RELEASE ABATEMENT MEASURE

STATUS REPORT

51 & 100 COMMERCIAL STREET, AND 129 COMMERCIAL STREET MALDEN, MASSACHUSETTS

RELEASE TRACKING NUMBER 3-0362
October 2010

Prepared For:

National Grid
40 Sylvan Road
Waltham, MA 02154

Prepared By:

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole, Massachusetts 02081
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RELEASE ABATEMENT MEASURE STATUS REPORT
51 & 100 COMMERCIAL STREET AND
129 COMMERCIAL STREET
MALDEN, MASSACHUSETTS

RELEASE TRACKING NUMBER 3-0362

October 2010

Prepared for: National Grid
40 Sylvan Road
Waltham, Massachusetts 02451

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25 Spring Street
Walpole, Massachusetts 02081

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Michael Lotti, L.S.P.
Project Manager and LSP of Record
License Number 4208

Digitally signed by Michael Lotti
Date: 2010.10.07 18:22:36 -04'00'

Joseph E. Higgins, P.E., L.S.P.
Project Reviewer

Release Abatement Measure Status Report
51 & 100 Commercial Street, and
129 Commercial Street
Malden, Massachusetts 02148
MassDEP Release Tracking Number: 3-0362

This Release Abatement Measure (RAM) Status Report has been prepared by Innovative Engineering Solutions, Inc. (IESI) on behalf of Massachusetts Electric Company d/b/a National Grid (National Grid) in accordance with the requirements of the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000).

This RAM Status Report presents information on two ongoing RAMs at the former Malden manufactured gas plant (MGP) site (the "Site") located in the vicinity of Charles and Centre Streets along Commercial Street in Malden, Massachusetts. The Massachusetts Department of Environmental Protection (MassDEP) 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 RAM Areas in relation to the disposal site boundary of the former MGP. The former Malden MGP site has achieved a Temporary Solution and a Class C Response Action Outcome has been filed.

These RAMs are being conducted in accordance with 310 CMR 40.0897 in support of Post-RAO response actions. Only the RAM associated with the SSVS operation at 129 Commercial Street is considered necessary to maintain the Temporary Solution. The RAM for NAPL recovery at 51 and 100 Commercial Streets are considered definitive and enterprising steps toward reaching a Permanent Solution at this Site.

51/100 Commercial RAM

The RAM at the 51 Commercial Street and 100 Commercial Street (referred to herein as the "51/100 Commercial RAM") is being conducted in accordance with the RAM Plan that was submitted to the MassDEP on August 9, 2007. Figures 3 and 4 provide RAM Area details for 51 and 100 Commercial Street, respectively.

The objectives of the 51/100 Commercial RAM are to accomplish the following:

1. Install, start up, and conduct operation, maintenance, and monitoring (OMM) activities for a non-aqueous phase liquid (NAPL) recovery system at 51 Commercial Street.
2. Install a barrier beneath the proposed building at 51 Commercial Street.
3. Manage remediation waste generated during floor and foundation removal from the prior structure at 51 Commercial Street, construction of the new building foundation and Engineered Barrier under the foundation at 51 Commercial Street, and construction and operation of the NAPL recovery systems.
4. Restore, restart, and conduct OMM activities on an existing NAPL recovery system at 100 Commercial Street.

129 Commercial RAM

The RAM at the 129 Commercial Street and 100 Commercial Street (referred to herein as the "129 Commercial RAM") is being conducted in accordance with the RAM Plan that was submitted to the MassDEP on July 2, 1998.

The objective of the 129 Commercial RAM is 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 5 presents the locations of the extraction points and the system enclosure.

This report describes activities conducted on the 51/100 and 129 Commercial RAMs between March 8, 2010 and October 7, 2010. As such, 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). The RAM Status Report is presented below. The original RAM Transmittal Form (BWSC-106) was submitted electronically via eDEP.

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

During this reporting period, the activities have included gauging of the wells located at the 51 Commercial Street property, operation of the NAPL recovery system at 100 Commercial Street, operation of the SSVS at the 129 Commercial Street property, site wide gauging, groundwater sample collection from select wells, and manual NAPL removal from three wells. Additional information regarding the status of these activities is presented below.

Well Gauging – 51 Commercial Street

As reported in December 2008, construction of the equipment shed structure is complete and equipment installation (e.g., air compressor, down well pumps, controls, etc.) was halted due to the lack of recoverable NAPL. The extraction wells were gauged on June 28, 2010 and September 30, 2010 during this reporting period. No measureable thicknesses of NAPL were observed in the extraction wells. Table 1 summarizes the well gauging data. IESI plans to continue to periodically gauge the wells to determine if recoverable NAPL is present.

NAPL System Operation – 100 Commercial Street

The NAPL recovery system located at the 100 Commercial Street parcel of the site was reactivated in August 2008. The system had been inactivate since 2003 because of slowed NAPL recovery. The NAPL recovery system consists of a pneumatic DNAPL recovery pump (Xitech model ADJ1100) and associated piping and controls. The pump is set to operate periodically as programmed by an IESI technician. During each visit, the recovery well was gauged, the pumping frequency is adjusted (if necessary), the system's safety interlocks were checked, the amount of NAPL and water recovered was measured, and the thickness of NAPL in the recovery well was measured. Table 2 summarizes the data collected during this reporting period.

The total amount of NAPL recovered this period is approximately 18 gallons. The total volume of NAPL collected since 2001 from this system is approximately 1,105 gallons.

SSVS Operation – 129 Commercial Street

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 3 and are consistent with past operations.

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

Indoor Air Sampling Data – 129 Commercial Street

On April 21, 2010, 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 5.

The samples were collected in laboratory provided 6 liter summa canisters. Each canister was fitted 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 MassDEP Method and styrene via EPA Method TO-15. The results are summarized in Table 4. The complete laboratory data reports for the all air samples are included as Appendix A. Table 4 also presents the results from previous sampling events.

A summarized on Table 4, the results of the analysis indicate that the concentrations of the VOCs were comparable to previous events. The concentrations observed at Sites 4 and 5 are similar to the outside/background air concentrations measured at Site 2. This is likely the result of the loading dock doors opening and closing throughout the day as deliveries are sent and received mixing the outdoor air with the indoor air. The remainder of the sampling points in the packaging and production areas are slightly lower than the outside (Site 2) and Sites 4 and Site 5. 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. Table 4 also includes the typical indoor air concentrations (TIAC) listed in the draft MassDEP document titled: "Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, TECHNICAL UPDATE, Review Draft for Discussion Purposes Only, June 26, 2008". The TIAC are not risk-based standards and are for relative comparison only. Based on a comparison of the TIAC to the April 2010 indoor air data, all detected concentrations in indoor air are less than the draft TAIC.

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 (except for the carbon range fractions as it was the first sampling event for APH) 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 commercial 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 commercial worker scenario was calculated to be 0.2. Both calculated HI values are below the MCP limit of 1.

As previously indicated, the Aril 2010 sampling results are similar in concentration and detection limit to the April 2008 results.

Site Wide Monitoring Well Gauging and Select Well Sampling -

As part of the OMM activities for the site, IESI also gauged all accessible site related wells on July 5, 2010. Wells were gauged for depth to water and the presence/thickness/absence of NAPL. The resulting data are summarized on Table 5. Figure 6 depicts the locations of the site related monitoring wells. In general, the data are similar to previous events. Wells that currently exhibit measurable thicknesses of NAPL include the following (listed by property address and with type (i.e., LNAPL or DNAPL) and thickness observed on July 5, 2010):

100 Commercial Street:

B108OW – 9.40 ft DNAPL

B109-OW – 0.18 ft LNAPL

B206-OW – 6.50 ft DNAPL

105-109 Commercial Street:

97A-B601-OW – 0.35 ft LNAPL

89 Commercial Street:

97AB610-OW – 0.10 ft DNAPL

65 Commercial Street:

00A-B913-OW – 1.20 ft DNAPL

00A-B914-OW – 3.30 ft DNAPL

In an effort to determine if the thicker observances of NAPL are recoverable, starting in August 2010, IESI undertook a program of manual NAPL recovery from wells B108-OW, 00A-B913-OW, and 00A-B914-OW. These three wells were gauged every 2 weeks and the observed NAPL was removed using a peristaltic pump. The recovered NAPL volume was measured and placed in the NAPL recovery drums on the 100 Commercial Street property. Table 6 presents the resulting data. IESI will continue the manual NAPL monitoring and recovery in these wells and will have a more definitive summary in the next RAM Status report. The program may be enhanced to include bail down tests and/or more frequent removal. Any changes to this program will be based on field observations and documented in the next RAM Status Report.

In addition to the well gauging, between July 7 and 9, 2010, IESI collected groundwater samples from the following 18 monitoring wells: B1-OW, B7-OW, B15-OW, B16-OW, B106-OW, B110A-OW, B112B-OW, B203-OW, B204-OW, B501-OW, B502-OW, B504-OW, B506-OW, 97A-B602-OW, 97A-B608-OW, 97B-B627-OW, 97B-B628-OW, and 00A-B909-OW (and a duplicate). Figure 6 depicts the locations of the wells sampled. Groundwater was purged and sampled with a peristaltic pump in accordance with EPA procedures for low flow sampling and was monitored for temperature, pH, dissolved oxygen, conductivity, redox, and turbidity before sample collection. The resulting data are summarized on the groundwater sample collection field logs included as Appendix C. Groundwater samples were submitted under chain of custody to Groundwater Analytical of Buzzards Bay, Massachusetts for analysis of Extractable Petroleum Hydrocarbons (EPH) including the target polycyclic aromatic hydrocarbons (PAHs) via the MassDEP Method, Volatile Petroleum Hydrocarbons (VPH) via the MassDEP Method, total cyanide via EPA Method 9012B, and Available Cyanide via the EPA Method OIA 1677. A duplicate sample was collected from B16-OW and analyzed for the same parameters and one trip blank was

analyzed for VOC via EPA Method 8260. All purge water was returned to the well from which it was extracted upon completion of sampling. The results are summarized on Table 7 and complete laboratory analytical reports are include in Appendix B.

During this sampling event, EPH and VPH constituents were detected at similar concentrations to previous events (the most recent being March 2006). The highest VPH concentrations (Benzene at 4,100 ug/l and C_5-C_8 Aliphatic at 3,000 ug/l) were observed in the groundwater samples collected from well B203-OW. Total cyanide was detected in all 18 wells sampled, and 10 wells exhibited available cyanide concentrations.

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

On July 8, 2010, two 55-gallon drums of recovered tar (with limited amounts of water), one drum of a tar and soil mixture (generated from cleaning out the RW-1 vault), and one 55-gallon drum of spent personal protective equipment were shipped from the 100 Commercial Street recovery system to the Clean Harbors of Braintree, Inc. facility under a Uniform Hazardous Waste Manifest; a copy of the Uniform Hazardous Waste Manifest is included as Appendix C.

As stated in the August 2007 RAM Plan, NAPL recovered by the 100 Commercial Street system is stored in 55-gallon drums until filled, then replaced with an empty drum. The filled drum of NAPL is removed within 90 days of being filled.

At the 129 Commercial RAM, since start-up of the sub-slab ventilation system in 1999 approximately 7,955 pounds of spent carbon have been removed from the site. The carbon was last changed in April 2008.

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 MassDEP has not required additional information, and did not impose any conditions on the right to conduct the RAM.

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.

If you require additional information or have any questions regarding this status report, please contact Michael Lotti, LSP of IESI at (508) 668-0033 (x 231) or Kenneth Lento at National Grid at (617) 791-2627.

FIGURES

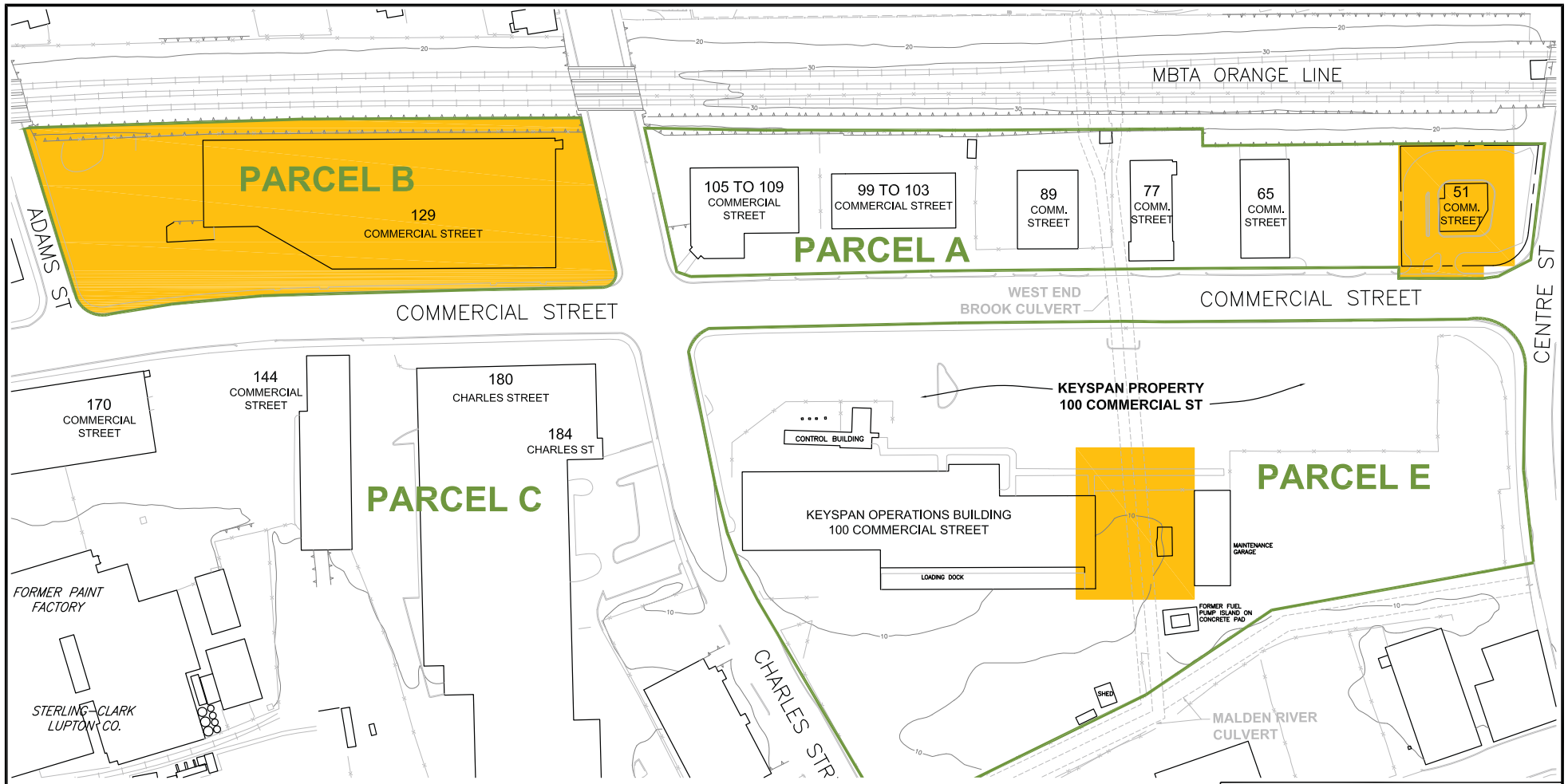
Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033

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



APPROXIMATE RAM AREA

N

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.

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

TITLE	RAM AREAS			
SITE	FORMER MALDEN MGP SITE			
CLIENT	NATIONAL GRID			
DRAWN: DMR	CHECKED: GH	FILENAME: NG MALDEN MAR 2010	DATE: 3/17/10	FIGURE: 2

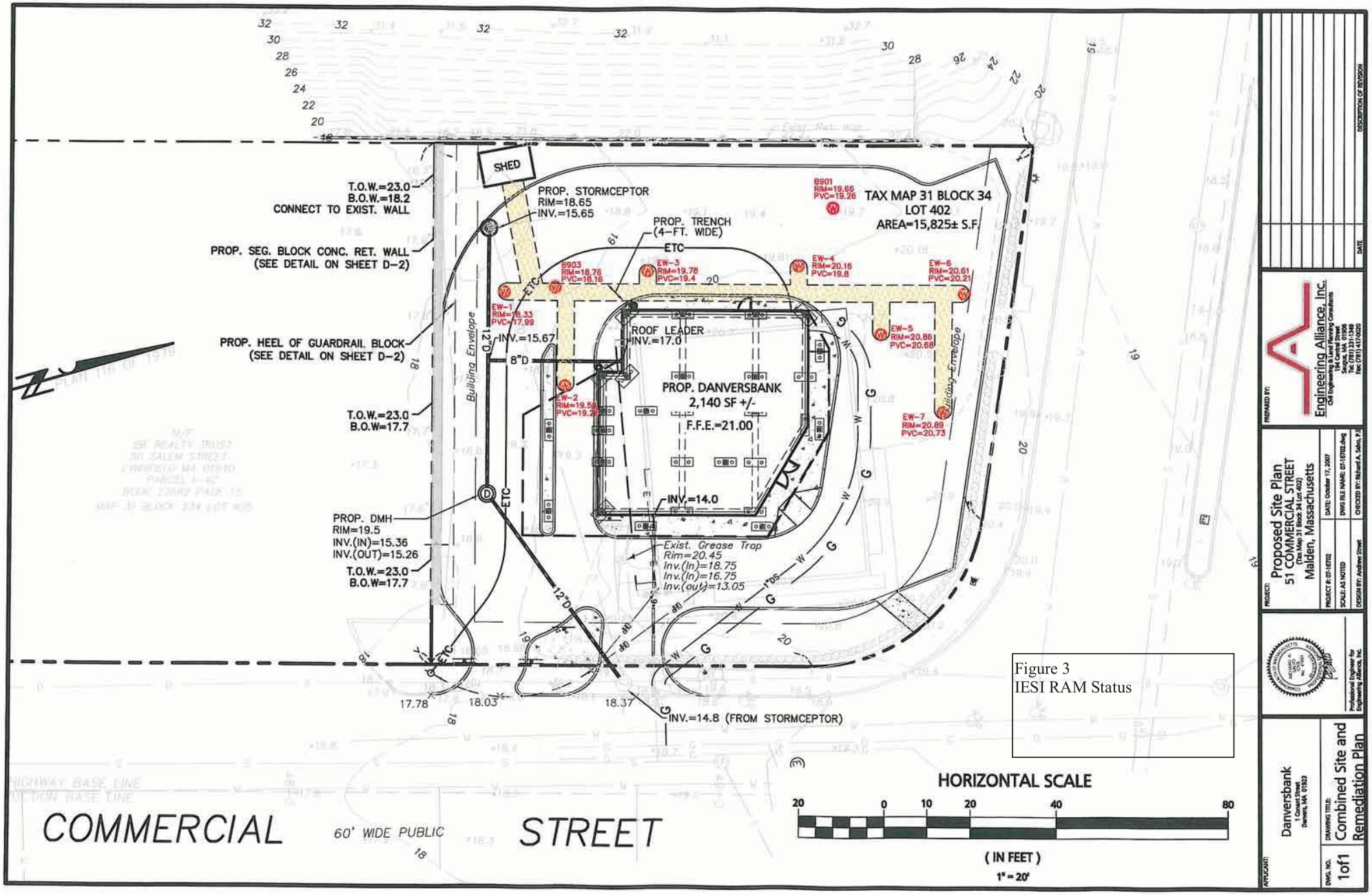


Figure 3
IESI RAM Status

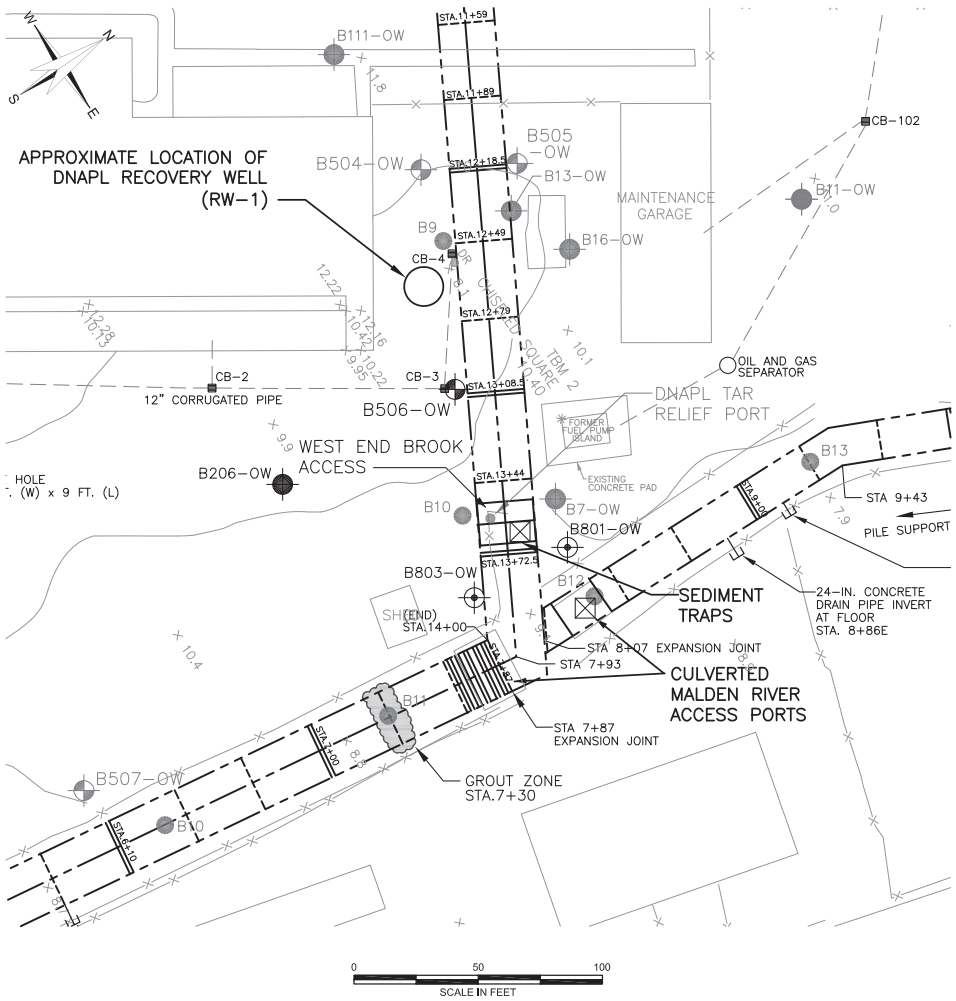


Figure 4
IESI RAM Status

LEGEND:

B803	DESIGNATION AND APPROXIMATE LOCATION OF 8-IN. DIA. DNAPL RECOVERY OBSERVATION WELL INSTALLED BY GEOLOGIC INC. IN NOVEMBER 1998
B504	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING AND OBSERVATION WELL INSTALLED BY GUILD DRILLING DURING THE PERIOD 25 TO 30 JULY 1996
	DESIGNATION AND APPROXIMATE LOCATION OF BORINGS DRILLED BY GEOLOGIC, INC., UNDER TECHNICAL OBSERVATION OF HALEY & ALDRICH, INC.:
B206	DRILLED 27-29 JULY AND 1-11 AUGUST 1988
B111	DRILLED 2-7 MAY 1988
B11	DRILLED 23-25 NOVEMBER AND 1-3 DECEMBER 1987
B10	WEST END BROOK MALDEN RIVER CULVERT DESIGN BORINGS
OW	INDICATES GROUNDWATER MONITORING WELL WAS INSTALLED IN THE COMPLETED BOREHOLE
- - - - - - -	DESIGNATES LOCATION OF CONSTRUCTION JOINT
═══	DESIGNATES LOCATION OF EXPANSION JOINT
— - - —	WEST END BROOK/ MALDEN RIVER CULVERT
— — — —	12" DRAINAGE PIPES CONNECTING EXISTING CATCH BASINS

NOTES:

1. BASE PLAN ADAPTED FROM THE FOLLOWING SOURCES:

   "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.

   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. CULVERT LOCATION SHOWN WAS OBTAINED FROM THE FOLLOWING SOURCES:

   * RECORD PLANS "MALDEN RIVER FLOOD CONTROL PROJECT IN THE CITY OF MALDEN" CONTRACT E77-3FC, REF. E-503, PREPARED FOR COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION (MDC) , DATED DECEMBER 1977.

   * RECORD PLANS "WEST END BROOK FLOOD CONTROL PROJECT, STADIUM ROAD TO MALDEN RIVER; CONTRACT C-375 PREPARED FOR THE COMMONWEALTH OF MASSACHUSETTS, METROPOLITAN DISTRICT COMMISSION (MDC), DATED JUNE 1970.

HALEY & ALDRICH

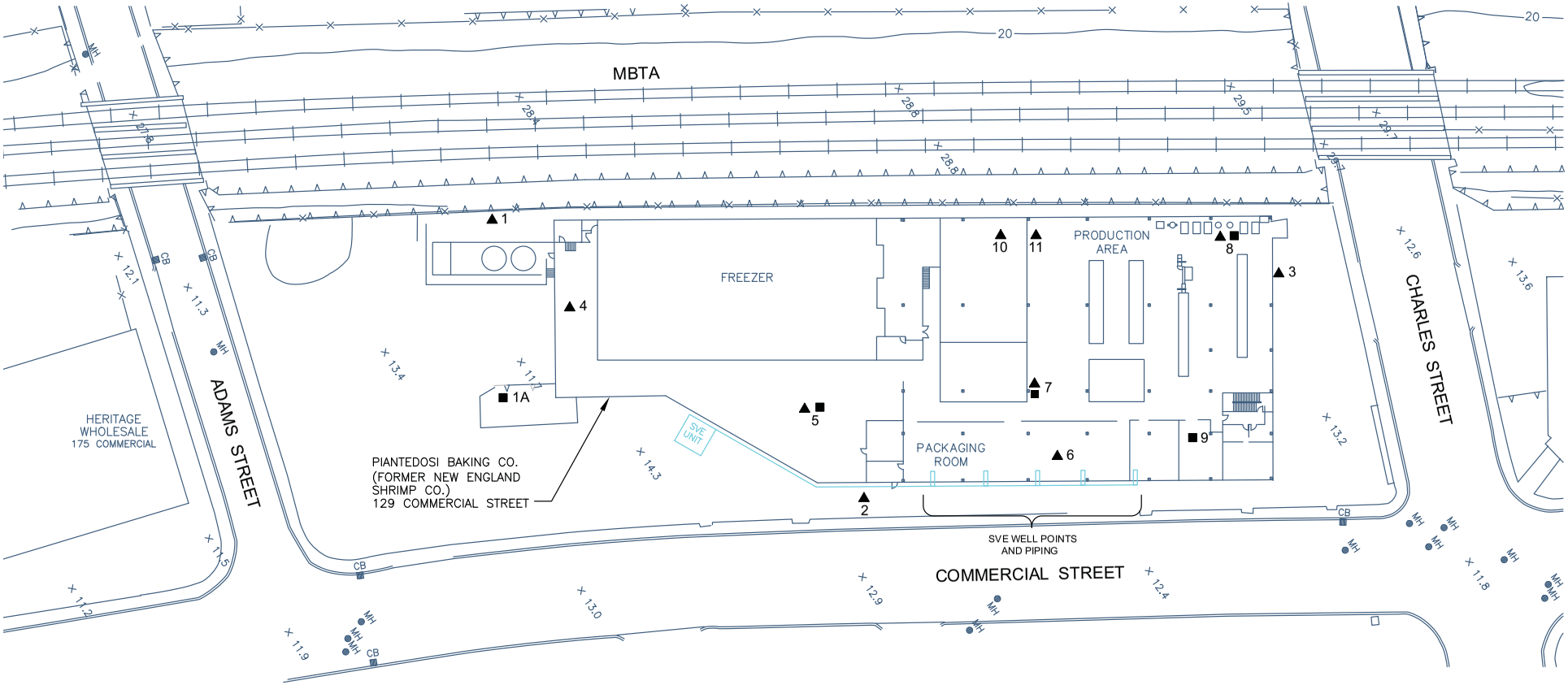
RAM PLAN
FORMER MALDEN MGP SITE
MALDEN, MASSACHUSETTS

SITE PLAN:
100 COMMERCIAL STREET RW-1 AREA

SCALE: AS SHOWN
AUGUST 2007

FIGURE 5

J:\GRAPHICS\06558\06558-752-B246.DWG



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.

