

RELEASE ABATEMENT MEASURES STATUS REPORT NO. 23

**129 COMMERCIAL STREET
MALDEN, MASSACHUSETTS**

RELEASE TRACKING NUMBER 3-0362
October 2009

Prepared For:



National Grid
25 Research Drive
Westborough, MA 01582

Prepared By:



Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole, Massachusetts 02081
(508) 668-0033

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Project Reviewer

Release Abatement Measures Status Report No. 23

129 Commercial Street Malden, Massachusetts 02148 DEP Release Tracking Number: 3-0362

This Release Abatement Measures (RAM) Status Report has been prepared by Innovative Engineering Solutions, Inc. (IESI) on behalf of Massachusetts Electric Company d/b/a/ National Grid in accordance with the requirements of the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000). This RAM is being conducted at the 129 Commercial Street portion (Parcel B) of the former Malden manufactured gas plant (MGP) site (the "Site") in Malden, Massachusetts. The 129 Commercial Street property is currently occupied by a commercial bakery and is bounded to the north by Charles Street, to the east by Commercial Street, to the south by Adams Street, and to the west by the MBTA Orange Line commuter railway. The Massachusetts Department of Environmental Protection (DEP) assigned Release Tracking Number (RTN) 3-0362 to the Malden MGP Site. Figure 1 depicts the site locus and Figure 2 depicts the location of the property in relation to the disposal site boundary of the former MGP.

This RAM was initiated to address the potential migration of volatile organic compounds (VOCs) to indoor air at 129 Commercial Street. Although VOCs were historically detected in indoor air in the building at 129 Commercial Street, the detected concentrations did not constitute an imminent hazard for workers in the building, and were less than applicable occupational standards set by the US Occupational Safety and Health Administration (OSHA). However, remedial actions were implemented to reduce potential migration of VOCs to indoor air.

As indicated in the RAM Plan that was submitted to the DEP on July 2, 1998, the objective of the RAM was to reduce VOC concentrations in indoor air; this was initially attempted by sealing portions of the floor slab. The sealing of the floor was not completely successful in reducing indoor air concentrations, and the RAM was modified in April 1999 to include the installation of a sub-slab venting system (SSVS). The SSVS was installed in October 1999 and consists of five 2-inch diameter soil vapor extraction points installed horizontally through the foundation wall beneath the floor slab. The vapor extraction points extend approximately 5 feet beneath the building. These points are connected to a regenerative blower that removes vapors from beneath the floor slab and directs them through two granular activated carbon (GAC) drums (capacity of approximately 200 pounds each) for treatment. The blower and carbon drums are stored in a temporary building located east of the building along Commercial Street. Treated vapors are emitted through a 4-inch diameter vent pipe to the atmosphere. Figure 3 presents the locations of the extraction points and the system enclosure.

In order to evaluate the SSVS System's effectiveness as a risk reduction measure, as part of the October 2008 RAM Status report, IESI updated the human health risk characterization for a current worker at 129 Commercial Street using data collected since 2004 including indoor air sampling conducted in April 2008 by IESI. The air samples obtained in April 2008 were analyzed using the Air Petroleum Hydrocarbon method and the results indicate that concentrations were comparable to previous events. The detected carbon range fractions were also included in the updated risk calculations. The updated human health risk characterization indicated that the Estimated Lifetime Cancer Risk (ELCR) for a residential exposure scenario (not an actual exposure, calculated for reference and comparison) was calculated to be 8E-06; the ELCR for the worker scenario was calculated to be 2E-06. These calculated ELCRs are both below the MCP limit of 1E-05. The Hazard Index (HI) for a residential exposure scenario was calculated to be 0.8; the HI for the worker scenario was calculated to be 0.2. Both calculated HI values are below the MCP limit of 1.

The content of this report has been structured to address the specific information requirements set forth in 310 CMR 40.0445 (2)(a) through (e). This report was submitted electronically to the DEP via the eDEP website. In addition, in accordance with DEP requirements, the Remedial Monitoring Report (RMR; forms BWSC-106 A/B)

was submitted electronically via the eDEP website; a copy of the RMR is included in Appendix A. This RAM Status Report details on-going operation and maintenance of the sub-slab venting system, and summarizes monitoring data collected from March 31, 2009 through October 7, 2009.

310 CMR 40.0445 (2)(a) The status of response operations:

The SSVS is monitored monthly as part of an ongoing operation and maintenance (O&M) schedule. Total VOC levels in influent and effluent vapor from the off-gas control device (sub-slab venting treatment unit) are measured during these visits with a photoionization detector (PID) calibrated to a 100 parts per million (ppm) isobutylene standard to respond as benzene. The results are summarized in Table 1 and discussed below.

On May 7, 2009, indoor air samples were collected from six locations (identified as Site 4 through Site 8, and Site 11) inside the 129 Commercial Street building, one location (identified as Site 2) outside the 129 Commercial Street building and from the influent (identified as Sys-Inf) to the SSVS. The sample collected at Site 2 represents background conditions (i.e. outside air). A duplicate sample was collected at Site 7. The sample locations are shown on Figure 3.

The samples were collected in laboratory provided 6 liter summa canisters. Each canister was outfitted with a laboratory calibrated flow control valve to allow an 8-hour sample collection rate. The canisters were placed in the sample locations, the valve opened, and the sample was collected for approximately 6 to 8 hours. Upon completion of the collection period, the canisters were retrieved and submitted under chain of custody to Columbia Analytical Services of Simi Valley, California for analysis of Air Phase Hydrocarbons (APH) via the DEP Method and styrene via EPA Method TO-15. The results are summarized in Table 2 and further discussed below.

310 CMR 40.0445 (2)(b) Any significant new site information or data:

SSVS data

O&M visits have been conducted regularly throughout the reporting period. The monitoring data collected during this period are summarized on Table 1 and discussed below.

Vacuum conditions are monitored with fixed vacuum gauges on the influent piping prior to the blower and on the knockout drum. A portable vacuum gauge is used to periodically measure vacuum at the individual extraction points (EP-1 through EP-5). During this reporting period, vacuum at extraction points EP-1 through EP-5 ranged from 0.1 inch to 1.2 inches of water column; vacuum at the blower ranged from 7.8 inches to 19 inches of water; vacuum at the knockout drum ranged from 4.2 inches and 10.5 inches of water; and discharge pressure ranged from 15.4 inches and 40.2 inches of water during this period. These measurements are generally consistent with other recent vacuum data for this system.

VOC levels are screened with a PID at 3 locations along the vapor stream: Influent (pre-GAC), Effluent-1 (post-GAC vessel 1) and Effluent-2 (post-GAC vessel 2). PID readings at the Influent, Effluent 1, and Effluent 2 were generally consistent with background levels (0.0 ppm) as measured throughout the reporting period. On August 24, 2009 the PID readings at the Influent, Effluent 1, Effluent 2 were measured at 2.6 ppm, 1.5 ppm, and 0.6 ppm, respectively. Note that the ambient air temperature that day was 88 degrees Fahrenheit and the hot and humid weather conditions may have caused the PID to give a false reading. Also note the readings obtained along the vapor stream on September 14, 2009 were 0.0 ppm.

Air flow in and out of the system is measured with an air velocity meter. During this reporting period, the influent air flow rate ranged from 94 cubic feet per minute (cfm, not adjusted for temperature and pressure) to 108 cfm; the

effluent flow rate ranged from 75 cfm to 92 cfm. Note that the air flow rate has nearly doubled since the blower and GAC were replaced in April 2008.

Indoor Air Sampling Data

Table 2 presents a summary of the results of laboratory analysis conducted on the air samples collected on May 7, 2009, as well as the results from previous sampling events. The air samples were analyzed for APH by the DEP Method and styrene (by EPA Method TO-15). The complete laboratory data report for the air samples is included as Appendix A.

The results of the analysis indicate that the concentrations of the VOCs were comparable to previous events. Of the additional APH analytes, only the fractions C₅ to C₈ aliphatics, C₉ to C₁₂ aliphatics were detected at concentrations similar to the April 2008 event. Similar to previous sampling events, the sample collected from Sites 7 and 8 had slightly elevated detection limits which have been attributed to ethanol interference from the fermentation process at the bakery. The elevated detection limits were not observed at Site 6 as they have been in the past.

