



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

JUL 25 2012

Kevin D. Trainer, Associate
GeoInsight, Inc.
One Monarch Drive
Littleton, MA 01460

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. AbodeZ Acorn CW LLC site located at 603 Cambridge Avenue & 19
Wheeler Street, Cambridge, MA, Middlesex County; Authorization # MAG910548

Dear Mr. Trainer:

Based on the review of a Notice of Intent (NOI) submitted on behalf of AbodeZ Acorn
CW LLC by your firm GeoInsight Inc., for the site referenced above, the U.S.
Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator,
to discharge in accordance with the provisions of the RGP at that site. Your authorization
number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are
required to monitor. Also indicated on the checklist are the effluent limits, test methods
and minimum levels (MLs) for each pollutant. Please note that the checklist does not
represent the complete requirements of the RGP. Operators must comply with all of the
applicable requirements of this permit, including influent and effluent monitoring,
narrative water quality standards, record keeping, and reporting requirements, found in
Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete
RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes parameters that exceeded Appendix III limits.
The checklist also includes other parameters for which your laboratory reports indicated
there was insufficient sensitivity to detect these parameters at the minimum levels
established in Appendix VI of the RGP.

Also, please note that the metals included on the checklist are dilution dependent
pollutants and subject to limitations based on a dilution factor range (DFR). With the low
dilution (14) to Alewife Brook's wetland, EPA determined that the DFR for each
parameter is in the greater than ten to fifty (>10-50) range. (See the RGP Appendix IV
for Massachusetts facilities) Therefore, the limits for arsenic of 100 ug/L, cadmium of 2

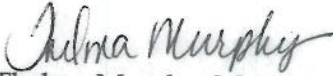
ug/L, trivalent chromium of 489 ug/L, lead of 13 ug/L, zinc of 666 ug/L and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on December 31, 2012. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



Thelma Murphy, Manager
Storm Water and Construction
Permits Section

Enclosure

cc: Kathleen Keohane, MassDEP
Lisa Peterson, Cambridge PWD
Robert C. Reynolds, GeoInsight

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:		MAG910548
Authorization Issued:	July, 2012	
Facility/Site Name:	AbodeZ Acorn CW LLC	
Facility/Site Address:	603 Cambridge Rd. and 19 Wheeler Street, Cambridge, MA 02138, Middlesex County	
	Email address of owner: lau@abodez.com	
Legal Name of Operator:	GeoInsight, Inc	
Operator contact name, title, and Address:	Kevin D. Trainer, L.S.P. One Monarch Drive, Littleton, MA 01460	
	Email: kdtrainer@geoin.com	
Estimated date of Completion:	December 31, 2012	
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Subcategory B. Known Contaminated Sites	
RGP Termination Date:	September 10, 2015	
Receiving Water:	Wetlands to Alewife Brook	

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML5ug/L
	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
✓	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
✓	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
✓	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
✓	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
✓	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
✓	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
✓	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
✓	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
✓	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
✓	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
✓	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	p. Pyrene	X/Me#8270D/ML5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	<u>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)</u> <small>11/12</small>		<u>Minimum level=ML</u>
		<u>Freshwater</u>	<u>Saltwater</u>	
	39. Antimony	5.6/ML 10		
✓	40. Arsenic **	100/ML20	36/ML 20	

	Metal parameter	Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) 11/12		Minimum level=ML
		Freshwater	Saltwater	
✓	41. Cadmium **	2/ML10	8.9/ML 10	
✓	42. Chromium III (trivalent) **	489/ML15	100/ML 15	
	43. Chromium VI (hexavalent) **	11.4/ML10	50.3/ML 10	
	44. Copper **	5.2/ML15	3.7/ML 15	
✓	45. Lead **	13/ML20	8.5/ML 20	
	46. Mercury **	0.9/ML0.2	1.1/ML 0.2	
	47. Nickel **	29/ML20	8.2/ML 20	
	48. Selenium **	5/ML20	71/ML 20	
	49. Silver	1.2/ML10	2.2/ML 10	
✓	50. Zinc **	666/ML15	85.6/ML 15	
✓	51. Iron	5,000/ML 20		

	Other Parameters	Limit
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
✓	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab ¹³
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab ¹⁴
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab ¹⁴
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab ¹⁴
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab ¹⁴
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab ¹⁴
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab ¹⁴
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab ¹⁴
	64. Maximum Change in Temperature in MA -Any Class SB water body - October to June	4°F; 1/Month/Grab ¹⁴

Footnotes:

¹ Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

² Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

³ Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

⁴ BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

⁵ Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

⁶ The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁷ Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses." Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁹ Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000 \text{ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ug/L}$, etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1



GeoInsight®

Environmental Strategy & Engineering
Practical in Nature

June 28, 2012

GeoInsight Project 6463-002

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

ATTN: Remediation General Permit NOI Processing

RE: Notice of Intent
Temporary Construction Dewatering
603 Concord Avenue and 19 Wheeler Street
Cambridge, Massachusetts

To Whom it May Concern:

GeoInsight Inc. (GeoInsight) prepared the attached Notice of Intent (NOI) for the Remediation General Permit (RGP) at the request of AbodeZ Acorn CW LLC. A copy of the NOI is provided in Attachment A. The purpose of this submittal is to obtain a temporary dewatering permit to discharge water generated during construction activities as part of the redevelopment of two adjacent properties in Cambridge, Massachusetts. The properties are located at 603 Concord Avenue and 19 Wheeler Street (the Property). A Site Locus is provided as Figure 1 and a Site Plan is provided as Figure 2.

BACKGROUND

Construction activities are scheduled to be conducted beginning in the summer of 2012 as part of the redevelopment of the Property. A multi-unit mixed use building with a sub-grade basement garage is proposed for the new development. Excavations at the Property are anticipated to be conducted to approximately twelve feet below ground surface (bgs). Based upon studies conducted to date, the depth to ground water is anticipated to be approximately six feet bgs. Sheetpiles are anticipated to be installed around the perimeter of the Property into the underlying clay, which is located approximately 10 feet below bgs. The sheetpiles seated in the clay are anticipated to significantly reduce the amount of dewatering required to facilitate the construction project.

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ENVIRONMENTAL HISTORY

The property at 19 Wheeler Street is currently paved for use as a private parking lot, but was formerly used as a bulk fuel oil storage facility. Release Tracking Number (RTN) 3-30714 was assigned by the Massachusetts Department of Environmental Protection (MADEP) for the release of petroleum at this property.

The property at 603 Concord Avenue was formerly occupied by a Shell-branded gasoline service station (Shell Station) and automotive repair garage. Release Tracking Number (RTN) 3-0089 was assigned by the MADEP for this location. Additional RTNs have been assigned to the Shell Station and have been linked to RTN 3-0089.

19 Wheeler Street, Cambridge, MA (Parking Lot) RTN 3-30714

The property at 19 Wheeler Street is currently a paved private parking lot. Records indicate that this property has been used as a parking lot since approximately 1989. Between at least 1935 and 1980, the property was used as a bulk fuel oil storage facility. Historical maps show the presence of underground storage tanks (USTs), loading racks, and a pump house at the property. Five 18,000-gallon No. 2 fuel oil USTs and one 6,000-gallon No. 2 fuel oil UST were excavated and removed from the property in 1983.

Subsurface investigations, including collection of soil and ground water samples from 19 Wheeler Street, were completed by GeoInsight in July 2011. Petroleum hydrocarbons, lead, and cadmium were detected in soil above applicable MADEP reportable concentrations. Ground water impacts were not detected above MADEP reportable concentrations. A Release Notification Form was filed with the MADEP on March 13, 2012.

603 Concord Avenue, Cambridge, MA (former Shell Station) RTN 3-0089

A September 10, 2010 Phase II Comprehensive Site Assessment (CSA) submitted by Sovereign Consulting, Inc. (Sovereign) indicated that releases of gasoline and waste oil were identified at this property during UST removal activities in 1985. During the gasoline UST excavation, petroleum-stained soil was observed in and around the former UST area. In March 1986, Groundwater Technology, Inc. (GTI) installed two monitoring wells and completed three soil borings. The MADEP identified the property as a location to be investigated on January 15, 1987 and issued RTN 3-0089. Copies of the ground water data summary tables (Table 6 through Table 10) from the CSA report are provided in the Tables section of this letter.

In April 1990, approximately 0.10 feet of fuel oil non-aqueous phase liquid (NAPL) was detected in the upgradient monitoring well (GT-104) in the northeast corner of the property. Three additional monitoring wells were installed in Wheeler Street in November 1995 to evaluate the nature and extent of the NAPL. Total petroleum hydrocarbons (TPH) were identified in both soil and ground water samples collected during the installation of the three monitoring wells. RTN 3-13600 was assigned to this release, and a Downgradient Property Status (DPS) Submittal was submitted in October 1996. The DPS indicated that the fuel oil



derived impacts in this area were not from the property, but were attributed to an existing documented fuel oil release at the Ground Round restaurant (RTN 3-2594) across Wheeler Street to the east.

In July 1997, the former 500-gallon waste oil UST located to the northwest of the 603 Concord Avenue property building was excavated and removed. During excavation activities, small leaks were observed in the UST and photoionization detector (PID) measurements of volatile organic compounds (VOC) in soil samples exceeded 100 parts per million (ppm). RTN 3-15303 was issued by MADEP for this release. A Phase I Initial Site Investigation report was submitted for this release in July 1998 and the report described the installation of three soil borings in the vicinity of the former waste oil UST. RTN 3-15303 was subsequently linked to RTN 3-0089 in September 2002.

In July 2001, petroleum-impacted soils were excavated in association with the repair of a hydraulic lift at the 603 Concord Avenue property. A Release Abatement Measure (RAM) Completion report was submitted on September 13, 2000 that discussed the repair of the hydraulic lift and the disposal of the petroleum-impacted soil. MADEP assigned RTN 3-21143 to the release on December 17, 2001. The release was subsequently linked to RTN-0089 in September 2002.

TEMPORARY CONSTRUCTION DEWATERING NOTICE OF INTENT

Ground water samples were obtained from well MW-202 on July 23, 2011 and May 16, 2012. The ground water samples were submitted to Groundwater Analytical and Spectrum Analytical, respectively, for analysis of RGP permit parameters. The testing completed for this permit includes VOCs, semivolatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), metals, TPH, polychlorinated biphenyls (PCBs), total suspended solids (TSS), chlorine, total phenols, and total residual chlorine. The analytical results for the ground water sample identified cyanide, TSS, lead, iron, TPH, benzene, and total BTEX (benzene, toluene, ethylbenzene, and xylene) above applicable RGP Effluent Limits.

Dewatering will be conducted from sumps located inside the excavation support system, and also from smaller, local excavations outside the proposed excavation support system (e.g., utility installations). Dewatering will be necessary to control ground water seepage, precipitation, surface water runoff, and possible construction-generated water to enable below-grade construction activities to occur in a relatively dry environment. Below grade construction is anticipated to start in July 2012.

The intent of the project is to limit the amount of dewatering effluent by seating the sheetpiles into clay. However; dewatering will be necessary to maintain a relatively dry environment and discharges into the storm drains will be necessary. Prior to discharge, the water will be routed through a sedimentation tank with an oil/water separator component and/or bag filters, at a minimum, to remove suspended solids and undissolved chemical constituents if encountered. Supplemental treatment may be required to meet discharge criteria as shown in the Proposed Treatment System Schematic included in Figure 3. Construction dewatering under this RGP



NOI will include piping and discharging to storm drains located near the Property. The storm drains travel approximately 0.4 miles north on Wheeler Street and discharge to wetlands associated with Alewife Brook. The proposed discharge route is shown in Figures 4a through 4d.

Dilution Factor for Metals

A Dilution Factor (DF) was calculated for total lead and iron in accordance with the NOI because ground water testing indicated lead and iron were greater than the applicable RGP effluent limits. Lead was detected at a concentration of 8.3 ug/l and the RGP effluent limit is 1.3 ug/l and iron was detected at a concentration of 34,200 ug/l and the RGP effluent limit is 1,000 ug/l. The calculated DF was used to find the appropriate Dilution Range concentrations for lead and iron. The DF was calculated using the following equation:

$$DF = (Q_d + Q_s)/Q_d$$

Where:

Q_d = Maximum flow rate of the discharge

Q_s = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow for 7 consecutive days with a recurrence interval of 10 years . The Alewife Brook 7Q10 flow (Q_s) in Cambridge (from USGS Streamstats) is **0.39 MGD**

Q_d = Estimated Average Flow = 20 gpm x 60min/hr x 10 hr/day = 12,000 GPD or **0.012 MGD**

Q_d = Estimated Maximum Flow = 50 gpm x 60min/hr x 10 hr/day = 30,000 GPD or **0.03 MGD**

Average Flow DF: $(0.39 + 0.012)/0.012 = 33.5$

Maximum Flow DF: $(0.39 + 0.03)/0.03 = 14$

Using the above values, the DF under maximum flow is equal to 14. According to Appendix IV of the RGP, the DF Range with a DF of 14 for lead is 13 ug/l and 5,000 ug/l for iron. If testing of the dewatering effluent indicates lead concentrations greater than 13 ug/l or iron concentrations greater than 5,000 ug/l, pretreatment of the dewatering effluent will be conducted to reduce lead and/or iron concentrations.



If you have any questions or comments regarding the contents of this letter or the enclosed materials, please contact either of us at (978) 679-1600.

Sincerely,
GEOINSIGHT, INC.

Robert C. Reynolds
Project Engineer

Kevin D. Trainer, C.P.G., P.G., L.S.P.
Associate

Figures

- Figure 1 – Site Locus
- Figure 2 – Site Plan
- Figure 3 – Proposed Treatment System Schematic
- Figure 4a – Proposed Dewatering Discharge Route (Part 1 of 4)
- Figure 4b – Proposed Dewatering Discharge Route (Part 2 of 4)
- Figure 4c – Proposed Dewatering Discharge Route (Part 3 of 4)
- Figure 4d – Proposed Dewatering Discharge Route (Part 4 of 4)
- Figure 5 – MassGIS Priority Resource Map

Attachments

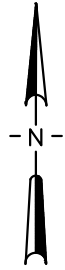
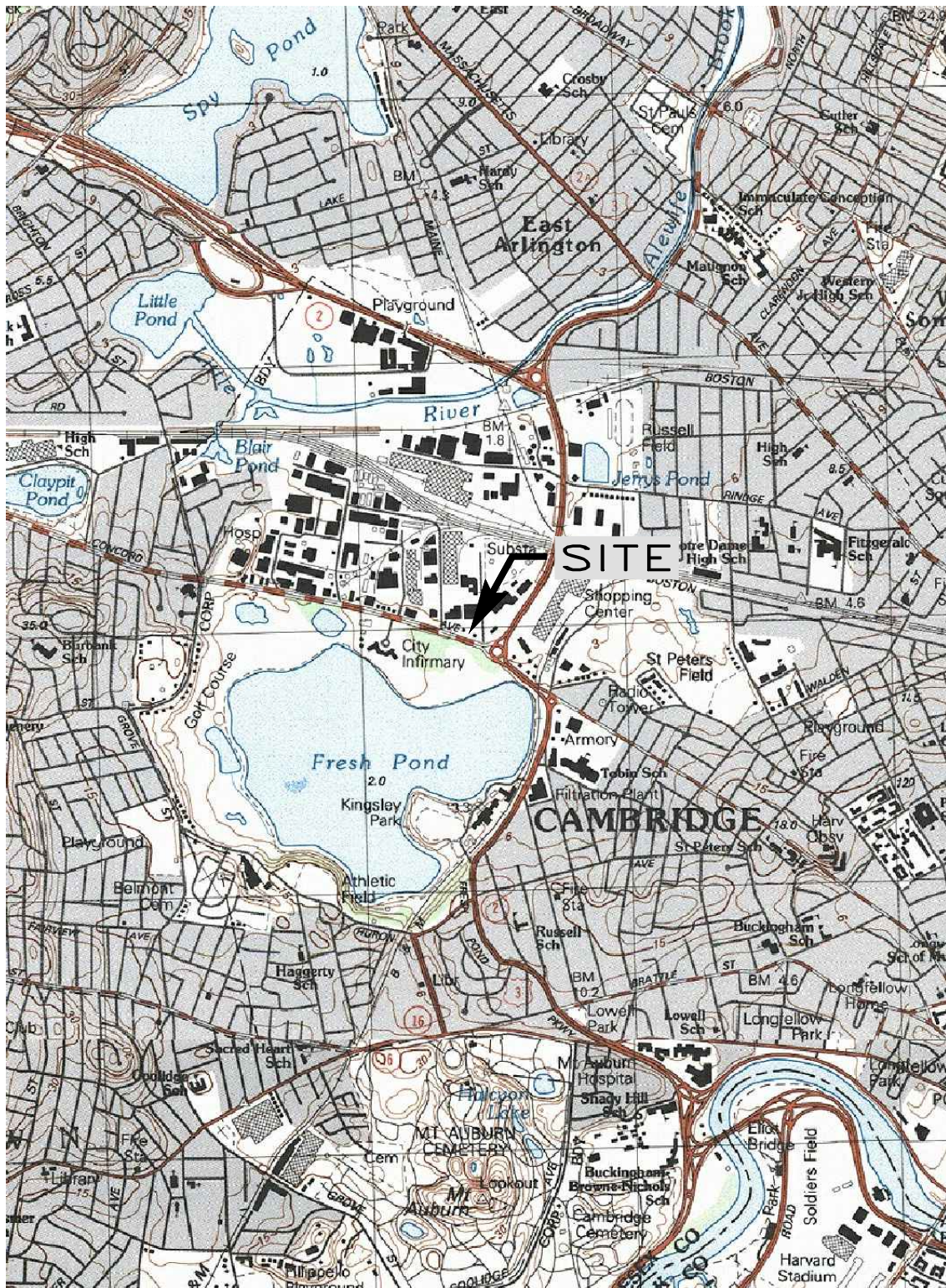
- Attachment A – Notice of Intent for Remediation General Permit
- Attachment B – Endangered Species Act Documentation
- Attachment C – Massachusetts Historical Commission Documentation
- Attachment D – City of Cambridge Dewatering Permit Application
- Attachment E – Laboratory Reports





FIGURES

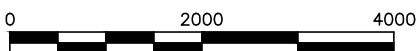




SOURCE:

USGS BOSTON NORTH, MASSACHUSETTS TOPOGRAPHIC QUADRANGLE DATED 1988.

CONTOUR INTERVAL: 3 METERS



APPROX. SCALE IN FEET

CLIENT:		ABODEZ DEVELOPMENT	
PROJECT:		CONCORD AVENUE CAMBRIDGE, MASSACHUSETTS	
TITLE:		SITE LOCUS	
DESIGNED:	DRAWN:	CHECKED:	APPROVED:
WMC	NMT	KDT	MJW
SCALE:	DATE:	FILE NO.:	PROJECT NO.:
1" = 2000'	07/25/11	6463-LOCUS	6463-000



GeoInsight
Practical in Nature

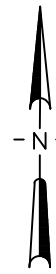
FIGURE NO.:

1

PLOT DATE: 6-27-12
 FILE: M:\Projects\Active Projects\6463-Cambridge\Abodez\Figures\6463D004.dwg



LEGEND



- s — s — APPROXIMATE LOCATION OF SEWER LINE
- w — w — APPROXIMATE LOCATION OF WATER LINE
- d — d — APPROXIMATE LOCATION OF STORM DRAIN LINE
- Ⓚ APPROXIMATE LOCATION OF STORM DRAIN MANHOLE
- Ⓚ APPROXIMATE LOCATION OF WATER MANHOLE
- Ⓚ APPROXIMATE LOCATION OF SEWER MANHOLE
- APPROXIMATE LOCATION OF CATCH BASIN
- ⊕ MW-202 MONITORING WELL LOCATION AND DESIGNATION
- APPROXIMATE LOCATION OF PROPERTY BOUNDARY (SHOWN IN WHITE ON IMAGE)

NOTES:

1. THIS FIGURE WAS BASED UPON GOOGLE EARTH PRO IMAGE DATED JUNE 19, 2010 AND CITY OF CAMBRIDGE GIS DATA, 2010.

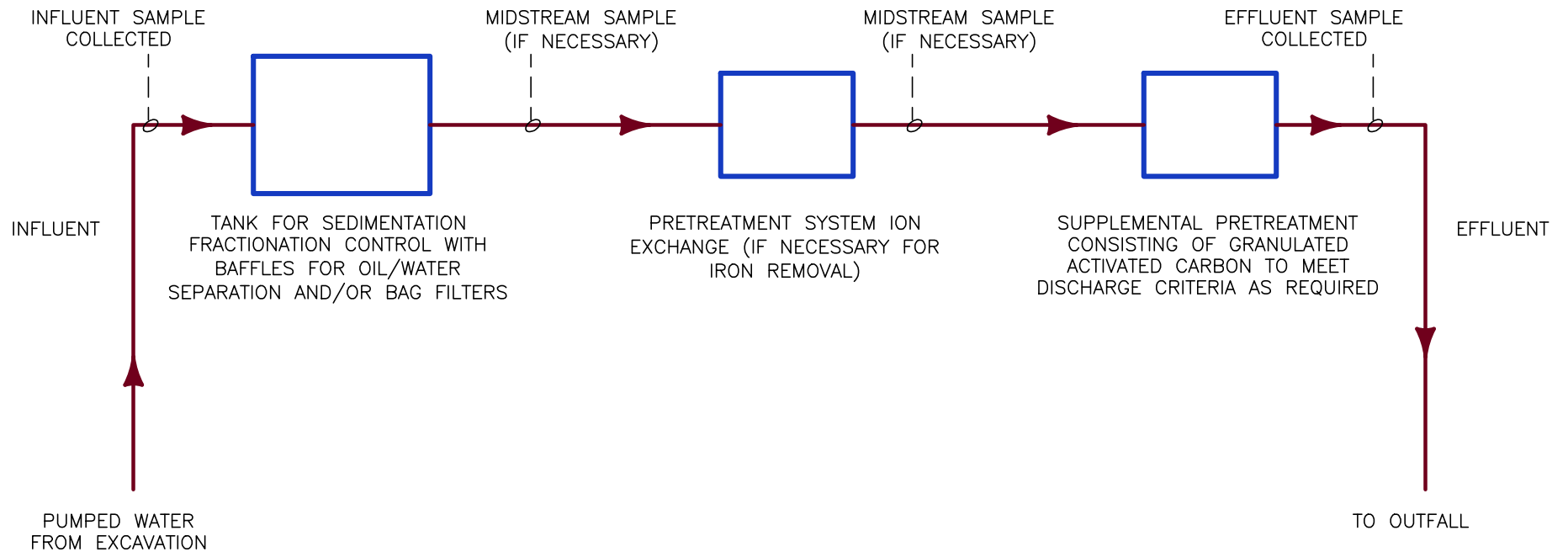


CLIENT:		ABODEZ DEVELOPMENT	
PROJECT:		CONCORD AVENUE CAMBRIDGE, MASSACHUSETTS	
TITLE:		SITE PLAN	
DESIGNED: RCR	DRAWN: NMT	CHECKED: KDT	APPROVED: MJW
SCALE: 1" = 40'	DATE: 06/27/12	FILE NO.: 6463D004	PROJECT NO.: 6463-000

GeoInsight
Practical in Nature

FIGURE NO.: 2

FILE: M:\Projects\Active Projects\6463-Cambridge Abodez\Figures\6463d005.dwg



LEGEND:

DIRECTION OF FLOW

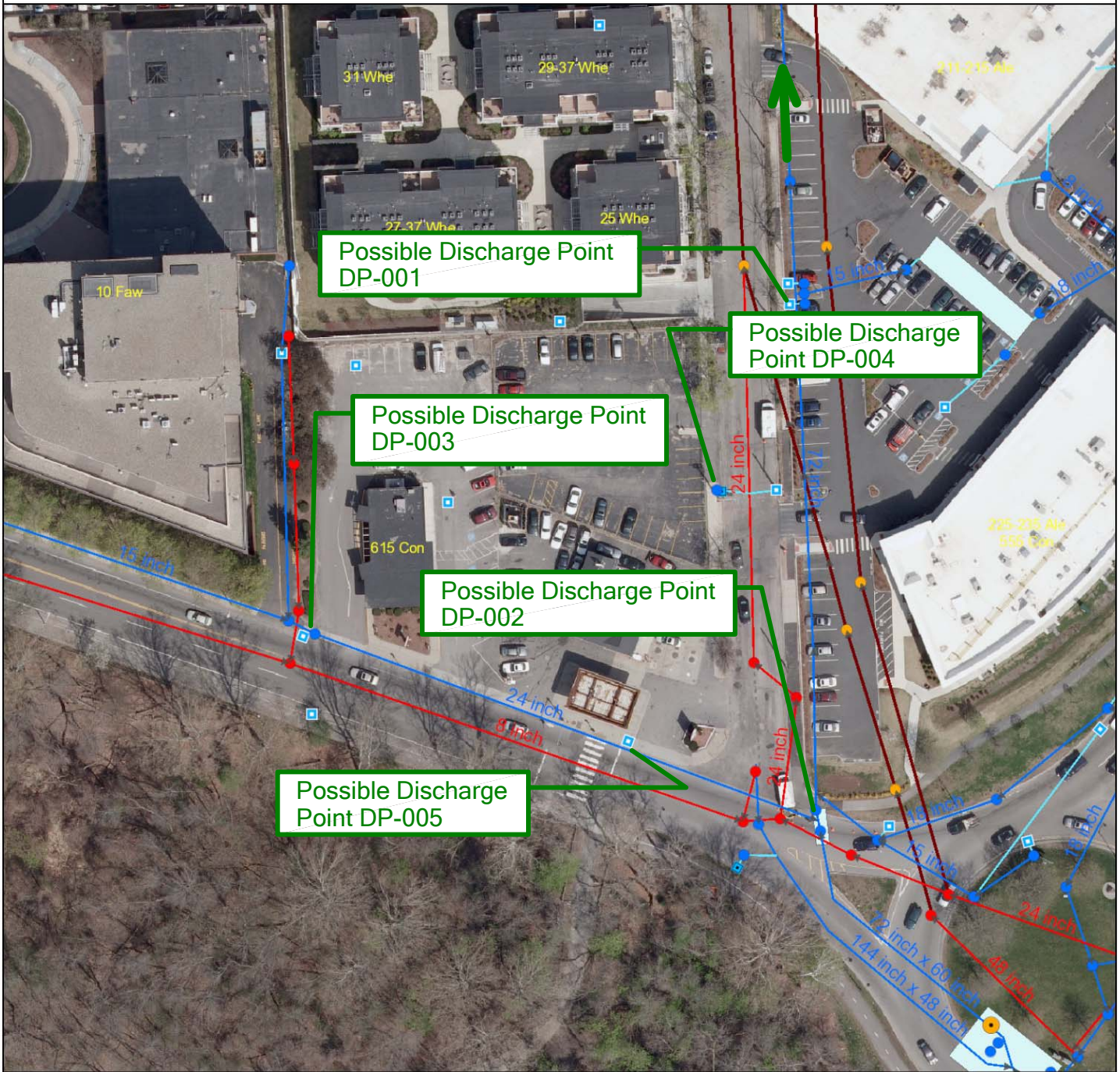
NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE DEVELOPED WITH CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

CLIENT:				ABODEZ DEVELOPMENT	
PROJECT:				CONCORD AVENUE CAMBRIDGE, MASSACHUSETTS	
TITLE:				PROPOSED TREATMENT SYSTEM SCHEMATIC	
DESIGNED:	DRAWN:	CHECKED:	APPROVED:		
RCR	NMT	KDT	MJW		
SCALE:	DATE:	FILE NO.:	PROJECT NO.:	FIGURE NO.:	
NTS	06/15/12	6463D005	6463-000	3	



Storm Water



City of Cambridge
Massachusetts

1" = 87 ft

All data is provided for graphic representation only. The City of Cambridge expressly disclaims all warranties of any type, expressed or implied, including, but not limited to, any warranty as to the accuracy of the data, merchantability, or fitness for a particular purpose.