N

0 25' 50' 100'
SCALE IN FEET

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

TITLE
SITE PLAN

FORMER MALDEN MGP SITE

CLIENT
NATIONAL GRID

DRAWN	CHECKED	FILENAME	DATE	FIGURE
DMR	ML	NG MALDEN RAM AREAS	3/28/08	5

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
(508) 668-0033

TITLE

SITE PLAN

SITE: FORMER MALDEN MGP SITE

CLIENT: NATIONAL GRID

DRAWN	CHECKED	FILENAME	DATE	FIGURE
DMR	ML	MALDEN OCT 2010	10/6/10	6

TABLES

Table 1
Monitoring Well Gauging Data
51 Commercial Street
Malden, Massachusetts

Well Location	Date	Depth to LNAPL[2] (ft)	Depth to Water[1] (ft)	Depth to DNAPL[2] (ft)	DNAPL Thickness (ft)	Well Bottom Depth (ft)
EW-1	05-Sep-07	ND	8.00	ND[3]	-	12.50
	05-Oct-07	ND	8.30	ND	-	12.40
	01-May-08	ND	6.40	ND	-	11.45
	10-Sep-08	ND	7.00	ND	-	11.99
	11-Feb-09	ND	6.81	ND	-	12.35
	01-Jun-09	ND	7.06	ND	-	12.35
	14-Sep-09	ND	7.12	ND	-	12.07
	29-Mar-10	ND	5.68	ND	-	12.33
	28-Jun-10	ND	7.07	ND	-	12.33
	30-Sep-10	ND	7.29	ND	-	12.33
EW-2	05-Sep-07	ND	9.25	ND	-	14.20
	05-Oct-07	ND	9.55	ND	-	14.20
	01-May-08	ND	7.81	ND	-	13.50
	10-Sep-08	ND	9.22	ND	-	13.59
	11-Feb-09	ND	8.05	ND	-	13.69
	01-Jun-09	ND	8.31	ND	-	13.69
	14-Sep-09	ND	8.39	ND	-	13.97
	29-Mar-10	ND	6.92	ND	-	13.72
	28-Jun-10	ND	8.35	ND	-	13.72
	30-Sep-10	ND	8.51	ND	-	13.72
EW-3	05-Sep-07	ND	9.55	ND	-	14.40
	05-Oct-07	ND	9.66	ND	-	14.45
	01-May-08	ND	7.51	ND	-	11.80
	10-Sep-08	ND	7.87	ND	-	11.9
	11-Feb-09	ND	7.80	ND	-	13.52
	01-Jun-09	ND	8.00	ND	-	13.52
	14-Sep-09	ND	8.01	ND	-	13.52
	29-Mar-10	ND	6.70	ND	-	13.56
	28-Jun-10	ND	7.96	ND	-	13.56
	30-Sep-10	ND	8.04	ND	-	13.56
EW-4	05-Sep-07	ND	9.90	ND	-	15.25
	05-Oct-07	ND	10.06	ND	-	14.90
	01-May-08	ND	7.89	ND	-	12.00
	10-Sep-08	ND	8.21	ND	-	13.77
	11-Feb-09	ND	8.17	ND	-	14.35
	01-Jun-09	ND	9.35	ND	-	14.35
	14-Sep-09	ND	8.39	ND	-	14.35
	29-Mar-10	ND	6.98	ND	-	14.35
	28-Jun-10	ND	8.29	ND	-	14.35
	30-Sep-10	ND	8.29	ND	-	14.35

Table 1
Monitoring Well Gauging Data
51 Commercial Street
Malden, Massachusetts

Well Location	Date	Depth to LNAPL[2] (ft)	Depth to Water[1] (ft)	Depth to DNAPL[2] (ft)	DNAPL Thickness (ft)	Well Bottom Depth (ft)
EW-5	05-Sep-07	ND	10.80	ND	-	14.10
	05-Oct-07	ND	10.94	ND	-	14.00
	01-May-08	ND	7.80	ND	-	11.65
	10-Sep-08	ND	8.14	ND	-	11.71
	11-Feb-09	ND	8.09	ND	-	12.3
	01-Jun-09	ND	9.32	ND	-	12.3
	14-Sep-09	ND	8.31	ND	-	12.3
	29-Mar-10	ND	6.93	ND	-	12.28
	28-Jun-10	ND	8.21	ND	-	12.28
	30-Sep-10	ND	8.28	ND	-	12.28
EW-6	05-Sep-07	ND	10.35	ND	-	14.36
	05-Oct-07	ND	10.50	ND	-	14.20
	01-May-08	ND	8.16	ND	-	13.00
	10-Sep-08	ND	8.61	ND	-	12.77
	11-Feb-09	ND	8.46	ND	-	13.09
	01-Jun-09	ND	9.68	ND	-	13.09
	14-Sep-09	ND	8.66	ND	-	13.09
	29-Mar-10	ND	6.88	ND	-	13.11
	28-Jun-10	ND	8.59	ND	-	13.11
	30-Sep-10	ND	8.76	ND	-	13.11
EW-7	05-Sep-07	-	DRY	-	-	9.92
	05-Oct-07	-	DRY	-	-	10.00
	01-May-08	ND	6.50	ND	-	7.20
	10-Sep-08	ND	6.99	ND	-	7.81
	11-Feb-09	ND	7.09	ND	-	7.28
	01-Jun-09	ND	7.09	ND	-	7.28
	14-Sep-09	ND	7.10	ND	-	7.28
	29-Mar-10	ND	6.41	ND	-	7.32
	28-Jun-10	ND	7.27	ND	-	7.32
	30-Sep-10	ND	7.08	ND	-	7.32
00A-B903-OW	01-May-08	ND	7.85	ND	-	19.00
	10-Sep-08	ND	8.28	ND	-	15.2

Notes:

1. Depth to liquid measurements are obtained using a water level indicator and/or an oil-water interface probe.
2. DNAPL = Dense Non-Aqueous Phase Liquids. LNAPL = Light Non-Aqueous Phase Liquids.
3. ND=Not detected.

Table 2
Recovery Well RW-1 Gauging Data
100 Commercial Street
Malden, MA

Date	Depth to Water	Depth to NAPL	Depth to Bottom	Thickness NAPL	Total Fluids Gallons Recovered	Gallons Per Day
8/5/2008	1.68	8.80	14.30	5.50	36	36.00
8/6/2008	1.75	11.00	14.30	3.30	83	47.00
8/7/2008	1.70	12.00	14.30	2.30	83	0.00
8/11/2008	1.43	13.10	14.30	1.20	83	0.00
8/12/2008	1.43	13.10	14.30	1.20	117	34.00
8/21/2008	1.86	12.70	14.30	1.60	167	5.56
8/26/2008	1.85	11.55	14.30	2.75	178	2.20
9/2/2008	2.00	10.60	14.30	3.70	186	1.14
9/8/2008	2.60	11.80	14.30	2.50	203	2.83
9/18/2008	1.95	11.10	14.30	3.20	217	1.40
10/1/2008	1.35	14.30	14.30	0.00	227	0.77
10/9/2008	1.72	13.48	14.30	0.82	235	1.00
10/23/2008	2.10	13.26	14.30	1.04	248	0.93
11/7/2008	2.40	13.80	14.30	0.50	256	0.53
11/22/2008	2.05	13.75	14.30	0.55	262	0.40
12/3/2008	1.62	14.30	14.30	0.00	267	0.45
1/6/2009	1.60	14.10	14.30	0.20	281	0.41
1/30/2009	1.41	13.97	14.30	0.33	281	0.00
2/11/2009	1.90	14.29	14.30	0.01	281	0.00
3/11/2009	1.60	13.30	14.30	1.00	281	0.00
4/7/2009	0.50	14.11	14.30	0.19	293	0.44
5/13/2009	1.00	14.21	14.30	0.09	294	0.03
6/3/2009	1.88	14.25	14.30	0.05	294	0.00
6/19/2009	0.00	14.23	14.30	0.07	294	0.02
6/29/2009	1.40	13.34	14.30	0.96	295	0.06
7/17/2009	1.76	12.97	14.30	1.33	296	0.04
7/29/2009	1.52	13.85	14.30	0.45	315	1.62
8/24/2009	1.65	13.76	14.30	0.54	331	0.62
9/14/2009	1.90	13.40	14.30	0.90	341	0.48
10/7/2009	1.90	13.40	14.30	0.90	358	0.72
11/3/2009	1.80	14.19	14.20	0.01	360	0.07
11/23/2009	1.83	14.10	14.20	0.10	361	0.06
12/18/2009	1.70	14.19	14.20	0.01	366	0.20
1/8/2010	2.20	14.10	14.20	0.10	372	0.32
2/3/2010	1.80	14.00	14.20	0.20	373	0.02
2/15/2010	2.10	14.10	14.20	0.10	376	0.23
3/2/2010	1.30	14.10	14.20	0.10	378	0.17
4/21/2010	1.50	13.95	14.20	0.25	379	0.01
5/14/2010	1.48	14.20	14.20	0.00	379	0.02
6/14/2010	1.50	14.10	14.20	0.10	381	0.05
7/8/2010	1.30	14.20	14.20	0.00	384	0.12
8/5/2010	2.55	13.70	14.20	0.50	385	0.05
9/15/2010	2.12	12.28	14.20	1.92	396	0.28

Notes NAPL - non-aqueous phase liquid
All data collected by IESI personnel

Table 3
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
7-Oct-09	0.0	0.0	0.0	59	85	103	83.4	10.5	7	15.5	0.8	0.8	0.9	0.4	0.8
23-Nov-09	0.0	0.0	0.0	52	80	95	94	11	7.4	16.5	0.9	0.6	1	1	0.6
18-Dec-09	0.0	0.0	0.0	10	65	38.2	93.6	4.3	0.3	17.4	0.1	0.1	0.1	0.1	0.3
8-Jan-10	0.0	0.0	0.0	23	70	72	101	7.5	4.3	18	1	0.3	0.6	0.1	0.3
3-Feb-10	0.0	0.0	0.0	25	70	71	95	7.8	4.8	18.3	1.1	0.4	0.8	0.1	1.1
2-Mar-10	0.0	0.0	0.0	45	80	85	96	8.1	8.1	16.9	1	0.4	0.7	0.1	1.2
21-Apr-10	0.0	0.0	0.0	65	88	67	91	8.1	2.8	17.3	0.1	0.3	0.7	0.1	1
14-May-10	0.0	0.0	0.0	60	90	94.81	85.56	8	4.4	17.5	0.9	0.5	0.6	0.1	0.9
14-Jun-10	0.0	0.0	0.0	75	96	68	81	10	6.3	16.6	1.5	1.5	0.7	0.7	1.5
8-Jan-10	0.0	0.0	0.0	23	70	72	101	7.5	4.3	18	1	0.3	0.6	0.1	0.3
3-Feb-10	0.0	0.0	0.0	25	70	71	95	7.8	4.8	18.3	1.1	0.4	0.8	0.1	1.1
2-Mar-10	0.0	0.0	0.0	45	80	85	96	8.1	8.1	16.9	1	0.4	0.7	0.1	1.2
10-Apr-10	Reactivate system - high water knockout alarm shutdown system and caused dial out														
21-Apr-10	0.0	0.0	0.0	65	88	67	91	8.1	2.8	17.3	0.1	0.3	0.7	0.1	1
14-May-10	0.0	0.0	0.0	60	90	94	85	8	4.4	17.5	0.9	0.5	0.6	0.1	0.9
14-Jun-10	0.0	0.0	0.0	75	96	68	81	10	6.3	16.6	1.5	1.5	0.7	0.7	1.5
23-Jun-10	(Reactivate System after power outage)														
28-Jul-10	0.0	0.0	0.0	80	110	80	89	7.7	4.2	16.3	0.9	0.7	0.6	0.1	1.2
19-Aug-10	0.0	0.0	0.0	80	100	88	88	8.3	5	17.1	1	0.8	0.8	0.1	1.5
13-Sep-10	0.0	0.0	0.0	65	92	80	81	9.2	5.4	16.7	1.2	1	0.9	0.1	1.3

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
Blower replaced on April 10, 2008
Carbon replaced on April 10, 2008

Table 4
Indoor Air Sample Results
129 Commercial Street
Malden, MA

Sample Results (Results listed in ug/m^3)

Date	ANALYTE	TIAC	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	2.3	20.8		ND	*1.7*	ND	*1.7*	ND	*8.6*	ND	*12.8*			ND	*18.5*	ND	*20.1*				
06-May-04	Benzene	2.3	ND	*1.5*	ND	*1.9*	1.7		ND	*1.9*	ND	*1.8*			ND	*2.1*	ND	*1.9*				
06-Aug-04	Benzene	2.3	ND	*1.8*	ND	*3.5*	ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	Benzene	2.3	2.2		ND	*1.7*	ND	*1.5*	ND	*1.8*	1.7				ND	*1.5*			1.9			
13-Jan-05	Benzene	2.3	3.8		2.6		2.8		2.8		2.8				3.5				3.4			
27-Apr-05	Benzene	2.3	ND	*1.5*	ND	*1.5*	ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	Benzene	2.3	ND	*1.8*	ND	*1.4*	ND	*3.6*	ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	Benzene	2.3	ND	*1.6*	ND	*1.5*	ND	*1.6*	ND	*5.4*	ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	Benzene	2.3	ND	*1.6*	ND	*2*	ND	*1.4*	ND	*1.5*	ND	*2.5*			ND	*1.8*			ND	*1.7*		
19-Apr-06	Benzene	2.3	ND	*1.5*	ND	*1*	ND	*1.2*	ND	*24*	ND	*20*			ND	*1.7*						
28-Feb-07	Benzene	2.3	2.7		1.9		2.6		ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	Benzene	2.3	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	2.3	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*
21-Apr-10	Benzene	2.3	0.95	*0.79*	0.92	*0.72*	0.92	*0.73*	ND	*4.1*	ND	*3.4*	ND	*2.3*	ND	*8.6*			ND	*6.7*	1.2	*0.73*
12-Feb-04	Ethylbenzene	7.4	16.9		ND	*1.6*	ND	*1.7*	ND	*8.7*	ND	*13*			ND	*18.7*	ND	*20*				
06-May-04	Ethylbenzene	7.4	ND	*1.5*	ND	*1.9*	1.7		ND	*1.9*	2				ND	*2.1*	ND	*1.9*				
06-Aug-04	Ethylbenzene	7.4	ND	*1.8*	ND	*3.5*	ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	Ethylbenzene	7.4	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	7.4	2.8		2.7		3.5		1.5		2.3				2.4				2.6			
27-Apr-05	Ethylbenzene	7.4	ND	*1.5*	ND	*1.5*	ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	Ethylbenzene	7.4	ND	*1.8*	1.7		ND	*3.6*	ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	Ethylbenzene	7.4	ND	*1.6*	ND	*1.5*	ND	*1.6*	ND	*5.4*	ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	Ethylbenzene	7.4	ND	*1.6*	ND	*2*	ND	*1.4*	ND	*1.5*	ND	*2.5*			ND	*1.8*			ND	*1.7*		
19-Apr-06	Ethylbenzene	7.4	ND	*1.5*	1.3		1.5		ND	*24*	ND	*20*			ND	*1.7*						
28-Feb-07	Ethylbenzene	7.4	ND	*1.7*	1.8		1.6		ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	Ethylbenzene	7.4	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	7.4	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*
21-Apr-10	Ethylbenzene	7.4	ND	*0.79*	0.99	*0.72*	0.98	*0.73*	ND	*4.1*	ND	*3.4*	ND	*2.3*	ND	*8.6*			ND	*6.7*	1.9	*0.73*
12-Feb-04	m-&p-xylenes	20	52.1		2		3		ND	*8.7*	ND	*13*			ND	*18.7*	ND	*20*				
06-May-04	m-&p-xylenes	20	2.9		3.5		4.2		4		7.6				5.4		6.4					
06-Aug-04	m-&p-xylenes	20	2.9		3.5		ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	m-&p-xylenes	20	3.6		3.2		4.4		3.1		4				2.9				3.5			
13-Jan-05	m-&p-xylenes	20	8.2		8		11		3.6		6				6.4				6.9			
27-Apr-05	m-&p-xylenes	20	ND	*1.5*	1.7		ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	m-&p-xylenes	20	2.8		5		5.8		ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	m-&p-xylenes	20	1.6		1.8		1.9		ND	*5.4*	ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	m-&p-xylenes	20	ND	*1.6*	2.6		2.2		2.8		3.4				2.1				2.7			
19-Apr-06	m-&p-xylenes	20	ND	*3*	3.8		4.1		ND	*48*	ND	*41*			ND	*3.4*						
28-Feb-07	m-&p-xylenes	20	3.5		6.7		4.6		ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	m-&p-xylenes	20	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	20	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*
21-Apr-10	m-&p-xylenes	20	ND	*1.6*	2.6	*1.4*	2.5	*1.5*	ND	*4.1*	ND	*6.8*	ND	4.6	ND	*17*			ND	*13*	5	*1.5*
12-Feb-04	Naphthalene	0.61	2		ND	*1.7*	ND	*1.7*	ND	*8.9*	ND	*13.1*			ND	*18.3*	ND	*19.9*				
06-May-04	Naphthalene	0.61	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	0.61	ND	*1.8*	ND	*3.5*	ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	Naphthalene	0.61	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	0.61	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	0.61	ND	*1.5*	ND	*1.5*	ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	Naphthalene	0.61	ND	*1.8*	ND	*1.4*	ND	*3.6*	ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	Naphthalene	0.61	ND	*1.6*	ND	*1.5*	ND	*1.6*	ND	*5.4*	ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	Naphthalene	0.61	ND	*1.6*	ND	*2*	ND	*1.4*	ND	*1.5*	ND	*2.5*			ND	*1.8*			ND	*1.7*		
19-Apr-06	Naphthalene	0.61	ND	*1.5*	ND	*1*	ND	*1.2*	ND	*24*	ND	*20*			ND	*1.7*						
28-Feb-07	Naphthalene	0.61	ND	*1.7*	ND	*1.4*	ND	*1.2*	ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	Naphthalene	0.61	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	0.61	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*
21-Apr-10	Naphthalene	0.61	ND	*0.79*	ND	*0.72*	ND	*0.73*	ND	*4.1*	ND	*3.4*	ND	2.3	ND	*8.6*			ND	*6.7*	1.2	*0.73*

Table 4
Indoor Air Sample Results
129 Commercial Street
Malden, MA

Sample Results (Results listed in ug/m^3)

Date	ANALYTE	TIAC	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	o-xylenes	20	18.7		ND	*1.6*	ND	*1.7*	ND	*8.7*	ND	*13*			ND	*18.7*	ND	*20*				
06-May-04	o-xylenes	20	ND	*1.5*	ND	*1.9*	1.6		ND	*1.9*	3				2.2		2.6					
06-Aug-04	o-xylenes	20	ND	*1.8*	ND	*3.5*	ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	o-xylenes	20	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	20	2.8		2.2		2.6		1.3		1.7				2.1				2.1			
27-Apr-05	o-xylenes	20	ND	*1.5*	ND	*1.5*	ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	o-xylenes	20	ND	*1.8*	ND	*1.4*	ND	*3.6*	ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	o-xylenes	20	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	20	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	20	ND	*1.5*	ND	*1*	ND	*1.2*	ND	*24*	ND	*20*			ND	*1.7*						
28-Feb-07	o-xylenes	20	ND	*1.7*	1.5		1.5		ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	o-xylenes	20	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	20	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*
21-Apr-10	o-xylenes	20	ND	*0.79*	ND	*0.72*	ND	*0.73*	ND	*4.1*	ND	*3.4*	ND	2.3	ND	*8.6*			ND	*6.7*	1.8	*0.73*
12-Feb-04	Styrene	1.4	2.1		ND	*1.7*	ND	*1.7*	ND	*8.5*	ND	*12.8*			ND	*18.7*	ND	*20*				
06-May-04	Styrene	1.4	ND	*1.5*	ND	*1.9*	ND	*1.6*	ND	*1.9*	ND	*1.8*			ND	*2.1*	2.8					
06-Aug-04	Styrene	1.4	ND	*1.8*	ND	*3.5*	ND	*3.4*	ND	*33*	ND	*34*			ND	*3.5*	ND	*35*				
26-Oct-04	Styrene	1.4	ND	*1.4*	ND	*1.7*	ND	*1.5*	ND	*1.8*	ND	*1.6*			ND	*1.5*			ND	*1.6*		
13-Jan-05	Styrene	1.4	ND	*1.4*	ND	*1.3*	ND	*1.5*	ND	*1.2*	ND	*1.2*			1.5				ND	*1.8*		
27-Apr-05	Styrene	1.4	ND	*1.5*	ND	*1.5*	ND	*2*	ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	Styrene	1.4	ND	*1.8*	ND	*1.4*	ND	*3.6*	ND	*10*	ND	*13*							ND	*11*		
20-Oct-05	Styrene	1.4	ND	*1.6*	ND	*1.5*	ND	*1.6*	ND	*5.4*	ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	Styrene	1.4	ND	*1.6*	ND	*2*	ND	*1.4*	ND	*1.5*	ND	*2.5*			ND	*1.8*			ND	*1.7*		
19-Apr-06	Styrene	1.4	ND	*1.5*	ND	*1*	ND	*1.2*	ND	*24*	ND	*20*			ND	*1.7*						
28-Feb-07	Styrene	1.4	ND	*1.7*	ND	*1.4*	ND	*1.2*	ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	Styrene	1.4	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	1.4	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*
21-Apr-10	Styrene	1.4	ND	*0.79*	ND	*0.72*	ND	*0.73*	ND	*4.1*	ND	*3.4*	ND	2.3	ND	*8.6*			ND	*6.7*	0.87	*0.73*
12-Feb-04	Toluene	54	71.6		4.5		5.3		56.5		ND	*12.8*			ND	*18.5*	ND	*20*				
06-May-04	Toluene	54	85		33		72		18		13				8.7		11					
06-Aug-04	Toluene	54	5.1		9		7.5		ND	*33*	ND	*34*			3.6		ND	*35*				
26-Oct-04	Toluene	54	6.8		6.7		9		13		6.9				5.1				6.6			
13-Jan-05	Toluene	54	18		16		16		15		10				12				13			
27-Apr-05	Toluene	54	2.9		4.7		7.6		ND	*14*	ND	*13*			ND	*31*			ND	*42*		
03-Aug-05	Toluene	54	4.4		7.8		7.6		11		ND	*13*							ND	*11*		
20-Oct-05	Toluene	54	3.9		3.2		3.6		9		ND	*5.9*			ND	*5.9*			ND	*6*		
19-Jan-06	Toluene	54	2.4		6.4		4.2		13		5				3.7				4			
19-Apr-06	Toluene	54	3.8		5.2		4.2		ND	*24*	ND	*20*			2.5							
28-Feb-07	Toluene	54	5.4		4.2		5.7		ND	*9.1*	ND	*28*			ND	*53*			ND	*53*		
16-Apr-08	Toluene	54	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	54	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*
21-Apr-10	Toluene	54	3.5	0.79	4.1	*0.72*	3.4	*0.73*	4.5	*4.1*	4.4	*3.4*	3.7	2.3	ND	*8.6*			ND	*6.7*	9.2	*0.73*
16-Apr-08	1,3-Butadiene	NA	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	NA	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*
21-Apr-10	1,3-Butadiene	NA	ND	0.79	ND	*0.72*	ND	*0.73*	ND	*4.1*	ND	*3.4*	ND	2.3	ND	*8.6*			ND	*6.7*	ND	*0.73*
16-Apr-08	Methyl tert-Butyl Ether	39	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	39	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*
21-Apr-10	Methyl tert-Butyl Ether	39	ND	0.79	ND	*0.72*	ND	*0.73*	ND	*4.1*	ND	*3.4*	ND	2.3	ND	*8.6*			ND	*6.7*	ND	*0.73*
16-Apr-08	2-Methylnaphthalene	8	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	8	2-Methylnaphthalene is no longer a target analyte for APH Analysis																			
16-Apr-08	C5 - C8 Aliphatic Hydrocarbons	58	ND	*69*	70	*48*	ND	*66*	ND	*130*	91	*69*	110	60	ND	*1200*					520	*77*
07-May-09	C5 - C8 Aliphatic Hydrocarbons	58	39	*32*	45	*24*	69	*31*	ND	*61*	ND	*160*	ND	180	ND	*160*			220	*160*	43	*27*
21-Apr-10	C5 - C8 Aliphatic Hydrocarbons	58	ND	*31*	34	*29*	55	*29*	ND	*160*	ND	*140*	ND	91	ND	*350*			ND	*270*	77	*29*
16-Apr-08	C9 - C12 Aliphatic Hydrocarbons	68	24	*17*	18	*12*	27	*16*	71	*33*	33	*17*	48	15	ND	*290*					140	*19*
07-May-09	C9 - C12 Aliphatic Hydrocarbons	68	17	*16*	28	*12*	68	*16*	80	*31*	ND	*82*	ND	89	ND	*79*			ND	*81*	38	*14*
21-Apr-10	C9 - C12 Aliphatic Hydrocarbons	68	ND	*16*	23	*14*	23	*15*	ND	*81*	ND	*68*	ND	46	ND	*170*			ND	*130*	87	*15*
16-Apr-08	C9 - C10 Aromatic Hydrocarbons	10	ND	*17*	ND	*12*	ND	*16*	ND	*33*	ND	*17*	ND	15	ND	*290*					34	*19*
07-May-09	C9 - C10 Aromatic Hydrocarbons	10	ND	*8.1*	ND	*6*	ND	*7.8*	ND	*15*	ND	*41*	ND	44	ND	*40*			ND	*40*	ND	*6.8*
21-Apr-10	C9 - C10 Aromatic Hydrocarbons	10	ND	*7.9*	ND	*7.2*	ND	*7.3*	ND	*41*	ND	*34*	ND	23	ND	*86*			ND	*67*	40	*7.3*

NOTES AND ABBREVIATIONS:

All results n micrograms per cubic meter (ug/m^3)

ND: compound not detected above detection limit noted

DL: Detection limit for analyte

NA: Not Available

TIAC: Typical Indoor Air Concentrations, per Draft Mass DEP document "Indoor Air Threshold Values for the Evaluation of a Vapor Intrusion Pathway, TECHNICAL UPDATE, Review Draft for Discussion Purposes Only, June 26, 2008" http://www.mass.gov/dep/cleanup/laws/iathrdr.pdf
These values are provided for comparison only.