The total concentration of APH compounds in the Sys-Inf sample (which was collected prior to treatment of the vapors by GAC) was 87 ug/m³.

310 CMR 40.0445 (2)(c) Details of and/or plans for the management of Remediation Waste, Remedial Wastewater, and/or Remedial Additives:

No remediation waste was generated or disposed of during this reporting period. Approximately 7,955 pounds of spent carbon have been removed from the site since start-up of the sub-slab ventilation system in 1999.

310 CMR 40.0445 (2)(d) Any other information that the Department during its review and evaluation of a Status Report determines to be necessary to complete said Status Report, in view of site specific circumstances and conditions; and:

The DEP has not required any additional information

310 CMR 40.0445 (2)(e) An LSP Opinion as to whether the Release Abatement Measure is being conducted in conformance with the RAM Plan and any conditions of approval established by the Department.

Having reviewed the requirements of the RAM Plan and the response actions completed to date, we are of the opinion that the RAM is being conducted in accordance with the RAM Plan and the DEP Conditional Approval letters dated June 19, 1999 and July 27, 1999. DEP approval was necessary because at that time there was an ongoing Immediate Response Action (IRA) at the 100 Commercial Street property which is separate from the 129 Commercial Street property but part of larger Site RTN 3-0362. There are currently no ongoing IRAs at this location.

If you require additional information or have any questions regarding this status report, please contact Michael S. Lotti, LSP of IESI at (508) 668-0033 (x 231).

FIGURES





Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033

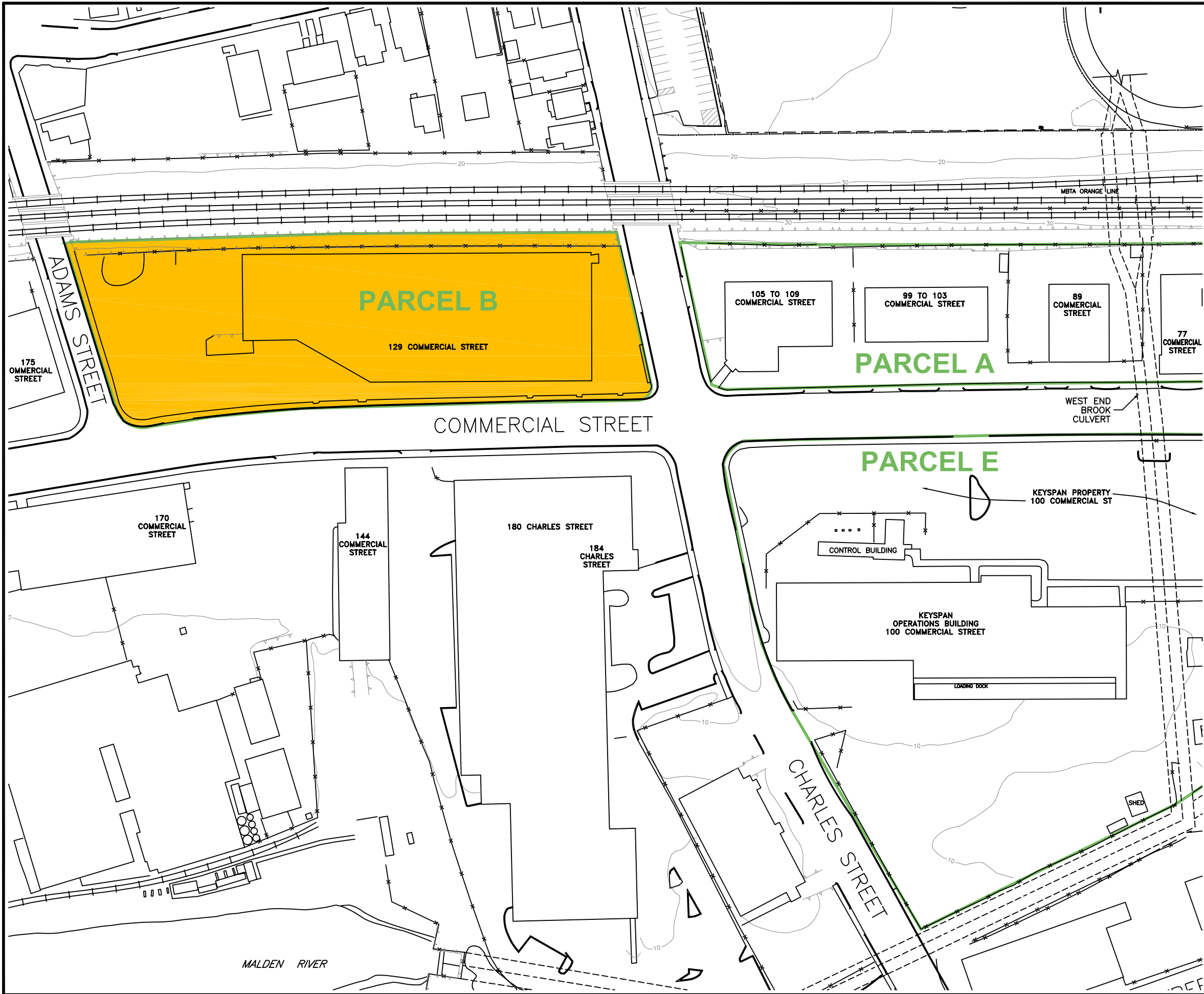
0 2000

SCALE IN FEET
1:24000

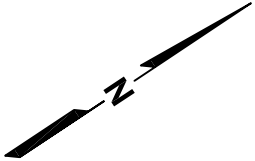
SITE LAT/LONG: 42°25'30"N 71°04'30"W
UTM: 329,298E 4,699,051N ZONE 19
USGS Topographic Map:
Boston North, Massachusetts 1991

FIGURE 1
SITE LOCATION MAP

Former Malden MGP Site
Malden, Massachusetts



 RAM AREA



0 50' 100' 200'
SCALE IN FEET

THIS PLAN BASED ON THE SITE PLAN DATED DECEMBER 2001
BY HALEY & ALDRICH, INC.

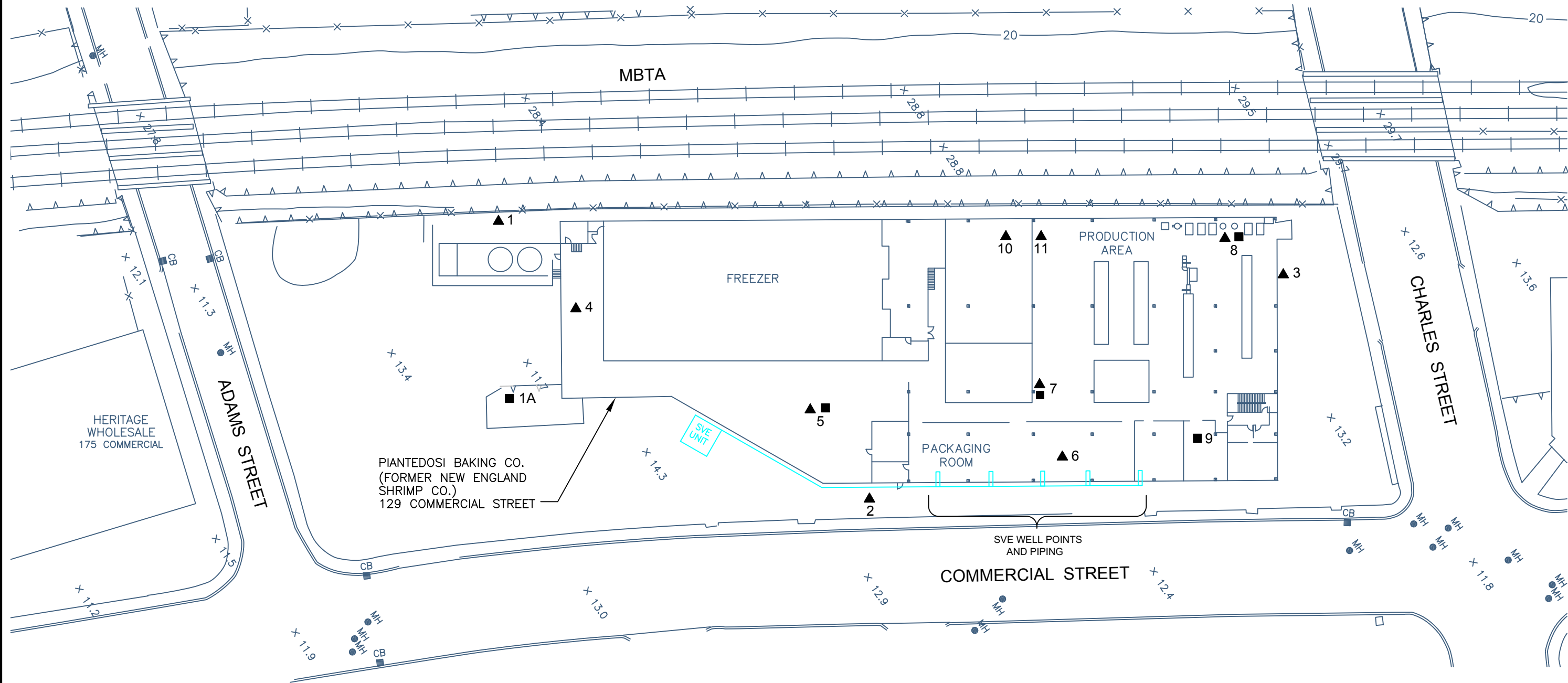
HALEY & ALDRICH, INC. NOTES:

