	1.2	0.34 U	0.34 U	0.72	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	77	2.8	0.32	0.15 U	0.15 U	0.15 U	0.22	0.15 U	0.15 U	0.15 U
Toluene	1.8	1.3	2.5	11	0.65	0.71	1.3	0.81	2	1.1
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U
Trichloroethene	<b>13</b>	<b>1.7</b>	0.27 U	0.34	0.27 U	0.27 U	0.6	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	4.8	1.3	1.7	2.5	1.5	1.7	1.4	1.2	2.2	1.2
Trichlorotrifluoroethane	0.64	0.51	0.48	0.45	0.64	0.48	0.53	0.74	0.63	0.48
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.5 U	0.18 U	0.18 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U

**Table 1.**  
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Parameter (ug/m <sup>3</sup> )	Indoor Air - Western Small Retail Space									
	IA-7 1/16/2009	IA-7- 020309 2/3/2009	IA-7- 021109 2/11/2009	IA-7- 021809 2/18/2009	IA-7- 022609 2/26/2009	IA-7- 030609 3/6/2009	IA-7- 041409 4/14/2009	IA-7- 051509 5/15/2009	IA-7- 061109 6/11/2009	IA-7- 091709 9/17/2009
1,1,1-Trichloroethane	44	2.4	0.4	1.3	0.27 U	0.27 U	0.87	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	1.3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.34	0.34	0.99	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.39
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.14	0.97	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U
2-Butanone	70	6.5	3.9	5.2	2.2	1.3	1.3	2.3	7.3	2.2
2-Hexanone	0.2 U	0.29	0.2 U	0.91	0.2 U	0.2 U	0.14 U	0.53	1.5	0.53
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.27	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.2 U	0.42	0.2 U	0.2 U	0.14 U	0.22	0.79	0.24
Acetone	29	12	13	32	7.8	6.6	6.5	10	31	22
Benzene	0.95	0.75	1.1	3.2	0.67	0.73	0.42	0.35	0.52	0.43
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.26	0.16 U	0.16 U	0.26
Carbon tetrachloride	0.32	0.44	0.52	<b>0.56 [a]</b>	0.48	<b>0.6 [a]</b>	0.43	<b>0.65 [a]</b>	0.43	0.42
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.7	0.98	1.4	1.5	1	1.2	1.1	0.93	1.8	1.2
cis-1,2-Dichloroethene	0.29	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U

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**Former Gorham Manufacturing Site**  
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Parameter (ug/m <sup>3</sup> )	Indoor Air - Western Small Retail Space									
	IA-7 1/16/2009	IA-7- 020309 2/3/2009	IA-7- 021109 2/11/2009	IA-7- 021809 2/18/2009	IA-7- 022609 2/26/2009	IA-7- 030609 3/6/2009	IA-7- 041409 4/14/2009	IA-7- 051509 5/15/2009	IA-7- 061109 6/11/2009	IA-7- 091709 9/17/2009
Cyclohexane	0.17 U	0.17 U	0.32	0.7	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2.1	2.2	2.6	2.7	2.6	2.6	2	2.4	2.7	2.3
Ethanol	7.3	16	11	26	7.9	8.4	7.1	11	14	11
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.21	0.37 U	0.18 U	0.26 U	0.18 U	0.24	2.6
Ethylbenzene	0.23	0.29	0.36	0.95	0.24	0.22 U	0.16 U	0.22 U	0.25	0.32
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U
Hexane	0.9	0.87	0.91	2	1.1	0.6	0.69	0.33	1.5	0.88
Isopropyl alcohol	3.7	6.2	3.6	8.3	0.25 U	2.7	0.18 U	7	14	4
m,p-Xylene	0.61	0.82	0.94	2.8	0.73	0.43 U	0.31 U	0.43 U	0.72	0.86
Methylene chloride	1.9	5.7	0.92	1.5	6.3	1.4	4.2	2.3	5.7	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.2	0.2 U	0.37	1.2	0.2 U	0.2 U	0.17	0.2 U	0.34	0.37
o-Xylene	0.24	0.31	0.39	0.97	0.24	0.22 U	0.16 U	0.22 U	0.25	0.31
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.13 U	0.09 U	0.09 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.26	0.21 U	0.21 U	0.15 U	0.21 U	0.29	0.39
Tetrachloroethene	1.6	0.34 U	0.65	0.63	0.34 U	0.34 U	0.48	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	45	2.1	0.74	0.43	0.15 U	0.15 U	0.27	0.15 U	0.15 U	0.51
Toluene	1.5	1.6	2.7	7.5	1.5	0.76	0.48	0.61	2.3	4
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U
Trichloroethene	<b>4.6</b>	<b>1.1</b>	0.28	0.58	0.27 U	0.27 U	0.3	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	4.7	1.4	1.7	3.1	1.6	1.7	1.3	1.1	1.9	1.3
Trichlorotrifluoroethane	0.62	0.57	0.47	0.44	0.66	0.45	0.54	0.69	0.57	0.51
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.5 U	0.18 U	0.18 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U

[a] Benzene and carbon tetrachloride are above the target air concentration, but are not compliance violations as indoor air concentrations are consistent with outdoor air concentrations that were sampled on the same day.

NA - not available

U - Not detected, value is the detection limit  
 ug/m<sup>3</sup> - micrograms per cubic meter

**5** Bolded and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

Prepared by/Date: KJC 11/25/09

Checked by/Date: kask 12/14/09

**Table 2.**  
**Vacuum Monitoring Results - Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Date	Pressure Differential (inches of water)		
	VMW-5	VMW-6	VMW-7
2/3/2009	-0.25	-0.17	0.00
2/18/2009	-0.212	-0.155	-0.011
2/26/2009	-0.230	-0.120	-0.025
3/6/2009	-0.200	-0.086	-0.012
4/14/2009	-0.108	-0.054	-0.014
5/15/2009	-0.081	-0.073	-0.016
6/11/2009	-0.090	-0.076	-0.098
9/17/2009	-0.110	-0.102	+0.074

Prepared by/Date: PJM 10/14/09

Checked by/Date: kask 12/14/09

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations												
	AA-1 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 041409 4/14/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.28	0.52	1.8	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.3	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.5	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.17	1.3	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.53	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Butanone	0.58	1.2	2.4	3.2	1.6	0.67	0.11 U	1.6	1.1	1.7	0.84	1.2	1.2
2-Hexanone	0.2 U	0.22	0.57	0.35	0.2 U	0.2 U	0.14 U	0.39	0.2 U	0.34	0.2 U	0.33	0.23
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.6	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.27	0.63	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acetone	7.3	8	15	22	8.4	5.9	1.1	9.5	10	10	9.6	5.4	17
Benzene	0.69	0.62	1.3	4.7	0.43	0.69	0.12 U	0.4	0.49	0.38	0.35	0.25	0.2
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.38	0.44	0.52	0.56	0.43	0.61	0.22 U	0.78	0.43	0.4	0.4	0.43	0.46
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.1	0.9	1.4	1.5	1.1	1.1	1.1	1.1	1.2	0.85	1.1	0.97	0.96
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.35	1.1	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2	2.2	2.6	2.7	2.6	2.6	2	2.7	2.6	2.1	2.1	2.2	2.1

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations												
	AA-1 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 041409 4/14/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009
Ethanol	4	5.4	10	47	4.3	3.5	0.81	4.8	8.6	6.6	4.6	3.9	4.9
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.31	0.37 U	0.18 U	0.26 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.25	0.52	2	0.22 U	0.22 U	0.16 U	0.22 U	0.24	0.22 U	0.23	0.22 U	0.22 U
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	1.5	0.75	1.1	2.9	0.38	2.8	0.13 U	0.37	0.59	0.48	1.4	0.45	4.5
Isopropyl alcohol	1.4	1.4	1.8	4.3	1.4	0.67	0.18 U	1	2.5	2.8	0.87	0.63	0.25 U
m,p-Xylene	0.43 U	0.72	1.4	6.4	0.44	0.43 U	0.31 U	0.49	0.73	0.62	0.59	0.43 U	0.43 U
Methylene chloride	5.5	3.1	0.65	1.5	0.78	7.4	2.1	1.7	1.9	0.7 U	4.2	0.7 U	23
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.2 U	0.27	0.92	1.6	0.2 U	0.2 U	0.14 U	0.4	0.23	0.2 U	0.2 U	0.2 U	0.2 U
o-Xylene	0.22 U	0.27	0.53	2.2	0.22 U	0.22 U	0.16 U	0.24	0.27	0.23	0.22 U	0.22 U	0.22 U
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.13 U	0.09 U	0.09 U	0.35 U	0.35 U	0.18 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.28	0.21 U	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.34 U	0.34 U	0.73	0.77	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.52	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	1.2	0.15 U
Toluene	0.94	1.5	3.2	14	0.71	0.99	0.14 U	2.6	2.1	1.9	2	0.61	0.5
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.27 U	0.27 U	0.39	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	1.3	1.2	1.7	2.4	1.5	2	0.92	1.5	2	1.1	1.4	1.2	1.5
Trichlorotrifluoroethane	0.68	0.53	0.5	0.47	0.64	0.48	0.27 U	0.67	0.56	0.47	0.49	0.45	0.46
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.5 U	0.18 U	0.18 U	0.71 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space									
	EW- Combined- 020309 2/3/2009	EW- COMBINED 021109 2/11/2009	EW- COMBINED 021809 2/18/2009	EW- COMBINED 022609 2/26/2009	EW- COMBINED 041409 4/14/2009	EW- COMBINED 042409 4/24/2009	EW- COMBINED 091709 9/17/2009	EW- COMBINED 092409 9/24/2009	EW- COMBINED 100109 10/1/2009	EW- COMBINED 100809 10/8/2009
1,1,1-Trichloroethane	190000	91000	73000	32000	3500	19000	11000	8100	7900	6800
1,1,2,2-Tetrachloroethane	6.8 U	6.8 U	14 U	14 U	6.8 U	0.34 U	3.4 U	6.8 U	14 U	14 U
1,1,2-Trichloroethane	5.4 U	5.4 U	11 U	11 U	5.4 U	0.65	2.7 U	5.4 U	11 U	11 U
1,1-Dichloroethane	19000	7800	5300	4800	390	2200	1600	1900	1900	1700
1,1-Dichloroethene	7800	1800	1000	630	73	420	310	250	260	280
1,2,4-Trichlorobenzene	7.4 U	7.4 U	15 U	15 U	7.4 U	0.37 U	3.7 U	7.4 U	15 U	15 U
1,2,4-Trimethylbenzene	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	16 U	16 U	7.6 U	0.38 U	3.8 U	7.6 U	16 U	16 U
1,2-Dichlorobenzene	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U
1,2-Dichloroethane	4 U	4 U	8 U	8 U	4 U	0.2 U	2 U	4 U	8 U	8 U
1,2-Dichloropropane	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	0.23 U	2.3 U	4.6 U	9.2 U	9.2 U
1,2-Dichlorotetrafluoroethane	7 U	7 U	14 U	14 U	7 U	0.35 U	3.5 U	7 U	14 U	14 U
1,3,5-Trimethylbenzene	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U
1,3-Butadiene	2.2 U	2.2 U	4.4 U	4.4 U	2.2 U	0.11 U	2.3 U	4.5 U	8.9 U	8.9 U
1,3-Dichlorobenzene	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U
1,4-Dichlorobenzene	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U
2-Butanone	37	32	48	60	21	40	7.8	31	30	21
2-Hexanone	4 U	4 U	8 U	8 U	4 U	0.5	2 U	4 U	8 U	8 U
4-Ethyltoluene	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U
4-Methyl-2-pentanone	4 U	4 U	8 U	8 U	4 U	0.59	2 U	4 U	8 U	8 U
Acetone	1600	31	75	63	4.8 U	0.24 U	20	9.6 U	20 U	20 U
Benzene	14	7.3	8.4	6.4 U	3.2 U	2.5	2.7	3.2 U	6.4 U	6.4 U
Benzyl chloride	5.2 U	5.2 U	11 U	11 U	5.2 U	0.26 U	2.6 U	5.2 U	11 U	11 U
Bromodichloromethane	6.6 U	6.6 U	14 U	14 U	6.6 U	0.33 U	3.3 U	6.6 U	14 U	14 U
Bromoform	11 U	11 U	21 U	21 U	11 U	0.51 U	5.1 U	11 U	21 U	21 U
Bromomethane	3.8 U	3.8 U	7.6 U	7.6 U	3.8 U	0.19 U	1.9 U	3.8 U	7.6 U	7.6 U
Carbon disulfide	3.2 U	63	32	20	3.2 U	4.6	1.6 U	3.2 U	6.4 U	6.4 U
Carbon tetrachloride	6.2 U	6.2 U	13 U	13 U	6.2 U	0.57	3.1 U	6.2 U	13 U	13 U
Chlorobenzene	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	0.23 U	2.3 U	4.6 U	9.2 U	9.2 U
Chloroethane	3400	1700	1200	450	42	220	110	94	92	88
Chloroform	27	17	20	17	4.8 U	8.8	12	14	11	11
Chloromethane	2 U	2 U	4 U	4 U	2 U	8.2	1 U	2 U	4 U	4 U
cis-1,2-Dichloroethene	14000	4700	6300	4200	300	1600	1600	1500	1300	1200
cis-1,3-Dichloropropene	4.4 U	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 U	8.8 U	8.8 U
Cyclohexane	3.4 U	3.4 U	6.8 U	6.8 U	3.4 U	0.17 U	1.7 U	3.4 U	6.8 U	6.8 U
Dibromochloromethane	8.6 U	8.6 U	18 U	18 U	8.6 U	0.43 U	4.3 U	8.6 U	18 U	18 U
Dichlorodifluoromethane	5 U	5 U	10 U	110	5 U	2.8	2.5 U	5 U	10 U	10 U

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space									
	EW- Combined- 020309 2/3/2009	EW- COMBINED 021109 2/11/2009	EW- COMBINED 021809 2/18/2009	EW- COMBINED 022609 2/26/2009	EW- COMBINED 041409 4/14/2009	EW- COMBINED 042409 4/24/2009	EW- COMBINED 091709 9/17/2009	EW- COMBINED 092409 9/24/2009	EW- COMBINED 100109 10/1/2009	EW- COMBINED 100809 10/8/2009
Ethanol	960	81	120	120	17	21	200	96	32	33
Ethyl acetate	7.3 U	3.6 U	7.2 U	15 U	7.3 U	0.37 U	1.8 U	3.6 U	7.2 U	7.2 U
Ethylbenzene	9.4	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 U	8.8 U	8.8 U
Hexachlorobutadiene	22 U	22 U	43 U	43 U	22 U	1.1 U	5.3 U	11 U	22 U	22 U
Hexane	16	4.9	270	7.2 U	3.6 U	2.3	1.9	3.6 U	7.2 U	7.2 U
Isopropyl alcohol	610	2.4 U	15	9.9 U	5 U	0.25 U	22	5 U	9.9 U	9.9 U
m,p-Xylene	25	8.6 U	18 U	18 U	8.6 U	0.43 U	4.3 U	8.6 U	18 U	18 U
Methylene chloride	12	7 U	14 U	14 U	19	2.6	7 U	14 U	28 U	28 U
Methyl-t-butyl ether	3.6 U	3.6 U	7.2 U	7.2 U	3.6 U	0.18 U	1.8 U	3.6 U	7.2 U	7.2 U
n-Heptane	4 U	4 U	8 U	8 U	4 U	0.2 U	2 U	4 U	8 U	8 U
o-Xylene	8.4	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 U	8.8 U	8.8 U
Propylene (Propene)	3.5 U	100	3.6 U	6.9 U	3.5 U	0.18 U	3.5 U	6.9 U	6.9 U	14 U
Styrene	4.2 U	4.2 U	8.4 U	8.4 U	4.2 U	0.21 U	2.1 U	4.2 U	8.4 U	8.4 U
Tetrachloroethene	140	60	430	540	47	110	110	260	67	72
Tetrahydrofuran	77	77	150	180	66	110	1.5 U	96	85	67
Toluene	36	3.8 U	7.6 U	7.6 U	3.8 U	0.59	3.4	4.7	7.6 U	7.6 U
trans-1,2-Dichloroethene	110	61	47	47	4.6	33	29	34	30	26
trans-1,3-Dichloropropene	4.4 U	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 U	8.8 U	8.8 U
Trichloroethene	36000	17000	26000	13000	1400	6200	4000	3600	4000	4300
Trichlorofluoromethane	9900	2300	1800	1000	98	600	1800	1400	1500	1500
Trichlorotrifluoroethane	7.6 U	7.6 U	16 U	16 U	7.6 U	0.74	3.8 U	7.6 U	16 U	16 U
Vinyl acetate	15 U	3.6 U	7.2 U	29 U	15 U	0.71 U	7.1 U	15 U	29 U	29 U
Vinyl chloride	110	20	10	5.2 U	2.6 U	3.4	1.3 U	2.6 U	5.2 U	5.2 U



**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space								Post Treatment - Large Retail Space					
	EW-1-030609	EW-1-033109	EW-2-030609	EW-2-033109	EW-3-030609	EW-3-033109	EW-4-030609	EW-4-033109	Post carbon-020309	POST CARBON-021109	POST CARBON-021809	POST CARBON-022609	POST CARBON-041409	POST CARBON-100809
	3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	10/8/2009
1,1,1-Trichloroethane	59000	66000	26000	30000	54000	72000	11000	14000	1	15	45	1.9	13000	0.56
1,1,2,2-Tetrachloroethane	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	1.7 U	6.8 U	0.34 U	1.7 U	0.68 U	0.68 U	68 U	0.34 U
1,1,2-Trichloroethane	6.4	10	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	5.4 U	0.27 U	1.4 U	0.54 U	0.54 U	54 U	0.27 U
1,1-Dichloroethane	4100	4400	5700	7000	1600	2300	690	1400	0.2 U	1 U	5.4	11000	490	370
1,1-Dichloroethene	570	1200	330	640	340	560	97	210	0.2 U	1 U	0.4 U	6400	96	78
1,2,4-Trichlorobenzene	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	7.4 U	0.37 U	1.9 U	0.74 U	0.74 U	74 U	0.37 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	0.25 U	1.3 U	0.5 U	0.5 U	50 U	0.25 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	0.38 U	1.9 U	0.76 U	0.76 U	76 U	0.38 U
1,2-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	0.3 U	1.5 U	0.6 U	0.6 U	60 U	0.3 U
1,2-Dichloroethane	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	0.2 U	1 U	0.4 U	0.4 U	40 U	0.2 U
1,2-Dichloropropane	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U
1,2-Dichlorotetrafluoroethane	7 U	7 U	7 U	7 U	7 U	7 U	1.8 U	7 U	0.35 U	1.8 U	0.7 U	0.7 U	70 U	0.35 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	2.1	1.3 U	0.5 U	0.5 U	50 U	0.25 U
1,3-Butadiene	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	2.2 U	0.11 U	0.55 U	0.22 U	0.22 U	22 U	0.23 U
1,3-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	2.9	1.5 U	0.6 U	0.6 U	60 U	0.3 U
1,4-Dichlorobenzene	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	0.3 U	1.5 U	0.6 U	0.6 U	60 U	0.3 U
2-Butanone	3.5	8.9	12	11	36	10	36	6.4	10	6.3	9.4	5.5	330	1.9
2-Hexanone	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	0.2 U	1 U	0.4 U	0.4 U	13000	0.27
4-Ethyltoluene	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	2.1	1.3 U	0.5 U	0.5 U	50 U	0.25 U
4-Methyl-2-pentanone	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	5	1 U	0.4 U	0.4 U	40 U	0.2 U
Acetone	35	16	9.6 U	9.6 U	53	24	26	12	1200	11	19	12	430	3.6
Benzene	5.3	11	5.6	7.8	3.2 U	6.8	1.4	3.2 U	1.3	0.8 U	0.32 U	0.32 U	32 U	0.16 U
Benzyl chloride	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	5.2 U	0.26 U	1.3 U	0.52 U	0.52 U	52 U	0.26 U
Bromodichloromethane	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	6.6 U	0.33 U	1.7 U	0.66 U	0.66 U	66 U	0.33 U
Bromoform	11 U	11 U	11 U	11 U	11 U	11 U	2.6 U	11 U	0.51 U	2.6 U	1.1 U	1.1 U	110 U	0.51 U
Bromomethane	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	0.95 U	3.8 U	0.19 U	0.95 U	0.38 U	0.38 U	38 U	0.19 U
Carbon disulfide	3.2 U	3.2 U	27	25	3.2 U	3.2 U	1.8	3.2 U	0.16 U	0.8 U	4.1	27	250	0.16 U
Carbon tetrachloride	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	1.6 U	6.2 U	0.38	1.6 U	0.62 U	0.62 U	62 U	0.31 U
Chlorobenzene	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U
Chloroethane	170	250	700	590	41	44	17	33	0.13 U	5100	1800	480	64	19
Chloroform	20	34	9.6	15	13	23	3.6	7.5	0.24 U	1.2 U	0.48 U	0.67	48 U	0.24 U
Chloromethane	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	0.59	0.5 U	0.2 U	0.2 U	23	0.1 U
cis-1,2-Dichloroethene	2000	2200	6100	7600	610	1200	560	1300	0.27	1 U	3.9	5200	820	230
cis-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	0.22 U	1.1 U	0.44 U	0.44 U	44 U	0.22 U
Cyclohexane	3.4 U	5.7	8.4	8.8	3.4 U	3.4 U	0.85 U	3.4 U	0.93	0.85 U	0.34 U	0.34 U	34 U	0.17 U
Dibromochloromethane	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	8.6 U	0.43 U	2.2 U	0.86 U	0.86 U	86 U	0.43 U
Dichlorodifluoromethane	5 U	170	5 U	5 U	5.4	7	2.6	5 U	0.76	4.1	3	2.4	50 U	1.7

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space								Post Treatment - Large Retail Space					
	EW-1- 030609	EW-1- 033109	EW-2- 030609	EW-2- 033109	EW-3- 030609	EW-3- 033109	EW-4- 030609	EW-4- 033109	Post carbon- 020309	POST CARBON- 021109	POST CARBON- 021809	POST CARBON- 022609	POST CARBON- 041409	POST CARBON- 100809
	3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	10/8/2009
Ethanol	33	40	12	8.3	39	1.8 U	8.6	1.8 U	740	36	25	9.8	110	0.38 U
Ethyl acetate	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.9 U	3.6 U	0.37 U	0.9 U	0.36 U	0.73 U	73 U	0.18 U
Ethylbenzene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	10	1.1 U	0.44 U	0.44 U	44 U	0.22 U
Hexachlorobutadiene	22 U	22 U	22 U	22 U	22 U	22 U	5.4 U	22 U	1.1 U	5.4 U	2.2 U	2.2 U	220 U	0.53 U
Hexane	3.6 U	3.6 U	3.6 U	6.6	3.6 U	3.6 U	3.2	3.6 U	3	0.9 U	46	0.36 U	36 U	0.18 U
Isopropyl alcohol	28	2.4 U	2.4 U	2.4 U	26	5.9	7.5	7.1	450	2.9	3.1	47	290	0.25 U
m,p-Xylene	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	8.6 U	27	2.2 U	0.86 U	0.86 U	86 U	0.43 U
Methylene chloride	7 U	19	7 U	17	7 U	13	19	12	20	76	17	3	810	0.7 U
Methyl-t-butyl ether	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.9 U	3.6 U	0.18 U	0.9 U	0.36 U	0.36 U	36 U	0.18 U
n-Heptane	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	1.8	1 U	0.4 U	0.4 U	40 U	0.2 U
o-Xylene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	9.5	1.1 U	0.44 U	0.44 U	44 U	0.22 U
Propylene (Propene)	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.45 U	1.8 U	0.18 U	98	0.18 U	0.35 U	35 U	0.35 U
Styrene	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	1.1 U	4.2 U	3.4	1.1 U	0.42 U	0.42 U	42 U	0.21 U
Tetrachloroethene	600	1200	2300	2500	73	310	31	170	0.72	1.7 U	1.1	0.68 U	68 U	0.52
Tetrahydrofuran	6.3	21	19	3 U	32	14	37	5.1	6.8	22	40	18	210	4.1
Toluene	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	1.4	3.8 U	29	0.95 U	0.65	0.38 U	38 U	0.19 U
trans-1,2-Dichloroethene	9.2	23	69	180	4 U	8.8	2.5	8	0.2 U	1 U	0.4 U	28	40 U	7.7
trans-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	0.22 U	1.1 U	0.44 U	0.44 U	44 U	0.22 U
Trichloroethene	31000	42000	25000	25000	8600	19000	2700	5500	2	11	16	2.7	54 U	1
Trichlorofluoromethane	520	540	1300	1800	430	840	240	370	0.71	1.4 U	23	6700	84	180
Trichlorotrifluoroethane	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	1.3	1.9 U	0.76 U	0.76 U	76 U	0.38 U
Vinyl acetate	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.9 U	3.6 U	0.71 U	0.9 U	0.36 U	1.5 U	150 U	0.71 U
Vinyl chloride	2.7	4.8	9.4	8.1	2.6 U	2.6 U	0.65	2.6 U	0.13 U	30	13	4.5	26 U	0.13 U

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space													
		IA-1 1/16/2009	IA-1- 020309 2/3/2009	IA-1- 021109 2/11/2009	IA-1- 021809 2/18/2009	IA-1- 022609 2/26/2009	IA-1- 030609 3/6/2009	IA-1- 033109 3/31/2009	IA-1- 041409 4/14/2009	IA-1- 042409 4/24/2009	IA-1- 091709 9/17/2009	IA-1- 092409 9/24/2009	IA-1- 100109 10/1/2009	IA-1- 100809 10/8/2009	
1,1,1-Trichloroethane	500	10	0.56	1.1	0.99	0.35	1.8	1.5	1.4	2	0.27 U	0.27 U	0.27 U	0.27 U	
1,1,2,2-Tetrachloroethane	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	
1,1,2-Trichloroethane	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	
1,1-Dichloroethane	430	0.71	0.2 U	0.2 U	0.2 U	0.27	0.32	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,1-Dichloroethene	20	0.38	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2,4-Trichlorobenzene	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	
1,2,4-Trimethylbenzene	52	0.25 U	0.36	0.7	0.77	0.25 U	0.25 U	0.25 U	0.18 U	0.48	0.29	0.35	0.28	0.51	
1,2-Dibromoethane (EDB)	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	
1,2-Dichlorobenzene	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,2-Dichloroethane	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2-Dichloropropane	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
1,2-Dichlorotetrafluoroethane	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
1,3,5-Trimethylbenzene	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	
1,3-Butadiene	NA	0.11 U	0.11 U	0.34	0.84	0.11 U	0.11 U	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	
1,3-Dichlorobenzene	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dichlorobenzene	24	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
2-Butanone	500	20	3.1	5.8	3.4	2.6	2.2	1.3	1.2	4.4	2	2.6	2.7	1.3	
2-Hexanone	NA	0.2 U	0.2 U	0.6	0.42	0.2 U	0.23	0.2 U	0.14 U	0.48	0.43	0.52	0.73	0.31	
4-Ethyltoluene	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	
4-Methyl-2-pentanone	200	0.2 U	0.2 U	0.43	0.3	0.2 U	0.2 U	0.2 U	0.14 U	0.52	0.21	0.35	0.32	0.2 U	
Acetone	500	18	7.7	19	21	10	8.7	14	12	310	11	18	13	10	
Benzene	3.3	1	0.68	1.9	3	0.69	0.87	0.71	0.56	0.78	0.49	0.47	0.39	0.48	
Benzyl chloride	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	
Bromodichloromethane	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	
Bromoform	7.3	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	
Bromomethane	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	
Carbon disulfide	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	
Carbon tetrachloride	0.54	0.35	0.41	0.52	<b>0.55</b>	0.46	<b>0.59</b>	0.53	0.31	0.43	0.48	0.38	0.42	0.43	
Chlorobenzene	200	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
Chloroethane	500	0.13 U	0.13 U	0.42	0.13 U	0.13 U	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	
Chloroform	0.5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	
Chloromethane	80	1.1	1	1.4	1.5	1	1	1.2	1.1	1.3	1.1	1.1	0.98	0.95	
cis-1,2-Dichloroethene	100	2	0.2 U	1	1.1	0.73	1.3	0.5	0.6	1.3	0.2 U	0.2 U	0.83	0.44	
cis-1,3-Dichloropropene	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Cyclohexane	NA	0.17 U	0.17 U	0.49	0.61	0.17 U	0.17 U	0.17 U	0.12 U	0.34	0.18 U	0.17 U	0.17 U	0.17 U	
Dibromochloromethane	NA	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
Dichlorodifluoromethane	500	1.8	2.1	2.6	2.8	2.6	2.6	3.1	2	8.3	2.4	2	2.3	2.1	

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	CT IACTIND 2003 (ug/m3)	Indoor Air - Large Retail Space													
		IA-1 1/16/2009	IA-1-020309 2/3/2009	IA-1-021109 2/11/2009	IA-1-021809 2/18/2009	IA-1-022609 2/26/2009	IA-1-030609 3/6/2009	IA-1-033109 3/31/2009	IA-1-041409 4/14/2009	IA-1-042409 4/24/2009	IA-1-091709 9/17/2009	IA-1-092409 9/24/2009	IA-1-100109 10/1/2009	IA-1-100809 10/8/2009	
Ethanol	NA	5.7	8.3	14	20	9.8	7.5	18	5	39	6.2	7	6.5	8.8	
Ethyl acetate	NA	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.18 U	0.18 U	0.26 U	0.37 U	0.32	0.18 U	0.18 U	0.18 U	
Ethylbenzene	290	0.26	0.28	0.66	0.85	0.23	0.22 U	0.22 U	0.16 U	0.94	0.23	0.23	0.22 U	0.28	
Hexachlorobutadiene	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	
Hexane	NA	0.92	0.74	1.2	1.6	1	0.51	0.53	0.65	1.7	0.99	1.3	0.41	0.77	
Isopropyl alcohol	NA	3.4	3.1	5.3	5.8	3.8	2	9.1	0.18 U	240	5.2	5.2	0.25 U	2.7	
m,p-Xylene	500	0.76	0.87	2.1	2.8	0.8	0.43 U	0.63	0.31 U	2.5	0.79	0.91	0.73	1	
Methylene chloride	17	2.3	<b>33</b>	2.3	1.8	4.4	1.1	6.7	3.5	4.8	1.6	3.6	0.7 U	0.7 U	
Methyl-t-butyl ether	190	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	
n-Heptane	NA	0.23	0.2 U	0.59	0.75	0.2 U	0.2 U	0.2 U	0.14 U	0.67	0.2 U	0.2 U	0.2 U	0.26	
o-Xylene	500	0.26	0.33	0.76	0.99	0.3	0.22 U	0.22 U	0.16 U	0.7	0.31	0.4	0.28	0.4	
Propylene (Propene)	NA	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.09 U	0.09 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U	
Styrene	290	0.21 U	0.21 U	0.21	0.28	0.21 U	0.21 U	0.21 U	0.15 U	0.24	0.21 U	0.21 U	0.21 U	0.21 U	
Tetrachloroethene	5	<b>6.6</b>	0.57	4.2	3.2	2.6	4.9	1.5	1.9	<b>6.1</b>	0.34 U	0.34 U	2	1.1	
Tetrahydrofuran	NA	12	1.2	1.3	0.48	0.32	0.15 U	0.15 U	0.23	0.4	0.15 U	0.15 U	0.15 U	0.15 U	
Toluene	500	1.7	1.4	4	5.7	2.3	0.93	1.7	0.72	5.7	1.3	1.1	0.78	1.2	
trans-1,2-Dichloroethene	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
trans-1,3-Dichloropropene	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Trichloroethene	1	<b>4.2</b>	0.46	<b>1.6</b>	<b>1.4</b>	0.65	<b>1.5</b>	0.57	0.74	<b>1.6</b>	0.27 U	0.27 U	<b>1.1</b>	0.56	
Trichlorofluoromethane	500	2.1	1.4	1.7	3.1	1.6	1.7	1.2	1.2	1.5	1.4	1.3	1.2	1.2	
Trichlorotrifluoroethane	NA	0.65	0.64	0.47	0.46	0.67	0.48	0.59	0.54	1.7	0.48	0.44	0.45	0.51	
Vinyl acetate	NA	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.18 U	0.5 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Vinyl chloride	1.9	0.26	0.13 U	0.22	0.21	0.13 U	0.19	0.13 U	0.1 U	0.16	0.13 U	0.13 U	0.17	0.13 U	

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-2 1/16/2009	IA-2- 020309 2/3/2009	IA-2- 021109 2/11/2009	IA-2- 021809 2/18/2009	IA-2- 022609 2/26/2009	IA-2- 041409 4/14/2009	IA-2- 042409 4/24/2009	IA-2- 091709 9/17/2009	IA-2- 092409 9/24/2009	IA-2- 100109 10/1/2009	IA-2- 100809 10/8/2009
1,1,1-Trichloroethane	9.9	0.63	1.1	1.1	0.44	1.4	2.1	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.72	0.2 U	0.2 U	0.2 U	0.32	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.41	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.37	0.7	0.65	0.3	0.18 U	0.25 U	0.29	0.39	0.27	0.52
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.3	0.66	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Butanone	21	4.1	4.6	3	2.9	0.95	1.6	1.1	2.3	0.81	1
2-Hexanone	0.2 U	0.2 U	0.35	0.26	0.2 U	0.14 U	0.2 U	0.25	0.54	0.2 U	0.26
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.35	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.39	0.2 U	0.2 U
Acetone	17	9.6	14	18	9.7	13	39	6.2	17	11	8.8
Benzene	1	0.67	1.8	3	0.77	0.58	0.44	0.41	0.47	0.39	0.54
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.33	0.41	0.55	0.57	0.48	0.41	0.41	0.44	0.4	0.46	0.42
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.42	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.25	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.1	1	1.3	1.3	1	1.1	1.2	0.91	1.1	0.96	0.98
cis-1,2-Dichloroethene	2.1	0.24	1.1	1.1	0.95	0.59	1.6	0.2 U	0.2 U	0.79	0.48
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.44	0.61	0.17 U	0.12 U	0.22	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	1.8	2.2	2.6	2.9	2.7	2.1	2.9	2	2.1	2.3	2.1

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-2 1/16/2009	IA-2- 020309 2/3/2009	IA-2- 021109 2/11/2009	IA-2- 021809 2/18/2009	IA-2- 022609 2/26/2009	IA-2- 041409 4/14/2009	IA-2- 042409 4/24/2009	IA-2- 091709 9/17/2009	IA-2- 092409 9/24/2009	IA-2- 100109 10/1/2009	IA-2- 100809 10/8/2009
Ethanol	5.5	8.8	12	17	7.9	4.9	7.5	4.8	6.7	7.8	6.2
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.26 U	0.37 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.26	0.28	0.65	0.79	0.3	0.18	0.22 U	0.22 U	0.22	0.22 U	0.31
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	0.88	0.57	1.3	1.6	0.69	0.72	0.74	0.41	0.42	0.71	1
Isopropyl alcohol	3.7	3.1	4.5	4.5	4.7	5.6	28	340	5.7	3.3	0.25 U
m,p-Xylene	0.76	0.88	2	2.6	0.93	0.61	0.63	0.71	0.93	0.78	1.1
Methylene chloride	2	<b>30</b>	4	1.6	1.8	4	4.2	0.7 U	0.7 U	0.7 U	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.23	0.2 U	0.58	0.73	0.22	0.15	0.2 U	0.2 U	0.2 U	0.2 U	0.34
o-Xylene	0.3	0.34	0.76	0.89	0.34	0.22	0.22	0.27	0.42	0.3	0.44
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.23	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	<b>7.5</b>	0.64	4.2	3.2	3.3	2.2	<b>7.6</b>	0.34 U	0.35	1.7	1
Tetrahydrofuran	12	1.2	1.2	0.49	0.41	0.21	0.28	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	1.7	1.3	4	5.5	2.3	1	1.2	1.1	1.1	1.2	1.5
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	<b>4.4</b>	0.56	<b>1.6</b>	<b>1.4</b>	0.91	0.77	<b>1.9</b>	0.27 U	0.27 U	0.99	0.57
Trichlorofluoromethane	2	1.2	1.7	2.8	1.6	1.3	1.3	1.2	1.2	1.2	1.2
Trichlorotrifluoroethane	0.69	0.58	0.49	0.46	0.64	0.56	0.74	0.5	0.47	0.46	0.54
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.5 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.27	0.13 U	0.18	0.2	0.13 U	0.1 U	0.18	0.13 U	0.13 U	0.16	0.13 U

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-3 1/16/2009	IA-3- 020309 2/3/2009	IA-3- 021109 2/11/2009	IA-3- 021809 2/18/2009	IA-3- 022609 2/26/2009	IA-3- 041409 4/14/2009	IA-3- 042409 4/24/2009	IA-3- 091709 9/17/2009	IA-3- 092409 9/24/2009	IA-3- 100109 10/1/2009	IA-3- 100809 10/8/2009
1,1,1-Trichloroethane	9.8	0.57	1.1	1.1	0.28	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.68	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.35	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.36	0.68	0.61	0.25 U	0.18 U	0.25 U	0.29	0.4	0.25 U	0.39
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.3	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Butanone	20	4.2	4.6	4	1.7	1.6	2.5	2	2.6	0.7	1.5
2-Hexanone	0.2 U	0.26	0.33	0.3	0.2 U	0.14 U	0.38	0.51	0.58	0.2 U	0.37
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.29	0.34	0.2 U	0.14 U	0.22	0.2 U	0.42	0.2 U	0.2 U
Acetone	18	12	17	24	9.7	7.5	50	11	19	6.7	11
Benzene	1	0.71	1.9	3.1	0.69	0.6	0.46	0.41	0.5	0.39	0.46
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.34	0.45	0.52	0.6	0.43	0.22 U	0.42	0.4	0.43	0.4	0.42
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.43	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.1	0.98	1.2	1.4	1.1	1.2	1.2	0.91	1.1	0.97	1
cis-1,2-Dichloroethene	1.9	0.2 U	1.1	1.1	0.55	0.61	1.5	0.2 U	0.2 U	0.94	0.49
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.46	0.6	0.17 U	0.15	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	1.9	2.3	2.5	2.9	2.6	2	2.9	2.1	2.1	2.2	2.2

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-3 1/16/2009	IA-3- 020309 2/3/2009	IA-3- 021109 2/11/2009	IA-3- 021809 2/18/2009	IA-3- 022609 2/26/2009	IA-3- 041409 4/14/2009	IA-3- 042409 4/24/2009	IA-3- 091709 9/17/2009	IA-3- 092409 9/24/2009	IA-3- 100109 10/1/2009	IA-3- 100809 10/8/2009
Ethanol	5.5	9.2	13	18	7.9	4.2	9	6.2	7.5	4.5	5
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.26 U	0.37 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.25	0.29	0.64	0.77	0.22 U	0.16	0.22 U	0.22 U	0.23	0.22 U	0.24
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	0.94	0.87	1.3	1.9	3.7	0.37	0.77	0.96	0.47	0.37	0.71
Isopropyl alcohol	3.5	4.1	5.5	4.9	3.1	0.18 U	33	180	5.9	0.25 U	0.25 U
m,p-Xylene	0.75	0.9	2	2.6	0.65	0.57	0.66	0.7	0.99	0.65	0.87
Methylene chloride	2.2	<b>31</b>	3.1	3.5	<b>33</b>	1.2	3.6	2.4	0.7 U	0.7 U	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.22	0.2 U	0.61	0.77	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.24
o-Xylene	0.28	0.33	0.79	0.86	0.23	0.22	0.24	0.26	0.45	0.27	0.34
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U
Styrene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	<b>6.1</b>	0.56	4.3	3.3	1.9	2.2	<b>7.1</b>	0.34 U	0.34 U	2	1.1
Tetrahydrofuran	12	1.1	1.3	0.49	0.15 U	0.24	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	1.7	1.5	4.7	5.8	2.1	1	1.2	1.2	1.1	0.73	1.1
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	<b>3.9</b>	0.49	<b>1.7</b>	<b>1.5</b>	0.53	0.77	<b>1.8</b>	0.27 U	0.27 U	<b>1.1</b>	0.54
Trichlorofluoromethane	1.9	1.3	1.8	2.8	1.8	1.2	1.3	1.4	1.2	1.2	1.2
Trichlorotrifluoroethane	0.6	0.58	0.49	0.44	0.69	0.53	0.74	0.51	0.46	0.49	0.47
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.5 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.23	0.13 U	0.19	0.21	0.13 U	0.1 U	0.17	0.13 U	0.13 U	0.18	0.13 U