Table 5
Monitoring Well Gauging
Former MGP Malden
Malden, MA

Well	Date	Depth to LNAPL	Depth to Water	Thickness of LNAPL	Depth to DNAPL	Depth to Bottom	Thickness of DNAPL	Comments
B1-0W	1-Mar-91	ND	7.07	ND	See comment	NR	NR	DNAPL at bottom
	1-May-91	ND	7.18	ND	ND	NR	ND	
	1-Mar-93	ND	7.02	ND	ND	NR	ND	
	16-Jun-94	NR	7.30	NR	NR	NR	NR	1.7 ft. thick black product on tape
	16-May-95	NR	7.38	NR	NR	NR	NR	
	26-May-95	ND	7.40	ND	ND	NR	ND	
	22-Jul-97	ND	7.60	ND	NR	NR	0.25	0.25 ft. thick black product on tape
	28-Apr-98	ND	6.96	ND	ND	NR	ND	MGP odor
	26-Apr-99	ND	6.89	ND	ND	NR	ND	MGP odor
	4-Dec-00	ND	7.02	ND	ND	NR	ND	
	6-Oct-05	ND	8.60	ND	ND	13.40	ND	
	2-Mar-06	ND	6.98	ND	ND	NR	ND	
	5-Mar-09	ND	5.05	ND	ND	13.35	ND	
	5-Jul-10	ND	7.10	ND	ND	13.35	ND	
B2-0W	5-Jul-10	PAVED OVER						
B3-0W	5-Jul-10	ND	7.21	ND	ND	15.00	ND	
B4-0W	5-Jul-10	PAVED OVER						
B5-0W	5-Jul-10	PAVED OVER						
B6-0W	5-Jul-10	ND	6.42	ND	ND	11.70	ND	
B7-0W	5-Jul-10	ND	6.00	ND	ND	13.95	ND	
B8-0W	5-Jul-10	DECOMMISIONED						
B9-0W	5-Jul-10	FILLED IN AT SURFACE GRADE						
B10-0W	5-Jul-10	PAVED OVER						
B11-0W	1-Mar-91	ND	6.52	ND	ND	NR	ND	
	1-May-91	ND	6.64	ND	ND	NR	ND	
	1-Mar-93	ND	6.6	ND	ND	NR	ND	
	16-Jun-94	ND	6.66	ND	ND	NR	ND	
	16-May-95	ND	6.78	ND	ND	NR	ND	possible surface sheen??
	22-Jul-97	ND	6.95	ND	ND	NR	ND	
	28-Apr-98	ND	6.37	ND	NR	NR	0.08	Possible DNAPL
	26-Apr-99	ND	6.3	ND	ND	NR	ND	1 foot silt at bottom of well
	2-Aug-00	ND	6.23	ND	ND	NR	ND	
	4-Dec-00	sheen	6.52	sheen	ND	NR	ND	
	6-Oct-05	ND	6.16	ND	ND	8.60	ND	
	2-Mar-06	ND	2.35	ND	ND	NR	ND	well believed to be silted in
	5-Jul-10	-	DRY	-	-	5.40	-	Filled in with soil and debris
B12-0W	5-Jul-10	DECOMMISIONED						Decommissioned
B13-0W	5-Jul-10	PAVED OVER						
B14-0W	1-Mar-91	NR	6.65	NR	See comment	NR	See comment	DNAPL at bottom
	1-May-91	ND	6.77	ND	ND	NR	ND	
	1-Mar-93	ND	6.73	ND	ND	NR	ND	
	16-Jun-94	ND	6.92	ND	NR	NR	2.50	Observed on probe tape
	16-May-95	ND	6.98	ND	NR	NR	3.40	thick black DNAPL measured
	23-Jul-97	ND	7.05	ND	NR	NR	1.80	Observed on probe tape
	28-Apr-98	ND	6.65	ND	NR	NR	1.30	Observed on probe tape
	6-Oct-05	ND	7.1	ND	ND	12.3	ND	
	2-Mar-06	ND	6.53	ND	NR	NR	3.60	DNAPL from 8.40' to 12.0' below measure point
	5-Jul-10	NOT FOUND MAYBE UNDER WHITE TENT TRANSFORMER STAGE						
B15-0W	5-Jul-10	ND	6.40	ND	ND	12.95	ND	
B16-0W	5-Jul-10	ND	6.21	ND	ND	9.20	ND	
B17-0W	5-Jul-10	PAVED OVER						
B101-0W	5-Jul-10	DECOMMISIONED						
B102-0W	5-Jul-10	DESTROYED						
B103-0W	5-Jul-10	ND	5.56	ND	ND	15.05	ND	
B104-0W	5-Jul-10	ND	4.48	ND	ND	12.50	ND	
B105-0W	5-Jul-10	DECOMMISIONED						
B106-0W	5-Jul-10	ND	4.8	ND	ND	14.60	ND	

Table 5
Monitoring Well Gauging
Former MGP Malden
Malden, MA

Well	Date	Depth to LNAPL	Depth to Water	Thickness of LNAPL	Depth to DNAPL	Depth to Bottom	Thickness of DNAPL	Comments
B108-0W	1-Mar-91	NR	9.29	ND	NR	NR	See comment	DNAPL at bottom
	1-May-91	NR	9.29	ND	NR	NR	ND	
	16-Jun-94	NR	9.23	ND	NR	NR	9.80	DNAPL observed on probe tape
	16-May-95	NR	9.50	ND	NR	NR	9.30	thick black DNAPL measured
	23-Jul-97	NR	9.55	ND	NR	NR	9.00	DNAPL observed on probe tape
	28-Apr-98	NR	8.75	ND	NR	NR	2.00	DNAPL observed on probe tape
	26-Apr-99	NR	9.11	ND	NR	NR	4.25	DNAPL observed on probe tape
	5-Dec-00	NR	9.04	ND	NR	NR	ND	
	6-Oct-05							Not Found
	5-Mar-09							Not Found
	5-Jul-10	ND	9.22	ND	14.30	23.70	9.40	Coal tar, pumped 3 gallons, 2/3 coal tar
B109A-0W	1-Mar-91	ND	8.55	ND	ND	NR	ND	LNAPL on water surface
	1-May-91	ND	8.57	ND	ND	NR	ND	
	7-Apr-95	NR	8.20	0.60	ND	NR	ND	
	23-Jul-97	NR	9.00	1.50	ND	NR	ND	
	28-Apr-98	NR	8.05	1.10	ND	NR	ND	
	5-Dec-00	NR	7.14	0.50	ND	NR	ND	LNAPL difficult to gauge
	6-Oct-05	7.15	7.40	0.25	ND	18.20	ND	
	28-Feb-06	6.82	7.98	1.16	ND	NR	ND	
	5-Jul-10	6.92	7.10	0.18	ND	17.50	ND	light oily coal tar product
B110A-0W	1-Mar-91	ND	7.98	ND	ND	NR	ND	
	1-May-91	ND	7.98	ND	ND	NR	ND	
	1-Mar-93	ND	7.76	ND	ND	NR	ND	
	16-Jun-94	ND	7.93	ND	NR	NR	8.20	DNAPL observed on probe tape
	16-May-95	ND	8.24	ND	NR	NR	NR	DNAPL not checked
	26-May-95	ND	8.32	ND	NR	NR	7.50	DNAPL observed on probe tape
	23-Jul-97	ND	8.30	ND	NR	NR	7.80	DNAPL observed on probe tape
	28-Apr-98	ND	7.52	ND	NR	NR	10.00	DNAPL observed on probe tape
	26-Apr-99	ND	7.81	ND	NR	NR	6.25	DNAPL observed on probe tape
	5-Dec-00	ND	7.64	ND	ND	NR	ND	
	6-Oct-05	ND	8.41	ND	ND	23.65	ND	
	28-Feb-06	ND	7.26	ND	ND	NR	see comment	coal tar staining on tip of probe
	5-Jul-10	ND	7.89	ND	ND	23.55	see comment	coal tar staining on tip of probe
B111-0W	5-Jul-10	ND	7.02	ND	ND	15.25	ND	
B112B-0W	5-Jul-10	ND	6.52	ND	ND	15.25	ND	
B114A-0W	5-Jul-10	ND	7.27	ND	ND	15.30	ND	
B201-0W	5-Jul-10	DECOMMISIONED						
B202-0W	5-Jul-10	DECOMMISIONED						
B203-0W	5-Jul-10	ND	5.98	ND	ND	42.00	ND	
B204-0W	5-Jul-10	ND	8.41	ND	ND	13.90	ND	
B205-0W	5-Jul-10	COVER IS ID AS GAS METER, WILL NOT COME OFF, NEED BLOW TORCH						
B206-0W	1-Mar-91	ND	6.34	ND	ND	NR	ND	DNAPL at bottom
	1-May-91	ND	6.24	ND	ND	NR	ND	
	1-Mar-93	ND	6.34	ND	ND	NR	ND	
	16-Jun-94	ND	6.64	ND	NR	NR	0.70	thick black globular tar on probe tape
	16-May-95	ND	6.26	ND	ND	NR	ND	
	25-Jul-97	ND	6.20	ND	NR	NR	8.00	DNAPL observed on waterra removed from mw
	28-Apr-98	ND	5.72	ND	NR	NR	7.00	DNAPL observed on probe
	26-Apr-99	ND	5.60	ND	NR	NR	7.80	DNAPL in well
	6-Oct-05	ND	5.80	ND	7.50	12.50	7.50	thick coal tar
	3-Mar-06	5.25	5.75	0.23	NR	NR	6.90	
	5-Mar-09	ND	5.12	ND	ND	5.90	ND	Obstruction in well
	5-Jul-10	ND	5.30	ND	8.50	15.00	6.50	coal tar
B208-0W	5-Jul-10	DECOMMISIONED						

Table 5
Monitoring Well Gauging
Former MGP Malden
Malden, MA

Well	Date	Depth to LNAPL	Depth to Water	Thickness of LNAPL	Depth to DNAPL	Depth to Bottom	Thickness of DNAPL	Comments
B301L-0W	1-Mar-91	ND	8.77	ND	NR	NR	See comment	DNAPL at bottom
	1-May-91	ND	8.79	ND	ND	NR	ND	
	1-Mar-93	ND	8.10	ND	ND	NR	ND	
	16-Jun-94	ND	12.68	ND	NR	NR	2.00	thin globular black product on tape
	16-May-95	ND	8.45	ND	NR	NR	0.30	DNAPL observed on tape
	26-May-95	ND	11.51	ND	ND	NR	ND	
	22-Jul-97	ND	9.40	ND	ND	NR	ND	
	28-Apr-98	ND	8.16	ND	ND	NR	ND	
	26-Apr-99	ND	8.45	ND	ND	NR	ND	
	4-Dec-00	ND	8.47	ND	ND	NR	ND	
	2-Aug-01	ND	8.43	ND	ND	NR	ND	
	6-Oct-05							Not found
	27-Feb-06	ND	7.70	ND	ND	NR	ND	
	5-Mar-09	ND	5.01	ND	ND	54.00	ND	
	5-Jul-10	ND	7.56	ND	ND	53.10	See comment	Staining on 0.10 ft of probe
B302L-0W	5-Jul-10	ND	10.00	ND	ND	58.95	ND	
B303L-0W	1-Mar-91	ND	7.57	ND	ND	NR	ND	
	1-May-91	ND	7.92	ND	ND	NR	ND	
	1-Mar-93	ND	7.42	ND	ND	NR	ND	
	16-Jun-94	ND	7.86	ND	ND	NR	ND	
	16-May-95	ND	7.98	ND	ND	NR	ND	
	22-Jul-97	ND	8.40	ND	ND	NR	ND	
	28-Apr-98	ND	7.11	ND	ND	NR	ND	
	26-Apr-99	ND	7.44	ND	ND	NR	ND	
	2-Aug-00	ND	7.60	ND	ND	NR	ND	
	4-Dec-00	ND	7.52	ND	ND	NR	ND	
	18-Dec-00	NR	7.24	0.01	ND	NR	ND	
	2-Aug-01	ND	7.98	ND	ND	NR	ND	
	6-Oct-05							Not found
	5-Jul-10	ND	7.22	ND	ND	54.00	ND	
B304L-0W	5-Jul-10	PAVED OVER						
B305L-0W	5-Jul-10	DECOMMISIONED						
B306L-0W	5-Jul-10	ND	7.78	ND	ND	53.30	ND	
B307L-0W	5-Jul-10	PAVED OVER						
B501-0W	5-Jul-10	ND	7.62	ND	ND	14.30	ND	
B502-0W	22-Jul-97	ND	9.85	ND	ND	ND	ND	
	28-Apr-98	ND	8.49	ND	NR	NR	0.50	
	5-Dec-00	ND	8.06	ND	ND	NR	ND	
	6-Oct-05	ND	7.95	ND	ND	15.00	ND	
	3-Mar-06	ND	7.88	ND	NR	NR	0.21	
	5-Mar-09	ND	7.22	ND	14.74	14.80	0.06	vicious liquid
	5-Jul-10	ND	7.58	ND	ND	14.50	ND	
B503-0W	5-Jul-10	PAVED OVER						
B504-0W	5-Jul-10	ND	4.78	ND	ND	14.61	ND	
B505-0W	22-Jul-97	ND	7.6	ND	ND	NR	ND	
	28-Apr-98	ND	6.35	ND	NR	NR	0.2	
	29-Apr-99	ND	6.02	ND	NR	NR	0.2	
	5-Dec-00	ND	6.16	ND	ND	NR	ND	
	6-Oct-05		DRY			5.50		Filled in with soil and debris
	28-Feb-06		DRY			0.00		Filled in with soil and debris
	5-Mar-09		DRY			0.00		Filled in with soil and debris
	5-Jul-10		DRY			3.95		Filled in with soil and debris
B506-0W	22-Jul-97		9.95		ND	NR	ND	
	28-Apr-98		6.47		NR	NR	1.7	
	26-Apr-99		8.9		NR	NR	1.5	
	1-Dec-00		6.15		ND	NR	ND	
	6-Oct-05	ND	6.45	ND	ND	13.2	ND	
	5-Mar-09	ND	4.93	ND	ND	8.85	ND	
	5-Jul-10	ND	5.56	ND	ND	8.65	ND	Dev now depth at 14.50', probe tip CT stained
B507-0W	5-Jul-10	ND	5.97	ND	ND	10.70	ND	
97A-B601-0W	20-Sep-97	NR	10.40	0.50	ND	NR	ND	
	4-Dec-00	NR	9.18	see comment	ND	NR	ND	LNAPL sheen
	6-Oct-05							Not gauged
	5-Mar-09	8.3	9.10	0.80	ND	14.05	ND	
	5-Jul-10	9.11	9.46	0.35	ND	14.06	ND	
97A-B602-0W	5-Jul-10	ND	9.51	ND	ND	44.13	ND	109 Commercial
97A-B607-0W	5-Jul-10	CAR PARKED OVER IT						99 Commercial
97A-B608-0W	5-Jul-10	ND	6.5	ND	ND	12.28	ND	89 Commercial
97A-B610-0W	5-Jul-10	ND	7.04	ND	13.72	13.82	0.10	Solid, blue sheen, not pumpable
97A-B612-0W	5-Jul-10	DUMPSTER OVER IT						
97B-B617-0W	5-Jul-10	ND	10.88	ND	ND	14.40	ND	129 commercial

Table 5
Monitoring Well Gauging
Former MGP Malden
Malden, MA

Well	Date	Depth to LNAPL	Depth to Water	Thickness of LNAPL	Depth to DNAPL	Depth to Bottom	Thickness of DNAPL	Comments
97B-B618-0W	5-Jul-10	ND	9.61	ND	ND	45.10	ND	129 commercial
97D-B619-0W	5-Jul-10	NO ROAD BOX FILLED WITH DEBRIS NEED POLICE DETAIL						In Charles
97D-B620-0W	5-Jul-10	ON RESIDENTIAL PROPERTY WITH NO TREPASSING SIGN						Off of Charles
97D-B621-0W	5-Jul-10	ROAD BOX ON, NEED POLICE DETAIL						In Charles
97B-B627-0W	5-Jul-10	ND	10.97	ND	ND	14.6	ND	129 commercial
97B-B628-0W	5-Jul-10	ND	10.01	ND	ND	14.08	ND	129 commercial
98E-B801-0W	5-Jul-10	NOT FOUND						
98E-B803-0W	5-Jul-10	NOT FOUND						2" well through 6" casing, staining on tip of probe
98D-B810-0W	5-Jul-10	DAMAGED ROAD BOX, IN STREET, NEED POLICE DETAIL						In Charles
98A-B811-0W	5-Jul-10	PAVED OVER						In Centre Street
99A-B812-0W	5-Jul-10	PAVED OVER						In Centre Street
99A-B813-0W	5-Jul-10	PAVED OVER						In Centre Street
99A-B814-0W	5-Jul-10	PAVED OVER						In Commercial Street
99E-B815-0W	5-Jul-10	PAVED OVER						In Centre Street
99A-B816-0W	4-Dec-00	ND	7.84	ND	NR	NR	1.8	In Commercial Street
	5-Jul-10	PAVED OVER						
99E-B820-0W	5-Jul-10	FOUND BUT FILLED IN WITH DEBRIS TO SURFACE GRADE						
99E-B822-0W	5-Jul-10	PAVED OVER						
99A-B823-0W	5-Jul-10	ND	8.90	ND	ND	13.20	ND	In Commercial Street, next to sidewalk
00A-B901-0W	5-Jul-10	PAVED OVER						51 Commercial
00A-B903-0W	4-Dec-00	ND	8.63	ND	NR	NR	4.70	
	1-Mar-06	ND	8.13	ND	ND	ND	ND	
	5-Jul-10	ND	8.42	ND	ND	19.00	ND	51 Commercial, thick LNAPL came in during purge
B904-0W	5-Jul-10	PRIVATE BUSINESS, GATED						Canal Street Property
EXISTING WELL	5-Jul-10	PRIVATE BUSINESS, GATED						Canal Street Property
00A-B907-0W	5-Jul-10	CAR PARKED OVER IT						109 Commercial
00A-B909-0W	5-Jul-10	ND	8.18	ND	ND	13.37	ND	
B911-0W	5-Jul-10	PRIVATE BUSINESS, GATED						Canal Street property
B911A-0W	5-Jul-10	PRIVATE BUSINESS, GATED						Canal Street property
00A-B913-0W	4-Dec-00	ND	7.21	ND	NR	NR	0.32	
	5-Mar-09	ND	6.18	ND	10.90	13.40	2.50	
	5-Jul-10	ND	6.72	ND	12.27	13.47	1.20	65 Commercial
00A-B914-0W	4-Dec-00	ND	6.74	ND	NR	NR	0.32	
	5-Mar-09	ND	5.62	ND	9.50	11.75	2.25	
	5-Jul-10	ND	5.21	ND	8.38	11.68	3.30	65 Commercial
00A-B916-0W	5-Jul-10	PAVED OVER						In Centre Street
B104-MW	5-Jul-10	ND	7.59	ND	ND	16.00	ND	In parking area for rec field
B111-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B113-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B116-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B117-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B118-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B119-MW	5-Jul-10	USED METAL DETECTOR, COULD NOT LOCATE						In rec field
B124-MW	5-Jul-10	-	9.05	-	-	18.43	-	In parking area for rec field
B127-MW	5-Jul-10	COULD NOT LOCATE						In parking area for rec field
B130-MW	5-Jul-10	NO ROAD BOX,NEED POLICE DETAIL						In Charles
NC-1	5-Jul-10	COULD NOT LOCATE						129 commercial
NC-2	5-Jul-10	COULD NOT LOCATE						129 commercial
NC-3	5-Jul-10	COULD NOT LOCATE						129 commercial
MW-1	5-Jul-10	ND	9.58	ND	ND	12.08	ND	129 commercial
MW-5	5-Jul-10	ND	11.25	ND	ND	49.02	ND	129 commercial
GP-98-103-OW	5-Jul-10	COULD NOT LOCATE						129 commercial
98B-GP4-OW	5-Jul-10	COULD NOT LOCATE						129 commercial
RW-1	5-Jul-10	ND	1.95	ND	ND	14.00	ND	
TRP-1	5-Jul-10	ND	8.55	ND	ND	17.72	ND	monitors NAPL in culvert

Table 5
Monitoring Well Gauging
Former MGP Malden
Malden, MA

Well	Date	Depth to LNAPL	Depth to Water	Thickness of LNAPL	Depth to DNAPL	Depth to Bottom	Thickness of DNAPL	Comments
EW-1	5-Jul-10	ND	7.14	ND	ND	12.04	ND	51 commercial
EW-2	5-Jul-10	ND	8.37	ND	ND	13.63	ND	51 commercial
EW-3	5-Jul-10	ND	8.01	ND	ND	13.21	ND	51 commercial
EW-4	5-Jul-10	ND	8.36	ND	ND	14.31	ND	51 commercial
EW-5	5-Jul-10	ND	8.32	ND	ND	12.29	ND	51 commercial, tip of probe stained with coal tar
EW-6	5-Jul-10	ND	8.68	ND	ND	13.10	ND	51 commercial
EW-7	5-Jul-10	-	DRY	-	ND	7.24	-	51 commercial

Notes:
1. Depth to liquid measurements are obtained using a n oil-water interface probe by IESI on October 5, 2005, March 5, 2009, and July 5, 2010. On all other dates measurements were obtained by Haley & Aldrich.
2. LNAPL = Light Non-Aqueous Phase Liquids
3. DNAPL = Dense Non-Aqueous Phase Liquids
4. ND = Not detected.
5. NR = Not recorded.
6. (ft) = feet.
7. "-" = Well not located, destroyed, or filled in with debris.