1. BASE PLAN ADAPTED FROM "TOPOGRAPHIC WORKSHEET
OF THE MANUFACTURED GAS PLANT, MALDEN, MA"
FOR MASSACHUSETTS ELECTRIC COMPANY,
WESTBOROUGH, MA, BY EASTERN TOPOGRAPHICS,
WOLFEBORO, NH, SHEETS 1 AND 2, AT A SCALE OF 1 IN.
EQUALS 40 FT., JUNE 1995, AND CITY OF MALDEN
ASSESSOR'S PLAN SHEET NO. 53, BY FAY, SPOFFORD &
THORNDIKE, INC., BOSTON, MA, AT A SCALE OF 1 IN.
EQUALS 40 FT., UPDATED JUNE 1976 AND REVISED
30 JULY 1979.
2. LOCATION OF TEST BORINGS AND TEST PITS WERE
DETERMINED BY HALEY & ALDRICH, INC.



Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
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TITLE				
RAM AREA				
SITE				
FORMER MALDEN MGP SITE				
CLIENT				
NATIONAL GRID				
DRAWN	CHECKED	FILENAME	DATE	FIGURE
DMR	ML	NG MALDEN RAM AREAS	3/28/08	2

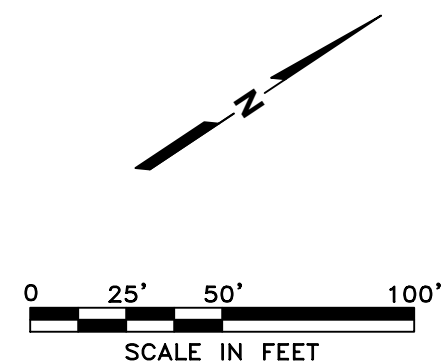



LEGEND

- 7 ▲ DESIGNATION AND APPROXIMATE LOCATION OF INDOOR AND OUTDOOR AIR SAMPLES OBTAINED BY ENVIRONMENTAL HEALTH & ENGINEERING, INC. AND HALEY & ALDRICH, INC. FROM NOVEMBER 1997 THROUGH FEBRUARY 2007
- 7 ■ DESIGNATION AND APPROXIMATE LOCATION OF INDOOR AIR SAMPLES OBTAINED BY OCCUHEALTH, INC., JUNE 1994
- DESIGNATION AND APPROXIMATE LOCATION OF "I" BEAM COLUMN LOCATION

NOTES

1. BASE PLAN ADAPTED FROM "TOPOGRAPHIC WORKSHEET OF THE MANUFACTURED GAS PLANT, MALDEN, MA" FOR MASSACHUSETTS ELECTRIC COMPANY, WESTBOROUGH, MA, BY EASTERN TOPOGRAPHICS, WOLFEBORO, NH, SHEETS 1 AND 2, AT A SCALE OF 1 IN. EQUALS 40 FT., JUNE 1995, AND CITY OF MALDEN ASSESSOR'S PLAN SHEET NO. 53, BY FAY, SPOFFORD & THORNDIKE, INC., BOSTON, MA AT A SCALE OF 1 IN. EQUALS 40 FT., UPDATED JUNE 1976 AND REVISED 30 JULY 1979.
2. INTERIOR FACILITY LAYOUT ADAPTED FROM UNDATED PLAN PROVIDED BY PIANTEDOSI BAKING COMPANY, FEBRUARY 1998.
3. APPROXIMATE LOCATIONS OF INDOOR AIR SAMPLING LOCATIONS WERE DETERMINED BY HALEY & ALDRICH, INC.



		Innovative Engineering Solutions, Inc. 25 SPRING STREET WALPOLE, MASSACHUSETTS 02081 (508) 668-0033	
TITLE SITE PLAN			
FORMER MALDEN MGP SITE			
CLIENT NATIONAL GRID			
DRAWN DMR	CHECKED ML	FILENAME NG MALDEN RAM AREAS	DATE 3/28/08
			FIGURE 3

TABLE

Table 1
Sub-Slab Venting System Monitoring Data
129 Commercial Street
Malden, Massachusetts

Monitoring Date	Total VOC Concentrations			Outdoor Ambient Air Temp. (°F)	Outlet Vapor Temp. (°F)	Flow Velocity (cubic ft./min)		System Vacuum (in. water)			Vacuum at Extraction Points (in. water)				
	Influent (ppm)	Effluent - 1 (ppm)	Effluent - 2 (ppm)			Influent	Effluent	Blower	Knockout Drum	Discharge	EP-1	EP-2	EP-3	EP-4	EP-5
17-Jan-08	0.0	-	0.0	34	84	65	157	10.5	2.8	40	1.7	2.1	0.0	0.0	2.5
18-Feb-08	0.0	-	0.0	64	90	60	140	9	2.7	41	2.1	2.3	0.0	0.0	2.4
28-Mar-08	0.0	-	0.0	37	96	59	145	8.2	1.6	47	0.0	1.5	0.0	0.0	1.6
10-Apr-08	0.0	0.0	0.0	65	88	113	98	8	4.1	18	1.9	1.6	1.6	0.4	1.6
10-May-08	0.0	0.0	0.0	60	80	97	95	9	5.8	17	1.6	1.8	2.0	0.1	1.5
10-Jun-08	0.0	0.0	0.0	95	104	89	93	8.7	5	16.3	1.8	1.8	1.6	0.3	1.8
16-Jun-08	(Reactivate System after power outage)														
7-Jul-08	0.0	0.0	0.0	88	100	89	88.5	8.7	5	16.2	1.5	1.5	1.5	0.1	1.4
12-Aug-08	0.0	0.0	0.0	85	94	94	91	9.6	5.8	16.2	1.8	1.9	1.4	0.3	1.3
8-Sep-08	0.0	0.0	0.0	80	100	90	86	10	6.5	15	1.2	1.8	1.2	1.2	1.6
23-Oct-08	0.0	0.0	0.0	50	95	108	94	9.1	5.5	17.3	1.2	1.2	0.3	0.3	1.3
7-Nov-08	0.0	0.0	0.0	55	85	96	86	10.2	7	15.6	1.1	1.1	1.4	0.2	1.2
3-Dec-08	0.0	0.0	0.0	45	80	93	96	5.7	3	17	0.9	0.9	1.6	0.2	1.1
6-Jan-09	0.0	0.0	0.0	35	60	70	94	8.5	5	17	1	1	0.7	0.1	1
11-Feb-09	0.0	0.0	0.0	50	80	72	95	11.1	7.6	16	1.2	1.2	1	0.2	1.1
4-Mar-09	0.0	0.0	0.0	32	80	95	88	9	5.7	17	1.3	1.2	1.3	0.9	1
13-Apr-09	0.0	0.0	0.0	50	70	94	75	9	4.6	17	0.7	0.7	0.7	0.1	0.7
13-May-09	0.0	0.0	0.0	55	83	94	75	9	4.2	17.1	1	1	0.9	0.1	0.9
19-Jun-09	0.0	0.0	0.0	45	86	108	88	8.1	4.6	17.1	0.8	1.1	1	0.1	1.2
17-Jul-09	0.0	0.0	0.0	68	104	104	92	19	10.5	40.2	0.7	1	1	0.1	1.1
24-Aug-09	2.6	1.5	0.6	88	100	103	87	7.8	4.6	15.4	0.4	1.2	1.1	0.15	1.5
14-Sep-09	0.0	0.0	0.0	72	94	98	90	10	6	16.5	0.8	0.7	0.4	0.1	0.8