**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-4 1/16/2009	IA-4- 020309 2/3/2009	IA-4- 021109 2/11/2009	IA-4- 021809 2/18/2009	IA-4- 022609 2/26/2009	IA-4- 041409 4/14/2009	IA-4- 042409 4/24/2009	IA-4- 091709 9/17/2009	IA-4- 092409 9/24/2009	IA-4- 100109 10/1/2009	IA-4- 100809 10/8/2009
1,1,1-Trichloroethane	10	0.62	1.1	1.1	0.45	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.73	0.2 U	0.2 U	0.2 U	0.31	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.42	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.26	0.37	0.74	0.65	0.29	0.18 U	0.25 U	0.25 U	0.41	0.28	0.41
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.33	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Butanone	21	4.4	6	3.2	2.5	1.1	1.6	1.5	2	1.3	1.2
2-Hexanone	0.2 U	0.33	0.73	0.39	0.2 U	0.14 U	0.2 U	0.29	0.45	0.32	0.27
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.2 U	0.2 U	0.43	0.28	0.2 U	0.14 U	0.2 U	0.2 U	0.32	0.2 U	0.2 U
Acetone	17	10	15	20	7.8	7.9	20	9.3	16	9.3	10
Benzene	1.1	0.68	1.8	3	0.76	0.59	0.44	0.4	0.43	0.37	0.48
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.4	0.43	0.5	<b>0.58</b>	0.46	0.22 U	0.45	0.41	0.4	0.46	0.4
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.41	0.13 U	0.13 U	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.26	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.2	0.99	1.4	1.3	1	1.1	1.2	0.9	1.1	1	1
cis-1,2-Dichloroethene	2.4	0.2 U	1.1	1.1	0.98	0.61	1.7	0.2 U	0.2 U	0.84	0.48
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.44	0.64	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	1.9	2.2	2.5	2.8	2.6	2.1	2.4	2.1	2	2.2	2.2

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	IA-4 1/16/2009	IA-4- 020309 2/3/2009	IA-4- 021109 2/11/2009	IA-4- 021809 2/18/2009	IA-4- 022609 2/26/2009	IA-4- 041409 4/14/2009	IA-4- 042409 4/24/2009	IA-4- 091709 9/17/2009	IA-4- 092409 9/24/2009	IA-4- 100109 10/1/2009	IA-4- 100809 10/8/2009
Ethanol	5.3	8.9	12	18	8	5.2	5.5	6	6.5	4.9	5.6
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.19	0.37 U	0.26 U	0.37 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.25	0.29	0.65	0.78	0.29	0.16	0.22 U	0.22 U	0.27	0.22 U	0.26
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	0.9	0.66	1.2	1.7	0.66	0.43	0.34	0.42	2.2	0.49	0.93
Isopropyl alcohol	3.5	3.3	4.7	4.8	3.9	0.18 U	13	5.6	5.2	0.25 U	0.25 U
m,p-Xylene	0.76	0.89	2.1	2.6	0.89	0.58	0.49	0.61	0.93	0.69	1
Methylene chloride	2.3	<b>29</b>	1.7	2.5	1.3	1.9	2.2	0.7 U	9.7	0.7 U	0.7 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.23	0.2 U	0.58	0.79	0.21	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.26
o-Xylene	0.27	0.33	0.78	0.87	0.33	0.22	0.22 U	0.22 U	0.42	0.28	0.4
Propylene (Propene)	0.18 U	0.18 U	0.09 U	0.09 U	0.18 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U
Styrene	0.21 U	0.21 U	0.22	0.23	0.21 U	0.15 U	0.21 U	0.21 U	0.21	0.21 U	0.21 U
Tetrachloroethene	<b>7.3</b>	0.58	4.4	3.4	3.4	2.4	<b>7.9</b>	0.75	0.34 U	2	1.1
Tetrahydrofuran	13	1.2	1.3	0.47	0.34	0.21	0.25	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	1.8	1.3	4.3	5.8	2.3	1	1	1.1	1.3	0.76	1.2
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	1.1	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	<b>4.7</b>	0.48	<b>1.7</b>	<b>1.5</b>	0.88	0.78	<b>2</b>	0.27 U	0.27 U	<b>1.1</b>	0.57
Trichlorofluoromethane	2	1.3	1.6	3	1.7	1.3	1.3	1.2	1.5	1.2	1.2
Trichlorotrifluoroethane	0.72	0.59	0.51	0.45	0.57	0.54	0.61	0.49	0.48	0.47	0.5
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.5 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.29	0.13 U	0.2	0.22	0.13 U	0.1 U	0.2	0.13 U	0.13 U	0.16	0.13 U

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space									
	LRAIR01 5/15/2009	LRAIR02 5/15/2009	LRAIR03 5/15/2009	LRAIR04 5/15/2009	LRAIR05 5/15/2009	LRAIR06 5/15/2009	LRAIR07 5/15/2009	LRAIR08 5/15/2009	LRAIR09 5/15/2009	LRAIR10 5/15/2009
1,1,1-Trichloroethane	0.45	0.52	0.65	0.57	0.51	0.44	0.69	0.5	0.49	0.53
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.29	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
2-Butanone	3.3	3.4	2.1	2.6	2	1.6	3.1	2.5	2.6	1.4
2-Hexanone	0.73	0.66	0.38	0.51	0.37	0.38	0.61	0.48	0.43	0.29
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.42	0.39	0.32	0.36	0.54	0.27	0.32	0.3	0.61	0.23
Acetone	12	13	10	11	8.5	7.7	13	11	9.8	6.9
Benzene	0.54	0.6	0.67	0.55	0.56	0.51	0.53	0.6	0.51	0.57
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	<b>0.7</b>	<b>0.68</b>	<b>0.71</b>	<b>0.68</b>	<b>0.68</b>	<b>0.63</b>	<b>0.68</b>	<b>0.7</b>	<b>0.64</b>	<b>0.66</b>
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1	0.98	1	0.95	1	1	0.92	1.1	0.91	1.2
cis-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2.5	2.3	2.6	2.4	2.7	2.4	2.4	2.8	2.3	2.7

**Table 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space									
	LRAIR01 5/15/2009	LRAIR02 5/15/2009	LRAIR03 5/15/2009	LRAIR04 5/15/2009	LRAIR05 5/15/2009	LRAIR06 5/15/2009	LRAIR07 5/15/2009	LRAIR08 5/15/2009	LRAIR09 5/15/2009	LRAIR10 5/15/2009
Ethanol	65	9	6.5	5.9	6	5.6	5.9	14	44	14
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.27	0.22 U
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	1.1	0.21	0.18 U	0.18	0.24	0.18 U	0.19	0.21	0.2	0.18 U
Isopropyl alcohol	3.3	3.4	3.7	3.5	3.6	3.4	4.4	3.6	2.8	3.2
m,p-Xylene	0.58	0.57	0.58	0.55	0.49	0.5	0.48	0.53	1	0.5
Methylene chloride	5.9	1.5	1.5	1.6	1.9	1.6	1.5	1.6	1.6	1.4
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
o-Xylene	0.28	0.28	0.27	0.27	0.25	0.26	0.25	0.27	0.34	0.26
Propylene (Propene)	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Styrene	0.23	0.21 U	0.21 U	0.22	0.21 U	0.21 U	0.37	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.47	0.47	0.54	0.66	0.64	0.6	0.73	0.53	0.46	0.46
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.2	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	0.73	0.7	0.58	0.59	0.51	0.53	0.57	0.53	0.54	0.47
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.28	0.27	0.29	0.34	0.27	0.28	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	1.3	1.3	1.2	1.1	1.4	1.3	1.1	1.4	1	1.4
Trichlorotrifluoroethane	0.63	0.6	0.65	0.62	0.64	0.57	0.59	0.68	0.62	0.58
Vinyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U

NA - not available

U - Not detected, value is the detection limit

ug/m<sup>3</sup> - micrograms per cubic meter

Prepared by/Date: KJC 12/10/09

Checked by/Date: kask 12/14/09

**5** Bolded and shaded values are above the CT target  
indoor air concentration for industrial/commercial scenarios

**Table 4.**  
**Vacuum Monitoring Results - Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

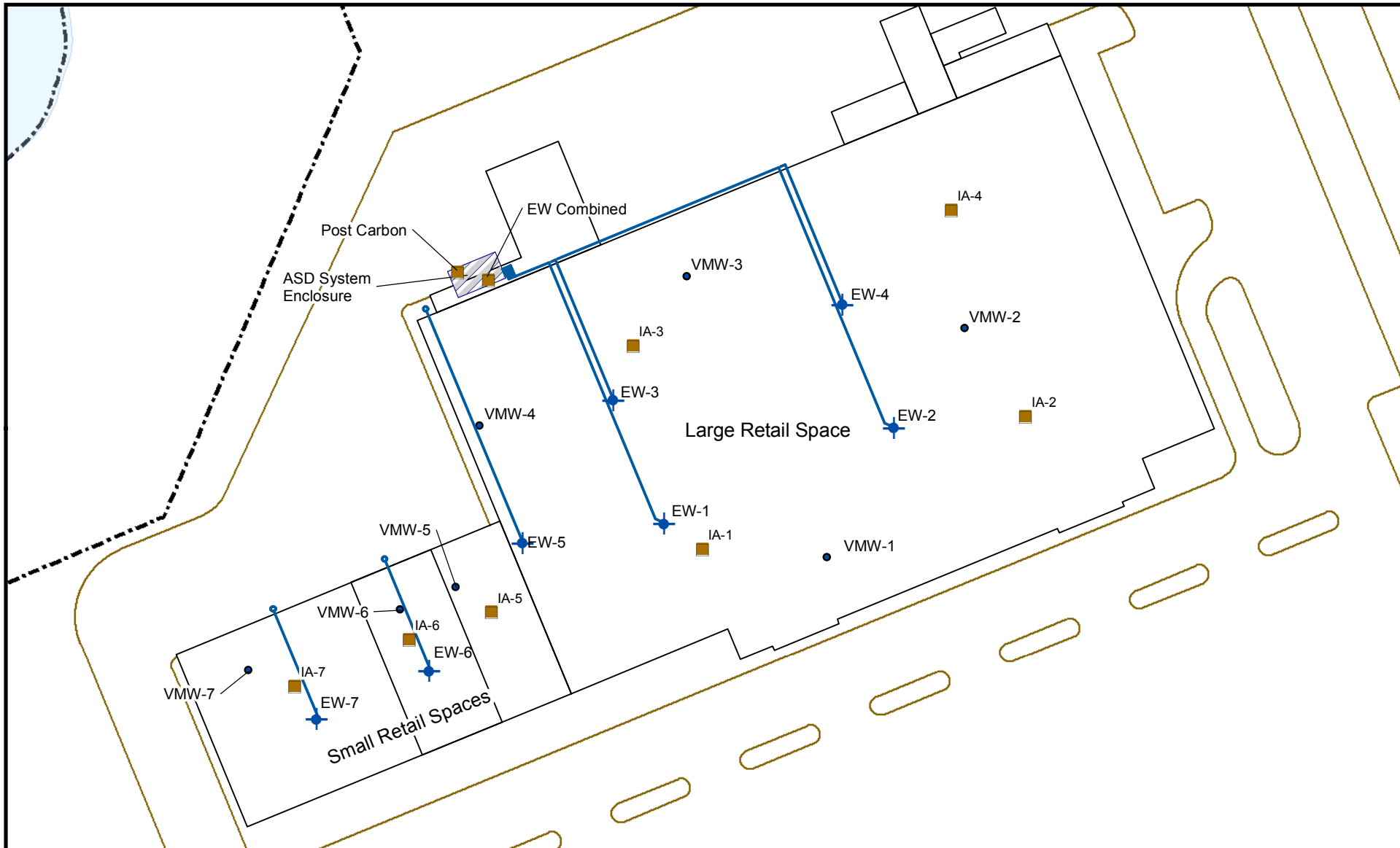
Date	Pressure Differential (inches of water)			
	VMW-1	VMW-2	VMW-3	VMW-4
2/3/2009	-0.20	-0.62	-0.15	-0.12
2/18/2009	-0.509	-0.738	-0.650	-0.253
2/26/2009	-0.511	-0.710	-0.665	-0.273
3/6/2009	-0.507	-0.610	-0.715	-0.251
3/6/2009*	-0.120	-0.195	-0.230	-0.028
3/31/2009	-0.148	-0.221	-0.244	-0.072
4/14/2009	-0.140	-0.210	-0.215	-0.081
5/15/2009	-0.133	-0.193	-0.208	-0.087
9/17/2009	-0.132	-0.172	-0.209	-0.087
9/24/2009	-0.146	-0.189	-0.254	-0.094
10/1/2009	-0.181	-0.232	-0.233	-0.097
10/8/2009	-0.197	-0.212	-0.255	-0.087

\* vacuum reduced at extraction wells

Prepared by/Date: PJM 10/14/09

Checked by/Date: kask 12/14/09

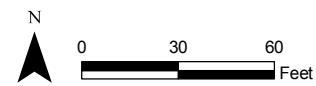
## **FIGURES**



All locations are approximate

**Legend**

- Air Sample Location
- Current Building
- Vacuum Monitoring Well
- Pavement Outline
- Extraction Well
- Effluent Location
- Extraction Well Piping



Prepared by BJR | Checked by DEH

Figure 1  
Vapor Mitigation  
Sample Locations

Former Gorham Manufacturing Facility  
333 Adelaide Avenue  
Providence, Rhode Island



**APPENDIX A**  
**Laboratory Reports**



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

REPORT DATE 9/22/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: KELLY CHATTERTON

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

**ANALYTICAL SUMMARY**

LIMS BAT #: LIMIT-25314  
JOB NUMBER: 3650080114

PROJECT LOCATION: PROVIDENCE, RI (GORHAM SITE)

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
IA-1-091709	09B14877	AIR	Not Specified	to-15 ppbv	
IA-1-091709	09B14877	AIR	Not Specified	to-15 ug/m3	

Comments :

LIMS BATCH NO. : LIMIT-25314

In method TO-15, method blank associated with sample 09B14877 contained Isopropanol at 0.985 ppbv = 2.42ug/m3.

In method TO-15, any reported result for Isopropanol in sample 09B14877 is estimated and likely to be biased on the high side based on continuing calibration bias.

In method TO-15, reduced precision is anticipated for reported result for Isopropanol in sample 09B14877 based on sample duplicate RPD outside of control limits

ALL TO-15 SAMPLES WERE ANALYZED UNDILUTED UNLESS SPECIFIED BELOW:

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033	AIHA ELLAP (LEAD) 100033	NORTH CAROLINA CERT. #652
MASSACHUSETTS MA0100	NEW HAMPSHIRE NELAP 2516	NEW JERSEY NELAP NJ MA007 (AIR)
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036	FLORIDA DOH E871027 (AIR)
NEW YORK ELAP/NELAP 10899	RHODE ISLAND (LIC. No. 112)	

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

  
SIGNATURE

9-22-09  
DATE

Tod Kopyscinski  
Air Laboratory Manager

Michael Erickson  
Laboratory Director

Chris Hall  
Project Chemist Supervisor

Daren Damboragian  
Laboratory Manager

\* See end of data tabulation for notes and comments pertaining to this sample

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/22/2009  
 Page 1 of 5

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25314  
 Job Number: 3650080114

**Field Sample # : IA-1-091709**

**Sample ID :** 09B14877      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.7	0.05		09/18/09	WSD
Benzene	PPBv	0.16	0.05		09/18/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/18/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/18/09	WSD
Bromoform	PPBv	ND	0.05		09/18/09	WSD
Bromomethane	PPBv	ND	0.05		09/18/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/18/09	WSD
2-Butanone (MEK)	PPBv	0.68	0.05		09/18/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/18/09	WSD
Carbon Tetrachloride	PPBv	0.08	0.05		09/18/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/18/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/18/09	WSD
Chloroethane	PPBv	ND	0.05		09/18/09	WSD
Chloroform	PPBv	ND	0.05		09/18/09	WSD
Chloromethane	PPBv	0.51	0.05		09/18/09	WSD
Cyclohexane	PPBv	ND	0.05		09/18/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/18/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/18/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/18/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/18/09	WSD
Dichlorodifluoromethane	PPBv	0.49	0.05		09/18/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/18/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/18/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/18/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/18/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/18/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/18/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/18/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/18/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/18/09	WSD
Ethanol	PPBv	3.3	0.05		09/18/09	WSD
Ethyl Acetate	PPBv	0.09	0.05		09/18/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/18/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/18/09	WSD
n-Heptane	PPBv	ND	0.05		09/18/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/22/2009  
 Page 2 of 5

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25314  
 Job Number: 3650080114

**Field Sample # : IA-1-091709**

**Sample ID :** 09B14877      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/18/09	WSD
Hexane	PPBv	0.28	0.05		09/18/09	WSD
2-Hexanone	PPBv	0.10	0.05		09/18/09	WSD
Isopropanol	PPBv	2.1	0.05		09/18/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/18/09	WSD
Methylene Chloride	PPBv	0.46	0.05		09/18/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.05	0.05		09/18/09	WSD
Propene	PPBv	ND	0.20		09/18/09	WSD
Styrene	PPBv	ND	0.05		09/18/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/18/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/18/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/18/09	WSD
Toluene	PPBv	0.34	0.05		09/18/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/18/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/18/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/18/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/18/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.25	0.05		09/18/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/18/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		09/18/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/18/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/18/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/18/09	WSD
m/p-Xylene	PPBv	0.18	0.10		09/18/09	WSD
o-Xylene	PPBv	0.07	0.05		09/18/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	11	0.12		09/18/09	WSD
Benzene	ug/m3	0.49	0.16		09/18/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/18/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/18/09	WSD
Bromoform	ug/m3	ND	0.51		09/18/09	WSD
Bromomethane	ug/m3	ND	0.19		09/18/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/18/09	WSD
2-Butanone (MEK)	ug/m3	2.0	0.15		09/18/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/18/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/22/2009  
Page 3 of 5

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

Purchase Order No.:  
LIMS-BAT #: LIMIT-25314  
Job Number: 3650080114

**Field Sample # : IA-1-091709**

**Sample ID :** 09B14877 ‡Sampled : 9/17/2009  
Not Specified  
Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.48	0.31		09/18/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/18/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/18/09	WSD
Chloroethane	ug/m3	ND	0.13		09/18/09	WSD
Chloroform	ug/m3	ND	0.24		09/18/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/18/09	WSD
Cyclohexane	ug/m3	ND	0.18		09/18/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/18/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/18/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/18/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/18/09	WSD
Dichlorodifluoromethane	ug/m3	2.4	0.25		09/18/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/18/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/18/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/18/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/18/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/18/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/18/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/18/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/18/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/18/09	WSD
Ethanol	ug/m3	6.2	0.09		09/18/09	WSD
Ethyl Acetate	ug/m3	0.32	0.18		09/18/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/18/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/18/09	WSD
n-Heptane	ug/m3	ND	0.20		09/18/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/18/09	WSD
Hexane	ug/m3	0.99	0.18		09/18/09	WSD
2-Hexanone	ug/m3	0.43	0.20		09/18/09	WSD
Isopropanol	ug/m3	5.2	0.12		09/18/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/18/09	WSD
Methylene Chloride	ug/m3	1.6	0.17		09/18/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.21	0.20		09/18/09	WSD
Propene	ug/m3	ND	0.35		09/18/09	WSD
Styrene	ug/m3	ND	0.21		09/18/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/22/2009  
 Page 4 of 5

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25314  
 Job Number: 3650080114

**Field Sample # : IA-1-091709**

**Sample ID :** 09B14877      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/18/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/18/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/18/09	WSD
Toluene	ug/m3	1.3	0.19		09/18/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/18/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/18/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/18/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/18/09	WSD
Trichlorofluoromethane	ug/m3	1.4	0.28		09/18/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.48	0.38		09/18/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.29	0.25		09/18/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/18/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/18/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/18/09	WSD
m/p-Xylene	ug/m3	0.79	0.43		09/18/09	WSD
o-Xylene	ug/m3	0.31	0.22		09/18/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



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KELLY CHATTERTON

MACTEC ENGINEERING & CONSULTING - MA

107 AUDUBON ROAD, BLDG. 2, SUITE 301

WAKEFIELD, MA 01880

Purchase Order No.:

9/22/2009

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Project Location: PROVIDENCE, RI (GORHAM SITE)

Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25314

Job Number: 3650080114

\*\* END OF REPORT \*\*

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### QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

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Method Blanks

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QC Batch Number: BATCH-16659

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14877	Acetone	Sample Amount	11.06	ug/m3	
		Duplicate Value	11.08	ug/m3	
		Duplicate RPD	0.21	%	
	Benzene	Sample Amount	0.49	ug/m3	
		Duplicate Value	0.48	ug/m3	
		Duplicate RPD	1.95	%	
	Carbon Tetrachloride	Sample Amount	0.48	ug/m3	
		Duplicate Value	0.47	ug/m3	
		Duplicate RPD	1.30	%	
	Chloroform	Sample Amount	<0.24	ug/m3	
		Duplicate Value	0.12	ug/m3	
		Duplicate RPD	>0.00	%	
	1,2-Dichloroethane	Sample Amount	<0.20	ug/m3	
		Duplicate Value	0.02	ug/m3	
		Duplicate RPD	>0.00	%	
	1,4-Dichlorobenzene	Sample Amount	<0.30	ug/m3	
		Duplicate Value	0.08	ug/m3	
		Duplicate RPD	>0.00	%	
	Ethyl Acetate	Sample Amount	0.32	ug/m3	
		Duplicate Value	0.34	ug/m3	
		Duplicate RPD	6.52	%	
	Ethylbenzene	Sample Amount	0.23	ug/m3	
		Duplicate Value	0.23	ug/m3	
		Duplicate RPD	0.00	%	
	Hexane	Sample Amount	0.98	ug/m3	
		Duplicate Value	0.96	ug/m3	
		Duplicate RPD	2.16	%	
	Isopropanol	Sample Amount	5.23	ug/m3	
		Duplicate Value	69.39	ug/m3	
		Duplicate RPD	171.95	%	
2-Butanone (MEK)	Sample Amount	1.99	ug/m3		
	Duplicate Value	1.94	ug/m3		
	Duplicate RPD	2.39	%		
4-Methyl-2-Pentanone (MIBK)	Sample Amount	0.21	ug/m3		
	Duplicate Value	0.24	ug/m3		
	Duplicate RPD	12.61	%		
Styrene	Sample Amount	<0.21	ug/m3		
	Duplicate Value	0.14	ug/m3		
	Duplicate RPD	>0.00	%		
Tetrachloroethylene	Sample Amount	<0.34	ug/m3		
	Duplicate Value	0.29	ug/m3		
	Duplicate RPD	>0.00	%		
Toluene	Sample Amount	1.27	ug/m3		



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14877					
	Toluene	Duplicate Value	1.30	ug/m3	
		Duplicate RPD	1.74	%	
	1,1,1-Trichloroethane	Sample Amount	<0.27	ug/m3	
		Duplicate Value	0.10	ug/m3	
		Duplicate RPD	>0.00	%	
	Trichloroethylene	Sample Amount	<0.27	ug/m3	
		Duplicate Value	0.18	ug/m3	
		Duplicate RPD	>0.00	%	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Sample Amount	0.48	ug/m3	
		Duplicate Value	0.49	ug/m3	
		Duplicate RPD	3.12	%	
	Trichlorofluoromethane	Sample Amount	1.41	ug/m3	
		Duplicate Value	1.44	ug/m3	
		Duplicate RPD	2.35	%	
	o-Xylene	Sample Amount	0.31	ug/m3	
		Duplicate Value	0.31	ug/m3	
		Duplicate RPD	0.00	%	
	m/p-Xylene	Sample Amount	0.79	ug/m3	
		Duplicate Value	0.81	ug/m3	
		Duplicate RPD	2.69	%	
	1,3-Dichlorobenzene	Sample Amount	<0.30	ug/m3	
		Duplicate Value	0.01	ug/m3	
		Duplicate RPD	>0.00	%	
	Ethanol	Sample Amount	6.24	ug/m3	
		Duplicate Value	6.31	ug/m3	
		Duplicate RPD	1.13	%	
	4-Ethyl Toluene	Sample Amount	<0.25	ug/m3	
		Duplicate Value	0.09	ug/m3	
		Duplicate RPD	>0.00	%	
	Methyl tert-Butyl Ether (MTBE)	Sample Amount	<0.18	ug/m3	
		Duplicate Value	0.02	ug/m3	
		Duplicate RPD	>0.00	%	
	Methylene Chloride	Sample Amount	1.58	ug/m3	
		Duplicate Value	1.54	ug/m3	
		Duplicate RPD	2.88	%	
	Chlorobenzene	Sample Amount	<0.23	ug/m3	
		Duplicate Value	0.02	ug/m3	
		Duplicate RPD	>0.00	%	
	Chloromethane	Sample Amount	1.05	ug/m3	
		Duplicate Value	1.03	ug/m3	
		Duplicate RPD	2.37	%	
	Bromomethane	Sample Amount	<0.19	ug/m3	
		Duplicate Value	0.02	ug/m3	





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QC Batch Number: BATCH-16659

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14877	Bromomethane	Duplicate RPD	>0.00	%	
	1,2,4-Trichlorobenzene	Sample Amount	<0.37	ug/m3	
		Duplicate Value	0.07	ug/m3	
	1,2,4-Trimethylbenzene	Duplicate RPD	>0.00	%	
		Sample Amount	0.29	ug/m3	
		Duplicate Value	0.30	ug/m3	
	1,3,5-Trimethylbenzene	Duplicate RPD	4.95	%	
		Sample Amount	<0.25	ug/m3	
		Duplicate Value	0.11	ug/m3	
	cis-1,2-Dichloroethylene	Duplicate RPD	>0.00	%	
		Sample Amount	<0.20	ug/m3	
		Duplicate Value	0.07	ug/m3	
	Dichlorodifluoromethane	Duplicate RPD	>0.00	%	
		Sample Amount	2.41	ug/m3	
		Duplicate Value	2.40	ug/m3	
	Carbon Disulfide	Duplicate RPD	0.41	%	
		Sample Amount	<0.16	ug/m3	
		Duplicate Value	0.01	ug/m3	
	2-Hexanone	Duplicate RPD	>0.00	%	
		Sample Amount	0.42	ug/m3	
		Duplicate Value	0.45	ug/m3	
	4-Bromofluorobenzene	Duplicate RPD	6.51	%	
	n-Heptane	Surrogate Recovery	96.12	%	70-130
		Sample Amount	<0.20	ug/m3	
		Duplicate Value	0.20	ug/m3	
		Duplicate RPD	>4.4	%	
	1,2-Dichlorotetrafluoroethane (114)	Sample Amount	<0.35	ug/m3	
		Duplicate Value	0.10	ug/m3	
		Duplicate RPD	>0.00	%	
	Tetrahydrofuran	Sample Amount	<0.15	ug/m3	
		Duplicate Value	0.11	ug/m3	
		Duplicate RPD	>0.00	%	
BLANK-133019	Acetone	Blank	<0.48	ug/m3	
	Benzene	Blank	<0.16	ug/m3	
	Carbon Tetrachloride	Blank	<0.31	ug/m3	
	Chloroform	Blank	<0.24	ug/m3	
	1,2-Dichloroethane	Blank	<0.20	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.30	ug/m3	
	Ethyl Acetate	Blank	<0.18	ug/m3	
	Ethylbenzene	Blank	<0.22	ug/m3	
	Hexane	Blank	<0.18	ug/m3	
	Isopropanol	Blank	2.42	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133019					
	2-Butanone (MEK)	Blank	<0.30	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.20	ug/m3	
	Styrene	Blank	<0.21	ug/m3	
	Tetrachloroethylene	Blank	<0.34	ug/m3	
	Toluene	Blank	<0.19	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.27	ug/m3	
	Trichloroethylene	Blank	<0.27	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.38	ug/m3	
	Trichlorofluoromethane	Blank	<0.28	ug/m3	
	o-Xylene	Blank	<0.22	ug/m3	
	m/p-Xylene	Blank	<0.43	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,1-Dichloroethane	Blank	<0.20	ug/m3	
	1,1-Dichloroethylene	Blank	<0.20	ug/m3	
	Ethanol	Blank	<0.38	ug/m3	
	4-Ethyl Toluene	Blank	<0.25	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.18	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	Vinyl Chloride	Blank	<0.13	ug/m3	
	Methylene Chloride	Blank	<0.70	ug/m3	
	Chlorobenzene	Blank	<0.23	ug/m3	
	Chloromethane	Blank	<0.10	ug/m3	
	Bromomethane	Blank	<0.19	ug/m3	
	Chloroethane	Blank	<0.13	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	Chlorodibromomethane	Blank	<0.43	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.27	ug/m3	
	Bromoform	Blank	<0.51	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.34	ug/m3	
	Hexachlorobutadiene	Blank	<0.53	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.37	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.25	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.25	ug/m3	
	Cyclohexane	Blank	<0.17	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	1,2-Dichloropropane	Blank	<0.23	ug/m3	
	Dichlorodifluoromethane	Blank	<0.25	ug/m3	
	Benzyl Chloride	Blank	<0.26	ug/m3	
	Carbon Disulfide	Blank	<0.16	ug/m3	
	Vinyl Acetate	Blank	<0.71	ug/m3	
	2-Hexanone	Blank	<0.20	ug/m3	

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QC Batch Number: BATCH-16659

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133019					
	Bromodichloromethane	Blank	<0.33	ug/m3	
	1,2-Dibromoethane	Blank	<0.38	ug/m3	
	n-Heptane	Blank	<0.20	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.35	ug/m3	
	Tetrahydrofuran	Blank	<0.15	ug/m3	
	Propene	Blank	<0.35	ug/m3	
	1,3-Butadiene	Blank	<0.23	ug/m3	
LFBLANK-95344					
	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	
		Lab Fort Blk. Found	10.68	ug/m3	
		Lab Fort Blk. % Rec.	89.93	%	50-150
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	
		Lab Fort Blk. Found	15.25	ug/m3	
		Lab Fort Blk. % Rec.	95.66	%	70-130
	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	
		Lab Fort Blk. Found	29.34	ug/m3	
		Lab Fort Blk. % Rec.	93.29	%	70-130
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	
		Lab Fort Blk. Found	22.42	ug/m3	
		Lab Fort Blk. % Rec.	92.14	%	70-130
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	17.75	ug/m3	
		Lab Fort Blk. % Rec.	87.68	%	70-130
	1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.84	ug/m3	
		Lab Fort Blk. % Rec.	99.28	%	70-130
	Ethyl Acetate	Lab Fort Blank Amt.	18.01	ug/m3	
		Lab Fort Blk. Found	18.63	ug/m3	
		Lab Fort Blk. % Rec.	103.46	%	50-150
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	21.53	ug/m3	
		Lab Fort Blk. % Rec.	99.33	%	70-130
	Hexane	Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	16.31	ug/m3	
		Lab Fort Blk. % Rec.	92.55	%	70-130
	Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	
		Lab Fort Blk. Found	16.33	ug/m3	
		Lab Fort Blk. % Rec.	132.94	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	13.02	ug/m3	
		Lab Fort Blk. % Rec.	88.32	%	70-130
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	21.51	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95344					
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blk. % Rec.	105.02	%	70-130
	Styrene	Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	22.36	ug/m3	
		Lab Fort Blk. % Rec.	105.18	%	70-130
	Tetrachloroethylene	Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	32.89	ug/m3	
		Lab Fort Blk. % Rec.	97.01	%	70-130
	Toluene	Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	18.71	ug/m3	
		Lab Fort Blk. % Rec.	99.46	%	70-130
	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	24.89	ug/m3	
		Lab Fort Blk. % Rec.	91.26	%	70-130
	Trichloroethylene	Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	25.47	ug/m3	
		Lab Fort Blk. % Rec.	94.82	%	70-130
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	32.73	ug/m3	
		Lab Fort Blk. % Rec.	85.44	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	24.53	ug/m3	
		Lab Fort Blk. % Rec.	87.31	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	21.55	ug/m3	
		Lab Fort Blk. % Rec.	99.24	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	41.08	ug/m3	
		Lab Fort Blk. % Rec.	94.58	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.55	ug/m3	
		Lab Fort Blk. % Rec.	98.32	%	70-130
	1,3-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.83	ug/m3	
		Lab Fort Blk. % Rec.	99.24	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	19.18	ug/m3	
		Lab Fort Blk. % Rec.	94.78	%	70-130
	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	17.19	ug/m3	
		Lab Fort Blk. % Rec.	86.70	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	11.75	ug/m3	
		Lab Fort Blk. % Rec.	124.76	%	50-150



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95344					
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.85	ug/m3	
		Lab Fort Blk. % Rec.	105.20	%	50-150
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	17.44	ug/m3	
		Lab Fort Blk. % Rec.	96.79	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	18.53	ug/m3	
		Lab Fort Blk. % Rec.	93.51	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	11.49	ug/m3	
		Lab Fort Blk. % Rec.	89.96	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	19.05	ug/m3	
		Lab Fort Blk. % Rec.	109.78	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	22.57	ug/m3	
		Lab Fort Blk. % Rec.	98.05	%	70-130
	Chloromethane	Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	9.80	ug/m3	
		Lab Fort Blk. % Rec.	94.92	%	70-130
	Bromomethane	Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	17.72	ug/m3	
		Lab Fort Blk. % Rec.	91.33	%	70-130
	Chloroethane	Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	12.63	ug/m3	
		Lab Fort Blk. % Rec.	95.79	%	70-130
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	22.39	ug/m3	
		Lab Fort Blk. % Rec.	98.64	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	22.48	ug/m3	
		Lab Fort Blk. % Rec.	99.03	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	44.91	ug/m3	
		Lab Fort Blk. % Rec.	105.44	%	70-130
	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	26.98	ug/m3	
		Lab Fort Blk. % Rec.	98.90	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	57.48	ug/m3	
		Lab Fort Blk. % Rec.	111.20	%	70-130
	1,1,2,2-Tetrachloroethane	Lab Fort Blank Amt.	34.33	ug/m3	



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/22/2009

Lims Bat # : LIMIT-25314

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QC Batch Number: BATCH-16659

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95344					
	1,1,2,2-Tetrachloroethane	Lab Fort Blk. Found	34.89	ug/m3	
		Lab Fort Blk. % Rec.	101.62	%	70-130
	Hexachlorobutadiene	Lab Fort Blank Amt.	53.33	ug/m3	
		Lab Fort Blk. Found	53.38	ug/m3	
		Lab Fort Blk. % Rec.	100.10	%	70-130
	1,2,4-Trichlorobenzene	Lab Fort Blank Amt.	37.10	ug/m3	
		Lab Fort Blk. Found	37.36	ug/m3	
		Lab Fort Blk. % Rec.	100.70	%	70-130
	1,2,4-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	24.67	ug/m3	
		Lab Fort Blk. % Rec.	100.38	%	70-130
	1,3,5-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	24.68	ug/m3	
		Lab Fort Blk. % Rec.	100.42	%	70-130
	Cyclohexane	Lab Fort Blank Amt.	17.21	ug/m3	
		Lab Fort Blk. Found	16.59	ug/m3	
		Lab Fort Blk. % Rec.	96.40	%	50-150
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	18.46	ug/m3	
		Lab Fort Blk. % Rec.	93.13	%	70-130
	1,2-Dichloropropane	Lab Fort Blank Amt.	23.10	ug/m3	
		Lab Fort Blk. Found	22.21	ug/m3	
		Lab Fort Blk. % Rec.	96.15	%	70-130
	Dichlorodifluoromethane	Lab Fort Blank Amt.	24.72	ug/m3	
		Lab Fort Blk. Found	20.91	ug/m3	
		Lab Fort Blk. % Rec.	84.59	%	70-130
	Benzyl Chloride	Lab Fort Blank Amt.	25.88	ug/m3	
		Lab Fort Blk. Found	29.29	ug/m3	
		Lab Fort Blk. % Rec.	113.18	%	70-130
	Carbon Disulfide	Lab Fort Blank Amt.	15.57	ug/m3	
		Lab Fort Blk. Found	12.29	ug/m3	
		Lab Fort Blk. % Rec.	78.98	%	70-130
	Vinyl Acetate	Lab Fort Blank Amt.	17.60	ug/m3	
		Lab Fort Blk. Found	16.13	ug/m3	
		Lab Fort Blk. % Rec.	91.66	%	70-130
	2-Hexanone	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	21.56	ug/m3	
		Lab Fort Blk. % Rec.	105.28	%	50-150
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3	
		Lab Fort Blk. Found	33.10	ug/m3	
		Lab Fort Blk. % Rec.	98.79	%	70-130
	1,2-Dibromoethane	Lab Fort Blank Amt.	38.42	ug/m3	
		Lab Fort Blk. Found	37.49	ug/m3	



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/22/2009

Lims Bat # : LIMIT-25314

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QC Batch Number: BATCH-16659

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95344	1,2-Dibromoethane	Lab Fort Blk. % Rec.	97.58	%	70-130
	n-Heptane	Lab Fort Blank Amt.	20.49	ug/m3	
		Lab Fort Blk. Found	20.93	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blk. % Rec.	102.18	%	50-150
		Lab Fort Blank Amt.	34.95	ug/m3	
		Lab Fort Blk. Found	30.55	ug/m3	
	Tetrahydrofuran	Lab Fort Blk. % Rec.	87.41	%	70-130
		Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	15.53	ug/m3	
	Propene	Lab Fort Blk. % Rec.	105.36	%	50-150
		Lab Fort Blank Amt.	8.60	ug/m3	
		Lab Fort Blk. Found	7.86	ug/m3	
	1,3-Butadiene	Lab Fort Blk. % Rec.	91.36	%	50-150
		Lab Fort Blank Amt.	11.06	ug/m3	
		Lab Fort Blk. Found	9.95	ug/m3	
		Lab Fort Blk. % Rec.	89.96	%	70-130



---

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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

---

Report Date: 9/22/2009

Lims Bat # : LIMIT-25314

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NOTES:

QC Batch No. : BATCH-16659

Sample ID : 09B14877

Analysis : Isopropanol

LABORATORY FORTIFIED BLANK RECOVERY IS OUTSIDE OF CONTROL LIMITS. ANY REPORTED VALUE FOR THIS COMPOUND IS LIKELY TO BE BIASED ON THE HIGH SIDE.





QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates                      BATCH QC: Lab fortified Blanks and Duplicates  
Sample Matrix Spikes and Matrix Spike Duplicates                      Standard Reference Materials and Duplicates  
Method Blanks

Report Date: 9/22/2009                      Lims Bat #: LIMIT-25314                      Page 11 of 11

QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER                      This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.

LIMITS                      Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.

Sample Amount                      Amount of analyte found in a sample.

Blank                      Method Blank that has been taken though all the steps of the analysis.

LFBLANK                      Laboratory Fortified Blank (a control sample)

STDADD                      Standard Added (a laboratory control sample)

Matrix Spk Amt Added                      Amount of analyte spiked into a sample  
MS Amt Measured                      Amount of analyte found including amount that was spiked  
Matrix Spike % Rec.                      % Recovery of spiked amount in sample.

Duplicate Value                      The result from the Duplicate analysis of the sample.  
Duplicate RPD                      The Relative Percent Difference between two Duplicate Analyses.

Surrogate Recovery                      The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.

Sur. Recovery (ELCD)                      Surrogate Recovery on the Electrolytic Conductivity Detector.  
Sur. Recovery (PID)                      Surrogate Recovery on the Photoionization Detector.

Standard Measured                      Amount measured for a laboratory control sample  
Standard Amt Added                      Known value for a laboratory control sample  
Standard % Recovery                      % recovered for a laboratory control sample with a known value.

Lab Fort Blank Amt                      Laboratory Fortified Blank Amount Added  
Lab Fort Blk. Found                      Laboratory Fortified Blank Amount Found  
Lab Fort Blk % Rec                      Laboratory Fortified Blank % Recovered  
Dup Lab Fort Bl Amt                      Duplicate Laboratory Fortified Blank Amount Added  
Dup Lab Fort Bl Fnd                      Duplicate Laboratory Fortified Blank Amount Found  
Dup Lab Fort Bl % Rec                      Duplicate Laboratory Fortified Blank % Recovery  
Lab Fort Blank Range                      Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).