Table 6
Manual NAPL Removal Data - Select Wells
100 Commercial Street
Malden, MA

Well ID	Date	Depth to Water	Depth to NAPL	Depth to Bottom	Thickness NAPL	NAPL Recovered this event	Total Fluids Gallons Recovered	Comments
00A-B913-OW	5-Jul-10	6.72	12.27	13.47	1.20	NA	NA	
	31-Aug-10	6.78	12.17	13.47	1.30	0.50	0.50	Thin, easy to pump
	14-Sep-10	6.74	6.81	13.47	6.66	1.00	1.50	
	30-Sep-10	12.85	6.58	13.47	6.89	4.00	5.50	Measured as LNAPL, same material
00A-B914-OW	5-Jul-10	5.21	8.38	11.75	3.37	NA	NA	
	31-Aug-10	6.24	8.09	11.68	3.59	1.00	1.00	Very thick , slow to pump
	14-Sep-10	6.25	10.68	11.68	1.00	0.50	1.50	
	30-Sep-10	6.33	9.44	11.68	2.24	0.50	2.00	
B108-OW	5-Jul-10	9.22	14.3	23.7	9.40	2.00	2.00	
	31-Aug-10	9.08	14.38	23.56	9.18	2.5	4.50	Readily pumped with peristaltic
	14-Sep-10	9.33	14.85	23.56	8.71	2.8	7.30	
	30-Sep-10	9.54	14.94	23.56	8.62	2	9.30	

Notes

NAPL - non-aqueous phase liquid
All data collected by IESI personnel

Table 7
Summary of July 2010 Groundwater Analytical Data
Former Malden MGP
Commercial Street
Malden, Massachusetts

Sample Identification[1]	**MCP Method 1 Standards for GW-2 Category Groundwater**[8]	**MCP Method 1 Standards for GW-3 Category Groundwater**[8]	**B1-OW**	**B7-OW**	**B15-OW**	**B16-OW**	**B106-OW**	**B110A-OW**	**B112B-OW**	**B203-OW**	**B204-OW**	**B501-OW**	**B502-OW**
Date Sample Collected			8-Jul-10	7-Jul-10	8-Jul-10	7-Jul-10	7-Jul-10	8-Jul-10	8-Jul-10	7-Jul-10	8-Jul-10	7-Jul-10	7-Jul-10
Compound													
EPH[2] (µg/L)													
C_9-C_{18} Aliphatics	5,000	50,000	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]
C_{19}-C_{36} Aliphatics	NA	50,000	ND [500]	ND [500]	ND [500]	1,100	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]
C_{11}-C_{22} Aromatics	50,000	5,000	630	ND [150]	510	470	230	1,800	1,100	600	180	240	2,500
Target PAHs[3] (µg/L)													
Acenaphthene	NA	6,000	7.5	ND [0.5]	ND [6.3]	ND [0.5]	ND [0.5]	34	32	10	ND [0.5]	7.6	42
Acenaphthylene	10,000	40	ND [5.0]	ND [0.5]	ND [0.5]	ND [0.5]	26	**48**	ND [5.0]	8.5	ND [0.5]	ND [0.5]	ND [5.0]
Anthracene	NA	30	ND [5.0]	ND [0.5]	ND [1.7]	ND [0.5]	1.6	7.5	ND [5.0]	ND [0.5]	ND [0.5]	1.0	5.5
Benzo (a) anthracene	NA	1,000	ND [1.0]	ND [0.1]	0.4	0.4	0.2	2.2	ND [1.0]	ND [0.1]	ND [0.1]	0.2	ND [1.0]
Benzo (b) fluoranthene	NA	400	ND [1.0]	ND [0.1]	0.3	0.9	ND [0.1]	1.5	ND [1.0]	ND [0.1]	ND [0.1]	0.2	1.3
Benzo (a) pyrene	NA	500	ND [1.0]	ND [0.1]	0.3	0.5	ND [0.1]	1.6	ND [1.0]	ND [0.1]	ND [0.1]	0.2	1.2
Benzo (k) fluoranthene	NA	100	ND [1.0]	ND [0.1]	ND [0.1]	0.2	ND [0.1]	ND [1.0]	ND [1.0]	ND [0.1]	ND [0.1]	ND [0.1]	1.4
Benzo (g,h,i) perylene	NA	20	ND [1.0]	ND [0.1]	0.2	0.6	ND [0.1]	1.8	ND [1.0]	0.1	ND [0.1]	0.2	ND [1.0]
Chrysene	NA	70	ND [1.0]	ND [0.1]	0.3	0.5	0.1	2.0	ND [1.0]	ND [0.1]	ND [0.1]	0.1	ND [1.0]
Dibenzo (a,h) anthracene	NA	40	ND [1.0]	ND [0.1]	0.2	0.3	ND [0.1]	ND [1.0]	ND [1.0]	ND [0.1]	ND [0.1]	0.2	ND [1.0]
Fluoranthene	NA	200	ND [5.0]	ND [0.5]	2.5	0.9	6.4	6.5	ND [5.0]	ND [0.5]	ND [0.5]	1.1	ND [1.0]
Fluorene	NA	40	ND [5.0]	ND [0.5]	4.9	1.1	1.1	29	19	ND [0.5]	ND [0.5]	3.8	21
Indeno (1,2,3-cd)pyrene	NA	100	ND [1.0]	0.3	0.4	0.8	ND [0.1]	2.9	ND [1.0]	0.3	ND [0.1]	0.4	2.9
2-Methylnaphthalene	2,000	20,000	26	ND [0.5]	0.9	ND [0.5]	ND [0.5]	160	7.2	ND [0.5]	ND [0.5]	0.6	35
Naphthalene	1,000	20,000	180	ND [0.5]	7.3	4.6	0.5	*1,500*	560	1.9	0.5	11	*1,400*
Phenanthrene	NA	10,000	6.5	ND [0.5]	7.0	0.5	1.5	37	13	2.7	ND [0.5]	1.8	25
Pyrene	NA	20	ND [5.0]	ND [0.5]	1.9	0.8	4.3	9	ND [5.0]	ND [0.5]	ND [0.5]	0.8	ND [5.0]
VPH[4] (µg/L)													
C_5-C_8 Aliphatics	3,000	50,000	ND [100]	69	120	42	ND [20]	940	690	**3,000**	ND [20]	53	530
C_9-C_{12} Aliphatics	5,000	50,000	240	ND [20]	66	ND [20]	ND [20]	1,400	1,200	420	20	65	1,400
C_9-C_{10} Aromatics	7,000	50,000	460	ND [20]	150	42	29	4,000	2,300	590	20	110	2,800
Target VOCs[5] (µg/L)													
Methyl-t-butyl ether	50,000	50,000	ND [25]	ND [5]	ND [5]	7	ND [5]	ND [100]	ND [50]	ND [100]	ND [5]	ND [5]	ND [120]
Benzene	2,000	10,000	38	4	81	17	2	810	1,000	**4,100**	3	70	640
Toluene	50,000	40,000	ND [25]	ND [5]	ND [5]	ND [5]	ND [5]	570	ND [50]	ND [100]	ND [5]	ND [5]	ND [120]
Ethylbenzene	20,000	5,000	ND [25]	ND [5]	23	ND [5]	ND [5]	540	600	500	ND [5]	24	380
Xylenes (total)	9,000	5,000	ND [25]	ND [5]	ND [5]	9	ND [5]	460	86	ND [100]	ND [5]	ND [5]	310
Naphthalene	1,000	20,000	780	ND [5]	36	11	ND [5]	*2,300*	*1,300*	ND [100]	ND [5]	49	*4,000*
Cyanide, ug/L													
Total[6]	NA	30	**120**	**30**	**470**	**180**	**420**	**900**	**560**	**60**	**40**	**130**	**400**
Available[7]	NA	30	ND [10]	ND [10]	20	20	**60**	**30**	**40**	ND [10]	ND [10]	ND [10]	**40**

Table 7
Summary of July 2010 Groundwater Analytical Data
Former Malden MGP
Commercial Street
Malden, Massachusetts

Sample Identification[1]	**MCP Method 1 Standards for GW-2 Category Groundwater**[8]	**MCP Method 1 Standards for GW-3 Category Groundwater**[8]	**B504-OW**	**B506-OW**	**97A-B602-OW**	**97A-B608-OW**	**97B-B627-OW**	**97B-B628-OW**	**00A-B909-OW**	
Date Sample Collected			7-Jul-10	9-Jul-10	7-Jul-10	8-Jul-10	7-Jul-10	7-Jul-10	7-Jul-10	
Compound										DUP-X
EPH[2] (µg/L)										
C_9-C_{18} Aliphatics	5,000	50,000	670	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]
C_{19}-C_{36} Aliphatics	NA	50,000	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]	ND [500]
C_{11}-C_{22} Aromatics	50,000	5,000	4,400	830	250	ND [150]	ND [150]	290	770	720
Target PAHs[3] (µg/L)										
Acenaphthene	NA	6,000	130	46	13	ND [0.5]	ND [0.5]	1.7	8.7	8.7
Acenaphthylene	10,000	40	8.6	ND [5.0]	8.0	ND [0.5]	ND [0.5]	0.5	1.5	1.4
Anthracene	NA	30	**40**	6.1	ND [0.5]	0.8	ND [0.5]	0.8	2.3	2.2
Benzo (a) anthracene	NA	1,000	20	1.3	ND [0.1]	0.4	ND [0.1]	ND [0.1]	0.2	0.2
Benzo (b) fluoranthene	NA	400	11	1.3	0.1	1.0	ND [0.1]	ND [0.1]	0.2	0.2
Benzo (a) pyrene	NA	500	12	1.4	0.3	0.8	ND [0.1]	ND [0.1]	0.2	0.2
Benzo (k) fluoranthene	NA	100	2.9	ND [1.0]	0.1	0.3	ND [0.1]	ND [0.1]	0.1	0.2
Benzo (g,h,i) perylene	NA	20	6.1	1.8	0.2	0.9	ND [0.1]	ND [0.1]	0.2	0.3
Chrysene	NA	70	18	ND [1.0]	0.2	0.3	ND [0.1]	ND [0.1]	0.2	0.1
Dibenzo (a,h) anthracene	NA	40	3.2	ND [1.0]	0.2	0.3	ND [0.1]	ND [0.1]	0.3	0.2
Fluoranthene	NA	200	40	24	0.5	0.6	ND [0.5]	ND [0.5]	1.8	1.8
Fluorene	NA	40	**66**	20	1.1	ND [0.6]	ND [0.5]	1.4	11	11
Indeno (1,2,3-cd)pyrene	NA	100	7.2	3.0	0.4	1.0	ND [0.1]	ND [0.1]	0.4	0.4
2-Methylnaphthalene	2,000	20,000	320	40	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]	ND [0.5]
Naphthalene	1,000	20,000	560	560	0.7	1.5	0.6	0.6	1.8	1.2
Phenanthrene	NA	10,000	**130**	24	ND [0.5]	ND [0.5]	ND [0.5]	0.6	10	9.9
Pyrene	NA	20	**55**	5.3	ND [0.5]	0.6	ND [0.5]	ND [0.5]	1.0	1.1
VPH[4] (µg/L)										
C_5-C_8 Aliphatics	3,000	50,000	270	490	20	ND [20]	ND [20]	23	ND [40]	23
C_9-C_{12} Aliphatics	5,000	50,000	510	930	25	ND [20]	ND [20]	31	73	66
C_9-C_{10} Aromatics	7,000	50,000	1,200	1,700	31	ND [20]	ND [20]	87	180	180
Target VOCs[5] (µg/L)										
Methyl-t-butyl ether	50,000	50,000	ND [25]	ND [100]	ND [5]	ND [5]	ND [5]	ND [5]	ND [10]	ND [5]
Benzene	2,000	10,000	370	650	16	ND [1]	ND [1]	14	16	21
Toluene	50,000	40,000	ND [25]	ND [100]	ND [5]	ND [5]	ND [5]	ND [5]	ND [10]	ND [5]
Ethylbenzene	20,000	5,000	230	440	ND [5]	ND [5]	ND [5]	ND [5]	ND [10]	7
Xylenes (total)	9,000	5,000	139	ND [100]	ND [5]	ND [5]	ND [5]	ND [5]	ND [10]	7
Naphthalene	1,000	20,000	990	*1,700*	ND [5]	ND [5]	ND [5]	ND [5]	13	ND [5]
Cyanide, ug/L										
Total[6]	NA	30	**280**	**660**	**50**	20	**110**	**670**	**510**	**530**
Available[7]	NA	30	**30**	**40**	ND [10]	ND [10]	ND [10]	**50**	**50**	**40**

Table 7
Summary of July 2010 Groundwater Analytical Data
Former Malden MGP
Commercial Street
Malden, Massachusetts

Notes

1. Samples collected by IESI. Sample results that are not detected above the practical quantitation limit (PQL) are repor PQL presented in brackets. "NS" indicates that the compound was not sampled for. Analyses performed by Groundv of Buzzards Bay, Massachusetts.
2. EPH = extractable petroleum hydrocarbons analyzed by the DEP Method.
3. Target PAHs = polycyclic aromatic hydrocarbons by the DEP EPH Method.
4. VPH = volatile petroleum hydrocarbons analyzed by the DEP Method.
5. Target VOCs= volatile organic compounds by the DEP VPH Method.
6. Total Cyanide = by the EPA Method 9012A.
7. Avialable Cyanide = by EPA Method OIA-1677..
8. Method 1 standards for GW-2 and GW-3 category groundwater are from 310 CMR 40.0974 (2). Results in *italics* exce Category standard and results in **bold** exceed the GW-3 Category standard.

APPENDIX A – INDOOR AIR LABORATORY ANANLYTICAL REPORTS – APRIL 2010

Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

LABORATORY REPORT

May 6, 2010

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

RE: 129 Commercial / NG Malden

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on April 22, 2010. For your reference, these analyses have been assigned our service request number P1001421.

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 32 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; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. 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

100% Recycled Paper

Client: Innovative Engineering Solutions, Inc. CAS Project No: P1001421
Project: 129 Commercial / NG Malden

CASE NARRATIVE

The samples were received intact under chain of custody on April 22, 2010 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.

Air-Phase Petroleum Hydrocarbons (APH) Analysis

The samples were analyzed for 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), Massachusetts Department of Environmental Protection, Revision 0, December, 2008.

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.

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Client: Innovative Engineering Solutions, Incorporated

Project: 129 Commercial NG Malden

Folder: P1001421

Detailed Sample Information

CAS Sample ID	Client Sample ID	Container Type	Pi1 (Hg)	Pi1 (psig)	Pf1	Pi2 (Hg)	Pi2 (psig)	Pf2	Cont ID	Order #	FC ID
P1001421-001.01	Site 5	6.0 L-Summa Canister Ambient	-4.4	-2.2	3.5				AC01132	**17511**	FC00303
P1001421-002.01	Site 4	6.0 L-Summa Canister Ambient	-4.1	-2.0	3.5				AC00932	**17511**	FC00681
P1001421-003.01	Site 2	6.0 L-Summa Canister Ambient	-6.3	-3.1	3.5				AC01044	**17511**	FC00563
P1001421-004.01	Site 6	6.0 L-Summa Canister Ambient		0.2	3.5				AC01606	**17511**	FC00255
P1001421-005.01	Site 7	6.0 L-Summa Canister Ambient		0.2	3.5				AC00846	**17511**	FC00249
P1001421-006.01	Site X	6.0 L-Summa Canister Ambient	-2.5	-1.2	3.8				AC01173	**17511**	FC00486
P1001421-007.01	Site 11	6.0 L-Summa Canister Ambient	-8.7	-4.3	3.5				AC01351	**17511**	FC00602
P1001421-008.01	Site 8	6.0 L-Summa Canister Ambient		0.3	3.5				AC00985	**17511**	FC00617
P1001421-009.01	SYS-INF	6.0 L-Summa Canister Source	-4.5	-2.2	3.5				SC00037	**17511**	OA01357

Miscellaneous Items - received

AVG01168
AVG00624
AVG00414
AVG01305
AVG01246
AVG01324
AVG01086
AVG00477
AVG01289

Air - Chain of Custody Record & Analytical Service Request

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

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. P1001421

Company Name & Address (Reporting Information): TESI, 25 Spring St., Walpol

Project Name: 129 Commercial

Project Number: NG Malden

Project Manager: Mike Lotti

P.O. # / Billing Information: DARREN H. ROLLS

Phone: 774-270-0834 Fax: 508-668-5175

Email Address for Result Reporting: m.lotti@tesianlme.com

Sampler (Print & Sign): Michael Lotti

CAS Contact

Analysis Method and/or Analytes

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Sample Type (Air/Tube/Solid)	Canister ID (Bar Code # - AC, SC, etc.)	Flow Controller (Bar Code - FC #)	Sample Volume	APH (MA DEP Method)	Styrene		Deactivate Canister	Comments e.g. Actual Preservative or specific instructions: Start	Finish
Site 5	1 -4.5	4-21-10	7:17	Air	AC0132	FC00303	6 l	1	1		1505	-30"	6"
Site 4	2 -4.2	4-21-10	7:20		AC00932	FC00681		1	1		1506	-28"	5"
Site 2	3 -6.3	4-21-10	7:24		AC01044	FC00563		1	1		1508	-29"	8"
Site 6	4 -0.0	4-21-10	7:27		AC01606	FC00255		1	1		1510	-30"	3"
Site 7	5 +0.1	4-21	7:31		AC00846	FC00249		1	1		1512	-30"	4"
Site 4 (MT)	6 -2.7	4-21	7:32		AC01173	FC00416		1	1		—	-29"	2"
Site 11	7 -8.7	4-21	7:34		AC0155	FC00602		1	1		1514	-29"	9"
Site 8	8 +0.1	4-21	7:37		AC0098	FC00617		1	1		1515	-28"	0"
SYS-INF	9 -4.7	4-21	7:50		SC00370	AC0357		1	1		1534	-30"	6"

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
Type: _____ EDD Units: _____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 4/21/10	Time: 1600	Received by: (Signature)	Date: 4/22/10	Time: 0935
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank
Temperature _____ °C

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Innovative Engineering Solutions, Inc. Work order: P1001421

Project: 129 Commercial / NG Malden

Sample(s) received on: 04/22/10 Date opened: 04/22/10 by: MZAMORA

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?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
	Cooler Temperature _____ °C Blank Temperature _____ °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001421-001.01	6.0 L Ambient Can					
P1001421-002.01	6.0 L Ambient Can					
P1001421-003.01	6.0 L Ambient Can					
P1001421-004.01	6.0 L Ambient Can					
P1001421-005.01	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)

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Innovative Engineering Solutions, Inc. Work order: P1001421

Project: 129 Commercial / NG Malden

Sample(s) received on: 04/22/10 Date opened: 04/22/10 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001421-006.01	6.0 L Ambient Can					
P1001421-007.01	6.0 L Ambient Can					
P1001421-008.01	6.0 L Ambient Can					
P1001421-009.01	6.0 L Source 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)

6

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 5**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01132

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
71-43-2	**Benzene**	**0.92**	0.73	**0.29**	0.23	
108-88-3	**Toluene**	**3.4**	0.73	**0.90**	0.19	
100-41-4	**Ethylbenzene**	**0.98**	0.73	**0.23**	0.17	
179601-23-1	**m,p-Xylenes**	**2.5**	1.5	**0.57**	0.34	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	ND	0.73	ND	0.17	
91-20-3	Naphthalene	ND	0.73	ND	0.14	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 5**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-001

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01132

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.46

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**55**	29	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**23**	15	
C_9 - C_{10} Aromatic Hydrocarbons	ND	7.3	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 4** — CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** — CAS Sample ID: P1001421-002

Test Code: EPA TO-15 — Date Collected: 4/21/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 — Date Received: 4/22/10
Analyst: Elsa Moctezuma — Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister — Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00932

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.72	ND	0.32	
1634-04-4	Methyl tert-Butyl Ether	ND	0.72	ND	0.20	
71-43-2	**Benzene**	**0.92**	0.72	**0.29**	0.22	
108-88-3	**Toluene**	**4.1**	0.72	**1.1**	0.19	
100-41-4	**Ethylbenzene**	**0.99**	0.72	**0.23**	0.16	
179601-23-1	**m,p-Xylenes**	**2.6**	1.4	**0.59**	0.33	
100-42-5	Styrene	ND	0.72	ND	0.17	
95-47-6	o-Xylene	ND	0.72	ND	0.16	
91-20-3	Naphthalene	ND	0.72	ND	0.14	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 4** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P1001421-002

Test Code: Massachusetts APH, Revision 0, December 2008 Date Collected: 4/21/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/22/10
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00932

Initial Pressure (psig): -2.0 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.43

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**34**	29	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**23**	14	
C_9 - C_{10} Aromatic Hydrocarbons	ND	7.2	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 2** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P1001421-003

Test Code: EPA TO-15 Date Collected: 4/21/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/22/10
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01044

Initial Pressure (psig): -3.1 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.79	ND	0.35	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
71-43-2	**Benzene**	**0.95**	0.79	**0.30**	0.25	
108-88-3	**Toluene**	**3.5**	0.79	**0.92**	0.21	
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
100-42-5	Styrene	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
91-20-3	Naphthalene	ND	0.79	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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 2** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P1001421-003

Test Code: Massachusetts APH, Revision 0, December 2008 Date Collected: 4/21/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/22/10
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01044

Initial Pressure (psig): -3.1 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.57

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	31	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	16	
C_9 - C_{10} Aromatic Hydrocarbons	ND	7.9	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 6**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01606

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 0.15 Liter(s)

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

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	4.1	ND	1.8	
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**	**4.5**	4.1	**1.2**	1.1	
100-41-4	Ethylbenzene	ND	4.1	ND	0.94	
179601-23-1	m,p-Xylenes	ND	8.1	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.

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 6**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-004

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01606

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 0.15 Liter(s)

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

Canister Dilution Factor: 1.22

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	160	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	81	
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.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 7**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00846

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 0.18 Liter(s)

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

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	3.4	ND	1.5	
1634-04-4	Methyl tert-Butyl Ether	ND	3.4	ND	0.94	
71-43-2	Benzene	ND	3.4	ND	1.1	
108-88-3	**Toluene**	**4.4**	3.4	**1.2**	0.90	
100-41-4	Ethylbenzene	ND	3.4	ND	0.78	
179601-23-1	m,p-Xylenes	ND	6.8	ND	1.6	
100-42-5	Styrene	ND	3.4	ND	0.80	
95-47-6	o-Xylene	ND	3.4	ND	0.78	
91-20-3	Naphthalene	ND	3.4	ND	0.65	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 7** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P1001421-005

Test Code: Massachusetts APH, Revision 0, December 2008 Date Collected: 4/21/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/22/10
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.18 Liter(s)
Test Notes:
Container ID: AC00846

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

Canister Dilution Factor: 1.22

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	140	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	68	
C_9 - C_{10} Aromatic Hydrocarbons	ND	34	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: P Date: 5/4/1

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site X**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01173

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 0.30 Liter(s)

Initial Pressure (psig): -1.2 Final Pressure (psig): 3.8

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	2.3	ND	1.0	
1634-04-4	Methyl tert-Butyl Ether	ND	2.3	ND	0.63	
71-43-2	Benzene	ND	2.3	ND	0.72	
108-88-3	**Toluene**	**3.7**	2.3	**0.98**	0.61	
100-41-4	Ethylbenzene	ND	2.3	ND	0.53	
179601-23-1	m,p-Xylenes	ND	4.6	ND	1.1	
100-42-5	Styrene	ND	2.3	ND	0.54	
95-47-6	o-Xylene	ND	2.3	ND	0.53	
91-20-3	Naphthalene	ND	2.3	ND	0.44	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site X**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-006

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01173

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 0.30 Liter(s)

Initial Pressure (psig): -1.2 Final Pressure (psig): 3.8

Canister Dilution Factor: 1.37

Compound	**Result µg/m³**	MRL µg/m³	**Data Qualifier**
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	91	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	46	
C_9 - C_{10} Aromatic Hydrocarbons	ND	23	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 11**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01351

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 0.13 Liter(s)

Initial Pressure (psig): -4.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	6.7	ND	3.0	
1634-04-4	Methyl tert-Butyl Ether	ND	6.7	ND	1.9	
71-43-2	Benzene	ND	6.7	ND	2.1	
108-88-3	Toluene	ND	6.7	ND	1.8	
100-41-4	Ethylbenzene	ND	6.7	ND	1.6	
179601-23-1	m,p-Xylenes	ND	13	ND	3.1	
100-42-5	Styrene	ND	6.7	ND	1.6	
95-47-6	o-Xylene	ND	6.7	ND	1.6	
91-20-3	Naphthalene	ND	6.7	ND	1.3	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 11**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-007

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC01351

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 0.13 Liter(s)

Initial Pressure (psig): -4.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.75

Compound	**Result µg/m³**	MRL µg/m³	**Data Qualifier**
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	270	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	130	
C_9 - C_{10} Aromatic Hydrocarbons	ND	67	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 8**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00985

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 0.070 Liter(s)

Initial Pressure (psig): 0.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	8.6	ND	3.9	
1634-04-4	Methyl tert-Butyl Ether	ND	8.6	ND	2.4	
71-43-2	Benzene	ND	8.6	ND	2.7	
108-88-3	Toluene	ND	8.6	ND	2.3	
100-41-4	Ethylbenzene	ND	8.6	ND	2.0	
179601-23-1	m,p-Xylenes	ND	17	ND	4.0	
100-42-5	Styrene	ND	8.6	ND	2.0	
95-47-6	o-Xylene	ND	8.6	ND	2.0	
91-20-3	Naphthalene	ND	8.6	ND	1.6	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Site 8**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-008

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: AC00985

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 0.070 Liter(s)

Initial Pressure (psig): 0.3 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.21

Compound	**Result µg/m³**	MRL µg/m³	**Data Qualifier**
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	350	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	170	
C_9 - C_{10} Aromatic Hydrocarbons	ND	86	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **SYS-INF**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00037

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
71-43-2	**Benzene**	**1.2**	0.73	**0.39**	0.23	
108-88-3	**Toluene**	**9.2**	0.73	**2.4**	0.19	
100-41-4	**Ethylbenzene**	**1.9**	0.73	**0.44**	0.17	
179601-23-1	**m,p-Xylenes**	**5.0**	1.5	**1.1**	0.34	
100-42-5	**Styrene**	**0.87**	0.73	**0.20**	0.17	
95-47-6	**o-Xylene**	**1.8**	0.73	**0.41**	0.17	
91-20-3	**Naphthalene**	**1.2**	0.73	**0.22**	0.14	

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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **SYS-INF**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001421-009

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00037

Date Collected: 4/21/10
Date Received: 4/22/10
Date Analyzed: 4/27/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.46

Compound	**Result µg/m³**	MRL µg/m³	**Data Qualifier**
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**77**	29	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**87**	15	
C_9 - C_{10} Aromatic Hydrocarbons	**40**	7.3	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P100426-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 4/26/10
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	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.