Notes & Abbreviations:

ppm = Parts per million as measured with a PID

°F = Degrees Fahrenheit

cubic ft./min = Cubic feet per Minute (actual in field measurement, not adjusted for temperature and pressure)

in. water = Inches of water pressure/vacuum

- = Not Available/Not Measured

ND = Non Detect; method detection limit < 1ug/L



Table 2
Indoor Air Sample Results
129 Commercial Street
Malden, MA

Sample Results (Results listed in ug/m³)																					
Date	ANALYTE	Site 2		Site 4		Site 5		Site 6		Site 7		Site 7		Site 8		Site 10		Site 11		Sys-Inf	
		Outside										Duplicate									
		Result	DL	Result	DL	Result	DL	Result	DL	Result	DL			Result	DL	Result	DL	Result	DL	Result	DL
12-Feb-04	Benzene	20.8		ND	1.7	ND	1.7	ND	8.6	ND	12.8			ND	18.5	ND	20.1				
06-May-04	Benzene	ND	1.5	ND	1.9	1.7		ND	1.9	ND	1.8			ND	2.1	ND	1.9				
06-Aug-04	Benzene	ND	1.8	ND	3.5	ND	3.4	ND	33	ND	34			ND	3.5	ND	35				
26-Oct-04	Benzene	2.2		ND	1.7	ND	1.5	ND	1.8	1.7				ND	1.5			1.9			
13-Jan-05	Benzene	3.8		2.6		2.8		2.8		2.8				3.5				3.4			
27-Apr-05	Benzene	ND	1.5	ND	1.5	ND	2	ND	14	ND	13			ND	31			ND	42		
03-Aug-05	Benzene	ND	1.8	ND	1.4	ND	3.6	ND	10	ND	13							ND	11		
20-Oct-05	Benzene	ND	1.6	ND	1.5	ND	1.6	ND	5.4	ND	5.9			ND	5.9			ND	6		
19-Jan-06	Benzene	ND	1.6	ND	2	ND	1.4	ND	1.5	ND	2.5			ND	1.8			ND	1.7		
19-Apr-06	Benzene	ND	1.5	ND	1	ND	1.2	ND	24	ND	20			ND	1.7						
28-Feb-07	Benzene	2.7		1.9		2.6		ND	9.1	ND	28			ND	53			ND	53		
16-Apr-08	Benzene	1.4	0.87	1.4	0.61	1.1	0.82	ND	1.7	1.2	0.87	1.3	0.75	ND	15					2.4	0.96
07-May-09	Benzene	1.5	0.81	1.4	0.6	1.3	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	1.2	0.68
12-Feb-04	Ethylbenzene	16.9		ND	1.6	ND	1.7	ND	8.7	ND	13			ND	18.7	ND	20				
06-May-04	Ethylbenzene	ND	1.5	ND	1.9	1.7		ND	1.9	2				ND	2.1	ND	1.9				
06-Aug-04	Ethylbenzene	ND	1.8	ND	3.5	ND	3.4	ND	33	ND	34			ND	3.5	ND	35				
26-Oct-04	Ethylbenzene	ND	1.4	ND	1.7	ND	1.5	ND	1.8	ND	1.6			ND	1.5			ND	1.6		
13-Jan-05	Ethylbenzene	2.8		2.7		3.5		1.5		2.3				2.4				2.6			
27-Apr-05	Ethylbenzene	ND	1.5	ND	1.5	ND	2	ND	14	ND	13			ND	31			ND	42		
03-Aug-05	Ethylbenzene	ND	1.8	1.7		ND	3.6	ND	10	ND	13							ND	11		
20-Oct-05	Ethylbenzene	ND	1.6	ND	1.5	ND	1.6	ND	5.4	ND	5.9			ND	5.9			ND	6		
19-Jan-06	Ethylbenzene	ND	1.6	ND	2	ND	1.4	ND	1.5	ND	2.5			ND	1.8			ND	1.7		
19-Apr-06	Ethylbenzene	ND	1.5	1.3		1.5		ND	24	ND	20			ND	1.7						
28-Feb-07	Ethylbenzene	ND	1.7	1.8		1.6		ND	9.1	ND	28			ND	53			ND	53		
16-Apr-08	Ethylbenzene	ND	0.87	0.82	0.61	ND	0.82	ND	1.7	1.1	0.87	1.2	0.75	ND	15					12	0.96
07-May-09	Ethylbenzene	0.97	0.81	1.1	0.6	1.4	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68
12-Feb-04	m-&p-xylenes	52.1		2		3		ND	8.7	ND	13			ND	18.7	ND	20				
06-May-04	m-&p-xylenes	2.9		3.5		4.2		4		7.6				5.4		6.4					
06-Aug-04	m-&p-xylenes	2.9		3.5		ND	3.4	ND	33	ND	34			ND	3.5	ND	35				
26-Oct-04	m-&p-xylenes	3.6		3.2		4.4		3.1		4				2.9				3.5			
13-Jan-05	m-&p-xylenes	8.2		8		11		3.6		6				6.4				6.9			
27-Apr-05	m-&p-xylenes	ND	1.5	1.7		ND	2	ND	14	ND	13			ND	31			ND	42		
03-Aug-05	m-&p-xylenes	2.8		5		5.8		ND	10	ND	13							ND	11		
20-Oct-05	m-&p-xylenes	1.6		1.8		1.9		ND	5.4	ND	5.9			ND	5.9			ND	6		
19-Jan-06	m-&p-xylenes	ND	1.6	2.6		2.2		2.8		3.4				2.1				2.7			
19-Apr-06	m-&p-xylenes	ND	3	3.8		4.1		ND	48	ND	41			ND	3.4						
28-Feb-07	m-&p-xylenes	3.5		6.7		4.6		ND	9.1	ND	28			ND	53			ND	53		
16-Apr-08	m-&p-xylenes	2.0	1.7	2.3	1.2	1.9	1.6	ND	3.3	2.2	1.7	2.4	1.5	ND	29					35	1.9
07-May-09	m-&p-xylenes	2.8	1.6	3.1	1.2	3.4	1.6	ND	3	ND	8.1	ND	8.9	ND	7.9			ND	8	1.7	1.4
12-Feb-04	Naphthalene	2		ND	1.7	ND	1.7	ND	8.9	ND	13.1			ND	18.3	ND	19.9				
06-May-04	Naphthalene	ND	1.5	ND	1.9	ND	1.6	ND	1.9	ND	1.8			ND	2.1	ND	1.9				
06-Aug-04	Naphthalene	ND	1.8	ND	3.5	ND	3.4	ND	33	ND	34			ND	3.5	ND	35				
26-Oct-04	Naphthalene	ND	1.4	ND	1.7	ND	1.5	ND	1.8	ND	1.6			ND	1.5			ND	1.6		
13-Jan-05	Naphthalene	ND	1.4	ND	1.3	ND	1.5	ND	1.2	ND	1.2			ND	1.4			ND	1.8		
27-Apr-05	Naphthalene	ND	1.5	ND	1.5	ND	2	ND	14	ND	13			ND	31			ND	42		
03-Aug-05	Naphthalene	ND	1.8	ND	1.4	ND	3.6	ND	10	ND	13							ND	11		
20-Oct-05	Naphthalene	ND	1.6	ND	1.5	ND	1.6	ND	5.4	ND	5.9			ND	5.9			ND	6		
19-Jan-06	Naphthalene	ND	1.6	ND	2	ND	1.4	ND	1.5	ND	2.5			ND	1.8			ND	1.7		
19-Apr-06	Naphthalene	ND	1.5	ND	1	ND	1.2	ND	24	ND	20			ND	1.7						
28-Feb-07	Naphthalene	ND	1.7	ND	1.4	ND	1.2	ND	9.1	ND	28			ND	53			ND	53		
16-Apr-08	Naphthalene	ND	0.87	ND	0.61	ND	0.82	ND	1.7	ND	0.87	ND	0.75	ND	15					1.4	0.96
07-May-09	Naphthalene	ND	0.81	ND	0.6	ND	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68
12-Feb-04	o-xylenes	18.7		ND	1.6	ND	1.7	ND	8.7	ND	13			ND	18.7	ND	20				
06-May-04	o-xylenes	ND	1.5	ND	1.9	1.6		ND	1.9	3				2.2		2.6					
06-Aug-04	o-xylenes	ND	1.8	ND	3.5	ND	3.4	ND	33	ND	34			ND	3.5	ND	35				
26-Oct-04	o-xylenes	ND	1.4	ND	1.7	ND	1.5	ND	1.8	ND	1.6			ND	1.5			ND	1.6		
13-Jan-05	o-xylenes	2.8		2.2		2.6		1.3		1.7				2.1				2.1			
27-Apr-05	o-xylenes	ND	1.5	ND	1.5	ND	2	ND	14	ND	13			ND	31			ND	42		
03-Aug-05	o-xylenes	ND	1.8	ND	1.4	ND	3.6	ND	10	ND	13							ND	11		
20-Oct-05	o-xylenes	ND	1.6	ND	1.5	ND	1.6	ND	5.4	ND	5.9			ND	5.9			ND	6		
19-Jan-06	o-xylenes	ND	1.6	ND	2	ND	1.4	ND	1.5	ND	2.5			ND	1.8			ND	1.7		
19-Apr-06	o-xylenes	ND	1.5	ND	1	ND	1.2	ND	24	ND	20			ND	1.7						
28-Feb-07	o-xylenes	ND	1.7	1.5		1.5		ND	9.1	ND	28			ND	53			ND	53		
16-Apr-08	o-xylenes	ND	0.87	0.87	0.61	ND	0.82	ND	1.7	ND	0.87	0.98	0.75	ND	15					8.6	0.96
07-May-09	o-xylenes	1	0.81	1.1	0.6	1.1	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68