- Pumping St
 - Pump Station
 - Lift Station
- LampHoles
 - LampHole, Sewage
 - LampHole, Storm Runoff
- Trench Drains
 -
- Service Laterals
 - Combined Wastewater, In
 - Stormwater
 - Sewage
 - Abandoned
- MWRA Mains
 - Abandoned
 - In Service
- Underground Structures
 - Stormwater
 - Sewage
 - Combined Sewage

Figure 4a
Proposed Dewatering Discharge Route (Part 1 of 4)

Indicates Storm Drain Flow Direction



Storm Water 2



City of Cambridge
Massachusetts

1" = 247 ft

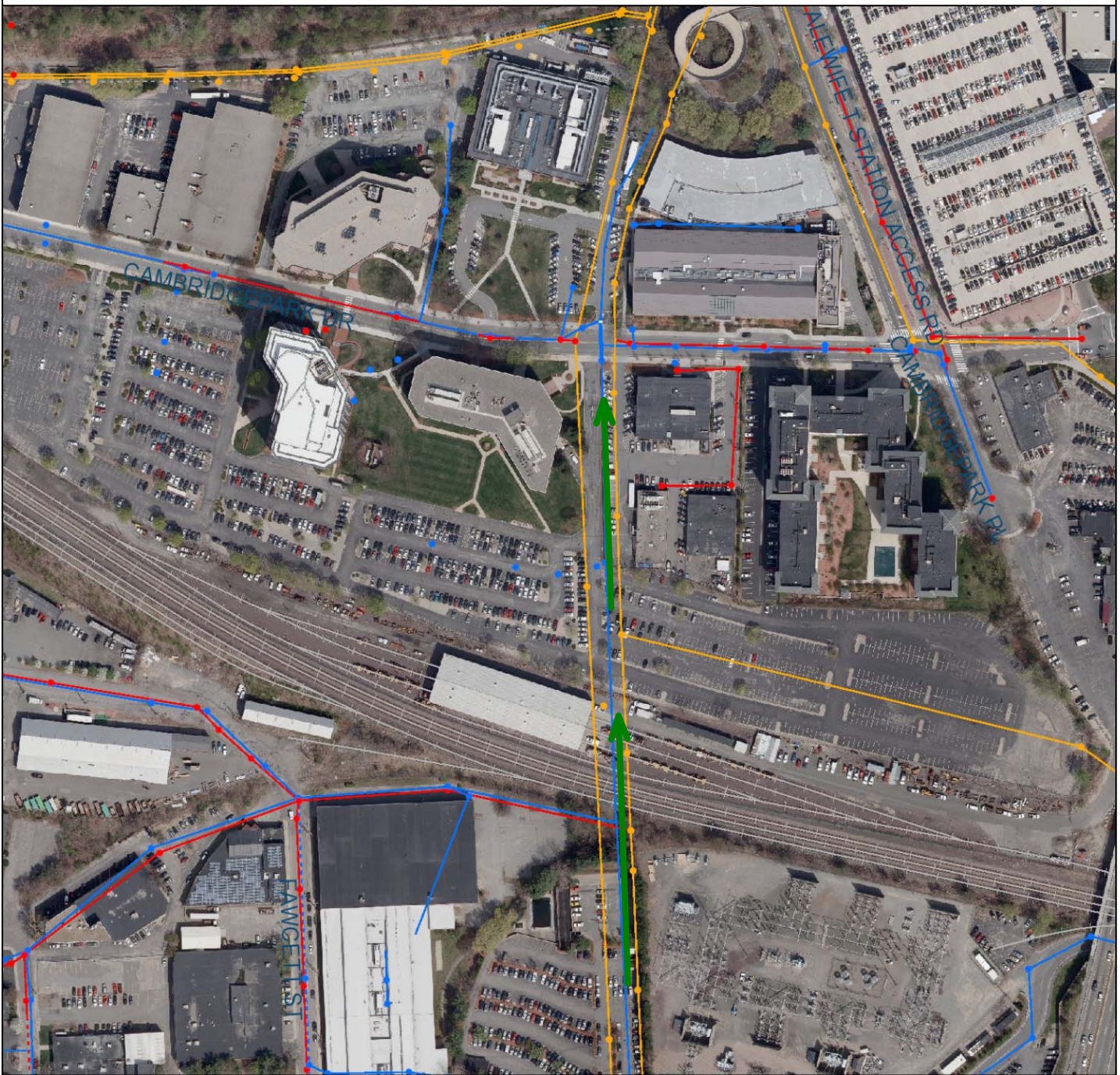
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Indicates Storm Drain
Flow Direction



Figure 4b -
Proposed Dewatering
Discharge Route
(Part 2 of 4)

Storm Water 3



City of Cambridge
Massachusetts

1" = 247 ft

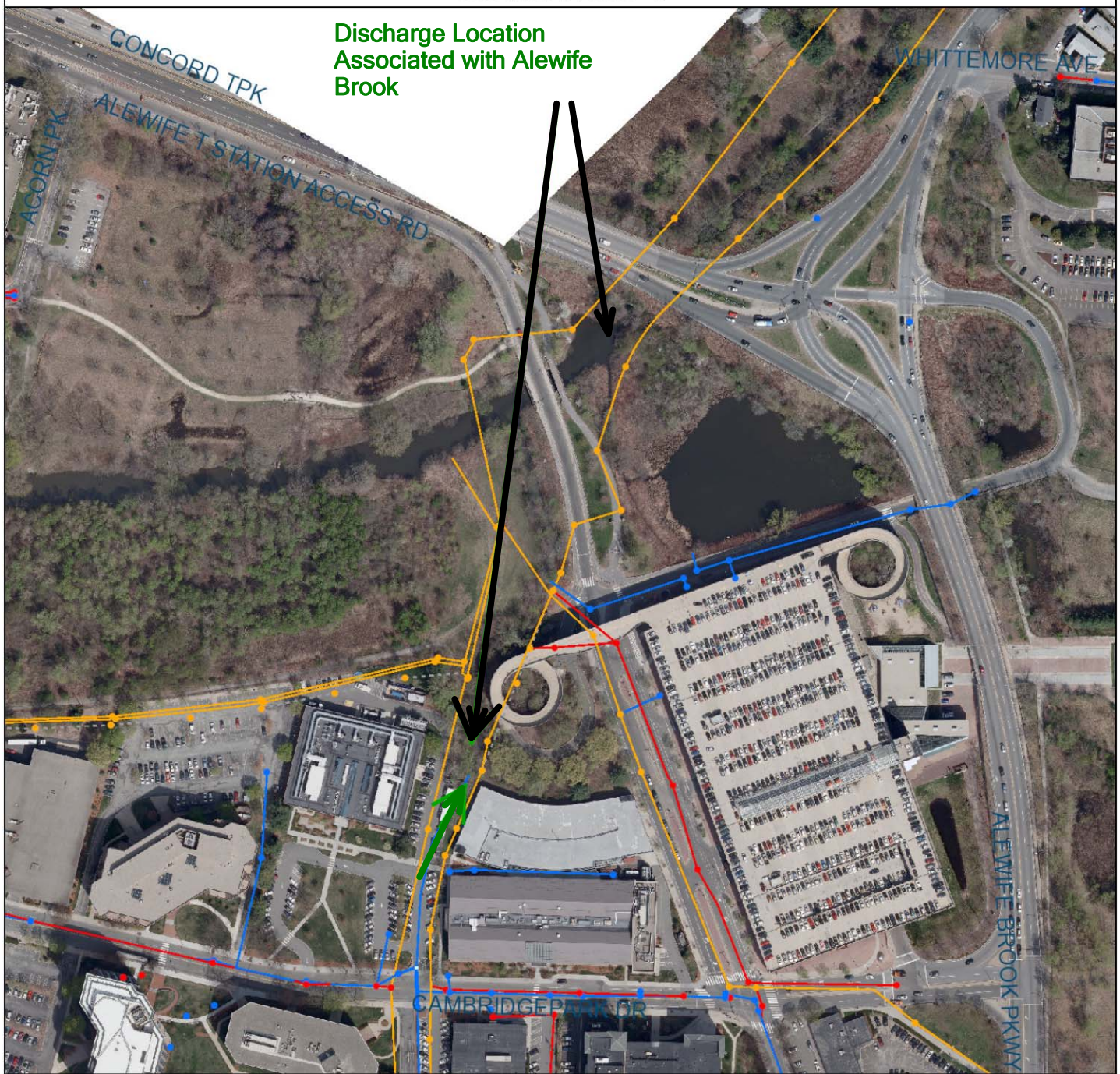
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Indicates Storm Drain
Flow Direction



Figure 4c -
Proposed Dewatering
Discharge Route
(Part 3 of 4)

Stowm Water 4



Discharge Location
Associated with Alewife
Brook

Indicates Storm Drain
Flow Direction



City of Cambridge
Massachusetts

1" = 247 ft

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Figure 4d - Proposed
Dewatering Discharge
Route (Part 4 of 4)

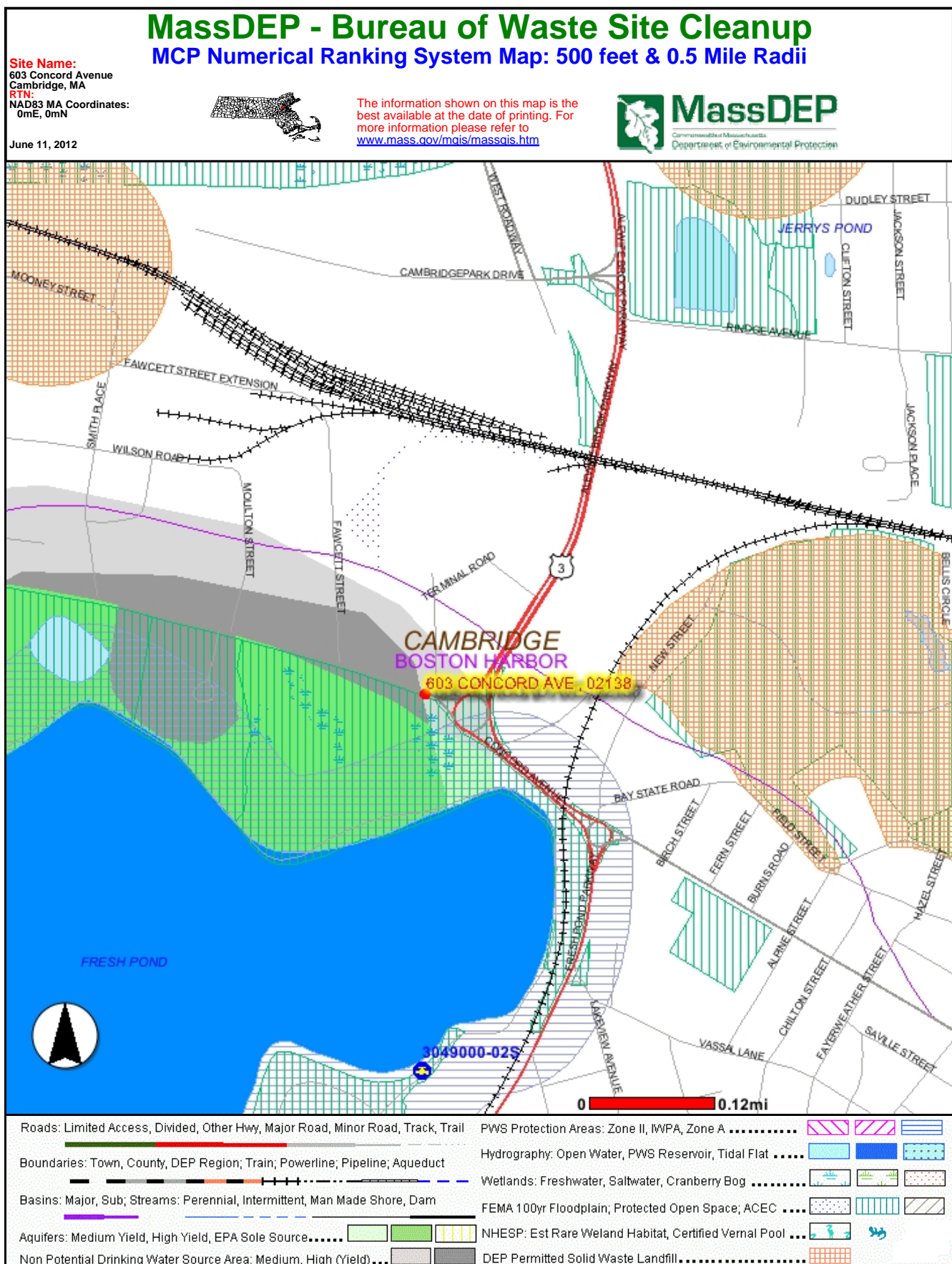


Figure 5 - MassGIS Priority Resource Map



ATTACHMENT A
NOTICE OF INTENT FOR REMEDIATION GENERAL PERMIT



B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of facility/site :		Facility/site mailing address:		
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:		
b) Name of facility/site owner : AbodeZ Acorn CW LLC		Town:		
Email address of facility/site owner:		State:	Zip:	County:
Telephone no. of facility/site owner :				
Fax no. of facility/site owner :		Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. Other ____ if so, describe:		
Address of owner (if different from site):				
Street:				
Town:	State:	Zip:	County:	
c) Legal name of operator :		Operator telephone no:		
		Operator fax no.:		Operator email:
Operator contact name and title:				
Address of operator (if different from owner):		Street:		
Town:	State:	Zip:	County:	

<p>d) Check Y for “yes” or N for “no” for the following:</p> <p>1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N___, if Y, number: _____</p> <p>2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y___ N___, if Y, date and tracking #: _____</p> <p>3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y___ N___</p> <p>4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___</p>	
<p>e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___</p> <p>If Y, please list:</p> <p>1. site identification # assigned by the state of NH or MA: _____</p> <p>2. permit or license # assigned: _____</p> <p>3. state agency contact information: name, location, and telephone number: _____</p>	<p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. Multi-Sector General Permit? Y___ N___, if Y, number: _____</p> <p>2. Final Dewatering General Permit? Y___ N___, if Y, number: _____</p> <p>3. EPA Construction General Permit? Y___ N___, if Y, number: _____</p> <p>4. Individual NPDES permit? Y___ N___, if Y, number: _____</p> <p>5. any other water quality related individual or general permit? Y___ N___, if Y, number: _____</p>
<p>g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N___</p>	
<p>h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</p>	
<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	<p>A. Gasoline Only Sites _____</p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) _____</p> <p>C. Petroleum Sites with Additional Contamination _____</p>
II - Non Petroleum Site Remediation	<p>A. Volatile Organic Compound (VOC) Only Sites _____</p> <p>B. VOC Sites with Additional Contamination _____</p> <p>C. Primarily Heavy Metal Sites _____</p>
III - Contaminated Construction Dewatering	<p>A. General Urban Fill Sites _____</p> <p>B. Known Contaminated Sites _____</p>

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____ C. Hydrostatic Testing of Pipelines and Tanks ____ D. Long-Term Remediation of Contaminated Sumps and Dikes ____ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____
---------------------------------------	---

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:	
b) Provide the following information about each discharge:	
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow _____ Is maximum flow a design value ? Y___ N___ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; pt.2: lat. _____ long. _____; pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____; pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____; pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc.	
4) If hydrostatic testing, total volume of the discharge (gals): _____	5) Is the discharge intermittent ____ or seasonal ____? Is discharge ongoing? Y ___ N _____
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)											
2. Total Residual Chlorine (TRC)											
3. Total Petroleum Hydrocarbons (TPH)											
4. Cyanide (CN)	57125										
5. Benzene (B)	71432										
6. Toluene (T)	108883										
7. Ethylbenzene (E)	100414										
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207										
9. Total BTEX ²	n/a										
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934										
11. Methyl-tert-Butyl Ether (MtBE)	1634044										
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650										

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

² BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

³ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508										
14. Naphthalene	91203										
15. Carbon Tetrachloride	56235										
16. 1,2 Dichlorobenzene (o-DCB)	95501										
17. 1,3 Dichlorobenzene (m-DCB)	541731										
18. 1,4 Dichlorobenzene (p-DCB)	106467										
18a. Total dichlorobenzene											
19. 1,1 Dichloroethane (DCA)	75343										
20. 1,2 Dichloroethane (DCA)	107062										
21. 1,1 Dichloroethene (DCE)	75354										
22. cis-1,2 Dichloroethene (DCE)	156592										
23. Methylene Chloride	75092										
24. Tetrachloroethene (PCE)	127184										
25. 1,1,1 Trichloro-ethane (TCA)	71556										
26. 1,1,2 Trichloro-ethane (TCA)	79005										
27. Trichloroethene (TCE)	79016										

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014										
29. Acetone	67641										
30. 1,4 Dioxane	123911										
31. Total Phenols	108952										
32. Pentachlorophenol (PCP)	87865										
33. Total Phthalates (Phthalate esters) ⁴											
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)											
a. Benzo(a) Anthracene	56553										
b. Benzo(a) Pyrene	50328										
c. Benzo(b)Fluoranthene	205992										
d. Benzo(k)Fluoranthene	207089										
e. Chrysene	21801										
f. Dibenzo(a,h)anthracene	53703										
g. Indeno(1,2,3-cd) Pyrene	193395										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)											

⁴The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329										
i. Acenaphthylene	208968										
j. Anthracene	120127										
k. Benzo(ghi) Perylene	191242										
l. Fluoranthene	206440										
m. Fluorene	86737										
n. Naphthalene	91203										
o. Phenanthrene	85018										
p. Pyrene	129000										
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.				5.0						
38. Chloride	16887006										
39. Antimony	7440360										
40. Arsenic	7440382										
41. Cadmium	7440439										
42. Chromium III (trivalent)	16065831										
43. Chromium VI (hexavalent)	18540299										
44. Copper	7440508										
45. Lead	7439921										
46. Mercury	7439976										
47. Nickel	7440020										
48. Selenium	7782492										
49. Silver	7440224										
50. Zinc	7440666										
51. Iron	7439896										
Other (describe):											

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

<p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y____ N____</p>	<p>If yes, which metals?</p>
<p><i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Etc.</p>	<p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y____ N____ If Y, list which metals:</p>

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

<p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p>						
<p>b) Identify each applicable treatment unit (check all that apply):</p>	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	De-chlorination	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:
 Average flow rate of discharge _____ gpm Maximum flow rate of treatment system _____ gpm
 Design flow rate of treatment system _____ gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water _____	Within facility (sewer) _____	Storm drain _____	Wetlands _____	Other (describe): _____
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:					
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.					
d) Provide the state water quality classification of the receiving water _____					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.					
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y____ N____ If yes, for which pollutant(s)? _____					
Is there a final TMDL? Y____ N____ If yes, for which pollutant(s)? _____					

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.


<p>a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit? A ____ B ____ C ____ D ____ E ____ F ____</p> <p>b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ____ N ____ Underway ____</p> <p>c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y ____ N ____</p> <p>d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.</p>
<p>e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit? 1 ____ 2 ____ 3 ____</p> <p>f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.</p>

7. Supplemental information.

<p>Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.</p>

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Abode Z Acorn CW LLC
Operator signature:	
Printed Name & Title:	Kevin Trainer, Associate
Date:	June 20, 2012



ATTACHMENT B
ENDANGERED SPECIES ACT DOCUMENTATION





United States Department of the Interior



FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>

January 17, 2012

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

The Official Website of the Department of Fish and Game (DFG)

Department of Fish and Game

Commissioner Mary B. Griffin

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MassWildlife
Massachusetts Division of Fisheries & Wildlife
Wayne F. MacCallum, Director

Natural Heritage & Endangered Species

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Rare Species by Town

MESA (Massachusetts Endangered Species Act) and Federal Status

Quick Links

- » Town Index
- » MESA List
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E = Endangered T = Threatened SC = Special Concern

Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Click on a town below to view MESA-listed species for that town. To print the species for a particular town, highlight the species using your mouse, go to Print under the File Menu, click on 'Selection' under 'Print Range' and click OK.

For more information about a particular species, view the list of [Natural Heritage Fact Sheets](#).

These data were extracted from the database of the Natural Heritage and Endangered Species Program in September 2009.