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P100426-MB

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 4/26/10
Volume(s) Analyzed: 1.00 Liter(s)

Compound	**Result µg/m³**	MRL µg/m³	**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.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} 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: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

SURROGATE SPIKE RECOVERY RESULTS

Client: **Innovative Engineering Solutions, Inc.**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 4/21/10
Date(s) Received: 4/22/10
Date(s) Analyzed: 4/26 - 4/27/10

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4 % Recovered	1,2-Dichloroethane-d4 Acceptance Limits	Toluene-d8 % Recovered	Toluene-d8 Acceptance Limits	Bromofluorobenzene % Recovered	Bromofluorobenzene Acceptance Limits	Data Qualifier
Method Blank	P100426-MB	**102**	70-130	**99**	70-130	**97**	70-130	
Lab Control Sample	P100426-LCS	**102**	70-130	**99**	70-130	**98**	70-130	
Batch Dup	P1001383-002	**102**	70-130	**99**	70-130	**95**	70-130	
Batch Dup	P1001383-002DUP	**101**	70-130	**100**	70-130	**96**	70-130	
Site 5	P1001421-001	**101**	70-130	**98**	70-130	**97**	70-130	
Site 4	P1001421-002	**101**	70-130	**98**	70-130	**96**	70-130	
Site 2	P1001421-003	**101**	70-130	**98**	70-130	**96**	70-130	
Site 6	P1001421-004	**101**	70-130	**99**	70-130	**96**	70-130	
Site 7	P1001421-005	**103**	70-130	**99**	70-130	**96**	70-130	
Site X	P1001421-006	**102**	70-130	**99**	70-130	**96**	70-130	
Site 11	P1001421-007	**102**	70-130	**98**	70-130	**96**	70-130	
Site 8	P1001421-008	**103**	70-130	**98**	70-130	**97**	70-130	
SYS-INF	P1001421-009	**103**	70-130	**98**	70-130	**97**	70-130	

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P100426-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
106-99-0	1,3-Butadiene	26.8	**29.0**	**108**	63-141	
1634-04-4	Methyl tert-Butyl Ether	26.3	**27.4**	**104**	67-124	
71-43-2	Benzene	25.8	**26.3**	**102**	63-112	
108-88-3	Toluene	26.8	**26.6**	**99**	66-120	
100-41-4	Ethylbenzene	26.3	**26.4**	**100**	69-122	
179601-23-1	m,p-Xylenes	51.5	**51.4**	**100**	69-122	
100-42-5	Styrene	26.3	**27.2**	**103**	75-130	
95-47-6	o-Xylene	26.0	**26.1**	**100**	69-122	
91-20-3	Naphthalene	25.0	**25.1**	**100**	71-147	

Verified By: Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Lab Control Sample**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P100426-LCS

Test Code: Massachusetts APH, Revision 0, December 2008
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 4/26/10
Volume(s) Analyzed: NA Liter(s)

Compound	Spike Amount ng	**Result ng**	**% Recovery**	CAS Acceptance Limits	**Data Qualifier**
C5 - C8 Aliphatic Hydrocarbons	27.0	**27.5**	**102**	70-130	
C9 - C12 Aliphatic Hydrocarbons	27.3	**27.8**	**102**	70-130	
C9 - C10 Aromatic Hydrocarbons	53.3	**51.6**	**97**	70-130	

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Batch Dup**
Client Project ID: **129 Commercial / NG Malden**

CAS Project ID: P1001421
CAS Sample ID: P1001383-002DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00037

Date Collected: 4/9/10
Date Received: 4/20/10
Date Analyzed: 4/26/10
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.7 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.52

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Toluene	2.61	0.692	2.62	0.696	2.615	**0.4**	25	
Ethylbenzene	0.765	0.176	ND	ND	-	-	25	
m,p-Xylenes	2.34	0.538	2.34	0.539	2.34	**0**	25	
Styrene	0.958	0.225	0.950	0.223	0.954	**0.8**	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	

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

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Innovative Engineering Solutions, Inc.**
Client Sample ID: **Batch Dup** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden** CAS Sample ID: P1001383-002DUP

Test Code: Massachusetts APH, Revision 0, December 2008 Date Collected: 4/9/10
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 4/20/10
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: SC00037

Initial Pressure (psig): -2.7 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.52

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	56.9	53.4	55.15	**6**	25	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	340	341	340.5	**0.3**	25	
C_9 - C_{10} Aromatic Hydrocarbons	ND	ND	-	-	25	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Verified By: _____ Date: 5/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Innovative Engineering Solutions, Inc.** CAS Project ID: P1001421
Client Project ID: **129 Commercial / NG Malden**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 04261001.D
Analyst: Elsa Moctezuma Date Analyzed: 4/26/10
Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 08:30
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT	#
	24 Hour Standard	373258		12.73	1851786		15.67	919568		21.48	
	Upper Limit	522561		13.06	2592500		16.00	1287395		21.81	
	Lower Limit	223955		12.40	1111072		15.34	551741		21.15	
	Client Sample ID										
01	Method Blank	349203		12.71	1759414		15.66	855693		21.48	
02	Lab Control Sample	350971		12.74	1765632		15.67	865751		21.49	
03	Batch Dup	338794		12.72	1705603		15.66	835762		21.48	
04	Batch Dup	341535		12.72	1709256		15.66	832207		21.48	
05	Site 5	337493		12.72	1685095		15.66	833778		21.48	
06	Site 4	340788		12.72	1689063		15.66	833178		21.48	
07	Site 2	336235		12.72	1677648		15.66	831635		21.48	
08	Site 6	345031		12.72	1709017		15.66	831711		21.48	
09	Site 7	338995		12.72	1707758		15.66	840372		21.48	
10	Site X	343599		12.72	1705458		15.66	840670		21.48	
11	Site 11	343017		12.72	1706693		15.66	845274		21.48	
12	Site 8	345399		12.72	1721613		15.66	851968		21.48	
13	SYS-INF	330897		12.72	1666838		15.66	826594		21.48	
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: 5/4/10

APPENDIXB – FIELD DATA RECORD – LOW FLOW GROUNDWATER SAMPLING – JULY 2010

D DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

	NG Malden	JOB NUMBER	Task 6
LL ID	B1-OW	DATE	7/8/10
TIME	START 9:20 END 10:00		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER	7.20 FT	WELL DEPTH	13.40 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	7.30 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[x]	[ ]	[x]

TOTAL VOLUME PURGED: 2 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
9:20	7.30	240	20.15	3059	6.65	11.32	41.3	-157.0	
9:25	7.30	240	20.63	3027	6.60	10.06	21.7	-166.4	
9:30	7.30	240	20.74	3170	6.60	9.55	14.2	-168.9	
9:35	7.30	240	20.69	3192	6.60	9.09	6.06	-167.4	
9:40	7.30	240	20.73	3219	6.59	9.64	4.64	-167.9	
9:45	7.30	240	20.74	3547	6.59	8.74	0.00	-170.9	
9:50	7.30	240	20.71	3557	6.59	8.92	0.00	-169.5	Sample

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	B1-OW
[x] GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x] GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x] GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ 500 ml	[x]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	

PURGE WATER DESCRIPTION: Semi clear - odor smells like creosote

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: D. R

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B15-OW	DATE	7/8/10
TIME	START 8:00 END 9:00		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 6.55 FT

WELL DEPTH: 13.10 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 6.92 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☑	☐	☑

TOTAL VOLUME PURGED: 2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
8:00	6.80	240	19.98	7819	6.66	1.84	63.8	-199.7	
8:05	6.92	240	18.66	7162	6.44	2.44	54.0	-241.8	
8:10	6.92	240	19.29	6311	6.35	4.09	44.0	-254.0	
8:15	6.92	240	19.37	6616	6.37	14.02	9.70	-284.6	
8:20	6.92	240	19.12	6614	6.37	16.52	7.97	-285.2	
8:25	6.92	240	19.01	6649	6.36	19.24	6.01	-285.0	
8:30	6.92	240	19.16	6701	6.36	19.23	5.00	-285.7	
8:35	6.92	240	19.40	6736	6.36	19.50	4.60	-285.4	
8:40	692	240	19.61	6773	6.35	19.51	4.33	-285.8	Sampled

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B15-OW
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	↓
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☑	
☑ GWA	Available Cyanide	NAOH/4 DEG C	1 x ~~250~~ 500 ml	☑	
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION: odor / semi-clear / no sheen

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES: Black water at beginning of pumping

SIGNATURE: DK

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B16-OW	DATE	7/7/10
TIME	START 1219 END 1430		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): ✓ FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 6.22 FT

WELL DEPTH: 9.~~25~~50 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 7.00 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☑	☐	☑

TOTAL VOLUME PURGED: 2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1235	7.10	0.150	23.33	15,110	6.14	0.56	118	-288.7	
1250	7.10	0.150	23.77	12,319	6.13	0.35	76.8	-292.2	
1300	7.20	0.150	25.86	8,972	6.17	0.94	31.9	-272.4	Battery died
1400	7.20	0.150	25.72	~~7,855~~ 8,855	6.18	0.81	20.2	-272.6	
1405	7.20	0.150	25.44	7,790	6.20	0.78	24.1	-258.5	
1410	7.20	0.150	25.38	7,698	6.20	0.72	23.2	-259.3	abundant organics

SAMPLE @ 1415

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B16-OW
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☑	
☑ GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ 500 ml	☑	
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED

NOTES

SIGNATURE

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B7-OW	DATE	7/7/10
TIME	START 0945 END 1140		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 6.00 FT

WELL DEPTH: 14.00 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 6.25 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 8 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☑	☐	☑

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1000	6.48	0.200	21.55	14,943	6.62	0.56	23.2	-313.7	
1015	6.40	0.150	21.91	11,166	6.58	0.21	36.9	-360.7	fines in cell, clean out
1030	6.38	0.150	22.90	11,244	6.54	0.28	39.7	-404.0	organics make bucket black
1045	6.38	0.150	23.03	10,620	6.55	6.60	38.6	-375.0	
1100	6.38	0.150	22.80	11,950	6.58	0.04	16.6	-351.0	
1115	6.38	0.150	22.91	11,755	6.56	0.03	17.4	-351.3	
1120	6.38	0.150	22.82	11,532	6.56	0.02	8.35	-358.0	
1125	6.38	0.150	22.78	11,605	6.56	0.07	3.97	-350.5	
	SAMPLE @ 1130								

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B7-OW
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	↓
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x ~~500~~ ml	☑	↓
☑ GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ ml 500	☑	↓
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION: strong organic odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES: fine organics getting through slot screens. reduced low + raised tubing, purged 1/2 hours

SIGNATURE: _____

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B106-OW	DATE	7/7/10
TIME	START 1010 END 11:20		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 4.95 FT

WELL DEPTH: 14.60 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 5.00 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 4 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☐	☐	☑

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1010	5.00	240	24.98	8335	6.64	1.37	83.8	-256.4	
1015	5.00	240	20.45	10053	6.56	2.19	57.9	-293.9	
1020	5.00	240	20.49	10667	6.50	0.57	19.5	-299.3	
1025	5.00	240	20.42	10,664	6.50	0.63	17.20	-298.6	
1030	5.00	240	20.46	10,685	6.51	1.61	10.70	-295.6	
1035	5.00	240	20.47	10,672	6.51	1.92	10.55	-293.6	
1040	5.00	240	20.58	10,669	6.51	2.37	10.17	-292.7	
1045	5.00	240	20.85	10,557	6.50	4.19	10.62	-287.8	
1050	5.00	240	21.09	11,2331	6.49	7.08	7.23	-282.8	
1055	5.00	240	21.23	10,296	6.48	11.60	4.97	-279.2	
1100	5.00	240	21.10	10,982	6.47	14.34	4.95	-277.6	
1101	5.00	240	21.43	10,847	6.47	17.98	4.96	-275.5	Sampled

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B106-OW
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☑	
☑ GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ 500 ml	☑	
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION: Very dark - odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: DR

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B110A-OW	DATE	7/8/10
TIME	START 1030 END 1140		

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25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER	7.89 FT	WELL DEPTH	23.35 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	9.53 FT	SCREEN LENGTH	20 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM
TOTAL VOLUME PURGED	3/2 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[x]	[ ]	[x]

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1035	9.85	200	18.30	6234	5.44	0.66	34	-62	
1040	9.63	200	18.24	5935	5.31	1.10	29	-57.2	
1045	9.50	200	18.11	5756	5.18	0.66	23	-56.9	
1050	9.50	200	18.37	5792	5.12	0.78	17	-56.4	
1055	9.50	200	18.39	5910	5.13	0.94	12	-59.4	
1100	9.52	200	18.33	5978	5.13	1.12	9.8	-65.4	
1105	9.52	200	18.05	5966	5.09	1.25	7.7	-68.8	
1110	9.52	200	18.04	6007	5.14	1.37	4.8	-75.9	
1115	9.52	200	18.32	5965	5.03	1.45	2.7	-82.3	
1120	9.53	200	18.36	5895	5.03	1.49	2.8	-82.9	
1125	9.53	200	18.42	5851	5.03	1.53	2.2	-83.7	
									sampled @ 1125

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	B110A-OW
[x] GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x] GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x] GWA	Available Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	

PURGE WATER DESCRIPTION: gray, moderate [illegible], [illegible] for [illegible] [illegible]

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	97A-B608-OW	DATE	7/8/10
TIME	START 0910 END 1000		

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WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER	6.55 FT	WELL DEPTH	12.51 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	7.50 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM
TOTAL VOLUME PURGED	3 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[ ]	[ ]	[x]

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
0915	7.56	200	20.60	270	6.90	5.57	2.3	290	
0920	7.56	200	20.95	259	6.65	5.56	2.2	341.8	
0925	7.56	200	19.98	220	6.50	5.42	1.6	393.1	
0930	7.56	200	20.55	222	6.50	5.48	1.7	419.2	
0935	7.56	200	20.63	221	6.51	5.50	1.6	422.1	
0940	7.56	200	20.71	222	6.52	5.49	1.7	426.3	
									sampled @ 0940

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x]	GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	97A-B608-OW
[x]	GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x]	GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x]	GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 ~~x 250 ml~~ 500	[x]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	

PURGE WATER DESCRIPTION: clear, no odors

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: —

NOTES

SIGNATURE: [signature]

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 1
WELL ID	B112B-OW	DATE	7/8/10
TIME	START 1015 END 1105		

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25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 6.60 FT

WELL DEPTH: 15.25 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 6.62 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 2 1/2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☑	☐	☐

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1015	6.62	240	21.21	10,439	6.63	11.14	35	-246.4	
1020	6.62	240	21.03	10,525	6.56	18.28	23	-262.3	
1025	6.62	240	21.19	10,633	6.49	24.91	20	-305.2	
1030	6.62	240	21.14	10,628	6.48	22.72	15	-307.6	
1035	6.62	240	21.12	10,656	6.44	26.28	8	-312.9	
1040	6.62	240	21.39	10,721	6.40	27.14	5	-313.0	
1045	6.62	240	21.47	10,786	6.40	26.99	4.8	-313.2	
1050	6.62	240	21.32	10,784	6.41	26.87	4.3	-312.6	Sampled

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] MADEP VPH w/ All Targets	MADEP	HCL/4 DEG C	3 x 40 ml	☑	NA
[x] MADEP EPH w/ All Targets	MADEP	H2SO4	2 x 1 Liter	☑	NA
[x] Available Cyanide Filtered		NAOH	1 x 250 ml	☑	NA
[ ] Total & PAC Cyanide		NAOH	1 x 500 ml	☐	NA
[ ]				☐	

Vicki
Use other template

PURGE OBSERVATIONS

PURGE WATER DESCRIPTION: Clear/No sheen

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: DL

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B203-OW	DATE	7/7/10
TIME	START 8:50 END 1000		

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25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 5.99 FT

WELL DEPTH: 42.10 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 6.60 FT

SCREEN LENGTH: 25 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[x]	[ ]	[x]

TOTAL VOLUME PURGED: 3 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
8:45	6.50	240	19.31	1945	6.95	0.87	15.60	-108.1	
8:50	6.70	240	18.10	1886	6.79	0.51	15.0	-108.0	
8:55	6.60	240	18.77	1906	6.77	0.40	14.20	-110.2	
9:00	6.60	240	18.30	1884	6.76	0.38	13.20	-110.4	
9:05	6.60	240	18.24	1879	6.73	0.32	9.49	-112.1	
9:10	6.60	240	18.39	1888	6.73	0.32	9.13	-112.5	
9:15	6.60	240	18.08	1880	6.72	0.32	8.13	-113.8	
9:20	6.60	240	1890	1889	6.73	0.32	6.09	-114.8	
9:25	6.60	240	18.17	1892	6.72	0.32	5.00	-115.2	
9:30	6.60	240	18.26	1894	6.72	0.33	4.98	-115.3	
9:35	6.60	240	18.35	1903	6.72	0.33	4.95	-115.6	Sampled

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x]	GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	B903-OW
[x]	GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x]	GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x]	GWA	Available Cyanide	~~NaOH~~/4 DEG C	1 ~~x 250~~ ml 500	[x]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	

PURGE WATER DESCRIPTION: odor, / Clear / Black Fine particles

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: D.R.

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	~~B104-OW~~ B204-dw	DATE	7/8/10
TIME	START 0945 END 1040		

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WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND)	FT			PROTECTIVE CASING/WELL DIFFERENCE	— FT
INITIAL DEPTH TO WATER	8.41 FT	WELL DEPTH	13.90 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	8.68 FT	SCREEN LENGTH	— FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM
TOTAL VOLUME PURGED	1 1/2 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[x]	[ ]	[ ]

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1000	9.01	0.200	19.06	2336	6.34	2.87	20	50.3	
1015	9.01	0.200	19.37	2072	6.24	4.25	0.0	84.4	
1020	9.01	0.200	19.26	2037	6.24	4.44	0.0	87.5	
1025	9.01	0.206	19.37	2035	6.25	4.53	0.0	90.3	

SAMPLE AT 1030

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	B204-OW
[x] GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x] GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x] GWA	Available Cyanide	NAOH/4 DEG C	1 x ~~250~~ 500 ml	[x]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED

NOTES

SIGNATURE

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B 501 - OW	DATE	7/7/10
TIME	START 1415 END 1515		

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Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 7.66 FT

WELL DEPTH: 14.40 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 7.70 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☐	☐	☑

TOTAL VOLUME PURGED: 2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1415	7.66	240	25.93	4786	6.43	2.99	95.9	-237	
1425	7.70	240	19.85	2980	6.09	3.52	33.7	-212.4	
1435	7.70	240	20.61	2694	6.03	3.51	15.8	-207.9	
1440	7.70	240	20.86	2609	6.00	3.45	10.28	-206.5	
1445	7.70	240	20.86	2559	5.96	3.38	9.15	-205.5	
1450	7.70	240	20.91	2548	5.95	3.32	4.90	-205.8	
1455	7.70	240	20.91	2548	5.95	3.31	4.91	-205.6	
1500	7.70	240	20.97	2547	5.95	3.30	4.83	-205.6	Sampled 1500

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B501-OW
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	↓
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☑	
☑ GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ 500 ml	☐	
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION: Odor/ Semi clear

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: DR

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B502-OW	DATE	7/7/10
TIME	START 1305 END 1400		

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25 Spring Street
Walpole Massachusetts 02081

-889-2948

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND)	— FT	PROTECTIVE CASING/WELL DIFFERENCE	— FT		
INITIAL DEPTH TO WATER	7.58 FT	WELL DEPTH	15 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	8.35 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL	PID WELL MOUTH	NA PPM		
TOTAL VOLUME PURGED	11½ GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[ ]	[ ]	[x]

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1305	8.25	240	25.15	3534	6.80	2.41	44.50	-226.9	
1315	8.35	240	20.76	1570	6.80	1.73	16.70	-253.4	
1325	8.35	240	20.65	1758	6.75	1.85	5.78	-253.6	
1330	8.35	240	20.56	1873	6.73	1.91	4.91	-253.6	
1335	8.35	240	20.48	1960	6.71	1.97	3.41	-253.4	
1340	8.35	240	20.27	2109	6.70	2.05	3.21	-252.5	Sampled

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x]	GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	B502-OW
[x]	GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x]	GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x]	GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ ml 500	[x]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	

PURGE WATER DESCRIPTION: Slear - odorless

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES: Let pump run unattached for 15 min

SIGNATURE: DR

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	B504-OW	DATE	7/7/10
TIME	START 1430 END 1555		

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25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER	4.95 FT	WELL DEPTH	15.60 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	8.00 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM
TOTAL VOLUME PURGED	3 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☐	☐	☑

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1445	5.33	0.150	22.76	10772	6.30	0.12	22.5	-275.8	
1500	6.30	0.150	25.17	7598	6.39	0.53	37.0	-292.9	
1515	6.92	0.150	25.14	6588	6.43	0.88	38.7	-244.6	
1530	7.30	0.150	25.54	8050	6.39	0.90	12.1	-284.6	abundant vry f. organics
1535	7.45	0.150	25.74	8660	6.39	0.85	44.4	-297.7	
1540	8.93	0.150	25.67	8445	6.38	0.88	38.6	-283.5	

SAMPLE @ 1545

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑	GWA	VPH	HCL/4 DEG C	3 x 40 ml	☑	B504-OW
☑	GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☑	B504-OW
☑	GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☑	B504-OW
☑	GWA	Available Cyanide	~~NAOH~~/4 DEG C	1 x ~~250~~ ml 500	☑	B504-OW
☐					☐	
☐					☐	
☐					☐	
☐					☐	

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED

NOTES: AT sampling, ct sheen appeared in bucket

SIGNATURE

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 1
WELL ID	B506-OW	DATE	7/9/10
TIME	START 0915 END 1040		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 5.60 FT

WELL DEPTH: 14.20 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 6.17 FT

SCREEN LENGTH: — FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY

	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[x]	[ ]	[ ]

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 3 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (~~mg~~ S/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1000	6.35	0.150	24.79	6873	6.21	2.29	17	-96.0	
1005	6.35	0.150	24.31	6814	6.18	3.20	4.5	-103.2	
1010	6.35	0.150	23.70	6724	6.18	4.27	3.7	-108.7	
1015	6.35	0.150	23.76	6717	6.18	4.10	3.6	-109.6	
1020	6.35	0.150	23.85	6692	6.18	4.30	2.8	-110.3	

SAMPLE @ 1025

5 C 18
7 5 P
4 4 V

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] MADEP VPH w/ All Targets	MADEP	HCL/4 DEG C	3 x 40 ml	[ ]	NA
[x] MADEP EPH w/ All Targets	MADEP	H2SO4	2 x 1 Liter	[ ]	NA
[ ] Available Cyanide Filtered		NAOH	1 x 250 ml	[ ]	NA
[ ] Total & PAC Cyanide		NAOH	1 x 500 ml	[ ]	NA
[ ]				[ ]	

USE other template

PURGE OBSERVATIONS

PURGE WATER DESCRIPTION: very light sheen, intermittent sheen

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED:

NOTES: Probe lightly stained with coal TAR. Purge without low flow cell 45 minutes to avoid destroying cell

SIGNATURE: [signature]

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	97A-B602-OW	DATE	7/7/16
TIME	START 1010 END 1050		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 9.50 FT

WELL DEPTH: 44.65 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 9.51 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[ ]	[ ]	[x]

TOTAL VOLUME PURGED: 2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1015	9.51	200	20.15	452	4.51	1.19	29	-6.4	
1020	9.51	200	17.50	419	3.87	0.50	5.7	-3.9	
1025	9.51	200	19.47	429	[illegible]	0.48	1.43	-9.8	
1030	9.51	200	19.51	432	4.23	0.50	1.43	-10.6	
1035	9.51	200	19.34	434	4.23	0.51	1.41	-9.9	
									sample @ 1035

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x]	GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	97A-602-OW
[x]	GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x]	GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x]	GWA	Available Cyanide	NAOH/4 DEG C	1 x ~~250~~ ml 500	[x]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	
[ ]					[ ]	

PURGE WATER DESCRIPTION: clear, no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: [signature]

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	97B-B627-OW	DATE	7/7/10
TIME	START 1235 END		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER	10.98 FT	WELL DEPTH	14.9 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	11.02 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	— GAL			PID WELL MOUTH	NA PPM
TOTAL VOLUME PURGED	2 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[ ]	[ ]	[x]

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1230	11.02	200	20.06	1131	5.91	1.72	1.7	-10.2	
1235	11.02	200	17.62	1010	5.39	0.80	1.4	12.4	
1240	11.02	200	18.98	1013	5.30	0.91	1.2	16.7	
1245	11.02	200	19.04	1008	5.29	0.88	1.2	17.7	
1250	11.02	200	18.99	1005	5.28	0.85	1.1	18.9	
									sampled at 1250

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	97B-B627-OW
[x] GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x] GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x] GWA	Available Cyanide	~~NaOH~~/4 DEG C	1 x ~~250~~ 500 ml	[x]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	

PURGE WATER DESCRIPTION: clear, no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: [signature]

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	97B-B628-OW	DATE	7/7/10
TIME	START 1110 END 1205		

Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 10.06 FT

WELL DEPTH: 14.41 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 10.07 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

PID WELL MOUTH: NA PPM

WELL INTEGRITY	YES	NO	N/A
CAP	[x]	[ ]	[ ]
CASING	[x]	[ ]	[ ]
LOCKED	[ ]	[x]	[ ]
COLLAR	[ ]	[ ]	[x]

TOTAL VOLUME PURGED: 2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
1115	10.06	200	21.76	2990	5.75	2.50	45	42.3	
1120	10.06	200	21.27	2990	5.43	1.53	22	94.1	
1125	10.07	200	19.93	2923	5.27	1.09	12	185.3	
1130	10.08	200	19.56	2873	5.18	0.89	7.6	164.1	
1135	10.07	200	20.20	2972	5.49	1.02	1.93	89.3	
1140	10.07	200	20.62	2966	5.51	0.97	1.91	87.8	
1145	10.07	200	20.59	2962	5.52	0.97	1.90	84.9	
									sampled @ 1145

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
[x] GWA	VPH	HCL/4 DEG C	3 x 40 ml	[x]	97B-B628-OW
[x] GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	[x]	
[x] GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[x] GWA	Available Cyanide	NAOH/4 DEG C	1 x 500 ml	[x]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	
[ ]				[ ]	

PURGE WATER DESCRIPTION: clear, slight tar odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	NG Malden	JOB NUMBER	Task 6
WELL ID	00A-B909-OW	DATE	7/7/10
TIME	START 0835 END 0955		

Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole Massachusetts 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): — FT

PROTECTIVE CASING/WELL DIFFERENCE: — FT

INITIAL DEPTH TO WATER: 8.19 FT

WELL DEPTH: 14 FT

WELL DIAMETER: 2 IN

FINAL DEPTH TO WATER: 8.20 FT

SCREEN LENGTH: 10 FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: — GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY

	YES	NO	N/A
CAP	☑	☐	☐
CASING	☑	☐	☐
LOCKED	☐	☑	☐
COLLAR	☐	☐	☑

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 2 1/2 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
0840	8.20	200	20.45	942	6.02	0.98	39	-66.7	DupX
0845	8.20	200	17.94	803	5.43	0.73	24	-42.9	
0850	8.20	200	16.70	766	4.95	0.59	18	-9.8	
0855	8.20	200	16.34	757	4.79	0.53	9.0	18.0	
0900	8.20	200	16.02	748	4.44	0.51	4.81	41.9	
0905	8.20	200	[illegible]	795	4.88	0.68	4.75	42.1	
0910	8.20	200	19.23	796	4.87	0.67	4.72	42.3	
0915	8.20	200	19.32	796	4.86	0.68	4.69	44.8	
			*19.15						sampled @ 0915

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
☑ GWA	VPH	HCL/4 DEG C	3 x 40 ml	☒	00A-B909-dw
☑ GWA	EPH	H2SO4/4 DEG C	2 x 1 liter	☒	↓
☑ GWA	Total Cyanide	NAOH/4 DEG C	1 x 500 ml	☒	
☑ GWA	Available Cyanide	[illegible]/4 DEG C	1 x [illegible] ml	☒	
☐				☐	
☐				☐	
☐				☐	
☐				☐	

PURGE WATER DESCRIPTION: Very slight tint odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES: DupX

SIGNATURE: [signature]

APPENDIX C– GROUNDWATER LABORATORY ANANLYTICAL REPORTS – JULY 2010

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone: (508) 759-4441
FAX: (508) 759-4475

GROUNDWATER ANALYTICAL

e-mail

To:	Vicki Pariyar	From:	e-mail reporting GWA
	Innovative Engineering	Pages:	116
e-mail:	V.Pariyar@IESIonline.com	Date:	07/28/2010 09:04:48
Re:	134702	CC:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply

● Comments:

Final Project Report for NG Malden/NG Malden T6, Lab ID 134702, Received 07-09-10

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Confidential

Groundwater Analytical, Inc.
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228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

July 27, 2010

Ms. Vicki Pariyar
Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole, MA 02081