Lab Fort Bl. Av. Rec.                      Laboratory Fortified Blank Average Recovery

Duplicate Sample Amt                      Sample Value for Duplicate used with Matrix Spike Duplicate  
MSD Amount Added                      Matrix Spike Duplicate Amount Added (Spiked)  
MSD Amt Measured                      Matrix Spike Duplicate Amount Measured  
MSD % Recovery                      Matrix Spike Duplicate % Recovery  
MSD Range                      Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries



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**AIR SAMPLE CHAIN OF CUSTODY RECORD**  
 0910451

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Page 1 of 1

Company Name: MaCTec Engineering  
 Address: 107 Audubon Rd, Suite 301  
Wakefield, MA 01880

Attention: Kelly Chatterton

Project Location: Providence, RI (Cannon Site)

Sampled By: PM

Proposal Provided? (For Billing purposes)  Yes 3-3-09 proposal date

Telephone: (781) 245-6666  
 Project # 365008014  
 Client PO #

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #:  
 Email: Kelly.Chatterton@mactestec.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER

Date Sampled 9-17-09 9-17-09 9-17-09  
 Start Time 08:07 Stop Time 08:39

Date Sampled	Start Time	Stop Time	Total	Flow Rate	Volume	Matrix Code*
			Minutes Sampled	M <sup>3</sup> /Min. or L/Min	liters or M <sup>3</sup>	

			30	0.2	6	IA
--	--	--	----	-----	---	----

Field ID	Sample Description	Media	Lab #	Date	Start	Stop	Total	Flow Rate	Volume	Matrix Code*	"Hg	LAB	Flow Controller ID
IA-1-01709	S		098	09/17/09	08:07	08:39	30	0.2	6	IA	X	21-4	4078

Laboratory Comments:

CLIENT COMMENTS:

Retinquished by: (signature) <u>[Signature]</u>	Date/Time: <u>9-17-09/1550</u>	<u>Turnaround **</u> <input type="checkbox"/> 7-Day <input type="checkbox"/> 10-Day <input checked="" type="checkbox"/> Other <u>48</u> hours <input type="checkbox"/> *24-Hr <input type="checkbox"/> *48-Hr <input type="checkbox"/> *72-Hr <input type="checkbox"/> *4-Day Approval Required	<u>Special Requirements</u> Regulations: <u>Target Indoor Air</u> Data Enhancement/RCP? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Enhanced Data Package <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Required Detection Limits: <u>Target Indoor Air Cont.</u> (Surcharge Applies)	<u>Matrix Code:</u> BG= SOIL GAS IA= INDOOR AIR AMB=AMBIENT SS = SUB SLAB D = DUP BL = BLANK O = other	<u>Media Codes:</u> S=summa can TB=teflar bag P=PUF T=tube F= filter C=cassette O = Other
Received by (signature) <u>[Signature]</u>	Date/Time: <u>9-17-09 15:15</u>				

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. AIHA, NELAC & WBE/DBE Certified



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East Longmeadow, MA  
Phone: 1-413-525-2332  
Fax: 1-413-525-6405

### AIR ONLY RECEIPT CHECKLIST

CLIENT NAME: Maotec Eng. DATE: 9/17/09  
RECEIVED BY: KE

- 1. Was chain of custody relinquished and signed?  YES  NO
- 2. Does Chain agree with samples?  YES  NO

If not, explain: \_\_\_\_\_

- 3. All Samples in good condition?  YES  NO

If not, explain: \_\_\_\_\_

- 4. Are there any on hold samples? YES  NO  STORED WHERE:

- 5. ARE THERE ANY RUSH OR SHORT HOLDING TIME SAMPLES? WHO WAS NOTIFIED? \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Location where samples are stored:

Permission to sub-contract samples? Yes No (circle)  
(Walk in clients only) if not already approved.  
Client Signature \_\_\_\_\_

CONTAINERS SENT TO CON-TEST	# of containers
Summa cans	1
Tedlar Bags	
Regulators	1
Restrictors	
Tubes	
Other	

- 1. Was all media (used & unused) checked into the WASP asset management program?  Y
- 2. Were all returned summa cans, restrictors, & regulators documented as returned in the AIR Lab Outbound excel sheet?  Y
- 3. Were the Lab ID's documented in the Air Lab Outbound excel sheet?  Y
- 4. Was the job documented in the Air Lab Log-In Access Database?  Y

Laboratory comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



CHECKED FOR COMPLETENESS  
OF PARAMETERS ORDERED BY:  
ARM 10/15/09

39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

REPORT DATE 9/23/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: KELLY CHATTERTON

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

**ANALYTICAL SUMMARY**

LIMS BAT #: LIMIT-25315  
JOB NUMBER: 3650080114

PROJECT LOCATION: PROVIDENCE, RI (GORHAM SITE)

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
AA-1-091709	09B14888	AIR	Not Specified	to-15 ppbv	
AA-1-091709	09B14888	AIR	Not Specified	to-15 ug/m3	
EW-5-091709	09B14884	AIR	Not Specified	to-15 ppbv	
EW-5-091709	09B14884	AIR	Not Specified	to-15 ug/m3	
EW-6-091709	09B14885	AIR	Not Specified	to-15 ppbv	
EW-6-091709	09B14885	AIR	Not Specified	to-15 ug/m3	
EW-7-091709	09B14886	AIR	Not Specified	to-15 ppbv	
EW-7-091709	09B14886	AIR	Not Specified	to-15 ug/m3	
EW-COMBINED-09	09B14887	AIR	Not Specified	to-15 ppbv	
EW-COMBINED-09	09B14887	AIR	Not Specified	to-15 ug/m3	
IA-2-091709	09B14878	AIR	Not Specified	to-15 ppbv	
IA-2-091709	09B14878	AIR	Not Specified	to-15 ug/m3	
IA-3-091709	09B14879	AIR	Not Specified	to-15 ppbv	
IA-3-091709	09B14879	AIR	Not Specified	to-15 ug/m3	
IA-4-091709	09B14880	AIR	Not Specified	to-15 ppbv	
IA-4-091709	09B14880	AIR	Not Specified	to-15 ug/m3	
IA-5-091709	09B14881	AIR	Not Specified	to-15 ppbv	
IA-5-091709	09B14881	AIR	Not Specified	to-15 ug/m3	
IA-6-091709	09B14882	AIR	Not Specified	to-15 ppbv	
IA-6-091709	09B14882	AIR	Not Specified	to-15 ug/m3	
IA-7-091709	09B14883	AIR	Not Specified	to-15 ppbv	
IA-7-091709	09B14883	AIR	Not Specified	to-15 ug/m3	



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REPORT DATE 9/23/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: KELLY CHATTERTON

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

**ANALYTICAL SUMMARY**

LIMS BAT #: LIMT-25315

JOB NUMBER: 3650080114

Comments :

LIMS BATCH NO. : LIMT-25315

In method TO-15, method blank-133021 associated with samples 09B14878 - 09B14886 and 09B14888 contained Isopropanol at 0.28 ppbv = 0.71 ug/m3 and 2-Butanone(MEK) at 0.07 ppbv = 0.21 ug/m3.

In method TO-15, method blank-13 associated with samples 09B14887 contained Acetone at 0.25 ppbv = 0.61 ug/m3, Isopropanol at 0.22 ppbv = 0.55 ug/m3 and 2-Butanone(MEK) at 0.08 ppbv = 0.24 ug/m3.

In method TO-15, any reported result for Isopropanol in samples 09B14878 - 09B14886 and 09B14888 is likely to be biased on the high side based on laboratory fortified blank recovery bias.

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033	AIHA ELLAP (LEAD) 100033	NORTH CAROLINA CERT. #652
MASSACHUSETTS MA0100	NEW HAMPSHIRE NELAP 2516	NEW JERSEY NELAP NJ MA007 (AIR)
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036	FLORIDA DOH E871027 (AIR)
NEW YORK ELAP/NELAP 10899	RHODE ISLAND (LIC. No. 112)	

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod Kopyscinski  
Air Laboratory Manager

Michael Erickson  
Laboratory Director

SIGNATURE

DATE

Chris Hall  
Project Chemist Supervisor

Daren Damboragian  
Laboratory Manager

\* See end of data tabulation for notes and comments pertaining to this sample

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
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 WAKEFIELD, MA 01880

9/23/2009  
 Page 1 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : AA-1-091709**

**Sample ID :** 09B14888      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.4	0.05		09/21/09	WSD
Benzene	PPBv	0.12	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.57	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.41	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	3.5	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



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KELLY CHATTERTON  
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9/23/2009  
 Page 2 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : AA-1-091709**

**Sample ID :** 09B14888      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.14	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.08	0.05		09/21/09	WSD
Isopropanol	PPBv	1.1	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	ND	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	0.08	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.51	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.20	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.14	0.10		09/21/09	WSD
o-Xylene	PPBv	0.05	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	10	0.12		09/21/09	WSD
Benzene	ug/m3	0.38	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	1.7	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : AA-1-091709**

**Sample ID :** 09B14888      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	0.85	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	6.6	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	ND	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.48	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.34	0.20		09/21/09	WSD
Isopropanol	ug/m3	2.8	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	ND	0.21		09/21/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : AA-1-091709**

**Sample ID : 09B14888** ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	0.52	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.9	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.1	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.47	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.30	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.62	0.43		09/21/09	WSD
o-Xylene	ug/m3	0.23	0.22		09/21/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-5-091709**

**Sample ID :** 09B14884      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	3900	0.50		09/22/09	WSD
Benzene	PPBv	3.3	0.50		09/22/09	WSD
Benzyl Chloride	PPBv	ND	0.50		09/22/09	WSD
Bromodichloromethane	PPBv	ND	0.50		09/22/09	WSD
Bromoform	PPBv	ND	0.50		09/22/09	WSD
Bromomethane	PPBv	ND	0.50		09/22/09	WSD
1,3-Butadiene	PPBv	ND	1.0		09/22/09	WSD
2-Butanone (MEK)	PPBv	38000	0.50		09/22/09	WSD
Carbon Disulfide	PPBv	2.6	0.50		09/22/09	WSD
Carbon Tetrachloride	PPBv	ND	0.50		09/22/09	WSD
Chlorobenzene	PPBv	ND	0.50		09/22/09	WSD
Chlorodibromomethane	PPBv	ND	0.50		09/22/09	WSD
Chloroethane	PPBv	2.7	0.50		09/22/09	WSD
Chloroform	PPBv	1.2	0.50		09/22/09	WSD
Chloromethane	PPBv	ND	0.50		09/22/09	WSD
Cyclohexane	PPBv	ND	0.50		09/22/09	WSD
1,2-Dibromoethane	PPBv	ND	0.50		09/22/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.50		09/22/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.50		09/22/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.50		09/22/09	WSD
Dichlorodifluoromethane	PPBv	ND	0.50		09/22/09	WSD
1,1-Dichloroethane	PPBv	57	0.50		09/22/09	WSD
1,2-Dichloroethane	PPBv	ND	0.50		09/22/09	WSD
1,1-Dichloroethylene	PPBv	25	0.50		09/22/09	WSD
cis-1,2-Dichloroethylene	PPBv	42	0.50		09/22/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.50		09/22/09	WSD
1,2-Dichloropropane	PPBv	ND	0.50		09/22/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.50		09/22/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.50		09/22/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.50		09/22/09	WSD
Ethanol	PPBv	ND	2.0		09/22/09	WSD
Ethyl Acetate	PPBv	ND	0.50		09/22/09	WSD
Ethylbenzene	PPBv	ND	0.50		09/22/09	WSD
4-Ethyl Toluene	PPBv	ND	0.50		09/22/09	WSD
n-Heptane	PPBv	ND	0.50		09/22/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-5-091709**

**Sample ID :** 09B14884      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.50		09/22/09	WSD
Hexane	PPBv	ND	0.50		09/22/09	WSD
2-Hexanone	PPBv	ND	0.50		09/22/09	WSD
Isopropanol	PPBv	14	0.50		09/22/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.50		09/22/09	WSD
Methylene Chloride	PPBv	ND	2.0		09/22/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.50		09/22/09	WSD
Propene	PPBv	ND	2.0		09/22/09	WSD
Styrene	PPBv	ND	0.50		09/22/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.50		09/22/09	WSD
Tetrachloroethylene	PPBv	2.8	0.50		09/22/09	WSD
Tetrahydrofuran	PPBv	32000	0.50		09/22/09	WSD
Toluene	PPBv	ND	0.50		09/22/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.50		09/22/09	WSD
1,1,1-Trichloroethane	PPBv	650	0.50		09/22/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.50		09/22/09	WSD
Trichloroethylene	PPBv	1300	0.50		09/22/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	ND	0.50		09/22/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	0.50		09/22/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.50		09/22/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.50		09/22/09	WSD
Vinyl Acetate	PPBv	ND	2.0		09/22/09	WSD
Vinyl Chloride	PPBv	ND	0.50		09/22/09	WSD
m/p-Xylene	PPBv	ND	1.0		09/22/09	WSD
o-Xylene	PPBv	ND	0.50		09/22/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	9200	1.2		09/22/09	WSD
Benzene	ug/m3	11	1.6		09/22/09	WSD
Benzyl Chloride	ug/m3	ND	2.6		09/22/09	WSD
Bromodichloromethane	ug/m3	ND	3.3		09/22/09	WSD
Bromoform	ug/m3	ND	5.1		09/22/09	WSD
Bromomethane	ug/m3	ND	1.9		09/22/09	WSD
1,3-Butadiene	ug/m3	ND	2.3		09/22/09	WSD
2-Butanone (MEK)	ug/m3	110000	1.5		09/22/09	WSD
Carbon Disulfide	ug/m3	8.2	1.6		09/22/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.:

9/23/2009  
Page 7 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

Field Sample #: EW-5-091709

Sample ID : 09B14884                    ‡Sampled : 9/17/2009  
Not Specified  
Sample Matrix: AIR                    Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	3.1		09/22/09	WSD
Chlorobenzene	ug/m3	ND	2.3		09/22/09	WSD
Chlorodibromomethane	ug/m3	ND	4.3		09/22/09	WSD
Chloroethane	ug/m3	7.0	1.3		09/22/09	WSD
Chloroform	ug/m3	5.8	2.4		09/22/09	WSD
Chloromethane	ug/m3	ND	1.0		09/22/09	WSD
Cyclohexane	ug/m3	ND	1.7		09/22/09	WSD
1,2-Dibromoethane	ug/m3	ND	3.8		09/22/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	3.0		09/22/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	3.0		09/22/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	3.0		09/22/09	WSD
Dichlorodifluoromethane	ug/m3	ND	2.5		09/22/09	WSD
1,1-Dichloroethane	ug/m3	230	2.0		09/22/09	WSD
1,2-Dichloroethane	ug/m3	ND	2.0		09/22/09	WSD
1,1-Dichloroethylene	ug/m3	98	2.0		09/22/09	WSD
cis-1,2-Dichloroethylene	ug/m3	170	2.0		09/22/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	2.0		09/22/09	WSD
1,2-Dichloropropane	ug/m3	ND	2.3		09/22/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	2.2		09/22/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	2.2		09/22/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	3.5		09/22/09	WSD
Ethanol	ug/m3	ND	3.8		09/22/09	WSD
Ethyl Acetate	ug/m3	ND	1.8		09/22/09	WSD
Ethylbenzene	ug/m3	ND	2.2		09/22/09	WSD
4-Ethyl Toluene	ug/m3	ND	2.5		09/22/09	WSD
n-Heptane	ug/m3	ND	2.0		09/22/09	WSD
Hexachlorobutadiene	ug/m3	ND	5.3		09/22/09	WSD
Hexane	ug/m3	ND	1.8		09/22/09	WSD
2-Hexanone	ug/m3	ND	2.0		09/22/09	WSD
Isopropanol	ug/m3	35	1.2		09/22/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	1.8		09/22/09	WSD
Methylene Chloride	ug/m3	ND	7.0		09/22/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	2.0		09/22/09	WSD
Propene	ug/m3	ND	3.5		09/22/09	WSD
Styrene	ug/m3	ND	2.1		09/22/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

9/23/2009  
 Page 8 of 45  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-5-091709**

**Sample ID :** 09B14884      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	3.4		09/22/09	WSD
Tetrachloroethylene	ug/m3	19	3.4		09/22/09	WSD
Tetrahydrofuran	ug/m3	94000	1.5		09/22/09	WSD
Toluene	ug/m3	ND	1.9		09/22/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	3.7		09/22/09	WSD
1,1,1-Trichloroethane	ug/m3	3500	2.7		09/22/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	2.7		09/22/09	WSD
Trichloroethylene	ug/m3	6800	2.7		09/22/09	WSD
Trichlorofluoromethane	ug/m3	ND	2.8		09/22/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	3.8		09/22/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	2.5		09/22/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	2.5		09/22/09	WSD
Vinyl Acetate	ug/m3	ND	7.1		09/22/09	WSD
Vinyl Chloride	ug/m3	ND	1.3		09/22/09	WSD
m/p-Xylene	ug/m3	ND	4.3		09/22/09	WSD
o-Xylene	ug/m3	ND	2.2		09/22/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

Purchase Order No.:

9/23/2009  
 Page 9 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-6-091709**

**Sample ID :** 09B14885 ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	ND	2.0		09/21/09	WSD
Benzene	PPBv	ND	0.50		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.50		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.50		09/21/09	WSD
Bromoform	PPBv	ND	0.50		09/21/09	WSD
Bromomethane	PPBv	ND	0.50		09/21/09	WSD
1,3-Butadiene	PPBv	ND	1.0		09/21/09	WSD
2-Butanone (MEK)	PPBv	3.0	0.50		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.50		09/21/09	WSD
Carbon Tetrachloride	PPBv	ND	0.50		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.50		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.50		09/21/09	WSD
Chloroethane	PPBv	4.1	0.50		09/21/09	WSD
Chloroform	PPBv	2.5	0.50		09/21/09	WSD
Chloromethane	PPBv	ND	0.50		09/21/09	WSD
Cyclohexane	PPBv	ND	0.50		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.50		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.54	0.50		09/21/09	WSD
1,1-Dichloroethane	PPBv	230	0.50		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.50		09/21/09	WSD
1,1-Dichloroethylene	PPBv	20	0.50		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	33	0.50		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	0.51	0.50		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.50		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.50		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.50		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.50		09/21/09	WSD
Ethanol	PPBv	3.5	0.50		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.50		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.50		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.50		09/21/09	WSD
n-Heptane	PPBv	ND	0.50		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-6-091709**

**Sample ID :** 09B14885      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.50		09/21/09	WSD
Hexane	PPBv	ND	0.50		09/21/09	WSD
2-Hexanone	PPBv	ND	0.50		09/21/09	WSD
Isopropanol	PPBv	8.0	0.50		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.50		09/21/09	WSD
Methylene Chloride	PPBv	ND	2.0		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.50		09/21/09	WSD
Propene	PPBv	ND	2.0		09/21/09	WSD
Styrene	PPBv	ND	0.50		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.50		09/21/09	WSD
Tetrachloroethylene	PPBv	36	0.50		09/21/09	WSD
Tetrahydrofuran	PPBv	3.1	0.50		09/21/09	WSD
Toluene	PPBv	ND	0.50		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	980	0.50		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.50		09/21/09	WSD
Trichloroethylene	PPBv	1100	0.50		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	120	0.50		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	0.50		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.50		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.50		09/21/09	WSD
Vinyl Acetate	PPBv	ND	2.0		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.50		09/21/09	WSD
m/p-Xylene	PPBv	ND	1.0		09/21/09	WSD
o-Xylene	PPBv	ND	0.50		09/21/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	ND	4.8		09/21/09	WSD
Benzene	ug/m3	ND	1.6		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	2.6		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	3.3		09/21/09	WSD
Bromoform	ug/m3	ND	5.1		09/21/09	WSD
Bromomethane	ug/m3	ND	1.9		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	2.3		09/21/09	WSD
2-Butanone (MEK)	ug/m3	8.7	1.5		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	1.6		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled

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 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 11 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-6-091709**

**Sample ID :** 09B14885      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	3.1		09/21/09	WSD
Chlorobenzene	ug/m3	ND	2.3		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	4.3		09/21/09	WSD
Chloroethane	ug/m3	11	1.3		09/21/09	WSD
Chloroform	ug/m3	12	2.4		09/21/09	WSD
Chloromethane	ug/m3	ND	1.0		09/21/09	WSD
Cyclohexane	ug/m3	ND	1.7		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	3.8		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.7	2.5		09/21/09	WSD
1,1-Dichloroethane	ug/m3	930	2.0		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	2.0		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	80	2.0		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	130	2.0		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	2.0	2.0		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	2.3		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	2.2		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	2.2		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	3.5		09/21/09	WSD
Ethanol	ug/m3	6.7	0.90		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	1.8		09/21/09	WSD
Ethylbenzene	ug/m3	ND	2.2		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	2.5		09/21/09	WSD
n-Heptane	ug/m3	ND	2.0		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	5.3		09/21/09	WSD
Hexane	ug/m3	ND	1.8		09/21/09	WSD
2-Hexanone	ug/m3	ND	2.0		09/21/09	WSD
Isopropanol	ug/m3	20	1.2		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	1.8		09/21/09	WSD
Methylene Chloride	ug/m3	ND	7.0		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	2.0		09/21/09	WSD
Propene	ug/m3	ND	3.5		09/21/09	WSD
Styrene	ug/m3	ND	2.1		09/21/09	WSD

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\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled





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KELLY CHATTERTON  
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107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

Purchase Order No.:

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

Field Sample # : EW-6-091709

Sample ID : 09B14885      ‡Sampled : 9/17/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	3.4		09/21/09	WSD
Tetrachloroethylene	ug/m3	250	3.4		09/21/09	WSD
Tetrahydrofuran	ug/m3	9.1	1.5		09/21/09	WSD
Toluene	ug/m3	ND	1.9		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	3.7		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	5400	2.7		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	2.7		09/21/09	WSD
Trichloroethylene	ug/m3	6100	2.7		09/21/09	WSD
Trichlorofluoromethane	ug/m3	700	2.8		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	3.8		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	2.5		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	2.5		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	7.1		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	1.3		09/21/09	WSD
m/p-Xylene	ug/m3	ND	4.3		09/21/09	WSD
o-Xylene	ug/m3	ND	2.2		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled

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 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-7-091709**

**Sample ID :** 09B14886      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	3.3	0.50		09/21/09	WSD
Benzene	PPBv	0.94	0.50		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.50		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.50		09/21/09	WSD
Bromoform	PPBv	ND	0.50		09/21/09	WSD
Bromomethane	PPBv	ND	0.50		09/21/09	WSD
1,3-Butadiene	PPBv	ND	1.0		09/21/09	WSD
2-Butanone (MEK)	PPBv	1.7	0.50		09/21/09	WSD
Carbon Disulfide	PPBv	0.68	0.50		09/21/09	WSD
Carbon Tetrachloride	PPBv	ND	0.50		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.50		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.50		09/21/09	WSD
Chloroethane	PPBv	3.1	0.50		09/21/09	WSD
Chloroform	PPBv	0.94	0.50		09/21/09	WSD
Chloromethane	PPBv	ND	0.50		09/21/09	WSD
Cyclohexane	PPBv	ND	0.50		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.50		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
Dichlorodifluoromethane	PPBv	ND	0.50		09/21/09	WSD
1,1-Dichloroethane	PPBv	240	0.50		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.50		09/21/09	WSD
1,1-Dichloroethylene	PPBv	1.1	0.50		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	330	0.50		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	38	0.50		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.50		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.50		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.50		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.50		09/21/09	WSD
Ethanol	PPBv	6.1	0.50		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.50		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.50		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.50		09/21/09	WSD
n-Heptane	PPBv	ND	0.50		09/21/09	WSD

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39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-7-091709**

**Sample ID :** 09B14886      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.50		09/21/09	WSD
Hexane	PPBv	ND	0.50		09/21/09	WSD
2-Hexanone	PPBv	ND	0.50		09/21/09	WSD
Isopropanol	PPBv	ND	1.0		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.50		09/21/09	WSD
Methylene Chloride	PPBv	ND	2.0		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.50		09/21/09	WSD
Propene	PPBv	ND	2.0		09/21/09	WSD
Styrene	PPBv	ND	0.50		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.50		09/21/09	WSD
Tetrachloroethylene	PPBv	60	0.50		09/21/09	WSD
Tetrahydrofuran	PPBv	1.4	0.50		09/21/09	WSD
Toluene	PPBv	ND	0.50		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.50		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	260	0.50		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.50		09/21/09	WSD
Trichloroethylene	PPBv	170	0.50		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	240	0.50		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	0.50		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.50		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.50		09/21/09	WSD
Vinyl Acetate	PPBv	ND	2.0		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.50		09/21/09	WSD
m/p-Xylene	PPBv	ND	1.0		09/21/09	WSD
o-Xylene	PPBv	ND	0.50		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	7.9	1.2		09/21/09	WSD
Benzene	ug/m3	3.0	1.6		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	2.6		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	3.3		09/21/09	WSD
Bromoform	ug/m3	ND	5.1		09/21/09	WSD
Bromomethane	ug/m3	ND	1.9		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	2.3		09/21/09	WSD
2-Butanone (MEK)	ug/m3	4.9	1.5		09/21/09	WSD
Carbon Disulfide	ug/m3	2.1	1.6		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



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 WAKEFIELD, MA 01880

9/23/2009  
 Page 15 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-7-091709**

**Sample ID :** 09B14886      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	3.1		09/21/09	WSD
Chlorobenzene	ug/m3	ND	2.3		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	4.3		09/21/09	WSD
Chloroethane	ug/m3	8.1	1.3		09/21/09	WSD
Chloroform	ug/m3	4.6	2.4		09/21/09	WSD
Chloromethane	ug/m3	ND	1.0		09/21/09	WSD
Cyclohexane	ug/m3	ND	1.7		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	3.8		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	3.0		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	ND	2.5		09/21/09	WSD
1,1-Dichloroethane	ug/m3	970	2.0		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	2.0		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	4.5	2.0		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	1300	2.0		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	150	2.0		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	2.3		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	2.2		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	2.2		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	3.5		09/21/09	WSD
Ethanol	ug/m3	12	0.90		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	1.8		09/21/09	WSD
Ethylbenzene	ug/m3	ND	2.2		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	2.5		09/21/09	WSD
n-Heptane	ug/m3	ND	2.0		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	5.3		09/21/09	WSD
Hexane	ug/m3	ND	1.8		09/21/09	WSD
2-Hexanone	ug/m3	ND	2.0		09/21/09	WSD
Isopropanol	ug/m3	ND	2.5		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	1.8		09/21/09	WSD
Methylene Chloride	ug/m3	ND	7.0		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	2.0		09/21/09	WSD
Propene	ug/m3	ND	3.5		09/21/09	WSD
Styrene	ug/m3	ND	2.1		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



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MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/23/2009  
Page 16 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

Field Sample #: EW-7-091709

Sample ID: 09B14886      ‡Sampled: 9/17/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium: SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	3.4		09/21/09	WSD
Tetrachloroethylene	ug/m3	410	3.4		09/21/09	WSD
Tetrahydrofuran	ug/m3	4.1	1.5		09/21/09	WSD
Toluene	ug/m3	ND	1.9		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	3.7		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	1400	2.7		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	2.7		09/21/09	WSD
Trichloroethylene	ug/m3	920	2.7		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1400	2.8		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	3.8		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	2.5		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	2.5		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	7.1		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	1.3		09/21/09	WSD
m/p-Xylene	ug/m3	ND	4.3		09/21/09	WSD
o-Xylene	ug/m3	ND	2.2		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON

MACTEC ENGINEERING & CONSULTING - MA

107 AUDUBON ROAD, BLDG. 2, SUITE 301

WAKEFIELD, MA 01880

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)

Date Received: 9/17/2009

9/23/2009

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LIMS-BAT #: LIMIT-25315

Job Number: 3650080114

**Field Sample # : EW-COMBINED-091709**

**Sample ID : 09B14887**

‡Sampled : 9/17/2009

Not Specified

Sample Matrix: AIR

Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	8.6	0.50		09/23/09	WSD
Benzene	PPBv	0.84	0.50		09/23/09	WSD
Benzyl Chloride	PPBv	ND	0.50		09/23/09	WSD
Bromodichloromethane	PPBv	ND	0.50		09/23/09	WSD
Bromoform	PPBv	ND	0.50		09/23/09	WSD
Bromomethane	PPBv	ND	0.50		09/23/09	WSD
1,3-Butadiene	PPBv	ND	1.0		09/23/09	WSD
2-Butanone (MEK)	PPBv	2.6	0.50		09/23/09	WSD
Carbon Disulfide	PPBv	ND	0.50		09/23/09	WSD
Carbon Tetrachloride	PPBv	ND	0.50		09/23/09	WSD
Chlorobenzene	PPBv	ND	0.50		09/23/09	WSD
Chlorodibromomethane	PPBv	ND	0.50		09/23/09	WSD
Chloroethane	PPBv	42	0.50		09/23/09	WSD
Chloroform	PPBv	2.5	0.50		09/23/09	WSD
Chloromethane	PPBv	ND	0.50		09/23/09	WSD
Cyclohexane	PPBv	ND	0.50		09/23/09	WSD
1,2-Dibromoethane	PPBv	ND	0.50		09/23/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.50		09/23/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.50		09/23/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.50		09/23/09	WSD
Dichlorodifluoromethane	PPBv	ND	0.50		09/23/09	WSD
1,1-Dichloroethane	PPBv	400	0.50		09/23/09	WSD
1,2-Dichloroethane	PPBv	ND	0.50		09/23/09	WSD
1,1-Dichloroethylene	PPBv	78	0.50		09/23/09	WSD
cis-1,2-Dichloroethylene	PPBv	400	0.50		09/23/09	WSD
t-1,2-Dichloroethylene	PPBv	7.3	0.50		09/23/09	WSD
1,2-Dichloropropane	PPBv	ND	0.50		09/23/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.50		09/23/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.50		09/23/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.50		09/23/09	WSD
Ethanol	PPBv	110	0.50		09/23/09	WSD
Ethyl Acetate	PPBv	ND	0.50		09/23/09	WSD
Ethylbenzene	PPBv	ND	0.50		09/23/09	WSD
4-Ethyl Toluene	PPBv	ND	0.50		09/23/09	WSD
n-Heptane	PPBv	ND	0.50		09/23/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-COMBINED-091709**

**Sample ID :** 09B14887      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.50		09/23/09	WSD
Hexane	PPBv	0.53	0.50		09/23/09	WSD
2-Hexanone	PPBv	ND	0.50		09/23/09	WSD
Isopropanol	PPBv	9.1	0.50		09/23/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.50		09/23/09	WSD
Methylene Chloride	PPBv	ND	2.0		09/23/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.50		09/23/09	WSD
Propene	PPBv	ND	2.0		09/23/09	WSD
Styrene	PPBv	ND	0.50		09/23/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.50		09/23/09	WSD
Tetrachloroethylene	PPBv	16	0.50		09/23/09	WSD
Tetrahydrofuran	PPBv	ND	0.50		09/23/09	WSD
Toluene	PPBv	0.90	0.50		09/23/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.50		09/23/09	WSD
1,1,1-Trichloroethane	PPBv	1900	0.50		09/23/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.50		09/23/09	WSD
Trichloroethylene	PPBv	740	0.50		09/23/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	330	0.50		09/23/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	0.50		09/23/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.50		09/23/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.50		09/23/09	WSD
Vinyl Acetate	PPBv	ND	2.0		09/23/09	WSD
Vinyl Chloride	PPBv	ND	0.50		09/23/09	WSD
m/p-Xylene	PPBv	ND	1.0		09/23/09	WSD
o-Xylene	PPBv	ND	0.50		09/23/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	20	1.2		09/23/09	WSD
Benzene	ug/m3	2.7	1.6		09/23/09	WSD
Benzyl Chloride	ug/m3	ND	2.6		09/23/09	WSD
Bromodichloromethane	ug/m3	ND	3.3		09/23/09	WSD
Bromoform	ug/m3	ND	5.1		09/23/09	WSD
Bromomethane	ug/m3	ND	1.9		09/23/09	WSD
1,3-Butadiene	ug/m3	ND	2.3		09/23/09	WSD
2-Butanone (MEK)	ug/m3	7.8	1.5		09/23/09	WSD
Carbon Disulfide	ug/m3	ND	1.6		09/23/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : EW-COMBINED-091709**

**Sample ID :** 09B14887      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	3.1		09/23/09	WSD
Chlorobenzene	ug/m3	ND	2.3		09/23/09	WSD
Chlorodibromomethane	ug/m3	ND	4.3		09/23/09	WSD
Chloroethane	ug/m3	110	1.3		09/23/09	WSD
Chloroform	ug/m3	12	2.4		09/23/09	WSD
Chloromethane	ug/m3	ND	1.0		09/23/09	WSD
Cyclohexane	ug/m3	ND	1.7		09/23/09	WSD
1,2-Dibromoethane	ug/m3	ND	3.8		09/23/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	3.0		09/23/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	3.0		09/23/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	3.0		09/23/09	WSD
Dichlorodifluoromethane	ug/m3	ND	2.5		09/23/09	WSD
1,1-Dichloroethane	ug/m3	1600	2.0		09/23/09	WSD
1,2-Dichloroethane	ug/m3	ND	2.0		09/23/09	WSD
1,1-Dichloroethylene	ug/m3	310	2.0		09/23/09	WSD
cis-1,2-Dichloroethylene	ug/m3	1600	2.0		09/23/09	WSD
t-1,2-Dichloroethylene	ug/m3	29	2.0		09/23/09	WSD
1,2-Dichloropropane	ug/m3	ND	2.3		09/23/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	2.2		09/23/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	2.2		09/23/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	3.5		09/23/09	WSD
Ethanol	ug/m3	200	0.90		09/23/09	WSD
Ethyl Acetate	ug/m3	ND	1.8		09/23/09	WSD
Ethylbenzene	ug/m3	ND	2.2		09/23/09	WSD
4-Ethyl Toluene	ug/m3	ND	2.5		09/23/09	WSD
n-Heptane	ug/m3	ND	2.0		09/23/09	WSD
Hexachlorobutadiene	ug/m3	ND	5.3		09/23/09	WSD
Hexane	ug/m3	1.9	1.8		09/23/09	WSD
2-Hexanone	ug/m3	ND	2.0		09/23/09	WSD
Isopropanol	ug/m3	22	1.2		09/23/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	1.8		09/23/09	WSD
Methylene Chloride	ug/m3	ND	7.0		09/23/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	2.0		09/23/09	WSD
Propene	ug/m3	ND	3.5		09/23/09	WSD
Styrene	ug/m3	ND	2.1		09/23/09	WSD

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‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.:

9/23/2009

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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

**Field Sample # : EW-COMBINED-091709**

Sample ID : **09B14887** ‡Sampled : 9/17/2009  
Not Specified  
Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	3.4		09/23/09	WSD
Tetrachloroethylene	ug/m3	110	3.4		09/23/09	WSD
Tetrahydrofuran	ug/m3	ND	1.5		09/23/09	WSD
Toluene	ug/m3	3.4	1.9		09/23/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	3.7		09/23/09	WSD
1,1,1-Trichloroethane	ug/m3	11000	2.7		09/23/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	2.7		09/23/09	WSD
Trichloroethylene	ug/m3	4000	2.7		09/23/09	WSD
Trichlorofluoromethane	ug/m3	1800	2.8		09/23/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	3.8		09/23/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	2.5		09/23/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	2.5		09/23/09	WSD
Vinyl Acetate	ug/m3	ND	7.1		09/23/09	WSD
Vinyl Chloride	ug/m3	ND	1.3		09/23/09	WSD
m/p-Xylene	ug/m3	ND	4.3		09/23/09	WSD
o-Xylene	ug/m3	ND	2.2		09/23/09	WSD

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NM = Not Measured

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 21 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-2-091709**

Sample ID : **09B14878**      ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	2.6	0.05		09/21/09	WSD
Benzene	PPBv	0.13	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.36	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.44	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.41	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	2.5	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 22 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-2-091709**

**Sample ID :** 09B14878      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.12	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.06	0.05		09/21/09	WSD
Isopropanol	PPBv	140	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	ND	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.30	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.16	0.10		09/21/09	WSD
o-Xylene	PPBv	0.06	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	6.2	0.12		09/21/09	WSD
Benzene	ug/m3	0.41	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	1.1	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 23 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-2-091709**

**Sample ID :** 09B14878      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.44	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	0.91	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.0	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	4.8	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	ND	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.41	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.25	0.20		09/21/09	WSD
Isopropanol	ug/m3	340	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	ND	0.21		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-2-091709**

**Sample ID :** 09B14878      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.1	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.50	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.29	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.71	0.43		09/21/09	WSD
o-Xylene	ug/m3	0.27	0.22		09/21/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled

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9/23/2009  
 Page 25 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-3-091709**

**Sample ID :** 09B14879      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.8	0.05		09/21/09	WSD
Benzene	PPBv	0.13	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.67	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.44	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	3.3	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 26 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

Purchase Order No.:

**Field Sample # : IA-3-091709**

**Sample ID :** 09B14879      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.27	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.12	0.05		09/21/09	WSD
Isopropanol	PPBv	73	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	0.69	0.05		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	ND	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.32	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.24	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.07	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.16	0.10		09/21/09	WSD
o-Xylene	PPBv	0.06	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	11	0.12		09/21/09	WSD
Benzene	ug/m3	0.41	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	2.0	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
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9/23/2009  
 Page 27 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-3-091709**

**Sample ID :** 09B14879      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	0.91	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	6.2	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	ND	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.96	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.51	0.20		09/21/09	WSD
Isopropanol	ug/m3	180	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	2.4	0.17		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	ND	0.21		09/21/09	WSD

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled





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 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 28 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-3-091709**

**Sample ID : 09B14879** ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.2	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.4	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.51	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.29	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.70	0.43		09/21/09	WSD
o-Xylene	ug/m3	0.26	0.22		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



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9/23/2009  
Page 29 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

**Field Sample # : IA-4-091709**

**Sample ID :** 09B14880      ‡Sampled : 9/17/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	3.9	0.05		09/21/09	WSD
Benzene	PPBv	0.13	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.51	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.44	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	3.2	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	ND	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-4-091709**

**Sample ID :** 09B14880      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.12	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.07	0.05		09/21/09	WSD
Isopropanol	PPBv	2.3	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	ND	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	0.11	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.28	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.14	0.10		09/21/09	WSD
o-Xylene	PPBv	ND	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	9.3	0.12		09/21/09	WSD
Benzene	ug/m3	0.40	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	1.5	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-4-091709**

**Sample ID : 09B14880** ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.41	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	0.90	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	6.0	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	ND	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.42	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.29	0.20		09/21/09	WSD
Isopropanol	ug/m3	5.6	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	ND	0.21		09/21/09	WSD

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 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-4-091709**

**Sample ID :** 09B14880      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	0.75	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.1	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.49	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.61	0.43		09/21/09	WSD
o-Xylene	ug/m3	ND	0.22		09/21/09	WSD

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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-5-091709**

**Sample ID :** 09B14881      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	6.6	0.05		09/21/09	WSD
Benzene	PPBv	0.11	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.73	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.48	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.43	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	33	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-5-091709**

**Sample ID :** 09B14881      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.15	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.12	0.05		09/21/09	WSD
Isopropanol	PPBv	1.4	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.06	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	0.07	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	0.06	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.39	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.14	0.10		09/21/09	WSD
o-Xylene	PPBv	ND	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	16	0.12		09/21/09	WSD
Benzene	ug/m3	0.35	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	2.1	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

RL = Reporting Limit

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 35 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-5-091709**

**Sample ID : 09B14881** ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.39	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	1.00	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	62	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.52	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.48	0.20		09/21/09	WSD
Isopropanol	ug/m3	3.5	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.23	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	0.30	0.21		09/21/09	WSD

RL = Reporting Limit

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-5-091709**

**Sample ID :** 09B14881      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	0.41	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.5	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.50	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.59	0.43		09/21/09	WSD
o-Xylene	ug/m3	ND	0.22		09/21/09	WSD