[Cambridge](#) | [Canton](#) | [Carlisle](#) | [Carver](#) | [Charlemont](#) | [Charlton](#) | [Chatham](#) | [Chelmsford](#) | [Chelsea](#) | [Cheshire](#) | [Chester](#) | [Chesterfield](#) | [Chicopee](#) | [Chilmark](#) | [Clarksburg](#) | [Clinton](#) | [Cohasset](#) | [Colrain](#) | [Concord](#) | [Conway](#) | [Cummington](#)

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
CAMBRIDGE	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		1917
CAMBRIDGE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		1892
CAMBRIDGE	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1932
CAMBRIDGE	Bird	Ammodramus henslowii	Henslow's Sparrow	E		1871
CAMBRIDGE	Bird	Botaurus lentiginosus	American Bittern	E		1906
CAMBRIDGE	Bird	Cistothorus platensis	Sedge Wren	E		1840
CAMBRIDGE	Bird	Gallinula chloropus	Common Moorhen	SC		1890

CAMBRIDGE	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E	1890
CAMBRIDGE	Bird	<i>Tyto alba</i>	Barn Owl	SC	Historic
CAMBRIDGE	Butterfly/Moth	<i>Eacles imperialis</i>	Imperial Moth	T	Historic
CAMBRIDGE	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC	1928
CAMBRIDGE	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC	1940
CAMBRIDGE	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	Historic
CAMBRIDGE	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC	1892
CAMBRIDGE	Segmented Worm	<i>Macrobdella sestertia</i>	New England Medicinal Leech	SC	1800s
CAMBRIDGE	Vascular Plant	<i>Carex gracilescens</i>	Slender Woodland Sedge	E	1891
CAMBRIDGE	Vascular Plant	<i>Cyperus engelmannii</i>	Engelmann's Umbrella- sedge	T	2007
CAMBRIDGE	Vascular Plant	<i>Gentiana andrewsii</i>	Andrews' Bottle Gentian	E	1854
CAMBRIDGE	Vascular Plant	<i>Isoetes lacustris</i>	Lake Quillwort	E	Historic
CAMBRIDGE	Vascular Plant	<i>Platanthera flava var. herbiola</i>	Pale Green Orchis	T	Historic
CAMBRIDGE	Vascular Plant	<i>Potamogeton friesii</i>	Fries' Pondweed	E	1880
CAMBRIDGE	Vascular Plant	<i>Scirpus longii</i>	Long's Bulrush	T	1913
CAMBRIDGE	Vascular Plant	<i>Suaeda calceoliformis</i>	American Sea-blite	SC	1912
CAMBRIDGE	Vascular Plant	<i>Viola brittoniana</i>	Britton's Violet	T	1843

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
CANTON	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC		1978
CANTON	Bird	<i>Cistothorus platensis</i>	Sedge Wren	E		1893
CANTON	Butterfly/Moth	<i>Callophrys hesseli</i>	Hessel's Hairstreak	SC		2001
CANTON	Butterfly/Moth	<i>Chaetagnia cerata</i>	Waxed Sallow Moth	SC		1987
CANTON	Butterfly/Moth	<i>Metarranthis pilosaria</i>	Coastal Swamp Metarranthis Moth	SC		1994
CANTON	Butterfly/Moth	<i>Papaipema appassionata</i>	Pitcher Plant Borer Moth	T		2002
CANTON	Butterfly/Moth	<i>Satyrium favonius</i>	Oak Hairstreak	SC		2004
CANTON	Dragonfly/Damselfly	<i>Enallagma daeckii</i>	Attenuated Bluet	SC		2008
CANTON	Dragonfly/Damselfly	<i>Enallagma laterale</i>	New England Bluet	SC		2008
CANTON	Dragonfly/Damselfly	<i>Enallagma pictum</i>	Scarlet Bluet	T		2009
CANTON	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T		1994
CANTON	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		1917
CANTON	Vascular Plant	<i>Ageratina aromatica</i>	Lesser Snakeroot	E		1895
CANTON	Vascular Plant	<i>Amelanchier nantucketensis</i>	Nantucket Shadbush	SC		2009
CANTON	Vascular Plant	<i>Carex glaucoidea</i>	Glaucous Sedge	E		1901
CANTON	Vascular Plant	<i>Desmodium cuspidatum</i>	Large-bracted Tick-trefoil	T		1889
CANTON	Vascular Plant	<i>Eriophorum gracile</i>	Slender Cottongrass	T		1892
CANTON	Vascular Plant	<i>Liatris scariosa var. novae-angliae</i>	New England Blazing Star	SC		1908
CANTON	Vascular Plant	<i>Sabatia kennedyana</i>	Plymouth Gentian	SC		1880
CANTON	Vascular Plant	<i>Scheuchzeria palustris</i>	Pod-grass	E		2007



ATTACHMENT C
MASSACHUSETTS HISTORICAL COMMISSION DOCUMENTATION



Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

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Massachusetts Cultural Resource Information System **MACRIS**

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

[Click here to begin your search of the MACRIS database.](#)



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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CAM.A	Cambridge Common Historic District		Cambridge	
CAM.B	Lockhart, William L. and Company Coffin Factory		Cambridge	
CAM.C	Blake and Knowles Steam Pump Company		Cambridge	
CAM.D	Fort Washington Historic District		Cambridge	
CAM.E	East Cambridge Historic District		Cambridge	
CAM.F	Winter Street Historic District		Cambridge	
CAM.G	Cambridge Multiple Resource Area		Cambridge	
CAM.H	Lechmere Point Corporation Houses		Cambridge	
CAM.I	Sacred Heart Church, Rectory, School and Convent		Cambridge	
CAM.J	Upper Magazine Street Historic District		Cambridge	
CAM.K	Hastings Square Historic District		Cambridge	
CAM.L	Salem - Auburn Streets Historic District		Cambridge	
CAM.M	Inman Square Historic District		Cambridge	
CAM.N	Old Cambridgeport Historic District		Cambridge	
CAM.O	Norfolk Street Historic District		Cambridge	
CAM.P	Massachusetts Institute of Technology		Cambridge	
CAM.Q	Central Square Historic District		Cambridge	
CAM.R	Bigelow Street Historic District		Cambridge	
CAM.S	Garfield Street Historic District		Cambridge	
CAM.T	Harvard Street Historic District		Cambridge	
CAM.U	Kirkland Place Historic District		Cambridge	
CAM.V	Maple Avenue Historic District		Cambridge	
CAM.W	City Hall Historic District		Cambridge	
CAM.X	Shady Hill Historic District		Cambridge	
CAM.Y	Ash Street Historic District		Cambridge	
CAM.Z	Avon Hill Historic District		Cambridge	

Inv. No.	Property Name	Street	Town	Year
CAM.AA	Berkeley Street Historic District		Cambridge	
CAM.AB	Harvard Square Historic District		Cambridge	
CAM.AC	Harvard Houses Historic District		Cambridge	
CAM.AD	Harvard Yard Historic District		Cambridge	
CAM.AE	Old Cambridge Historic District		Cambridge	
CAM.AF	Gray Gardens East and West Historic District		Cambridge	
CAM.AG	Memorial Drive Apartments Historic District		Cambridge	
CAM.AH	Follen Street Historic District		Cambridge	
CAM.AI	Bennink - Douglas Cottages		Cambridge	
CAM.AJ	Charles River Basin Historic District		Cambridge	
CAM.AK	Boston Woven Hose and Rubber Complex		Cambridge	
CAM.AL	Fresh Pond		Cambridge	
CAM.AM	Old Cambridge Historic District		Cambridge	
CAM.AN	Harvard Riverfront		Cambridge	
CAM.AO	East Cambridge		Cambridge	
CAM.AP	Hubbard Park Historic District		Cambridge	
CAM.AQ	Davenport - Allen and Endicott Factory		Cambridge	
CAM.AR	Mount Auburn Cemetery		Cambridge	
CAM.AS	Metropolitan Park System of Greater Boston		Cambridge	
CAM.AT	Elmwood (James Russell Lowell House)		Cambridge	
CAM.AU	Christ Church		Cambridge	
CAM.AV	Blake and Knowles Steam Pump Company		Cambridge	
CAM.AW	Alewife Brook Parkway		Cambridge	
CAM.AX	Fresh Pond Parkway		Cambridge	
CAM.AY	Church of the Blessed Sacrament Catholic Church		Cambridge	
CAM.AZ	Immaculate Conception Roman Catholic Church		Cambridge	
CAM.BA	Immaculate Conception (Lithuanian) Catholic Church		Cambridge	
CAM.1	Wyeth, John House	56 Aberdeen Ave	Cambridge	1841
CAM.1009		24 Agassiz St	Cambridge	1889
CAM.1010	Shaw, Edward L. House	30 Agassiz St	Cambridge	1890
CAM.1011	Sands, M. Winslow House	32 Agassiz St	Cambridge	1891
CAM.1012	Blackman, Horace House	33 Agassiz St	Cambridge	1890
CAM.1353	Standard Plate Glass Company Building	270 Albany St	Cambridge	1920
CAM.902	Alewife Brook Parkway Bridge over B & M Railroad	Alewife Brook Pkwy	Cambridge	1929
CAM.903	Alewife Brook Parkway Bridge over B & M Railroad	Alewife Brook Pkwy	Cambridge	1929

Inv. No.	Property Name	Street	Town	Year
CAM.9012	Alewife Brook Parkway - Northern Segment	Alewife Brook Pkwy	Cambridge	1908
CAM.9013	Alewife Brook Parkway Tree Border	Alewife Brook Pkwy	Cambridge	1920
CAM.1372	Immaculate Conception Roman Catholic Church	45 Alewife Brook Pkwy	Cambridge	1929
CAM.1373	Immaculate Conception Catholic Church Rectory	45 Alewife Brook Pkwy	Cambridge	1935
CAM.359		6-24 Allston St	Cambridge	1946
CAM.2	Fay, Isaac House	125 Antrim St	Cambridge	1843
CAM.3	Withey, S. B. House	10 Appian Way	Cambridge	1855
CAM.4	Howe, Lois Lilly House	6 Appleton St	Cambridge	1887
CAM.5	Cook, William House	71 Appleton St	Cambridge	1876
CAM.1016		8-10 Arlington St	Cambridge	1864
CAM.1027	Aldrich, Frank A. House	11 Arlington St	Cambridge	1899
CAM.1017		12-14 Arlington St	Cambridge	1864
CAM.1028	Graustein, Adolph H. House	19 Arlington St	Cambridge	1902
CAM.1018		22 Arlington St	Cambridge	1862
CAM.1019	Fillmore, Wellington House	24 Arlington St	Cambridge	1869
CAM.1347		25 Arlington St	Cambridge	
CAM.1020	Moor, Rev. Clark House	26 Arlington St	Cambridge	1869
CAM.1021	Blackman, Horace P. House	28 Arlington St	Cambridge	1876
CAM.1022		30 Arlington St	Cambridge	1876
CAM.1023	Jameson, Edwin A. L. House	32 Arlington St	Cambridge	1872
CAM.1029	Davis, John House	33 Arlington St	Cambridge	1869
CAM.1024		36 Arlington St	Cambridge	1872
CAM.1030	Kelsey, Albert House	37 Arlington St	Cambridge	1875
CAM.1025	Moor, Rev. Clark Double House	38-40 Arlington St	Cambridge	1874
CAM.1026	Boardman, Charles House	42 Arlington St	Cambridge	1871
CAM.1061	Harvard Catholic Student Center	20 Arrow St	Cambridge	1890
CAM.1062	Saint Paul's Church	24 Arrow St	Cambridge	1920
CAM.784	Brooks, John House	5 Ash St	Cambridge	1887
CAM.6	Johnson, Philip House	9 Ash St	Cambridge	1942
CAM.785	Ela, Lucia House	13 Ash St	Cambridge	1869
CAM.787	Eliot, T. S. House	16 Ash St	Cambridge	1855
CAM.786	Nowell, Henry House	19 Ash St	Cambridge	1825
CAM.788	Hunnewell, James A. House	6 Ash Street Pl	Cambridge	1848
CAM.522		107 Auburn St	Cambridge	1803
CAM.523		108-110 Auburn St	Cambridge	1803
CAM.524		114 Auburn St	Cambridge	1844
CAM.525		119 Auburn St	Cambridge	1829
CAM.526		122 Auburn St	Cambridge	1840

Inv. No.	Property Name	Street	Town	Year
CAM.527		131 Auburn St	Cambridge	1830
CAM.528		134 Auburn St	Cambridge	1845
CAM.7	Ellis, Asa House	158 Auburn St	Cambridge	1805
CAM.564	Hotel Eliot	66 Austin St	Cambridge	1885
CAM.565	Hotel Austin	70 Austin St	Cambridge	1885
CAM.8	Brabrook, Ezra H. House	42-44 Avon St	Cambridge	1849
CAM.352	Blake and Knowles Main Foundry	180 Bent St	Cambridge	1895
CAM.1035		1 Berkeley Pl	Cambridge	1892
CAM.1036		2 Berkeley Pl	Cambridge	1892
CAM.1037		3 Berkeley Pl	Cambridge	1892
CAM.1038		4 Berkeley Pl	Cambridge	1910
CAM.1039		5 Berkeley Pl	Cambridge	1900
CAM.1040		6 Berkeley Pl	Cambridge	1914
CAM.1041		7 Berkeley Pl	Cambridge	1913
CAM.1042		8 Berkeley Pl	Cambridge	1931
CAM.1043	Pryor - Brown House	1 Berkeley St	Cambridge	1852
CAM.10	Thayer, Prof. Studio	2 1/2 Berkeley St	Cambridge	1894
CAM.1044	Pryor - Howells House	3 Berkeley St	Cambridge	1856
CAM.1045	Dana, Richard H. House	4 Berkeley St	Cambridge	1851
CAM.1046	Wyeth - Allen House	5-7R Berkeley St	Cambridge	1852
CAM.1047		6 Berkeley St	Cambridge	1853
CAM.1048	Ware, Henry House	8 Berkeley St	Cambridge	1859
CAM.1049	Allyn, John House	11 Berkeley St	Cambridge	1886
CAM.1050		12 Berkeley St	Cambridge	1881
CAM.1051		13 Berkeley St	Cambridge	1898
CAM.1052	Williston, Lyman House	15 Berkeley St	Cambridge	1863
CAM.1053		16 Berkeley St	Cambridge	1905
CAM.1054		17 Berkeley St	Cambridge	1863
CAM.1055		19 Berkeley St	Cambridge	1854
CAM.1056	Newell, William House	20 Berkeley St	Cambridge	1856
CAM.1057		21 Berkeley St	Cambridge	1854
CAM.1058	Fiske, John House	22 Berkeley St	Cambridge	1877
CAM.1059		23 Berkeley St	Cambridge	1854
CAM.1060		24 Berkeley St	Cambridge	1936
CAM.1355	Craft, William House	5 Bigelow St	Cambridge	1869
CAM.1356	Sharry, William J. House	5A Bigelow St	Cambridge	1940
CAM.663	Montague, Charles House	6 Bigelow St	Cambridge	1873
CAM.655	Snow, Simeon House	7 Bigelow St	Cambridge	1869

Inv. No.	Property Name	Street	Town	Year
CAM.1360	Rhodes, Silas Jr. House	8 Bigelow St	Cambridge	1871
CAM.656	Pollard, John Double House	9-11 Bigelow St	Cambridge	1874
CAM.664	Hurd, Theodore House	10-12 Bigelow St	Cambridge	1884
CAM.657	Bird, Henry House	13 Bigelow St	Cambridge	1874
CAM.1361	Pike, Walter House	14 Bigelow St	Cambridge	1888
CAM.658	Davis, Curtis House	15 Bigelow St	Cambridge	1873
CAM.1362	Brazier, Abbie House	16 Bigelow St	Cambridge	1874
CAM.659	Whitely, Hiram House	17 Bigelow St	Cambridge	1873
CAM.1363	Sawyer - Dole House	18 Bigelow St	Cambridge	1876
CAM.1357	Oxford, Charles House	19 Bigelow St	Cambridge	1871
CAM.660	Snow - Twitchell Double House	21-23 Bigelow St	Cambridge	1873
CAM.665	Hyde, Edward House	22 Bigelow St	Cambridge	1870
CAM.1348	Robbins Block	24-46 Bigelow St	Cambridge	1871
CAM.661	Jessop, Joseph House	25 Bigelow St	Cambridge	1872
CAM.1358	Jessop Tenement House	29 Bigelow St	Cambridge	1891
CAM.1359	Whitcomb, Peter Double House	31-33 Bigelow St	Cambridge	1872
CAM.662	Davis, John W. House	35 Bigelow St	Cambridge	1870
CAM.357	Blake and Knowles Machine Shop #2	195 Binney St	Cambridge	1917
CAM.358	Blake and Knowles Machine Shop #3	199 Binney St	Cambridge	1918
CAM.356	Blake and Knowles Erecting and Assembling Building	201 Binney St	Cambridge	1903
CAM.11	Slowey, Patrick House	73 Bolton St	Cambridge	1852
CAM.1063	Bicycle Exchange Building	3-7 Bow St	Cambridge	1901
CAM.1064		9 Bow St	Cambridge	1884
CAM.1065	Farwell - Russell, Thomas Store	12 Bow St	Cambridge	1830
CAM.1066	Westmorly Court - Harvard University	15-29 Bow St	Cambridge	1898
CAM.12	Harvard Lampoon Building	44 Bow St	Cambridge	1909
CAM.1067	Randolph Hall - Harvard University	47-57 Bow St	Cambridge	1897
CAM.13	Frost, Elizabeth Tenant House	35 Bowdoin St	Cambridge	1812
CAM.926	Anderson, Larz Bridge	Boylston St	Cambridge	1915
CAM.14	Hicks, John House	64 Boylston St	Cambridge	1761
CAM.294	Radcliffe College Graduate Center	Brattle St	Cambridge	1955
CAM.918	Longfellow Park	Brattle St	Cambridge	1887
CAM.987	Lowell Park	Brattle St	Cambridge	
CAM.1068	Brattle Building	4 Brattle St	Cambridge	1913
CAM.1069	Atrium Building	9-11 Brattle St	Cambridge	1979
CAM.1071		12-16 Brattle St	Cambridge	1887
CAM.1070	Estes Block	13-15 Brattle St	Cambridge	1875

Inv. No.	Property Name	Street	Town	Year
CAM.1072	Dow Block	17-35 Brattle St	Cambridge	1936
CAM.1073		18 Brattle St	Cambridge	1922
CAM.1074		26 Brattle St	Cambridge	1909
CAM.1075	Hadley Building	28-36 Brattle St	Cambridge	1974
CAM.1076	Cambridge Federal Savings Bank	38A Brattle St	Cambridge	1937
CAM.1077		39-41 Brattle St	Cambridge	1925
CAM.15	Brattle Hall	40 Brattle St	Cambridge	1889
CAM.1078		40A Brattle St	Cambridge	1925
CAM.16	Brattle, William House	42 Brattle St	Cambridge	1727
CAM.1079	Sage Building	43-45 Brattle St	Cambridge	1926
CAM.1080		44 Brattle St	Cambridge	1970
CAM.1081		46R Brattle St	Cambridge	1966
CAM.1082		47-49 Brattle St	Cambridge	1926
CAM.1083	Design Research Building	48 Brattle St	Cambridge	1969
CAM.1084	Washington Court	51 Brattle St	Cambridge	1905
CAM.17	Pratt, Dexter House	54 Brattle St	Cambridge	1808
CAM.1229	Warland, John House	69 Brattle St	Cambridge	1838
CAM.1230	Greenleaf, James House	76 Brattle St	Cambridge	1859
CAM.1228	Chamberlin, John House	77 Brattle St	Cambridge	1821
CAM.18	Radcliffe College Alumnae House	79 Brattle St	Cambridge	1836
CAM.19	Wadsworth Chambers	81-83 Brattle St	Cambridge	1908
CAM.20	Burleigh House	85 Brattle St	Cambridge	1847
CAM.21	Stoughton, Mary Fisk House	90 Brattle St	Cambridge	1882
CAM.22		92 Brattle St	Cambridge	1882
CAM.23	Vassall, Henry House	94 Brattle St	Cambridge	1635
CAM.24	Episcopal Divinity School - Washburn Hall	99 Brattle St	Cambridge	1960
CAM.25	Saint John's Chapel	99 Brattle St	Cambridge	1868
CAM.26	Episcopal Divinity School Library - Sherrill Hall	99 Brattle St	Cambridge	1965
CAM.27	Episcopal Divinity School - Wright Hall	99 Brattle St	Cambridge	1911
CAM.28	Episcopal Divinity School - Reed Hall	99 Brattle St	Cambridge	1873
CAM.29	Episcopal Divinity School - Lawrence Hall	99 Brattle St	Cambridge	1873
CAM.30	Episcopal Divinity School - Burnham Hall	99 Brattle St	Cambridge	1879
CAM.31	Hastings, Oliver House	101 Brattle St	Cambridge	1844
CAM.32	Longfellow National Historic Site	105 Brattle St	Cambridge	1759
CAM.33	Dana, Edith Longfellow House	113 Brattle St	Cambridge	1887
CAM.34		114 Brattle St	Cambridge	1903
CAM.35	Thorp, Annie Longfellow House	115 Brattle St	Cambridge	1887
CAM.36	Worcester, Joseph House	121 Brattle St	Cambridge	1843

Inv. No.	Property Name	Street	Town	Year
CAM.37		121A Brattle St	Cambridge	1941
CAM.38		123 Brattle St	Cambridge	
CAM.39		124 Brattle St	Cambridge	1915
CAM.40		125 Brattle St	Cambridge	1939
CAM.41		126 Brattle St	Cambridge	1890
CAM.1235		127 Brattle St	Cambridge	1970
CAM.42		128 Brattle St	Cambridge	1892
CAM.43		130-130R Brattle St	Cambridge	1886
CAM.44		132 Brattle St	Cambridge	1886
CAM.45	Falxa, Dr. Martin House	133 Brattle St	Cambridge	1970
CAM.46		134-136 Brattle St	Cambridge	1857
CAM.47		138 Brattle St	Cambridge	1930
CAM.48		140 Brattle St	Cambridge	1930
CAM.49		142 Brattle St	Cambridge	1915
CAM.50	Cambridge Armenian Church	143 Brattle St	Cambridge	1959
CAM.51		144 Brattle St	Cambridge	1915
CAM.52	Brewster, William House	145 Brattle St	Cambridge	1887
CAM.53		146 Brattle St	Cambridge	1939
CAM.54		147 Brattle St	Cambridge	1887
CAM.55		148 Brattle St	Cambridge	1914
CAM.56	Lechmere, Richard House	149 Brattle St	Cambridge	1762
CAM.57		150 Brattle St	Cambridge	1908
CAM.58		152 Brattle St	Cambridge	1887
CAM.59	Lee, Thomas House	153 Brattle St	Cambridge	1803
CAM.60		154 Brattle St	Cambridge	1865
CAM.1236		155 Brattle St	Cambridge	1889
CAM.61		156 Brattle St	Cambridge	1867
CAM.62		158 Brattle St	Cambridge	1884
CAM.63	Hooper - Lee - Nichols House	159 Brattle St	Cambridge	1685
CAM.64		160 Brattle St	Cambridge	1884
CAM.65		164 Brattle St	Cambridge	1868
CAM.1237	Bartlett, John House	165 Brattle St	Cambridge	1873
CAM.66	Van Brunt, Henry House	167 Brattle St	Cambridge	1883
CAM.67		168 Brattle St	Cambridge	1888
CAM.68	Wells, Judge Daniel House	170 Brattle St	Cambridge	1852
CAM.69		174 Brattle St	Cambridge	1885
CAM.70	Marrett - Ruggles - Fayerweather House	175 Brattle St	Cambridge	1765
CAM.1238	Fayerweather House Squash Court and Garage	177 Brattle St	Cambridge	1915