LABORATORY REPORT

Project: **NG Malden/NG Malden T6**
Lab ID: **134702**
Received: **07-09-10**

Dear Vicki:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury 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.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-1	B203-OW		Aqueous	7/7/10 9:35	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261462	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261449	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261438	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-2	B106-OW		Aqueous	7/7/10 11:05	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261500	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261483	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261476	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-3	B7-OW		Aqueous	7/7/10 11:30	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261493	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261490	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261469	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-4	B16-OW		Aqueous	7/7/10 14:15	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261461	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261450	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261437	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-5	B504-OW		Aqueous	7/7/10 15:45	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261458	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261453	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261434	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-6	B501-OW		Aqueous	7/7/10 15:00	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261459	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261452	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261435	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-7	B502-OW		Aqueous	7/7/10 13:40	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261465	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261446	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261441	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-8	00A-B909-OW		Aqueous	7/7/10 9:15	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261499	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261484	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261475	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-9	97B-B627-OW		Aqueous	7/7/10 12:50	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261485	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261482	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261477	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-10	97B-B628-OW		Aqueous	7/7/10 11:45	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261497	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261486	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261473	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-11	97A-B602-OW		Aqueous	7/7/10 10:35	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261501	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261498	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261474	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-12	DUP-X		Aqueous	7/7/10 0:00	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261480	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261479	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261456	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-13	B15-OW		Aqueous	7/8/10 8:40	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261464	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261447	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261440	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-14	B1-OW		Aqueous	7/8/10 9:50	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261492	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261491	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261468	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-15	B112B-OW		Aqueous	7/8/10 10:50	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261502	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261481	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261478	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-16	B110A-OW		Aqueous	7/8/10 11:25	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261496	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261487	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261472	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-17	B204-OW		Aqueous	7/8/10 10:30	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261463	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261448	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261439	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-18	97AB608-OW		Aqueous	7/8/10 9:40	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261494	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261489	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261470	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-19	B506-OW		Aqueous	7/9/10 10:25	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261503	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261432	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1273389	40 mL VOA Vial	n/a	n/a	HCL	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-20	Trip Blank		Aqueous	7/9/10 0:00	MA DEP VPH with Targets				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1261445	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		
C1261442	40 mL VOA Vial	Scientific Specialist	BX36560	HCL	R-5915D	06-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-21	B203-OW		Aqueous	7/7/10 9:35	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266941	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1259911	1 L Amber Glass	Scientific Specialist	BX36885	H2SO4	R-6054E	06-17-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-22	B106-OW		Aqueous	7/7/10 11:05	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259184	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		
C1259180	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-23	B7-OW		Aqueous	7/7/10 11:30	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259190	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		
C1259181	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-24	B16-OW		Aqueous	7/7/10 14:15	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266942	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1266934	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-25	B504-OW		Aqueous	7/7/10 15:45	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266938	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1266936	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-26	B501-OW		Aqueous	7/7/10 15:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266940	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1259189	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-27	B502-OW		Aqueous	7/7/10 13:40	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266939	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1259188	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-28	00A-B909-OW		Aqueous	7/7/10 9:15	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259126	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		
C1259122	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-29	97B-B627-OW		Aqueous	7/7/10 12:50	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259131	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		
C1259120	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-30	97B-B628-OW		Aqueous	7/7/10 11:45	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259127	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		
C1259121	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-31	97A-B602-OW		Aqueous	7/7/10 10:35	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259130	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		
C1259123	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-32	DUP-X		Aqueous	7/7/10 0:00	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259129	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		
C1259125	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-33	B15-OW		Aqueous	7/8/10 8:40	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266943	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1266937	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-34	B1-OW		Aqueous	7/8/10 9:50	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266933	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1259185	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-35	B112B-OW		Aqueous	7/8/10 10:50	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1266944	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		
C1266935	1 L Amber Glass	Scientific Specialist	BX36587	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-36	B110A-OW		Aqueous	7/8/10 11:25	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259909	1 L Amber Glass	Scientific Specialist	BX36885	H2SO4	R-6054E	06-17-10	n/a		
C1259124	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-37	B204-OW		Aqueous	7/8/10 10:30	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259182	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		
C1259737	1 L Amber Glass	Scientific Specialist	BX36901	H2SO4	R-6054E	06-18-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-38	97AB608-OW		Aqueous	7/8/10 9:40	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1258004	1 L Amber Glass	Scientific Specialist	BX36883	H2SO4	R-6054E	06-29-10	n/a		
C1259128	1 L Amber Glass	Scientific Specialist	BX36903	H2SO4	R-6054E	07-01-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-39	B506-OW		Aqueous	7/9/10 10:25	MA DEP EPH with PAHs by 8270C-Mod SIM				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1259187	1 L Amber Glass	Scientific Specialist	BX36858	H2SO4	R-6054E	07-01-10	n/a		
C1259732	1 L Amber Glass	Scientific Specialist	BX36901	H2SO4	R-6054E	06-18-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-40	B203-OW		Aqueous	7/7/10 9:35	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1216655	500 mL Plastic	Scientific Specialist	BX36346	NaOH	R-6027B	05-05-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-41	B106-OW		Aqueous	7/7/10 11:05	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1233903	500 mL Plastic	Scientific Specialist	BX36344	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-42	B7-OW		Aqueous	7/7/10 11:30	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263717	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-43	B16-OW		Aqueous	7/7/10 14:15	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1233838	500 mL Plastic	Scientific Specialist	BX36344	NaOH	R-6027B	05-05-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-44	B504-OW		Aqueous	7/7/10 15:45	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263712	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-45	B501-OW		Aqueous	7/7/10 15:00	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263725	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-46	B502-OW		Aqueous	7/7/10 13:40	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1233450	250 mL Plastic	Scientific Specialist	BX36141	NaOH	R-6027A	04-26-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-47	00A-B909-OW		Aqueous	7/7/10 9:15	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1233516	250 mL Plastic	Scientific Specialist	BX36141	NaOH	R-6027A	04-07-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-48	97B-B627-OW		Aqueous	7/7/10 12:50	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1260004	500 mL Plastic	Scientific Specialist	BX36850	NaOH	R-6027B	06-15-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-49	97B-B628-OW		Aqueous	7/7/10 11:45	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1216722	500 mL Plastic	Scientific Specialist	BX36346	NaOH	R-6027B	05-05-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-50	97A-B602-OW		Aqueous	7/7/10 10:35	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1216683	500 mL Plastic	Scientific Specialist	BX36346	NaOH	R-6027B	05-05-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-51	DUP-X		Aqueous	7/7/10 0:00	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1260036	500 mL Plastic	Scientific Specialist	BX36850	NaOH	R-6027B	06-15-10	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-52	B15-OW		Aqueous	7/8/10 8:40	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263713	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-53	B1-OW		Aqueous	7/8/10 9:50	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1233893	500 mL Plastic	Scientific Specialist	BX36344	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-54	B112B-OW		Aqueous	7/8/10 10:50	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1216736	500 mL Plastic	Scientific Specialist	BX36346	NaOH	R-6027A	04-30-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-55	B110A-OW		Aqueous	7/8/10 11:25	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263749	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-56	B204-OW		Aqueous	7/8/10 10:30	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263727	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-57	97AB608-OW		Aqueous	7/8/10 9:40	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1216692	500 mL Plastic	Scientific Specialist	BX36346	NaOH	R-6027B	05-05-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-58	B506-OW		Aqueous	7/9/10 10:25	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1263721	500 mL Plastic	Scientific Specialist	BX36415	NaOH	R-6027B	05-14-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-59	B203-OW		Aqueous	7/7/10 9:35	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229896	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-60	B106-OW		Aqueous	7/7/10 11:05	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1283676	500 mL Plastic	Scientific Specialist	BX37067	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-61	B7-OW		Aqueous	7/7/10 11:30	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1283669	500 mL Plastic	Scientific Specialist	BX37067	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-62	B16-OW		Aqueous	7/7/10 14:15	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229916	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-63	B504-OW		Aqueous	7/7/10 15:45	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229856	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-64	B501-OW		Aqueous	7/7/10 15:00	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229913	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-65	B502-OW		Aqueous	7/7/10 13:40	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229912	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-66	00A-B909-OW		Aqueous	7/7/10 9:15	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229914	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-67	97B-B627-OW		Aqueous	7/7/10 12:50	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229906	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-68	97B-B628-OW		Aqueous	7/7/10 11:45	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229839	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-69	97A-B602-OW		Aqueous	7/7/10 10:35	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229904	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-70	DUP-X		Aqueous	7/7/10 0:00	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1283642	500 mL Plastic	Scientific Specialist	BX37067	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-71	B15-OW		Aqueous	7/8/10 8:40	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229917	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-72	B1-OW		Aqueous	7/8/10 9:50	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229900	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-73	B112B-OW		Aqueous	7/8/10 10:50	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229892	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**NG Malden/NG Malden T6**	Delivery:	**GWA Courier**	Temperature:	**3.3ºC**
Client:	**Innovative Engineering Solutions, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**134702**	Lab Receipt:	**07-09-10**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-74	B110A-OW		Aqueous	7/8/10 11:25	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1283683	500 mL Plastic	Scientific Specialist	BX37067	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-75	B204-OW		Aqueous	7/8/10 10:30	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229910	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-76	97AB608-OW		Aqueous	7/8/10 9:40	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1229888	250 mL Plastic	Scientific Specialist	BX35874	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134702-77	B506-OW		Aqueous	7/9/10 10:25	EPA OIA-1677 Available Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1260063	500 mL Plastic	Scientific Specialist	BX36850	None	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Data Certification

Project:	**NG Malden/NG Malden T6**	Lab ID:	**134702**
Client:	**Innovative Engineering Solutions, Inc.**	Received:	**07-09-10 17:45**

Mass DEP Analytical Protocol Certification Form

Project Location: **n/a** MA DEP RTN: **n/a**

This Form provides certifications for the following data set:

MA DEP VPH: 134702-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20
MA DEP EPH: 134702-21,-22,-23,-24,-25,-26,-27,-28,-29,-30,-31,-32,-33,-34,-35,-36,-37,-38,-39
EPA 9012A: 134702-40,-41,-42,-43,-44,-45,-46,-47,-48,-49,-50,-51,-52,-53,-54,-55,-56,-57,-58

Sample Matrices: Groundwater/Surface (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC CAM II A ( )	7470/7471 Hg CAM III B ( )	Mass DEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	Mass DEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	Mass DEP EPH CAM IV B (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9012 Cyanide/PAC CAM VI A (X)	6860 Perchlorate CAM VIII B ( )	

An affirmative response to questions A through F are required for "Presumptive Certainty" status.

A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratoratory, and prepared/analyzed within method holding times?	Yes
B.	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes
C.	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes
D.	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes
E.	VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes
F.	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes

Responses to questions G, H and I below are required for "Presumptive Certainty" status.

G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.

H.	Were all QC performance standards specified in the CAM protocol(s) achieved?	No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:		Position:	Operations Manager
Printed Name:	Eric H. Jensen	Date:	07-27-10

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B203-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-01**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 09:35**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 13:42**	Dilution Factor:	**20**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**3,000**		ug/L	400
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**420**		ug/L	400
n-C9 to n-C10 Aromatic Hydrocarbons †	**590**		ug/L	400
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	7,100		ug/L	400
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	1,500		ug/L	400

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	100
71-43-2	Benzene ¤	**4,100**		ug/L	20
108-88-3	Toluene ¤	BRL		ug/L	100
100-41-4	Ethylbenzene ‡	**500**		ug/L	100
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	100
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	100
91-20-3	Naphthalene	BRL		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	46	**91** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	45	**91** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B106-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-02**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 11:05**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 14:23**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**29**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	49		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**2**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	51	**102** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	53	**107** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B7-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-03**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 11:30**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 15:04**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**69**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	76		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**4**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	49	**99** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	49	**99** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B16-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-04**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 14:15**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 15:45**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**42**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**42**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	68		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	73		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	**7**		ug/L	5
71-43-2	Benzene ¤	**17**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	**9**		ug/L	5
91-20-3	Naphthalene	**11**		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	**99** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	**101** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B504-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-05**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 15:45**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 16:25**	Dilution Factor:	**5**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**270**		ug/L	100
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**510**		ug/L	100
n-C9 to n-C10 Aromatic Hydrocarbons †	**1,200**		ug/L	100
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	650		ug/L	100
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	2,000		ug/L	100

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	25
71-43-2	Benzene ¤	**370**		ug/L	5
108-88-3	Toluene ¤	BRL		ug/L	25
100-41-4	Ethylbenzene ‡	**230**		ug/L	25
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	**49**		ug/L	25
95-47-6	*ortho*- Xylene ‡	**90**		ug/L	25
91-20-3	Naphthalene	**990**		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	56	**112** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	59	**119** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B501-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-06**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 15:00**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 17:06**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**53**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**65**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**110**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	120		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	200		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**70**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	**24**		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	**49**		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	55	**109** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	56	**111** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B502-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-07**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 13:40**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 17:47**	Dilution Factor:	**25**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**530**		ug/L	500
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**1,400**		ug/L	500
n-C9 to n-C10 Aromatic Hydrocarbons †	**2,800**		ug/L	500
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	1,200		ug/L	500
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	4,800		ug/L	500

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	120
71-43-2	Benzene ¤	**640**		ug/L	25
108-88-3	Toluene ¤	BRL		ug/L	120
100-41-4	Ethylbenzene ‡	**380**		ug/L	120
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	**180**		ug/L	120
95-47-6	*ortho*- Xylene ‡	**130**		ug/L	120
91-20-3	Naphthalene	**4,000**		ug/L	120

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	48	**95** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	48	**96** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

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- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**00A-B909-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-08**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 09:15**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 18:27**	Dilution Factor:	**2**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	40
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**73**		ug/L	40
n-C9 to n-C10 Aromatic Hydrocarbons †	**180**		ug/L	40
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	40
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	270		ug/L	40

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	10
71-43-2	Benzene ¤	**16**		ug/L	2
108-88-3	Toluene ¤	BRL		ug/L	10
100-41-4	Ethylbenzene ‡	BRL		ug/L	10
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	10
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	10
91-20-3	Naphthalene	**13**		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	53	**106** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	53	**107** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

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- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**97B-B627-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-09**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 12:50**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 19:08**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	BRL		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	43	**85** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	43	**85** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**97B-B628-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-10**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 11:45**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 19:49**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**23**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**31**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**87**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	37		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	120		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**14**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	53	**106** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	53	**106** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

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- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**97A-B602-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-11**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 10:35**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 21:10**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**20**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**25**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**31**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	37		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	57		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**16**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	52	**104** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	54	**107** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**DUP-X**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-12**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-07-10 00:00**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 21:50**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**23**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**66**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**180**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	48		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	260		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**21**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	**7**		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	**7**		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	**100** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	52	**104** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B15-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-13**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-08-10 08:40**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 22:31**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**120**		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**66**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**150**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	210		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	250		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**81**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	**23**		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	**36**		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	56	**111** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	58	**115** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B1-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-14**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-08-10 09:50**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 23:11**	Dilution Factor:	**5**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	100
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**240**		ug/L	100
n-C9 to n-C10 Aromatic Hydrocarbons †	**460**		ug/L	100

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	100
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	770	ug/L	100

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	25
71-43-2	Benzene ¤	**38**		ug/L	5
108-88-3	Toluene ¤	BRL		ug/L	25
100-41-4	Ethylbenzene ‡	BRL		ug/L	25
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	25
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	25
91-20-3	Naphthalene	**780**		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	51	**102** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	51	**103** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B112B-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-15**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-08-10 10:50**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-18-10 23:51**	Dilution Factor:	**10**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**690**		ug/L	200
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**1,200**		ug/L	200
n-C9 to n-C10 Aromatic Hydrocarbons †	**2,300**		ug/L	200
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	1,700		ug/L	200
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	4,200		ug/L	200

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	50
71-43-2	Benzene ¤	**1,000**		ug/L	10
108-88-3	Toluene ¤	BRL		ug/L	50
100-41-4	Ethylbenzene ‡	**600**		ug/L	50
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	50
95-47-6	*ortho*- Xylene ‡	**86**		ug/L	50
91-20-3	Naphthalene	**1,300**		ug/L	50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	45	**89** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	45	**90** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B110A-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-16**	QC Batch ID:	**VG3-4564-W**
Sampled:	**07-08-10 11:25**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-19-10 00:31**	Dilution Factor:	**20**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**940**		ug/L	400
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**1,400**		ug/L	400
n-C9 to n-C10 Aromatic Hydrocarbons †	**4,000**		ug/L	400
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	2,300		ug/L	400
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	6,400		ug/L	400

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	100
71-43-2	Benzene ¤	**810**		ug/L	20
108-88-3	Toluene ¤	**570**		ug/L	100
100-41-4	Ethylbenzene ‡	**540**		ug/L	100
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	**290**		ug/L	100
95-47-6	*ortho*- Xylene ‡	**170**		ug/L	100
91-20-3	Naphthalene	**2,300**		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	46	**93** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	47	**94** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B204-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-17**	QC Batch ID:	**VG3-4565-W**
Sampled:	**07-08-10 10:30**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-20-10 21:05**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**20**		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	**20**		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	41		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	**3**		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	53	**105** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	53	**107** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**97AB608-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-18**	QC Batch ID:	**VG3-4565-W**
Sampled:	**07-08-10 09:40**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-20-10 21:45**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	BRL		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	**100** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	50	**99** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**B506-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-19**	QC Batch ID:	**VG3-4565-W**
Sampled:	**07-09-10 10:25**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-20-10 22:26**	Dilution Factor:	**20**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	**490**		ug/L	400
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	**930**		ug/L	400
n-C9 to n-C10 Aromatic Hydrocarbons †	**1,700**		ug/L	400
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	1,100		ug/L	400
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	3,300		ug/L	400

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	100
71-43-2	Benzene ¤	**650**		ug/L	20
108-88-3	Toluene ¤	BRL		ug/L	100
100-41-4	Ethylbenzene ‡	**440**		ug/L	100
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	100
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	100
91-20-3	Naphthalene	**1,700**		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	45	**89** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	46	**91** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	**Trip Blank**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**40 mL VOA Vial**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**HCl/ Cool**
Laboratory ID:	**134702-20**	QC Batch ID:	**VG3-4565-W**
Sampled:	**07-09-10 00:00**	Instrument ID:	**GC-3 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**5 mL**
Analyzed:	**07-20-10 23:47**	Dilution Factor:	**1**
Analyst:	**GY**		

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	BRL		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	50	**99** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	49	**98** %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B203-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-21**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 09:35**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 22:54**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 23:38**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**600**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	710		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	37	**92** %	40 - 140 %
	2-Bromonaphthalene	40	36	**89** %	40 - 140 %
Extraction:	Chloro-octadecane	40	31	**77** %	40 - 140 %
	ortho-Terphenyl	40	35	**88** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B203-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-21**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 09:35**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 04:02**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1.9**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**10**		ug/L	0.5
83-32-9	Acenaphthene	**8.5**		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	**2.7**		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.3**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.1**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	32	**81** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B106-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-22**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:05**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 00:22**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 01:06**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**230**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	270		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	33	**82** %	40 - 140 %
	2-Bromonaphthalene	40	33	**83** %	40 - 140 %
Extraction:	Chloro-octadecane	40	27	**69** %	40 - 140 %
	ortho-Terphenyl	40	34	**85** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B106-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-22**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:05**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 04:42**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**0.5**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**21**	e	ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	**1.1**		ug/L	0.5
85-01-8	Phenanthrene	**1.5**		ug/L	0.5
120-12-7	Anthracene	**1.6**		ug/L	0.5
206-44-0	Fluoranthene	**6.4**		ug/L	0.5
129-00-0	Pyrene	**4.3**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.1
218-01-9	Chrysene	**0.1**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	30	**76** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B106-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-22RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:05**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-25-10 03:46**	Dilution Factor:	**2**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	1.0
91-57-6	2-Methylnaphthalene	BRL		ug/L	1.0
208-96-8	Acenaphthylene	**26**		ug/L	1.0
83-32-9	Acenaphthene	BRL		ug/L	1.0
86-73-7	Fluorene	**1.3**		ug/L	1.0
85-01-8	Phenanthrene	**1.5**		ug/L	1.0
120-12-7	Anthracene	**1.6**		ug/L	1.0
206-44-0	Fluoranthene	**6.9**		ug/L	1.0
129-00-0	Pyrene	**4.5**		ug/L	1.0
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.2
218-01-9	Chrysene	BRL		ug/L	0.2
205-99-2	Benzo[b]fluoranthene	**0.2**		ug/L	0.2
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.2
50-32-8	Benzo[a]pyrene	**0.2**		ug/L	0.2
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.2
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.2
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	34	**85** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B7-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-23**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:30**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 01:50**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 02:33**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	BRL		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	35	**87** %	40 - 140 %
	2-Bromonaphthalene	40	36	**91** %	40 - 140 %
Extraction:	Chloro-octadecane	40	21	**52** %	40 - 140 %
	ortho-Terphenyl	40	34	**84** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B7-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-23**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:30**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 05:22**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.3**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	32	**80** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B16-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-24**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 14:15**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 03:17**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 04:01**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	**1,100**		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**470**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	480		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	34	**86** %	40 - 140 %
	2-Bromonaphthalene	40	36	**89** %	40 - 140 %
Extraction:	Chloro-octadecane	40	25	**62** %	40 - 140 %
	ortho-Terphenyl	40	40	**99** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B16-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-24**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 14:15**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 20:03**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**4.6**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	**0.5**		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	**0.9**		ug/L	0.5
129-00-0	Pyrene	**0.8**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.4**		ug/L	0.1
218-01-9	Chrysene	**0.5**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.9**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	**0.2**		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.5**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.8**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.3**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.6**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	36	**91** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B504-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-25**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 15:45**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 04:45**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 05:29**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	**670**		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**4,400**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	6,000		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	35	**87** %	40 - 140 %
	2-Bromonaphthalene	40	23	**59** %	40 - 140 %
Extraction:	Chloro-octadecane	40	29	**72** %	40 - 140 %
	ortho-Terphenyl	40	48	**120** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B504-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-25**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 15:45**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-24-10 00:51**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**370**	e	ug/L	5.0
91-57-6	2-Methylnaphthalene	**250**	e	ug/L	5.0
208-96-8	Acenaphthylene	**8.6**		ug/L	5.0
83-32-9	Acenaphthene	**130**		ug/L	5.0
86-73-7	Fluorene	**66**		ug/L	5.0
85-01-8	Phenanthrene	**130**		ug/L	5.0
120-12-7	Anthracene	**40**		ug/L	5.0
206-44-0	Fluoranthene	**40**		ug/L	5.0
129-00-0	Pyrene	**55**		ug/L	5.0
56-55-3	Benzo[a]anthracene	**20**		ug/L	1.0
218-01-9	Chrysene	**18**		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	**11**		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	**2.9**		ug/L	1.0
50-32-8	Benzo[a]pyrene	**12**		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	**7.2**		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	**3.4**		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	**6.1**		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	33	**82** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B504-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-25RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 15:45**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-27-10 08:53**	Dilution Factor:	**50**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**560**		ug/L	25
91-57-6	2-Methylnaphthalene	**320**		ug/L	25
208-96-8	Acenaphthylene	BRL		ug/L	25
83-32-9	Acenaphthene	**150**		ug/L	25
86-73-7	Fluorene	**72**		ug/L	25
85-01-8	Phenanthrene	**150**		ug/L	25
120-12-7	Anthracene	**42**		ug/L	25
206-44-0	Fluoranthene	**44**		ug/L	25
129-00-0	Pyrene	**56**		ug/L	25
56-55-3	Benzo[a]anthracene	**21**		ug/L	5.0
218-01-9	Chrysene	**18**		ug/L	5.0
205-99-2	Benzo[b]fluoranthene	**14**		ug/L	5.0
207-08-9	Benzo[k]fluoranthene	**9.0**		ug/L	5.0
50-32-8	Benzo[a]pyrene	**16**		ug/L	5.0
193-39-5	Indeno[1,2,3-c,d]pyrene	**18**		ug/L	5.0
53-70-3	Dibenzo[a,h]anthracene	**12**		ug/L	5.0
191-24-2	Benzo[g,h,i]perylene	**12**		ug/L	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	n/a	d	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B501-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-26**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 15:00**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 06:12**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 06:56**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**240**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	290		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	35	**88** %	40 - 140 %
	2-Bromonaphthalene	40	35	**89** %	40 - 140 %
Extraction:	Chloro-octadecane	40	29	**71** %	40 - 140 %
	ortho-Terphenyl	40	30	**74** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B501-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-26**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 15:00**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 06:03**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**11**		ug/L	0.5
91-57-6	2-Methylnaphthalene	**0.6**		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	**7.9**		ug/L	0.5
86-73-7	Fluorene	**3.8**		ug/L	0.5
85-01-8	Phenanthrene	**1.8**		ug/L	0.5
120-12-7	Anthracene	**1.0**		ug/L	0.5
206-44-0	Fluoranthene	**1.1**		ug/L	0.5
129-00-0	Pyrene	**0.8**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.1
218-01-9	Chrysene	**0.1**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.2**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.2**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.4**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.2**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.2**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	28	**69** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B502-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-27**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 13:40**	Instrument ID:	**GC-7 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 13:02**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 13:42**	Aromatic Dilution Factor:	**10**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**2,500**		ug/L	1,500
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	4,500		ug/L	1,500