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/23/2009  
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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

Field Sample # : IA-6-091709

Sample ID : 09B14882      ‡Sampled : 9/17/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	8.5	0.05		09/21/09	WSD
Benzene	PPBv	0.10	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.83	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.47	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.44	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	6.3	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/21/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	ND	0.05		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-6-091709**

**Sample ID :** 09B14882      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.13	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.17	0.05		09/21/09	WSD
Isopropanol	PPBv	2.9	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.07	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	0.06	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/21/09	WSD
Toluene	PPBv	0.30	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.07	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.14	0.10		09/21/09	WSD
o-Xylene	PPBv	0.05	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	20	0.12		09/21/09	WSD
Benzene	ug/m3	0.31	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	2.4	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-6-091709**

**Sample ID : 09B14882** ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.42	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	0.97	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	12	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	ND	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.45	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.70	0.20		09/21/09	WSD
Isopropanol	ug/m3	7.0	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.29	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	0.23	0.21		09/21/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

Purchase Order No.:

LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

**Field Sample # : IA-6-091709**

**Sample ID :** 09B14882      ‡Sampled : 9/17/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/21/09	WSD
Toluene	ug/m3	1.1	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.48	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.34	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.62	0.43		09/21/09	WSD
o-Xylene	ug/m3	0.23	0.22		09/21/09	WSD

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NM = Not Measured

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 41 of 45

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-7-091709**

**Sample ID :** 09B14883      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	9.2	0.05		09/21/09	WSD
Benzene	PPBv	0.14	0.05		09/21/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/21/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/21/09	WSD
Bromoform	PPBv	ND	0.05		09/21/09	WSD
Bromomethane	PPBv	ND	0.05		09/21/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/21/09	WSD
2-Butanone (MEK)	PPBv	0.74	0.05		09/21/09	WSD
Carbon Disulfide	PPBv	0.08	0.05		09/21/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		09/21/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/21/09	WSD
Chloroethane	PPBv	ND	0.05		09/21/09	WSD
Chloroform	PPBv	ND	0.05		09/21/09	WSD
Chloromethane	PPBv	0.56	0.05		09/21/09	WSD
Cyclohexane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
Dichlorodifluoromethane	PPBv	0.47	0.05		09/21/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/21/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/21/09	WSD
Ethanol	PPBv	5.7	0.05		09/21/09	WSD
Ethyl Acetate	PPBv	0.72	0.05		09/21/09	WSD
Ethylbenzene	PPBv	0.07	0.05		09/21/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/21/09	WSD
n-Heptane	PPBv	0.09	0.05		09/21/09	WSD

RL = Reporting Limit

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NM = Not Measured

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 42 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-7-091709**

**Sample ID :** 09B14883      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/21/09	WSD
Hexane	PPBv	0.25	0.05		09/21/09	WSD
2-Hexanone	PPBv	0.13	0.05		09/21/09	WSD
Isopropanol	PPBv	1.6	0.05		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/21/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.06	0.05		09/21/09	WSD
Propene	PPBv	ND	0.20		09/21/09	WSD
Styrene	PPBv	0.09	0.05		09/21/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/21/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/21/09	WSD
Tetrahydrofuran	PPBv	0.17	0.05		09/21/09	WSD
Toluene	PPBv	1.1	0.05		09/21/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/21/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/21/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/21/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.23	0.05		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.07	0.05		09/21/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		09/21/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/21/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/21/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/21/09	WSD
m/p-Xylene	PPBv	0.20	0.10		09/21/09	WSD
o-Xylene	PPBv	0.07	0.05		09/21/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	22	0.12		09/21/09	WSD
Benzene	ug/m3	0.43	0.16		09/21/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/21/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/21/09	WSD
Bromoform	ug/m3	ND	0.51		09/21/09	WSD
Bromomethane	ug/m3	ND	0.19		09/21/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/21/09	WSD
2-Butanone (MEK)	ug/m3	2.2	0.15		09/21/09	WSD
Carbon Disulfide	ug/m3	0.26	0.16		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
 Page 43 of 45

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-7-091709**

**Sample ID :** 09B14883      ‡Sampled : 9/17/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.42	0.31		09/21/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/21/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/21/09	WSD
Chloroethane	ug/m3	ND	0.13		09/21/09	WSD
Chloroform	ug/m3	ND	0.24		09/21/09	WSD
Chloromethane	ug/m3	1.2	0.10		09/21/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/21/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/21/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/21/09	WSD
Dichlorodifluoromethane	ug/m3	2.3	0.25		09/21/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/21/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/21/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/21/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/21/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/21/09	WSD
Ethanol	ug/m3	11	0.09		09/21/09	WSD
Ethyl Acetate	ug/m3	2.6	0.18		09/21/09	WSD
Ethylbenzene	ug/m3	0.32	0.22		09/21/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/21/09	WSD
n-Heptane	ug/m3	0.37	0.20		09/21/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/21/09	WSD
Hexane	ug/m3	0.88	0.18		09/21/09	WSD
2-Hexanone	ug/m3	0.53	0.20		09/21/09	WSD
Isopropanol	ug/m3	4.0	0.12		09/21/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/21/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/21/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.24	0.20		09/21/09	WSD
Propene	ug/m3	ND	0.35		09/21/09	WSD
Styrene	ug/m3	0.39	0.21		09/21/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/23/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/17/2009

Purchase Order No.:  
 LIMS-BAT #: LIMIT-25315  
 Job Number: 3650080114

**Field Sample # : IA-7-091709**

**Sample ID : 09B14883**      ‡Sampled : 9/17/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/21/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/21/09	WSD
Tetrahydrofuran	ug/m3	0.51	0.15		09/21/09	WSD
Toluene	ug/m3	4.0	0.19		09/21/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/21/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/21/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/21/09	WSD
Trichlorofluoromethane	ug/m3	1.3	0.28		09/21/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.51	0.38		09/21/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.39	0.25		09/21/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/21/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/21/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/21/09	WSD
m/p-Xylene	ug/m3	0.86	0.43		09/21/09	WSD
o-Xylene	ug/m3	0.31	0.22		09/21/09	WSD

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KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.:

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/17/2009

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LIMS-BAT #: LIMIT-25315  
Job Number: 3650080114

\*\* END OF REPORT \*\*

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ = See attached chain-of-custody record for time sampled



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/23/2009

Lims Bat # : LIMIT-25315

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14878	4-Bromofluorobenzene	Surrogate Recovery	93.12	%	70-130
09B14879	4-Bromofluorobenzene	Surrogate Recovery	93.12	%	70-130
09B14880	4-Bromofluorobenzene	Surrogate Recovery	92.62	%	70-130
09B14881	4-Bromofluorobenzene	Surrogate Recovery	93.25	%	70-130
09B14882	4-Bromofluorobenzene	Surrogate Recovery	98.37	%	70-130
09B14883	4-Bromofluorobenzene	Surrogate Recovery	95.50	%	70-130
09B14884	4-Bromofluorobenzene	Surrogate Recovery	98.62	%	70-130
09B14885	4-Bromofluorobenzene	Surrogate Recovery	95.25	%	70-130
09B14886	4-Bromofluorobenzene	Surrogate Recovery	96.00	%	70-130
09B14887	4-Bromofluorobenzene	Surrogate Recovery	94.50	%	70-130
09B14888	4-Bromofluorobenzene	Surrogate Recovery	92.62	%	70-130
BLANK-133021	Acetone	Blank	<0.34	ug/m3	
	Benzene	Blank	<0.12	ug/m3	
	Carbon Tetrachloride	Blank	<0.22	ug/m3	
	Chloroform	Blank	<0.17	ug/m3	
	1,2-Dichloroethane	Blank	<0.14	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.21	ug/m3	
	Ethyl Acetate	Blank	<0.13	ug/m3	
	Ethylbenzene	Blank	<0.16	ug/m3	
	Hexane	Blank	<0.13	ug/m3	
	Isopropanol	Blank	0.71	ug/m3	
	2-Butanone (MEK)	Blank	0.21	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.14	ug/m3	
	Styrene	Blank	<0.15	ug/m3	
	Tetrachloroethylene	Blank	<0.24	ug/m3	
	Toluene	Blank	<0.14	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.19	ug/m3	
	Trichloroethylene	Blank	<0.19	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.27	ug/m3	
	Trichlorofluoromethane	Blank	<0.20	ug/m3	
	o-Xylene	Blank	<0.16	ug/m3	
	m/p-Xylene	Blank	<0.31	ug/m3	

**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

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Method Blanks

Report Date: 9/23/2009

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133021					
	1,2-Dichlorobenzene	Blank	<0.21	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.21	ug/m3	
	1,1-Dichloroethane	Blank	<0.14	ug/m3	
	1,1-Dichloroethylene	Blank	<0.14	ug/m3	
	Ethanol	Blank	<0.27	ug/m3	
	4-Ethyl Toluene	Blank	<0.18	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.13	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.14	ug/m3	
	Vinyl Chloride	Blank	<0.10	ug/m3	
	Methylene Chloride	Blank	<0.49	ug/m3	
	Chlorobenzene	Blank	<0.17	ug/m3	
	Chloromethane	Blank	<0.07	ug/m3	
	Bromomethane	Blank	<0.14	ug/m3	
	Chloroethane	Blank	<0.10	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.16	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.16	ug/m3	
	Chlorodibromomethane	Blank	<0.31	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.19	ug/m3	
	Bromoform	Blank	<0.36	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.24	ug/m3	
	Hexachlorobutadiene	Blank	<0.38	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.26	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.18	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.18	ug/m3	
	Cyclohexane	Blank	<0.12	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.14	ug/m3	
	1,2-Dichloropropane	Blank	<0.17	ug/m3	
	Dichlorodifluoromethane	Blank	<0.18	ug/m3	
	Benzyl Chloride	Blank	<0.19	ug/m3	
	Carbon Disulfide	Blank	<0.12	ug/m3	
	Vinyl Acetate	Blank	<0.50	ug/m3	
	2-Hexanone	Blank	<0.14	ug/m3	
	Bromodichloromethane	Blank	<0.24	ug/m3	
	1,2-Dibromoethane	Blank	<0.27	ug/m3	
	n-Heptane	Blank	<0.14	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.25	ug/m3	
	Tetrahydrofuran	Blank	<0.11	ug/m3	
	Propene	Blank	<0.25	ug/m3	
	1,3-Butadiene	Blank	<0.16	ug/m3	
BLANK-133022					
	Acetone	Blank	0.61	ug/m3	
	Benzene	Blank	<0.12	ug/m3	
	Carbon Tetrachloride	Blank	<0.22	ug/m3	



**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

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Method Blanks

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Lims Bat # : LIMIT-25315

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133022					
	Chloroform	Blank	<0.17	ug/m3	
	1,2-Dichloroethane	Blank	<0.14	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.21	ug/m3	
	Ethyl Acetate	Blank	<0.13	ug/m3	
	Ethylbenzene	Blank	<0.16	ug/m3	
	Hexane	Blank	<0.13	ug/m3	
	Isopropanol	Blank	0.55	ug/m3	
	2-Butanone (MEK)	Blank	0.24	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.14	ug/m3	
	Styrene	Blank	<0.15	ug/m3	
	Tetrachloroethylene	Blank	<0.24	ug/m3	
	Toluene	Blank	<0.14	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.19	ug/m3	
	Trichloroethylene	Blank	<0.19	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.27	ug/m3	
	Trichlorofluoromethane	Blank	<0.20	ug/m3	
	o-Xylene	Blank	<0.16	ug/m3	
	m/p-Xylene	Blank	<0.31	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.21	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.21	ug/m3	
	1,1-Dichloroethane	Blank	<0.14	ug/m3	
	1,1-Dichloroethylene	Blank	<0.14	ug/m3	
	Ethanol	Blank	<0.27	ug/m3	
	4-Ethyl Toluene	Blank	<0.18	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.13	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.14	ug/m3	
	Vinyl Chloride	Blank	<0.10	ug/m3	
	Methylene Chloride	Blank	<0.49	ug/m3	
	Chlorobenzene	Blank	<0.17	ug/m3	
	Chloromethane	Blank	<0.07	ug/m3	
	Bromomethane	Blank	<0.14	ug/m3	
	Chloroethane	Blank	<0.10	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.16	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.16	ug/m3	
	Chlorodibromomethane	Blank	<0.31	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.19	ug/m3	
	Bromoform	Blank	<0.36	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.24	ug/m3	
	Hexachlorobutadiene	Blank	<0.38	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.26	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.18	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.18	ug/m3	
	Cyclohexane	Blank	<0.12	ug/m3	



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/23/2009

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133022					
	cis-1,2-Dichloroethylene	Blank	<0.14	ug/m3	
	1,2-Dichloropropane	Blank	<0.17	ug/m3	
	Dichlorodifluoromethane	Blank	<0.18	ug/m3	
	Benzyl Chloride	Blank	<0.19	ug/m3	
	Carbon Disulfide	Blank	<0.12	ug/m3	
	Vinyl Acetate	Blank	<0.50	ug/m3	
	2-Hexanone	Blank	<0.14	ug/m3	
	Bromodichloromethane	Blank	<0.24	ug/m3	
	1,2-Dibromoethane	Blank	<0.27	ug/m3	
	n-Heptane	Blank	<0.14	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.25	ug/m3	
	Tetrahydrofuran	Blank	<0.11	ug/m3	
	Propene	Blank	<0.25	ug/m3	
	1,3-Butadiene	Blank	<0.16	ug/m3	
LFBLANK-95346					
	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	
		Lab Fort Blk. Found	10.21	ug/m3	
		Lab Fort Blk. % Rec.	86.00	%	50-150
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	
		Lab Fort Blk. Found	13.75	ug/m3	
		Lab Fort Blk. % Rec.	86.26	%	70-130
	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	
		Lab Fort Blk. Found	27.66	ug/m3	
		Lab Fort Blk. % Rec.	87.95	%	70-130
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	
		Lab Fort Blk. Found	19.80	ug/m3	
		Lab Fort Blk. % Rec.	81.38	%	70-130
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	15.62	ug/m3	
		Lab Fort Blk. % Rec.	77.16	%	70-130
	1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	30.53	ug/m3	
		Lab Fort Blk. % Rec.	101.58	%	70-130
	Ethyl Acetate	Lab Fort Blank Amt.	18.01	ug/m3	
		Lab Fort Blk. Found	16.81	ug/m3	
		Lab Fort Blk. % Rec.	93.34	%	50-150
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	21.49	ug/m3	
		Lab Fort Blk. % Rec.	99.16	%	70-130
	Hexane	Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	14.84	ug/m3	
		Lab Fort Blk. % Rec.	84.22	%	70-130
	Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	



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**QC SUMMARY REPORT**

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Sample Matrix Spikes and Matrix Spike Duplicates

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95346					
	Isopropanol	Lab Fort Blk. Found	42.07	ug/m3	
		Lab Fort Blk. % Rec.	342.42	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	11.47	ug/m3	
		Lab Fort Blk. % Rec.	77.80	%	70-130
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	20.64	ug/m3	
		Lab Fort Blk. % Rec.	100.80	%	70-130
	Styrene	Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	22.13	ug/m3	
		Lab Fort Blk. % Rec.	104.08	%	70-130
	Tetrachloroethylene	Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	31.83	ug/m3	
		Lab Fort Blk. % Rec.	93.87	%	70-130
	Toluene	Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	18.40	ug/m3	
		Lab Fort Blk. % Rec.	97.84	%	70-130
	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	22.93	ug/m3	
		Lab Fort Blk. % Rec.	84.07	%	70-130
	Trichloroethylene	Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	23.75	ug/m3	
		Lab Fort Blk. % Rec.	88.39	%	70-130
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	30.66	ug/m3	
		Lab Fort Blk. % Rec.	80.02	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	23.70	ug/m3	
		Lab Fort Blk. % Rec.	84.35	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	22.11	ug/m3	
		Lab Fort Blk. % Rec.	101.82	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	43.06	ug/m3	
		Lab Fort Blk. % Rec.	99.15	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.87	ug/m3	
		Lab Fort Blk. % Rec.	99.38	%	70-130
	1,3-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	30.45	ug/m3	
		Lab Fort Blk. % Rec.	101.30	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	16.07	ug/m3	



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**QC SUMMARY REPORT**

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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95346	1,1-Dichloroethane	Lab Fort Blk. % Rec.	79.42	%	70-130
	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	16.14	ug/m3	
		Lab Fort Blk. % Rec.	81.38	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	10.94	ug/m3	
		Lab Fort Blk. % Rec.	116.13	%	50-150
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	26.15	ug/m3	
		Lab Fort Blk. % Rec.	106.42	%	50-150
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	14.61	ug/m3	
		Lab Fort Blk. % Rec.	81.09	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	15.85	ug/m3	
		Lab Fort Blk. % Rec.	79.97	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	11.02	ug/m3	
		Lab Fort Blk. % Rec.	86.26	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	17.75	ug/m3	
		Lab Fort Blk. % Rec.	102.24	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	22.10	ug/m3	
		Lab Fort Blk. % Rec.	95.97	%	70-130
	Chloromethane	Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	9.28	ug/m3	
		Lab Fort Blk. % Rec.	89.90	%	70-130
	Bromomethane	Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	16.93	ug/m3	
		Lab Fort Blk. % Rec.	87.28	%	70-130
	Chloroethane	Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	11.91	ug/m3	
		Lab Fort Blk. % Rec.	90.35	%	70-130
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	20.24	ug/m3	
		Lab Fort Blk. % Rec.	89.20	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	20.55	ug/m3	
		Lab Fort Blk. % Rec.	90.53	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	45.32	ug/m3	
		Lab Fort Blk. % Rec.	106.40	%	70-130





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QC Batch Number: BATCH-16660

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95346	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	26.44	ug/m3	
		Lab Fort Blk. % Rec.	96.93	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	58.14	ug/m3	
		Lab Fort Blk. % Rec.	112.48	%	70-130
	1,1,2,2-Tetrachloroethane	Lab Fort Blank Amt.	34.33	ug/m3	
		Lab Fort Blk. Found	36.31	ug/m3	
		Lab Fort Blk. % Rec.	105.76	%	70-130
	Hexachlorobutadiene	Lab Fort Blank Amt.	53.33	ug/m3	
		Lab Fort Blk. Found	54.51	ug/m3	
		Lab Fort Blk. % Rec.	102.22	%	70-130
	1,2,4-Trichlorobenzene	Lab Fort Blank Amt.	37.10	ug/m3	
		Lab Fort Blk. Found	37.19	ug/m3	
		Lab Fort Blk. % Rec.	100.24	%	70-130
	1,2,4-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.37	ug/m3	
		Lab Fort Blk. % Rec.	103.22	%	70-130
	1,3,5-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.53	ug/m3	
		Lab Fort Blk. % Rec.	103.90	%	70-130
	Cyclohexane	Lab Fort Blank Amt.	17.21	ug/m3	
		Lab Fort Blk. Found	15.60	ug/m3	
		Lab Fort Blk. % Rec.	90.67	%	50-150
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	16.15	ug/m3	
		Lab Fort Blk. % Rec.	81.45	%	70-130
	1,2-Dichloropropane	Lab Fort Blank Amt.	23.10	ug/m3	
		Lab Fort Blk. Found	20.39	ug/m3	
		Lab Fort Blk. % Rec.	88.27	%	70-130
Dichlorodifluoromethane	Lab Fort Blank Amt.	24.72	ug/m3		
	Lab Fort Blk. Found	20.12	ug/m3		
	Lab Fort Blk. % Rec.	81.37	%	70-130	
Benzyl Chloride	Lab Fort Blank Amt.	25.88	ug/m3		
	Lab Fort Blk. Found	30.19	ug/m3		
	Lab Fort Blk. % Rec.	116.64	%	70-130	
Carbon Disulfide	Lab Fort Blank Amt.	15.57	ug/m3		
	Lab Fort Blk. Found	11.63	ug/m3		
	Lab Fort Blk. % Rec.	74.69	%	70-130	
Vinyl Acetate	Lab Fort Blank Amt.	17.60	ug/m3		
	Lab Fort Blk. Found	14.22	ug/m3		
	Lab Fort Blk. % Rec.	80.80	%	70-130	
2-Hexanone	Lab Fort Blank Amt.	20.48	ug/m3		

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Sample Id	Analysis	QC Analysis	Values	Units	Limits	
LFBLANK-95346	2-Hexanone	Lab Fort Blk. Found	21.83	ug/m3		
		Lab Fort Blk. % Rec.	106.58	%	50-150	
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3		
		Lab Fort Blk. Found	31.48	ug/m3		
	1,2-Dibromoethane	Lab Fort Blk. % Rec.	93.98	%	70-130	
		Lab Fort Blank Amt.	38.42	ug/m3		
	n-Heptane	Lab Fort Blk. Found	37.28	ug/m3		
		Lab Fort Blk. % Rec.	97.02	%	70-130	
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blank Amt.	20.49	ug/m3		
		Lab Fort Blk. Found	19.43	ug/m3		
	Tetrahydrofuran	Lab Fort Blk. % Rec.	94.85	%	50-150	
		Lab Fort Blank Amt.	34.95	ug/m3		
	Propene	Lab Fort Blk. Found	29.85	ug/m3		
		Lab Fort Blk. % Rec.	85.41	%	70-130	
	1,3-Butadiene	Lab Fort Blank Amt.	14.74	ug/m3		
		Lab Fort Blk. Found	13.41	ug/m3		
	LFBLANK-95347	Acetone	Lab Fort Blk. % Rec.	90.99	%	50-150
			Lab Fort Blank Amt.	8.60	ug/m3	
	Benzene	Lab Fort Blk. Found	7.39	ug/m3		
		Lab Fort Blk. % Rec.	85.90	%	50-150	
	Carbon Tetrachloride	Lab Fort Blank Amt.	11.06	ug/m3		
Lab Fort Blk. Found		9.55	ug/m3			
Chloroform	Lab Fort Blk. % Rec.	86.42	%	70-130		
	Lab Fort Blank Amt.	11.87	ug/m3			
1,2-Dichloroethane	Lab Fort Blk. Found	11.18	ug/m3			
	Lab Fort Blk. % Rec.	94.18	%	50-150		
1,4-Dichlorobenzene	Lab Fort Blank Amt.	15.95	ug/m3			
	Lab Fort Blk. Found	13.54	ug/m3			
Ethyl Acetate	Lab Fort Blk. % Rec.	84.93	%	70-130		
	Lab Fort Blank Amt.	31.45	ug/m3			
1,2-Dichloroethane	Lab Fort Blk. Found	27.27	ug/m3			
	Lab Fort Blk. % Rec.	86.72	%	70-130		
1,4-Dichlorobenzene	Lab Fort Blank Amt.	24.33	ug/m3			
	Lab Fort Blk. Found	19.88	ug/m3			
Ethyl Acetate	Lab Fort Blk. % Rec.	81.72	%	70-130		
	Lab Fort Blank Amt.	20.24	ug/m3			
1,2-Dichloroethane	Lab Fort Blk. Found	15.44	ug/m3			
	Lab Fort Blk. % Rec.	76.30	%	70-130		
1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3			
	Lab Fort Blk. Found	30.66	ug/m3			
Ethyl Acetate	Lab Fort Blk. % Rec.	102.02	%	70-130		
	Lab Fort Blank Amt.	18.01	ug/m3			



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LFBLANK-95347					
	Ethyl Acetate	Lab Fort Blk. Found	17.13	ug/m3	
		Lab Fort Blk. % Rec.	95.10	%	50-150
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	20.54	ug/m3	
		Lab Fort Blk. % Rec.	94.76	%	70-130
	Hexane	Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	15.41	ug/m3	
		Lab Fort Blk. % Rec.	87.46	%	70-130
	Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	
		Lab Fort Blk. Found	13.77	ug/m3	
		Lab Fort Blk. % Rec.	112.06	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	12.33	ug/m3	
		Lab Fort Blk. % Rec.	83.65	%	70-130
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	21.17	ug/m3	
		Lab Fort Blk. % Rec.	103.36	%	70-130
	Styrene	Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	21.63	ug/m3	
		Lab Fort Blk. % Rec.	101.72	%	70-130
	Tetrachloroethylene	Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	30.60	ug/m3	
		Lab Fort Blk. % Rec.	90.25	%	70-130
	Toluene	Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	17.11	ug/m3	
		Lab Fort Blk. % Rec.	90.96	%	70-130
	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	22.48	ug/m3	
		Lab Fort Blk. % Rec.	82.43	%	70-130
	Trichloroethylene	Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	23.52	ug/m3	
		Lab Fort Blk. % Rec.	87.54	%	70-130
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	34.85	ug/m3	
		Lab Fort Blk. % Rec.	90.96	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	25.03	ug/m3	
		Lab Fort Blk. % Rec.	89.11	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	21.90	ug/m3	
		Lab Fort Blk. % Rec.	100.86	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	42.33	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95347					
	m/p-Xylene	Lab Fort Blk. % Rec.	97.45	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.98	ug/m3	
	1,3-Dichlorobenzene	Lab Fort Blk. % Rec.	99.74	%	70-130
		Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	31.34	ug/m3	
	1,1-Dichloroethane	Lab Fort Blk. % Rec.	104.28	%	70-130
		Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	16.19	ug/m3	
	1,1-Dichloroethylene	Lab Fort Blk. % Rec.	79.98	%	70-130
		Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	18.52	ug/m3	
	Ethanol	Lab Fort Blk. % Rec.	93.38	%	70-130
		Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	11.21	ug/m3	
	4-Ethyl Toluene	Lab Fort Blk. % Rec.	119.06	%	50-150
		Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.73	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blk. % Rec.	104.70	%	50-150
		Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	14.21	ug/m3	
	t-1,2-Dichloroethylene	Lab Fort Blk. % Rec.	78.86	%	70-130
		Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	15.61	ug/m3	
	Vinyl Chloride	Lab Fort Blk. % Rec.	78.78	%	70-130
		Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	11.70	ug/m3	
	Methylene Chloride	Lab Fort Blk. % Rec.	91.58	%	70-130
		Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	21.07	ug/m3	
	Chlorobenzene	Lab Fort Blk. % Rec.	121.40	%	70-130
		Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	21.48	ug/m3	
	Chloromethane	Lab Fort Blk. % Rec.	93.29	%	70-130
		Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	9.90	ug/m3	
	Bromomethane	Lab Fort Blk. % Rec.	95.94	%	70-130
		Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	17.85	ug/m3	
	Chloroethane	Lab Fort Blk. % Rec.	92.01	%	70-130
		Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	12.36	ug/m3	
		Lab Fort Blk. % Rec.	93.73	%	70-130



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95347					
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	19.70	ug/m3	
		Lab Fort Blk. % Rec.	86.82	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	19.88	ug/m3	
		Lab Fort Blk. % Rec.	87.57	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	43.61	ug/m3	
		Lab Fort Blk. % Rec.	102.40	%	70-130
	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	24.82	ug/m3	
		Lab Fort Blk. % Rec.	90.99	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	57.81	ug/m3	
		Lab Fort Blk. % Rec.	111.84	%	70-130
	1,1,2,2-Tetrachloroethane	Lab Fort Blank Amt.	34.33	ug/m3	
		Lab Fort Blk. Found	37.09	ug/m3	
		Lab Fort Blk. % Rec.	108.04	%	70-130
	Hexachlorobutadiene	Lab Fort Blank Amt.	53.33	ug/m3	
		Lab Fort Blk. Found	52.68	ug/m3	
		Lab Fort Blk. % Rec.	98.78	%	70-130
	1,2,4-Trichlorobenzene	Lab Fort Blank Amt.	37.10	ug/m3	
		Lab Fort Blk. Found	37.32	ug/m3	
		Lab Fort Blk. % Rec.	100.60	%	70-130
	1,2,4-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.29	ug/m3	
		Lab Fort Blk. % Rec.	102.90	%	70-130
	1,3,5-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.35	ug/m3	
		Lab Fort Blk. % Rec.	103.16	%	70-130
	Cyclohexane	Lab Fort Blank Amt.	17.21	ug/m3	
		Lab Fort Blk. Found	16.00	ug/m3	
		Lab Fort Blk. % Rec.	93.00	%	50-150
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	16.09	ug/m3	
		Lab Fort Blk. % Rec.	81.15	%	70-130
	1,2-Dichloropropane	Lab Fort Blank Amt.	23.10	ug/m3	
		Lab Fort Blk. Found	19.80	ug/m3	
		Lab Fort Blk. % Rec.	85.71	%	70-130
	Dichlorodifluoromethane	Lab Fort Blank Amt.	24.72	ug/m3	
		Lab Fort Blk. Found	21.33	ug/m3	
		Lab Fort Blk. % Rec.	86.29	%	70-130
	Benzyl Chloride	Lab Fort Blank Amt.	25.88	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95347					
	Benzyl Chloride	Lab Fort Blk. Found	30.30	ug/m3	
		Lab Fort Blk. % Rec.	117.06	%	70-130
	Carbon Disulfide	Lab Fort Blank Amt.	15.57	ug/m3	
		Lab Fort Blk. Found	13.38	ug/m3	
		Lab Fort Blk. % Rec.	85.97	%	70-130
	Vinyl Acetate	Lab Fort Blank Amt.	17.60	ug/m3	
		Lab Fort Blk. Found	14.32	ug/m3	
		Lab Fort Blk. % Rec.	81.36	%	70-130
	2-Hexanone	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	20.79	ug/m3	
		Lab Fort Blk. % Rec.	101.54	%	50-150
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3	
		Lab Fort Blk. Found	30.47	ug/m3	
		Lab Fort Blk. % Rec.	90.96	%	70-130
	1,2-Dibromoethane	Lab Fort Blank Amt.	38.42	ug/m3	
		Lab Fort Blk. Found	35.85	ug/m3	
		Lab Fort Blk. % Rec.	93.30	%	70-130
	n-Heptane	Lab Fort Blank Amt.	20.49	ug/m3	
		Lab Fort Blk. Found	19.58	ug/m3	
		Lab Fort Blk. % Rec.	95.55	%	50-150
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blank Amt.	34.95	ug/m3	
		Lab Fort Blk. Found	32.14	ug/m3	
		Lab Fort Blk. % Rec.	91.96	%	70-130
	Tetrahydrofuran	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	13.95	ug/m3	
		Lab Fort Blk. % Rec.	94.61	%	50-150
	Propene	Lab Fort Blank Amt.	8.60	ug/m3	
		Lab Fort Blk. Found	7.95	ug/m3	
		Lab Fort Blk. % Rec.	92.44	%	50-150
	1,3-Butadiene	Lab Fort Blank Amt.	11.06	ug/m3	
		Lab Fort Blk. Found	10.15	ug/m3	
		Lab Fort Blk. % Rec.	91.78	%	70-130



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NOTES:

QC Batch No. : BATCH-16660  
Sample ID : LFBLANK-95346  
Analysis : Isopropanol

LABORATORY FORTIFIED BLANK RECOVERY IS OUTSIDE OF CONTROL LIMITS. ANY REPORTED VALUE FOR THIS COMPOUND IS LIKELY TO BE BIASED ON THE HIGH SIDE.



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QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER                      This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.

LIMITS                      Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.

Sample Amount                      Amount of analyte found in a sample.

Blank                      Method Blank that has been taken though all the steps of the analysis.

LFBLANK                      Laboratory Fortified Blank (a control sample)

STDADD                      Standard Added (a laboratory control sample)

Matrix Spk Amt Added                      Amount of analyte spiked into a sample  
MS Amt Measured                      Amount of analyte found including amount that was spiked  
Matrix Spike % Rec.                      % Recovery of spiked amount in sample.

Duplicate Value                      The result from the Duplicate analysis of the sample.  
Duplicate RPD                      The Relative Percent Difference between two Duplicate Analyses.

Surrogate Recovery                      The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.

Sur. Recovery (ELCD)                      Surrogate Recovery on the Electrolytic Conductivity Detector.  
Sur. Recovery (PID)                      Surrogate Recovery on the Photoionization Detector.

Standard Measured                      Amount measured for a laboratory control sample  
Standard Amt Added                      Known value for a laboratory control sample  
Standard % Recovery                      % recovered for a laboratory control sample with a known value.

Lab Fort Blank Amt                      Laboratory Fortified Blank Amount Added  
Lab Fort Blk. Found                      Laboratory Fortified Blank Amount Found  
Lab Fort Blk % Rec                      Laboratory Fortified Blank % Recovered  
Dup Lab Fort Bl Amt                      Duplicate Laboratory Fortified Blank Amount Added  
Dup Lab Fort Bl Fnd                      Duplicate Laboratory Fortified Blank Amount Found  
Dup Lab Fort Bl % Rec                      Duplicate Laboratory Fortified Blank % Recovery  
Lab Fort Blank Range                      Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).

Lab Fort Bl. Av. Rec.                      Laboratory Fortified Blank Average Recovery

Duplicate Sample Amt                      Sample Value for Duplicate used with Matrix Spike Duplicate  
MSD Amount Added                      Matrix Spike Duplicate Amount Added (Spiked)  
MSD Amt Measured                      Matrix Spike Duplicate Amount Measured  
MSD % Recovery                      Matrix Spike Duplicate % Recovery  
MSD Range                      Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries





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**AIR SAMPLE CHAIN OF CUSTODY RECORD**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: MACTEC Engineering  
 Address: 107 Audubon Rd, Suite 301  
Wakefield, MA 01880

Attention: Kelly Clutterfan

Project Location: Providence, RI (Kirkham Site)  
 Sampled By: PSM

Proposal Provided? (For Billing purposes)  
 Yes 3.3.09 proposal date

Telephone: (701) 245-6606  
 Project # 3650080114  
 Client PO # \_\_\_\_\_

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: \_\_\_\_\_  
 Email: Kjclutterfan@maectec.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER

LIMIT: 85385

Date Sampled  ONLY USE WHEN USING PUMPS

Field ID	Sample Description	Media	Lab #	Date	Start Time	Stop Time	Total	Flow Rate	Volume	Matrix Code*	Summa Canister ID	Flow Controller ID	
IA-2-091709		S	09B	9-17-09	08:19	9-17-09 08:49	30	0.2	6	IA	X	1636	4081
IA-3-091709		S	14879	9-17-09	08:14	9-17-09 08:44	30	0.2	6	IA	X	1189	4106
IA-4-091709		S	14880	9-17-09	08:17	9-17-09 08:47	30	0.2	6	IA	X	1868	4075
IA-5-091709		S	14881	9-17-09	08:19	9-17-09 08:49	30	0.2	6	IA	X	1100	4102
IA-6-091709		S	14882	9-17-09	09:27	9-17-09 09:57	30	0.2	6	IA	X	1020	4073
IA-7-091709		S	14883	9-17-09	09:35	9-17-09 10:05	30	0.2	6	IA	X	1216	4071
EW-5-091709		S	14884	9-17-09	09:55	9-17-09 10:25	30	0.2	6	SA	X	1115	4056
EW-6-091709		S	14885	9-17-09	09:58	9-17-09 10:28	30	0.2	6	SA	X	1835	4096

CLIENT COMMENTS:  
 EW-5-091709 and EW-6-091709 were sampled from source area soil gas.

Requisitioned by: (Signature) \_\_\_\_\_ Date/Time: 9-17-09 1550

Received by: (Signature) \_\_\_\_\_ Date/Time: 9-17-09 1550

Released by: (Signature) \_\_\_\_\_ Date/Time: 9-17-09 1550

Received by: (Signature) \_\_\_\_\_ Date/Time: 9-17-09 1845

Turnaround \*\*  
 7-Day  
 10-Day  
 Other 5  
 RUSH \* 401

Regulations: CT Target Indoor Air (Commercial)  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 Required Detection Limits: CT Target  
 Other: Indoor Air Conc. (Commercial)

Matrix Code: SA = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = other

Media Codes:  
 S = Summa can  
 TB = Tedlar bag  
 P = PUF  
 T = tube  
 F = filter  
 C = cassette  
 O = Other

\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAP & WBE/DBE Certified

ANALYSIS REQUESTED

11Hg

Please fill out completely, sign, date and retain the yellow copy for your record.

Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com  
 www.contestlabs.com

**AIR SAMPLE CHAIN OF CUSTODY RECORD**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: MACTEC Engineering

Address: 107 Audubon Rd., Site 301

Wakefield, MA 01880

Attention: Kelly Chatterton

Project Location: Providence, RI (Garham Site)

Sampled By: RTM

Proposal Provided? (For Billing purposes)

Yes 3-3-09 proposal date

Telephone: (701) 245-6661  
 Project # 365000114  
 Client PO # \_\_\_\_\_

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: \_\_\_\_\_  
 Email: KChatterton@maectec.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER EXCEL

Field ID	Sample Description	Media	Lab #	Date		Total	Flow Rate	Volume	Matrix	Code*	ANALYSIS REQUESTED		Please fill out completely, sign, date and retain the yellow copy for your record.
				Start Time	Stop Time						Minutes Sampled	M <sup>3</sup> /Min. or L/Min.	
EW-7-091709	S		14886	9-17-09 1001	9-17-09 1031	30	0.2	6	SA	X			Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.
EW-Combined-091709	S		14887	9-17-09 1017	9-17-09 1047	30	0.2	6	SA	X			Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.
AA-1-091709	S		14888	9-17-09 0025	9-17-09 0055	30	0.2	6	AMB	X			

CLIENT COMMENTS:  
EW-7-091709 and EW-Combined-091709 were sampled from source area soil gas.

Relinquished by: (signature) [Signature] Date/Time: 9-17-09/1550

Received by: (signature) [Signature] Date/Time: 9-17-09 1400

Relinquished by: (signature) [Signature] Date/Time: 9-17-09 6:45 PM

Received by: (signature) [Signature] Date/Time: \_\_\_\_\_

Turnaround \*\*  
 7-Day  
 10-Day  
 Other 5  
 RUSH \* day

Regulations: CR Target Indoor Air (cont.)  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 Required Detection Limits: CR Target  
 Other: Federal Air Conc. (i.e. ambient)

\*Matrix Code: SG=SOIL GAS  
 IA=INDOOR AIR  
 AMB=AMBIENT  
 SS=SUB SLAB  
 D=DUP  
 BL=BLANK  
 O=other

\*\*Media Codes: S=summa can  
 TB=teclar bag  
 P=PUF  
 T=tube  
 F=filter  
 C=cassette  
 O=Other

\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.