Inv. No.	Property Name	Street	Town	Year
CAM.71		180 Brattle St	Cambridge	1888
CAM.72	Richards, R. A. House	182 Brattle St	Cambridge	1895
CAM.73		190 Brattle St	Cambridge	1898
CAM.74	Frankfurter, Justice Felix House	192 Brattle St	Cambridge	1907
CAM.75		193 Brattle St	Cambridge	1893
CAM.76		194 Brattle St	Cambridge	1917
CAM.77		195 Brattle St	Cambridge	1896
CAM.78		198 Brattle St	Cambridge	1912
CAM.79	Stubbins, Hugh House	199 Brattle St	Cambridge	1966
CAM.80		200 Brattle St	Cambridge	1901
CAM.81		202 Brattle St	Cambridge	1903
CAM.82		205 Brattle St	Cambridge	1925
CAM.83		209 Brattle St	Cambridge	1925
CAM.84		213-215 Brattle St	Cambridge	1896
CAM.85	Frost, Robert House	29-35 Brewster St	Cambridge	1884
CAM.86	Cambridge Public Library	449 Broadway	Cambridge	1888
CAM.515		301 Brookline Ave	Cambridge	1869
CAM.516		302 Brookline Ave	Cambridge	1887
CAM.517		308 Brookline Ave	Cambridge	1870
CAM.623	Southwick Block	11-19 Brookline St	Cambridge	
CAM.88	Brown, Daniel House	7 Brown St	Cambridge	1845
CAM.89	Hill, Aaron House	17 Brown St	Cambridge	1754
CAM.708		1 Bryant St	Cambridge	1911
CAM.709		5 Bryant St	Cambridge	1916
CAM.710		7 Bryant St	Cambridge	1915
CAM.711		20-24 Bryant St	Cambridge	1916
CAM.712		21 Bryant St	Cambridge	1932
CAM.90	Bridgman, Percy House	10 Buckingham Pl	Cambridge	1920
CAM.91	Koch, Carl House	4 Buckingham St	Cambridge	1939
CAM.92	Higginson, Col. Thomas Wentworth House	29 Buckingham St	Cambridge	1880
CAM.941	Bridge, John Statue	Cambridge Common	Cambridge	1882
CAM.942	Memorial Gateway	Cambridge Common	Cambridge	1906
CAM.943	Revolutionary War Cannons	Cambridge Common	Cambridge	1770
CAM.944	Soldiers Monument	Cambridge Common	Cambridge	1869
CAM.906	Cambridge Parkway Bridge over Broad Canal	Cambridge Pkwy	Cambridge	1957
CAM.931	Cambridge Parkway	Cambridge Pkwy	Cambridge	1900
CAM.97	Memorial Hall	Cambridge St	Cambridge	1875
CAM.379	Middlesex County Registry of Deeds Building	Cambridge St	Cambridge	1896

Inv. No.	Property Name	Street	Town	Year
CAM.380	Middlesex County Clerk of Courts Building	Cambridge St	Cambridge	1889
CAM.912	Longfellow Bridge - West Boston Bridge	Cambridge St	Cambridge	1907
CAM.914	Lechmere Square Streetcar Station	Cambridge St	Cambridge	1922
CAM.372		82-84 Cambridge St	Cambridge	1937
CAM.373	Davenport, A. H. - Irving and Casson Company	88-134 Cambridge St	Cambridge	1866
CAM.378		160 Cambridge St	Cambridge	1965
CAM.93	East Cambridge Savings Bank	292 Cambridge St	Cambridge	1931
CAM.94	Union Railway Car Barn	613-621 Cambridge St	Cambridge	1869
CAM.535		1353-1369 Cambridge St	Cambridge	1894
CAM.532	Waite Building	1368 Cambridge St	Cambridge	1855
CAM.533	Middlesex Bank Building	1374-1385 Cambridge St	Cambridge	1874
CAM.95		1707-1709 Cambridge St	Cambridge	1845
CAM.96		1715-1717 Cambridge St	Cambridge	1845
CAM.637	Church Corner Apartments	Central Sq	Cambridge	1986
CAM.636	Home Realty Building	14 Central Sq	Cambridge	1970
CAM.639	Southwick Building I	15-16 Central Sq	Cambridge	1896
CAM.640	Southwick Building II	17-24 Central Sq	Cambridge	1860
CAM.641	White Tower Restaurant	25 Central Sq	Cambridge	1932
CAM.98	Melvin, Isaac House	19 Centre St	Cambridge	1842
CAM.99	Boston and Maine Railroad Signal Tower A	Charles River	Cambridge	1931
CAM.911	Charles River Railroad Draw Bridge #1	Charles River	Cambridge	1931
CAM.920	Charles River Dam	Charles River	Cambridge	1905
CAM.925	Weeks, John Wingate Foot Bridge	Charles River	Cambridge	1927
CAM.928	Lechmere Canal	Charles River	Cambridge	1909
CAM.929	Broad Canal	Charles River	Cambridge	1805
CAM.932	Charles River Basin Granite Seawall and Iron Fence	Charles River	Cambridge	
CAM.935	Metropolitan District Commission Swimming Pool	Charles River	Cambridge	
CAM.1320	Metropolitan District Commission Chlorination Plant	Charles River	Cambridge	
CAM.1325	M. I. T. - Pierce, Harold Whitworth Boat House	Charles River	Cambridge	1965
CAM.1326	M. I. T. - Wood, Walter C. Sailing Pavillion	Charles River	Cambridge	1976
CAM.1328	Riverside Boat Club	Charles River	Cambridge	1910
CAM.543	Boardman, James Double House	Cherry St	Cambridge	1843
CAM.100	Fuller, Margaret House	71 Cherry St	Cambridge	1806
CAM.546		87 Cherry St	Cambridge	1845
CAM.545		116-120 Cherry St	Cambridge	1845
CAM.544	Eaton, Jacob House	128 Cherry St	Cambridge	1844

Inv. No.	Property Name	Street	Town	Year
CAM.542		137-139 Cherry St	Cambridge	1840
CAM.537		149-151 Cherry St	Cambridge	1830
CAM.538		159-161 Cherry St	Cambridge	1830
CAM.547		167 Cherry St	Cambridge	1850
CAM.548		169 Cherry St	Cambridge	1850
CAM.101	Kingsley, Chester House	10 Chester St	Cambridge	1866
CAM.518		105 Chestnut St	Cambridge	1875
CAM.519		111 Chestnut St	Cambridge	1875
CAM.102	First Parish Church, Unitarian	1-3 Church St	Cambridge	1833
CAM.103		23-25 Church St	Cambridge	1936
CAM.1085		26-28 Church St	Cambridge	1857
CAM.104		27-29 Church St	Cambridge	1922
CAM.105	Cambridge Police Station	31-33 Church St	Cambridge	1864
CAM.1086	Oxford Grill	32-42 Church St	Cambridge	1931
CAM.1087	Hancock - Torrey House	53 Church St	Cambridge	1827
CAM.1088		54-56 Church St	Cambridge	1925
CAM.1089		59-63 Church St	Cambridge	1949
CAM.1377	Cambridge Almshouse Caretaker's House	36 Churchill Ave	Cambridge	1886
CAM.106	Gale, George House	14-16 Clinton St	Cambridge	1853
CAM.107	Beth Israel Synagogue	238 Columbia St	Cambridge	1901
CAM.908	Commercial Avenue Bridge over Lechmere Canal	Commercial Ave	Cambridge	1907
CAM.1318	Metropolitan District Commission Stables	Commercial Ave	Cambridge	
CAM.336		3 Concord Ave	Cambridge	1915
CAM.337		5 Concord Ave	Cambridge	1917
CAM.108	Howells, William Dean House	37 Concord Ave	Cambridge	1873
CAM.1365	Cambridge Home for the Aged and Infirm	650 Concord Ave	Cambridge	1928
CAM.109	Orne, Sarah House	10 Coolidge Hill Rd	Cambridge	1807
CAM.110	Coolidge, Josiah House	24 Coolidge Hill Rd	Cambridge	1822
CAM.111	Holmes, Joseph House	144 Coolidge Hill St	Cambridge	1801
CAM.600	Coolidge, Flavel House	2 Coolidge Pl	Cambridge	1834
CAM.1369	Blessed Sacrament Roman Catholic Parish School	12 Corporal McTernan St	Cambridge	1924
CAM.112	Valentine Soap Workers' Cottage	5-7 Cottage St	Cambridge	1835
CAM.1212	Mather House - Harvard University	Cowperthwaite St	Cambridge	1967
CAM.113	Birkhoff, George D. House	22 Craigie St	Cambridge	1870
CAM.114	Ross, Denman House	24-26 Craigie St	Cambridge	1869
CAM.115		25 Craigie St	Cambridge	1856

Inv. No.	Property Name	Street	Town	Year
CAM.116	Horsford, Eben House	27 Craigie St	Cambridge	1854
CAM.333	Day, Anna House	139 Cushing St	Cambridge	1856
CAM.117	Colburn, Sara Foster House	7 Dana St	Cambridge	1841
CAM.118	University Museum	11-25 Divinity Ave	Cambridge	1859
CAM.119	Divinity Hall	12 Divinity Ave	Cambridge	1825
CAM.120	Biological Laboratory	16 Divinity Ave	Cambridge	1930
CAM.121	Second Cambridge Savings Bank Building	11-21 Dunster St	Cambridge	1897
CAM.1090	Union Railway Car barn	25-33 Dunster St	Cambridge	1860
CAM.1091	Second D. U. Club	45 Dunster St	Cambridge	1930
CAM.1092	Metcalf, Eliab Wight House	46 Dunster St	Cambridge	1820
CAM.1093	Edwards, Abraham - Moore, Mary House	53 Dunster St	Cambridge	1841
CAM.1094	Alpha Sigma Phi Club	54 Dunster St	Cambridge	1900
CAM.122	Wyeth, Augustus House	69 Dunster St	Cambridge	1829
CAM.1095		71-77 Dunster St	Cambridge	1894
CAM.123		42 Edward J. Lopez Ave	Cambridge	1830
CAM.1096	Hotel Packard	10-14 Eliot St	Cambridge	1869
CAM.1097		14A Eliot St	Cambridge	1900
CAM.1098		16-18 Eliot St	Cambridge	1898
CAM.124	Sands, Ivory House	145 Elm St	Cambridge	1839
CAM.125	Foster, Dr. House	8 Elmwood Ave	Cambridge	1893
CAM.126	Greenough, J. J. House	9 Elmwood Ave	Cambridge	1903
CAM.127	Smyth, Herbert House	11-15 Elmwood Ave	Cambridge	1903
CAM.128	Kempton, John House	14 Elmwood Ave	Cambridge	1895
CAM.129		20 Elmwood Ave	Cambridge	1892
CAM.130	Benson, Ruth House	26 Elmwood Ave	Cambridge	1899
CAM.131	Watson House	30 Elmwood Ave	Cambridge	1750
CAM.132	Elmwood - Lowell, James Russell House	33 Elmwood Ave	Cambridge	1767
CAM.133	Reardon, Edmund House	195 Erie St	Cambridge	1884
CAM.1371	Blessed Sacrament Roman Catholic Church Convent	203 Erie St	Cambridge	1954
CAM.134	Harvard Graduate Center	10-26 Everett St	Cambridge	1949
CAM.135	Jarvis, The	27 Everett St	Cambridge	1890
CAM.136	Newman, Andrew House	23 Fairmont St	Cambridge	1823
CAM.713		2-4 Farrar St	Cambridge	1927
CAM.714		9 Farrar St	Cambridge	1890
CAM.715		15 Farrar St	Cambridge	1898
CAM.716		16 Farrar St	Cambridge	1931
CAM.717		17 Farrar St	Cambridge	1897

Inv. No.	Property Name	Street	Town	Year
CAM.718		18-20 Farrar St	Cambridge	1923
CAM.719		22 Farrar St	Cambridge	1928
CAM.720		26 Farrar St	Cambridge	1928
CAM.137		10-12 Farwell Pl	Cambridge	1870
CAM.138	Nichols House	11 Farwell Pl	Cambridge	1827
CAM.139		14-16 Farwell Pl	Cambridge	1855
CAM.140	Read, James House	15 Farwell Pl	Cambridge	1772
CAM.141	Child, N. K. House	17 Farwell Pl	Cambridge	1835
CAM.142		18-20 Farwell Pl	Cambridge	1855
CAM.143	Christ Church Parish House	19 Farwell Pl	Cambridge	1948
CAM.144	Toppan House	22-24 Farwell Pl	Cambridge	1900
CAM.145	Deane, Ezra - Williams, George House	21-23 Fayette St	Cambridge	1848
CAM.146		26-28 Fayette St	Cambridge	1857
CAM.430	Cambridge Public Library - O'Connell Branch	Fifth St	Cambridge	1938
CAM.441		69-71 Fifth St	Cambridge	
CAM.452	Hall, Jesse House	75 Fifth St	Cambridge	1837
CAM.428		82 Fifth St	Cambridge	
CAM.429		83 Fifth St	Cambridge	
CAM.907	First Street Bridge over Broad Canal	First St	Cambridge	1924
CAM.147	Athenaeum Press Building	215 First St	Cambridge	1895
CAM.910	Fitchburg Railroad Signal Bridge	Fitchburg Railroad	Cambridge	1930
CAM.148	Abbot, Edwin House	1 Follen St	Cambridge	1889
CAM.1271		5 Follen St	Cambridge	1853
CAM.1273		6 Follen St	Cambridge	1868
CAM.1338		8 Follen St	Cambridge	1871
CAM.149	Second Waterhouse House	9 Follen St	Cambridge	1844
CAM.150		10 Follen St	Cambridge	1875
CAM.1274		13 Follen St	Cambridge	1900
CAM.151	Richards, Theodore W. House	15 Follen St	Cambridge	1900
CAM.1275		19 Follen St	Cambridge	1844
CAM.1276		20 Follen St	Cambridge	1949
CAM.1277		21 Follen St	Cambridge	1841
CAM.1278		22 Follen St	Cambridge	1951
CAM.1279		25 Follen St	Cambridge	1889
CAM.152	Clover Den - Mann, Mary House	29 Follen St	Cambridge	1837
CAM.1280		34 Follen St	Cambridge	1946
CAM.1281		36 Follen St	Cambridge	1847
CAM.1282		44 Follen St	Cambridge	1862

Inv. No.	Property Name	Street	Town	Year
CAM.338	Puritan Arms	46-50 Follen St	Cambridge	1940
CAM.1331	Homer - Lovell House	11 Forest St	Cambridge	1867
CAM.153	Francis, Ebenezer Houuse	1 Francis Ave	Cambridge	1836
CAM.721		6 Francis Ave	Cambridge	1940
CAM.722		7 Francis Ave	Cambridge	1894
CAM.723		8 Francis Ave	Cambridge	1940
CAM.724		9 Francis Ave	Cambridge	1875
CAM.725		10 Francis Ave	Cambridge	1894
CAM.726		11 Francis Ave	Cambridge	1894
CAM.1337		12-14 Francis Ave	Cambridge	1895
CAM.727		16 Francis Ave	Cambridge	1906
CAM.154	Davis, William Morris House	17 Francis Ave	Cambridge	1895
CAM.728		18 Francis Ave	Cambridge	1911
CAM.155	Hyatt, Prof. Alpheus - Durant, Prof. Will B. House	19 Francis Ave	Cambridge	1889
CAM.729		21 Francis Ave	Cambridge	1925
CAM.730		22 Francis Ave	Cambridge	1912
CAM.731		23 Francis Ave	Cambridge	1902
CAM.732		24 Francis Ave	Cambridge	1906
CAM.733		30 Francis Ave	Cambridge	1905
CAM.734		32 Francis Ave	Cambridge	1903
CAM.735	Center for the Study of World Religions	42 Francis Ave	Cambridge	1959
CAM.736		44 Francis Ave	Cambridge	1913
CAM.737		53 Francis Ave	Cambridge	1913
CAM.738		56 Francis Ave	Cambridge	1914
CAM.739		57 Francis Ave	Cambridge	1913
CAM.740		59 Francis Ave	Cambridge	1916
CAM.741		60 Francis Ave	Cambridge	1961
CAM.742		63 Francis Ave	Cambridge	1913
CAM.743	Sert, Jose Luis House	64 Francis Ave	Cambridge	1957
CAM.744		65 Francis Ave	Cambridge	1916
CAM.745		67 Francis Ave	Cambridge	1926
CAM.746		68 Francis Ave	Cambridge	1921
CAM.747		70 Francis Ave	Cambridge	1879
CAM.748		73 Francis Ave	Cambridge	1926
CAM.749		75-77 Francis Ave	Cambridge	1925
CAM.1329	Kennedy, F. A. Steam Bakery	129 Franklin St	Cambridge	1875
CAM.919	Fresh Pond Lane over B & M Railroad	Fresh Pond Ln	Cambridge	1926
CAM.9014	Fresh Pond Parkway	Fresh Pond Pkwy	Cambridge	1899

Inv. No.	Property Name	Street	Town	Year
CAM.9015	Fresh Pond Parkway - Concord Avenue Rotary Islands	Fresh Pond Pkwy	Cambridge	1928
CAM.9016	Fresh Pond Parkway - New Street Rotary	Fresh Pond Pkwy	Cambridge	1928
CAM.9017	Fresh Pond Parkway Tree Canopy	Fresh Pond Pkwy	Cambridge	1920
CAM.9018	Fresh Pond Parkway Median System	Fresh Pond Pkwy	Cambridge	1958
CAM.156	Wyeth - Eliot, Charles House	17 Fresh Pond Pkwy	Cambridge	1838
CAM.157	Frost, Walter House	10 Frost St	Cambridge	1807
CAM.800	Old Burying Ground	Garden St	Cambridge	1750
CAM.940	Milestone, 1767	Garden St	Cambridge	1734
CAM.158	Christ Church	0 Garden St	Cambridge	1760
CAM.159	Saunders, William House	1 Garden St	Cambridge	1821
CAM.339		2 Garden St	Cambridge	1835
CAM.340	Howe, Sarah House	3 Garden St	Cambridge	1851
CAM.160	First Church in Cambridge Congregational	11 Garden St	Cambridge	1870
CAM.341		17-19 Garden St	Cambridge	1926
CAM.161	Sears Tower - Harvard Observatory	60 Garden St	Cambridge	1843
CAM.162	Warner House	63 Garden St	Cambridge	1855
CAM.163	Gray, Asa House	88 Garden St	Cambridge	1810
CAM.1240		91 Garden St	Cambridge	1922
CAM.164	Taylor Square Firehouse	113 Garden St	Cambridge	1904
CAM.165	Warren, H. Langford House	6 Garden Terr	Cambridge	1904
CAM.671	Rollins, John House	16 Garfield St	Cambridge	1891
CAM.672	Wood, Edward House	18 Garfield St	Cambridge	1886
CAM.1336	Shepherd, Herbert House	31-33 Garfield St	Cambridge	1886
CAM.673	Farquhar, Robert House	34 Garfield St	Cambridge	1890
CAM.674	Coon, Sarah House	36 Garfield St	Cambridge	1887
CAM.666	Shepherd, Edward House	39 Garfield St	Cambridge	1885
CAM.675	Thayer, Bertha House	44 Garfield St	Cambridge	1888
CAM.667	Estabrook, J. W. House	45 Garfield St	Cambridge	1886
CAM.668	Bartlett, A. S. House	49 Garfield St	Cambridge	1888
CAM.676	Green, Roscoe House	54 Garfield St	Cambridge	1890
CAM.669	Dewey House	55 Garfield St	Cambridge	1889
CAM.677	Worcester, George House	58 Garfield St	Cambridge	1890
CAM.678	Allen, Frank House	64 Garfield St	Cambridge	1891
CAM.670	Sullivan, Cornelius House	67 Garfield St	Cambridge	1889
CAM.679	Farnsworth, Charles House	74 Garfield St	Cambridge	1897
CAM.680	Ball, Elijah House	80 Garfield St	Cambridge	1887
CAM.502	Lechmere Point Corporation Row House	47 Gore St	Cambridge	1821

Inv. No.	Property Name	Street	Town	Year
CAM.503	Lechmere Point Corporation Row House	49 Gore St	Cambridge	1821
CAM.504	Lechmere Point Corporation Row House	51 Gore St	Cambridge	1821
CAM.1241		1 Gray Gardens East	Cambridge	1925
CAM.1242		2 Gray Gardens East	Cambridge	1930
CAM.1243		3 Gray Gardens East	Cambridge	1923
CAM.1244		8 Gray Gardens East	Cambridge	1923
CAM.1245		9 Gray Gardens East	Cambridge	1922
CAM.1246		11 Gray Gardens East	Cambridge	1924
CAM.1247		12 Gray Gardens East	Cambridge	1922
CAM.1248		13 Gray Gardens East	Cambridge	1925
CAM.1249		16 Gray Gardens East	Cambridge	1922
CAM.1250		17 Gray Gardens East	Cambridge	1958
CAM.1251		19 Gray Gardens East	Cambridge	1927
CAM.1252		22 Gray Gardens East	Cambridge	1962
CAM.1253		25 Gray Gardens East	Cambridge	1926
CAM.1254		26 Gray Gardens East	Cambridge	1922
CAM.1255		27 Gray Gardens East	Cambridge	1923
CAM.1256		30 Gray Gardens East	Cambridge	1928
CAM.1257		31 Gray Gardens East	Cambridge	1924
CAM.1258		37 Gray Gardens East	Cambridge	1923
CAM.1259		3 Gray Gardens West	Cambridge	1923
CAM.1260		4 Gray Gardens West	Cambridge	1922
CAM.1261		11 Gray Gardens West	Cambridge	1923
CAM.1262		14 Gray Gardens West	Cambridge	1924
CAM.1263		15 Gray Gardens West	Cambridge	1929
CAM.1264		16 Gray Gardens West	Cambridge	1925
CAM.167	Hall Tavern	20 Gray Gardens West	Cambridge	1800
CAM.1265		24 Gray Gardens West	Cambridge	1928
CAM.166	Frost, David House	26 Gray St	Cambridge	1815
CAM.618		133 Green St	Cambridge	1894
CAM.624		175 Green St	Cambridge	
CAM.534	Inman Square Fire Station	Hampshire St	Cambridge	1912
CAM.168	Lamson, Rufus House	72-74 Hampshire St	Cambridge	1854
CAM.1367	Massachusetts Avenue Baptist Church	146 Hampshire St	Cambridge	1902
CAM.169	Opposition House	2-4 Hancock Pl	Cambridge	1807
CAM.170		104-106 Hancock St	Cambridge	1839
CAM.171	Atwood, Ephraim House	110 Hancock St	Cambridge	1839
CAM.536	Fay, Samuel P. P. House	172 Harvard St	Cambridge	1805

Inv. No.	Property Name	Street	Town	Year
CAM.549	Allen Block	177-183 Harvard St	Cambridge	1875
CAM.1354	Courtney, Benjamin House	273 Harvard St	Cambridge	1867
CAM.172	Jones, William R. House	307 Harvard St	Cambridge	1865
CAM.173	Vinal, Albert House	325 Harvard St	Cambridge	1853
CAM.681	Melledge, James P. House	335 Harvard St	Cambridge	1850
CAM.684	Warner, Caleb House	336 Harvard St	Cambridge	1858
CAM.682		337 Harvard St	Cambridge	1887
CAM.685	Frothingham, Amos House	338 Harvard St	Cambridge	1859
CAM.686	Goepper, William House	340 Harvard St	Cambridge	1897
CAM.683		341-343 Harvard St	Cambridge	1855
CAM.687	Rindge, Samuel Baker House	342-344 Harvard St	Cambridge	1857
CAM.174	Bradbury, William F. House	369 Harvard St	Cambridge	1877
CAM.175	Hapgood, Richard House	382-392 Harvard St	Cambridge	1889
CAM.176	Ware Hall	383 Harvard St	Cambridge	1893
CAM.1099	Delta Upsilon Club	396 Harvard St	Cambridge	1914
CAM.177	Old Cambridge Baptist Church	398 Harvard St	Cambridge	1867
CAM.193	Austin Hall	Harvard University	Cambridge	1881
CAM.178	Holden Chapel - Harvard University	Harvard Yard	Cambridge	1764
CAM.179	Sever Hall	Harvard Yard	Cambridge	1880
CAM.180	University Hall	Harvard Yard	Cambridge	1812
CAM.181	Harvard Hall - Harvard University	Harvard Yard	Cambridge	1764
CAM.182	Hollis Hall - Harvard University	Harvard Yard	Cambridge	1762
CAM.183	Massachusetts Hall	Harvard Yard	Cambridge	1718
CAM.184	Weld Hall - Harvard University	Harvard Yard	Cambridge	1870
CAM.185	Boylston Hall - Harvard University	Harvard Yard	Cambridge	1857
CAM.186	Holworthy Hall - Harvard University	Harvard Yard	Cambridge	1811
CAM.187	Grays Hall - Harvard University	Harvard Yard	Cambridge	1862
CAM.188	Lehman Hall - Harvard University	Harvard Yard	Cambridge	1924
CAM.189	Matthews House - Harvard University	Harvard Yard	Cambridge	1871
CAM.190	Straus Hall - Harvard University	Harvard Yard	Cambridge	1926
CAM.191	Thayer Hall - Harvard University	Harvard Yard	Cambridge	1869
CAM.192	Wigglesworth Hall - Harvard University	Harvard Yard	Cambridge	1930
CAM.953	Harvard University - 1857 Gate	Harvard Yard	Cambridge	1901
CAM.954	Harvard University - 1870 Gate	Harvard Yard	Cambridge	1901
CAM.955	Harvard University - 1873 Tablet	Harvard Yard	Cambridge	1901
CAM.956	Harvard University - 1874 Gate	Harvard Yard	Cambridge	1901
CAM.957	Harvard University - 1875 Gate	Harvard Yard	Cambridge	1901
CAM.958	Harvard University - 1881 Gate	Harvard Yard	Cambridge	1906