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	n/a	**d**	40 - 140 %
	2-Bromonaphthalene	40	n/a	**d**	40 - 140 %
Extraction:	Chloro-octadecane	40	28	**70** %	40 - 140 %
	ortho-Terphenyl	40	n/a	**d**	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	No
3. Were any significant modifications made to the method, as specified in Section 11.3?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B502-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-27**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 13:40**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-25-10 04:26**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**450**	e	ug/L	5.0
91-57-6	2-Methylnaphthalene	**35**		ug/L	5.0
208-96-8	Acenaphthylene	BRL		ug/L	5.0
83-32-9	Acenaphthene	**42**		ug/L	5.0
86-73-7	Fluorene	**21**		ug/L	5.0
85-01-8	Phenanthrene	**25**		ug/L	5.0
120-12-7	Anthracene	**5.5**		ug/L	5.0
206-44-0	Fluoranthene	BRL		ug/L	5.0
129-00-0	Pyrene	BRL		ug/L	5.0
56-55-3	Benzo[a]anthracene	BRL		ug/L	1.0
218-01-9	Chrysene	BRL		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	**1.3**		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	**1.4**		ug/L	1.0
50-32-8	Benzo[a]pyrene	**1.2**		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	**2.9**		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	30	**76** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B502-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-27RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 13:40**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-25-10 05:07**	Dilution Factor:	**100**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1,400**		ug/L	50
91-57-6	2-Methylnaphthalene	**51**		ug/L	50
208-96-8	Acenaphthylene	BRL		ug/L	50
83-32-9	Acenaphthene	**61**		ug/L	50
86-73-7	Fluorene	BRL		ug/L	50
85-01-8	Phenanthrene	BRL		ug/L	50
120-12-7	Anthracene	BRL		ug/L	50
206-44-0	Fluoranthene	BRL		ug/L	50
129-00-0	Pyrene	BRL		ug/L	50
56-55-3	Benzo[a]anthracene	BRL		ug/L	10
218-01-9	Chrysene	BRL		ug/L	10
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	10
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	10
50-32-8	Benzo[a]pyrene	BRL		ug/L	10
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	10
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	10
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	n/a	d	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**00A-B909-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-28**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 09:15**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 17:00**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 17:40**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**770**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	840		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	38	**95** %	40 - 140 %
	2-Bromonaphthalene	40	36	**90** %	40 - 140 %
Extraction:	Chloro-octadecane	40	29	**72** %	40 - 140 %
	ortho-Terphenyl	40	38	**94** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**00A-B909-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-28**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 09:15**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 07:24**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1.8**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**1.5**		ug/L	0.5
83-32-9	Acenaphthene	**8.7**		ug/L	0.5
86-73-7	Fluorene	**11**		ug/L	0.5
85-01-8	Phenanthrene	**10**		ug/L	0.5
120-12-7	Anthracene	**2.3**		ug/L	0.5
206-44-0	Fluoranthene	**1.8**		ug/L	0.5
129-00-0	Pyrene	**1.0**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.1
218-01-9	Chrysene	**0.2**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.2**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	**0.1**		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.2**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.4**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.3**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.2**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	31	**78** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**97B-B627-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-29**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 12:50**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 18:24**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 19:08**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	BRL		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	38	**95** %	40 - 140 %
	2-Bromonaphthalene	40	37	**93** %	40 - 140 %
Extraction:	Chloro-octadecane	40	27	**67** %	40 - 140 %
	ortho-Terphenyl	40	34	**85** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**97B-B627-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-29**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 12:50**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 08:04**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**0.6**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	33	**82** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**97B-B628-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-30**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:45**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 19:52**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 20:36**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**290**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	300		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	36	**89** %	40 - 140 %
	2-Bromonaphthalene	40	39	**98** %	40 - 140 %
Extraction:	Chloro-octadecane	40	25	**63** %	40 - 140 %
	ortho-Terphenyl	40	36	**89** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**97B-B628-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-30**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 11:45**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 08:45**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**0.6**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**0.5**		ug/L	0.5
83-32-9	Acenaphthene	**1.7**		ug/L	0.5
86-73-7	Fluorene	**1.4**		ug/L	0.5
85-01-8	Phenanthrene	**0.6**		ug/L	0.5
120-12-7	Anthracene	**0.8**		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	33	**83** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**97A-B602-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-31**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 10:35**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 21:20**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 22:04**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**250**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	280		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	34	**85** %	40 - 140 %
	2-Bromonaphthalene	40	35	**87** %	40 - 140 %
Extraction:	Chloro-octadecane	40	26	**64** %	40 - 140 %
	ortho-Terphenyl	40	31	**78** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**97A-B602-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-31**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 10:35**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 09:26**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**0.7**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**8.0**		ug/L	0.5
83-32-9	Acenaphthene	**13**		ug/L	0.5
86-73-7	Fluorene	**1.1**		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	**0.5**		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	**0.2**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.3**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	**0.1**		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.1**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.4**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.2**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.2**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	30	**76** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**DUP-X**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-32**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 00:00**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-22-10 22:48**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-22-10 23:32**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**720**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	780		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	39	**97** %	40 - 140 %
	2-Bromonaphthalene	40	36	**90** %	40 - 140 %
Extraction:	Chloro-octadecane	40	31	**77** %	40 - 140 %
	ortho-Terphenyl	40	36	**91** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**DUP-X**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-32**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-07-10 00:00**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-25-10 03:05**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1.2**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	**1.4**		ug/L	0.5
83-32-9	Acenaphthene	**8.7**		ug/L	0.5
86-73-7	Fluorene	**11**		ug/L	0.5
85-01-8	Phenanthrene	**9.9**		ug/L	0.5
120-12-7	Anthracene	**2.2**		ug/L	0.5
206-44-0	Fluoranthene	**1.8**		ug/L	0.5
129-00-0	Pyrene	**1.1**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.1
218-01-9	Chrysene	**0.1**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.2**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	**0.2**		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.2**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.4**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.2**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.3**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	31	**78** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B15-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-33**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 08:40**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 00:16**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 01:00**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**510**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	560		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	39	**98** %	40 - 140 %
	2-Bromonaphthalene	40	37	**93** %	40 - 140 %
Extraction:	Chloro-octadecane	40	21	**52** %	40 - 140 %
	ortho-Terphenyl	40	25	**63** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B15-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-33**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 08:40**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 20:44**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**7.3**		ug/L	0.5
91-57-6	2-Methylnaphthalene	**0.9**		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	**6.3**		ug/L	0.5
86-73-7	Fluorene	**4.9**		ug/L	0.5
85-01-8	Phenanthrene	**7.0**		ug/L	0.5
120-12-7	Anthracene	**1.7**		ug/L	0.5
206-44-0	Fluoranthene	**2.5**		ug/L	0.5
129-00-0	Pyrene	**1.9**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.4**		ug/L	0.1
218-01-9	Chrysene	**0.3**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.3**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.3**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.4**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.2**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.2**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	24	**60** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B1-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-34**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 09:50**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 01:44**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 02:28**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**630**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	1,100		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	42	**106** %	40 - 140 %
	2-Bromonaphthalene	40	34	**84** %	40 - 140 %
Extraction:	Chloro-octadecane	40	30	**74** %	40 - 140 %
	ortho-Terphenyl	40	34	**84** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B1-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-34**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 09:50**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-24-10 01:33**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**180**		ug/L	5.0
91-57-6	2-Methylnaphthalene	**26**		ug/L	5.0
208-96-8	Acenaphthylene	BRL		ug/L	5.0
83-32-9	Acenaphthene	**7.5**		ug/L	5.0
86-73-7	Fluorene	BRL		ug/L	5.0
85-01-8	Phenanthrene	**6.5**		ug/L	5.0
120-12-7	Anthracene	BRL		ug/L	5.0
206-44-0	Fluoranthene	BRL		ug/L	5.0
129-00-0	Pyrene	BRL		ug/L	5.0
56-55-3	Benzo[a]anthracene	BRL		ug/L	1.0
218-01-9	Chrysene	BRL		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	1.0
50-32-8	Benzo[a]pyrene	BRL		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	39	**98** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B112B-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-35**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 10:50**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 03:12**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 03:55**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**1,100**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	1,800		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	40	**100** %	40 - 140 %
	2-Bromonaphthalene	40	37	**91** %	40 - 140 %
Extraction:	Chloro-octadecane	40	26	**65** %	40 - 140 %
	ortho-Terphenyl	40	28	**71** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B112B-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-35**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 10:50**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-24-10 02:14**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**380**	e	ug/L	5.0
91-57-6	2-Methylnaphthalene	**7.2**		ug/L	5.0
208-96-8	Acenaphthylene	BRL		ug/L	5.0
83-32-9	Acenaphthene	**32**		ug/L	5.0
86-73-7	Fluorene	**19**		ug/L	5.0
85-01-8	Phenanthrene	**13**		ug/L	5.0
120-12-7	Anthracene	BRL		ug/L	5.0
206-44-0	Fluoranthene	BRL		ug/L	5.0
129-00-0	Pyrene	BRL		ug/L	5.0
56-55-3	Benzo[a]anthracene	BRL		ug/L	1.0
218-01-9	Chrysene	BRL		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	1.0
50-32-8	Benzo[a]pyrene	BRL		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	32	**81** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B112B-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-35RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 10:50**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-27-10 09:34**	Dilution Factor:	**50**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**560**		ug/L	25
91-57-6	2-Methylnaphthalene	BRL		ug/L	25
208-96-8	Acenaphthylene	BRL		ug/L	25
83-32-9	Acenaphthene	**34**		ug/L	25
86-73-7	Fluorene	BRL		ug/L	25
85-01-8	Phenanthrene	BRL		ug/L	25
120-12-7	Anthracene	BRL		ug/L	25
206-44-0	Fluoranthene	BRL		ug/L	25
129-00-0	Pyrene	BRL		ug/L	25
56-55-3	Benzo[a]anthracene	BRL		ug/L	5.0
218-01-9	Chrysene	BRL		ug/L	5.0
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5.0
50-32-8	Benzo[a]pyrene	BRL		ug/L	5.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	n/a	d	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B110A-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-36**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 11:25**	Instrument ID:	**GC-7 HP 5890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 13:05**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 13:49**	Aromatic Dilution Factor:	**10**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**1,800**		ug/L	1,500
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	4,100		ug/L	1,500

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	n/a	**d**	40 - 140 %
	2-Bromonaphthalene	40	n/a	**d**	40 - 140 %
Extraction:	Chloro-octadecane	40	27	**68** %	40 - 140 %
	ortho-Terphenyl	40	n/a	**d**	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? No
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B110A-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-36**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 11:25**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-24-10 02:55**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**550**	e	ug/L	5.0
91-57-6	2-Methylnaphthalene	**160**		ug/L	5.0
208-96-8	Acenaphthylene	**48**		ug/L	5.0
83-32-9	Acenaphthene	**34**		ug/L	5.0
86-73-7	Fluorene	**29**		ug/L	5.0
85-01-8	Phenanthrene	**37**		ug/L	5.0
120-12-7	Anthracene	**7.5**		ug/L	5.0
206-44-0	Fluoranthene	**6.5**		ug/L	5.0
129-00-0	Pyrene	**8.5**		ug/L	5.0
56-55-3	Benzo[a]anthracene	**2.2**		ug/L	1.0
218-01-9	Chrysene	**2.0**		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	**1.5**		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	1.0
50-32-8	Benzo[a]pyrene	**1.6**		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	**2.9**		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	**1.8**		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	28	**69** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B110A-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-36RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 11:25**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-27-10 11:39**	Dilution Factor:	**100**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1,500**		ug/L	50
91-57-6	2-Methylnaphthalene	**230**		ug/L	50
208-96-8	Acenaphthylene	**61**		ug/L	50
83-32-9	Acenaphthene	BRL		ug/L	50
86-73-7	Fluorene	BRL		ug/L	50
85-01-8	Phenanthrene	BRL		ug/L	50
120-12-7	Anthracene	BRL		ug/L	50
206-44-0	Fluoranthene	BRL		ug/L	50
129-00-0	Pyrene	BRL		ug/L	50
56-55-3	Benzo[a]anthracene	BRL		ug/L	10
218-01-9	Chrysene	BRL		ug/L	10
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	10
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	10
50-32-8	Benzo[a]pyrene	BRL		ug/L	10
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	10
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	10
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	n/a	d	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B204-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-37**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 10:30**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 06:07**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 06:51**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**180**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	180		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	39	**97** %	40 - 140 %
	2-Bromonaphthalene	40	37	**93** %	40 - 140 %
Extraction:	Chloro-octadecane	40	22	**55** %	40 - 140 %
	ortho-Terphenyl	40	30	**75** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B204-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-37**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 10:30**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 21:25**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**0.5**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	29	**72** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**97AB608-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-38**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 09:40**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 09:02**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 09:46**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	BRL		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	160		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	39	**98** %	40 - 140 %
	2-Bromonaphthalene	40	38	**95** %	40 - 140 %
Extraction:	Chloro-octadecane	40	30	**76** %	40 - 140 %
	ortho-Terphenyl	40	38	**96** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**97AB608-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-38**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-08-10 09:40**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-23-10 22:06**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**1.5**		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	**0.6**		ug/L	0.5
129-00-0	Pyrene	**0.6**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.4**		ug/L	0.1
218-01-9	Chrysene	**0.3**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**1.0**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	**0.3**		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.8**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**1.0**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	**0.3**		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.9**		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	35	**88** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**B506-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-39**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-09-10 10:25**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed (AL):	**07-23-10 10:30**	Aliphatic Dilution Factor:	**1**
Analyzed (AR):	**07-23-10 11:14**	Aromatic Dilution Factor:	**1**
Analyst:	**KM**		

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons † ◊	**830**		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	1,700		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	34	**85** %	40 - 140 %
	2-Bromonaphthalene	40	31	**78** %	40 - 140 %
Extraction:	Chloro-octadecane	40	22	**55** %	40 - 140 %
	ortho-Terphenyl	40	23	**57** %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B506-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-39**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-09-10 10:25**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-24-10 03:36**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**370**	e	ug/L	5.0
91-57-6	2-Methylnaphthalene	**40**		ug/L	5.0
208-96-8	Acenaphthylene	BRL		ug/L	5.0
83-32-9	Acenaphthene	**46**		ug/L	5.0
86-73-7	Fluorene	**20**		ug/L	5.0
85-01-8	Phenanthrene	**24**		ug/L	5.0
120-12-7	Anthracene	**6.1**		ug/L	5.0
206-44-0	Fluoranthene	BRL		ug/L	5.0
129-00-0	Pyrene	**5.3**		ug/L	5.0
56-55-3	Benzo[a]anthracene	**1.3**		ug/L	1.0
218-01-9	Chrysene	BRL		ug/L	1.0
205-99-2	Benzo[b]fluoranthene	**1.3**		ug/L	1.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	1.0
50-32-8	Benzo[a]pyrene	**1.4**		ug/L	1.0
193-39-5	Indeno[1,2,3-c,d]pyrene	**3.0**		ug/L	1.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	1.0
191-24-2	Benzo[g,h,i]perylene	**1.8**		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	26	**66** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	**B506-OW**	Matrix:	**Aqueous**
Project:	**NG Malden/NG Malden T6**	Container:	**1 L Amber Glass**
Client:	**Innovative Engineering Solutions, Inc.**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**134702-39RA1**	QC Batch ID:	**EP-2336-F**
Sampled:	**07-09-10 10:25**	Instrument ID:	**MS-12 Agilent 6890**
Received:	**07-09-10 17:45**	Sample Volume:	**1,000 mL**
Extracted:	**07-21-10 16:00**	Final Volume:	**1 mL**
Analyzed:	**07-27-10 10:16**	Dilution Factor:	**50**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**560**		ug/L	25
91-57-6	2-Methylnaphthalene	**42**		ug/L	25
208-96-8	Acenaphthylene	BRL		ug/L	25
83-32-9	Acenaphthene	**50**		ug/L	25
86-73-7	Fluorene	BRL		ug/L	25
85-01-8	Phenanthrene	BRL		ug/L	25
120-12-7	Anthracene	BRL		ug/L	25
206-44-0	Fluoranthene	BRL		ug/L	25
129-00-0	Pyrene	BRL		ug/L	25
56-55-3	Benzo[a]anthracene	BRL		ug/L	5.0
218-01-9	Chrysene	BRL		ug/L	5.0
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5.0
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5.0
50-32-8	Benzo[a]pyrene	BRL		ug/L	5.0
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5.0
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5.0
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho- Terphenyl	40	n/a	d	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B203-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-40** Sampled: **07-07-10 09:35** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.06**	mg/L	0.01	1	50 mL	07-15-10 13:56	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-59** Sampled: **07-07-10 09:35** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B106-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-41** Sampled: **07-07-10 11:05** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.42**	mg/L	0.01	1	50 mL	07-15-10 13:57	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-60** Sampled: **07-07-10 11:05** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.06**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B7-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-42** Sampled: **07-07-10 11:30** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.03**	mg/L	0.01	1	50 mL	07-15-10 13:59	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-61** Sampled: **07-07-10 11:30** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B16-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-43** Sampled: **07-07-10 14:15** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.18**	mg/L	0.01	1	50 mL	07-15-10 14:00	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-62** Sampled: **07-07-10 14:15** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.02**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B504-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-44** Sampled: **07-07-10 15:45** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.28**	mg/L	0.01	1	50 mL	07-15-10 14:01	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-63** Sampled: **07-07-10 15:45** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.03**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B501-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-45** Sampled: **07-07-10 15:00** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.13**	mg/L	0.01	1	50 mL	07-15-10 14:05	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-64** Sampled: **07-07-10 15:00** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B502-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-46** Sampled: **07-07-10 13:40** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.40**	mg/L	0.01	1	50 mL	07-15-10 14:06	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-65** Sampled: **07-07-10 13:40** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.04**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **00A-B909-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-47** Sampled: **07-07-10 09:15** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.51**	mg/L	0.01	1	50 mL	07-15-10 14:08	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-66** Sampled: **07-07-10 09:15** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.05**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **97B-B627-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-48** Sampled: **07-07-10 12:50** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.11**	mg/L	0.01	1	50 mL	07-15-10 14:09	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-67** Sampled: **07-07-10 12:50** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **97B-B628-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-49** Sampled: **07-07-10 11:45** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.67**	mg/L	0.05	5	10 mL	07-15-10 14:16	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-68** Sampled: **07-07-10 11:45** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.05**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **97A-B602-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-50** Sampled: **07-07-10 10:35** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.05**	mg/L	0.01	1	50 mL	07-15-10 14:11	TCN-1582-W	EPA 9012B	1	JR

Lab ID: **134702-69** Sampled: **07-07-10 10:35** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0139-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **DUP-X** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-51** Sampled: **07-07-10 00:00** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.53**	mg/L	0.01	1	50 mL	07-15-10 14:32	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-70** Sampled: **07-07-10 00:00** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.04**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B15-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-52** Sampled: **07-08-10 08:40** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.47**	mg/L	0.01	1	50 mL	07-15-10 14:36	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-71** Sampled: **07-08-10 08:40** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.02**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B1-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-53** Sampled: **07-08-10 09:50** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.12**	mg/L	0.01	1	50 mL	07-15-10 14:38	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-72** Sampled: **07-08-10 09:50** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B112B-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-54** Sampled: **07-08-10 10:50** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.56**	mg/L	0.01	1	50 mL	07-15-10 14:39	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-73** Sampled: **07-08-10 10:50** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.04**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B110A-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-55** Sampled: **07-08-10 11:25** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.90**	mg/L	0.05	5	10 mL	07-15-10 15:12	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-74** Sampled: **07-08-10 11:25** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.03**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B204-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-56** Sampled: **07-08-10 10:30** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.04**	mg/L	0.01	1	50 mL	07-15-10 14:44	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-75** Sampled: **07-08-10 10:30** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **97AB608-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-57** Sampled: **07-08-10 09:40** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.02**	mg/L	0.01	1	50 mL	07-15-10 14:45	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-76** Sampled: **07-08-10 09:40** Container: **250 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	BRL	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **B506-OW** Matrix: **Aqueous**
Project: **NG Malden/NG Malden T6** Received: **07-09-10 17:45**
Client: **Innovative Engineering Solutions, Inc.**

Lab ID: **134702-58** Sampled: **07-09-10 10:25** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	**0.66**	mg/L	0.05	5	10 mL	07-15-10 15:15	TCN-1583-W	EPA 9012B	1	JR

Lab ID: **134702-77** Sampled: **07-09-10 10:25** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Available	**0.04**	mg/L	0.01	1	50 mL	07-20-10 00:00	ACN-0140-W	OIA-1677	2	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Project Narrative

Project:	**NG Malden/NG Malden T6**	Lab ID:	**134702**
Client:	**Innovative Engineering Solutions, Inc.**	Received:	**07-09-10 17:45**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1 . EPA 8270C Note: Samples 134702-22RA1, -25RA1, -27RA1, -34, -35, -35RA1, -36, -36RA1 and -39. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.

2 . EPA 8270C Non-conformance: Samples 134702-22, -25, -27, -35, -36 and -39. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Samples were reanalyzed and reported with all analytes within calibration.

3 . EPA 8270C Non-conformance: Samples 134702-25RA1, -27RA1, -35RA1, -36RA1 and -39RA1. Samples did not have measureable surrogate recoveries due to required sample dilution.

4 . MA DEP EPH Note: Samples 134702-21 through -39. Polynuclear aromatic hydrocarbon (PAH) target analytes were identified and quantified by GC/MS-SIM, in accordance with the method provision for alternate determinative methodologies. GC/MS-SIM was used to achieve low quantification limits necessary for regulatory compliance. Target analytes were determined utilizing the same sample extract used for carbon range determination by GC/FID.

5 . MA DEP EPH Non-conformance: Samples 134702-27 and -36. Samples did not have measureable surrogate recoveries due to required sample dilution.

6 . MA DEP EPH Note: Samples 134702-27 and -36. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.

7 . MA DEP VPH Note: Samples 134702-1, -5 ,-7, -8, -14, -15, -16 and -19. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.

8 . MA DEP VPH Non-conformance: Laboratory control sample (LCS) analtye n-Pentane was below recommended recovery limits for QC batch VG3-4565-W.

9 . MA DEP EPH Note: Samples 134702-21 through -39. Samples had reporting limits above the recommended CAM reporting limits for the EPH fractions.

GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441 • FAX (508) 759-4475
www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Project Name: NG MALDEN	Firm: Innovative Engineering Solutions
Project Number: NG MALDEN T6	Address: 25 Spring Street
Sampler Name: Garth Hirsch	City / State / Zip:: Walpole/Ma/02081
Project Manager: Vicki Pariyar	Telephone: 508-668-0033

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)
- [x] Please Email to: V.pariyar@iesi online.com
- [ ] Please FAX to: _____

BILLING

- [x] Purchase Order No.: NG Malden T6
- [ ] Third Party Billing: _____
- [ ] GWA Quote: _____

ANALYSIS REQUEST

OPTIONS: ☐ TIC Search

SDWA: ☐ 524.2

NPDES: ☐ 624

RCRA/21E: ☐ 8260B 1CL+MTBE ☐ 8260B

Volatiles: ☐ 8260B Aromatics ☐ 8260B Halocarbons ☐ 8021B Vermont

Semivolatiles: ☐ Acid Only ☐ B/N Only ☐ TIC Search ☐ 525.2 ☐ 625 ☐ 8270C

Semivolatiles: ☐ 625 PAHs only ☐ 8270C PAHs only

Pest/Herb/PCBs Extractable: ☐ 505 ☐ 508 ☐ 608 Pesticides ☐ 608 PCBs ☐ 8081A Pesticides ☐ 8082 PCBs

Pest/Herb/PCBs Vol.: ☐ 531.1 ☐ 515.3 ☐ 504.1 EDB/DBCP ☐ 515 ☐ 8151A Herbicides ☐ 8011 EDB/DBCP

Metals: Specify For Water Samples ☐ Total ☐ Dissolved ☐ Lead and Copper ☐ 13 Priority Pollutant ☐ 8 RCRA ☐ 5 RCRA ☐ 14 MA DEP Metals ☐ 23 TAL ☐ Specify:

Petroleum Hydrocarbon Ext. TPH: ☐ Diesel Range Organics (DRO) ☐ ME DRO ☐ C7 ETPH ☐ MA DEP EPH w/all targets ☐ EPH Carbon Ranges only ☐ EPH w/4 PAHs ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-00 Mod.) ☐ TPH by GC/FID (8015B Mod) Quantitative Only

Petroleum Hydrocarbon Vol. TPH: ☐ Gasoline Range Organics (GRO) ☐ ME GRO ☐ MA DEP VPH w/all targets ☐ VPH Carbon ranges only

Haz. Waste: ☐ TCLP ☐ SPLP ☐ 8 Metals ☐ Pb only ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability ☐ Conductivity ☐ Paint Filter ☐ MA Basic Disposal: 8260BTCL TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity ☐ MA Extended Disposal 8260B, 8270C, TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity

General Chemistry: ☐ Nitrate ☐ Nitrite ☐ Chlorine ☐ Fluoride ☐ Sulfate ☐ Dissolved Phosphorus ☐ Total Phosphorus ☐ Total N (as N02/N03/TKN) ☐ Ammonia ☐ TKN ☐ Oil & Grease ☐ COD ☐ TOC ☐ BOD ☐ CBOD ☐ TDS ☐ TSS ☐ TS ☐ Alkalinity ☐ Total Cyanide ☐ Physiologically Available Cyanide ☐ Available Cyanide

Other: ☐ pH ☐ Dissolved Oxygen ☐ Turbidity ☐ Total Coliform ☐ Fecal Coliform ☐ HPC ☐ MA DEP Asbestos in Soil ☐ Asbestos (PLM)

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: GROUNDWATER	DRINKING WATER	WASTEWATER	SOIL	OTHER SOLID	OIL/ORGANIC LIQUID	Type: COMPOSITE	GRAB	Container(s): NUMBER	40mL VOA Vial	60mL/2 oz Glass	120mL/4 oz Amber Glass	250mL/8 oz Glass	500mL/16 oz Glass	1L/32 oz Amber Glass	250mL/8 oz Plastic	500mL/16 oz Plastic	1L/32 oz Plastic	120mL Sterile	Preservation: HCl	HNO_3	H_2SO_4	NaOH	Methanol	Sodium Bisulfate	ICE	Filtered: YES	NO	LABORATORY NUMBER (Lab Use Only)
7/7/10	9:35	B203-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	11:05	B106-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	11:30	B7-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1415	B16-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1545	B504-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1500	B501-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1340	B502-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	915	00A-B909-aw	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1250	97B-B627-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1145	97B-B628-OW	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10	1035	97A-B602-aw	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	
7/7/10		DUP-X	✓							✓	7	3					2	2				✓		✓	✓			✓		✓	

REMARKS / SPECIAL INSTRUCTIONS

- [x] YES ☐ NO MCP Data Certification required.
- ☐ YES [x] NO MCP Drinking Water Sample Included.
  (Volatile analyses require duplicate collection and Trip Blanks).
- ☐ Analyze Duplicates and Trips Blanks only if positive results.
- ☐ YES [x] NO CT RCP Data Certification required.