Table 2
Indoor Air Sample Results
129 Commercial Street
Malden, MA

Sample Results (Results listed in ug/m³)

Date	ANALYTE	Site 2		Site 4		Site 5		Site 6		Site 7		Site 7		Site 8		Site 10		Site 11		Sys-Inf			
		Outside										Duplicate											
		Result	DL	Result	DL	Result	DL	Result	DL	Result	DL			Result	DL	Result	DL	Result	DL	Result	DL		
12-Feb-04	Styrene	2.1		ND	1.7	ND	1.7	ND	8.5	ND	12.8			ND	18.7	ND	20	ND					
06-May-04	Styrene	ND	1.5	ND	1.9	ND	1.6	ND	1.9	ND	1.8			ND	2.1	2.8							
06-Aug-04	Styrene	ND	1.8	ND	3.5	ND	3.4	ND	33	ND	34			ND	3.5	ND	35						
26-Oct-04	Styrene	ND	1.4	ND	1.7	ND	1.5	ND	1.8	ND	1.6			ND	1.5								
13-Jan-05	Styrene	ND	1.4	ND	1.3	ND	1.5	ND	1.2	ND	1.2			1.5			ND					1.6	
27-Apr-05	Styrene	ND	1.5	ND	1.5	ND	2	ND	14	ND	13			ND	31							ND	1.8
03-Aug-05	Styrene	ND	1.8	ND	1.4	ND	3.6	ND	10	ND	13											ND	42
20-Oct-05	Styrene	ND	1.6	ND	1.5	ND	1.6	ND	5.4	ND	5.9											ND	11
19-Jan-06	Styrene	ND	1.6	ND	2	ND	1.4	ND	1.5	ND	2.5											ND	6
19-Apr-06	Styrene	ND	1.5	ND	1	ND	1.2	ND	24	ND	20											ND	1.7
28-Feb-07	Styrene	ND	1.7	ND	1.4	ND	1.2	ND	9.1	ND	28					ND	53						
16-Apr-08	Styrene	ND	1.7	ND	1.2	ND	1.6	ND	3.3	ND	1.7	ND	1.5	ND	29					13	1.9		
07-May-09	Styrene	ND	0.81	ND	0.6	ND	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68		
12-Feb-04	Toluene	71.6		4.5		5.3		56.5		ND	12.8			ND	18.5	ND	20	ND					
06-May-04	Toluene	85		33		72		18		13				8.7		11							
06-Aug-04	Toluene	5.1		9		7.5		ND	33	ND	34			3.6		ND	35						
26-Oct-04	Toluene	6.8		6.7		9		13		6.9				5.1								6.6	
13-Jan-05	Toluene	18		16		16		15		10				12								13	
27-Apr-05	Toluene	2.9		4.7		7.6		ND	14	ND	13			ND	31							ND	42
03-Aug-05	Toluene	4.4		7.8		7.6		11		ND	13											ND	11
20-Oct-05	Toluene	3.9		3.2		3.6		9		ND	5.9			ND	5.9							ND	6
19-Jan-06	Toluene	2.4		6.4		4.2		13		5				3.7								4	
19-Apr-06	Toluene	3.8		5.2		4.2		ND	24	ND	20			2.5									
28-Feb-07	Toluene	5.4		4.2		5.7		ND	9.1	ND	28	ND	53			ND	53						
16-Apr-08	Toluene	4.8	0.87	5.8	0.61	4.3	0.82	5.6	1.7	4.3	0.87	14	0.75	ND	15					31	0.96		
07-May-09	Toluene	5.2	0.81	5.7	0.6	5.6	0.78	4.2	1.5	5.3	4.1	5.4	4.4	8.1	4			5.3	4	3.3	0.68		
16-Apr-08	1,3-Butadiene	ND	0.87	ND	0.61	ND	0.82	ND	1.7	ND	0.87	ND	0.75	ND	15					ND	0.96		
07-May-09	1,3-Butadiene	ND	0.81	ND	0.6	ND	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68		
16-Apr-08	Methyl tert-Butyl Ether	ND	0.87	ND	0.61	ND	0.82	ND	1.7	ND	0.87	ND	0.75	ND	15					ND	0.96		
07-May-09	Methyl tert-Butyl Ether	ND	0.81	ND	0.6	ND	0.78	ND	1.5	ND	4.1	ND	4.4	ND	4			ND	4	ND	0.68		
16-Apr-08	2-Methylnaphthalene	ND	0.87	ND	0.61	ND	0.82	ND	1.7	ND	0.87	ND	0.75	ND	15					ND	0.96		
07-May-09	2-Methylnaphthalene	2-Methylnaphthalene is no longer a target analyte for APH Analysis																					
16-Apr-08	C5 - C8 Aliphatic Hydrocarbons	ND	69	70	48	ND	66	ND	130	91	69	110	60	ND	1200					520	77		
07-May-09	C5 - C8 Aliphatic Hydrocarbons	39	32	45	24	69	31	ND	61	ND	160	ND	180	ND	160			220	160	43	27		
16-Apr-08	C9 - C12 Aliphatic Hydrocarbons	24	17	18	12	27	16	71	33	33	17	48	15	ND	290					140	19		
07-May-09	C9 - C12 Aliphatic Hydrocarbons	17	16	28	12	68	16	80	31	ND	82	ND	89	ND	79			ND	81	38	14		
16-Apr-08	C9 - C10 Aromatic Hydrocarbons	ND	17	ND	12	ND	16	ND	33	ND	17	ND	15	ND	290					34	19		
07-May-09	C9 - C10 Aromatic Hydrocarbons	ND	8.1	ND	6	ND	7.8	ND	15	ND	41	ND	44	ND	40			ND	40	ND	6.8		

NOTES AND ABBREVIATIONS:

All results n micrograms per cubic meter (ug/m³)
ND: compound not detected above detection limit noted
DL: Detection limit for analyte



APPENDIX A

Laboratory Data Reports – Indoor Air Sampling May 7, 2009

LABORATORY REPORT

May 28, 2009

Michael Lotti
Innovative Engineering Solutions, Incorporated
25 Spring Street
Walpole, MA 02081

RE: NG Malden 129 / Task 8

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on May 11, 2009. For your reference, these analyses have been assigned our service request number P0901588.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 37 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.