Inv. No.	Property Name	Street	Town	Year
CAM.959	Harvard University - 1885 Gate	Harvard Yard	Cambridge	1904
CAM.960	Harvard University - 1886 Gate	Harvard Yard	Cambridge	1901
CAM.961	Harvard University - 1887 Gate	Harvard Yard	Cambridge	1906
CAM.962	Harvard University - 1888 Gate	Harvard Yard	Cambridge	1906
CAM.963	Harvard University - 1889 Gate	Harvard Yard	Cambridge	1901
CAM.964	Harvard University - 1890 Gate	Harvard Yard	Cambridge	1901
CAM.965	Harvard University - 1880 Gate	Harvard Yard	Cambridge	1902
CAM.966	Harvard University - Bradley Fountain	Harvard Yard	Cambridge	1910
CAM.967	Harvard University - Chinese Steel	Harvard Yard	Cambridge	1810
CAM.968	Harvard University - Delivery Gate	Harvard Yard	Cambridge	1948
CAM.969	Harvard University - Driveway Gate	Harvard Yard	Cambridge	1948
CAM.970	Harvard University - 1908 Gate	Harvard Yard	Cambridge	1936
CAM.971	Harvard University - Emerson Gate	Harvard Yard	Cambridge	1936
CAM.972	Harvard University - Fire Station Gate	Harvard Yard	Cambridge	1970
CAM.973	Harvard University - Hollis Pump	Harvard Yard	Cambridge	1936
CAM.974	Harvard University - 1876 Gate	Harvard Yard	Cambridge	1901
CAM.975	Harvard University - Harvard, John Statue	Harvard Yard	Cambridge	1884
CAM.976	Harvard University - Johnston Gate	Harvard Yard	Cambridge	1889
CAM.977	Harvard University - Lamont Gate	Harvard Yard	Cambridge	1948
CAM.978	Harvard University - Gatehouse	Harvard Yard	Cambridge	1983
CAM.979	Harvard University - 1879 Gate	Harvard Yard	Cambridge	1891
CAM.980	Harvard University - Onion	Harvard Yard	Cambridge	1965
CAM.981	Harvard University - Porcellian Gate	Harvard Yard	Cambridge	1901
CAM.982	Harvard University - Reclining Figure	Harvard Yard	Cambridge	1972
CAM.983	Harvard University - Robinson Gate	Harvard Yard	Cambridge	1936
CAM.984	Harvard University - 1870 Sundial	Harvard Yard	Cambridge	1901
CAM.985	Harvard University - 1877 Gate	Harvard Yard	Cambridge	1901
CAM.1214	Harvard University - Canaday Hall	Harvard Yard	Cambridge	1973
CAM.1215	Harvard University - Emerson Hall	Harvard Yard	Cambridge	1904
CAM.1216	Harvard University - Houghton Library	Harvard Yard	Cambridge	1941
CAM.1217	Harvard University - Lamont Library	Harvard Yard	Cambridge	1947
CAM.1218	Harvard University - Lionel Hall	Harvard Yard	Cambridge	1924
CAM.1219	Harvard University - Memorial Church	Harvard Yard	Cambridge	1931
CAM.1220	Harvard University - Mower Hall	Harvard Yard	Cambridge	1924
CAM.1221	Brooks, Phillips House - Harvard University	Harvard Yard	Cambridge	1898
CAM.1222	Harvard University - Pusey Library	Harvard Yard	Cambridge	1973
CAM.1223	Harvard University - Robinson Hall	Harvard Yard	Cambridge	1900
CAM.1224	Harvard University - Stoughton Hall	Harvard Yard	Cambridge	1804

Inv. No.	Property Name	Street	Town	Year
CAM.1227	Harvard University - Widener Library	Harvard Yard	Cambridge	1913
CAM.520		6 Hastings Sq	Cambridge	1884
CAM.1231	Bates, Jacob H. House	11 Hawthorn St	Cambridge	1813
CAM.194	Daly, Reginald A. House	23 Hawthorn St	Cambridge	1885
CAM.195	Wadsworth House	31 Hawthorn St	Cambridge	1935
CAM.196		35 Hawthorn St	Cambridge	1935
CAM.197	Glaser, Dorothy Merriless House	37 Hawthorn St	Cambridge	1937
CAM.198		41 Hawthorn St	Cambridge	1911
CAM.199	Maynardier, G. B. House	43 Hawthorn St	Cambridge	1900
CAM.1232		49 Hawthorn St	Cambridge	1900
CAM.521		75 Henry St	Cambridge	1892
CAM.1343		82-84 Henry St	Cambridge	
CAM.200	Noyes, J. A. House	1 Highland St	Cambridge	1894
CAM.796	Usher, Samuel House	11 Hillside Ave	Cambridge	1887
CAM.750		11 Holden St	Cambridge	1928
CAM.751		41 Holden St	Cambridge	1840
CAM.752		45 Holden St	Cambridge	1928
CAM.1100	Fly Club	2 Holyoke Pl	Cambridge	1899
CAM.1101		9 Holyoke Pl	Cambridge	1930
CAM.1197	Lowell House - Harvard University	10 Holyoke Pl	Cambridge	1929
CAM.1198	Indoor Athletic Building - Harvard University	35-41 Holyoke Pl	Cambridge	1929
CAM.1102		8-10 Holyoke St	Cambridge	1927
CAM.201	Hasty Pudding Club	12 Holyoke St	Cambridge	1887
CAM.1103	Apley Court	16 Holyoke St	Cambridge	1897
CAM.1104	Sawyer, Samuel F. House	20 Holyoke St	Cambridge	1818
CAM.1105		22 Holyoke St	Cambridge	1956
CAM.1106		24 Holyoke St	Cambridge	1963
CAM.1107	Owl Club	30 Holyoke St	Cambridge	1905
CAM.1302		2 Hubbard Pk	Cambridge	1909
CAM.1293		3 Hubbard Pk	Cambridge	1887
CAM.1306	Warren, John L. House	5 Hubbard Pk	Cambridge	1922
CAM.1305	Paine, George House	6 Hubbard Pk	Cambridge	1918
CAM.1295		8 Hubbard Pk	Cambridge	1888
CAM.1301	Nutting, Lillian House	12 Hubbard Pk	Cambridge	1908
CAM.1297		14 Hubbard Pk	Cambridge	1892
CAM.1304		15 Hubbard Pk	Cambridge	1914
CAM.1303	Beach, Revel W. House	19 Hubbard Pk	Cambridge	1913
CAM.1298		20 Hubbard Pk	Cambridge	1892

Inv. No.	Property Name	Street	Town	Year
CAM.1299		26 Hubbard Pk	Cambridge	1894
CAM.1296		32 Hubbard Pk	Cambridge	1890
CAM.1346		15 Humboldt St	Cambridge	
CAM.904	Huron Avenue Bridge over B & M Railroad	Huron Ave	Cambridge	1892
CAM.202	Syrian Orthodox Catholic Church of Saint Mary	8 Inman St	Cambridge	1822
CAM.576	Matthews Apartments	12 Inman St	Cambridge	1966
CAM.1364	Bennett, James House	17 Inman St	Cambridge	1871
CAM.1349	Luke Rowhouse	19 Inman St	Cambridge	1877
CAM.1350	Luke Rowhouse	21 Inman St	Cambridge	1877
CAM.1351	Luke Rowhouse	21 1/2 Inman St	Cambridge	1877
CAM.203		102-104 Inman St	Cambridge	1845
CAM.204		106-108 Inman St	Cambridge	1845
CAM.205		110-112 Inman St	Cambridge	1845
CAM.753		80-82 Irving St	Cambridge	1927
CAM.754		81 Irving St	Cambridge	1916
CAM.755		84-86 Irving St	Cambridge	1927
CAM.756		89 Irving St	Cambridge	1916
CAM.206	James, William House	95 Irving St	Cambridge	1889
CAM.757		99 Irving St	Cambridge	1889
CAM.758		103-103A Irving St	Cambridge	1889
CAM.207	cummings, e. e. House	104 Irving St	Cambridge	1893
CAM.759	Van Dael - DeSola Pool House	105 Irving St	Cambridge	1890
CAM.760		107 Irving St	Cambridge	1891
CAM.761		109 Irving St	Cambridge	1893
CAM.762	Davis, Robert House	110 Irving St	Cambridge	1889
CAM.763		114 Irving St	Cambridge	1911
CAM.764		133 Irving St	Cambridge	1963
CAM.765	American Academy of Arts and Sciences	136 Irving St	Cambridge	1980
CAM.766		138 Irving St	Cambridge	1912
CAM.297	Radcliffe College - Schlesinger Library	James St	Cambridge	1907
CAM.950	Winthrop Square Park	Kennedy St	Cambridge	1631
CAM.1108	Abbott Building	5 Kennedy St	Cambridge	1908
CAM.1109		9-25 Kennedy St	Cambridge	1887
CAM.1110	Farwell, Levi Tenant House	10-14 Kennedy St	Cambridge	1820
CAM.1111	Read Block	18-28 Kennedy St	Cambridge	1885
CAM.1112		29-41 Kennedy St	Cambridge	1971
CAM.1113		30 Kennedy St	Cambridge	1936
CAM.1114	Garage, The	34-42 Kennedy St	Cambridge	1924

Inv. No.	Property Name	Street	Town	Year
CAM.1115	Fox Club	44 Kennedy St	Cambridge	1906
CAM.1116	Drayton Hall	48 Kennedy St	Cambridge	1901
CAM.1117		50 Kennedy St	Cambridge	1892
CAM.1118		52-54 Kennedy St	Cambridge	1884
CAM.1119	Galeria	55-57 Kennedy St	Cambridge	1974
CAM.1120		56 Kennedy St	Cambridge	1903
CAM.1121	S. A. E. Club	60 Kennedy St	Cambridge	1929
CAM.1122		63-65 Kennedy St	Cambridge	1984
CAM.1200	Hicks, John House - Harvard University	64 Kennedy St	Cambridge	1762
CAM.1199	Smith Hall - Harvard University	70-78 Kennedy St	Cambridge	1913
CAM.208	Loring, Judge Edward - Peirce, Benjamin House	4 Kirkland Pl	Cambridge	1856
CAM.688	Merrill, John House	9 Kirkland Pl	Cambridge	1855
CAM.689	Shaw, Southworth House	10 Kirkland Pl	Cambridge	1856
CAM.690	Green, Louise House	11 Kirkland Pl	Cambridge	1921
CAM.691	Cutler, Isaac House	12 Kirkland Pl	Cambridge	1857
CAM.692	Cutler, George House	13 Kirkland Pl	Cambridge	1857
CAM.693	Ware House	14 Kirkland Pl	Cambridge	1839
CAM.209	Treadwell - Sparks House	21 Kirkland St	Cambridge	1838
CAM.210	Brooks, Luther House	34 Kirkland St	Cambridge	1840
CAM.211	Lovering, Joseph House	38 Kirkland St	Cambridge	1839
CAM.767		49 Kirkland St	Cambridge	1886
CAM.768		55 Kirkland St	Cambridge	1927
CAM.769		57-59 Kirkland St	Cambridge	1927
CAM.212	Eliot, Charles W. House	61 Kirkland St	Cambridge	1858
CAM.213	Child, Francis J. House	67 Kirkland St	Cambridge	1861
CAM.214	Fresh Pond Hotel	234 Lakeview Ave	Cambridge	1796
CAM.1013		13 Lancaster St	Cambridge	1880
CAM.1005		16 Lancaster St	Cambridge	1892
CAM.1006		18 Lancaster St	Cambridge	1885
CAM.1007		24 Lancaster St	Cambridge	1883
CAM.1014	Sawyer, Chester House	27 Lancaster St	Cambridge	1886
CAM.1015	Hovey, William B. House	29 Lancaster St	Cambridge	1887
CAM.1008		36 Lancaster St	Cambridge	1886
CAM.215	Yerxa House and Carriage House	37 Lancaster St	Cambridge	1887
CAM.216	Larches, The	22 Larch Rd	Cambridge	1808
CAM.1317	Metropolitan District Commission Boat House	Lechmere Canal	Cambridge	1910
CAM.217		15-17 Lee St	Cambridge	1856
CAM.218	Lowell, The	33 Lexington Ave	Cambridge	1900

Inv. No.	Property Name	Street	Town	Year
CAM.1123		5-7 Linden St	Cambridge	1867
CAM.1124	Harvard Square Squash Court	8-10 Linden St	Cambridge	1908
CAM.1125	Delphic Club	9 Linden St	Cambridge	1902
CAM.219	Apthorp, Rev. East House	10 Linden St	Cambridge	1760
CAM.220	Cooper - Frost - Austin House	21 Linnaean St	Cambridge	1681
CAM.221	Peabody Court Apartments	41-43 Linnaean St	Cambridge	1922
CAM.1234	Cambridge Friends Meetinghouse and Center	5 Longfellow Pk	Cambridge	1914
CAM.1233		6 Longfellow Pk	Cambridge	1901
CAM.222	Lowell School	25 Lowell St	Cambridge	1883
CAM.1319	Magazine Beach Bath House	Magazine Beach	Cambridge	1899
CAM.223	First Baptist Church, Cambridge	5 Magazine St	Cambridge	1881
CAM.510	Pilgrim Congregational Church	35 Magazine St	Cambridge	1871
CAM.511	Hinman, Joseph House	48 Magazine St	Cambridge	1875
CAM.512	Brewer, Isaac D. - Pulsifer, William Double House	50-52 Magazine St	Cambridge	1852
CAM.513	Grace Methodist Church	56 Magazine St	Cambridge	1886
CAM.224	Flentje, Ernst House	129 Magazine St	Cambridge	1866
CAM.991	Shell Sign	187 Magazine St	Cambridge	1933
CAM.87	Kendall Square Subway Station	Main St	Cambridge	1912
CAM.225	Kendall Square Substation	Main St	Cambridge	1911
CAM.1308	Davenport - Allen and Endicott Factory Headhouse	Main St	Cambridge	1882
CAM.1309	Davenport - Allen and Endicott Factory East Wing	Main St	Cambridge	1848
CAM.1335	Luke Building	135-145 Main St	Cambridge	1874
CAM.612	Lamson, The	351-355 Main St	Cambridge	1907
CAM.328	Union #2 Engine House	787-789 Main St	Cambridge	1852
CAM.609	Bright Building	853 Main St	Cambridge	1898
CAM.608	Wentworth Building	859-863 Main St	Cambridge	1897
CAM.610	Union Baptist Church	872 Main St	Cambridge	1882
CAM.607	Mellen Building	875 Main St	Cambridge	1897
CAM.611	Sawyer, Charles Tenement	882-884 Main St	Cambridge	1873
CAM.605	Whitney, Lucretia and Henry Building	893-907 Main St	Cambridge	1870
CAM.703		6 Maple Ave	Cambridge	
CAM.694	Stevens, Charles B. House	8 Maple Ave	Cambridge	1873
CAM.704		12 Maple Ave	Cambridge	
CAM.705		14-16 Maple Ave	Cambridge	
CAM.702		15 Maple Ave	Cambridge	
CAM.701		19 Maple Ave	Cambridge	

Inv. No.	Property Name	Street	Town	Year
CAM.697	Webster, Francis B. House	20 Maple Ave	Cambridge	1861
CAM.695	Hall, Lewis House	23 Maple Ave	Cambridge	1867
CAM.706		24 Maple Ave	Cambridge	
CAM.700		25 Maple Ave	Cambridge	1920
CAM.707		26 Maple Ave	Cambridge	
CAM.699		27 Maple Ave	Cambridge	
CAM.698		29 Maple Ave	Cambridge	
CAM.696	Munroe, Philip House	31 Maple Ave	Cambridge	1887
CAM.226	Mason, Josiah Jr. House	11 Market St	Cambridge	1831
CAM.295	Radcliffe College Gymnasium	Mason St	Cambridge	1898
CAM.296	Radcliffe College - Agassiz House	Mason St	Cambridge	1904
CAM.227	Norton House Ell	4 Mason St	Cambridge	1847
CAM.228		6-12 Mason St	Cambridge	
CAM.260	M. I. T. Alumni Swimming Pool Building	Massachusetts Ave	Cambridge	1940
CAM.261	Kresge Auditorium	Massachusetts Ave	Cambridge	1953
CAM.262	M. I. T. Chapel	Massachusetts Ave	Cambridge	1954
CAM.901	Harvard Square Subway Kiosk	Massachusetts Ave	Cambridge	1928
CAM.905	Massachusetts Avenue Bridge over Conrail	Massachusetts Ave	Cambridge	1900
CAM.916	Central Square Subway Station	Massachusetts Ave	Cambridge	1912
CAM.921	Harvard Bridge	Massachusetts Ave	Cambridge	1890
CAM.938	Cambridge Common	Massachusetts Ave	Cambridge	1631
CAM.939	Cambridge Common South Traffic Island	Massachusetts Ave	Cambridge	1976
CAM.945	Burying Ground Fence	Massachusetts Ave	Cambridge	1891
CAM.946	Flagstaff Park	Massachusetts Ave	Cambridge	1913
CAM.947	North Little Common	Massachusetts Ave	Cambridge	1858
CAM.949	Central Square Street Pattern	Massachusetts Ave	Cambridge	1630
CAM.334	Cambridge Armory	120 Massachusetts Ave	Cambridge	1902
CAM.332	Metropolitan Storage Warehouse	134 Massachusetts Ave	Cambridge	1895
CAM.1366	New England Confectionery Company Factory	250 Massachusetts Ave	Cambridge	1927
CAM.614	Lafayette Square Fire Station	378 Massachusetts Ave	Cambridge	1893
CAM.613	Shell Gas Station	385 Massachusetts Ave	Cambridge	1948
CAM.615	Salvation Army - Cambridge Citadel	400-402 Massachusetts Ave	Cambridge	1968
CAM.604		401-409 Massachusetts Ave	Cambridge	
CAM.603	Taylor, William A. House and Shop	411-413 Massachusetts Ave	Cambridge	1887
CAM.602	Barkin and Gorfinkle Building	415-429 Massachusetts Ave	Cambridge	1925
CAM.616	Cambridge Furniture Store	424 Massachusetts Ave	Cambridge	1903
CAM.617	Cambridge Furniture Store	428 Massachusetts Ave	Cambridge	1925
CAM.229	Kennedy, The	430-442 Massachusetts Ave	Cambridge	1890

Inv. No.	Property Name	Street	Town	Year
CAM.601	Robbins Building	433-447 Massachusetts Ave	Cambridge	1923
CAM.619	Blanchard Building	448-450 Massachusetts Ave	Cambridge	1886
CAM.324	South Row	452-458 Massachusetts Ave	Cambridge	1807
CAM.599	Rogers, F. W. and G. M. Building	453-457 Massachusetts Ave	Cambridge	1885
CAM.620	Freedman Building	460-464 Massachusetts Ave	Cambridge	1933
CAM.598	McDonald's Restaurant	463-467 Massachusetts Ave	Cambridge	1974
CAM.621	Central Square Realty Trust Building	468-480 Massachusetts Ave	Cambridge	1929
CAM.597	Moller's Furniture Store	485 Massachusetts Ave	Cambridge	1926
CAM.622	Longfellow, The	492-498 Massachusetts Ave	Cambridge	1893
CAM.596	Kane's Furniture Store	493-507 Massachusetts Ave	Cambridge	1916
CAM.625	Burger King Restaraunt	502-510 Massachusetts Ave	Cambridge	1970
CAM.595	Central Trust Building	515-527 Massachusetts Ave	Cambridge	1927
CAM.627	Miller Store	520 Massachusetts Ave	Cambridge	1924
CAM.628	Rosenwald Realty Corporation Building	522-526 Massachusetts Ave	Cambridge	1928
CAM.230	Odd Fellows Hall	534-538 Massachusetts Ave	Cambridge	1884
CAM.594	Powers, Hannah J. Building	541-563 Massachusetts Ave	Cambridge	1935
CAM.629	Clark - Lamb Building	546-550 Massachusetts Ave	Cambridge	1873
CAM.630	Albani Building	552-566 Massachusetts Ave	Cambridge	1925
CAM.592	Bullock, Charles Building	567-569 Massachusetts Ave	Cambridge	1859
CAM.591	Central Square Theater	571-577 Massachusetts Ave	Cambridge	1917
CAM.631	Ginsberg Building - Harvard Bazar	572-590 Massachusetts Ave	Cambridge	1913
CAM.590	Morse, Asa P. Building	579-587 Massachusetts Ave	Cambridge	1893
CAM.589	Cambridgeport National Bank Building	593-597 Massachusetts Ave	Cambridge	1869
CAM.632	Manhattan Market - Purity Supreme Super Market	596-610 Massachusetts Ave	Cambridge	1899
CAM.588	Morse, Asa Second Building	599-601 Massachusetts Ave	Cambridge	1905
CAM.587	Fisk and Coleman Building	603-605 Massachusetts Ave	Cambridge	1892
CAM.633	Prospect House	614-620 Massachusetts Ave	Cambridge	1869
CAM.586	Corcoran, John H. Building	615-627 Massachusetts Ave	Cambridge	1927
CAM.634	Holmes Block I	624-634 Massachusetts Ave	Cambridge	1915
CAM.585	Woolworth, F. W. Building	633 Massachusetts Ave	Cambridge	1950
CAM.635	Holmes Block II - Green Block	636-638 Massachusetts Ave	Cambridge	1798
CAM.584	Watriss Building	643-649 Massachusetts Ave	Cambridge	1880
CAM.583	Dowse, Thomas House	653-655 Massachusetts Ave	Cambridge	1814
CAM.581	New England Gas and Electric Association II Bldg	671-675 Massachusetts Ave	Cambridge	1966
CAM.642	Central Square Building	674 Massachusetts Ave	Cambridge	1926
CAM.643	Chamberlain - Hyde Building	684-688 Massachusetts Ave	Cambridge	1869

Inv. No.	Property Name	Street	Town	Year
CAM.580	Cambridgeport Savings Bank	689 Massachusetts Ave	Cambridge	1904
CAM.644	Dana Building	692-698 Massachusetts Ave	Cambridge	1886
CAM.645	Southwick Building	700-706 Massachusetts Ave	Cambridge	1908
CAM.646	Norris Building	710-720 Massachusetts Ave	Cambridge	1915
CAM.579	Cambridge Electric Light Building	719 Massachusetts Ave	Cambridge	1912
CAM.647	Thayer Building	722-724 Massachusetts Ave	Cambridge	1863
CAM.648	Thayer Building II	728-730 Massachusetts Ave	Cambridge	1868
CAM.578	Southwick Building	731-751 Massachusetts Ave	Cambridge	1896
CAM.649		736-740 Massachusetts Ave	Cambridge	
CAM.650		746-750 Massachusetts Ave	Cambridge	
CAM.231	Cambridge Mutual Fire Insurance Company Building	763-765 Massachusetts Ave	Cambridge	1888
CAM.232	Central Square Post Office	770 Massachusetts Ave	Cambridge	1933
CAM.233	Cambridge City Hall	795 Massachusetts Ave	Cambridge	1889
CAM.651		800-806 Massachusetts Ave	Cambridge	
CAM.652	Young Men's Christian Association Building	820-830 Massachusetts Ave	Cambridge	1896
CAM.653	Saint Peter's Episcopal Church	836 Massachusetts Ave	Cambridge	1867
CAM.654	Modern Manor Apartments	844-864 Massachusetts Ave	Cambridge	1925
CAM.606		877-881 Massachusetts Ave	Cambridge	1980
CAM.900	Houghton Beech Tree	1000 Massachusetts Ave	Cambridge	
CAM.1127	Brentford Hall	1137 Massachusetts Ave	Cambridge	1899
CAM.1128	Dunham, Israel Houses	1156-1166 Massachusetts Ave	Cambridge	1858
CAM.1129		1168 Massachusetts Ave	Cambridge	1892
CAM.1130		1170-1174 Massachusetts Ave	Cambridge	1849
CAM.1131	Longfellow Court	1200 Massachusetts Ave	Cambridge	1916
CAM.1132	Gulf Gas Station	1201 Massachusetts Ave	Cambridge	1940
CAM.1133		1206 Massachusetts Ave	Cambridge	1965
CAM.1134		1208-1210 Massachusetts Ave	Cambridge	1842
CAM.1135	Quincy Hall	1218 Massachusetts Ave	Cambridge	1891
CAM.1136		1230 Massachusetts Ave	Cambridge	1907
CAM.1137		1234-1238 Massachusetts Ave	Cambridge	1894
CAM.1138	Hamden Hall	1246-1260 Massachusetts Ave	Cambridge	1902
CAM.1139	A. D. Club	1268-1270 Massachusetts Ave	Cambridge	1899
CAM.1140	Niles Building	1280 Massachusetts Ave	Cambridge	1984
CAM.234	Fairfax, The	1300-1306 Massachusetts Ave	Cambridge	1869
CAM.1141	Fairfax - Hilton Block	1310-1312 Massachusetts Ave	Cambridge	1883
CAM.1142	Fairfax - Hilton Block	1316 Massachusetts Ave	Cambridge	1885
CAM.235	Porcellian Club	1320-1324 Massachusetts Ave	Cambridge	1890