Signature: _____

DATA QUALITY OBJECTIVES

Regulatory Program

State	Standard	Deliverables
☐ CT	[x] MCP GW-1/S-1	☐ PWS Form
☐ ME	☐ MCP GW-2/S-2	☐ MWRA
☐ MA	☐ NY STARS	☐ _____
☐ NH	☐ Drinking Water	
☐ NY	☐ Wastewater	
☐ RI	☐ Waste Disposal	
☐ VT	☐ Dredge Material	
☐ ___	☐ _____	

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required	Selection of QC Sample
☐ Sample Duplicate	☐ Please use sample:
☐ Matrix Spike	_____
☐ Matrix Spike Duplicate	

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by Sampler:	Date / Time	Received by:	Receipt Temperature:
[signature]	7/9/10 11:30	[signature]	☐ Ice ☐ Refrigerated 2-6°C Recommended 3.3
Relinquished by:	**Date / Time**	**Received by:**	**Container Count:**
[signature]	7/9/10 17:45	[signature]	
Relinquished by:	**Date / Time**	**Received by Laboratory:**	**Shipping/Airbill Number:**

Method of Shipment: [x] GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

Custody Seal Number:

GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441 • FAX (508) 759-4475
www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Project Name: NG MALDEN T	Firm: Innovative Engineering Solutions
Project Number: NG MALDEN T6	Address: 25 Spring street
Sampler Name: Garth Hirsch	City / State / Zip:: Walpole/Ma/02081
Project Manager: Vicki Pariyar	Telephone: 508-668-0033

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)
- [x] Please Email to: Vpariyar@iesi.online.com
- [ ] Please FAX to: _____

BILLING

- [x] Purchase Order No.: NG MALDEN T6
- [ ] Third Party Billing: _____
- [ ] GWA Quote: _____

ANALYSIS REQUEST

OPTIONS: [ ] TIC Search; Semivolatiles: [ ] Acid Only [ ] B/N Only [ ] TIC Search

SDWA: [ ] 524.2; [ ] 525.2; Pest/Herb/PCBs Extractable: [ ] 505 [ ] 508; Vol.: [ ] 531.1 [ ] 515.3 [ ] 504.1 EDB/DBCP; Metals: [ ] Lead and Copper

NPDES: [ ] 624; [ ] 602-MTBE; [ ] 625; [ ] 625 PAHs only; [ ] 608 Pesticides; [ ] 608 PCBs; [ ] 615; [ ] 13 Priority Pollutant

RCRA/21E: [ ] 8260B TCL+MTBE; [ ] 8260B; [ ] 8260B Aromatics; [ ] 8260B Halocarbons; [ ] 8021B Vermont; [ ] 8270C; [ ] 8270C PAHs only; [ ] 8081A Pesticides; [ ] 8082 PCBs; [ ] 8151A Herbicides; [ ] 8011 EDB/DBCP; [ ] 6 RCRA; [ ] 5 RCRA; [ ] 14 MA DEP Metals; [ ] 23 TAL; [ ] Specify:

Metals: Specify For Water Samples; [ ] Total; [ ] Dissolved

Petroleum Hydrocarbon Ext. TPH: [ ] Diesel Range Organics (DRO); [ ] ME DRO; [ ] CT ETPH; [x] MA DEP EPH w/all targets; [ ] EPH Carbon Ranges only; [ ] EPH w/4 PAHs; [ ] Hydrocarbon Fingerprint (GC/FID by ASTM D3328-00-Mod.); Vol. TPH: [ ] TPH by GC/FID (8015B Mod) Quantitative Only; [ ] Gasoline Range Organics (GRO); [ ] ME GRO; [x] MA DEP VPH w/all targets; [ ] VPH Carbon ranges only

Haz. Waste: [ ] TCLP [ ] SPLP [ ] 8 Metals [ ] Pb only [ ] VOA [ ] Semi VOA [ ] Pesticides [ ] Herbicides; [ ] Corrosivity (as pH) [ ] Reactivity [ ] Ignitability [ ] Conductivity [ ] Paint Filter; [ ] MA Basic Disposal: 8260BTCL TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity; [ ] MA Extended Disposal 8260B, 8270C, TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity

General Chemistry: [ ] Nitrate [ ] Nitrite [ ] Chlorine [ ] Fluoride [ ] Sulfate; [ ] Dissolved Phosphorus; [ ] Ammonia [ ] TKN [ ] Total Phosphorus [ ] Total N (as NO2/NO3/TKN); [ ] Oil & Grease; [ ] COD [ ] TOC; [ ] BOD [ ] CBOD [ ] TDS [ ] TSS [ ] TS [ ] Alkalinity; [x] Total Cyanide [ ] Physiologically Available Cyanide [x] Available Cyanide

Other: [ ] pH [ ] Dissolved Oxygen [ ] Turbidity; [ ] Total Coliform [ ] Fecal Coliform [ ] HPC; [ ] MA DEP Asbestos in Soil [ ] Asbestos (PLM)

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: GROUNDWATER	DRINKING WATER	WASTEWATER	SOIL	OTHER SOLID	OIL/ORGANIC LIQUID	Type: COMPOSITE	GRAB	Container(s): NUMBER	40mL VOA Vial	60mL/2 oz Glass	120mL/4 oz Amber Glass	250mL/8 oz Glass	500mL/16 oz Glass	1L/32 oz Amber Glass	250mL/8 oz Plastic	500mL/16 oz Plastic	1L/32 oz Plastic	120mL Sterile	Preservation: HCl	HNO3	H2SO4	NaOH	Methanol	Sodium Bisulfate	ICE	Filtered: YES	NO	LABORATORY NUMBER (Lab Use Only)
7/8/10	840	B15-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/8/10	950	B1-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/8/10	1050	B112B-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/8/10	1125	B110A-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/8/10	1030	B204-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/8/10	9:40	97A B608-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
7/9/10	10:25	B506-OW	✓							✓	7	3					2		2			✓		✓				✓		✓	
		TRIP BLANK									2	2										✓						✓		✓	

REMARKS / SPECIAL INSTRUCTIONS

- [x] YES [ ] NO MCP Data Certification required.
- [ ] YES [x] NO MCP Drinking Water Sample Included.
  (Volatile analyses require duplicate collection and Trip Blanks).
- [ ] Analyze Duplicates and Trips Blanks only if positive results.

- [ ] YES [x] NO CT RCP Data Certification required.

Signature: _____

DATA QUALITY OBJECTIVES

Regulatory Program

State	Standard	Deliverables
[ ] CT	[x] MCP GW-1/S-1	[ ] PWS Form
[ ] ME	[ ] MCP GW-2/S-2	[ ] MWRA
[ ] MA	[ ] NY STARS	[ ] _____
[ ] NH	[ ] Drinking Water	
[ ] NY	[ ] Wastewater	
[ ] RI	[ ] Waste Disposal	
[ ] VT	[ ] Dredge Material	
[ ] ___	[ ] _____	

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required
- [ ] Sample Duplicate
- [ ] Matrix Spike
- [ ] Matrix Spike Duplicate

Selection of QC Sample
- [ ] Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by Sampler:	Date	Time	Received by:	Receipt Temperature:
[signature]	7/9/10	1130	[signature]	[ ] Ice [ ] Refrigerated 2-6°C Recommended 3.3
Relinquished by:	**Date**	**Time**	**Received by:**	**Container Count:**
[signature]	7/9/10	1745	[signature]	
Relinquished by:	**Date**	**Time**	**Received by Laboratory:**	**Shipping/Airbill Number:**

Method of Shipment: [x] GWA Courier [ ] Express Mail [ ] Federal Express [ ] UPS [ ] Hand [ ] _____

Custody Seal Number:

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**MA DEP EPH Method**	Instrument ID:	**GC-9 Agilent 6890**	Instrument ID:	**GC-9 Agilent 6890**
QC Batch ID:	**EP-2336-F**	Extracted:	**07-21-10 16:00**	Extracted:	**07-21-10 16:00**
Matrix:	**Aqueous**	Analyzed (AL):	**07-22-10 17:02**	Analyzed (AL):	**07-22-10 18:30**
Units:	**ug/L**	Analyzed (AR):	**07-22-10 17:46**	Analyzed (AR):	**07-22-10 19:14**
		Analyst:	**KM**	Analyst:	**KM**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	*n*-Nonane (C_9)	50	26	**51** %	50	25	**51** %	**1** %	30 - 140 %	25%
124-18-5	*n*-Decane (C_{10})	50	30	**60** %	50	29	**59** %	**1** %	40 - 140 %	25%
112-40-3	*n*-Dodecane (C_{12})	50	32	**65** %	50	33	**65** %	**1** %	40 - 140 %	25%
629-59-4	*n*-Tetradecane (C_{14})	50	34	**68** %	50	35	**70** %	**3** %	40 - 140 %	25%
544-76-3	*n*-Hexadecane (C_{16})	50	38	**75** %	50	38	**76** %	**2** %	40 - 140 %	25%
593-45-3	*n*-Octadecane (C_{18})	50	43	**87** %	50	45	**90** %	**3** %	40 - 140 %	25%
n/a	*n*-C9 to *n*-C18 Group	300	200	**68** %	300	210	**69** %	**1** %	40 - 140 %	25%
629-92-5	*n*-Nonadecane (C_{19})	50	44	**89** %	50	46	**92** %	**3** %	40 - 140 %	25%
112-95-8	*n*-Eicosane (C_{20})	50	44	**88** %	50	46	**91** %	**3** %	40 - 140 %	25%
629-97-0	*n*-Docosane (C_{22})	50	42	**84** %	50	43	**87** %	**3** %	40 - 140 %	25%
646-31-1	*n*-Tetracosane (C_{24})	50	44	**87** %	50	45	**89** %	**3** %	40 - 140 %	25%
630-01-3	*n*-Hexacosane (C_{26})	50	42	**85** %	50	43	**86** %	**2** %	40 - 140 %	25%
630-02-4	*n*-Octacosane (C_{28})	50	41	**83** %	50	42	**84** %	**2** %	40 - 140 %	25%
638-68-6	*n*-Triacontane (C_{30})	50	41	**81** %	50	41	**83** %	**2** %	40 - 140 %	25%
630-06-8	*n*-Hexatriacontane (C_{36})	50	39	**77** %	50	40	**80** %	**3** %	40 - 140 %	25%
n/a	*n*-C19 to *n*-C36 Group	400	340	**84** %	400	350	**87** %	**3** %	40 - 140 %	25%
91-20-3	Naphthalene	50	33	**66** %	50	34	**68** %	**3** %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	50	36	**72** %	50	37	**74** %	**2** %	40 - 140 %	25%
208-96-8	Acenaphthylene	50	39	**79** %	50	40	**79** %	**1** %	40 - 140 %	25%
83-32-9	Acenaphthene	50	39	**77** %	50	38	**77** %	**0** %	40 - 140 %	25%
86-73-7	Fluorene	50	41	**81** %	50	40	**81** %	**1** %	40 - 140 %	25%
85-01-8	Phenanthrene	50	46	**92** %	50	46	**92** %	**1** %	40 - 140 %	25%
120-12-7	Anthracene	50	47	**94** %	50	47	**95** %	**1** %	40 - 140 %	25%
206-44-0	Fluoranthene	50	47	**93** %	50	47	**93** %	**0** %	40 - 140 %	25%
129-00-0	Pyrene	50	46	**92** %	50	46	**92** %	**0** %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	50	44	**88** %	50	45	**89** %	**2** %	40 - 140 %	25%
218-01-9	Chrysene	50	47	**93** %	50	47	**94** %	**1** %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	50	43	**87** %	50	44	**88** %	**1** %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	50	44	**89** %	50	45	**89** %	**0** %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	50	46	**91** %	50	46	**92** %	**1** %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	50	45	**91** %	50	46	**92** %	**1** %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	50	46	**91** %	50	46	**92** %	**0** %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	50	44	**88** %	50	45	**89** %	**1** %	40 - 140 %	25%
n/a	PAH Group	850	730	**86** %	850	740	**87** %	**1** %	40 - 140 %	25%

QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Fractionation:	2-Fluorobiphenyl	40	34	**86** %	40	35	**88** %		40 - 140 %
	2-Bromonaphthalene	40	36	**90** %	40	36	**89** %		40 - 140 %
Extraction:	Chloro-octadecane	40	34	**84** %	40	35	**87** %		40 - 140 %
	ortho-Terphenyl	40	39	**97** %	40	39	**97** %		40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	**0** %	LCSD	**0** %	5%
91-57-6	2-Methylnaphthalene	LCS	**0** %	LCSD	**0** %	5%

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Sample extraction performed by separatory funnel technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

The LCS and LCSD are prepared from separate source standards than those used for calibration.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**MA DEP EPH**	Instrument ID:	**GC-9 Agilent 6890**
QC Batch ID:	**EP-2336-F**	Extracted:	**07-21-10 16:00**
Matrix:	**Aqueous**	Analyzed (AL):	**07-22-10 19:58**
		Analyzed (AR):	**07-22-10 20:42**
		Analyst:	**KM**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL		ug/L	150
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		ug/L	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	40	36	**90** %	40 - 140 %
	2-Bromonaphthalene	40	36	**90** %	40 - 140 %
Extraction:	Chloro-octadecane	40	34	**86** %	40 - 140 %
	ortho-Terphenyl	40	38	**96** %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C Modified**	Instrument ID:	**MS-12 Agilent 6890**	Instrument ID:	**MS-12 Agilent 6890**
QC Batch ID:	**EP-2336-F**	Extracted:	**07-21-10 16:00**	Extracted:	**07-21-10 16:00**
Matrix:	**Aqueous**	Analyzed:	**07-23-10 02:01**	Analyzed:	**07-23-10 02:41**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	3.6	**72** %	5.0	3.3	**66** %	**9** %	40 - 140 %	20%
91-57-6	2-Methylnaphthalene	5.0	4.0	**80** %	5.0	3.6	**72** %	**11** %	40 - 140 %	20%
85-01-8	Phenanthrene	5.0	4.1	**82** %	5.0	3.8	**76** %	**8** %	40 - 140 %	20%
83-32-9	Acenaphthene	5.0	3.9	**78** %	5.0	3.5	**70** %	**11** %	40 - 140 %	20%
208-96-8	Acenaphthylene	5.0	4.1	**82** %	5.0	3.7	**74** %	**10** %	40 - 140 %	20%
86-73-7	Fluorene	5.0	4.2	**84** %	5.0	3.8	**76** %	**10** %	40 - 140 %	20%
120-12-7	Anthracene	5.0	4.7	**94** %	5.0	4.2	**84** %	**11** %	40 - 140 %	20%
206-44-0	Fluoranthene	5.0	4.8	**96** %	5.0	4.5	**90** %	**6** %	40 - 140 %	20%
129-00-0	Pyrene	5.0	4.6	**92** %	5.0	4.2	**84** %	**9** %	40 - 140 %	20%
56-55-3	Benzo[a]anthracene	5.0	4.6	**92** %	5.0	4.4	**88** %	**4** %	40 - 140 %	20%
218-01-9	Chrysene	5.0	4.6	**92** %	5.0	4.4	**88** %	**4** %	40 - 140 %	20%
205-99-2	Benzo[b]fluoranthene	5.0	4.8	**96** %	5.0	4.6	**92** %	**4** %	40 - 140 %	20%
207-08-9	Benzo[k]fluoranthene	5.0	4.7	**94** %	5.0	4.4	**88** %	**7** %	40 - 140 %	20%
50-32-8	Benzo[a]pyrene	5.0	4.6	**92** %	5.0	4.4	**88** %	**4** %	40 - 140 %	20%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	4.4	**88** %	5.0	4.3	**86** %	**2** %	40 - 140 %	20%
53-70-3	Dibenzo[a,h]anthracene	5.0	4.2	**84** %	5.0	4.2	**84** %	**0** %	40 - 140 %	20%
191-24-2	Benzo[g,h,i]perylene	5.0	4.3	**86** %	5.0	4.3	**86** %	**0** %	40 - 140 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
ortho -Terphenyl	40	35	**88** %	40	32	**80** %		40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

The LCS and LCSD are prepared from separate source standards than those used for calibration.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8270C (Mod.) - EPH PAHs by GC/MS-SIM**	Instrument ID:	**MS-12 Agilent 6890**
QC Batch ID:	**EP-2336-F**	Extracted:	**07-21-10 16:00**
Matrix:	**Aqueous**	Analyzed:	**07-23-10 03:21**
		Analyst:	**MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	40	35	**87** %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**MA DEP VPH**	Instrument ID:	**GC-3 HP 5890**	Instrument ID:	**GC-3 HP 5890**
QC Batch ID:	**VG3-4564-W**	Analyzed:	**07-18-10 10:47**	Analyzed:	**07-18-10 11:28**
Matrix:	**Aqueous**	Analyst:	**GY**	Analyst:	**GY**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	*n*- Pentane	50	35	**70** %	50	37	**74** %	**6** %	70 - 130 %	25%
107-83-5	2-Methylpentane	50	40	**80** %	50	42	**83** %	**4** %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	50	48	**97** %	50	50	**101** %	**4** %	70 - 130 %	25%
n/a	Aliphatic Group 1	150	120	**80** %	150	130	**87** %	**8** %	70 - 130 %	25%
111-84-2	*n*- Nonane	50	39	**79** %	50	41	**82** %	**4** %	70 - 130 %	25%
124-18-5	*n*- Decane	50	39	**79** %	50	43	**86** %	**9** %	70 - 130 %	25%
1678-93-9	*n*- Butylcyclohexane	50	44	**89** %	50	46	**92** %	**4** %	70 - 130 %	25%
n/a	Aliphatic Group 2	150	120	**80** %	150	130	**87** %	**8** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether	50	50	**101** %	50	52	**103** %	**2** %	70 - 130 %	25%
71-43-2	Benzene	50	46	**92** %	50	48	**96** %	**4** %	70 - 130 %	25%
108-88-3	Toluene	50	47	**94** %	50	49	**98** %	**4** %	70 - 130 %	25%
100-41-4	Ethylbenzene	50	47	**94** %	50	49	**98** %	**4** %	70 - 130 %	25%
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	100	95	**95** %	100	99	**99** %	**4** %	70 - 130 %	25%
95-47-6	*ortho*- Xylene	50	47	**95** %	50	49	**98** %	**4** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	50	47	**95** %	50	49	**98** %	**3** %	70 - 130 %	25%
91-20-3	Naphthalene	50	54	**108** %	50	55	**109** %	**1** %	70 - 130 %	25%
n/a	Aromatic Group	450	430	**96** %	450	450	**100** %	**5** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2,5-Dibromotoluene (PID)	50	45	**90** %	50	47	**93** %		70 - 130 %
2,5-Dibromotoluene (FID)	50	45	**90** %	50	46	**93** %		70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**MA DEP VPH**	Instrument ID:	**GC-3 HP 5890**
QC Batch ID:	**VG3-4564-W**	Analyzed:	**07-18-10 12:45**
Matrix:	**Aqueous**	Analyst:	**GY**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	BRL		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	49	**98** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	49	**99** %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**MA DEP VPH**	Instrument ID:	**GC-3 HP 5890**	Instrument ID:	**GC-3 HP 5890**
QC Batch ID:	**VG3-4565-W**	Analyzed:	**07-20-10 11:45**	Analyzed:	**07-20-10 12:26**
Matrix:	**Aqueous**	Analyst:	**GY**	Analyst:	**GY**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	*n*- Pentane	50	35	**70** %	50	29	**57** % q	**21** %	70 - 130 %	25%
107-83-5	2-Methylpentane	50	42	**83** %	50	40	**81** %	**3** %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	50	50	**100** %	50	48	**96** %	**5** %	70 - 130 %	25%
n/a	Aliphatic Group 1	150	130	**87** %	150	120	**80** %	**8** %	70 - 130 %	25%
111-84-2	*n*- Nonane	50	42	**84** %	50	40	**79** %	**5** %	70 - 130 %	25%
124-18-5	*n*- Decane	50	42	**85** %	50	41	**83** %	**2** %	70 - 130 %	25%
1678-93-9	*n*- Butylcyclohexane	50	47	**94** %	50	46	**92** %	**3** %	70 - 130 %	25%
n/a	Aliphatic Group 2	150	130	**87** %	150	130	**87** %	**0** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether	50	51	**101** %	50	49	**98** %	**3** %	70 - 130 %	25%
71-43-2	Benzene	50	48	**97** %	50	46	**92** %	**5** %	70 - 130 %	25%
108-88-3	Toluene	50	50	**99** %	50	47	**95** %	**4** %	70 - 130 %	25%
100-41-4	Ethylbenzene	50	50	**100** %	50	48	**95** %	**5** %	70 - 130 %	25%
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	100	100	**100** %	100	96	**96** %	**4** %	70 - 130 %	25%
95-47-6	*ortho*- Xylene	50	49	**98** %	50	48	**96** %	**2** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	50	49	**99** %	50	48	**96** %	**3** %	70 - 130 %	25%
91-20-3	Naphthalene	50	54	**107** %	50	55	**110** %	**3** %	70 - 130 %	25%
n/a	Aromatic Group	450	450	**100** %	450	440	**98** %	**2** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2,5-Dibromotoluene (PID)	50	42	**84** %	50	49	**98** %		70 - 130 %
2,5-Dibromotoluene (FID)	50	43	**86** %	50	49	**98** %		70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**MA DEP VPH**	Instrument ID:	**GC-3 HP 5890**
QC Batch ID:	**VG3-4565-W**	Analyzed:	**07-20-10 13:25**
Matrix:	**Aqueous**	Analyst:	**GY**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons † ◊	BRL		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons † ⊗	BRL		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL		ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL		ug/L	5
71-43-2	Benzene ¤	BRL		ug/L	1
108-88-3	Toluene ¤	BRL		ug/L	5
100-41-4	Ethylbenzene ‡	BRL		ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL		ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL		ug/L	5
91-20-3	Naphthalene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	48	**96** %	70 - 130 %
2,5-Dibromotoluene (FID)	50	48	**96** %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Laboratory Control Samples

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 9012B	TCN-1582-W	EPA 9012B	7/15/2010 10:00	7/15/2010 13:37	Lachat 8000 Autoanalyzer	JR
LCSD	EPA 9012B	TCN-1582-W	EPA 9012B	7/15/2010 10:00	7/15/2010 13:38	Lachat 8000 Autoanalyzer	JR

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.49	**108%**	0.45	0.49	**108%**	**0 %**	80-120%	20 %	EPA 9012B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Laboratory Control Samples

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 9012B	TCN-1583-W	EPA 9012B	7/15/2010 11:30	7/15/2010 14:30	Lachat 8000 Autoanalyzer	JR
LCSD	EPA 9012B	TCN-1583-W	EPA 9012B	7/15/2010 11:30	7/15/2010 14:31	Lachat 8000 Autoanalyzer	JR

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.48	**106%**	0.45	0.48	**107%**	**0 %**	80-120%	20 %	EPA 9012B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method		Prepared	Analyzed	Instrument ID	Analyst
LCS	MA DEP 1996 Protocol	ACN-0139-W	OIA-1677	OIA-1677	7/20/2010 0:00	7/20/2010 0:00	OI FS 3100	JK
LCSD	MA DEP 1996 Protocol	ACN-0139-W	OIA-1677	OIA-1677	7/20/2010 0:00	7/20/2010 0:00	OI FS 3100	JK

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Available	1.00	0.95	**95%**	1.00	0.97	**97%**	**2 %**	80-120%	20 %	OIA-1677

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method		Prepared	Analyzed	Instrument ID	Analyst
LCS	MA DEP 1996 Protocol	ACN-0139-W	OIA-1677	OIA-1677	7/20/2010 0:00	7/20/2010 0:00	OI FS 3100	JK
LCSD	MA DEP 1996 Protocol	ACN-0139-W	OIA-1677	OIA-1677	7/20/2010 0:00	7/20/2010 0:00	OI FS 3100	JK

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Available	1.00	0.98	**98%**	1.00	1.02	**102%**	**4 %**	80-120%	20 %	OIA-1677

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	mg/L	0.45	0.49	**108 %**	80 - 120 %	07-15-10 13:37	TCN-1582-W	Lachat 10-204-00-1-A (EPA 335.4)	1	JR
Cyanide, Total	mg/L	0.45	0.49	**108 %**	80 - 120 %	07-15-10 13:37	TCN-1583-W	Lachat 10-204-00-1-A (EPA 335.4)	1	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	07-15-10 13:37	TCN-1582-W	Lachat 10-204-00-1-A (EPA 335.4)	1	JR
Cyanide, Total	BRL	mg/L	0.01	07-15-10 13:37	TCN-1583-W	Lachat 10-204-00-1-A (EPA 335.4)	1	JR
Cyanide, Available	BRL	mg/L	0.01	07-20-10 00:00	ACN-0139-W	OIA-1677	1	JK
Cyanide, Available	BRL	mg/L	0.01	07-20-10 00:00	ACN-0140-W	OIA-1677	1	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Lachat 8000 Autoanalyzer

GROUNDWATER ANALYTICAL

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.
Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586 — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor,
Division of Occupational Safety, AA000195 — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt list aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

NEW YORK

Department of Health, 11754 — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

RHODE ISLAND

Department of Health,
Division of Laboratories, LAO00054 — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 — Foreign soil import permit

VERMONT

Department of Health, VT-87643 — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS **Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B

Non-Potable Water (Wastewater)

Analyte	Method
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS	Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

APPENDIX D – UNIFORM HAZARDOUS WASTE MANIFEST – JULY 8, 2010

SB2963094-001 SC PPW 6/4/2010

Form Approved. OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: MAC300008125
2. Page 1 of 1
3. Emergency Response Phone: (800)483-3718
4. Manifest Tracking Number: 003508628 FLE

5. Generator's Name and Mailing Address
Massachusetts Electric Company
Sue Brochu 40 Sylvan Road
Waltham, MA 02451
Generator's Phone: (781)907-3647 ATTN:Susan Brochu

Generator's Site Address (if different than mailing address)
100 Commercial Street
Malden,MA 02148

U.S. EPA ID Number: MAD039322250

6. Transporter 1 Company Name
Clean Harbors Environmental Services Inc

U.S. EPA ID Number:

7. Transporter 2 Company Name

U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Clean Harbors of Braintree Inc
1 Hill Avenue
Braintree, MA 02184
Facility's Phone: (781)380-7100

U.S. EPA ID Number: MAD053452637

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (BENZENE), 9, PG III	2	DM	110	G	D018
X	2. NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (BENZENE), 9, PG III	1	DM	300	P	D018
	3. N/A, NON DOT REGULATED MATERIAL, N/A, OILY DEBRIS	1	DM	300	P	MA01
	4.					

14. Special Handling Instructions and Additional Information
1.CH075269MA (1X55) ERG#171
2.U57365MA (1X55) ERG#171
3.R40179MAR (1X55)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: PAUL RICHARD — Signature: Paul Richard — Month 07 Day 08 Year 10

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: ____ Date leaving U.S.: ____

Transporter signature (for exports only): Signature: Paul Richard — Month 07 Day 08 Year 10

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: PAUL RICHARD — Signature: — Month Day Year

Transporter 2 Printed/Typed Name — Signature: — Month Day Year

18. Discrepancy ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

18a. Discrepancy Indication Space — Manifest Reference Number: — U.S. EPA ID Number

18b. Alternate Facility (or Generator) — Month Day Year

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141	H141	

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Huyen Hoang — Signature: Huyen Hoang — Month 07 Day 08 Year 10

DESIGNATED FACILITY [illegible] NATION STATE (IF REQUIRED

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

SB-2963094

...has the appropriate permits for and will accept the waste the generator is shipping.