Kate Aguilera
Project Manager

Client: Innovative Engineering Solutions, Incorporated
Project: NG Malden 129 / Task 8

CAS Project No: P0901588

CASE NARRATIVE

The samples were received intact under chain of custody on May 11, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds and tentatively identified compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator.

Air-Phase Petroleum Hydrocarbons (APH) Analysis

The samples were also analyzed for selected and total aliphatic and aromatic gasoline range hydrocarbons by gas chromatography/mass spectrometry according to the Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Public Comment Draft 1.0, Massachusetts Department of Environmental Protection, February, 2000.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Innovative Engineering Solutions, Incorporated
Project: NG Malden 129 Task 8

Folder: P0901588

Detailed Sample Information

<u>CAS Sample ID</u>	<u>Client Sample ID</u>	<u>Container Type</u>	<u>P1</u> (Hg)	<u>P11</u> (psig)	<u>P12</u> (Hg)	<u>P12</u> (psig)	<u>Cont ID</u>	<u>Order #</u>	<u>FC ID</u>	<u>Bottle</u> <u>Order #</u>
P0901588-001.01	Site 5	6.0 L-Summa Canister Ambient	-6.1	-3.0	3.5		AC00522	13073	FC00196	13073
P0901588-002.01	Site 4	6.0 L-Summa Canister Ambient		0.5	3.5		AC01027	13073	FC00679	13073
P0901588-003.01	Site 6	6.0 L-Summa Canister Ambient		0.2	3.5		AC01395	13073	FC00384	13073
P0901588-004.01	Site 2	6.0 L-Summa Canister Ambient	-7.0	-3.4	3.5		AC01190	13073	FC00196	13073
P0901588-005.01	Site 7	6.0 L-Summa Canister Ambient	-7.3	-3.6	3.5		AC01580	13073	FC00597	13073
P0901588-006.01	Site -10/11	6.0 L-Summa Canister Ambient	-6.9	-3.4	3.5		AC01261	13073	FC00245	13073
P0901588-007.01	Site 8	6.0 L-Summa Canister Ambient	-6.6	-3.2	3.5		AC01384	13073	FC00074	13073
P0901588-008.01	Duplicate	6.0 L-Summa Canister Ambient	-9.0	-4.4	3.5		AC00294	13073	FC00602	13073
P0901588-009.01	Sys-INF	6.0 L-Summa Canister Source	-2.5	-1.2	3.5		SC00212	13073	OA00616	13073

Miscellaneous Items - received

AVG00662
AVG00660
FC00508
AVG01140
AVG00628
AVG01029
AVG00858
AVG00166
AVG01119
AVG01031



2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Company Name & Address (Reporting Information) IESI 255 Spring Street Walpole MA			Project Name NG Malden 129			Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard			CAS Project No. 10910588		
Project Manager Mike Lotti			Project Number Task 0			CAS Contact					
Phone 774-270-0834			P.O. # / Billing Information			Analysis Method and/or Analytes			Comments e.g. Actual Preservative or specific instructions		
Email Address for Result Reporting m.lotti@iesionline.com			Sampler (Print & Sign) Mikelotti M M M A			Sample Volume					
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Sample Type (Air/Tuber/Solid)	Canister ID (Bar Code # - AC, SC, etc.)	Flow Controller (Bar Code - FC #)	Sample Volume				
Sites	1	5-7-09	0945	Air	AC01190	FC00196	6L				
Site 4	2		0917	"	AC01027	FC00679					
Site 6	3		0919	"	AC01315	FC00384					
Site 2	4		0920	"	AC01190	FC00196					
Site 7	5		0922	"	AC01580	FC00597					
Site - 10/11	6		0925	"	AC01261	FC00245					
Site 8	7		0930	"	AC01884	FC0074					
Duplicate	8			"	AC02294	FC00602					
SYS - INF	9		0945	"	SC00212	DA00616					
Report Tier Levels - please select Tier I - (Results/Default if not specified) Tier II - (Results + QC)			Tier III - (Data Validation Package) 10% Surcharge Tier V - (client specified)			EDD required Yes / No			Project Requirements (MRLs, OAPP)		
Relinquished by: (Signature) M M M A			Date: 5-8-09			Time: 0900			Received by: (Signature) M M M A		
Relinquished by: (Signature) M M M A			Date: 5-8-09			Time: 0900			Received by: (Signature) M M M A		
Relinquished by: (Signature) M M M A			Date: 5-8-09			Time: 0900			Received by: (Signature) M M M A		

Columbia Analytical Services, Inc.

Sample Acceptance Check Form

Client: Innovative Engineering Solutions, IncorporatedWork order: P0901588Project: NG Malden 129 / Task 8Sample(s) received on: 5/11/2009Date opened: 5/11/2009by: SSTAPLES

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were sample containers properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Container(s) supplied by CAS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Did sample containers arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Was a chain-of-custody provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Was the chain-of-custody properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Did sample container labels and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Was sample volume received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Was proper temperature (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cooler Temperature _____ °C Blank Temperature _____ °C			
10	Was a trip blank received?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Trip blank supplied by CAS: _____			
11	Were custody seals on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Do containers have appropriate preservation , according to method/SOP or Client specified information?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Is there a client indication that the submitted samples are pH preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were VOA vials checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Tubes: Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Badges: Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901588-001.01	6.0 L Ambient Can					
P0901588-002.01	6.0 L Ambient Can					
P0901588-003.01	6.0 L Ambient Can					
P0901588-004.01	6.0 L Ambient Can					
P0901588-005.01	6.0 L Ambient Can					
P0901588-006.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

P0901588_Innovative Engineering Solutions, Incorporated_NG Malden 129 _ Task 8 - Page 1 of 2

5/12/2009 9:29 AM

Sample Acceptance Check Form

Work order: P0901588

Project: NG Malden 129 / Task 8

Date opened: 5/11/2009

by: SSTAPLES

[illegible]

Explain any discrepancies: (include lab sample ID numbers):

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 5

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC00522

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/19/09

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.78	ND	0.35	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	ND	0.22	
71-43-2	Benzene	1.3	0.78	0.41	0.24	
108-88-3	Toluene	5.6	0.78	1.5	0.21	
100-41-4	Ethylbenzene	1.4	0.78	0.32	0.18	
179601-23-1	m,p-Xylenes	3.4	1.6	0.79	0.36	
100-42-5	Styrene	ND	0.78	ND	0.18	
95-47-6	o-Xylene	1.1	0.78	0.26	0.18	
91-20-3	Naphthalene	ND	0.78	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: CA Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site 5
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P0901588-001

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00522

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/19/09
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.0 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.56

Compound	Result µg/m ³	MRL µg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	69	31	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	68	16	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	7.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 4

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-002

Test Code: EPA TO-15

Date Collected: 5/7/09

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Date Received: 5/11/09

Analyst: Elsa Moctezuma

Date Analyzed: 5/18/09

Sampling Media: 6.0 L Summa Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AC01027

Initial Pressure (psig): 0.5 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.20

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.60	ND	0.27	
1634-04-4	Methyl tert-Butyl Ether	ND	0.60	ND	0.17	
71-43-2	Benzene	1.4	0.60	0.44	0.19	
108-88-3	Toluene	5.7	0.60	1.5	0.16	
100-41-4	Ethylbenzene	1.1	0.60	0.26	0.14	
179601-23-1	m,p-Xylenes	3.1	1.2	0.72	0.28	
100-42-5	Styrene	ND	0.60	ND	0.14	
95-47-6	o-Xylene	1.1	0.60	0.24	0.14	
91-20-3	Naphthalene	ND	0.60	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site 4
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P0901588-002