Inv. No.	Property Name	Street	Town	Year
CAM.1143	Manter Hall	1325 Massachusetts Ave	Cambridge	1885
CAM.236	Wadsworth House	1341 Massachusetts Ave	Cambridge	1726
CAM.237	Holyoke Center	1350 Massachusetts Ave	Cambridge	1961
CAM.1144	Cambridge Savings Bank	1372-1376 Massachusetts Ave	Cambridge	1923
CAM.1145	Read, Joseph Stacey House	1380-1382 Massachusetts Ave	Cambridge	1783
CAM.1146	Bartlett, Joseph House	1384-1392 Massachusetts Ave	Cambridge	1800
CAM.1147	Harvard Coop Society	1400 Massachusetts Ave	Cambridge	1924
CAM.1148	Harvard Coop Society	1408-1410 Massachusetts Ave	Cambridge	1956
CAM.1149	Harvard Trust Company	1414 Massachusetts Ave	Cambridge	1923
CAM.1150	College House	1420-1442 Massachusetts Ave	Cambridge	1832
CAM.342	Gannet House	1511 Massachusetts Ave	Cambridge	1838
CAM.343	Hemenway Gymnasium	1517 Massachusetts Ave	Cambridge	1938
CAM.344	Hastings Hall	1519 Massachusetts Ave	Cambridge	1888
CAM.345	Harvard Epworth Methodist Church	1555 Massachusetts Ave	Cambridge	1891
CAM.1334	Francis - Allyn House	1564 Massachusetts Ave	Cambridge	1831
CAM.1333	Sawin - Cobb - Wilson House	1626 Massachusetts Ave	Cambridge	1868
CAM.238	Saunders, Charles Hicks House	1627 Massachusetts Ave	Cambridge	1862
CAM.239	Montrose, The	1648 Massachusetts Ave	Cambridge	1898
CAM.240	Dunvegan, The	1654 Massachusetts Ave	Cambridge	1898
CAM.241	Worcester, Frederick House	1734 Massachusetts Ave	Cambridge	1886
CAM.242	North Avenue Congregational Church	1803 Massachusetts Ave	Cambridge	1845
CAM.243	Lovell Block	1853 Massachusetts Ave	Cambridge	1882
CAM.244	Saint James Episcopal Church	1991 Massachusetts Ave	Cambridge	1888
CAM.245	Henderson Carriage Repository	2067-2089 Massachusetts Ave	Cambridge	1892
CAM.246	Cornerstone Baptist Church	2114 Massachusetts Ave	Cambridge	1854
CAM.247	Mead, Alpheus House	2200 Massachusetts Ave	Cambridge	1867
CAM.248	Snow, Daniel House	2210 Massachusetts Ave	Cambridge	1868
CAM.249	McLean, Isaac House	2218 Massachusetts Ave	Cambridge	1894
CAM.250	Farwell, R. H. Double House	2222-2224 Massachusetts Ave	Cambridge	1891
CAM.251	Saint John's Roman Catholic Church	2270 Massachusetts Ave	Cambridge	1904
CAM.1376	Matignon Central Catholic High School	1 Matignon Rd	Cambridge	1946
CAM.1375	Immaculate Conception Catholic Church Convent	33 Matignon Rd	Cambridge	1954
CAM.252	Cambridge Almshouse	45 Matignon Rd	Cambridge	1850
CAM.1374	Cambridge Almshouse Dormitory	45 Matignon Rd	Cambridge	1887
CAM.566	M. I. T. - Pierce, Henry L. Engineering Laboratory	Memorial Dr	Cambridge	1913
CAM.567	M. I. T. - Buildings #2 and #8	Memorial Dr	Cambridge	1913
CAM.568	M. I. T. - Pratt School of Naval Architecture	Memorial Dr	Cambridge	1919

Inv. No.	Property Name	Street	Town	Year
CAM.569	M. I. T. - Homburg Infirmary	Memorial Dr	Cambridge	1927
CAM.570	M. I. T. - Eastman, George Research Laboratories	Memorial Dr	Cambridge	1931
CAM.571	M. I. T. - Rogers, William Barton Building	Memorial Dr	Cambridge	1937
CAM.572	M. I. T. - Walker Memorial	Memorial Dr	Cambridge	1913
CAM.573	M. I. T. - President's House	Memorial Dr	Cambridge	1913
CAM.574	M. I. T. - Senior House	Memorial Dr	Cambridge	1913
CAM.575	M. I. T. - Hayden Library	Memorial Dr	Cambridge	1949
CAM.930	Memorial Drive	Memorial Dr	Cambridge	1896
CAM.933	M. I. T. Memorial Underpass	Memorial Dr	Cambridge	1931
CAM.934	Feid, William J. Overpass	Memorial Dr	Cambridge	1939
CAM.1332	Little, Arthur D. Inc. Building	Memorial Dr	Cambridge	1917
CAM.253		100 Memorial Dr	Cambridge	1950
CAM.254	M. I. T. Main Courtyard	182-226 Memorial Dr	Cambridge	1913
CAM.255	Riverbank Court Hotel	305 Memorial Dr	Cambridge	1900
CAM.256	Baker House	362 Memorial Dr	Cambridge	1947
CAM.1327	Boston University Boat House	619 Memorial Dr	Cambridge	1913
CAM.257	B & B Chemical Company	780 Memorial Dr	Cambridge	1937
CAM.258	Peabody Terrace	900 Memorial Dr	Cambridge	1958
CAM.1201	Dunster House - Harvard University	945 Memorial Dr	Cambridge	1929
CAM.1202	Gore Hall - Harvard University	960 Memorial Dr	Cambridge	1913
CAM.1203	Standish Hall - Harvard University	966 Memorial Dr	Cambridge	1913
CAM.1204	Eliot House - Harvard University	967 Memorial Dr	Cambridge	1930
CAM.1324	Harvard University - Weld Boat House	971 Memorial Dr	Cambridge	1906
CAM.259	Conventual Church of Saint Mary and Saint John	980 Memorial Dr	Cambridge	1936
CAM.1267	Radnor Hall	983-984 Memorial Dr	Cambridge	1916
CAM.1268	Hampstead Hall	985-986 Memorial Dr	Cambridge	1916
CAM.1269	Barrington Court	987-989 Memorial Dr	Cambridge	1924
CAM.1270	Strathcona-on-the-Charles	992-993 Memorial Dr	Cambridge	1914
CAM.1290		1 Mercer Cir	Cambridge	1886
CAM.1300		2 Mercer Cir	Cambridge	1894
CAM.1287		3 Mercer Cir	Cambridge	1885
CAM.1288		4 Mercer Cir	Cambridge	1885
CAM.1294		5 Mercer Cir	Cambridge	1887
CAM.1291		6 Mercer Cir	Cambridge	1886
CAM.1307	Harris, William F. House	7 Mercer Cir	Cambridge	1922
CAM.1289		8 Mercer Cir	Cambridge	1885
CAM.1292		9 Mercer Cir	Cambridge	1886

Inv. No.	Property Name	Street	Town	Year
CAM.1151		11-15 Mifflin Pl	Cambridge	1901
CAM.1152		12-14 Mifflin Pl	Cambridge	1913
CAM.1153		17-19 Mifflin Pl	Cambridge	1972
CAM.1205	McKinlock Hall - Harvard University	8 Mill St	Cambridge	1926
CAM.1206	Leverett House Library and Towers - Harvard Univ.	14-18 Mill St	Cambridge	1958
CAM.263	Cambridge Neighborhood House	79 Moore St	Cambridge	1821
CAM.264	Reversible Collar Company Building	25-27 Mount Auburn St	Cambridge	1860
CAM.1154	Saint Paul's Rectory	32-36 Mount Auburn St	Cambridge	1924
CAM.1155	Speakers Club	43-45 Mount Auburn St	Cambridge	1845
CAM.1156		45 1/2 Mount Auburn St	Cambridge	1971
CAM.1157		47-49 Mount Auburn St	Cambridge	1926
CAM.1158	Claverly Hall	63 Mount Auburn St	Cambridge	1892
CAM.1159		65R Mount Auburn St	Cambridge	1957
CAM.1160	Ridgely Hall	65 Mount Auburn St	Cambridge	1904
CAM.1161	Manter Hall School	71-77 Mount Auburn St	Cambridge	1927
CAM.1162	Phoenix - S. K. Club	72 Mount Auburn St	Cambridge	1915
CAM.1163	Iroquois Club	74 Mount Auburn St	Cambridge	1916
CAM.1164	Spee Club	76 Mount Auburn St	Cambridge	1931
CAM.1165	Willard, Lucy House	78 Mount Auburn St	Cambridge	1839
CAM.1166		90 Mount Auburn St	Cambridge	1971
CAM.1167		92-96 Mount Auburn St	Cambridge	1895
CAM.1168		95-97 Mount Auburn St	Cambridge	1920
CAM.1169		99 Mount Auburn St	Cambridge	1919
CAM.1170	Cantabrigia Club	100 Mount Auburn St	Cambridge	1919
CAM.1171		102 Mount Auburn St	Cambridge	1869
CAM.1172		104 Mount Auburn St	Cambridge	1983
CAM.1173		110 Mount Auburn St	Cambridge	1959
CAM.9	Boston Elevated Railway Division 7 Headquarters	112 Mount Auburn St	Cambridge	1911
CAM.1175	Trinity Hall	114-120 Mount Auburn St	Cambridge	1892
CAM.1177	Waverly Hall	115 Mount Auburn St	Cambridge	1902
CAM.1178		119-123 Mount Auburn St	Cambridge	1988
CAM.1176		120R Mount Auburn St	Cambridge	1982
CAM.1126	U. S. Post Office - Cambridge Branch	125 Mount Auburn St	Cambridge	1953
CAM.791		151 Mount Auburn St	Cambridge	1853
CAM.792		153 Mount Auburn St	Cambridge	1874
CAM.789		154 Mount Auburn St	Cambridge	1852

Inv. No.	Property Name	Street	Town	Year
CAM.790		156-158 Mount Auburn St	Cambridge	1856
CAM.265		173 Mount Auburn St	Cambridge	1905
CAM.266		175 Mount Auburn St	Cambridge	1895
CAM.267		259 Mount Auburn St	Cambridge	1850
CAM.268	Mount Auburn Hospital - Surgical Building	330 Mount Auburn St	Cambridge	1897
CAM.269	Mount Auburn Hospital - Main Building	330 Mount Auburn St	Cambridge	1886
CAM.801	Mount Auburn Cemetery	580 Mount Auburn St	Cambridge	1831
CAM.936	Mount Auburn Cemetery Fence and Gates	580 Mount Auburn St	Cambridge	1843
CAM.992	Mount Auburn Cemetery - Copenhagen, Maria Angel	580 Mount Auburn St	Cambridge	1872
CAM.270	Mount Auburn Cemetery Reception House	583 Mount Auburn St	Cambridge	1870
CAM.1330	DeRosay - McNamee House	50 Mount Vernon St	Cambridge	1896
CAM.557		1-2 Norfolk Pl	Cambridge	1844
CAM.558		3 Norfolk Pl	Cambridge	1846
CAM.593	Ginsberg, Harris Building	7-15 Norfolk St	Cambridge	1894
CAM.562	Hotel Norfolk	30 Norfolk St	Cambridge	1886
CAM.560		51 Norfolk St	Cambridge	1885
CAM.561		59 Norfolk St	Cambridge	1886
CAM.554		65-67 Norfolk St	Cambridge	1844
CAM.559	Pollard, John House	68-72 Norfolk St	Cambridge	1859
CAM.552		69 Norfolk St	Cambridge	1843
CAM.555		71-73 Norfolk St	Cambridge	1844
CAM.556		75-77 Norfolk St	Cambridge	1844
CAM.551	Fuller, Robert House	79 Norfolk St	Cambridge	1843
CAM.553		87 Norfolk St	Cambridge	1843
CAM.563	Hotel Franklin	90 Norfolk St	Cambridge	1886
CAM.550		1-2 Norfolk Terr	Cambridge	1839
CAM.913	East Cambridge Viaduct - Lechmere Viaduct	O'Brien Hwy	Cambridge	1910
CAM.349	Lockhart, William L. Coffin Factory Warehouse	195-199 O'Brien Hwy	Cambridge	1873
CAM.271	Barnes, James B. House	200 O'Brien Hwy	Cambridge	1824
CAM.348	Lockhart, William L. Coffin Factory Main Building	201 O'Brien Hwy	Cambridge	1870
CAM.272	Lockart, William L. Company Building	209 O'Brien Hwy	Cambridge	1859
CAM.273	Aborn, John House	41 Orchard St	Cambridge	1846
CAM.274	Billings, Frederick House	45 Orchard St	Cambridge	1846
CAM.1310	Davenport - Allen and Endicott Factory West Wing	Osborn St	Cambridge	1848
CAM.1311	Davenport - Allen Factory West Wing Extension	Osborn St	Cambridge	1848
CAM.1312	Allen and Endicott Factory Extension	Osborn St	Cambridge	1896

Inv. No.	Property Name	Street	Town	Year
CAM.1313	Allen and Endicott Factory Extension	Osborn St	Cambridge	1896
CAM.461	Putnam School	Otis St	Cambridge	1889
CAM.465	Saint Hedwig's Parish Church	Otis St	Cambridge	1939
CAM.468	Otis Hospital	Otis St	Cambridge	
CAM.371	Woodbury, James A. - Geldowsky, Ferdinand Building	2-28 Otis St	Cambridge	1869
CAM.374		31 Otis St	Cambridge	1900
CAM.473	Hall, Lewis and William A. Rowhouse	55 Otis St	Cambridge	1851
CAM.474	Hall, Lewis and William A. Rowhouse	57 Otis St	Cambridge	1851
CAM.475	Hall, Lewis and William A. Rowhouse	59 Otis St	Cambridge	1851
CAM.485	Hazard, Samuel L. House	60 Otis St	Cambridge	1871
CAM.476	Hall, Lewis and William A. Rowhouse	61 Otis St	Cambridge	1851
CAM.484		62 Otis St	Cambridge	
CAM.472	Sortwell, Daniel R. Double House	63-65 Otis St	Cambridge	1871
CAM.483		64 Otis St	Cambridge	
CAM.471		65 1/2 Otis St	Cambridge	
CAM.482	Jones, Andrew - Hall, William A. Double House	66-68 Otis St	Cambridge	1846
CAM.470	Goss, Abiel Double House	67-69 Otis St	Cambridge	1839
CAM.481		70 Otis St	Cambridge	
CAM.469		73-75 Otis St	Cambridge	
CAM.480		74 Otis St	Cambridge	
CAM.479		78 Otis St	Cambridge	
CAM.477	Clark, Josias - Cummings, Daniel P. Rowhouse	80 Otis St	Cambridge	1861
CAM.478	Clark, Josias - Cummings, Daniel P. Rowhouse	82 Otis St	Cambridge	1861
CAM.467	Deshon, Royal P. House	93 Otis St	Cambridge	1842
CAM.460		94 Otis St	Cambridge	
CAM.466		95-97 Otis St	Cambridge	
CAM.459		96 Otis St	Cambridge	
CAM.458		98 Otis St	Cambridge	
CAM.457	Taylor, Oliver House	100 Otis St	Cambridge	1848
CAM.455	Adams, Jabez F. - Atwood, Samuel S. Rowhouse	102 Otis St	Cambridge	1848
CAM.464	Bridgeman, John L. Double House	103-105 Otis St	Cambridge	1843
CAM.456	Adams, Jabez F. - Atwood, Samuel S. Rowhouse	104 Otis St	Cambridge	1848
CAM.454		106-108 Otis St	Cambridge	
CAM.463		107-109 Otis St	Cambridge	
CAM.453		110 Otis St	Cambridge	
CAM.462		113 Otis St	Cambridge	

Inv. No.	Property Name	Street	Town	Year
CAM.439		117 1/2 Otis St	Cambridge	
CAM.440		117-119 Otis St	Cambridge	
CAM.451		118 Otis St	Cambridge	
CAM.450		120 Otis St	Cambridge	
CAM.448	Dennison, James Double House	122-124 Otis St	Cambridge	1870
CAM.449		122 1/2-124 1/2 Otis St	Cambridge	
CAM.438		123 Otis St	Cambridge	
CAM.437		125-127 Otis St	Cambridge	
CAM.447		126-128 Otis St	Cambridge	
CAM.436		129-131 Otis St	Cambridge	
CAM.446		130 Otis St	Cambridge	
CAM.445		132 Otis St	Cambridge	
CAM.435		133-135 Otis St	Cambridge	
CAM.275	Hoyt, Benjamin House	134 Otis St	Cambridge	1868
CAM.443		136-138 Otis St	Cambridge	
CAM.434	Warren, Moses - Smith, Benjamin G. Rowhouse	137 Otis St	Cambridge	1852
CAM.1339	Warren, Moses - Smith, Benjamin G. Rowhouse	139 Otis St	Cambridge	1852
CAM.442		140 Otis St	Cambridge	1895
CAM.1340	Warren, Moses - Smith, Benjamin G. Rowhouse	141 Otis St	Cambridge	1852
CAM.1341	Warren, Moses - Smith, Benjamin G. Rowhouse	143 Otis St	Cambridge	1852
CAM.1342	Warren, Moses - Smith, Benjamin G. Rowhouse	145 Otis St	Cambridge	1852
CAM.433	Fraser, John B. Double House	147-149 Otis St	Cambridge	1846
CAM.432		151 Otis St	Cambridge	
CAM.1179	Coop Annex	18 Palmer St	Cambridge	1964
CAM.276	Urban Rowhouse	30-38 Pearl St	Cambridge	1874
CAM.277	Urban Rowhouse	40-50 Pearl St	Cambridge	1875
CAM.278	Valentine Soap Workers' Cottage	101 Pearl St	Cambridge	1835
CAM.1368	Blessed Sacrament Roman Catholic Church	175 Pearl St	Cambridge	1907
CAM.1370	Blessed Sacrament Roman Catholic Church Rectory	189 Pearl St	Cambridge	1868
CAM.279		3 Phillips Pl	Cambridge	
CAM.280		5 Phillips Pl	Cambridge	1845
CAM.281		7 Phillips Pl	Cambridge	1898
CAM.282		9 Phillips Pl	Cambridge	1870
CAM.1180	Harvard Crimson Newspaper Office	14-18 Plympton St	Cambridge	1915
CAM.1181	Crimson Building Annex	22 Plympton St	Cambridge	1961
CAM.1182	Adams House Dining Hall	28 Plympton St	Cambridge	1930
CAM.1183	Russell Hall	28 Plympton St	Cambridge	1931

Inv. No.	Property Name	Street	Town	Year
CAM.1184	Russell Hall	30-30A Plympton St	Cambridge	1887
CAM.1207	Quincy House - Harvard University	58 Plympton St	Cambridge	1958
CAM.1208	Mather Hall - Harvard University	68-88 Plympton St	Cambridge	1930
CAM.1209		101-103 Plympton St	Cambridge	1870
CAM.1382	Brooks Apartments - Winthrop, John Chambers	78-80 Porter Rd	Cambridge	1915
CAM.283	Willis, Stillman House	1 Potter Pk	Cambridge	1839
CAM.284	Saunders, William House	6 Prentiss St	Cambridge	1843
CAM.1352	Beck - Warren House	1 Prescott St	Cambridge	1833
CAM.285		16 Prescott St	Cambridge	1873
CAM.291	Carpenter Center for the Visual Arts	19 Prescott St	Cambridge	1963
CAM.582	New England Gas and Electric Association I Bldg	45 Prospect St	Cambridge	1960
CAM.286	Prospect Congregational Church	99 Prospect St	Cambridge	1851
CAM.287	Baldwin, Maria House	196 Prospect St	Cambridge	1845
CAM.288	Sands, Hiram House	22 Putnam Ave	Cambridge	1848
CAM.293	Harvard Union	Quincy St	Cambridge	1900
CAM.986	Harvard University - Hallowell Gate	10 Quincy St	Cambridge	1928
CAM.289	Dana, Richard Henry - Palmer, George Herbert House	12-16 Quincy St	Cambridge	1822
CAM.952	Harvard University - Quincy Street Gate	17 Quincy St	Cambridge	1936
CAM.1213	Harvard University - President's House	17 Quincy St	Cambridge	1911
CAM.290	Fogg Art Museum	26-32 Quincy St	Cambridge	1925
CAM.292	Church of the New Jerusalem	50 Quincy St	Cambridge	1903
CAM.1266		60 Raymond St	Cambridge	1927
CAM.298	Mason, W. A. House	87 Raymond St	Cambridge	1846
CAM.299	Stickney, N. U. - Shepard, S. P. Double House	11-13 Remington St	Cambridge	1846
CAM.300	Hooper, Edward W. - Eliot, Rev. Samuel A. House	25-27 Reservoir Rd	Cambridge	1872
CAM.301		59 Rice St	Cambridge	1847
CAM.327	Hews Pottery Company Carriage House	202 Richdale Ave	Cambridge	1897
CAM.302	Kidder - Sargent - McCrehan House	146 Rindge Ave	Cambridge	1792
CAM.303	Wyeth Brickyard Superintendent's House	336 Rindge Ave	Cambridge	1848
CAM.923	River Street Bridge	River St	Cambridge	1926
CAM.304	Urban Rowhouse	26-32 River St	Cambridge	1860
CAM.330	Ricker, George and Jerediah House	109-113 River St	Cambridge	1844
CAM.305	River Street Firehouse	176 River St	Cambridge	1890
CAM.1211		11 Riverview Ave	Cambridge	1899
CAM.922	Boston University Bridge	Rt 2	Cambridge	1928
CAM.306	Soule, Lawrence Porter House	11 Russell St	Cambridge	1879

Inv. No.	Property Name	Street	Town	Year
CAM.307	Wood, James A. House	3 Sacramento St	Cambridge	1888
CAM.1239	Winthrop Hall - Episcopal Theological School	Saint John's Rd	Cambridge	1892
CAM.529		6-8 Salem St	Cambridge	1829
CAM.530		10 Salem St	Cambridge	1840
CAM.531		15 Salem St	Cambridge	1841
CAM.415	Hastings, Deborah House	72 Sciarappa St	Cambridge	1823
CAM.416		74 Sciarappa St	Cambridge	
CAM.401	Pendexter, Charles House	80-82 Sciarappa St	Cambridge	1847
CAM.1321	Boston Museum of Science	Science Park	Cambridge	1951
CAM.1322	Hayden Planetarium	Science Park	Cambridge	1958
CAM.770		2 Scott St	Cambridge	1889
CAM.771	Thaxter, Roland House	7 Scott St	Cambridge	1891
CAM.772		8 Scott St	Cambridge	1889
CAM.773		11 Scott St	Cambridge	1893
CAM.774		12 Scott St	Cambridge	1894
CAM.775		14 Scott St	Cambridge	1927
CAM.776		18 Scott St	Cambridge	1928
CAM.375	Roby, Ebenezer Rowhouse	30 Second St	Cambridge	1836
CAM.376	Roby, Ebenezer Rowhouse	32 Second St	Cambridge	1836
CAM.377	Roby, Ebenezer Rowhouse	34 Second St	Cambridge	1836
CAM.364	Hall, Jesse Rowhouse	36 Second St	Cambridge	1842
CAM.365	Hall, Jesse Rowhouse	38 Second St	Cambridge	1842
CAM.366	Hall, Jesse Rowhouse	40 Second St	Cambridge	1842
CAM.367	Hall, Jesse Rowhouse	42 Second St	Cambridge	1842
CAM.368	Hall, Jesse Rowhouse	44 Second St	Cambridge	1842
CAM.369	Hall, Jesse Rowhouse	46 Second St	Cambridge	1842
CAM.370		50 Second St	Cambridge	
CAM.308	American Net and Twine Company Factory	155R Second St	Cambridge	1875
CAM.777		1 Shady Hill Sq	Cambridge	1915
CAM.778		2-3 Shady Hill Sq	Cambridge	1915
CAM.779		4-5 Shady Hill Sq	Cambridge	1915
CAM.780		6-7 Shady Hill Sq	Cambridge	1915
CAM.781		8-9 Shady Hill Sq	Cambridge	1915
CAM.782		10-11 Shady Hill Sq	Cambridge	1915
CAM.783		12 Shady Hill Sq	Cambridge	1915
CAM.309	Eliot Hall	51 Shepard St	Cambridge	1907
CAM.310	Bertram Hall	53 Shepard St	Cambridge	1901
CAM.311	Watson, Abraham Jr. House	181-183 Sherman St	Cambridge	1750