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East Longmeadow, MA  
Phone: 1-413-525-2332  
Fax: 1-413-525-6405

AIR ONLY RECEIPT CHECKLIST

CLIENT NAME: Mactec  
RECEIVED BY: TPH DATE: 9-17-09

- 1. Was chain of custody relinquished and signed?  YES  NO
- 2. Does Chain agree with samples?  YES  NO

If not, explain: \_\_\_\_\_

- 3. All Samples in good condition?  YES  NO

If not, explain: \_\_\_\_\_

- 4. Are there any on hold samples? YES  NO  STORED WHERE: \_\_\_\_\_

- 5. ARE THERE ANY RUSH OR SHORT HOLDING TIME SAMPLES? WHO WAS NOTIFIED? \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Location where samples are stored: Air Lab

Permission to sub-contract samples? Yes No (circle)  
(Walk in clients only) if not already approved.  
Client Signature \_\_\_\_\_

CONTAINERS SENT TO CON-TEST	# of containers
Summa cans	11
Tedlar Bags	
Regulators	11
Restrictors	
Tubes	
Other	

- 1. Was all media (used & unused) checked into the WASP asset management program? YES
- 2. Were all returned summa cans, restrictors, & regulators documented as returned in the AIR Lab Outbound excel sheet? YES
- 3. Were the Lab ID's documented in the Air Lab Outbound excel sheet? YES
- 4. Was the job documented in the Air Lab Log-In Access Database? NO

Laboratory comments: \_\_\_\_\_



CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY: ARM 10/15/09

39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

REPORT DATE 9/29/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: KELLY CHATTERTON

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER: 200914545

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMIT-25317  
JOB NUMBER: 3650080114

PROJECT LOCATION: PROVIDENCE, RI (GORHAM SITE)

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
AA-1-092409	09B14896	AIR	Not Specified	to-15 ppbv	
AA-1-092409	09B14896	AIR	Not Specified	to-15 ug/m3	
EW-COMBINED-09	09B14897	AIR	Not Specified	to-15 ppbv	
EW-COMBINED-09	09B14897	AIR	Not Specified	to-15 ug/m3	
IA-1-092409	09B14892	AIR	Not Specified	to-15 ppbv	
IA-1-092409	09B14892	AIR	Not Specified	to-15 ug/m3	
IA-2-092409	09B14893	AIR	Not Specified	to-15 ppbv	
IA-2-092409	09B14893	AIR	Not Specified	to-15 ug/m3	
IA-3-092409	09B14894	AIR	Not Specified	to-15 ppbv	
IA-3-092409	09B14894	AIR	Not Specified	to-15 ug/m3	
IA-4-092409	09B14895	AIR	Not Specified	to-15 ppbv	
IA-4-092409	09B14895	AIR	Not Specified	to-15 ug/m3	

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033	AIHA ELLAP (LEAD) 100033	NORTH CAROLINA CERT. #652
MASSACHUSETTS MA0100	NEW HAMPSHIRE NELAP 2516	NEW JERSEY NELAP NJ MA007 (AIR)
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036	FLORIDA DOH E871027 (AIR)
NEW YORK ELAP/NELAP 10899	RHODE ISLAND (LIC. No. 112)	

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE

9/29/09  
DATE

Tod Kopyscinski  
Air Laboratory Manager

Michael Erickson  
Laboratory Director

Chris Hall  
Project Chemist Supervisor

Daren Damboragian  
Laboratory Manager





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KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/29/2009  
Page 2 of 25

Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

Field Sample #: AA-1-092409

Sample ID: 09B14896      ‡Sampled: 9/24/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.05		09/28/09	WSD
Hexane	PPBv	0.40	0.05		09/28/09	WSD
2-Hexanone	PPBv	ND	0.05		09/28/09	WSD
Isopropanol	PPBv	0.36	0.05		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/28/09	WSD
Methylene Chloride	PPBv	1.2	0.05		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		09/28/09	WSD
Propene	PPBv	ND	0.20		09/28/09	WSD
Styrene	PPBv	ND	0.05		09/28/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/28/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/28/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/28/09	WSD
Toluene	PPBv	0.54	0.05		09/28/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/28/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.24	0.05		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/28/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/28/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/28/09	WSD
m/p-Xylene	PPBv	0.14	0.10		09/28/09	WSD
o-Xylene	PPBv	ND	0.05		09/28/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	9.6	0.12		09/28/09	WSD
Benzene	ug/m3	0.35	0.16		09/28/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/28/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/28/09	WSD
Bromoform	ug/m3	ND	0.51		09/28/09	WSD
Bromomethane	ug/m3	ND	0.19		09/28/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/28/09	WSD
2-Butanone (MEK)	ug/m3	0.84	0.15		09/28/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/28/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



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KELLY CHATTERTON  
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WAKEFIELD, MA 01880

9/29/2009  
Page 3 of 25

Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : AA-1-092409**

**Sample ID :** 09B14896      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		09/28/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/28/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/28/09	WSD
Chloroethane	ug/m3	ND	0.13		09/28/09	WSD
Chloroform	ug/m3	ND	0.24		09/28/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/28/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/28/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/28/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/28/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/28/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/28/09	WSD
Ethanol	ug/m3	4.6	0.09		09/28/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/28/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/28/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/28/09	WSD
n-Heptane	ug/m3	ND	0.20		09/28/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/28/09	WSD
Hexane	ug/m3	1.4	0.18		09/28/09	WSD
2-Hexanone	ug/m3	ND	0.20		09/28/09	WSD
Isopropanol	ug/m3	0.87	0.12		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/28/09	WSD
Methylene Chloride	ug/m3	4.2	0.17		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		09/28/09	WSD
Propene	ug/m3	ND	0.35		09/28/09	WSD
Styrene	ug/m3	ND	0.21		09/28/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
 Page 4 of 25

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : AA-1-092409**

**Sample ID :** 09B14896      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/28/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/28/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/28/09	WSD
Toluene	ug/m3	2.0	0.19		09/28/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/28/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/28/09	WSD
Trichlorofluoromethane	ug/m3	1.4	0.28		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.49	0.38		09/28/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/28/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/28/09	WSD
m/p-Xylene	ug/m3	0.59	0.43		09/28/09	WSD
o-Xylene	ug/m3	ND	0.22		09/28/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled





39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
Page 5 of 25

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : EW-COMBINED-092409**

**Sample ID :** 09B14897      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	ND	4.0		09/29/09	WSD
Benzene	PPBv	ND	1.0		09/29/09	WSD
Benzyl Chloride	PPBv	ND	1.0		09/29/09	WSD
Bromodichloromethane	PPBv	ND	1.0		09/29/09	WSD
Bromoform	PPBv	ND	1.0		09/29/09	WSD
Bromomethane	PPBv	ND	1.0		09/29/09	WSD
1,3-Butadiene	PPBv	ND	2.0		09/29/09	WSD
2-Butanone (MEK)	PPBv	11	1.0		09/29/09	WSD
Carbon Disulfide	PPBv	ND	1.0		09/29/09	WSD
Carbon Tetrachloride	PPBv	ND	1.0		09/29/09	WSD
Chlorobenzene	PPBv	ND	1.0		09/29/09	WSD
Chlorodibromomethane	PPBv	ND	1.0		09/29/09	WSD
Chloroethane	PPBv	36	1.0		09/29/09	WSD
Chloroform	PPBv	2.9	1.0		09/29/09	WSD
Chloromethane	PPBv	ND	1.0		09/29/09	WSD
Cyclohexane	PPBv	ND	1.0		09/29/09	WSD
1,2-Dibromoethane	PPBv	ND	1.0		09/29/09	WSD
1,2-Dichlorobenzene	PPBv	ND	1.0		09/29/09	WSD
1,3-Dichlorobenzene	PPBv	ND	1.0		09/29/09	WSD
1,4-Dichlorobenzene	PPBv	ND	1.0		09/29/09	WSD
Dichlorodifluoromethane	PPBv	ND	1.0		09/29/09	WSD
1,1-Dichloroethane	PPBv	470	1.0		09/29/09	WSD
1,2-Dichloroethane	PPBv	ND	1.0		09/29/09	WSD
1,1-Dichloroethylene	PPBv	64	1.0		09/29/09	WSD
cis-1,2-Dichloroethylene	PPBv	370	1.0		09/29/09	WSD
t-1,2-Dichloroethylene	PPBv	8.6	1.0		09/29/09	WSD
1,2-Dichloropropane	PPBv	ND	1.0		09/29/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	1.0		09/29/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	1.0		09/29/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	1.0		09/29/09	WSD
Ethanol	PPBv	51	1.0		09/29/09	WSD
Ethyl Acetate	PPBv	ND	1.0		09/29/09	WSD
Ethylbenzene	PPBv	ND	1.0		09/29/09	WSD
4-Ethyl Toluene	PPBv	ND	1.0		09/29/09	WSD
n-Heptane	PPBv	ND	1.0		09/29/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
 Page 7 of 25

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : EW-COMBINED-092409**

**Sample ID : 09B14897** ‡Sampled : 9/24/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	6.2		09/29/09	WSD
Chlorobenzene	ug/m3	ND	4.6		09/29/09	WSD
Chlorodibromomethane	ug/m3	ND	8.6		09/29/09	WSD
Chloroethane	ug/m3	94	2.6		09/29/09	WSD
Chloroform	ug/m3	14	4.8		09/29/09	WSD
Chloromethane	ug/m3	ND	2.0		09/29/09	WSD
Cyclohexane	ug/m3	ND	3.4		09/29/09	WSD
1,2-Dibromoethane	ug/m3	ND	7.6		09/29/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	6.0		09/29/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	6.0		09/29/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	6.0		09/29/09	WSD
Dichlorodifluoromethane	ug/m3	ND	5.0		09/29/09	WSD
1,1-Dichloroethane	ug/m3	1900	4.0		09/29/09	WSD
1,2-Dichloroethane	ug/m3	ND	4.0		09/29/09	WSD
1,1-Dichloroethylene	ug/m3	250	4.0		09/29/09	WSD
cis-1,2-Dichloroethylene	ug/m3	1500	4.0		09/29/09	WSD
t-1,2-Dichloroethylene	ug/m3	34	4.0		09/29/09	WSD
1,2-Dichloropropane	ug/m3	ND	4.6		09/29/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	4.4		09/29/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	4.4		09/29/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	7.0		09/29/09	WSD
Ethanol	ug/m3	96	1.8		09/29/09	WSD
Ethyl Acetate	ug/m3	ND	3.6		09/29/09	WSD
Ethylbenzene	ug/m3	ND	4.4		09/29/09	WSD
4-Ethyl Toluene	ug/m3	ND	5.0		09/29/09	WSD
n-Heptane	ug/m3	ND	4.0		09/29/09	WSD
Hexachlorobutadiene	ug/m3	ND	11		09/29/09	WSD
Hexane	ug/m3	ND	3.6		09/29/09	WSD
2-Hexanone	ug/m3	ND	4.0		09/29/09	WSD
Isopropanol	ug/m3	ND	5.0		09/29/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	3.6		09/29/09	WSD
Methylene Chloride	ug/m3	ND	14		09/29/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	4.0		09/29/09	WSD
Propene	ug/m3	ND	6.9		09/29/09	WSD
Styrene	ug/m3	ND	4.2		09/29/09	WSD

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WAKEFIELD, MA 01880

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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : EW-COMBINED-092409**

**Sample ID :** 09B14897 ‡Sampled : 9/24/2009  
Not Specified  
Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	6.8		09/29/09	WSD
Tetrachloroethylene	ug/m3	260	6.8		09/29/09	WSD
Tetrahydrofuran	ug/m3	96	3.0		09/29/09	WSD
Toluene	ug/m3	4.7	3.8		09/29/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	7.4		09/29/09	WSD
1,1,1-Trichloroethane	ug/m3	8100	5.4		09/29/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	5.4		09/29/09	WSD
Trichloroethylene	ug/m3	3600	5.4		09/29/09	WSD
Trichlorofluoromethane	ug/m3	1400	5.6		09/29/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	7.6		09/29/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	5.0		09/29/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	5.0		09/29/09	WSD
Vinyl Acetate	ug/m3	ND	15		09/29/09	WSD
Vinyl Chloride	ug/m3	ND	2.6		09/29/09	WSD
m/p-Xylene	ug/m3	ND	8.6		09/29/09	WSD
o-Xylene	ug/m3	ND	4.4		09/29/09	WSD

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39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-1-092409**

**Sample ID :** 09B14892      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	7.4	0.05		09/28/09	WSD
Benzene	PPBv	0.15	0.05		09/28/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/28/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/28/09	WSD
Bromoform	PPBv	ND	0.05		09/28/09	WSD
Bromomethane	PPBv	ND	0.05		09/28/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/28/09	WSD
2-Butanone (MEK)	PPBv	0.87	0.05		09/28/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/28/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/28/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/28/09	WSD
Chloroethane	PPBv	ND	0.05		09/28/09	WSD
Chloroform	PPBv	ND	0.05		09/28/09	WSD
Chloromethane	PPBv	0.53	0.05		09/28/09	WSD
Cyclohexane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Dichlorodifluoromethane	PPBv	0.41	0.05		09/28/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/28/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/28/09	WSD
Ethanol	PPBv	3.7	0.05		09/28/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/28/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/28/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/28/09	WSD
n-Heptane	PPBv	ND	0.05		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled



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KELLY CHATTERTON  
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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/29/2009  
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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-1-092409**

**Sample ID :** 09B14892      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.05		09/28/09	WSD
Hexane	PPBv	0.36	0.05		09/28/09	WSD
2-Hexanone	PPBv	0.13	0.05		09/28/09	WSD
Isopropanol	PPBv	2.1	0.05		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/28/09	WSD
Methylene Chloride	PPBv	1.0	0.05		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.09	0.05		09/28/09	WSD
Propene	PPBv	ND	0.20		09/28/09	WSD
Styrene	PPBv	ND	0.05		09/28/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/28/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/28/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/28/09	WSD
Toluene	PPBv	0.29	0.05		09/28/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/28/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.24	0.05		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/28/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.07	0.05		09/28/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/28/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/28/09	WSD
m/p-Xylene	PPBv	0.21	0.10		09/28/09	WSD
o-Xylene	PPBv	0.09	0.05		09/28/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	18	0.12		09/28/09	WSD
Benzene	ug/m3	0.47	0.16		09/28/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/28/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/28/09	WSD
Bromoform	ug/m3	ND	0.51		09/28/09	WSD
Bromomethane	ug/m3	ND	0.19		09/28/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/28/09	WSD
2-Butanone (MEK)	ug/m3	2.6	0.15		09/28/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/28/09	WSD

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107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-1-092409**

**Sample ID :** 09B14892      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.38	0.31		09/28/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/28/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/28/09	WSD
Chloroethane	ug/m3	ND	0.13		09/28/09	WSD
Chloroform	ug/m3	ND	0.24		09/28/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/28/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/28/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/28/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
Dichlorodifluoromethane	ug/m3	2.0	0.25		09/28/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/28/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/28/09	WSD
Ethanol	ug/m3	7.0	0.09		09/28/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/28/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/28/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/28/09	WSD
n-Heptane	ug/m3	ND	0.20		09/28/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/28/09	WSD
Hexane	ug/m3	1.3	0.18		09/28/09	WSD
2-Hexanone	ug/m3	0.52	0.20		09/28/09	WSD
Isopropanol	ug/m3	5.2	0.12		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/28/09	WSD
Methylene Chloride	ug/m3	3.6	0.17		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.35	0.20		09/28/09	WSD
Propene	ug/m3	ND	0.35		09/28/09	WSD
Styrene	ug/m3	ND	0.21		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled



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WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-1-092409**

**Sample ID :** 09B14892      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/28/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/28/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/28/09	WSD
Toluene	ug/m3	1.1	0.19		09/28/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/28/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/28/09	WSD
Trichlorofluoromethane	ug/m3	1.3	0.28		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.44	0.38		09/28/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.35	0.25		09/28/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/28/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/28/09	WSD
m/p-Xylene	ug/m3	0.91	0.43		09/28/09	WSD
o-Xylene	ug/m3	0.40	0.22		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled





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9/29/2009  
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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-2-092409**

**Sample ID :** 09B14893      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	7.1	0.05		09/28/09	WSD
Benzene	PPBv	0.15	0.05		09/28/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/28/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/28/09	WSD
Bromoform	PPBv	ND	0.05		09/28/09	WSD
Bromomethane	PPBv	ND	0.05		09/28/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/28/09	WSD
2-Butanone (MEK)	PPBv	0.79	0.05		09/28/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/28/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		09/28/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/28/09	WSD
Chloroethane	PPBv	ND	0.05		09/28/09	WSD
Chloroform	PPBv	ND	0.05		09/28/09	WSD
Chloromethane	PPBv	0.52	0.05		09/28/09	WSD
Cyclohexane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		09/28/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/28/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/28/09	WSD
Ethanol	PPBv	3.6	0.05		09/28/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/28/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/28/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/28/09	WSD
n-Heptane	PPBv	ND	0.05		09/28/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/29/2009  
 Page 14 of 25

Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-2-092409**

**Sample ID :** 09B14893      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.05		09/28/09	WSD
Hexane	PPBv	0.12	0.05		09/28/09	WSD
2-Hexanone	PPBv	0.13	0.05		09/28/09	WSD
Isopropanol	PPBv	2.3	0.05		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/28/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.10	0.05		09/28/09	WSD
Propene	PPBv	ND	0.20		09/28/09	WSD
Styrene	PPBv	ND	0.05		09/28/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/28/09	WSD
Tetrachloroethylene	PPBv	0.05	0.05		09/28/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/28/09	WSD
Toluene	PPBv	0.29	0.05		09/28/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/28/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/28/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		09/28/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/28/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/28/09	WSD
m/p-Xylene	PPBv	0.21	0.10		09/28/09	WSD
o-Xylene	PPBv	0.10	0.05		09/28/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	17	0.12		09/28/09	WSD
Benzene	ug/m3	0.47	0.16		09/28/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/28/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/28/09	WSD
Bromoform	ug/m3	ND	0.51		09/28/09	WSD
Bromomethane	ug/m3	ND	0.19		09/28/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/28/09	WSD
2-Butanone (MEK)	ug/m3	2.3	0.15		09/28/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON

MACTEC ENGINEERING &amp; CONSULTING - MA

107 AUDUBON ROAD, BLDG. 2, SUITE 301

WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009

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Project Location: PROVIDENCE, RI (GORHAM SITE)

Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317

Job Number: 3650080114

**Field Sample # : IA-2-092409**
**Sample ID : 09B14893**

‡Sampled : 9/24/2009

Not Specified

Sample Matrix: AIR

Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		09/28/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/28/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/28/09	WSD
Chloroethane	ug/m3	ND	0.13		09/28/09	WSD
Chloroform	ug/m3	ND	0.24		09/28/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/28/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/28/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/28/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/28/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/28/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/28/09	WSD
Ethanol	ug/m3	6.7	0.09		09/28/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/28/09	WSD
Ethylbenzene	ug/m3	0.22	0.22		09/28/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/28/09	WSD
n-Heptane	ug/m3	ND	0.20		09/28/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/28/09	WSD
Hexane	ug/m3	0.42	0.18		09/28/09	WSD
2-Hexanone	ug/m3	0.54	0.20		09/28/09	WSD
Isopropanol	ug/m3	5.7	0.12		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/28/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.39	0.20		09/28/09	WSD
Propene	ug/m3	ND	0.35		09/28/09	WSD
Styrene	ug/m3	ND	0.21		09/28/09	WSD

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
Page 16 of 25

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

Field Sample # : IA-2-092409

Sample ID : 09B14893      ‡Sampled : 9/24/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/28/09	WSD
Tetrachloroethylene	ug/m3	0.35	0.34		09/28/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/28/09	WSD
Toluene	ug/m3	1.1	0.19		09/28/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/28/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/28/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.47	0.38		09/28/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.39	0.25		09/28/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/28/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/28/09	WSD
m/p-Xylene	ug/m3	0.93	0.43		09/28/09	WSD
o-Xylene	ug/m3	0.42	0.22		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled

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107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009  
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Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-3-092409**

**Sample ID :** 09B14894      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	8.0	0.05		09/28/09	WSD
Benzene	PPBv	0.16	0.05		09/28/09	WSD
Benzyl Chloride	PPBv	ND	0.05		09/28/09	WSD
Bromodichloromethane	PPBv	ND	0.05		09/28/09	WSD
Bromoform	PPBv	ND	0.05		09/28/09	WSD
Bromomethane	PPBv	ND	0.05		09/28/09	WSD
1,3-Butadiene	PPBv	ND	0.10		09/28/09	WSD
2-Butanone (MEK)	PPBv	0.87	0.05		09/28/09	WSD
Carbon Disulfide	PPBv	ND	0.05		09/28/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		09/28/09	WSD
Chlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		09/28/09	WSD
Chloroethane	PPBv	ND	0.05		09/28/09	WSD
Chloroform	PPBv	ND	0.05		09/28/09	WSD
Chloromethane	PPBv	0.53	0.05		09/28/09	WSD
Cyclohexane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
Dichlorodifluoromethane	PPBv	0.43	0.05		09/28/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		09/28/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		09/28/09	WSD
Ethanol	PPBv	4.0	0.05		09/28/09	WSD
Ethyl Acetate	PPBv	ND	0.05		09/28/09	WSD
Ethylbenzene	PPBv	0.05	0.05		09/28/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		09/28/09	WSD
n-Heptane	PPBv	ND	0.05		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled



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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/29/2009  
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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-3-092409**

**Sample ID :** 09B14894      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.05		09/28/09	WSD
Hexane	PPBv	0.13	0.05		09/28/09	WSD
2-Hexanone	PPBv	0.14	0.05		09/28/09	WSD
Isopropanol	PPBv	2.4	0.05		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/28/09	WSD
Methylene Chloride	PPBv	ND	0.20		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.10	0.05		09/28/09	WSD
Propene	PPBv	ND	0.20		09/28/09	WSD
Styrene	PPBv	ND	0.05		09/28/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/28/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/28/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/28/09	WSD
Toluene	PPBv	0.29	0.05		09/28/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/28/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/28/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		09/28/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/28/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/28/09	WSD
m/p-Xylene	PPBv	0.23	0.10		09/28/09	WSD
o-Xylene	PPBv	0.10	0.05		09/28/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	19	0.12		09/28/09	WSD
Benzene	ug/m3	0.50	0.16		09/28/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/28/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/28/09	WSD
Bromoform	ug/m3	ND	0.51		09/28/09	WSD
Bromomethane	ug/m3	ND	0.19		09/28/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/28/09	WSD
2-Butanone (MEK)	ug/m3	2.6	0.15		09/28/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/28/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

9/29/2009  
 Page 19 of 25

Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-3-092409**

**Sample ID :** 09B14894      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.43	0.31		09/28/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/28/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/28/09	WSD
Chloroethane	ug/m3	ND	0.13		09/28/09	WSD
Chloroform	ug/m3	ND	0.24		09/28/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/28/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/28/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/28/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		09/28/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/28/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/28/09	WSD
Ethanol	ug/m3	7.5	0.09		09/28/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/28/09	WSD
Ethylbenzene	ug/m3	0.23	0.22		09/28/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/28/09	WSD
n-Heptane	ug/m3	ND	0.20		09/28/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/28/09	WSD
Hexane	ug/m3	0.47	0.18		09/28/09	WSD
2-Hexanone	ug/m3	0.58	0.20		09/28/09	WSD
Isopropanol	ug/m3	5.9	0.12		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/28/09	WSD
Methylene Chloride	ug/m3	ND	0.70		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.42	0.20		09/28/09	WSD
Propene	ug/m3	ND	0.35		09/28/09	WSD
Styrene	ug/m3	ND	0.21		09/28/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

9/29/2009  
Page 20 of 25

Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-3-092409**

**Sample ID :** 09B14894      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/28/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/28/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/28/09	WSD
Toluene	ug/m3	1.1	0.19		09/28/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/28/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/28/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.46	0.38		09/28/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.40	0.25		09/28/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/28/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/28/09	WSD
m/p-Xylene	ug/m3	0.99	0.43		09/28/09	WSD
o-Xylene	ug/m3	0.45	0.22		09/28/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled







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WAKEFIELD, MA 01880

9/29/2009  
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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
Job Number: 3650080114

**Field Sample # : IA-4-092409**

**Sample ID :** 09B14895      ‡Sampled : 9/24/2009  
Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		09/28/09	WSD
Hexane	PPBv	0.61	0.05		09/28/09	WSD
2-Hexanone	PPBv	0.11	0.05		09/28/09	WSD
Isopropanol	PPBv	2.1	0.05		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		09/28/09	WSD
Methylene Chloride	PPBv	2.8	0.05		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.08	0.05		09/28/09	WSD
Propene	PPBv	ND	0.20		09/28/09	WSD
Styrene	PPBv	0.05	0.05		09/28/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		09/28/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		09/28/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		09/28/09	WSD
Toluene	PPBv	0.35	0.05		09/28/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		09/28/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		09/28/09	WSD
Trichloroethylene	PPBv	ND	0.05		09/28/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.27	0.05		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		09/28/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		09/28/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		09/28/09	WSD
Vinyl Acetate	PPBv	ND	0.20		09/28/09	WSD
Vinyl Chloride	PPBv	ND	0.05		09/28/09	WSD
m/p-Xylene	PPBv	0.22	0.10		09/28/09	WSD
o-Xylene	PPBv	0.10	0.05		09/28/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	16	0.12		09/28/09	WSD
Benzene	ug/m3	0.43	0.16		09/28/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		09/28/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		09/28/09	WSD
Bromoform	ug/m3	ND	0.51		09/28/09	WSD
Bromomethane	ug/m3	ND	0.19		09/28/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		09/28/09	WSD
2-Butanone (MEK)	ug/m3	2.0	0.15		09/28/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		09/28/09	WSD

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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-4-092409**

**Sample ID : 09B14895** ‡Sampled : 9/24/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		09/28/09	WSD
Chlorobenzene	ug/m3	ND	0.23		09/28/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		09/28/09	WSD
Chloroethane	ug/m3	ND	0.13		09/28/09	WSD
Chloroform	ug/m3	ND	0.24		09/28/09	WSD
Chloromethane	ug/m3	1.1	0.10		09/28/09	WSD
Cyclohexane	ug/m3	ND	0.17		09/28/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		09/28/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		09/28/09	WSD
Dichlorodifluoromethane	ug/m3	2.0	0.25		09/28/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		09/28/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		09/28/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		09/28/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		09/28/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		09/28/09	WSD
Ethanol	ug/m3	6.5	0.09		09/28/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		09/28/09	WSD
Ethylbenzene	ug/m3	0.27	0.22		09/28/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		09/28/09	WSD
n-Heptane	ug/m3	ND	0.20		09/28/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		09/28/09	WSD
Hexane	ug/m3	2.2	0.18		09/28/09	WSD
2-Hexanone	ug/m3	0.45	0.20		09/28/09	WSD
Isopropanol	ug/m3	5.2	0.12		09/28/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		09/28/09	WSD
Methylene Chloride	ug/m3	9.7	0.17		09/28/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.32	0.20		09/28/09	WSD
Propene	ug/m3	ND	0.35		09/28/09	WSD
Styrene	ug/m3	0.21	0.21		09/28/09	WSD

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9/29/2009  
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Purchase Order No.: 200914545

Project Location: PROVIDENCE, RI (GORHAM SITE)  
 Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317  
 Job Number: 3650080114

**Field Sample # : IA-4-092409**

**Sample ID :** 09B14895      ‡Sampled : 9/24/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		09/28/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		09/28/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		09/28/09	WSD
Toluene	ug/m3	1.3	0.19		09/28/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		09/28/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		09/28/09	WSD
Trichloroethylene	ug/m3	ND	0.27		09/28/09	WSD
Trichlorofluoromethane	ug/m3	1.5	0.28		09/28/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.48	0.38		09/28/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.41	0.25		09/28/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		09/28/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		09/28/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		09/28/09	WSD
m/p-Xylene	ug/m3	0.93	0.43		09/28/09	WSD
o-Xylene	ug/m3	0.42	0.22		09/28/09	WSD

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KELLY CHATTERTON

MACTEC ENGINEERING & CONSULTING - MA

107 AUDUBON ROAD, BLDG. 2, SUITE 301

WAKEFIELD, MA 01880

Purchase Order No.: 200914545

9/29/2009

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Project Location: PROVIDENCE, RI (GORHAM SITE)

Date Received: 9/24/2009

LIMS-BAT #: LIMIT-25317

Job Number: 3650080114

\*\* END OF REPORT \*\*

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

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‡ See attached chain-of-custody record for time sampled



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/29/2009

Lims Bat # : LIMIT-25317

Page 1 of 13

QC Batch Number: BATCH-16661

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14892	4-Bromofluorobenzene	Surrogate Recovery	94.75	%	70-130
09B14893	4-Bromofluorobenzene	Surrogate Recovery	94.87	%	70-130
09B14894	4-Bromofluorobenzene	Surrogate Recovery	95.37	%	70-130
09B14895	4-Bromofluorobenzene	Surrogate Recovery	94.62	%	70-130
09B14896	4-Bromofluorobenzene	Surrogate Recovery	94.37	%	70-130
09B14897	4-Bromofluorobenzene	Surrogate Recovery	92.50	%	70-130
BLANK-133023	Acetone	Blank	<0.24	ug/m3	
	Benzene	Blank	<0.08	ug/m3	
	Carbon Tetrachloride	Blank	<0.16	ug/m3	
	Chloroform	Blank	<0.12	ug/m3	
	1,2-Dichloroethane	Blank	<0.10	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.15	ug/m3	
	Ethyl Acetate	Blank	<0.09	ug/m3	
	Ethylbenzene	Blank	<0.11	ug/m3	
	Hexane	Blank	<0.09	ug/m3	
	Isopropanol	Blank	<0.13	ug/m3	
	2-Butanone (MEK)	Blank	<0.15	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.10	ug/m3	
	Styrene	Blank	<0.11	ug/m3	
	Tetrachloroethylene	Blank	<0.17	ug/m3	
	Toluene	Blank	<0.10	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.14	ug/m3	
	Trichloroethylene	Blank	<0.14	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.19	ug/m3	
	Trichlorofluoromethane	Blank	<0.14	ug/m3	
	o-Xylene	Blank	<0.11	ug/m3	
	m/p-Xylene	Blank	<0.22	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.15	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.15	ug/m3	
	1,1-Dichloroethane	Blank	<0.10	ug/m3	
	1,1-Dichloroethylene	Blank	<0.10	ug/m3	
	Ethanol	Blank	<0.19	ug/m3	
	4-Ethyl Toluene	Blank	<0.13	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.09	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.10	ug/m3	
	Vinyl Chloride	Blank	<0.07	ug/m3	
	Methylene Chloride	Blank	<0.35	ug/m3	



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/29/2009

Lims Bat # : LIMIT-25317

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QC Batch Number: BATCH-16661

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133023					
	Chlorobenzene	Blank	<0.12	ug/m3	
	Chloromethane	Blank	<0.05	ug/m3	
	Bromomethane	Blank	<0.10	ug/m3	
	Chloroethane	Blank	<0.07	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.11	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.11	ug/m3	
	Chlorodibromomethane	Blank	<0.22	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.14	ug/m3	
	Bromoform	Blank	<0.26	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.17	ug/m3	
	Hexachlorobutadiene	Blank	<0.27	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.19	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.13	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.13	ug/m3	
	Cyclohexane	Blank	<0.09	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.10	ug/m3	
	1,2-Dichloropropane	Blank	<0.12	ug/m3	
	Dichlorodifluoromethane	Blank	<0.13	ug/m3	
	Benzyl Chloride	Blank	<0.13	ug/m3	
	Carbon Disulfide	Blank	<0.08	ug/m3	
	Vinyl Acetate	Blank	<0.36	ug/m3	
	2-Hexanone	Blank	<0.10	ug/m3	
	Bromodichloromethane	Blank	<0.17	ug/m3	
	1,2-Dibromoethane	Blank	<0.19	ug/m3	
	n-Heptane	Blank	<0.10	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.18	ug/m3	
	Tetrahydrofuran	Blank	<0.08	ug/m3	
	Propene	Blank	<0.18	ug/m3	
	1,3-Butadiene	Blank	<0.12	ug/m3	
BLANK-133024					
	Acetone	Blank	<0.48	ug/m3	
	Benzene	Blank	<0.16	ug/m3	
	Carbon Tetrachloride	Blank	<0.31	ug/m3	
	Chloroform	Blank	<0.24	ug/m3	
	1,2-Dichloroethane	Blank	<0.20	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.30	ug/m3	
	Ethyl Acetate	Blank	<0.18	ug/m3	
	Ethylbenzene	Blank	<0.22	ug/m3	
	Hexane	Blank	<0.18	ug/m3	
	Isopropanol	Blank	<0.25	ug/m3	
	2-Butanone (MEK)	Blank	<0.30	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.20	ug/m3	
	Styrene	Blank	<0.21	ug/m3	



**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/29/2009

Lims Bat # : LIMIT-25317

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QC Batch Number: BATCH-16661

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133024					
	Tetrachloroethylene	Blank	<0.34	ug/m3	
	Toluene	Blank	<0.19	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.27	ug/m3	
	Trichloroethylene	Blank	<0.27	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.38	ug/m3	
	Trichlorofluoromethane	Blank	<0.28	ug/m3	
	o-Xylene	Blank	<0.22	ug/m3	
	m/p-Xylene	Blank	<0.43	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,1-Dichloroethane	Blank	<0.20	ug/m3	
	1,1-Dichloroethylene	Blank	<0.20	ug/m3	
	Ethanol	Blank	<0.38	ug/m3	
	4-Ethyl Toluene	Blank	<0.25	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.18	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	Vinyl Chloride	Blank	<0.13	ug/m3	
	Methylene Chloride	Blank	<0.70	ug/m3	
	Chlorobenzene	Blank	<0.23	ug/m3	
	Chloromethane	Blank	<0.10	ug/m3	
	Bromomethane	Blank	<0.19	ug/m3	
	Chloroethane	Blank	<0.13	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	Chlorodibromomethane	Blank	<0.43	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.27	ug/m3	
	Bromoform	Blank	<0.51	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.34	ug/m3	
	Hexachlorobutadiene	Blank	<0.53	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.37	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.25	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.25	ug/m3	
	Cyclohexane	Blank	<0.17	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	1,2-Dichloropropane	Blank	<0.23	ug/m3	
	Dichlorodifluoromethane	Blank	<0.25	ug/m3	
	Benzyl Chloride	Blank	<0.26	ug/m3	
	Carbon Disulfide	Blank	<0.16	ug/m3	
	Vinyl Acetate	Blank	<0.71	ug/m3	
	2-Hexanone	Blank	<0.20	ug/m3	
	Bromodichloromethane	Blank	<0.33	ug/m3	
	1,2-Dibromoethane	Blank	<0.38	ug/m3	
	n-Heptane	Blank	<0.20	ug/m3	





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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/29/2009

Lims Bat # : LIMIT-25317

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QC Batch Number: BATCH-16661

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133024					
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.35	ug/m3	
	Tetrahydrofuran	Blank	<0.15	ug/m3	
	Propene	Blank	<0.35	ug/m3	
	1,3-Butadiene	Blank	<0.23	ug/m3	
LFBLANK-95348					
	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	
		Lab Fort Blk. Found	10.03	ug/m3	
		Lab Fort Blk. % Rec.	84.46	%	50-150
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	
		Lab Fort Blk. Found	12.99	ug/m3	
		Lab Fort Blk. % Rec.	81.45	%	70-130
	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	
		Lab Fort Blk. Found	25.64	ug/m3	
		Lab Fort Blk. % Rec.	81.53	%	70-130
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	
		Lab Fort Blk. Found	18.36	ug/m3	
		Lab Fort Blk. % Rec.	75.45	%	70-130
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	14.40	ug/m3	
		Lab Fort Blk. % Rec.	71.16	%	70-130
	1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.27	ug/m3	
		Lab Fort Blk. % Rec.	97.37	%	70-130
	Ethyl Acetate	Lab Fort Blank Amt.	18.01	ug/m3	
		Lab Fort Blk. Found	16.07	ug/m3	
		Lab Fort Blk. % Rec.	89.22	%	50-150
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	20.76	ug/m3	
		Lab Fort Blk. % Rec.	95.78	%	70-130
	Hexane	Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	14.27	ug/m3	
		Lab Fort Blk. % Rec.	81.02	%	70-130
	Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	
		Lab Fort Blk. Found	12.15	ug/m3	
		Lab Fort Blk. % Rec.	98.92	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	10.95	ug/m3	
		Lab Fort Blk. % Rec.	74.29	%	70-130
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	20.36	ug/m3	
		Lab Fort Blk. % Rec.	99.44	%	70-130
	Styrene	Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	21.42	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95348					
	Styrene	Lab Fort Blk. % Rec.	100.74	%	70-130
	Tetrachloroethylene	Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	31.07	ug/m3	
		Lab Fort Blk. % Rec.	91.66	%	70-130
	Toluene	Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	17.58	ug/m3	
		Lab Fort Blk. % Rec.	93.48	%	70-130
	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	21.38	ug/m3	
		Lab Fort Blk. % Rec.	78.40	%	70-130
	Trichloroethylene	Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	22.75	ug/m3	
		Lab Fort Blk. % Rec.	84.68	%	70-130
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	30.46	ug/m3	
		Lab Fort Blk. % Rec.	79.49	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	22.89	ug/m3	
		Lab Fort Blk. % Rec.	81.47	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	21.10	ug/m3	
		Lab Fort Blk. % Rec.	97.20	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	41.12	ug/m3	
		Lab Fort Blk. % Rec.	94.68	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.31	ug/m3	
		Lab Fort Blk. % Rec.	97.52	%	70-130
	1,3-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	29.74	ug/m3	
		Lab Fort Blk. % Rec.	98.94	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	14.94	ug/m3	
		Lab Fort Blk. % Rec.	73.81	%	70-130
	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	16.28	ug/m3	
		Lab Fort Blk. % Rec.	82.09	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	11.06	ug/m3	
		Lab Fort Blk. % Rec.	117.48	%	50-150
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.34	ug/m3	
		Lab Fort Blk. % Rec.	103.10	%	50-150



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LFBLANK-95348	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	13.30	ug/m3	
		Lab Fort Blk. % Rec.	73.77	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	14.43	ug/m3	
		Lab Fort Blk. % Rec.	72.83	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	10.68	ug/m3	
		Lab Fort Blk. % Rec.	83.60	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	18.06	ug/m3	
		Lab Fort Blk. % Rec.	104.04	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	21.60	ug/m3	
		Lab Fort Blk. % Rec.	93.81	%	70-130
	Chloromethane	Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	9.04	ug/m3	
		Lab Fort Blk. % Rec.	87.62	%	70-130
	Bromomethane	Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	16.44	ug/m3	
		Lab Fort Blk. % Rec.	84.71	%	70-130
	Chloroethane	Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	11.63	ug/m3	
		Lab Fort Blk. % Rec.	88.21	%	70-130
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	19.07	ug/m3	
		Lab Fort Blk. % Rec.	84.03	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	18.95	ug/m3	
		Lab Fort Blk. % Rec.	83.52	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	44.09	ug/m3	
		Lab Fort Blk. % Rec.	103.52	%	70-130
	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	24.80	ug/m3	
		Lab Fort Blk. % Rec.	90.92	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	55.31	ug/m3	
		Lab Fort Blk. % Rec.	107.00	%	70-130
	1,1,2,2-Tetrachloroethane	Lab Fort Blank Amt.	34.33	ug/m3	
		Lab Fort Blk. Found	35.18	ug/m3	
		Lab Fort Blk. % Rec.	102.46	%	70-130
	Hexachlorobutadiene	Lab Fort Blank Amt.	53.33	ug/m3	



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LFBLANK-95348	Hexachlorobutadiene	Lab Fort Blk. Found	53.67	ug/m3	
		Lab Fort Blk. % Rec.	100.64	%	70-130
		Lab Fort Blank Amt.	37.10	ug/m3	
1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene	Lab Fort Blk. Found	36.98	ug/m3	
		Lab Fort Blk. % Rec.	99.65	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene	Lab Fort Blk. Found	24.51	ug/m3	
		Lab Fort Blk. % Rec.	99.72	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
1,3,5-Trimethylbenzene	1,3,5-Trimethylbenzene	Lab Fort Blk. Found	24.37	ug/m3	
		Lab Fort Blk. % Rec.	99.18	%	70-130
		Lab Fort Blank Amt.	17.21	ug/m3	
Cyclohexane	Cyclohexane	Lab Fort Blk. Found	15.57	ug/m3	
		Lab Fort Blk. % Rec.	90.49	%	50-150
		Lab Fort Blank Amt.	19.82	ug/m3	
cis-1,2-Dichloroethylene	cis-1,2-Dichloroethylene	Lab Fort Blk. Found	15.01	ug/m3	
		Lab Fort Blk. % Rec.	75.73	%	70-130
		Lab Fort Blank Amt.	23.10	ug/m3	
1,2-Dichloropropane	1,2-Dichloropropane	Lab Fort Blk. Found	19.21	ug/m3	
		Lab Fort Blk. % Rec.	83.18	%	70-130
		Lab Fort Blank Amt.	24.72	ug/m3	
Dichlorodifluoromethane	Dichlorodifluoromethane	Lab Fort Blk. Found	19.19	ug/m3	
		Lab Fort Blk. % Rec.	77.63	%	70-130
		Lab Fort Blank Amt.	25.88	ug/m3	
Benzyl Chloride	Benzyl Chloride	Lab Fort Blk. Found	26.97	ug/m3	
		Lab Fort Blk. % Rec.	104.20	%	70-130
		Lab Fort Blank Amt.	15.57	ug/m3	
Carbon Disulfide	Carbon Disulfide	Lab Fort Blk. Found	11.77	ug/m3	
		Lab Fort Blk. % Rec.	75.61	%	70-130
		Lab Fort Blank Amt.	17.60	ug/m3	
Vinyl Acetate	Vinyl Acetate	Lab Fort Blk. Found	13.59	ug/m3	
		Lab Fort Blk. % Rec.	77.20	%	70-130
		Lab Fort Blank Amt.	20.48	ug/m3	
2-Hexanone	2-Hexanone	Lab Fort Blk. Found	21.64	ug/m3	
		Lab Fort Blk. % Rec.	105.66	%	50-150
		Lab Fort Blank Amt.	33.50	ug/m3	
Bromodichloromethane	Bromodichloromethane	Lab Fort Blk. Found	29.63	ug/m3	
		Lab Fort Blk. % Rec.	88.44	%	70-130
		Lab Fort Blank Amt.	38.42	ug/m3	
1,2-Dibromoethane	1,2-Dibromoethane	Lab Fort Blk. Found	36.08	ug/m3	
		Lab Fort Blk. % Rec.	93.90	%	70-130
		Lab Fort Blank Amt.	20.49	ug/m3	
n-Heptane	n-Heptane	Lab Fort Blk. Found	18.76	ug/m3	