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01027

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.5 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.20

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	45	24	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	28	12	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	6.0	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 6

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC01395

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	1.5	ND	0.69	
1634-04-4	Methyl tert-Butyl Ether	ND	1.5	ND	0.42	
71-43-2	Benzene	ND	1.5	ND	0.48	
108-88-3	Toluene	4.2	1.5	1.1	0.40	
100-41-4	Ethylbenzene	ND	1.5	ND	0.35	
179601-23-1	m,p-Xylenes	ND	3.1	ND	0.70	
100-42-5	Styrene	ND	1.5	ND	0.36	
95-47-6	o-Xylene	ND	1.5	ND	0.35	
91-20-3	Naphthalene	ND	1.5	ND	0.29	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: LA Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site 6
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P0901588-003

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01395

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.2 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.22

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	61	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	80	31	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	15	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated**Client Sample ID:** Site 2**Client Project ID:** NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-004

Test Code: EPA TO-15**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9**Analyst:** Elsa Moctezuma**Sampling Media:** 6.0 L Summa Canister**Test Notes:****Container ID:** AC01190**Date Collected:** 5/7/09**Date Received:** 5/11/09**Date Analyzed:** 5/18/09**Volume(s) Analyzed:** 1.00 Liter(s)**Initial Pressure (psig):** -3.4 **Final Pressure (psig):** 3.5**Canister Dilution Factor:** 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.81	ND	0.36	
1634-04-4	Methyl tert-Butyl Ether	ND	0.81	ND	0.22	
71-43-2	Benzene	1.5	0.81	0.48	0.25	
108-88-3	Toluene	5.2	0.81	1.4	0.21	
100-41-4	Ethylbenzene	0.97	0.81	0.22	0.19	
179601-23-1	m,p-Xylenes	2.8	1.6	0.64	0.37	
100-42-5	Styrene	ND	0.81	ND	0.19	
95-47-6	o-Xylene	1.0	0.81	0.23	0.19	
91-20-3	Naphthalene	ND	0.81	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: LA Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site 2
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P0901588-004

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01190

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.4 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.61

Compound	Result µg/m ³	MRL µg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	39	32	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	17	16	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	8.1	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 7

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-005

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC01580

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -3.6 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	4.1	ND	1.9	
1634-04-4	Methyl tert-Butyl Ether	ND	4.1	ND	1.1	
71-43-2	Benzene	ND	4.1	ND	1.3	
108-88-3	Toluene	5.3	4.1	1.4	1.1	
100-41-4	Ethylbenzene	ND	4.1	ND	0.94	
179601-23-1	m,p-Xylenes	ND	8.2	ND	1.9	
100-42-5	Styrene	ND	4.1	ND	0.96	
95-47-6	o-Xylene	ND	4.1	ND	0.94	
91-20-3	Naphthalene	ND	4.1	ND	0.78	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 7

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-005

Test Code: Massachusetts APH, Revision 0, December 2008

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC01580

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -3.6 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.64

Compound	Result µg/m ³	MRL µg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	160	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	82	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	41	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site -10/11

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-006

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC01261

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -3.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	4.0	ND	1.8	
1634-04-4	Methyl tert-Butyl Ether	ND	4.0	ND	1.1	
71-43-2	Benzene	ND	4.0	ND	1.3	
108-88-3	Toluene	5.1	4.0	1.4	1.1	
100-41-4	Ethylbenzene	ND	4.0	ND	0.93	
179601-23-1	m,p-Xylenes	ND	8.1	ND	1.9	
100-42-5	Styrene	ND	4.0	ND	0.95	
95-47-6	o-Xylene	ND	4.0	ND	0.93	
91-20-3	Naphthalene	ND	4.0	ND	0.77	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: 62 Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site -10/11
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P0901588-006

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01261

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -3.4 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.61

Compound	Result µg/m ³	MRL µg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	220	160	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	81	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	40	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated**Client Sample ID:** Site 8**Client Project ID:** NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-007

Test Code: EPA TO-15**Date Collected:** 5/7/09**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9**Date Received:** 5/11/09**Analyst:** Elsa Moctezuma**Date Analyzed:** 5/18/09**Sampling Media:** 6.0 L Summa Canister**Volume(s) Analyzed:** 0.20 Liter(s)**Test Notes:****Container ID:** AC01384**Initial Pressure (psig):** -3.2 **Final Pressure (psig):** 3.5**Canister Dilution Factor:** 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	4.0	ND	1.8	
1634-04-4	Methyl tert-Butyl Ether	ND	4.0	ND	1.1	
71-43-2	Benzene	ND	4.0	ND	1.2	
108-88-3	Toluene	8.1	4.0	2.1	1.0	
100-41-4	Ethylbenzene	ND	4.0	ND	0.91	
179601-23-1	m,p-Xylenes	ND	7.9	ND	1.8	
100-42-5	Styrene	ND	4.0	ND	0.93	
95-47-6	o-Xylene	ND	4.0	ND	0.91	
91-20-3	Naphthalene	ND	4.0	ND	0.75	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: ls Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Site 8
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P0901588-007

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01384

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -3.2 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.58

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	160	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	79	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	40	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Duplicate

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-008

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC00294

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -4.4 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.77

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	4.4	ND	2.0	
1634-04-4	Methyl tert-Butyl Ether	ND	4.4	ND	1.2	
71-43-2	Benzene	ND	4.4	ND	1.4	
108-88-3	Toluene	5.4	4.4	1.4	1.2	
100-41-4	Ethylbenzene	ND	4.4	ND	1.0	
179601-23-1	m,p-Xylenes	ND	8.9	ND	2.0	
100-42-5	Styrene	ND	4.4	ND	1.0	
95-47-6	o-Xylene	ND	4.4	ND	1.0	
91-20-3	Naphthalene	ND	4.4	ND	0.84	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Duplicate
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P0901588-008

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00294

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/18/09
Volume(s) Analyzed: 0.20 Liter(s)

Initial Pressure (psig): -4.4 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.77

Compound	Result µg/m ³	MRL µg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	180	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	89	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	44	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Sys-INF

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-009

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC00212

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/19/09

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.35

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.68	ND	0.31	
1634-04-4	Methyl tert-Butyl Ether	ND	0.68	ND	0.19	
71-43-2	Benzene	1.2	0.68	0.36	0.21	
108-88-3	Toluene	3.3	0.68	0.88	0.18	
100-41-4	Ethylbenzene	ND	0.68	ND	0.16	
179601-23-1	m,p-Xylenes	1.7	1.4	0.39	0.31	
100-42-5	Styrene	ND	0.68	ND	0.16	
95-47-6	o-Xylene	ND	0.68	ND	0.16	
91-20-3	Naphthalene	ND	0.68	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: LADate: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Sys-INF
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P0901588-009

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00212

Date Collected: 5/7/09
Date Received: 5/11/09
Date Analyzed: 5/19/09
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.2 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.35

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	43	27	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	38	14	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	6.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Method Blank
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P090518-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/09
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
71-43-2	Benzene	ND	0.50	ND	0.16	
108-88-3	Toluene	ND	0.50	ND	0.13	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
1179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
91-20-3	Naphthalene	ND	0.50	ND	0.095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: lag Date: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Method Blank
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P090518-MB

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/09
Volume(s) Analyzed: 1.00 Liter(s)

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	20	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	10	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	5.0	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: 68 Date: 5/27/09

APH.XLT - Page No.:

26

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Method Blank
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P090519-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/19/09
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
71-43-2	Benzene	ND	0.50	ND	0.16	
108-88-3	Toluene	ND	0.50	ND	0.13	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
91-20-3	Naphthalene	ND	0.50	ND	0.095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Method Blank
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
 CAS Sample ID: P090519-MB

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/19/09
Volume(s) Analyzed: 1.00 Liter(s)

Compound	Result μg/m ³	MRL μg/m ³	Data Qualifier
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	ND	20	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	ND	10	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	5.0	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

¹Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

³C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

COLUMBIA ANALYTICAL SERVICES, INC.