Inv. No.	Property Name	Street	Town	Year
CAM.506	Sacred Heart Roman Catholic Church	39 Sixth St	Cambridge	1874
CAM.431		40 Sixth St	Cambridge	
CAM.508	Sacred Heart Roman Catholic Church Rectory	49 Sixth St	Cambridge	1885
CAM.927	Eliot Bridge	Soldier's Field Rd	Cambridge	1950
CAM.1210	Bryan Hall - Harvard University	14-24 South St	Cambridge	1930
CAM.312	Stedman, Samuel House	17 South St	Cambridge	1826
CAM.1185	Harvard Advocate Building	21 South St	Cambridge	1956
CAM.313	Dodge, Edward House	70 Sparks St	Cambridge	1878
CAM.325	Harugari Hall	154 Spring St	Cambridge	1873
CAM.1186		4-6 Story St	Cambridge	1966
CAM.1187		8-12 Story St	Cambridge	1969
CAM.1188		14-16 Story St	Cambridge	1970
CAM.577	Young Women's Christian Association Building	7 Temple St	Cambridge	1910
CAM.353	Blake and Knowles Core Shop #1	Third St	Cambridge	1889
CAM.354	Blake and Knowles Core Shop #2	Third St	Cambridge	1890
CAM.505	Lechmere Point Corporation Row House	25 Third St	Cambridge	1821
CAM.381	Rollins, John W. Rowhouse	83 Third St	Cambridge	1860
CAM.382	Rollins, John W. Rowhouse	85 Third St	Cambridge	1860
CAM.383	Rollins, John W. Rowhouse	87 Third St	Cambridge	1860
CAM.384	Rollins, John W. Rowhouse	89 Third St	Cambridge	1860
CAM.331	Old Middlesex County Superior Courthouse	90 Third St	Cambridge	1814
CAM.385	Rollins, John W. Rowhouse	91 Third St	Cambridge	1860
CAM.386	Rollins, John W. Rowhouse	93 Third St	Cambridge	1860
CAM.387	Rollins, John W. Rowhouse	95 Third St	Cambridge	1860
CAM.314	Holy Cross Polish National Catholic Church	99 Third St	Cambridge	1827
CAM.315	Bottle House Block	204-214 Third St	Cambridge	1826
CAM.350	Blake and Knowles Machine Shop #1	265 Third St	Cambridge	1889
CAM.351	Blake and Knowles Office Headhouse	265 Third St	Cambridge	1892
CAM.355	Blake and Knowles Smith Shop and Brass Foundry	275 Third St	Cambridge	1890
CAM.326	Cambridge Gas Light Company Purifying Plant	354 Third St	Cambridge	1908
CAM.388	Stevens, Atherton H. Rowhouse	59 Thorndike St	Cambridge	1827
CAM.395	Smallidge, Samuel House	66 Thorndike St	Cambridge	1827
CAM.389	Bates, Moses Jr. House	69 Thorndike St	Cambridge	1844
CAM.396	Buck, Silas B. House	70 Thorndike St	Cambridge	1845
CAM.390	Tufts, Sophia Kimball Double House	71-73 Thorndike St	Cambridge	1857
CAM.397	Wellington, Peter House	74 Thorndike St	Cambridge	1843
CAM.391		75 Thorndike St	Cambridge	

Inv. No.	Property Name	Street	Town	Year
CAM.398		76 Thorndike St	Cambridge	
CAM.392		77 Thorndike St	Cambridge	
CAM.399		78 Thorndike St	Cambridge	
CAM.393		79-81 Thorndike St	Cambridge	
CAM.400		80 Thorndike St	Cambridge	
CAM.394		83 Thorndike St	Cambridge	
CAM.402	Stickney, Francis H. - Davies, Benjamin Rowhouse	84 Thorndike St	Cambridge	1867
CAM.417	Clark, Cornelius - Kneeland, W. W. House	85 Thorndike St	Cambridge	1822
CAM.403	Stickney, Francis H. - Davies, Benjamin Rowhouse	86 Thorndike St	Cambridge	1867
CAM.404	Stickney, Francis H. - Davies, Benjamin Rowhouse	88 Thorndike St	Cambridge	1867
CAM.418		89-91 Thorndike St	Cambridge	
CAM.405	Stickney, Francis H. - Davies, Benjamin Rowhouse	90 Thorndike St	Cambridge	1867
CAM.406	Stickney, Francis H. - Davies, Benjamin Rowhouse	92 Thorndike St	Cambridge	1867
CAM.419	Whitacre, Celeste I. Rowhouse	93 Thorndike St	Cambridge	1885
CAM.407	Stickney, Francis H. - Davies, Benjamin Rowhouse	94 Thorndike St	Cambridge	1867
CAM.420	Whitacre, Celeste I. Rowhouse	95 Thorndike St	Cambridge	1885
CAM.408	Train, Isaac House	96 Thorndike St	Cambridge	1826
CAM.421	Whitacre, Celeste I. Rowhouse	97 Thorndike St	Cambridge	1885
CAM.422	Davies, Daniel House	97 1/2 Thorndike St	Cambridge	1843
CAM.409		98 Thorndike St	Cambridge	
CAM.423		99 Thorndike St	Cambridge	
CAM.424	Daniels, Granville W. House	101 Thorndike St	Cambridge	1868
CAM.410		102 Thorndike St	Cambridge	
CAM.411	Spare, Elijah Jr. Double House	104-106 Thorndike St	Cambridge	1846
CAM.425	Eaton, Charles House	109 Thorndike St	Cambridge	1857
CAM.412	Quimby, Amos House	110 Thorndike St	Cambridge	1857
CAM.426		111-113 Thorndike St	Cambridge	
CAM.413	Stickney, Francis H. Double House	112-114 Thorndike St	Cambridge	1863
CAM.427		113 1/2 Thorndike St	Cambridge	
CAM.414	Bacon, Henry A. House	116 Thorndike St	Cambridge	1865
CAM.507	Sacred Heart Roman Catholic School and Convent	163 Thorndike St	Cambridge	1902
CAM.316	Craigie Arms	2-6 University Rd	Cambridge	1897
CAM.317	Wyeth, Jacob - Smith, Ebenezer House	152 Vassal Ln	Cambridge	1820

Inv. No.	Property Name	Street	Town	Year
CAM.360	Metropolitan Supply Company Warehouse	269 Vassar St	Cambridge	1948
CAM.361	Hovey, F. A. and Company Warehouse	271-275 Vassar St	Cambridge	1940
CAM.362	Metropolitan Supply Company Warehouse	277-287 Vassar St	Cambridge	1939
CAM.363	Metropolitan Supply Company Warehouse	289-293 Vassar St	Cambridge	1939
CAM.989	Walden Street Cattle Pass	Walden St	Cambridge	1857
CAM.1283	Bennink - Douglas Double Cottage	35-37 Walker St	Cambridge	1874
CAM.1284	Bennink - Douglas Double Cottage	39-41 Walker St	Cambridge	1874
CAM.1285	Bennink - Douglas Double Cottage	43-45 Walker St	Cambridge	1874
CAM.1286	Bennink - Douglas Double Cottage	49-51 Walker St	Cambridge	1874
CAM.1034	Sands, Orrin E. House	2 Walnut Ave	Cambridge	1911
CAM.1032		4 Walnut Ave	Cambridge	1878
CAM.1033	Niles, Jacob Harris House	6 Walnut Ave	Cambridge	1884
CAM.1031	Niles, Eugene M. House	9 Walnut Ave	Cambridge	1887
CAM.318	Stanstead, The	19 Ware St	Cambridge	1887
CAM.799	Ritchie, David House	26 Washington Ave	Cambridge	1889
CAM.793	Brown, Laura House	27 Washington Ave	Cambridge	1908
CAM.794	Mellen, James House	33 Washington Ave	Cambridge	1887
CAM.795	Kelley, Stillman F. House	49 Washington Ave	Cambridge	1887
CAM.1000	Boardman, Charles House	58 Washington Ave	Cambridge	1880
CAM.797	Mansfield, Gardiner House	63 Washington Ave	Cambridge	1873
CAM.798	Green, Charles G. House	71 Washington Ave	Cambridge	1877
CAM.1001	Boynton, Morris House	78 Washington Ave	Cambridge	1874
CAM.1002		86-88 Washington Ave	Cambridge	1870
CAM.1003		92 Washington Ave	Cambridge	1876
CAM.1004	Hutchins, Elizabeth House	108 Washington Ave	Cambridge	1924
CAM.319	Melendy, Henry J. House	81 Washington St	Cambridge	1871
CAM.541	Whittemore, Rev. Thomas Double House	271-273 Washington St	Cambridge	1837
CAM.540	Whittemore, Rev. Thomas Double House	288 Washington St	Cambridge	1837
CAM.539	Paige, Rev. Lucius R. House	296 Washington St	Cambridge	1837
CAM.346		1 Waterhouse St	Cambridge	1916
CAM.320	Vassall - Waterhouse - Ware House	7 Waterhouse St	Cambridge	1753
CAM.347		9 Waterhouse St	Cambridge	1887
CAM.335	Christian Science Church	13 Waterhouse St	Cambridge	1923
CAM.988	Fort Washington	95 Waverly St	Cambridge	
CAM.924	Western Avenue Bridge	Western Ave	Cambridge	1924
CAM.638	Cambridge Police Headquarters	5 Western Ave	Cambridge	1933
CAM.948	Central Square Park	22 Western Ave	Cambridge	1987
CAM.322	Eastern Massachusetts Company Car Barn	85 Western Ave	Cambridge	1930

Inv. No.	Property Name	Street	Town	Year
CAM.321	Read, Cheney House	135 Western Ave	Cambridge	1846
CAM.323	Hasey, Abraham - Wheat, Dr. Samuel House	8 Willard St	Cambridge	1730
CAM.514	Hixon, Edward House	3 William St	Cambridge	1857
CAM.1378	Immaculate Conception (Lithuanian) Catholic Church	432 Windsor St	Cambridge	1910
CAM.1379	Immaculate Conception (Lithuanian) Church Rectory	432 Windsor St	Cambridge	1972
CAM.1380	Immaculate Conception Church Rectory Metal Garage	432 Windsor St	Cambridge	1941
CAM.1381	Immaculate Conception Church Rectory Wood Garage	432 Windsor St	Cambridge	1948
CAM.500		19 Winter St	Cambridge	1855
CAM.492		21 Winter St	Cambridge	1854
CAM.486	Leighton, Thomas H. House	22 Winter St	Cambridge	1833
CAM.491		24 Winter St	Cambridge	1854
CAM.493		25 Winter St	Cambridge	1854
CAM.494		27 Winter St	Cambridge	1854
CAM.496		28-30 Winter St	Cambridge	1854
CAM.495		29 Winter St	Cambridge	1854
CAM.497		31-33 Winter St	Cambridge	1854
CAM.501		34-42 Winter St	Cambridge	1875
CAM.498		61 Winter St	Cambridge	1854
CAM.499		65 Winter St	Cambridge	1854
CAM.489	Stevens, Atherton Haugh House	67 Winter St	Cambridge	1843
CAM.490	Stevens, Atherton Haugh House	71 Winter St	Cambridge	1843
CAM.487	Stevens, Atherton Haugh House	74 Winter St	Cambridge	1838
CAM.1344		75 Winter St	Cambridge	
CAM.1345	Stevens, Atherton Haugh House	77 Winter St	Cambridge	1838
CAM.488	Stevens, Atherton Haugh House	79 Winter St	Cambridge	1838
CAM.1189	Metcalf, Lydia House	41 Winthrop St	Cambridge	1845
CAM.1190		65-67 Winthrop St	Cambridge	1887
CAM.1191	University Lutheran Church	66 Winthrop St	Cambridge	1950
CAM.1192		69 Winthrop St	Cambridge	1835
CAM.1193	Pi Eta Club	89 Winthrop St	Cambridge	1908
CAM.1194	Pi Eta Hall	95 Winthrop St	Cambridge	1896
CAM.1195	Hyde, Isaac - Taylor House	96 Winthrop St	Cambridge	1845
CAM.329	Cox - Hicks House	98 Winthrop St	Cambridge	1806
CAM.951	Winthrop Street Retaining Wall	98 Winthrop St	Cambridge	1725
CAM.1196	Dame School	106 Winthrop St	Cambridge	1800

Inv. No.	Property Name	Street	Town	Year
CAM.909	Yerxa Street Pedestrian Subway	Yerxa St	Cambridge	1904



ATTACHMENT D
CITY OF CAMBRIDGE DEWATERING PERMIT APPLICATION



PERMIT TO DEWATER

Location:

Temporary

Owner:

Permanent

Contractor:

The property owner, _____ agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the _____ (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

City Manager

Property Manager: Corporate Entity
President, General Partner or Trustee
Trustee with Instrument of Authority

Date

Date

City Solicitor

Contractor

Date

Date

Commissioner of Public

Contractor

Date

Date

CC: Engineering
 Supervisor of Sewer Maintenance and Engineering
 Superintendent of Streets
 Commissioner of Inspectional Services



ATTACHMENT E
LABORATORY REPORTS



Report Date:
13-Jun-12 11:04



- Final Report
- Re-Issued Report
- Revised Report

SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

GeoInsight, Inc.
1 Monarch Drive, Suite 201
Littleton, MA 01460
Attn: Kevin Trainer

Project: Cambridge, MA
Project #: 6463

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB49328-01	MW-202	Ground Water	16-May-12 08:00	17-May-12 17:10

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.

All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435




Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please note that this report contains 27 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.			Project #: 6463						
Project Location: Cambridge, MA			RTN:						
This form provides certifications for the following data set:			SB49328-01						
Matrices: Ground Water									
CAM Protocol									
✓	8260 VOC CAM II A	✓	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A		
✓	8270 SVOC CAM II B		7010 Metals CAM III C	MassDEP EPH CAM IV B	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 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
Affirmative responses 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 laboratory, and prepared/analyzed within method holding times?						✓	Yes No	
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?						✓	Yes No	
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 No	
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 No	
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?						Yes	No	
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 No	
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)?						Yes	✓ 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?						Yes	✓ No	
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?						Yes	✓ No	
All negative responses are addressed in a case narrative on the cover page of this report.									
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.									
						 Nicole Leja Laboratory Director Date: 6/13/2012			

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CASE NARRATIVE:

The samples were received 2.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 300.0

Samples:

SB49328-01 *MW-202*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

SM4500-CL-G

Samples:

SB49328-01 *MW-202*

The Reporting Limit has been raised to account for matrix interference.

Total Residual Chlorine

SW846 8260C

Calibration:

1205043

Analyte quantified by quadratic equation type calibration.

Vinyl chloride

This affected the following samples:

- 1212466-BLK1
- 1212466-BS1
- 1212466-BSD1
- MW-202
- S206004-ICV1
- S206341-CCV1

Laboratory Control Samples:

1212466 BS/BSD

SW846 8260C

Laboratory Control Samples:

1212466 BS/BSD

1,2,3-Trichlorobenzene percent recoveries (118/147) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-202

1,2,4-Trichlorobenzene percent recoveries (109/135) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-202

2,2-Dichloropropane percent recoveries (137/140) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-202

Dichlorodifluoromethane (Freon12) percent recoveries (51/55) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-202

Hexachlorobutadiene percent recoveries (117/140) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-202

Naphthalene percent recoveries (120/144) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-202

1212466-BS1

SW846 8260C

Laboratory Control Samples:

1212466-BS1

LCS/LCSD were analyzed in place of MS/MSD.

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane (Freon 113)
1,1-Dichloroethane
1,1-Dichloroethene
1,1-Dichloropropene
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane (EDB)
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethane-d4
1,2-Dichloropropane
1,3,5-Trichlorobenzene
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,4-Dichlorobenzene
1,4-Dichlorobenzene-d4
1,4-Dioxane
2,2-Dichloropropane
2-Butanone (MEK)
2-Chlorotoluene
2-Hexanone (MBK)
4-Bromofluorobenzene
4-Chlorotoluene
4-Isopropyltoluene
4-Methyl-2-pentanone (MIBK)
Acetone
Acrylonitrile
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorobenzene-d5
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Dibromofluoromethane
Dibromomethane
Dichlorodifluoromethane (Freon12)
Di-isopropyl ether
Ethanol

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SW846 8260C

Laboratory Control Samples:

1212466-BS1

LCS/LCSD were analyzed in place of MS/MSD.

Ethyl ether
Ethyl tert-butyl ether
Ethylbenzene
Fluorobenzene
Hexachlorobutadiene
Isopropylbenzene
m,p-Xylene
Methyl tert-butyl ether
Methylene chloride
Naphthalene
n-Butylbenzene
n-Propylbenzene
o-Xylene
sec-Butylbenzene
Styrene
Tert-amyl methyl ether
Tert-Butanol / butyl alcohol
tert-Butylbenzene
Tetrachloroethene
Tetrahydrofuran
Toluene
Toluene-d8
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene
Trichloroethene
Trichlorofluoromethane (Freon 11)
Vinyl chloride

1212466-BSD1

SW846 8260C

Laboratory Control Samples:

1212466-BSD1

LCS/LCSD were analyzed in place of MS/MSD.

1,1,1,2-Tetrachloroethane
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane (Freon 113)
1,1-Dichloroethane
1,1-Dichloroethene
1,1-Dichloropropene
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane (EDB)
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethane-d4
1,2-Dichloropropane
1,3,5-Trichlorobenzene
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,4-Dichlorobenzene
1,4-Dichlorobenzene-d4
1,4-Dioxane
2,2-Dichloropropane
2-Butanone (MEK)
2-Chlorotoluene
2-Hexanone (MBK)
4-Bromofluorobenzene
4-Chlorotoluene
4-Isopropyltoluene
4-Methyl-2-pentanone (MIBK)
Acetone
Acrylonitrile
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorobenzene-d5
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Dibromofluoromethane
Dibromomethane
Dichlorodifluoromethane (Freon12)
Di-isopropyl ether
Ethanol

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SW846 8260C

Laboratory Control Samples:

1212466-BSD1

LCS/LCSD were analyzed in place of MS/MSD.

Ethyl ether
Ethyl tert-butyl ether
Ethylbenzene
Fluorobenzene
Hexachlorobutadiene
Isopropylbenzene
Methyl tert-butyl ether
Methylene chloride
Naphthalene
n-Butylbenzene
n-Propylbenzene
o-Xylene
sec-Butylbenzene
Styrene
Tert-amyl methyl ether
Tert-Butanol / butyl alcohol
tert-Butylbenzene
Tetrachloroethene
Tetrahydrofuran
Toluene
Toluene-d8
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene
Trichloroethene
Trichlorofluoromethane (Freon 11)
Vinyl chloride

Samples:

S206341-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

2,2-Dichloropropane (42.8%)
Acetone (-23.8%)
Chloroethane (-21.4%)
Chloromethane (-30.4%)
Dichlorodifluoromethane (Freon12) (-38.9%)
Hexachlorobutadiene (23.5%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Vinyl chloride (-25.8%)

This affected the following samples:

1212466-BLK1
1212466-BS1
1212466-BSD1
MW-202

SB49328-01 *MW-202*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Identification

MW-202
SB49328-01

Client Project #
6463

Matrix
Ground Water

Collection Date/Time
16-May-12 08:00

Received
17-May-12

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>MDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>	<u>Batch</u>	<u>Cert.</u>
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/l	5.00	3.24	5	SW846 8260C	29-May-12	29-May-12	GMA	1212466	
67-64-1	Acetone	< 50.0		µg/l	50.0	12.8	5	"	"	"	"	"	"
107-13-1	Acrylonitrile	< 2.50		µg/l	2.50	2.30	5	"	"	"	"	"	"
71-43-2	Benzene	121		µg/l	5.00	3.34	5	"	"	"	"	"	"
108-86-1	Bromobenzene	< 5.00		µg/l	5.00	3.60	5	"	"	"	"	"	"
74-97-5	Bromochloromethane	< 5.00		µg/l	5.00	3.55	5	"	"	"	"	"	"
75-27-4	Bromodichloromethane	< 2.50		µg/l	2.50	2.40	5	"	"	"	"	"	"
75-25-2	Bromoform	< 5.00		µg/l	5.00	3.02	5	"	"	"	"	"	"
74-83-9	Bromomethane	< 10.0		µg/l	10.0	5.70	5	"	"	"	"	"	"
78-93-3	2-Butanone (MEK)	< 50.0		µg/l	50.0	8.67	5	"	"	"	"	"	"
104-51-8	n-Butylbenzene	8.00		µg/l	5.00	2.81	5	"	"	"	"	"	"
135-98-8	sec-Butylbenzene	13.2		µg/l	5.00	4.10	5	"	"	"	"	"	"
98-06-6	tert-Butylbenzene	< 5.00		µg/l	5.00	3.72	5	"	"	"	"	"	"
75-15-0	Carbon disulfide	< 10.0		µg/l	10.0	3.14	5	"	"	"	"	"	"
56-23-5	Carbon tetrachloride	< 5.00		µg/l	5.00	2.74	5	"	"	"	"	"	"
108-90-7	Chlorobenzene	< 5.00		µg/l	5.00	3.27	5	"	"	"	"	"	"
75-00-3	Chloroethane	< 10.0		µg/l	10.0	5.16	5	"	"	"	"	"	"
67-66-3	Chloroform	< 5.00		µg/l	5.00	3.44	5	"	"	"	"	"	"
74-87-3	Chloromethane	< 10.0		µg/l	10.0	7.36	5	"	"	"	"	"	"
95-49-8	2-Chlorotoluene	< 5.00		µg/l	5.00	3.96	5	"	"	"	"	"	"
106-43-4	4-Chlorotoluene	< 5.00		µg/l	5.00	3.66	5	"	"	"	"	"	"
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/l	10.0	4.64	5	"	"	"	"	"	"
124-48-1	Dibromochloromethane	< 2.50		µg/l	2.50	1.44	5	"	"	"	"	"	"
106-93-4	1,2-Dibromoethane (EDB)	< 2.50		µg/l	2.50	1.64	5	"	"	"	"	"	"
74-95-3	Dibromomethane	< 5.00		µg/l	5.00	3.33	5	"	"	"	"	"	"
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/l	5.00	3.34	5	"	"	"	"	"	"
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/l	5.00	3.56	5	"	"	"	"	"	"
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/l	5.00	3.12	5	"	"	"	"	"	"
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/l	10.0	2.24	5	"	"	"	"	"	"
75-34-3	1,1-Dichloroethane	< 5.00		µg/l	5.00	3.40	5	"	"	"	"	"	"
107-06-2	1,2-Dichloroethane	< 5.00		µg/l	5.00	3.90	5	"	"	"	"	"	"
75-35-4	1,1-Dichloroethene	< 5.00		µg/l	5.00	2.44	5	"	"	"	"	"	"
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/l	5.00	3.58	5	"	"	"	"	"	"
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/l	5.00	3.40	5	"	"	"	"	"	"
78-87-5	1,2-Dichloropropane	< 5.00		µg/l	5.00	3.56	5	"	"	"	"	"	"
142-28-9	1,3-Dichloropropane	< 5.00		µg/l	5.00	4.04	5	"	"	"	"	"	"
594-20-7	2,2-Dichloropropane	< 5.00		µg/l	5.00	3.02	5	"	"	"	"	"	"
563-58-6	1,1-Dichloropropene	< 5.00		µg/l	5.00	3.18	5	"	"	"	"	"	"
10061-01-5	cis-1,3-Dichloropropene	< 2.50		µg/l	2.50	1.26	5	"	"	"	"	"	"
10061-02-6	trans-1,3-Dichloropropene	< 2.50		µg/l	2.50	2.50	5	"	"	"	"	"	"
100-41-4	Ethylbenzene	< 5.00		µg/l	5.00	3.66	5	"	"	"	"	"	"
87-68-3	Hexachlorobutadiene	< 2.50		µg/l	2.50	2.25	5	"	"	"	"	"	"
591-78-6	2-Hexanone (MBK)	< 50.0		µg/l	50.0	2.72	5	"	"	"	"	"	"