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LFBLANK-95348	n-Heptane	Lab Fort Blk. % Rec.	91.57	%	50-150
		Lab Fort Blank Amt.	34.95	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blk. Found	29.12	ug/m3	70-130
		Lab Fort Blk. % Rec.	83.31	%	
	Tetrahydrofuran	Lab Fort Blank Amt.	14.74	ug/m3	50-150
		Lab Fort Blk. Found	12.76	ug/m3	
	Propene	Lab Fort Blk. % Rec.	86.59	%	50-150
		Lab Fort Blank Amt.	8.60	ug/m3	
	1,3-Butadiene	Lab Fort Blk. Found	7.24	ug/m3	50-150
		Lab Fort Blk. % Rec.	84.18	%	
	1,3-Butadiene	Lab Fort Blank Amt.	11.06	ug/m3	50-150
		Lab Fort Blk. Found	9.41	ug/m3	
	1,3-Butadiene	Lab Fort Blk. % Rec.	85.12	%	70-130
		Lab Fort Blank Amt.			
LFBLANK-95349	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	50-150
		Lab Fort Blk. Found	9.56	ug/m3	
		Lab Fort Blk. % Rec.	80.56	%	
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	70-130
		Lab Fort Blk. Found	13.25	ug/m3	
		Lab Fort Blk. % Rec.	83.12	%	
	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	70-130
		Lab Fort Blk. Found	26.74	ug/m3	
		Lab Fort Blk. % Rec.	85.02	%	
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	70-130
		Lab Fort Blk. Found	20.39	ug/m3	
		Lab Fort Blk. % Rec.	83.79	%	
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	70-130
		Lab Fort Blk. Found	16.49	ug/m3	
		Lab Fort Blk. % Rec.	81.48	%	
	1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	70-130
		Lab Fort Blk. Found	28.22	ug/m3	
		Lab Fort Blk. % Rec.	93.88	%	
	Ethyl Acetate	Lab Fort Blank Amt.	18.01	ug/m3	50-150
		Lab Fort Blk. Found	17.37	ug/m3	
		Lab Fort Blk. % Rec.	96.44	%	
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	70-130
		Lab Fort Blk. Found	19.60	ug/m3	
		Lab Fort Blk. % Rec.	90.45	%	
Hexane	Lab Fort Blank Amt.	17.62	ug/m3	70-130	
	Lab Fort Blk. Found	14.90	ug/m3		
	Lab Fort Blk. % Rec.	84.56	%		
Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	70-130	
	Lab Fort Blk. Found	11.94	ug/m3		

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LFBLANK-95349	Isopropanol	Lab Fort Blk. % Rec.	97.22	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	11.96	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blk. % Rec.	81.13	%	70-130
		Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	18.80	ug/m3	
	Styrene	Lab Fort Blk. % Rec.	91.80	%	70-130
		Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	20.88	ug/m3	
	Tetrachloroethylene	Lab Fort Blk. % Rec.	98.17	%	70-130
		Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	31.78	ug/m3	
	Toluene	Lab Fort Blk. % Rec.	93.73	%	70-130
		Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	16.85	ug/m3	
	1,1,1-Trichloroethane	Lab Fort Blk. % Rec.	89.58	%	70-130
		Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	22.10	ug/m3	
	Trichloroethylene	Lab Fort Blk. % Rec.	81.02	%	70-130
		Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	22.86	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blk. % Rec.	85.10	%	70-130
		Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	31.43	ug/m3	
	Trichlorofluoromethane	Lab Fort Blk. % Rec.	82.03	%	70-130
		Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	23.09	ug/m3	
	o-Xylene	Lab Fort Blk. % Rec.	82.19	%	70-130
		Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	19.22	ug/m3	
	m/p-Xylene	Lab Fort Blk. % Rec.	88.50	%	70-130
		Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	37.31	ug/m3	
	1,2-Dichlorobenzene	Lab Fort Blk. % Rec.	85.90	%	70-130
		Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	28.61	ug/m3	
	1,3-Dichlorobenzene	Lab Fort Blk. % Rec.	95.20	%	70-130
		Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	28.46	ug/m3	
	1,1-Dichloroethane	Lab Fort Blk. % Rec.	94.68	%	70-130
		Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	17.05	ug/m3	
		Lab Fort Blk. % Rec.	84.26	%	70-130



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LFBLANK-95349	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	15.94	ug/m3	
		Lab Fort Blk. % Rec.	80.40	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	10.77	ug/m3	
		Lab Fort Blk. % Rec.	114.40	%	50-150
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	24.13	ug/m3	
		Lab Fort Blk. % Rec.	98.17	%	50-150
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	16.00	ug/m3	
		Lab Fort Blk. % Rec.	88.78	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	16.61	ug/m3	
		Lab Fort Blk. % Rec.	83.82	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	10.88	ug/m3	
		Lab Fort Blk. % Rec.	85.16	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	17.63	ug/m3	
		Lab Fort Blk. % Rec.	101.56	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	21.18	ug/m3	
		Lab Fort Blk. % Rec.	91.99	%	70-130
	Chloromethane	Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	9.16	ug/m3	
		Lab Fort Blk. % Rec.	88.72	%	70-130
	Bromomethane	Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	17.17	ug/m3	
		Lab Fort Blk. % Rec.	88.48	%	70-130
	Chloroethane	Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	11.75	ug/m3	
		Lab Fort Blk. % Rec.	89.10	%	70-130
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	19.19	ug/m3	
		Lab Fort Blk. % Rec.	84.56	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	19.52	ug/m3	
		Lab Fort Blk. % Rec.	85.99	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	41.84	ug/m3	
		Lab Fort Blk. % Rec.	98.24	%	70-130
	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	



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LFBLANK-95349	1,1,2-Trichloroethane	Lab Fort Blk. Found	24.29	ug/m3	
		Lab Fort Blk. % Rec.	89.04	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	53.85	ug/m3	
	1,1,2,2-Tetrachloroethane	Lab Fort Blk. % Rec.	104.18	%	70-130
		Lab Fort Blank Amt.	34.33	ug/m3	
	Hexachlorobutadiene	Lab Fort Blk. Found	29.87	ug/m3	
		Lab Fort Blk. % Rec.	87.01	%	70-130
		Lab Fort Blank Amt.	53.33	ug/m3	
	1,2,4-Trichlorobenzene	Lab Fort Blk. Found	48.54	ug/m3	
		Lab Fort Blk. % Rec.	91.01	%	70-130
		Lab Fort Blank Amt.	37.10	ug/m3	
	1,2,4-Trimethylbenzene	Lab Fort Blk. Found	36.71	ug/m3	
		Lab Fort Blk. % Rec.	98.94	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
	1,3,5-Trimethylbenzene	Lab Fort Blk. Found	22.86	ug/m3	
		Lab Fort Blk. % Rec.	93.04	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
	Cyclohexane	Lab Fort Blk. Found	22.84	ug/m3	
		Lab Fort Blk. % Rec.	92.92	%	70-130
		Lab Fort Blank Amt.	17.21	ug/m3	
	cis-1,2-Dichloroethylene	Lab Fort Blk. Found	14.29	ug/m3	
		Lab Fort Blk. % Rec.	83.04	%	50-150
		Lab Fort Blank Amt.	19.82	ug/m3	
1,2-Dichloropropane	Lab Fort Blk. Found	17.03	ug/m3		
	Lab Fort Blk. % Rec.	85.92	%	70-130	
	Lab Fort Blank Amt.	23.10	ug/m3		
Dichlorodifluoromethane	Lab Fort Blk. Found	19.40	ug/m3		
	Lab Fort Blk. % Rec.	83.95	%	70-130	
	Lab Fort Blank Amt.	24.72	ug/m3		
Benzyl Chloride	Lab Fort Blk. Found	19.71	ug/m3		
	Lab Fort Blk. % Rec.	79.71	%	70-130	
	Lab Fort Blank Amt.	25.88	ug/m3		
Carbon Disulfide	Lab Fort Blk. Found	25.38	ug/m3		
	Lab Fort Blk. % Rec.	98.08	%	70-130	
	Lab Fort Blank Amt.	15.57	ug/m3		
Vinyl Acetate	Lab Fort Blk. Found	11.61	ug/m3		
	Lab Fort Blk. % Rec.	74.59	%	70-130	
	Lab Fort Blank Amt.	17.60	ug/m3		
2-Hexanone	Lab Fort Blk. Found	14.86	ug/m3		
	Lab Fort Blk. % Rec.	84.46	%	70-130	
	Lab Fort Blank Amt.	20.48	ug/m3		
		Lab Fort Blk. Found	19.14	ug/m3	





39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/29/2009

Lims Bat # : LIMIT-25317

Page 12 of 13

QC Batch Number: BATCH-16661

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95349					
	2-Hexanone	Lab Fort Blk. % Rec.	93.47	%	50-150
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3	
		Lab Fort Blk. Found	28.92	ug/m3	
	1,2-Dibromoethane	Lab Fort Blk. % Rec.	86.34	%	70-130
		Lab Fort Blank Amt.	38.42	ug/m3	
		Lab Fort Blk. Found	34.39	ug/m3	
	n-Heptane	Lab Fort Blk. % Rec.	89.50	%	70-130
		Lab Fort Blank Amt.	20.49	ug/m3	
		Lab Fort Blk. Found	18.33	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blk. % Rec.	89.50	%	50-150
		Lab Fort Blank Amt.	34.95	ug/m3	
		Lab Fort Blk. Found	28.56	ug/m3	
	Tetrahydrofuran	Lab Fort Blk. % Rec.	81.71	%	70-130
		Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	14.41	ug/m3	
	Propene	Lab Fort Blk. % Rec.	97.76	%	50-150
		Lab Fort Blank Amt.	8.60	ug/m3	
		Lab Fort Blk. Found	7.55	ug/m3	
	1,3-Butadiene	Lab Fort Blk. % Rec.	87.78	%	50-150
		Lab Fort Blank Amt.	11.06	ug/m3	
		Lab Fort Blk. Found	9.14	ug/m3	
		Lab Fort Blk. % Rec.	82.66	%	70-130



QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates BATCH QC: Lab fortified Blanks and Duplicates
Sample Matrix Spikes and Matrix Spike Duplicates Standard Reference Materials and Duplicates
Method Blanks

Report Date: 9/29/2009 Lims Bat #: LIMIT-25317 Page 13 of 13

QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.
LIMITS Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.
Sample Amount Amount of analyte found in a sample.
Blank Method Blank that has been taken though all the steps of the analysis.
LFBLANK Laboratory Fortified Blank (a control sample)
STDADD Standard Added (a laboratory control sample)
Matrix Spk Amt Added Amount of analyte spiked into a sample
MS Amt Measured Amount of analyte found including amount that was spiked
Matrix Spike % Rec. % Recovery of spiked amount in sample.
Duplicate Value The result from the Duplicate analysis of the sample.
Duplicate RPD The Relative Percent Difference between two Duplicate Analyses.
Surrogate Recovery The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.
Sur. Recovery (ELCD) Surrogate Recovery on the Electrolytic Conductivity Detector.
Sur. Recovery (PID) Surrogate Recovery on the Photoionization Detector.
Standard Measured Amount measured for a laboratory control sample
Standard Amt Added Known value for a laboratory control sample
Standard % Recovery % recovered for a laboratory control sample with a known value.
Lab Fort Blank Amt Laboratory Fortified Blank Amount Added
Lab Fort Blk. Found Laboratory Fortified Blank Amount Found
Lab Fort Blk % Rec Laboratory Fortified Blank % Recovered
Dup Lab Fort Bl Amt Duplicate Laboratory Fortified Blank Amount Added
Dup Lab Fort Bl Fnd Duplicate Laboratory Fortified Blank Amount Found
Dup Lab Fort Bl % Rec Duplicate Laboratory Fortified Blank % Recovery
Lab Fort Blank Range Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).
Lab Fort Bl. Av. Rec. Laboratory Fortified Blank Average Recovery
Duplicate Sample Amt Sample Value for Duplicate used with Matrix Spike Duplicate
MSD Amount Added Matrix Spike Duplicate Amount Added (Spiked)
MSD Amt Measured Matrix Spike Duplicate Amount Measured
MSD % Recovery Matrix Spike Duplicate % Recovery
MSD Range Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com  
 www.contestlabs.com

**AIR SAMPLE CHAIN OF CUSTODY RECORD**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: MACTEL Engineering  
 Address: 107 Audubon Rd, Suite 301  
Wakefield, MA 01880

Attention: Kelly Chatterton

Project Location: Providence, RI (Garham Site)

Sampled By: PSM

Proposal Provided? (For Billing purposes)  
 Yes 3.3.09 proposal date

Telephone: (781) 245-6606  
 Project # 365008014  
 Client PO # 200914545

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: \_\_\_\_\_  
 Email: Kchatterton@mactest.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER

Date Sampled Start Date Time Stop Date Time

Field ID	Sample Description	Media	Lab #	Date Time	Date Time	Total	Flow Rate	Volume	Matrix	Analysis Requested	Matrix Code	Media Codes
IA-1-092409	S		09B	9-24-09 0736	9-24-09 0806	30	0.2	6	IA	X	IA	S=Summa can
IA-2-092409	S		09B	9-24-09 0739	9-24-09 0809	30	0.2	6	IA	X	IA	TS=teal bag
IA-3-092409	S		09B	9-24-09 0745	9-24-09 0815	30	0.2	6	IA	X	IA	P=PUP
IA-4-092409	S		09B	9-24-09 0747	9-24-09 0817	30	0.2	6	IA	X	IA	T=tube
AA-1-092409	S		09B	9-24-09 0750	9-24-09 0820	30	0.2	6	AMB	X	AMB	F=filter
EW-Combined-092409	S		09B	9-24-09 0828	9-24-09 0858	30	0.2	6	SG	X	SG	C=cassette

Laboratory Comments: \_\_\_\_\_  
 CLIENT COMMENTS: EW-Combined-092409 was sampled from source area soil gas.

Relinquished by (signature): \_\_\_\_\_ Date/Time: 9-24-09 1716  
 Received by (signature): \_\_\_\_\_ Date/Time: 9-24-09 1910  
 Requesting (signature): \_\_\_\_\_ Date/Time: 9-24-09 8pm  
 Received by (signature): \_\_\_\_\_ Date/Time: 9-24-09

Turnaround \*\*  
 7-Day  
 10-Day  
 Other 5  
 24-Hr  48-Hr  
 \*72-Hr  \*4-Day  
 Approval Required

Regulations: CT Target Indoor Air (Commercial)  Y  N  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 Required Detection Limits: CT Target Indoor Air (Surcharge Applies)  
 Other: Air Conc. (Residential)

Matrix Code: \_\_\_\_\_  
 Media Codes: \_\_\_\_\_

\*\*TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

### Sample Receipt Checklist

CLIENT NAME: Macke Engineering RECEIVED BY: TS DATE: 9-24-19

- 1) Was the chain(s) of custody relinquished and signed? Yes  No
- 2) Does the chain agree with the samples? Yes  No   
If not, explain:
- 3) Are all the samples in good condition? Yes  No   
If not, explain:

4) How were the samples received:  
On Ice  Direct from Sampling  Ambient  In Cooler(s)

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A air

Temperature °C by Temp blank \_\_\_\_\_ Temperature °C by Temp gun \_\_\_\_\_

5) Are there Dissolved samples for the lab to filter? Yes  No   
Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

6) Are there any samples "On Hold"? Yes  No  Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes  No   
Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

8) Location where samples are stored:

Permission to subcontract samples? Yes No  
(Walk-in clients only) if not already approved

Client Signature: \_\_\_\_\_

### Containers sent in to Con-Test

		# of containers			# of containers
1 Liter Amber			8 oz clear jar		
500 mL Amber			4 oz clear jar		
250 mL Amber (8oz amber)			2 oz clear jar		
1 Liter Plastic			Other glass jar		
500 mL Plastic			Plastic Bag / Ziploc		
250 mL plastic			Air Cassette		
40 mL Vial - type listed below			Brass Sleeves		
Colisure / bacteria bottle			Tubes		
Dissolved Oxygen bottle			Summa Cans		<u>6</u>
Flashpoint bottle			Regulators		
Encore			Other		

Laboratory Comments:

40 mL vials: # HCl \_\_\_\_\_ # Methanol \_\_\_\_\_  
# Bisulfate \_\_\_\_\_ # DI Water \_\_\_\_\_  
# Thiosulfate \_\_\_\_\_ Unpreserved \_\_\_\_\_

Time and Date Frozen: \_\_\_\_\_

Do all samples have the proper pH: Yes No N/A



CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY: ARM 10/15/09

39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

REPORT DATE 10/8/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: KELLY CHATTERTON

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER: 200914545

PROJECT NUMBER: 3650080114.13

ANALYTICAL SUMMARY

LIMS BAT #: LIMIT-25319  
JOB NUMBER: 3650080114.13

PROJECT LOCATION: GORHAM SITE

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
AA-1-100109	09B14906	AIR	Not Specified	to-15 ppbv	
AA-1-100109	09B14906	AIR	Not Specified	to-15 ug/m3	
EW-COMBINED-10	09B14907	AIR	Not Specified	to-15 ppbv	
EW-COMBINED-10	09B14907	AIR	Not Specified	to-15 ug/m3	
IA-1-100109	09B14902	AIR	Not Specified	to-15 ppbv	
IA-1-100109	09B14902	AIR	Not Specified	to-15 ug/m3	
IA-2-100109	09B14903	AIR	Not Specified	to-15 ppbv	
IA-2-100109	09B14903	AIR	Not Specified	to-15 ug/m3	
IA-3-100109	09B14904	AIR	Not Specified	to-15 ppbv	
IA-3-100109	09B14904	AIR	Not Specified	to-15 ug/m3	
IA-4-100109	09B14905	AIR	Not Specified	to-15 ppbv	
IA-4-100109	09B14905	AIR	Not Specified	to-15 ug/m3	

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033	AIHA ELLAP (LEAD) 100033	NORTH CAROLINA CERT. # 652
MASSACHUSETTS MA0100	NEW HAMPSHIRE NELAP 2516	NEW JERSEY NELAP NJ MA007 (AIR)
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036	FLORIDA DOH E871027 (AIR)
NEW YORK ELAP/NELAP 10899	RHODE ISLAND (LIC. No. 112)	

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE

10/8/09

DATE

Tod Kopyscinski  
Air Laboratory Manager

Michael Erickson  
Laboratory Director

Chris Hall  
Project Chemist Supervisor

Daren Damboragian  
Laboratory Manager

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 1 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100109**

**Sample ID : 09B14906** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	2.3	0.05		10/05/09	WSD
Benzene	PPBv	0.08	0.05		10/05/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/05/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/05/09	WSD
Bromoform	PPBv	ND	0.05		10/05/09	WSD
Bromomethane	PPBv	ND	0.05		10/05/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/05/09	WSD
2-Butanone (MEK)	PPBv	0.40	0.05		10/05/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/05/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/05/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/05/09	WSD
Chloroethane	PPBv	ND	0.05		10/05/09	WSD
Chloroform	PPBv	ND	0.05		10/05/09	WSD
Chloromethane	PPBv	0.47	0.05		10/05/09	WSD
Cyclohexane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Dichlorodifluoromethane	PPBv	0.44	0.05		10/05/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/05/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/05/09	WSD
Ethanol	PPBv	2.1	0.05		10/05/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/05/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/05/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/05/09	WSD
n-Heptane	PPBv	ND	0.05		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 2 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100109**

**Sample ID :** 09B14906      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/05/09	WSD
Hexane	PPBv	0.13	0.05		10/05/09	WSD
2-Hexanone	PPBv	0.08	0.05		10/05/09	WSD
Isopropanol	PPBv	0.26	0.05		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/05/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/05/09	WSD
Propene	PPBv	ND	0.10		10/05/09	WSD
Styrene	PPBv	ND	0.05		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/05/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		10/05/09	WSD
Tetrahydrofuran	PPBv	0.42	0.05		10/05/09	WSD
Toluene	PPBv	0.16	0.05		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
Trichloroethylene	PPBv	ND	0.05		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/05/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/05/09	WSD
m/p-Xylene	PPBv	ND	0.10		10/05/09	WSD
o-Xylene	PPBv	ND	0.05		10/05/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	5.4	0.12		10/05/09	WSD
Benzene	ug/m3	0.25	0.16		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/05/09	WSD
Bromoform	ug/m3	ND	0.51		10/05/09	WSD
Bromomethane	ug/m3	ND	0.19		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/05/09	WSD
2-Butanone (MEK)	ug/m3	1.2	0.15		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 3 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100109**

**Sample ID : 09B14906** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.43	0.31		10/05/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/05/09	WSD
Chloroethane	ug/m3	ND	0.13		10/05/09	WSD
Chloroform	ug/m3	ND	0.24		10/05/09	WSD
Chloromethane	ug/m3	0.97	0.10		10/05/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		10/05/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/05/09	WSD
Ethanol	ug/m3	3.9	0.09		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/05/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/05/09	WSD
n-Heptane	ug/m3	ND	0.20		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/05/09	WSD
Hexane	ug/m3	0.45	0.18		10/05/09	WSD
2-Hexanone	ug/m3	0.33	0.20		10/05/09	WSD
Isopropanol	ug/m3	0.63	0.12		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/05/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/05/09	WSD
Propene	ug/m3	ND	0.18		10/05/09	WSD
Styrene	ug/m3	ND	0.21		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100109**

**Sample ID :** 09B14906      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/05/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		10/05/09	WSD
Tetrahydrofuran	ug/m3	1.2	0.15		10/05/09	WSD
Toluene	ug/m3	0.61	0.19		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
Trichloroethylene	ug/m3	ND	0.27		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.45	0.38		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/05/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/05/09	WSD
m/p-Xylene	ug/m3	ND	0.43		10/05/09	WSD
o-Xylene	ug/m3	ND	0.22		10/05/09	WSD

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10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100109**

**Sample ID :** 09B14907      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	2.0		10/05/09	WSD
Hexane	PPBv	ND	2.0		10/05/09	WSD
2-Hexanone	PPBv	ND	2.0		10/05/09	WSD
Isopropanol	PPBv	ND	4.0		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	2.0		10/05/09	WSD
Methylene Chloride	PPBv	ND	8.0		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	2.0		10/05/09	WSD
Propene	PPBv	ND	4.0		10/05/09	WSD
Styrene	PPBv	ND	2.0		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	2.0		10/05/09	WSD
Tetrachloroethylene	PPBv	9.8	2.0		10/05/09	WSD
Tetrahydrofuran	PPBv	29	2.0		10/05/09	WSD
Toluene	PPBv	ND	2.0		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	2.0		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	1500	2.0		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	2.0		10/05/09	WSD
Trichloroethylene	PPBv	750	2.0		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	280	2.0		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	2.0		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	2.0		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	2.0		10/05/09	WSD
Vinyl Acetate	PPBv	ND	8.0		10/05/09	WSD
Vinyl Chloride	PPBv	ND	2.0		10/05/09	WSD
m/p-Xylene	PPBv	ND	4.0		10/05/09	WSD
o-Xylene	PPBv	ND	2.0		10/05/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	ND	20		10/05/09	WSD
Benzene	ug/m3	ND	6.4		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	11		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	14		10/05/09	WSD
Bromoform	ug/m3	ND	21		10/05/09	WSD
Bromomethane	ug/m3	ND	7.6		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	8.9		10/05/09	WSD
2-Butanone (MEK)	ug/m3	30	6.0		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	6.4		10/05/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100109**

**Sample ID :** 09B14907      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	13		10/05/09	WSD
Chlorobenzene	ug/m3	ND	9.2		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	18		10/05/09	WSD
Chloroethane	ug/m3	92	5.2		10/05/09	WSD
Chloroform	ug/m3	11	9.6		10/05/09	WSD
Chloromethane	ug/m3	ND	4.0		10/05/09	WSD
Cyclohexane	ug/m3	ND	6.8		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	16		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	12		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	12		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	12		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	ND	10		10/05/09	WSD
1,1-Dichloroethane	ug/m3	1900	8.0		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	8.0		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	260	8.0		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	1300	8.0		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	30	8.0		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	9.2		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	8.8		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	8.8		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	14		10/05/09	WSD
Ethanol	ug/m3	32	3.6		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	7.2		10/05/09	WSD
Ethylbenzene	ug/m3	ND	8.8		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	10		10/05/09	WSD
n-Heptane	ug/m3	ND	8.0		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	22		10/05/09	WSD
Hexane	ug/m3	ND	7.2		10/05/09	WSD
2-Hexanone	ug/m3	ND	8.0		10/05/09	WSD
Isopropanol	ug/m3	ND	9.9		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	7.2		10/05/09	WSD
Methylene Chloride	ug/m3	ND	28		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	8.0		10/05/09	WSD
Propene	ug/m3	ND	6.9		10/05/09	WSD
Styrene	ug/m3	ND	8.4		10/05/09	WSD

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NM = Not Measured

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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10/8/2009  
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Purchase Order No.: 200914545

Project Number: 3650080114.13

Project Location: GORHAM SITE

LIMS-BAT #: LIMIT-25319

Date Received: 10/1/2009

Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100109**

**Sample ID : 09B14907**

‡Sampled : 10/1/2009

Not Specified

Sample Matrix: AIR

Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	14		10/05/09	WSD
Tetrachloroethylene	ug/m3	67	14		10/05/09	WSD
Tetrahydrofuran	ug/m3	85	6.0		10/05/09	WSD
Toluene	ug/m3	ND	7.6		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	15		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	7900	11		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	11		10/05/09	WSD
Trichloroethylene	ug/m3	4000	11		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1500	12		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	16		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	10		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	10		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	29		10/05/09	WSD
Vinyl Chloride	ug/m3	ND	5.2		10/05/09	WSD
m/p-Xylene	ug/m3	ND	18		10/05/09	WSD
o-Xylene	ug/m3	ND	8.8		10/05/09	WSD

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10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100109**

**Sample ID : 09B14902** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	5.5	0.05		10/05/09	WSD
Benzene	PPBv	0.12	0.05		10/05/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/05/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/05/09	WSD
Bromoform	PPBv	ND	0.05		10/05/09	WSD
Bromomethane	PPBv	ND	0.05		10/05/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/05/09	WSD
2-Butanone (MEK)	PPBv	0.90	0.05		10/05/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/05/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/05/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/05/09	WSD
Chloroethane	PPBv	ND	0.05		10/05/09	WSD
Chloroform	PPBv	ND	0.05		10/05/09	WSD
Chloromethane	PPBv	0.47	0.05		10/05/09	WSD
Cyclohexane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Dichlorodifluoromethane	PPBv	0.46	0.05		10/05/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.21	0.05		10/05/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/05/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/05/09	WSD
Ethanol	PPBv	3.5	0.05		10/05/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/05/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/05/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/05/09	WSD
n-Heptane	PPBv	ND	0.05		10/05/09	WSD

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39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100109**

**Sample ID :** 09B14902      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/05/09	WSD
Hexane	PPBv	0.12	0.05		10/05/09	WSD
2-Hexanone	PPBv	0.18	0.05		10/05/09	WSD
Isopropanol	PPBv	ND	0.10		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/05/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	0.08	0.05		10/05/09	WSD
Propene	PPBv	ND	0.10		10/05/09	WSD
Styrene	PPBv	ND	0.05		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/05/09	WSD
Tetrachloroethylene	PPBv	0.29	0.05		10/05/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/05/09	WSD
Toluene	PPBv	0.21	0.05		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
Trichloroethylene	PPBv	0.20	0.05		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/05/09	WSD
Vinyl Chloride	PPBv	0.07	0.05		10/05/09	WSD
m/p-Xylene	PPBv	0.17	0.10		10/05/09	WSD
o-Xylene	PPBv	0.06	0.05		10/05/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	13	0.12		10/05/09	WSD
Benzene	ug/m3	0.39	0.16		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/05/09	WSD
Bromoform	ug/m3	ND	0.51		10/05/09	WSD
Bromomethane	ug/m3	ND	0.19		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/05/09	WSD
2-Butanone (MEK)	ug/m3	2.7	0.15		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/05/09	WSD

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‡ See attached chain-of-custody record for time sampled



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10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100109**

**Sample ID :** 09B14902      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.42	0.31		10/05/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/05/09	WSD
Chloroethane	ug/m3	ND	0.13		10/05/09	WSD
Chloroform	ug/m3	ND	0.24		10/05/09	WSD
Chloromethane	ug/m3	0.98	0.10		10/05/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	2.3	0.25		10/05/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.83	0.20		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/05/09	WSD
Ethanol	ug/m3	6.5	0.09		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/05/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/05/09	WSD
n-Heptane	ug/m3	ND	0.20		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/05/09	WSD
Hexane	ug/m3	0.41	0.18		10/05/09	WSD
2-Hexanone	ug/m3	0.73	0.20		10/05/09	WSD
Isopropanol	ug/m3	ND	0.25		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/05/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	0.32	0.20		10/05/09	WSD
Propene	ug/m3	ND	0.18		10/05/09	WSD
Styrene	ug/m3	ND	0.21		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100109**

**Sample ID :** 09B14902      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/05/09	WSD
Tetrachloroethylene	ug/m3	2.0	0.34		10/05/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/05/09	WSD
Toluene	ug/m3	0.78	0.19		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
Trichloroethylene	ug/m3	1.1	0.27		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.45	0.38		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.28	0.25		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/05/09	WSD
Vinyl Chloride	ug/m3	0.17	0.13		10/05/09	WSD
m/p-Xylene	ug/m3	0.73	0.43		10/05/09	WSD
o-Xylene	ug/m3	0.28	0.22		10/05/09	WSD

RL = Reporting Limit

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Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

**Field Sample # : IA-2-100109**

**Sample ID : 09B14903**      ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.7	0.05		10/05/09	WSD
Benzene	PPBv	0.12	0.05		10/05/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/05/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/05/09	WSD
Bromoform	PPBv	ND	0.05		10/05/09	WSD
Bromomethane	PPBv	ND	0.05		10/05/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/05/09	WSD
2-Butanone (MEK)	PPBv	0.27	0.05		10/05/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/05/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/05/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/05/09	WSD
Chloroethane	PPBv	ND	0.05		10/05/09	WSD
Chloroform	PPBv	ND	0.05		10/05/09	WSD
Chloromethane	PPBv	0.46	0.05		10/05/09	WSD
Cyclohexane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Dichlorodifluoromethane	PPBv	0.47	0.05		10/05/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.20	0.05		10/05/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/05/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/05/09	WSD
Ethanol	PPBv	4.1	0.05		10/05/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/05/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/05/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/05/09	WSD
n-Heptane	PPBv	ND	0.05		10/05/09	WSD

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NM = Not Measured

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10/8/2009  
 Page 14 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100109**

**Sample ID : 09B14903**      ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
				EPA TO-15		
to-15 ppbv						
Hexachlorobutadiene	PPBv	ND	0.05		10/05/09	WSD
Hexane	PPBv	0.20	0.05		10/05/09	WSD
2-Hexanone	PPBv	ND	0.05		10/05/09	WSD
Isopropanol	PPBv	1.3	0.05		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/05/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/05/09	WSD
Propene	PPBv	ND	0.10		10/05/09	WSD
Styrene	PPBv	ND	0.05		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/05/09	WSD
Tetrachloroethylene	PPBv	0.24	0.05		10/05/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/05/09	WSD
Toluene	PPBv	0.31	0.05		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
Trichloroethylene	PPBv	0.18	0.05		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/05/09	WSD
Vinyl Chloride	PPBv	0.06	0.05		10/05/09	WSD
m/p-Xylene	PPBv	0.18	0.10		10/05/09	WSD
o-Xylene	PPBv	0.07	0.05		10/05/09	WSD
				EPA TO-15		
to-15 ug/m						
Acetone	ug/m3	11	0.12		10/05/09	WSD
Benzene	ug/m3	0.39	0.16		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/05/09	WSD
Bromoform	ug/m3	ND	0.51		10/05/09	WSD
Bromomethane	ug/m3	ND	0.19		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/05/09	WSD
2-Butanone (MEK)	ug/m3	0.81	0.15		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/05/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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 WAKEFIELD, MA 01880

10/8/2009  
 Page 15 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100109**

**Sample ID :** 09B14903      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.46	0.31		10/05/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/05/09	WSD
Chloroethane	ug/m3	ND	0.13		10/05/09	WSD
Chloroform	ug/m3	ND	0.24		10/05/09	WSD
Chloromethane	ug/m3	0.96	0.10		10/05/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	2.3	0.25		10/05/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.79	0.20		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/05/09	WSD
Ethanol	ug/m3	7.8	0.09		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/05/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/05/09	WSD
n-Heptane	ug/m3	ND	0.20		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/05/09	WSD
Hexane	ug/m3	0.71	0.18		10/05/09	WSD
2-Hexanone	ug/m3	ND	0.20		10/05/09	WSD
Isopropanol	ug/m3	3.3	0.12		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/05/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/05/09	WSD
Propene	ug/m3	ND	0.18		10/05/09	WSD
Styrene	ug/m3	ND	0.21		10/05/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 16 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100109**

**Sample ID :** 09B14903      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/05/09	WSD
Tetrachloroethylene	ug/m3	1.7	0.34		10/05/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/05/09	WSD
Toluene	ug/m3	1.2	0.19		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
Trichloroethylene	ug/m3	0.99	0.27		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.46	0.38		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.27	0.25		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/05/09	WSD
Vinyl Chloride	ug/m3	0.16	0.13		10/05/09	WSD
m/p-Xylene	ug/m3	0.78	0.43		10/05/09	WSD
o-Xylene	ug/m3	0.30	0.22		10/05/09	WSD

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

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Purchase Order No.: 200914545

10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100109**

**Sample ID : 09B14904** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	2.8	0.05		10/05/09	WSD
Benzene	PPBv	0.12	0.05		10/05/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/05/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/05/09	WSD
Bromoform	PPBv	ND	0.05		10/05/09	WSD
Bromomethane	PPBv	ND	0.05		10/05/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/05/09	WSD
2-Butanone (MEK)	PPBv	0.24	0.05		10/05/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/05/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		10/05/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/05/09	WSD
Chloroethane	PPBv	ND	0.05		10/05/09	WSD
Chloroform	PPBv	ND	0.05		10/05/09	WSD
Chloromethane	PPBv	0.47	0.05		10/05/09	WSD
Cyclohexane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Dichlorodifluoromethane	PPBv	0.44	0.05		10/05/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.24	0.05		10/05/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/05/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/05/09	WSD
Ethanol	PPBv	2.4	0.05		10/05/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/05/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/05/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/05/09	WSD
n-Heptane	PPBv	ND	0.05		10/05/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



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10/8/2009  
 Page 18 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100109**

**Sample ID : 09B14904**      ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/05/09	WSD
Hexane	PPBv	0.11	0.05		10/05/09	WSD
2-Hexanone	PPBv	ND	0.05		10/05/09	WSD
Isopropanol	PPBv	ND	0.10		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/05/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/05/09	WSD
Propene	PPBv	ND	0.10		10/05/09	WSD
Styrene	PPBv	ND	0.05		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/05/09	WSD
Tetrachloroethylene	PPBv	0.30	0.05		10/05/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/05/09	WSD
Toluene	PPBv	0.19	0.05		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
Trichloroethylene	PPBv	0.21	0.05		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.22	0.05		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/05/09	WSD
Vinyl Chloride	PPBv	0.07	0.05		10/05/09	WSD
m/p-Xylene	PPBv	0.15	0.10		10/05/09	WSD
o-Xylene	PPBv	0.06	0.05		10/05/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	6.7	0.12		10/05/09	WSD
Benzene	ug/m3	0.39	0.16		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/05/09	WSD
Bromoform	ug/m3	ND	0.51		10/05/09	WSD
Bromomethane	ug/m3	ND	0.19		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/05/09	WSD
2-Butanone (MEK)	ug/m3	0.70	0.15		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 19 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100109**

**Sample ID : 09B14904** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		10/05/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/05/09	WSD
Chloroethane	ug/m3	ND	0.13		10/05/09	WSD
Chloroform	ug/m3	ND	0.24		10/05/09	WSD
Chloromethane	ug/m3	0.97	0.10		10/05/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		10/05/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.94	0.20		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/05/09	WSD
Ethanol	ug/m3	4.5	0.09		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/05/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/05/09	WSD
n-Heptane	ug/m3	ND	0.20		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/05/09	WSD
Hexane	ug/m3	0.37	0.18		10/05/09	WSD
2-Hexanone	ug/m3	ND	0.20		10/05/09	WSD
Isopropanol	ug/m3	ND	0.25		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/05/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/05/09	WSD
Propene	ug/m3	ND	0.18		10/05/09	WSD
Styrene	ug/m3	ND	0.21		10/05/09	WSD

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KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 20 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100109**

**Sample ID :** 09B14904      ‡Sampled : 10/1/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/05/09	WSD
Tetrachloroethylene	ug/m3	2.0	0.34		10/05/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/05/09	WSD
Toluene	ug/m3	0.73	0.19		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
Trichloroethylene	ug/m3	1.1	0.27		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.49	0.38		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/05/09	WSD
Vinyl Chloride	ug/m3	0.18	0.13		10/05/09	WSD
m/p-Xylene	ug/m3	0.65	0.43		10/05/09	WSD
o-Xylene	ug/m3	0.27	0.22		10/05/09	WSD

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 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
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Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100109**

**Sample ID : 09B14905** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	3.9	0.05		10/05/09	WSD
Benzene	PPBv	0.12	0.05		10/05/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/05/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/05/09	WSD
Bromoform	PPBv	ND	0.05		10/05/09	WSD
Bromomethane	PPBv	ND	0.05		10/05/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/05/09	WSD
2-Butanone (MEK)	PPBv	0.45	0.05		10/05/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/05/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/05/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/05/09	WSD
Chloroethane	PPBv	ND	0.05		10/05/09	WSD
Chloroform	PPBv	ND	0.05		10/05/09	WSD
Chloromethane	PPBv	0.49	0.05		10/05/09	WSD
Cyclohexane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
Dichlorodifluoromethane	PPBv	0.45	0.05		10/05/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/05/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.21	0.05		10/05/09	WSD
t-1,2-Dichloroethylene	PPBv	0.29	0.05		10/05/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/05/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/05/09	WSD
Ethanol	PPBv	2.6	0.05		10/05/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/05/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/05/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/05/09	WSD
n-Heptane	PPBv	ND	0.05		10/05/09	WSD

RL = Reporting Limit

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\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 22 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100109**

**Sample ID : 09B14905**      ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/05/09	WSD
Hexane	PPBv	0.14	0.05		10/05/09	WSD
2-Hexanone	PPBv	0.08	0.05		10/05/09	WSD
Isopropanol	PPBv	ND	0.10		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/05/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/05/09	WSD
Propene	PPBv	ND	0.10		10/05/09	WSD
Styrene	PPBv	ND	0.05		10/05/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/05/09	WSD
Tetrachloroethylene	PPBv	0.30	0.05		10/05/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/05/09	WSD
Toluene	PPBv	0.20	0.05		10/05/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/05/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/05/09	WSD
Trichloroethylene	PPBv	0.21	0.05		10/05/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/05/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.06	0.05		10/05/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/05/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/05/09	WSD
Vinyl Chloride	PPBv	0.06	0.05		10/05/09	WSD
m/p-Xylene	PPBv	0.16	0.10		10/05/09	WSD
o-Xylene	PPBv	0.06	0.05		10/05/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	9.3	0.12		10/05/09	WSD
Benzene	ug/m3	0.37	0.16		10/05/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/05/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/05/09	WSD
Bromoform	ug/m3	ND	0.51		10/05/09	WSD
Bromomethane	ug/m3	ND	0.19		10/05/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/05/09	WSD
2-Butanone (MEK)	ug/m3	1.3	0.15		10/05/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/05/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/8/2009  
 Page 23 of 25