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 5/7/09
Date(s) Received: 5/11/09
Date(s) Analyzed: 5/18 - 5/19/09

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P090518-MB	98	70-130	99	70-130	102	70-130	
Method Blank	P090519-MB	107	70-130	102	70-130	94	70-130	
Lab Control Sample	P090518-LCS	97	70-130	98	70-130	101	70-130	
Lab Control Sample	P090519-LCS	105	70-130	101	70-130	95	70-130	
Site 5	P0901588-001	111	70-130	100	70-130	92	70-130	
Site 4	P0901588-002	98	70-130	99	70-130	101	70-130	
Site 4	P0901588-002DUP	98	70-130	98	70-130	100	70-130	
Site 6	P0901588-003	97	70-130	99	70-130	102	70-130	
Site 2	P0901588-004	99	70-130	98	70-130	100	70-130	
Site 7	P0901588-005	99	70-130	99	70-130	100	70-130	
Site -10/11	P0901588-006	100	70-130	98	70-130	100	70-130	
Site 8	P0901588-007	100	70-130	98	70-130	100	70-130	
Duplicate	P0901588-008	100	70-130	98	70-130	99	70-130	
Sys-INF	P0901588-009	102	70-130	98	70-130	97	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Lab Control Sample
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P090518-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/09
Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
106-99-0	1,3-Butadiene	30.0	32.9	110	66-161	
1634-04-4	Methyl tert-Butyl Ether	27.5	28.9	105	72-132	
71-43-2	Benzene	26.8	23.1	86	68-122	
108-88-3	Toluene	27.0	24.4	90	74-119	
100-41-4	Ethylbenzene	26.5	25.1	95	76-120	
179601-23-1	m,p-Xylenes	52.5	50.0	95	75-120	
100-42-5	Styrene	27.0	29.3	109	78-124	
95-47-6	o-Xylene	26.5	25.2	95	76-121	
91-20-3	Naphthalene	25.8	29.7	115	69-141	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Lab Control Sample
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P090518-LCS

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/18/09
Volume(s) Analyzed: NA Liter(s)

Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
C5 - C8 Aliphatic Hydrocarbons	24.8	23.4	94	70-130	
C9 - C12 Aliphatic Hydrocarbons	25.0	25.6	102	70-130	
C9 - C10 Aromatic Hydrocarbons	49.8	50.0	100	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated
Client Sample ID: Lab Control Sample
Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588
CAS Sample ID: P090519-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 5/19/09
Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
106-99-0	1,3-Butadiene	30.0	34.9	116	66-161	
1634-04-4	Methyl tert-Butyl Ether	27.5	30.4	111	72-132	
71-43-2	Benzene	26.8	22.2	83	68-122	
108-88-3	Toluene	27.0	24.9	92	74-119	
100-41-4	Ethylbenzene	26.5	25.5	96	76-120	
179601-23-1	m,p-Xylenes	52.5	51.1	97	75-120	
100-42-5	Styrene	27.0	29.8	110	78-124	
95-47-6	o-Xylene	26.5	25.8	97	76-121	
91-20-3	Naphthalene	25.8	30.5	118	69-141	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Lab Control Sample

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P090519-LCS

Test Code: Massachusetts APH, Revision 0, December 2008

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/19/09

Volume(s) Analyzed: NA Liter(s)

Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
				Acceptance Limits	
C5 - C8 Aliphatic Hydrocarbons	24.8	22.8	92	70-130	
C9 - C12 Aliphatic Hydrocarbons	25.0	26.7	107	70-130	
C9 - C10 Aromatic Hydrocarbons	49.8	51.1	103	70-130	

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated

Client Sample ID: Site 4

Client Project ID: NG Malden 129 / Task 8

CAS Project ID: P0901588

CAS Sample ID: P0901588-002DUP

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Elsa Moctezuma

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: AC01027

Date Collected: 5/7/09

Date Received: 5/11/09

Date Analyzed: 5/18/09

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.5

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.20

Compound	Sample Result		Duplicate Sample Result		Average µg/m ³	% RPD	RPD Limit	Data Qualifier
	µg/m ³	ppbV	µg/m ³	ppbV				
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Benzene	1.41	0.443	1.39	0.435	1.4	1	25	
Toluene	5.67	1.51	5.47	1.45	5.57	4	25	
Ethylbenzene	1.11	0.256	1.08	0.249	1.095	3	25	
m,p-Xylenes	3.15	0.724	3.02	0.696	3.085	4	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	1.05	0.242	1.01	0.233	1.03	4	25	
Naphthalene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated**Client Sample ID:** Site 4

CAS Project ID: P0901588

Client Project ID: NG Malden 129 / Task 8

CAS Sample ID: P0901588-002DUP

Test Code: Massachusetts APH, Revision 0, December 2008**Date Collected:** 5/7/09**Instrument ID:** Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9**Date Received:** 5/11/09**Analyst:** Elsa Moctezuma**Date Analyzed:** 5/18/09**Sampling Media:** 6.0 L Summa Canister**Volume(s) Analyzed:** 1.00 Liter(s)**Test Notes:****Container ID:** AC01027**Initial Pressure (psig):** 0.5 **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.20

Compound	Duplicate		Average	% RPD	RPD	Data
	Sample Result	Sample Result				Qualifier
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$		Limit	
C ₅ - C ₈ Aliphatic Hydrocarbons ^{1,2}	44.9	43.3	44.1	4	25	
C ₉ - C ₁₂ Aliphatic Hydrocarbons ^{1,3}	27.7	26.1	26.9	6	25	
C ₉ - C ₁₀ Aromatic Hydrocarbons	ND	ND	-	-	25	

¹ Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.² Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.³ C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.⁴ C₉-C₁₂ Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C₉-C₁₀ Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Verified By: CSDate: 5/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated **CAS Project ID:** P0901588
Client Project ID: NG Malden 129 / Task 8

Internal Standard Area and RT Summary

Test Code: EPA TO-15 **Lab File ID:** 05180903.D
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 **Date Analyzed:** 5/18/09
Analyst: Elsa Moctezuma **Time Analyzed:** 09:41
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	419388		12.83		1953089	15.77
Upper Limit	587143		13.16		2734325	16.10
Lower Limit	251633		12.50		1171853	15.44

Client Sample ID		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA	#	RT	#	AREA	#
01	Method Blank	433073		12.80		2015607	15.75
02	Site 4	386945		12.81		1800943	15.75
03	Site 4 (Lab Duplicate)	391603		12.81		1818587	15.75
04	Lab Control Sample	401105		12.83		1853214	15.77
05	Site 6	440969		12.81		2026789	15.75
06	Site 2	424197		12.80		1980788	15.75
07	Site 7	384833		12.81		1791347	15.75
08	Site -10/11	397868		12.80		1847086	15.75
09	Site 8	392943		12.80		1823055	15.75
10	Duplicate	370198		12.81		1719867	15.75
11	Sys-INF	402973		12.80		1891520	15.75
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area

AREA LOWER LIMIT = 60% of internal standard area

RT UPPER LIMIT = 0.33 minutes of internal standard RT

RT LOWER LIMIT = 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an I.

I = Internal standard not within the specified limits.

Verified By: LA Date: 5/27/09 **36**

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Innovative Engineering Solutions, Incorporated **CAS Project ID:** P0901588
Client Project ID: NG Malden 129 / Task 8

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 **Lab File ID:** 05190901.D
Analyst: Elsa Moctezuma **Date Analyzed:** 5/19/09
Sampling Media: 6.0 L Summa Canister(s) **Time Analyzed:** 10:10
Test Notes:

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	402840		12.83		2037430	15.77
Upper Limit	563976		13.16		2852402	16.10
Lower Limit	241704		12.50		1222458	15.44

Client Sample ID		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA	#	RT	#	AREA	#
01	Method Blank	398376		12.81		2041397	15.75
02	Lab Control Sample	367782		12.83		1845942	15.77
03	Site 5	331089		12.81		1681447	15.75
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area

AREA LOWER LIMIT = 60% of internal standard area

RT UPPER LIMIT = 0.33 minutes of internal standard RT

RT LOWER LIMIT = 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an I.

I = Internal standard not within the specified limits.

Verified By: Date: 5/17/09