Project Location: GORHAM SITE  
 Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25319  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100109**

**Sample ID : 09B14905** ‡Sampled : 10/1/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.46	0.31		10/05/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/05/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/05/09	WSD
Chloroethane	ug/m3	ND	0.13		10/05/09	WSD
Chloroform	ug/m3	ND	0.24		10/05/09	WSD
Chloromethane	ug/m3	1.0	0.10		10/05/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/05/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/05/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/05/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		10/05/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/05/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/05/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.84	0.20		10/05/09	WSD
t-1,2-Dichloroethylene	ug/m3	1.1	0.20		10/05/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/05/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/05/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/05/09	WSD
Ethanol	ug/m3	4.9	0.09		10/05/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/05/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/05/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/05/09	WSD
n-Heptane	ug/m3	ND	0.20		10/05/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/05/09	WSD
Hexane	ug/m3	0.49	0.18		10/05/09	WSD
2-Hexanone	ug/m3	0.32	0.20		10/05/09	WSD
Isopropanol	ug/m3	ND	0.25		10/05/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/05/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/05/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/05/09	WSD
Propene	ug/m3	ND	0.18		10/05/09	WSD
Styrene	ug/m3	ND	0.21		10/05/09	WSD

RL = Reporting Limit

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

10/8/2009  
Page 24 of 25

Project Location: GORHAM SITE  
Date Received: 10/1/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
LIMS-BAT #: LIMIT-25319  
Job Number: 3650080114.13

**Field Sample # : IA-4-100109**

**Sample ID : 09B14905**      ‡Sampled : 10/1/2009  
Not Specified  
Sample Matrix: AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/05/09	WSD
Tetrachloroethylene	ug/m3	2.0	0.34		10/05/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/05/09	WSD
Toluene	ug/m3	0.76	0.19		10/05/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/05/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/05/09	WSD
Trichloroethylene	ug/m3	1.1	0.27		10/05/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/05/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.47	0.38		10/05/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.28	0.25		10/05/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/05/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/05/09	WSD
Vinyl Chloride	ug/m3	0.16	0.13		10/05/09	WSD
m/p-Xylene	ug/m3	0.69	0.43		10/05/09	WSD
o-Xylene	ug/m3	0.28	0.22		10/05/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

KELLY CHATTERTON  
MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880

Project Location: GORHAM SITE  
Date Received: 10/1/2009

Purchase Order No.: 200914545

\*\* END OF REPORT \*\*

10/8/2009

Page 25 of 25

Project Number: 3650080114.13

LIMS-BAT #: LIMIT-25319

Job Number: 3650080114.13

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ = See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

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QC Batch Number: BATCH-16663

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14902	4-Bromofluorobenzene	Surrogate Recovery	98.75	%	70-130
09B14903	4-Bromofluorobenzene	Surrogate Recovery	97.87	%	70-130
09B14904	4-Bromofluorobenzene	Surrogate Recovery	97.12	%	70-130
09B14905	4-Bromofluorobenzene	Surrogate Recovery	98.12	%	70-130
09B14906	4-Bromofluorobenzene	Surrogate Recovery	97.87	%	70-130
09B14907	4-Bromofluorobenzene	Surrogate Recovery	96.62	%	70-130
BLANK-133026	Acetone	Blank	<0.48	ug/m3	
	Benzene	Blank	<0.16	ug/m3	
	Carbon Tetrachloride	Blank	<0.31	ug/m3	
	Chloroform	Blank	<0.24	ug/m3	
	1,2-Dichloroethane	Blank	<0.20	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.30	ug/m3	
	Ethyl Acetate	Blank	<0.18	ug/m3	
	Ethylbenzene	Blank	<0.22	ug/m3	
	Hexane	Blank	<0.18	ug/m3	
	Isopropanol	Blank	<0.25	ug/m3	
	2-Butanone (MEK)	Blank	<0.30	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.20	ug/m3	
	Styrene	Blank	<0.21	ug/m3	
	Tetrachloroethylene	Blank	<0.34	ug/m3	
	Toluene	Blank	<0.19	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.27	ug/m3	
	Trichloroethylene	Blank	<0.27	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.38	ug/m3	
	Trichlorofluoromethane	Blank	<0.28	ug/m3	
	o-Xylene	Blank	<0.22	ug/m3	
	m/p-Xylene	Blank	<0.43	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.30	ug/m3	
	1,1-Dichloroethane	Blank	<0.20	ug/m3	
	1,1-Dichloroethylene	Blank	<0.20	ug/m3	
	Ethanol	Blank	<0.38	ug/m3	
	4-Ethyl Toluene	Blank	<0.25	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.18	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	Vinyl Chloride	Blank	<0.13	ug/m3	
	Methylene Chloride	Blank	<0.70	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133026					
	Chlorobenzene	Blank	<0.23	ug/m3	
	Chloromethane	Blank	<0.10	ug/m3	
	Bromomethane	Blank	<0.19	ug/m3	
	Chloroethane	Blank	<0.13	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.22	ug/m3	
	Chlorodibromomethane	Blank	<0.43	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.27	ug/m3	
	Bromoform	Blank	<0.51	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.34	ug/m3	
	Hexachlorobutadiene	Blank	<0.53	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.37	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.25	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.25	ug/m3	
	Cyclohexane	Blank	<0.17	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
	1,2-Dichloropropane	Blank	<0.23	ug/m3	
	Dichlorodifluoromethane	Blank	<0.25	ug/m3	
	Benzyl Chloride	Blank	<0.26	ug/m3	
	Carbon Disulfide	Blank	<0.16	ug/m3	
	Vinyl Acetate	Blank	<0.71	ug/m3	
	2-Hexanone	Blank	<0.20	ug/m3	
	Bromodichloromethane	Blank	<0.33	ug/m3	
	1,2-Dibromoethane	Blank	<0.38	ug/m3	
	n-Heptane	Blank	<0.20	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.35	ug/m3	
	Tetrahydrofuran	Blank	<0.15	ug/m3	
	Propene	Blank	<0.18	ug/m3	
	1,3-Butadiene	Blank	<0.23	ug/m3	
BLANK-133027					
	1,1,1-Trichloroethane	Blank	<0.27	ug/m3	
LFBLANK-95351					
	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	
		Lab Fort Blk. Found	11.28	ug/m3	
		Lab Fort Blk. % Rec.	95.00	%	50-150
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	
		Lab Fort Blk. Found	14.96	ug/m3	
		Lab Fort Blk. % Rec.	93.81	%	70-130
	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	
		Lab Fort Blk. Found	31.70	ug/m3	
		Lab Fort Blk. % Rec.	100.80	%	70-130
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	
		Lab Fort Blk. Found	22.63	ug/m3	





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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95351	Chloroform	Lab Fort Blk. % Rec.	93.01	%	70-130
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	17.94	ug/m3	
	1,4-Dichlorobenzene	Lab Fort Blk. % Rec.	88.66	%	70-130
		Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	27.42	ug/m3	
	Ethyl Acetate	Lab Fort Blk. % Rec.	91.22	%	70-130
		Lab Fort Blank Amt.	18.01	ug/m3	
		Lab Fort Blk. Found	18.38	ug/m3	
	Ethylbenzene	Lab Fort Blk. % Rec.	102.04	%	50-150
		Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	21.33	ug/m3	
	Hexane	Lab Fort Blk. % Rec.	98.39	%	70-130
		Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	16.58	ug/m3	
	Isopropanol	Lab Fort Blk. % Rec.	94.10	%	70-130
		Lab Fort Blank Amt.	12.28	ug/m3	
		Lab Fort Blk. Found	12.07	ug/m3	
	2-Butanone (MEK)	Lab Fort Blk. % Rec.	98.28	%	50-150
		Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	12.85	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blk. % Rec.	87.16	%	70-130
		Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	22.18	ug/m3	
	Styrene	Lab Fort Blk. % Rec.	108.32	%	70-130
		Lab Fort Blank Amt.	21.26	ug/m3	
		Lab Fort Blk. Found	21.59	ug/m3	
	Tetrachloroethylene	Lab Fort Blk. % Rec.	101.52	%	70-130
		Lab Fort Blank Amt.	33.90	ug/m3	
		Lab Fort Blk. Found	32.38	ug/m3	
	Toluene	Lab Fort Blk. % Rec.	95.49	%	70-130
		Lab Fort Blank Amt.	18.81	ug/m3	
		Lab Fort Blk. Found	18.56	ug/m3	
	1,1,1-Trichloroethane	Lab Fort Blk. % Rec.	98.70	%	70-130
		Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	26.21	ug/m3	
	Trichloroethylene	Lab Fort Blk. % Rec.	96.10	%	70-130
		Lab Fort Blank Amt.	26.87	ug/m3	
		Lab Fort Blk. Found	25.85	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blk. % Rec.	96.20	%	70-130
		Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	32.68	ug/m3	
		Lab Fort Blk. % Rec.	85.30	%	70-130



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95351					
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	26.82	ug/m3	
		Lab Fort Blk. % Rec.	95.49	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	21.22	ug/m3	
		Lab Fort Blk. % Rec.	97.74	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	40.16	ug/m3	
		Lab Fort Blk. % Rec.	92.48	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	26.89	ug/m3	
		Lab Fort Blk. % Rec.	89.46	%	70-130
	1,3-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	27.10	ug/m3	
		Lab Fort Blk. % Rec.	90.18	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	18.54	ug/m3	
		Lab Fort Blk. % Rec.	91.60	%	70-130
	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	17.60	ug/m3	
		Lab Fort Blk. % Rec.	88.74	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	8.30	ug/m3	
		Lab Fort Blk. % Rec.	88.15	%	50-150
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.11	ug/m3	
		Lab Fort Blk. % Rec.	102.18	%	50-150
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	17.08	ug/m3	
		Lab Fort Blk. % Rec.	94.75	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	18.22	ug/m3	
		Lab Fort Blk. % Rec.	91.93	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	12.10	ug/m3	
		Lab Fort Blk. % Rec.	94.69	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	18.81	ug/m3	
		Lab Fort Blk. % Rec.	108.36	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	21.75	ug/m3	
		Lab Fort Blk. % Rec.	94.46	%	70-130
	Chloromethane	Lab Fort Blank Amt.	10.32	ug/m3	



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LFBLANK-95351	Chloromethane	Lab Fort Blk. Found	10.25	ug/m3	
		Lab Fort Blk. % Rec.	99.34	%	70-130
	Bromomethane	Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	18.68	ug/m3	
		Lab Fort Blk. % Rec.	96.26	%	70-130
	Chloroethane	Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	12.95	ug/m3	
		Lab Fort Blk. % Rec.	98.21	%	70-130
	cis-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	22.10	ug/m3	
		Lab Fort Blk. % Rec.	97.39	%	70-130
	trans-1,3-Dichloropropene	Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	22.64	ug/m3	
		Lab Fort Blk. % Rec.	99.73	%	70-130
	Chlorodibromomethane	Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	46.86	ug/m3	
		Lab Fort Blk. % Rec.	110.02	%	70-130
	1,1,2-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	26.78	ug/m3	
		Lab Fort Blk. % Rec.	98.19	%	70-130
	Bromoform	Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	57.05	ug/m3	
		Lab Fort Blk. % Rec.	110.36	%	70-130
	1,1,2,2-Tetrachloroethane	Lab Fort Blank Amt.	34.33	ug/m3	
		Lab Fort Blk. Found	31.95	ug/m3	
		Lab Fort Blk. % Rec.	93.08	%	70-130
	Hexachlorobutadiene	Lab Fort Blank Amt.	53.33	ug/m3	
		Lab Fort Blk. Found	43.97	ug/m3	
		Lab Fort Blk. % Rec.	82.46	%	70-130
	1,2,4-Trichlorobenzene	Lab Fort Blank Amt.	37.10	ug/m3	
		Lab Fort Blk. Found	29.81	ug/m3	
		Lab Fort Blk. % Rec.	80.34	%	70-130
	1,2,4-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	23.63	ug/m3	
		Lab Fort Blk. % Rec.	96.16	%	70-130
	1,3,5-Trimethylbenzene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	23.77	ug/m3	
		Lab Fort Blk. % Rec.	96.74	%	70-130
	Cyclohexane	Lab Fort Blank Amt.	17.21	ug/m3	
		Lab Fort Blk. Found	17.12	ug/m3	
		Lab Fort Blk. % Rec.	99.51	%	50-150
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	18.35	ug/m3	

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LFBLANK-95351					
	cis-1,2-Dichloroethylene	Lab Fort Blk. % Rec.	92.57	%	70-130
	1,2-Dichloropropane	Lab Fort Blank Amt.	23.10	ug/m3	
		Lab Fort Blk. Found	21.59	ug/m3	
		Lab Fort Blk. % Rec.	93.43	%	70-130
	Dichlorodifluoromethane	Lab Fort Blank Amt.	24.72	ug/m3	
		Lab Fort Blk. Found	23.93	ug/m3	
		Lab Fort Blk. % Rec.	96.81	%	70-130
	Benzyl Chloride	Lab Fort Blank Amt.	25.88	ug/m3	
		Lab Fort Blk. Found	27.42	ug/m3	
		Lab Fort Blk. % Rec.	105.96	%	70-130
	Carbon Disulfide	Lab Fort Blank Amt.	15.57	ug/m3	
		Lab Fort Blk. Found	12.82	ug/m3	
		Lab Fort Blk. % Rec.	82.37	%	70-130
	Vinyl Acetate	Lab Fort Blank Amt.	17.60	ug/m3	
		Lab Fort Blk. Found	16.22	ug/m3	
		Lab Fort Blk. % Rec.	92.16	%	70-130
	2-Hexanone	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	21.79	ug/m3	
		Lab Fort Blk. % Rec.	106.42	%	50-150
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3	
		Lab Fort Blk. Found	34.50	ug/m3	
		Lab Fort Blk. % Rec.	102.98	%	70-130
	1,2-Dibromoethane	Lab Fort Blank Amt.	38.42	ug/m3	
		Lab Fort Blk. Found	37.72	ug/m3	
		Lab Fort Blk. % Rec.	98.18	%	70-130
	n-Heptane	Lab Fort Blank Amt.	20.49	ug/m3	
		Lab Fort Blk. Found	20.34	ug/m3	
		Lab Fort Blk. % Rec.	99.29	%	50-150
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blank Amt.	34.95	ug/m3	
		Lab Fort Blk. Found	33.28	ug/m3	
		Lab Fort Blk. % Rec.	95.21	%	70-130
	Tetrahydrofuran	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	14.88	ug/m3	
		Lab Fort Blk. % Rec.	100.98	%	50-150
	Propene	Lab Fort Blank Amt.	8.60	ug/m3	
		Lab Fort Blk. Found	8.61	ug/m3	
		Lab Fort Blk. % Rec.	100.10	%	50-150
	1,3-Butadiene	Lab Fort Blank Amt.	11.06	ug/m3	
		Lab Fort Blk. Found	10.59	ug/m3	
		Lab Fort Blk. % Rec.	95.76	%	70-130
LFBLANK-95352					
	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	23.92	ug/m3	



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Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95352	1,1,1-Trichloroethane	Lab Fort Blk. % Rec.	87.69	%	70-130



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### QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER                      This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.

LIMITS                      Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.

Sample Amount                      Amount of analyte found in a sample.

Blank                      Method Blank that has been taken though all the steps of the analysis.

LFBLANK                      Laboratory Fortified Blank (a control sample)

STDADD                      Standard Added (a laboratory control sample)

Matrix Spk Amt Added                      Amount of analyte spiked into a sample  
MS Amt Measured                      Amount of analyte found including amount that was spiked  
Matrix Spike % Rec.                      % Recovery of spiked amount in sample.

Duplicate Value                      The result from the Duplicate analysis of the sample.  
Duplicate RPD                      The Relative Percent Difference between two Duplicate Analyses.

Surrogate Recovery                      The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.

Sur. Recovery (ELCD)                      Surrogate Recovery on the Electrolytic Conductivity Detector.  
Sur. Recovery (PID)                      Surrogate Recovery on the Photoionization Detector.

Standard Measured                      Amount measured for a laboratory control sample  
Standard Amt Added                      Known value for a laboratory control sample  
Standard % Recovery                      % recovered for a laboratory control sample with a known value.

Lab Fort Blank Amt                      Laboratory Fortified Blank Amount Added  
Lab Fort Blk. Found                      Laboratory Fortified Blank Amount Found  
Lab Fort Blk % Rec                      Laboratory Fortified Blank % Recovered  
Dup Lab Fort Bl Amt                      Duplicate Laboratory Fortified Blank Amount Added  
Dup Lab Fort Bl Fnd                      Duplicate Laboratory Fortified Blank Amount Found  
Dup Lab Fort Bl % Rec                      Duplicate Laboratory Fortified Blank % Recovery  
Lab Fort Blank Range                      Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).

Lab Fort Bl. Av. Rec.                      Laboratory Fortified Blank Average Recovery

Duplicate Sample Amt                      Sample Value for Duplicate used with Matrix Spike Duplicate  
MSD Amount Added                      Matrix Spike Duplicate Amount Added (Spiked)  
MSD Amt Measured                      Matrix Spike Duplicate Amount Measured  
MSD % Recovery                      Matrix Spike Duplicate % Recovery  
MSD Range                      Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com  
 www.contestlabs.com

**AIR SAMPLE CHAIN OF CUSTODY RECORD**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: MaCTec Engineering  
 Address: 107 Auburn Rd, Suite 301  
Wakefield, MA 01880

Attention: Kelly Chatterton

Project Location: Providence, RI (Garban Site)

Sampled By: FSM

Proposal Provided? (For Billing purposes)

Yes 3.3.09 proposal date

Telephone: (781) 245-6606  
 Project # 3650080114.13  
 Client PO # 200914545

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax # :  
 Email: K.Chatterton@maCTec.com

**EAVERS**  
**ET-07**

Format:  EXCEL  PDF  GIS KEY  OTHER

Field ID	Sample Description	Media	Lab #	Date Time	Stop Date Time	Total Minutes Sampled	Flow Rate M <sup>3</sup> /Min. or L/Min.	Volume Liters or M <sup>3</sup>	Matrix Code*	ANALYSIS REQUESTED		Summa Canister ID	Flow Controller ID
										Hg	Other		
IA-1-100109	S	14902	10-1-09 0747	10-1-09 0817	30	0.2	6	IA	X	1848	4078		
IA-2-100109	S	03	10-1-09 0751	10-1-09 0821	30	0.2	6	IA	X	1294	4085		
IA-3-100109	S	04	10-1-09 0754	10-1-09 0824	30	0.2	6	IA	X	1110	4079		
IA-4-100109	S	05	10-1-09 0757	10-1-09 0827	30	0.2	6	IA	X	1146	4106		
AA-1-100109	S	06	10-1-09 0800	10-1-09 0830	30	0.2	6	AMB	X	1837	4076		
EW-Combined-100109	S	07	10-1-09 0840	10-1-09 0910	30	0.2	6	SG	X	1323	4097		

Laboratory Comments: EW-Combined-100109 was sampled from source area soil gas.

Relinquished by: (signature) [Signature] Date/Time: 10-1-09/1510

Received by: (signature) [Signature] Date/Time: 10-1-09/1510

Approved by: (signature) [Signature] Date/Time: 10-1-09/1800

Turnaround \*\*  
 7-Day  
 10-Day  
 Other \_\_\_\_\_

RUSH \*  
 \*24-Hr  \*48-Hr  
 \*72-Hr  \*4-Day

Approval Required

Special Requirements  
 Regulations: ET Target Indoor Air (Commercial)  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 Required Detection Limits: ET Target Indoor (Surcharge Applies)  
 Other: Air Conc. (Commercial)

\*Matrix Code:  
 SOIL GAS  
 IA= INDOOR AIR  
 AMB=AMBIENT  
 SS= SUB SLAB  
 D= DUP  
 BL= BLANK  
 O= other

\*\*Media Codes:  
 S=Summa can  
 TB=teardar bag  
 P=PUP  
 T=tube  
 F= filter  
 C=cassette  
 O= Other

\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.



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39 Spruce Street  
East Longmeadow, MA  
Phone: 1-413-525-2332  
Fax: 1-413-525-6405

AIR ONLY RECEIPT CHECKLIST

CLIENT NAME: Mactec  
RECEIVED BY: TPH DATE: 10-1-09

- 1. Was chain of custody relinquished and signed?  YES  NO
- 2. Does Chain agree with samples?  YES  NO

If not, explain: \_\_\_\_\_

- 3. All Samples in good condition?  YES  NO

If not, explain: \_\_\_\_\_

4. Are there any on hold samples? YES  NO  STORED WHERE: \_\_\_\_\_

5. ARE THERE ANY RUSH OR SHORT HOLDING TIME SAMPLES? WHO WAS NOTIFIED? \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Location where samples are stored: Arlab

Permission to sub-contract samples? Yes No (circle)  
(Walk in clients only) if not already approved.  
Client Signature \_\_\_\_\_

CONTAINERS SENT TO CON-TEST	# of containers
Summa cans	6
Tedlar Bags	
Regulators	6
Restrictors	
Tubes	
Other	

- 1. Was all media (used & unused) checked into the WASP asset management program?
- 2. Were all returned summa cans, restrictors, & regulators documented as returned in the AIR Lab Outbound excel sheet? Yes
- 3. Were the Lab ID's documented in the Air Lab Outbound excel sheet? Yes
- 4. Was the job documented in the Air Lab Log-In Access Database? Yes

Laboratory comments: \_\_\_\_\_





CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY: *[Signature]*

FILE COPY

39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

REPORT DATE 10/14/2009

MACTEC ENGINEERING & CONSULTING - MA  
107 AUDUBON ROAD, BLDG. 2, SUITE 301  
WAKEFIELD, MA 01880  
ATTN: Kelly Chatterton

CONTRACT NUMBER:  
PURCHASE ORDER NUMBER: 200914545

PROJECT NUMBER: 3650080114.13

ANALYTICAL SUMMARY

LIMS BAT #: LIMIT-25323  
JOB NUMBER: 3650080114.13

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
AA-1-100809	09B14922	AIR	Not Specified	to-15 ppbv	
AA-1-100809	09B14922	AIR	Not Specified	to-15 ug/m3	
EW-COMBINED-10	09B14923	AIR	Not Specified	to-15 ppbv	
EW-COMBINED-10	09B14923	AIR	Not Specified	to-15 ug/m3	
IA-1-100809	09B14918	AIR	Not Specified	to-15 ppbv	
IA-1-100809	09B14918	AIR	Not Specified	to-15 ug/m3	
IA-2-100809	09B14919	AIR	Not Specified	to-15 ppbv	
IA-2-100809	09B14919	AIR	Not Specified	to-15 ug/m3	
IA-3-100809	09B14920	AIR	Not Specified	to-15 ppbv	
IA-3-100809	09B14920	AIR	Not Specified	to-15 ug/m3	
IA-4-100809	09B14921	AIR	Not Specified	to-15 ppbv	
IA-4-100809	09B14921	AIR	Not Specified	to-15 ug/m3	
POST CARBON-10	09B14924	AIR	Not Specified	to-15 ppbv	
POST CARBON-10	09B14924	AIR	Not Specified	to-15 ug/m3	

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033	AIHA ELLAP (LEAD) 100033	NORTH CAROLINA CERT. # 652
MASSACHUSETTS MA0100	NEW HAMPSHIRE NELAP 2516	NEW JERSEY NELAP NJ MA007 (AIR)
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036	FLORIDA DOH E871027 (AIR)
NEW YORK ELAP/NELAP 10899	RHODE ISLAND (LIC. No. 112)	

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

*[Signature]*

SIGNATURE

10/14/09

DATE

Tod Kopyscinski  
Air Laboratory Manager

Michael Erickson  
Laboratory Director

Chris Hall  
Project Chemist Supervisor

Daren Damboragian  
Laboratory Manager



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

Kelly Chatterton  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
 Page 1 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100809**

**Sample ID : 09B14922** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	7.0	0.05		10/09/09	WSD
Benzene	PPBv	0.06	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.42	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	ND	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	0.46	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	2.6	0.05		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	ND	0.05		10/09/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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 WAKEFIELD, MA 01880

10/14/2009  
 Page 2 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100809**

**Sample ID :** 09B14922      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	1.3	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.06	0.05		10/09/09	WSD
Isopropanol	PPBv	ND	0.10		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	6.7	0.05		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	ND	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/09/09	WSD
Toluene	PPBv	0.13	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	ND	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.27	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	ND	0.10		10/09/09	WSD
o-Xylene	PPBv	ND	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	17	0.12		10/09/09	WSD
Benzene	ug/m3	0.20	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.2	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
 Page 3 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100809**

**Sample ID : 09B14922** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.46	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	ND	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	0.96	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	4.9	0.09		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	ND	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	4.5	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.23	0.20		10/09/09	WSD
Isopropanol	ug/m3	ND	0.25		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	23	0.17		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

RL = Reporting Limit

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NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

Kelly Chatterton  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
 Page 4 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : AA-1-100809**

**Sample ID :** 09B14922      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/09/09	WSD
Tetrachloroethylene	ug/m3	ND	0.34		10/09/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/09/09	WSD
Toluene	ug/m3	0.50	0.19		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
Trichloroethylene	ug/m3	ND	0.27		10/09/09	WSD
Trichlorofluoromethane	ug/m3	1.5	0.28		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.46	0.38		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/09/09	WSD
m/p-Xylene	ug/m3	ND	0.43		10/09/09	WSD
o-Xylene	ug/m3	ND	0.22		10/09/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

Kelly Chatterton  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
 Page 5 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100809**

**Sample ID :** 09B14923      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	ND	8.0		10/09/09	WSD
Benzene	PPBv	ND	2.0		10/09/09	WSD
Benzyl Chloride	PPBv	ND	2.0		10/09/09	WSD
Bromodichloromethane	PPBv	ND	2.0		10/09/09	WSD
Bromoform	PPBv	ND	2.0		10/09/09	WSD
Bromomethane	PPBv	ND	2.0		10/09/09	WSD
1,3-Butadiene	PPBv	ND	4.0		10/09/09	WSD
2-Butanone (MEK)	PPBv	7.0	2.0		10/09/09	WSD
Carbon Disulfide	PPBv	ND	2.0		10/09/09	WSD
Carbon Tetrachloride	PPBv	ND	2.0		10/09/09	WSD
Chlorobenzene	PPBv	ND	2.0		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	2.0		10/09/09	WSD
Chloroethane	PPBv	34	2.0		10/09/09	WSD
Chloroform	PPBv	2.2	2.0		10/09/09	WSD
Chloromethane	PPBv	ND	2.0		10/09/09	WSD
Cyclohexane	PPBv	ND	2.0		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	2.0		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	2.0		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	2.0		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	2.0		10/09/09	WSD
Dichlorodifluoromethane	PPBv	ND	2.0		10/09/09	WSD
1,1-Dichloroethane	PPBv	430	2.0		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	2.0		10/09/09	WSD
1,1-Dichloroethylene	PPBv	69	2.0		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	310	2.0		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	6.5	2.0		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	2.0		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	2.0		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	2.0		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	2.0		10/09/09	WSD
Ethanol	PPBv	17	2.0		10/09/09	WSD
Ethyl Acetate	PPBv	ND	2.0		10/09/09	WSD
Ethylbenzene	PPBv	ND	2.0		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	2.0		10/09/09	WSD
n-Heptane	PPBv	ND	2.0		10/09/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

Kelly Chatterton  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100809**

**Sample ID :** 09B14923      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	2.0		10/09/09	WSD
Hexane	PPBv	ND	2.0		10/09/09	WSD
2-Hexanone	PPBv	ND	2.0		10/09/09	WSD
Isopropanol	PPBv	ND	4.0		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	2.0		10/09/09	WSD
Methylene Chloride	PPBv	ND	8.0		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	2.0		10/09/09	WSD
Propene	PPBv	ND	8.0		10/09/09	WSD
Styrene	PPBv	ND	2.0		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	2.0		10/09/09	WSD
Tetrachloroethylene	PPBv	11	2.0		10/09/09	WSD
Tetrahydrofuran	PPBv	23	2.0		10/09/09	WSD
Toluene	PPBv	ND	2.0		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	2.0		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	1300	2.0		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	2.0		10/09/09	WSD
Trichloroethylene	PPBv	810	2.0		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	270	2.0		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	2.0		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	2.0		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	2.0		10/09/09	WSD
Vinyl Acetate	PPBv	ND	8.0		10/09/09	WSD
Vinyl Chloride	PPBv	ND	2.0		10/09/09	WSD
m/p-Xylene	PPBv	ND	4.0		10/09/09	WSD
o-Xylene	PPBv	ND	2.0		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	ND	20		10/09/09	WSD
Benzene	ug/m3	ND	6.4		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	11		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	14		10/09/09	WSD
Bromoform	ug/m3	ND	21		10/09/09	WSD
Bromomethane	ug/m3	ND	7.6		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	8.9		10/09/09	WSD
2-Butanone (MEK)	ug/m3	21	6.0		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	6.4		10/09/09	WSD

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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100809**

**Sample ID :** 09B14923      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	13		10/09/09	WSD
Chlorobenzene	ug/m3	ND	9.2		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	18		10/09/09	WSD
Chloroethane	ug/m3	88	5.2		10/09/09	WSD
Chloroform	ug/m3	11	9.6		10/09/09	WSD
Chloromethane	ug/m3	ND	4.0		10/09/09	WSD
Cyclohexane	ug/m3	ND	6.8		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	16		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	12		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	12		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	12		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	ND	10		10/09/09	WSD
1,1-Dichloroethane	ug/m3	1700	8.0		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	8.0		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	280	8.0		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	1200	8.0		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	26	8.0		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	9.2		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	8.8		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	8.8		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	14		10/09/09	WSD
Ethanol	ug/m3	33	3.6		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	7.2		10/09/09	WSD
Ethylbenzene	ug/m3	ND	8.8		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	10		10/09/09	WSD
n-Heptane	ug/m3	ND	8.0		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	22		10/09/09	WSD
Hexane	ug/m3	ND	7.2		10/09/09	WSD
2-Hexanone	ug/m3	ND	8.0		10/09/09	WSD
Isopropanol	ug/m3	ND	9.9		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	7.2		10/09/09	WSD
Methylene Chloride	ug/m3	ND	28		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	8.0		10/09/09	WSD
Propene	ug/m3	ND	14		10/09/09	WSD
Styrene	ug/m3	ND	8.4		10/09/09	WSD

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 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : EW-COMBINED-100809**

**Sample ID :** 09B14923      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	14		10/09/09	WSD
Tetrachloroethylene	ug/m3	72	14		10/09/09	WSD
Tetrahydrofuran	ug/m3	67	6.0		10/09/09	WSD
Toluene	ug/m3	ND	7.6		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	15		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	6800	11		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	11		10/09/09	WSD
Trichloroethylene	ug/m3	4300	11		10/09/09	WSD
Trichlorofluoromethane	ug/m3	1500	12		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	16		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	10		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	10		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	29		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	5.2		10/09/09	WSD
m/p-Xylene	ug/m3	ND	18		10/09/09	WSD
o-Xylene	ug/m3	ND	8.8		10/09/09	WSD

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 WAKEFIELD, MA 01880

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100809**

**Sample ID : 09B14918** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.3	0.05		10/09/09	WSD
Benzene	PPBv	0.15	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.43	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	ND	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	0.46	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.42	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.11	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	4.7	0.05		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	0.06	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	0.06	0.05		10/09/09	WSD

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 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100809**

**Sample ID : 09B14918** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	0.22	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.08	0.05		10/09/09	WSD
Isopropanol	PPBv	1.1	0.05		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	0.16	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/09/09	WSD
Toluene	PPBv	0.32	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	0.10	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.07	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.10	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	0.24	0.10		10/09/09	WSD
o-Xylene	PPBv	0.09	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	10	0.12		10/09/09	WSD
Benzene	ug/m3	0.48	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.3	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100809**

**Sample ID : 09B14918** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.43	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	ND	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	0.95	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.44	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	8.8	0.09		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	0.28	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	0.26	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	0.77	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.31	0.20		10/09/09	WSD
Isopropanol	ug/m3	2.7	0.12		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

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 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-1-100809**

**Sample ID :** 09B14918      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/09/09	WSD
Tetrachloroethylene	ug/m3	1.1	0.34		10/09/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/09/09	WSD
Toluene	ug/m3	1.2	0.19		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
Trichloroethylene	ug/m3	0.56	0.27		10/09/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.51	0.38		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.51	0.25		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/09/09	WSD
m/p-Xylene	ug/m3	1.0	0.43		10/09/09	WSD
o-Xylene	ug/m3	0.40	0.22		10/09/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

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 WAKEFIELD, MA 01880

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100809**

**Sample ID : 09B14919** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	3.7	0.05		10/09/09	WSD
Benzene	PPBv	0.17	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.34	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	ND	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	0.47	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.43	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.12	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	3.3	0.05		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	0.07	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	0.08	0.05		10/09/09	WSD

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39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100809**

**Sample ID :** 09B14919      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	0.28	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.06	0.05		10/09/09	WSD
Isopropanol	PPBv	ND	0.10		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	0.15	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/09/09	WSD
Toluene	PPBv	0.39	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	0.11	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.07	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.10	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	0.26	0.10		10/09/09	WSD
o-Xylene	PPBv	0.10	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	8.8	0.12		10/09/09	WSD
Benzene	ug/m3	0.54	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.00	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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10/14/2009  
 Page 15 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100809**

**Sample ID :** 09B14919      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.42	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	ND	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	0.98	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	2.1	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.48	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	6.2	0.09		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	0.31	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	0.34	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	1.00	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.26	0.20		10/09/09	WSD
Isopropanol	ug/m3	ND	0.25		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-2-100809**

**Sample ID :** 09B14919      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/09/09	WSD
Tetrachloroethylene	ug/m3	1.0	0.34		10/09/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/09/09	WSD
Toluene	ug/m3	1.5	0.19		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
Trichloroethylene	ug/m3	0.57	0.27		10/09/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.54	0.38		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.52	0.25		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/09/09	WSD
m/p-Xylene	ug/m3	1.1	0.43		10/09/09	WSD
o-Xylene	ug/m3	0.44	0.22		10/09/09	WSD

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled

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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100809**

**Sample ID : 09B14920** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.6	0.05		10/09/09	WSD
Benzene	PPBv	0.14	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.51	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	0.07	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	ND	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	0.50	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.44	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.12	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	2.7	0.05		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	0.06	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	0.06	0.05		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100809**

**Sample ID :** 09B14920      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	0.20	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.09	0.05		10/09/09	WSD
Isopropanol	PPBv	ND	0.10		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	0.16	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/09/09	WSD
Toluene	PPBv	0.28	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	0.10	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	0.20	0.10		10/09/09	WSD
o-Xylene	PPBv	0.08	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	11	0.12		10/09/09	WSD
Benzene	ug/m3	0.46	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.5	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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10/14/2009  
 Page 19 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-3-100809**

**Sample ID :** 09B14920      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.42	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	ND	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	1.0	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.49	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	5.0	0.09		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	0.24	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	0.24	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	0.71	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.37	0.20		10/09/09	WSD
Isopropanol	ug/m3	ND	0.25		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

\* = See end of report for comments and notes applying to this sample

‡ See attached chain-of-custody record for time sampled





39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100809**

**Sample ID :** 09B14921      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	4.4	0.05		10/09/09	WSD
Benzene	PPBv	0.15	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.42	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	0.06	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	ND	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	0.50	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.44	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	0.12	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	3.0	0.05		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	0.06	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	0.06	0.05		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100809**

**Sample ID : 09B14921** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	0.26	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.07	0.05		10/09/09	WSD
Isopropanol	PPBv	ND	0.10		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	0.16	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	ND	0.05		10/09/09	WSD
Toluene	PPBv	0.32	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	0.11	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	0.21	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	0.06	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	0.08	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	0.23	0.10		10/09/09	WSD
o-Xylene	PPBv	0.09	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	10	0.12		10/09/09	WSD
Benzene	ug/m3	0.48	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.2	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100809**

**Sample ID : 09B14921** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	0.40	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	ND	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	1.0	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	2.2	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	0.48	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	ND	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	5.6	0.09		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	0.26	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	0.26	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	0.93	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.27	0.20		10/09/09	WSD
Isopropanol	ug/m3	ND	0.25		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled





39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

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 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : IA-4-100809**

**Sample ID : 09B14921** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/09/09	WSD
Tetrachloroethylene	ug/m3	1.1	0.34		10/09/09	WSD
Tetrahydrofuran	ug/m3	ND	0.15		10/09/09	WSD
Toluene	ug/m3	1.2	0.19		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
Trichloroethylene	ug/m3	0.57	0.27		10/09/09	WSD
Trichlorofluoromethane	ug/m3	1.2	0.28		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	0.50	0.38		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	0.41	0.25		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/09/09	WSD
m/p-Xylene	ug/m3	1.0	0.43		10/09/09	WSD
o-Xylene	ug/m3	0.40	0.22		10/09/09	WSD

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NM = Not Measured

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 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
 Page 25 of 29

Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : POST CARBON-100809**

**Sample ID : 09B14924** ‡Sampled : 10/8/2009  
 Not Specified  
 Sample Matrix: AIR Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Acetone	PPBv	1.5	0.05		10/09/09	WSD
Benzene	PPBv	ND	0.05		10/09/09	WSD
Benzyl Chloride	PPBv	ND	0.05		10/09/09	WSD
Bromodichloromethane	PPBv	ND	0.05		10/09/09	WSD
Bromoform	PPBv	ND	0.05		10/09/09	WSD
Bromomethane	PPBv	ND	0.05		10/09/09	WSD
1,3-Butadiene	PPBv	ND	0.10		10/09/09	WSD
2-Butanone (MEK)	PPBv	0.63	0.05		10/09/09	WSD
Carbon Disulfide	PPBv	ND	0.05		10/09/09	WSD
Carbon Tetrachloride	PPBv	ND	0.05		10/09/09	WSD
Chlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Chlorodibromomethane	PPBv	ND	0.05		10/09/09	WSD
Chloroethane	PPBv	7.3	0.05		10/09/09	WSD
Chloroform	PPBv	ND	0.05		10/09/09	WSD
Chloromethane	PPBv	ND	0.05		10/09/09	WSD
Cyclohexane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dibromoethane	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,3-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,4-Dichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
Dichlorodifluoromethane	PPBv	0.35	0.05		10/09/09	WSD
1,1-Dichloroethane	PPBv	90	0.05		10/09/09	WSD
1,2-Dichloroethane	PPBv	ND	0.05		10/09/09	WSD
1,1-Dichloroethylene	PPBv	20	0.05		10/09/09	WSD
cis-1,2-Dichloroethylene	PPBv	59	0.05		10/09/09	WSD
t-1,2-Dichloroethylene	PPBv	1.9	0.05		10/09/09	WSD
1,2-Dichloropropane	PPBv	ND	0.05		10/09/09	WSD
cis-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
trans-1,3-Dichloropropene	PPBv	ND	0.05		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	0.05		10/09/09	WSD
Ethanol	PPBv	ND	0.20		10/09/09	WSD
Ethyl Acetate	PPBv	ND	0.05		10/09/09	WSD
Ethylbenzene	PPBv	ND	0.05		10/09/09	WSD
4-Ethyl Toluene	PPBv	ND	0.05		10/09/09	WSD
n-Heptane	PPBv	ND	0.05		10/09/09	WSD

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10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : POST CARBON-100809**

**Sample ID :** 09B14924      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      **Sample Medium :** SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ppbv				EPA TO-15		
Hexachlorobutadiene	PPBv	ND	0.05		10/09/09	WSD
Hexane	PPBv	ND	0.05		10/09/09	WSD
2-Hexanone	PPBv	0.07	0.05		10/09/09	WSD
Isopropanol	PPBv	ND	0.10		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	PPBv	ND	0.05		10/09/09	WSD
Methylene Chloride	PPBv	ND	0.20		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	PPBv	ND	0.05		10/09/09	WSD
Propene	PPBv	ND	0.20		10/09/09	WSD
Styrene	PPBv	ND	0.05		10/09/09	WSD
1,1,2,2-Tetrachloroethane	PPBv	ND	0.05		10/09/09	WSD
Tetrachloroethylene	PPBv	0.08	0.05		10/09/09	WSD
Tetrahydrofuran	PPBv	1.4	0.05		10/09/09	WSD
Toluene	PPBv	ND	0.05		10/09/09	WSD
1,2,4-Trichlorobenzene	PPBv	ND	0.05		10/09/09	WSD
1,1,1-Trichloroethane	PPBv	0.10	0.05		10/09/09	WSD
1,1,2-Trichloroethane	PPBv	ND	0.05		10/09/09	WSD
Trichloroethylene	PPBv	0.19	0.05		10/09/09	WSD
Trichlorofluoromethane (Freon 11)	PPBv	31	0.05		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	0.05		10/09/09	WSD
1,2,4-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
1,3,5-Trimethylbenzene	PPBv	ND	0.05		10/09/09	WSD
Vinyl Acetate	PPBv	ND	0.20		10/09/09	WSD
Vinyl Chloride	PPBv	ND	0.05		10/09/09	WSD
m/p-Xylene	PPBv	ND	0.10		10/09/09	WSD
o-Xylene	PPBv	ND	0.05		10/09/09	WSD
to-15 ug/m				EPA TO-15		
Acetone	ug/m3	3.6	0.12		10/09/09	WSD
Benzene	ug/m3	ND	0.16		10/09/09	WSD
Benzyl Chloride	ug/m3	ND	0.26		10/09/09	WSD
Bromodichloromethane	ug/m3	ND	0.33		10/09/09	WSD
Bromoform	ug/m3	ND	0.51		10/09/09	WSD
Bromomethane	ug/m3	ND	0.19		10/09/09	WSD
1,3-Butadiene	ug/m3	ND	0.23		10/09/09	WSD
2-Butanone (MEK)	ug/m3	1.9	0.15		10/09/09	WSD
Carbon Disulfide	ug/m3	ND	0.16		10/09/09	WSD

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‡ See attached chain-of-custody record for time sampled



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Kelly Chatterton  
 MACTEC ENGINEERING & CONSULTING - MA  
 107 AUDUBON ROAD, BLDG. 2, SUITE 301  
 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : POST CARBON-100809**

**Sample ID :** 09B14924      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
Carbon Tetrachloride	ug/m3	ND	0.31		10/09/09	WSD
Chlorobenzene	ug/m3	ND	0.23		10/09/09	WSD
Chlorodibromomethane	ug/m3	ND	0.43		10/09/09	WSD
Chloroethane	ug/m3	19	0.13		10/09/09	WSD
Chloroform	ug/m3	ND	0.24		10/09/09	WSD
Chloromethane	ug/m3	ND	0.10		10/09/09	WSD
Cyclohexane	ug/m3	ND	0.17		10/09/09	WSD
1,2-Dibromoethane	ug/m3	ND	0.38		10/09/09	WSD
1,2-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,3-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
1,4-Dichlorobenzene	ug/m3	ND	0.30		10/09/09	WSD
Dichlorodifluoromethane	ug/m3	1.7	0.25		10/09/09	WSD
1,1-Dichloroethane	ug/m3	370	0.20		10/09/09	WSD
1,2-Dichloroethane	ug/m3	ND	0.20		10/09/09	WSD
1,1-Dichloroethylene	ug/m3	78	0.20		10/09/09	WSD
cis-1,2-Dichloroethylene	ug/m3	230	0.20		10/09/09	WSD
t-1,2-Dichloroethylene	ug/m3	7.7	0.20		10/09/09	WSD
1,2-Dichloropropane	ug/m3	ND	0.23		10/09/09	WSD
cis-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
trans-1,3-Dichloropropene	ug/m3	ND	0.22		10/09/09	WSD
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	0.35		10/09/09	WSD
Ethanol	ug/m3	ND	0.38		10/09/09	WSD
Ethyl Acetate	ug/m3	ND	0.18		10/09/09	WSD
Ethylbenzene	ug/m3	ND	0.22		10/09/09	WSD
4-Ethyl Toluene	ug/m3	ND	0.25		10/09/09	WSD
n-Heptane	ug/m3	ND	0.20		10/09/09	WSD
Hexachlorobutadiene	ug/m3	ND	0.53		10/09/09	WSD
Hexane	ug/m3	ND	0.18		10/09/09	WSD
2-Hexanone	ug/m3	0.27	0.20		10/09/09	WSD
Isopropanol	ug/m3	ND	0.25		10/09/09	WSD
Methyl tert-Butyl Ether (MTBE)	ug/m3	ND	0.18		10/09/09	WSD
Methylene Chloride	ug/m3	ND	0.70		10/09/09	WSD
4-Methyl-2-Pentanone (MIBK)	ug/m3	ND	0.20		10/09/09	WSD
Propene	ug/m3	ND	0.35		10/09/09	WSD
Styrene	ug/m3	ND	0.21		10/09/09	WSD

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 WAKEFIELD, MA 01880

10/14/2009  
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Project Location: Providence, RI  
 Date Received: 10/8/2009

Purchase Order No.: 200914545

Project Number: 3650080114.13  
 LIMS-BAT #: LIMIT-25323  
 Job Number: 3650080114.13

**Field Sample # : POST CARBON-100809**

**Sample ID :** 09B14924      ‡Sampled : 10/8/2009  
 Not Specified  
**Sample Matrix:** AIR      Sample Medium : SUMMA

	Units	Results	RL	Method	Date Analyzed	Analyst
to-15 ug/m				EPA TO-15		
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.34		10/09/09	WSD
Tetrachloroethylene	ug/m3	0.52	0.34		10/09/09	WSD
Tetrahydrofuran	ug/m3	4.1	0.15		10/09/09	WSD
Toluene	ug/m3	ND	0.19		10/09/09	WSD
1,2,4-Trichlorobenzene	ug/m3	ND	0.37		10/09/09	WSD
1,1,1-Trichloroethane	ug/m3	0.56	0.27		10/09/09	WSD
1,1,2-Trichloroethane	ug/m3	ND	0.27		10/09/09	WSD
Trichloroethylene	ug/m3	1.0	0.27		10/09/09	WSD
Trichlorofluoromethane	ug/m3	180	0.28		10/09/09	WSD
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	0.38		10/09/09	WSD
1,2,4-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
1,3,5-Trimethylbenzene	ug/m3	ND	0.25		10/09/09	WSD
Vinyl Acetate	ug/m3	ND	0.71		10/09/09	WSD
Vinyl Chloride	ug/m3	ND	0.13		10/09/09	WSD
m/p-Xylene	ug/m3	ND	0.43		10/09/09	WSD
o-Xylene	ug/m3	ND	0.22		10/09/09	WSD

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Kelly Chatterton

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107 AUDUBON ROAD, BLDG. 2, SUITE 301

WAKEFIELD, MA 01880

Project Location: Providence, RI

Date Received: 10/8/2009

Purchase Order No.: 200914545

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Project Number: 3650080114.13

LIMS-BAT #: LIMIT-25323

Job Number: 3650080114.13

\*\* END OF REPORT \*\*

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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B14918	4-Bromofluorobenzene	Surrogate Recovery	98.50	%	70-130
09B14919	4-Bromofluorobenzene	Surrogate Recovery	98.00	%	70-130
09B14920	4-Bromofluorobenzene	Surrogate Recovery	97.37	%	70-130
09B14921	4-Bromofluorobenzene	Surrogate Recovery	96.87	%	70-130
09B14922	4-Bromofluorobenzene	Surrogate Recovery	97.62	%	70-130
09B14923	4-Bromofluorobenzene	Surrogate Recovery	95.87	%	70-130
09B14924	4-Bromofluorobenzene	Surrogate Recovery	96.00	%	70-130
BLANK-133030	Acetone	Blank	<0.43	ug/m3	
	Benzene	Blank	<0.15	ug/m3	
	Carbon Tetrachloride	Blank	<0.28	ug/m3	
	Chloroform	Blank	<0.22	ug/m3	
	1,2-Dichloroethane	Blank	<0.18	ug/m3	
	1,4-Dichlorobenzene	Blank	<0.27	ug/m3	
	Ethyl Acetate	Blank	<0.17	ug/m3	
	Ethylbenzene	Blank	<0.20	ug/m3	
	Hexane	Blank	<0.17	ug/m3	
	Isopropanol	Blank	<0.23	ug/m3	
	2-Butanone (MEK)	Blank	<0.27	ug/m3	
	4-Methyl-2-Pentanone (MIBK)	Blank	<0.18	ug/m3	
	Styrene	Blank	<0.19	ug/m3	
	Tetrachloroethylene	Blank	<0.31	ug/m3	
	Toluene	Blank	<0.18	ug/m3	
	1,1,1-Trichloroethane	Blank	<0.25	ug/m3	
	Trichloroethylene	Blank	<0.25	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<0.35	ug/m3	
	Trichlorofluoromethane	Blank	<0.26	ug/m3	
	o-Xylene	Blank	<0.20	ug/m3	
	m/p-Xylene	Blank	<0.39	ug/m3	
	1,2-Dichlorobenzene	Blank	<0.27	ug/m3	
	1,3-Dichlorobenzene	Blank	<0.27	ug/m3	
	1,1-Dichloroethane	Blank	<0.18	ug/m3	
	1,1-Dichloroethylene	Blank	<0.18	ug/m3	
	Ethanol	Blank	<0.34	ug/m3	
	4-Ethyl Toluene	Blank	<0.23	ug/m3	
	Methyl tert-Butyl Ether (MTBE)	Blank	<0.17	ug/m3	
	t-1,2-Dichloroethylene	Blank	<0.18	ug/m3	



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**QC SUMMARY REPORT**

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BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-133030					
	Vinyl Chloride	Blank	<0.12	ug/m3	
	Methylene Chloride	Blank	<0.63	ug/m3	
	Chlorobenzene	Blank	<0.21	ug/m3	
	Chloromethane	Blank	<0.09	ug/m3	
	Bromomethane	Blank	<0.18	ug/m3	
	Chloroethane	Blank	<0.12	ug/m3	
	cis-1,3-Dichloropropene	Blank	<0.20	ug/m3	
	trans-1,3-Dichloropropene	Blank	<0.20	ug/m3	
	Chlorodibromomethane	Blank	<0.39	ug/m3	
	1,1,2-Trichloroethane	Blank	<0.25	ug/m3	
	Bromoform	Blank	<0.46	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<0.31	ug/m3	
	Hexachlorobutadiene	Blank	<0.48	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<0.34	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<0.23	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<0.23	ug/m3	
	Cyclohexane	Blank	<0.16	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.18	ug/m3	
	1,2-Dichloropropane	Blank	<0.21	ug/m3	
	Dichlorodifluoromethane	Blank	<0.23	ug/m3	
	Benzyl Chloride	Blank	<0.24	ug/m3	
	Carbon Disulfide	Blank	<0.15	ug/m3	
	Vinyl Acetate	Blank	<0.64	ug/m3	
	2-Hexanone	Blank	<0.18	ug/m3	
	Bromodichloromethane	Blank	<0.30	ug/m3	
	1,2-Dibromoethane	Blank	<0.35	ug/m3	
	n-Heptane	Blank	<0.18	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<0.32	ug/m3	
	Tetrahydrofuran	Blank	<0.14	ug/m3	
	Propene	Blank	<0.31	ug/m3	
	1,3-Butadiene	Blank	<0.20	ug/m3	
BLANK-133032					
	1,1,1-Trichloroethane	Blank	<0.27	ug/m3	
	Trichlorofluoromethane	Blank	<0.28	ug/m3	
	1,1-Dichloroethane	Blank	<0.20	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<0.20	ug/m3	
LFBLANK-95355					
	Acetone	Lab Fort Blank Amt.	11.87	ug/m3	
		Lab Fort Blk. Found	11.64	ug/m3	
		Lab Fort Blk. % Rec.	98.02	%	50-150
	Benzene	Lab Fort Blank Amt.	15.95	ug/m3	
		Lab Fort Blk. Found	14.63	ug/m3	
		Lab Fort Blk. % Rec.	91.77	%	70-130



**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

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Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95355	Carbon Tetrachloride	Lab Fort Blank Amt.	31.45	ug/m3	
		Lab Fort Blk. Found	29.57	ug/m3	
		Lab Fort Blk. % Rec.	94.03	%	70-130
	Chloroform	Lab Fort Blank Amt.	24.33	ug/m3	
		Lab Fort Blk. Found	21.30	ug/m3	
		Lab Fort Blk. % Rec.	87.54	%	70-130
	1,2-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	16.58	ug/m3	
		Lab Fort Blk. % Rec.	81.90	%	70-130
	1,4-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	28.48	ug/m3	
		Lab Fort Blk. % Rec.	94.76	%	70-130
	Ethyl Acetate	Lab Fort Blank Amt.	18.01	ug/m3	
		Lab Fort Blk. Found	18.80	ug/m3	
		Lab Fort Blk. % Rec.	104.36	%	50-150
	Ethylbenzene	Lab Fort Blank Amt.	21.67	ug/m3	
		Lab Fort Blk. Found	21.19	ug/m3	
		Lab Fort Blk. % Rec.	97.78	%	70-130
	Hexane	Lab Fort Blank Amt.	17.62	ug/m3	
		Lab Fort Blk. Found	16.40	ug/m3	
		Lab Fort Blk. % Rec.	93.10	%	70-130
	Isopropanol	Lab Fort Blank Amt.	12.28	ug/m3	
		Lab Fort Blk. Found	12.53	ug/m3	
		Lab Fort Blk. % Rec.	102.00	%	50-150
	2-Butanone (MEK)	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	12.55	ug/m3	
		Lab Fort Blk. % Rec.	85.16	%	70-130
	4-Methyl-2-Pentanone (MIBK)	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	22.95	ug/m3	
		Lab Fort Blk. % Rec.	112.08	%	70-130
Styrene	Lab Fort Blank Amt.	21.26	ug/m3		
	Lab Fort Blk. Found	21.76	ug/m3		
	Lab Fort Blk. % Rec.	102.36	%	70-130	
Tetrachloroethylene	Lab Fort Blank Amt.	33.90	ug/m3		
	Lab Fort Blk. Found	31.42	ug/m3		
	Lab Fort Blk. % Rec.	92.67	%	70-130	
Toluene	Lab Fort Blank Amt.	18.81	ug/m3		
	Lab Fort Blk. Found	18.15	ug/m3		
	Lab Fort Blk. % Rec.	96.48	%	70-130	
1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3		
	Lab Fort Blk. Found	24.03	ug/m3		
	Lab Fort Blk. % Rec.	88.12	%	70-130	
Trichloroethylene	Lab Fort Blank Amt.	26.87	ug/m3		



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

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Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95355	Trichloroethylene	Lab Fort Blk. Found	25.66	ug/m3	
		Lab Fort Blk. % Rec.	95.50	%	70-130
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Lab Fort Blank Amt.	38.31	ug/m3	
		Lab Fort Blk. Found	34.94	ug/m3	
		Lab Fort Blk. % Rec.	91.20	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	26.87	ug/m3	
		Lab Fort Blk. % Rec.	95.65	%	70-130
	o-Xylene	Lab Fort Blank Amt.	21.71	ug/m3	
		Lab Fort Blk. Found	21.85	ug/m3	
		Lab Fort Blk. % Rec.	100.64	%	70-130
	m/p-Xylene	Lab Fort Blank Amt.	43.43	ug/m3	
		Lab Fort Blk. Found	41.98	ug/m3	
		Lab Fort Blk. % Rec.	96.65	%	70-130
	1,2-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	27.55	ug/m3	
		Lab Fort Blk. % Rec.	91.66	%	70-130
	1,3-Dichlorobenzene	Lab Fort Blank Amt.	30.06	ug/m3	
		Lab Fort Blk. Found	28.67	ug/m3	
		Lab Fort Blk. % Rec.	95.40	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	17.45	ug/m3	
		Lab Fort Blk. % Rec.	86.24	%	70-130
	1,1-Dichloroethylene	Lab Fort Blank Amt.	19.83	ug/m3	
		Lab Fort Blk. Found	18.17	ug/m3	
		Lab Fort Blk. % Rec.	91.64	%	70-130
	Ethanol	Lab Fort Blank Amt.	9.42	ug/m3	
		Lab Fort Blk. Found	8.98	ug/m3	
		Lab Fort Blk. % Rec.	95.31	%	50-150
	4-Ethyl Toluene	Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	25.51	ug/m3	
		Lab Fort Blk. % Rec.	103.82	%	50-150
	Methyl tert-Butyl Ether (MTBE)	Lab Fort Blank Amt.	18.02	ug/m3	
		Lab Fort Blk. Found	15.43	ug/m3	
		Lab Fort Blk. % Rec.	85.63	%	70-130
	t-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	16.77	ug/m3	
		Lab Fort Blk. % Rec.	84.61	%	70-130
	Vinyl Chloride	Lab Fort Blank Amt.	12.78	ug/m3	
		Lab Fort Blk. Found	12.64	ug/m3	
		Lab Fort Blk. % Rec.	98.94	%	70-130
	Methylene Chloride	Lab Fort Blank Amt.	17.36	ug/m3	
		Lab Fort Blk. Found	20.49	ug/m3	



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**QC SUMMARY REPORT**

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Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95355	Methylene Chloride	Lab Fort Blk. % Rec.	118.04	%	70-130
	Chlorobenzene	Lab Fort Blank Amt.	23.02	ug/m3	
		Lab Fort Blk. Found	21.93	ug/m3	
	Chloromethane	Lab Fort Blk. % Rec.	95.24	%	70-130
		Lab Fort Blank Amt.	10.32	ug/m3	
		Lab Fort Blk. Found	10.78	ug/m3	
	Bromomethane	Lab Fort Blk. % Rec.	104.46	%	70-130
		Lab Fort Blank Amt.	19.40	ug/m3	
		Lab Fort Blk. Found	19.55	ug/m3	
	Chloroethane	Lab Fort Blk. % Rec.	100.74	%	70-130
		Lab Fort Blank Amt.	13.19	ug/m3	
		Lab Fort Blk. Found	13.40	ug/m3	
	cis-1,3-Dichloropropene	Lab Fort Blk. % Rec.	101.59	%	70-130
		Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	21.64	ug/m3	
	trans-1,3-Dichloropropene	Lab Fort Blk. % Rec.	95.36	%	70-130
		Lab Fort Blank Amt.	22.69	ug/m3	
		Lab Fort Blk. Found	21.68	ug/m3	
	Chlorodibromomethane	Lab Fort Blk. % Rec.	95.52	%	70-130
		Lab Fort Blank Amt.	42.59	ug/m3	
		Lab Fort Blk. Found	45.77	ug/m3	
	1,1,2-Trichloroethane	Lab Fort Blk. % Rec.	107.46	%	70-130
		Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	25.49	ug/m3	
	Bromoform	Lab Fort Blk. % Rec.	93.46	%	70-130
		Lab Fort Blank Amt.	51.69	ug/m3	
		Lab Fort Blk. Found	57.38	ug/m3	
	1,1,2,2-Tetrachloroethane	Lab Fort Blk. % Rec.	111.00	%	70-130
		Lab Fort Blank Amt.	34.33	ug/m3	
		Lab Fort Blk. Found	34.81	ug/m3	
	Hexachlorobutadiene	Lab Fort Blk. % Rec.	101.40	%	70-130
		Lab Fort Blank Amt.	53.33	ug/m3	
		Lab Fort Blk. Found	42.67	ug/m3	
	1,2,4-Trichlorobenzene	Lab Fort Blk. % Rec.	80.01	%	70-130
		Lab Fort Blank Amt.	37.10	ug/m3	
		Lab Fort Blk. Found	28.43	ug/m3	
	1,2,4-Trimethylbenzene	Lab Fort Blk. % Rec.	76.61	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	24.36	ug/m3	
	1,3,5-Trimethylbenzene	Lab Fort Blk. % Rec.	99.12	%	70-130
		Lab Fort Blank Amt.	24.58	ug/m3	
		Lab Fort Blk. Found	24.36	ug/m3	
		Lab Fort Blk. % Rec.	99.12	%	70-130



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95355	Cyclohexane	Lab Fort Blank Amt.	17.21	ug/m3	
		Lab Fort Blk. Found	17.07	ug/m3	
		Lab Fort Blk. % Rec.	99.21	%	50-150
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	17.61	ug/m3	
		Lab Fort Blk. % Rec.	88.83	%	70-130
	1,2-Dichloropropane	Lab Fort Blank Amt.	23.10	ug/m3	
		Lab Fort Blk. Found	21.60	ug/m3	
		Lab Fort Blk. % Rec.	93.51	%	70-130
	Dichlorodifluoromethane	Lab Fort Blank Amt.	24.72	ug/m3	
		Lab Fort Blk. Found	23.07	ug/m3	
		Lab Fort Blk. % Rec.	93.33	%	70-130
	Benzyl Chloride	Lab Fort Blank Amt.	25.88	ug/m3	
		Lab Fort Blk. Found	27.70	ug/m3	
		Lab Fort Blk. % Rec.	107.04	%	70-130
	Carbon Disulfide	Lab Fort Blank Amt.	15.57	ug/m3	
		Lab Fort Blk. Found	13.49	ug/m3	
		Lab Fort Blk. % Rec.	86.63	%	70-130
	Vinyl Acetate	Lab Fort Blank Amt.	17.60	ug/m3	
		Lab Fort Blk. Found	15.60	ug/m3	
		Lab Fort Blk. % Rec.	88.66	%	70-130
	2-Hexanone	Lab Fort Blank Amt.	20.48	ug/m3	
		Lab Fort Blk. Found	21.73	ug/m3	
		Lab Fort Blk. % Rec.	106.12	%	50-150
	Bromodichloromethane	Lab Fort Blank Amt.	33.50	ug/m3	
		Lab Fort Blk. Found	33.34	ug/m3	
		Lab Fort Blk. % Rec.	99.53	%	70-130
	1,2-Dibromoethane	Lab Fort Blank Amt.	38.42	ug/m3	
		Lab Fort Blk. Found	36.95	ug/m3	
		Lab Fort Blk. % Rec.	96.18	%	70-130
	n-Heptane	Lab Fort Blank Amt.	20.49	ug/m3	
		Lab Fort Blk. Found	20.83	ug/m3	
		Lab Fort Blk. % Rec.	101.66	%	50-150
	1,2-Dichlorotetrafluoroethane (114)	Lab Fort Blank Amt.	34.95	ug/m3	
		Lab Fort Blk. Found	34.57	ug/m3	
		Lab Fort Blk. % Rec.	98.89	%	70-130
	Tetrahydrofuran	Lab Fort Blank Amt.	14.74	ug/m3	
		Lab Fort Blk. Found	14.59	ug/m3	
		Lab Fort Blk. % Rec.	99.02	%	50-150
	Propene	Lab Fort Blank Amt.	8.60	ug/m3	
		Lab Fort Blk. Found	8.65	ug/m3	
		Lab Fort Blk. % Rec.	100.60	%	50-150
	1,3-Butadiene	Lab Fort Blank Amt.	11.06	ug/m3	



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**QC SUMMARY REPORT**

SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 10/14/2009

Lims Bat # : LIMIT-25323

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QC Batch Number: BATCH-16665

Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-95355	1,3-Butadiene	Lab Fort Blk. Found	10.86	ug/m3	
		Lab Fort Blk. % Rec.	98.20	%	70-130
LFBLANK-95357	1,1,1-Trichloroethane	Lab Fort Blank Amt.	27.28	ug/m3	
		Lab Fort Blk. Found	23.71	ug/m3	
		Lab Fort Blk. % Rec.	86.92	%	70-130
	Trichlorofluoromethane	Lab Fort Blank Amt.	28.09	ug/m3	
		Lab Fort Blk. Found	27.04	ug/m3	
		Lab Fort Blk. % Rec.	96.27	%	70-130
	1,1-Dichloroethane	Lab Fort Blank Amt.	20.24	ug/m3	
		Lab Fort Blk. Found	17.18	ug/m3	
		Lab Fort Blk. % Rec.	84.90	%	70-130
	cis-1,2-Dichloroethylene	Lab Fort Blank Amt.	19.82	ug/m3	
		Lab Fort Blk. Found	17.25	ug/m3	
		Lab Fort Blk. % Rec.	87.02	%	70-130



QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates BATCH QC: Lab fortified Blanks and Duplicates
Sample Matrix Spikes and Matrix Spike Duplicates Standard Reference Materials and Duplicates
Method Blanks

Report Date: 10/14/2009 Lims Bat #: LIMIT-25323 Page 8 of 8

QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.
LIMITS Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.
Sample Amount Amount of analyte found in a sample.
Blank Method Blank that has been taken though all the steps of the analysis.
LFBLANK Laboratory Fortified Blank (a control sample)
STDADD Standard Added (a laboratory control sample)
Matrix Spk Amt Added Amount of analyte spiked into a sample
MS Amt Measured Amount of analyte found including amount that was spiked
Matrix Spike % Rec. % Recovery of spiked amount in sample.
Duplicate Value The result from the Duplicate analysis of the sample.
Duplicate RPD The Relative Percent Difference between two Duplicate Analyses.
Surrogate Recovery The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.
Sur. Recovery (ELCD) Surrogate Recovery on the Electrolytic Conductivity Detector.
Sur. Recovery (PID) Surrogate Recovery on the Photoionization Detector.
Standard Measured Amount measured for a laboratory control sample
Standard Amt Added Known value for a laboratory control sample
Standard % Recovery % recovered for a laboratory control sample with a known value.
Lab Fort Blank Amt Laboratory Fortified Blank Amount Added
Lab Fort Blk. Found Laboratory Fortified Blank Amount Found
Lab Fort Blk % Rec Laboratory Fortified Blank % Recovered
Dup Lab Fort Bl Amt Duplicate Laboratory Fortified Blank Amount Added
Dup Lab Fort Bl Fnd Duplicate Laboratory Fortified Blank Amount Found
Dup Lab Fort Bl % Rec Duplicate Laboratory Fortified Blank % Recovery
Lab Fort Blank Range Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).
Lab Fort Bl. Av. Rec. Laboratory Fortified Blank Average Recovery
Duplicate Sample Amt Sample Value for Duplicate used with Matrix Spike Duplicate
MSD Amount Added Matrix Spike Duplicate Amount Added (Spiked)
MSD Amt Measured Matrix Spike Duplicate Amount Measured
MSD % Recovery Matrix Spike Duplicate % Recovery
MSD Range Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries



Phone: 413-525-2332  
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**AIR SAMPLE CHAIN OF CUSTODY RECORD**

Limit - 25323

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: MACTEC Engineering  
 Address: 107 Audubon Rd, Suite 301  
Wakefield, MA 01880

Attention: Kelly Chatterton

Project Location: Providence, RI (Garban Ste)

Sampled By: PTM

Proposal Provided? (For Billing purposes)  
 Yes 3.3.09 proposal date

Telephone: (701) 245-6606  
 Project # 365008014.13  
 Client PO # 200914545

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: \_\_\_\_\_  
 Email: Kelly Chatterton@maectec.com

Format:  EXCEL  PDF  GIS KEY  OTHER

**ANALYSIS REQUESTED**

Requested: Lead

Matrix Code: IA

Flow Controller ID: 4093

Summa Canister ID: 1104

Please fill out completely, sign, date and retain the yellow copy for your record.

Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Field ID	Sample Description	Media	Lab #	Date	Stop Date	Total Minutes Sampled	Flow Rate (L/Min)	Volume (Liters or M <sup>3</sup> )	Matrix Code*	Summa Canister ID	Flow Controller ID
IA-1-100809	S		0913	10.8.09 0754	10.8.09 0824	30	0.2	6	IA	X	4093
IA-2-100809	S		14919	10.8.09 0755	10.8.09 0825	30	0.2	6	IA	X	4106
IA-3-100809	S		14920	10.8.09 0757	10.8.09 0827	30	0.2	6	IA	X	4067
IA-4-100809	S		14921	10.8.09 0758	10.8.09 0828	30	0.2	6	IA	X	4076
AA-1-100809	S		14922	10.8.09 0801	10.8.09 0831	30	0.2	6	AMB	X	4085
EW-Combined-100809	S		14923	10.8.09 0838	10.8.09 0908	30	0.2	6	SG	X	4079
Post Carbon-100809	S		14924	10.8.09 0840	10.8.09 0910	30	0.2	6	SG	X	4078

Laboratory Comments: \_\_\_\_\_

CLIENT COMMENTS: EW-Combined-100809 and Post Carbon-100809 were Sampled from Source Area Soil gas.

Relinquished by: (signature) \_\_\_\_\_ Date/Time: 10.8.09/1515

Received by: (signature) \_\_\_\_\_ Date/Time: 10-8-09 1515

Relinquished by: (signature) \_\_\_\_\_ Date/Time: 10-8-09 6pm

Received by: (signature) \_\_\_\_\_ Date/Time: 10-8-09 1800

Turnaround \*\*  
 7-Day  
 10-Day  
 Other \_\_\_\_\_

Regulations: CT Target Indoor Air  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 Required Detection Limits: CT Target Indoor Air level. (Commercial)

Matrix Code: \_\_\_\_\_ Media Codes: \_\_\_\_\_

SG = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = other

S = Summa can  
 TB = Tedlar bag  
 P = PUF  
 T = tube  
 F = filter  
 C = cassette  
 O = Other

\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AHHA, NELAC & WBE/DBE Certified



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East Longmeadow, MA  
Phone: 1-413-525-2332  
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AIR ONLY RECEIPT CHECKLIST

CLIENT NAME: Mactec  
RECEIVED BY: TPH DATE: 10-8-09

- 1. Was chain of custody relinquished and signed?  YES  NO
- 2. Does Chain agree with samples?  YES  NO

If not, explain: \_\_\_\_\_

- 3. All Samples in good condition?  YES  NO

If not, explain: \_\_\_\_\_

- 4. Are there any on hold samples? YES  NO STORED WHERE: \_\_\_\_\_

- 5. ARE THERE ANY RUSH OR SHORT HOLDING TIME SAMPLES? WHO WAS NOTIFIED? \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

Location where samples are stored: Air Lab

Permission to sub-contract samples? Yes No (circle)  
(Walk in clients only) if not already approved.  
Client Signature \_\_\_\_\_

CONTAINERS SENT TO CON-TEST	# of containers
Summa cans	7
Tedlar Bags	
Regulators	7
Restrictors	
Tubes	
Other	

- 1. Was all media (used & unused) checked into the WASP asset management program? YES
- 2. Were all returned summa cans, restrictors, & regulators documented as returned in the AIR Lab Outbound excel sheet? YES
- 3. Were the Lab ID's documented in the Air Lab Outbound excel sheet? YES
- 4. Was the job documented in the Air Lab Log-In Access Database? YES

Laboratory comments: \_\_\_\_\_



## **APPENDIX B**

### **Analytical Laboratory Detection Limits**



39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
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**Analyte:**

TO-14 / TO-15	PPBv	UG/M3	PPBv	UG/M3	MW NIST	UG/M3	PPBv
1,1,1-Trichloroethane	ND	ND	0.050	<b>0.27</b>	<b>133.40</b>	1	0.18
1,1,2,2-Tetrachloroethane	ND	ND	0.050	0.34	167.85	1	0.15
1,1,2-Trichloroethane	ND	ND	0.050	0.27	133.40	1	0.18
1,1,2-Trichlorotrifluoroethane (freon 113)	ND	ND	0.050	0.38	<b>187.37</b>	1	0.13
1,1-Dichloroethane	ND	ND	0.050	0.20	98.96	1	0.25
1,1-Dichloroethene	ND	ND	0.050	0.20	<b>96.94</b>	1	0.25
1,2,4-Trichlorobenzene	ND	ND	0.050	0.37	181.45	1	0.13
1,2,4-Trimethylbenzene	ND	ND	0.050	0.25	<b>120.19</b>	1	0.20
1,2-Dibromoethane	ND	ND	0.050	0.38	187.86	1	0.13
1,2-Dichlorobenzene	ND	ND	0.050	0.30	<b>147.00</b>	1	0.17
1,2-Dichloroethane	ND	ND	0.050	0.20	98.96	1	0.25
1,2-Dichloropropane	ND	ND	0.050	0.23	<b>112.99</b>	1	0.22
1,2-Dichlorotetrafluoroethane (freon 114)	ND	ND	0.050	0.35	170.92	1	0.14
1,3 - Butadiene	ND	ND	0.050	0.11	54.09	1	0.45
1,3,5-Trimethylbenzene	ND	ND	0.050	0.25	<b>120.19</b>	1	0.20
1,3-Dichlorobenzene	ND	ND	0.050	0.30	147.00	1	0.17
1,4-Dichlorobenzene	ND	ND	0.050	0.30	147.00	1	0.17
1,4-Dioxane	ND	ND	0.050	0.18	88.11	1	0.28
2-Butanone (MEK)	ND	ND	0.050	0.15	<b>72.11</b>	1	0.34
2-Hexanone (MBK)	ND	ND	0.050	0.20	100.16	1	0.24
4-Ethyltoluene	ND	ND	0.050	0.25	120.19	1	0.20
4-Methyl-2-pentanone(MIBK)	ND	ND	0.050	0.20	<b>100.16</b>	1	0.24
Acetone	ND	ND	0.050	0.12	58.08	1	0.42
Acrolein	ND	ND	0.050	0.11	<b>56.06</b>	1	0.44
Benzene	ND	ND	0.050	0.16	78.11	1	0.31
Benzyl Chloride	ND	ND	0.050	0.26	<b>126.58</b>	1	0.19
Bromodichloromethane	ND	ND	0.050	0.34	163.83	1	0.15
Bromoform	ND	ND	0.050	0.52	252.73	1	0.10
Bromomethane	ND	ND	0.050	0.19	<b>94.94</b>	1	0.26
Carbon Disulfide	ND	ND	0.050	0.16	76.14	1	0.32
Carbon Tetrachloride	ND	ND	0.050	<b>0.31</b>	<b>153.82</b>	1	0.16



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Chlorobenzene	ND	ND	0.050	0.23	112.56	1	0.22
Chloroethane	ND	ND	0.050	0.13	64.51	1	0.38
Chloroform	ND	ND	0.050	0.24	119.38	1	0.20
Chloromethane	ND	ND	0.050	0.10	50.49	1	0.48
cis-1,2-Dichloroethene	ND	ND	0.050	0.20	96.94	1	0.25
cis-1,3-Dichloropropene	ND	ND	0.050	0.23	110.97	1	0.22
Cyclohexane	ND	ND	0.050	0.17	84.16	1	0.29
Dibromochloromethane	ND	ND	0.050	0.43	208.28	1	0.12
Dichlorodifluoromethane (freon 12)	ND	ND	0.050	0.25	120.91	1	0.20
Ethanol	ND	ND	0.050	0.09	46.07	1	0.53
Ethyl Acetate	ND	ND	0.050	0.18	88.11	1	0.28
Ethylbenzene	ND	ND	0.050	0.22	106.17	1	0.23
Heptane	ND	ND	0.050	0.20	100.20	1	0.24
Hexachlorobutadiene	ND	ND	0.050	0.53	260.76	1	0.09
Hexane	ND	ND	0.050	0.18	86.18	1	0.28
Isopropyl Alcohol	ND	ND	0.050	0.12	60.10	1	0.41
M/P Xylenes	ND	ND	0.050	0.22	106.17	1	0.23
Methylene Chloride	ND	ND	0.050	0.17	84.93	1	0.29
Methylmethacrylate	ND	ND	0.050	0.20	100.12	1	0.24
MTBE	ND	ND	0.050	0.18	88.15	1	0.28
O-Xylene	ND	ND	0.050	0.22	106.17	1	0.23
Propene	ND	ND	0.050	0.09	42.08	1	0.58
Styrene	ND	ND	0.050	0.21	104.15	1	0.23
Tetrachloroethene	ND	ND	0.050	0.34	165.83	1	0.15
Tetrahydrofuran	ND	ND	0.050	0.15	72.11	1	0.34
Toluene	ND	ND	0.050	0.19	92.14	1	0.27
trans-1,2-Dichloroethene	ND	ND	0.050	0.20	96.94	1	0.25
trans-1,3-Dichloropropene	ND	ND	0.050	0.23	110.97	1	0.22
Trichloroethene	ND	ND	0.050	0.27	131.39	1	0.19
Trichlorofluoromethane (freon 11)	ND	ND	0.050	0.28	137.37	1	0.18
Vinyl Acetate	ND	ND	0.050	0.18	86.09	1	0.28
Vinyl Chloride	ND	ND	0.050	0.13	62.50	1	0.39



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## APH COMPOUNDS

1,2,3-Trimethylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1,3 Butadiene	ND	ND	0.94	2.08	54.09	1	0.45
1,3,5-Trimethylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1-Ethyl-3-Methylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1-Methylnaphthalene	ND	ND	0.94	5.47	142.20	1	0.17
2,3-Dimethylheptane	ND	ND	0.94	4.93	128.26	1	0.19
2,3-Dimethylpentane	ND	ND	0.94	3.85	100.20	1	0.24
2-Methylnaphthalene	ND	ND	0.94	5.47	142.20	1	0.17
Benzene	ND	ND	0.94	3.00	78.11	1	0.31
Butyl Cyclohexane	ND	ND	0.94	5.39	140.27	1	0.17
Cyclohexane	ND	ND	0.94	3.24	84.16	1	0.29
Decane	ND	ND	0.94	5.47	142.28	1	0.17
Dodecane	ND	ND	0.94	6.55	170.33	1	0.14
Ethylbenzene	ND	ND	0.94	4.08	106.17	1	0.23
Heptane	ND	ND	0.94	3.85	100.20	1	0.24
Hexane	ND	ND	0.94	3.31	86.18	1	0.28
Hexyl Cyclohexane	ND	ND	0.94	6.47	168.32	1	0.15
Indene	ND	ND	0.94	4.47	116.16	1	0.21
Isopentane	ND	ND	0.94	2.77	72.15	1	0.34
Isopropylbenzene(Cumene)	ND	ND	0.94	4.62	120.19	1	0.20
m/p -Xylenes	ND	ND	0.94	4.08	106.17	1	0.23
Methyl-tert-butylether	ND	ND	0.94	3.39	88.15	1	0.28
Naphthalene	ND	ND	0.94	4.93	128.17	1	0.19
Nonane	ND	ND	0.94	4.93	128.26	1	0.19
Octane	ND	ND	0.94	4.39	114.23	1	0.21
o-Xylene	ND	ND	0.94	4.08	106.17	1	0.23
P-Iso-Propyl Toluene	ND	ND	0.94	5.16	134.22	1	0.18
Toluene	ND	ND	0.94	3.54	92.14	1	0.27
Toluene-D8	ND	ND	0.94	3.85	100.19	1	0.24
Undecane	ND	ND	0.94	6.01	156.31	1	0.16



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East Longmeadow, MA 01028  
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### EXTRA COMPOUNDS

1,1,1,2-tetrachloroethane	ND	ND	0.091	0.6247	167.85	1	0.15
1,2-Dibromo-3-chloropropane	ND	ND	0.065	0.6283	236.33	1	0.10
1,3-Dichloropropane	ND	ND	0.135	0.6238	112.99	1	0.22
1-Methylnaphthalene	ND	ND	0.107	0.6223	142.20	1	0.17
2,2,4-Trimethylpentane	ND	ND	0.134	0.6260	114.23	1	0.21
2-Methylnaphthalene	ND	ND	0.107	0.6223	142.20	1	0.17
Acrylonitrile	ND	ND	0.288	0.6250	53.06	1	0.46
Butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Cumene	ND	ND	0.127	0.6243	120.19	1	0.20
Hexylcyclohexane	ND	ND	0.091	0.6265	168.32	1	0.15
Indane	ND	ND	0.129	0.6235	118.18	1	0.21
Indene	ND	ND	0.132	0.6271	116.16	1	0.21
Methyl Acetate	ND	ND	0.206	0.6241	74.08	1	0.33
Methylcyclohexane	ND	ND	0.156	0.6265	98.19	1	0.25
Naphthalene	ND	ND	0.119	0.6238	128.17	1	0.19
P-cymene	ND	ND	0.114	0.6258	134.22	1	0.18
Propylbenzene	ND	ND	0.127	0.6243	120.19	1	0.20
Sec-butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Tert-butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Thiophene	ND	ND	0.182	0.6263	84.14	1	0.29

### OTHER COMPOUNDS

2-Chloro-pyridine	ND	ND	0.20	0.93	113.54	1	0.22
2,6-Dichloro-pyridine	ND	ND	0.20	1.19	144.97	1	0.17
tert-Butyl Alcohol	ND	ND	0.20	0.61	74.10	1	0.33