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Sample Identification

MW-202 Client Project # 6463 Matrix Ground Water Collection Date/Time 16-May-12 08:00 Received 17-May-12
 SB49328-01

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Volatile Organic Compounds

Volatile Organic Compounds

GS1

Prepared by method SW846 5030 Water MS

98-82-8	Isopropylbenzene	148		µg/l	5.00	3.10	5	SW846 8260C	29-May-12	29-May-12	GMA	1212466	
99-87-6	4-Isopropyltoluene	< 5.00		µg/l	5.00	3.04	5	"	"	"	"	"	"
1634-04-4	Methyl tert-butyl ether	18.8		µg/l	5.00	3.26	5	"	"	"	"	"	"
108-10-1	4-Methyl-2-pentanone (MIBK)	< 50.0		µg/l	50.0	4.66	5	"	"	"	"	"	"
75-09-2	Methylene chloride	< 10.0		µg/l	10.0	3.45	5	"	"	"	"	"	"
91-20-3	Naphthalene	< 5.00		µg/l	5.00	1.66	5	"	"	"	"	"	"
103-65-1	n-Propylbenzene	265		µg/l	5.00	3.79	5	"	"	"	"	"	"
100-42-5	Styrene	< 5.00		µg/l	5.00	3.08	5	"	"	"	"	"	"
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/l	5.00	3.13	5	"	"	"	"	"	"
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50		µg/l	2.50	1.74	5	"	"	"	"	"	"
127-18-4	Tetrachloroethene	< 5.00		µg/l	5.00	3.72	5	"	"	"	"	"	"
108-88-3	Toluene	< 5.00		µg/l	5.00	4.06	5	"	"	"	"	"	"
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/l	5.00	1.88	5	"	"	"	"	"	"
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/l	5.00	1.80	5	"	"	"	"	"	"
108-70-3	1,3,5-Trichlorobenzene	< 5.00		µg/l	5.00	3.92	5	"	"	"	"	"	"
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/l	5.00	2.91	5	"	"	"	"	"	"
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/l	5.00	3.21	5	"	"	"	"	"	"
79-01-6	Trichloroethene	< 5.00		µg/l	5.00	3.78	5	"	"	"	"	"	"
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/l	5.00	3.14	5	"	"	"	"	"	"
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/l	5.00	3.68	5	"	"	"	"	"	"
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/l	5.00	3.78	5	"	"	"	"	"	"
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/l	5.00	3.72	5	"	"	"	"	"	"
75-01-4	Vinyl chloride	< 5.00		µg/l	5.00	4.04	5	"	"	"	"	"	"
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	8.20	5	"	"	"	"	"	"
95-47-6	o-Xylene	< 5.00		µg/l	5.00	4.41	5	"	"	"	"	"	"
109-99-9	Tetrahydrofuran	< 10.0		µg/l	10.0	7.21	5	"	"	"	"	"	"
60-29-7	Ethyl ether	< 5.00		µg/l	5.00	3.46	5	"	"	"	"	"	"
994-05-8	Tert-amyl methyl ether	< 5.00		µg/l	5.00	3.60	5	"	"	"	"	"	"
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/l	5.00	3.91	5	"	"	"	"	"	"
108-20-3	Di-isopropyl ether	< 5.00		µg/l	5.00	3.64	5	"	"	"	"	"	"
75-65-0	Tert-Butanol / butyl alcohol	821		µg/l	50.0	43.2	5	"	"	"	"	"	"
123-91-1	1,4-Dioxane	< 100		µg/l	100	70.1	5	"	"	"	"	"	"
110-57-6	trans-1,4-Dichloro-2-butene	< 25.0		µg/l	25.0	3.84	5	"	"	"	"	"	"
64-17-5	Ethanol	< 2000		µg/l	2000	178	5	"	"	"	"	"	"

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	105			70-130 %			"	"	"	"	"	"
2037-26-5	Toluene-d8	105			70-130 %			"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	101			70-130 %			"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	102			70-130 %			"	"	"	"	"	"

Semivolatile Organic Compounds by GC

Polychlorinated Biphenyls

Prepared by method SW846 3510C

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Sample Identification

MW-202 Client Project # 6463 Matrix Ground Water Collection Date/Time 16-May-12 08:00 Received 17-May-12
 SB49328-01

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Semivolatile Organic Compounds by GC

Polychlorinated Biphenyls

Prepared by method SW846 3510C

12674-11-2	Aroclor-1016	< 0.241		µg/l	0.241	0.0104	1	SW846 8082A	21-May-12	22-May-12	IMR	1211740
11104-28-2	Aroclor-1221	< 0.241		µg/l	0.241	0.0172	1	"	"	"	"	"
11141-16-5	Aroclor-1232	< 0.241		µg/l	0.241	0.0161	1	"	"	"	"	"
53469-21-9	Aroclor-1242	< 0.241		µg/l	0.241	0.00880	1	"	"	"	"	"
12672-29-6	Aroclor-1248	< 0.241		µg/l	0.241	0.0136	1	"	"	"	"	"
11097-69-1	Aroclor-1254	< 0.241		µg/l	0.241	0.0119	1	"	"	"	"	"
11096-82-5	Aroclor-1260	< 0.241		µg/l	0.241	0.00699	1	"	"	"	"	"
37324-23-5	Aroclor-1262	< 0.241		µg/l	0.241	0.0105	1	"	"	"	"	"
11100-14-4	Aroclor-1268	< 0.241		µg/l	0.241	0.0114	1	"	"	"	"	"

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	90			30-150 %			"	"	"	"	"
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	95			30-150 %			"	"	"	"	"
2051-24-3	Decachlorobiphenyl (Sr)	130			30-150 %			"	"	"	"	"
2051-24-3	Decachlorobiphenyl (Sr) [2C]	120			30-150 %			"	"	"	"	"

Extractable Petroleum Hydrocarbons

Fingerprinting by GC

Prepared by method SW846 3510C

8006-61-9	Gasoline	< 0.2		mg/l	0.2	0.2	1	SW846 8100Mod.	22-May-12	25-May-12	SEW	1211873
68476-30-2	Fuel Oil #2	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
68476-31-3	Fuel Oil #4	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
68553-00-4	Fuel Oil #6	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
M09800000	Motor Oil	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
8032-32-4	Ligroin	< 0.2		mg/l	0.2	0.06	1	"	"	"	"	"
J00100000	Aviation Fuel	Calculated as		mg/l	0.2	0.06	1	"	"	"	"	"
	Hydraulic Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
	Dielectric Fluid	< 0.2		mg/l	0.2	0.06	1	"	"	"	"	"
	Unidentified	27.9		mg/l	0.2	0.06	1	"	"	"	"	"
	Other Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	27.9		mg/l	0.2	0.02	1	"	"	"	"	"

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	55			40-140 %			"	"	"	"	"
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Total Metals by EPA 200/6000 Series Methods

Preservation	Field Preserved			N/A			1	EPA 200/6000 methods			DJB	1211542
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Total Metals by EPA 6000/7000 Series Methods

7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0020	1	SW846 6010C	29-May-12	29-May-12	EDT	1212281
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0032	1	"	"	"	"	"
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0007	1	"	"	"	"	"
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0001	1	"	"	"	"	"
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0034	1	"	"	"	"	"
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0020	1	"	"	"	"	"

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Sample Identification

MW-202 Client Project # 6463 Matrix Ground Water Collection Date/Time 16-May-12 08:00 Received 17-May-12
 SB49328-01

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series Methods

7439-89-6	Iron	34.2		mg/l	0.0150	0.0046	1	SW846 6010C	29-May-12	29-May-12	EDT	1212281	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0008	1	"	"	"	"	"	
7439-92-1	Lead	0.0083		mg/l	0.0075	0.0045	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0035	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0024	1	"	"	"	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0025	1	"	"	"	"	"	
7440-66-6	Zinc	0.0095		mg/l	0.0050	0.0025	1	"	"	"	"	"	

Total Metals by EPA 200 Series Methods

7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	29-May-12	30-May-12	JLM	1212284	X
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General Chemistry Parameters

7782-50-5	Total Residual Chlorine	< 4.00	R01,CIHT	mg/l	4.00	1.76	1	SM4500-Cl-G	18-May-12 14:35	18-May-12 16:19	CAA	1211672	X
16887-00-6	Chloride	466	GS1	mg/l	50.0	15.3	50	EPA 300.0	25-May-12	25-May-12	JAK	1212491	X
57-12-5	Cyanide (total)	0.00604		mg/l	0.00500	0.00498	1	EPA 335.4 / SW846 9012B	23-May-12	23-May-12	rthom	1212049	X
	Total Suspended Solids	64		mg/l	5	3	1	SM2540D	18-May-12	18-May-12	BD	1211627	X

Subcontracted Analyses

Subcontracted Analyses

Prepared by method SW3510

Analysis performed by Spectrum Analytical, Inc.-- RI Division

117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0		ug/L	5.0	1.3	1	SW846 8270D	21-May-12	21-May-12	M-RI9	66267	
59-50-7	4-Chloro-3-methylphenol	< 5.0		ug/L	5.0	0.60	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0		ug/L	5.0	0.61	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0		ug/L	5.0	0.57	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0		ug/L	5.0	1.8	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0		ug/L	5.0	0.79	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0		ug/L	5.0	3.5	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.0		ug/L	5.0	0.96	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0		ug/L	5.0	0.60	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0		ug/L	5.0	0.53	1	"	"	"	"	"	
108-95-2	Phenol	< 5.0		ug/L	5.0	0.75	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0		ug/L	5.0	0.26	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0		ug/L	5.0	0.53	1	"	"	"	"	"	
111-11-1	3-Methylphenol + 4-Methylphenol	< 10		ug/L	10	1.4	1	"	"	"	"	"	

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	83.1			50-110 %			"	"	"	"	"	
367-12-4	2-Fluorophenol	47.3			20-110 %			"	"	"	"	"	
4165-60-0	Nitrobenzene-d5	78.4			40-110 %			"	"	"	"	"	
4165-62-2	Phenol-d5	33.5			10-115 %			"	"	"	"	"	
1718-51-0	Terphenyl-d14	77.3			50-135 %			"	"	"	"	"	
118-79-6	2,4,6-Tribromophenol	108			40-125 %			"	"	"	"	"	

Subcontracted Analyses

Prepared by method SW3510

Analysis performed by Spectrum Analytical, Inc.-- RI Division

87-86-5	Pentachlorophenol	< 1.0		ug/L	1.0	0.055	1	SW846 8270D SIM	"	22-May-12	M-RI9	66268	
123-91-1	1,4-Dioxane	0.30		ug/L	0.20	0.070	1	"	"	"	"	"	

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Sample Identification

MW-202
SB49328-01

Client Project #
6463

Matrix
Ground Water

Collection Date/Time
16-May-12 08:00

Received
17-May-12

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Subcontracted Analyses

Subcontracted Analyses

Prepared by method SW3510

Analysis performed by Spectrum Analytical, Inc.-- RI Division

Surrogate recoveries:

17647-74-4	1,4-Dioxane-d8	73.9			10-150 %			SW846 8270D SIM	21-May-12	22-May-12	M-RI9	66268	
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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212466 - SW846 5030 Water MS										
Blank (1212466-BLK1)						<u>Prepared & Analyzed: 29-May-12</u>				
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212466 - SW846 5030 Water MS										
Blank (1212466-BLK1)					<u>Prepared & Analyzed: 29-May-12</u>					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
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Surrogate: 4-Bromofluorobenzene	50.8		µg/l		50.0		102	70-130		
Surrogate: Toluene-d8	51.6		µg/l		50.0		103	70-130		
Surrogate: 1,2-Dichloroethane-d4	50.4		µg/l		50.0		101	70-130		
Surrogate: Dibromofluoromethane	51.4		µg/l		50.0		103	70-130		
LCS (1212466-BS1)					<u>Prepared & Analyzed: 29-May-12</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	15.8	QM10	µg/l		20.0		79	70-130		
Acetone	18.4	QM10	µg/l		20.0		92	70-130		
Acrylonitrile	19.4	QM10	µg/l		20.0		97	70-130		
Benzene	19.8	QM10	µg/l		20.0		99	70-130		
Bromobenzene	21.0	QM10	µg/l		20.0		105	70-130		
Bromochloromethane	20.6	QM10	µg/l		20.0		103	70-130		
Bromodichloromethane	19.9	QM10	µg/l		20.0		100	70-130		
Bromoform	21.2	QM10	µg/l		20.0		106	70-130		
Bromomethane	19.3	QM10	µg/l		20.0		97	70-130		
2-Butanone (MEK)	19.6	QM10	µg/l		20.0		98	70-130		
n-Butylbenzene	20.4	QM10	µg/l		20.0		102	70-130		
sec-Butylbenzene	19.5	QM10	µg/l		20.0		97	70-130		
tert-Butylbenzene	20.4	QM10	µg/l		20.0		102	70-130		
Carbon disulfide	16.3	QM10	µg/l		20.0		81	70-130		
Carbon tetrachloride	18.6	QM10	µg/l		20.0		93	70-130		
Chlorobenzene	20.3	QM10	µg/l		20.0		101	70-130		
Chloroethane	15.9	QM10	µg/l		20.0		80	70-130		
Chloroform	19.2	QM10	µg/l		20.0		96	70-130		
Chloromethane	14.1	QM10	µg/l		20.0		71	70-130		
2-Chlorotoluene	20.7	QM10	µg/l		20.0		104	70-130		
4-Chlorotoluene	20.6	QM10	µg/l		20.0		103	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212466 - SW846 5030 Water MS										
LCS (1212466-BS1)					<u>Prepared & Analyzed: 29-May-12</u>					
1,2-Dibromo-3-chloropropane	20.7	QM10	µg/l		20.0		104	70-130		
Dibromochloromethane	21.7	QM10	µg/l		20.0		109	70-130		
1,2-Dibromoethane (EDB)	21.0	QM10	µg/l		20.0		105	70-130		
Dibromomethane	21.2	QM10	µg/l		20.0		106	70-130		
1,2-Dichlorobenzene	22.5	QM10	µg/l		20.0		112	70-130		
1,3-Dichlorobenzene	19.8	QM10	µg/l		20.0		99	70-130		
1,4-Dichlorobenzene	22.0	QM10	µg/l		20.0		110	70-130		
Dichlorodifluoromethane (Freon12)	10.1	QM10	µg/l		20.0		51	70-130		
1,1-Dichloroethane	19.3	QM10	µg/l		20.0		96	70-130		
1,2-Dichloroethane	20.0	QM10	µg/l		20.0		100	70-130		
1,1-Dichloroethene	16.8	QM10	µg/l		20.0		84	70-130		
cis-1,2-Dichloroethene	19.4	QM10	µg/l		20.0		97	70-130		
trans-1,2-Dichloroethene	18.7	QM10	µg/l		20.0		94	70-130		
1,2-Dichloropropane	20.5	QM10	µg/l		20.0		102	70-130		
1,3-Dichloropropane	20.4	QM10	µg/l		20.0		102	70-130		
2,2-Dichloropropane	27.4	QC2, QM10	µg/l		20.0		137	70-130		
1,1-Dichloropropene	19.2	QM10	µg/l		20.0		96	70-130		
cis-1,3-Dichloropropene	22.0	QM10	µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	22.3	QM10	µg/l		20.0		112	70-130		
Ethylbenzene	20.1	QM10	µg/l		20.0		101	70-130		
Hexachlorobutadiene	23.4	QM10	µg/l		20.0		117	70-130		
2-Hexanone (MBK)	22.2	QM10	µg/l		20.0		111	70-130		
Isopropylbenzene	20.3	QM10	µg/l		20.0		102	70-130		
4-Isopropyltoluene	21.4	QM10	µg/l		20.0		107	70-130		
Methyl tert-butyl ether	21.3	QM10	µg/l		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	23.9	QM10	µg/l		20.0		120	70-130		
Methylene chloride	18.0	QM10	µg/l		20.0		90	70-130		
Naphthalene	23.9	QM10	µg/l		20.0		120	70-130		
n-Propylbenzene	20.1	QM10	µg/l		20.0		100	70-130		
Styrene	21.6	QM10	µg/l		20.0		108	70-130		
1,1,1,2-Tetrachloroethane	21.0	QM10	µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	19.5	QM10	µg/l		20.0		98	70-130		
Tetrachloroethene	20.4	QM10	µg/l		20.0		102	70-130		
Toluene	20.6	QM10	µg/l		20.0		103	70-130		
1,2,3-Trichlorobenzene	23.6	QM10	µg/l		20.0		118	70-130		
1,2,4-Trichlorobenzene	21.8	QM10	µg/l		20.0		109	70-130		
1,3,5-Trichlorobenzene	20.7	QM10	µg/l		20.0		103	70-130		
1,1,1-Trichloroethane	20.0	QM10	µg/l		20.0		100	70-130		
1,1,2-Trichloroethane	20.9	QM10	µg/l		20.0		104	70-130		
Trichloroethene	19.6	QM10	µg/l		20.0		98	70-130		
Trichlorofluoromethane (Freon 11)	15.6	QM10	µg/l		20.0		78	70-130		
1,2,3-Trichloropropane	20.7	QM10	µg/l		20.0		104	70-130		
1,2,4-Trimethylbenzene	18.6	QM10	µg/l		20.0		93	70-130		
1,3,5-Trimethylbenzene	19.9	QM10	µg/l		20.0		100	70-130		
Vinyl chloride	14.2	QM10	µg/l		20.0		71	70-130		
m,p-Xylene	41.0	QM10	µg/l		40.0		103	70-130		
o-Xylene	21.0	QM10	µg/l		20.0		105	70-130		
Tetrahydrofuran	20.6	QM10	µg/l		20.0		103	70-130		
Ethyl ether	18.8	QM10	µg/l		20.0		94	70-130		
Tert-amyl methyl ether	18.6	QM10	µg/l		20.0		93	70-130		
Ethyl tert-butyl ether	21.1	QM10	µg/l		20.0		105	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212466 - SW846 5030 Water MS										
LCS (1212466-BS1)					<u>Prepared & Analyzed: 29-May-12</u>					
Di-isopropyl ether	20.6	QM10	µg/l		20.0		103	70-130		
Tert-Butanol / butyl alcohol	222	QM10	µg/l		200		111	70-130		
1,4-Dioxane	211	QM10	µg/l		200		106	70-130		
trans-1,4-Dichloro-2-butene	18.7	QM10	µg/l		20.0		94	70-130		
Ethanol	383	QM10	µg/l		400		96	70-130		
Surrogate: 4-Bromofluorobenzene	51.2	QM10	µg/l		50.0		102	70-130		
Surrogate: Toluene-d8	51.8	QM10	µg/l		50.0		104	70-130		
Surrogate: 1,2-Dichloroethane-d4	50.3	QM10	µg/l		50.0		101	70-130		
Surrogate: Dibromofluoromethane	51.2	QM10	µg/l		50.0		102	70-130		
LCS Dup (1212466-BS1)					<u>Prepared & Analyzed: 29-May-12</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	16.7	QM10	µg/l		20.0		84	70-130	6	25
Acetone	19.3	QM10	µg/l		20.0		97	70-130	5	50
Acrylonitrile	22.5	QM10	µg/l		20.0		113	70-130	15	25
Benzene	21.0	QM10	µg/l		20.0		105	70-130	6	25
Bromobenzene	22.4	QM10	µg/l		20.0		112	70-130	6	25
Bromochloromethane	22.3	QM10	µg/l		20.0		111	70-130	8	25
Bromodichloromethane	21.8	QM10	µg/l		20.0		109	70-130	9	25
Bromoform	23.0	QM10	µg/l		20.0		115	70-130	8	25
Bromomethane	21.1	QM10	µg/l		20.0		106	70-130	9	50
2-Butanone (MEK)	23.3	QM10	µg/l		20.0		116	70-130	17	50
n-Butylbenzene	22.3	QM10	µg/l		20.0		111	70-130	9	25
sec-Butylbenzene	20.5	QM10	µg/l		20.0		102	70-130	5	25
tert-Butylbenzene	21.4	QM10	µg/l		20.0		107	70-130	5	25
Carbon disulfide	16.8	QM10	µg/l		20.0		84	70-130	3	25
Carbon tetrachloride	19.3	QM10	µg/l		20.0		97	70-130	4	25
Chlorobenzene	21.6	QM10	µg/l		20.0		108	70-130	6	25
Chloroethane	16.4	QM10	µg/l		20.0		82	70-130	3	50
Chloroform	20.3	QM10	µg/l		20.0		101	70-130	5	25
Chloromethane	14.3	QM10	µg/l		20.0		72	70-130	1	25
2-Chlorotoluene	21.2	QM10	µg/l		20.0		106	70-130	3	25
4-Chlorotoluene	21.5	QM10	µg/l		20.0		107	70-130	4	25
1,2-Dibromo-3-chloropropane	24.0	QM10	µg/l		20.0		120	70-130	14	25
Dibromochloromethane	23.6	QM10	µg/l		20.0		118	70-130	8	50
1,2-Dibromoethane (EDB)	22.9	QM10	µg/l		20.0		115	70-130	9	25
Dibromomethane	22.7	QM10	µg/l		20.0		114	70-130	7	25
1,2-Dichlorobenzene	25.0	QM10	µg/l		20.0		125	70-130	11	25
1,3-Dichlorobenzene	21.2	QM10	µg/l		20.0		106	70-130	7	25
1,4-Dichlorobenzene	24.4	QM10	µg/l		20.0		122	70-130	10	25
Dichlorodifluoromethane (Freon12)	11.0	QM10	µg/l		20.0		55	70-130	9	50
1,1-Dichloroethane	20.6	QM10	µg/l		20.0		103	70-130	6	25
1,2-Dichloroethane	21.8	QM10	µg/l		20.0		109	70-130	8	25
1,1-Dichloroethene	18.2	QM10	µg/l		20.0		91	70-130	8	25
cis-1,2-Dichloroethene	21.1	QM10	µg/l		20.0		105	70-130	8	25
trans-1,2-Dichloroethene	19.5	QM10	µg/l		20.0		97	70-130	4	25
1,2-Dichloropropane	21.6	QM10	µg/l		20.0		108	70-130	6	25
1,3-Dichloropropane	22.1	QM10	µg/l		20.0		110	70-130	8	25
2,2-Dichloropropane	28.0	QC2, QM10	µg/l		20.0		140	70-130	2	25
1,1-Dichloropropene	20.0	QM10	µg/l		20.0		100	70-130	4	25
cis-1,3-Dichloropropene	23.2	QM10	µg/l		20.0		116	70-130	5	25
trans-1,3-Dichloropropene	23.9	QM10	µg/l		20.0		120	70-130	7	25
Ethylbenzene	20.6	QM10	µg/l		20.0		103	70-130	2	25

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212466 - SW846 5030 Water MS										
LCS Dup (1212466-BS01)					<u>Prepared & Analyzed: 29-May-12</u>					
Hexachlorobutadiene	28.1	QM10, QM9	µg/l		20.0		140	70-130	18	50
2-Hexanone (MBK)	25.4	QM10	µg/l		20.0		127	70-130	13	25
Isopropylbenzene	21.1	QM10	µg/l		20.0		106	70-130	4	25
4-Isopropyltoluene	24.0	QM10	µg/l		20.0		120	70-130	12	25
Methyl tert-butyl ether	23.0	QM10	µg/l		20.0		115	70-130	8	25
4-Methyl-2-pentanone (MIBK)	25.8	QM10	µg/l		20.0		129	70-130	7	50
Methylene chloride	19.5	QM10	µg/l		20.0		97	70-130	8	25
Naphthalene	28.7	QM10, QM9	µg/l		20.0		144	70-130	18	25
n-Propylbenzene	20.7	QM10	µg/l		20.0		104	70-130	3	25
Styrene	22.7	QM10	µg/l		20.0		113	70-130	5	25
1,1,1,2-Tetrachloroethane	22.1	QM10	µg/l		20.0		111	70-130	5	25
1,1,2,2-Tetrachloroethane	21.7	QM10	µg/l		20.0		108	70-130	10	25
Tetrachloroethene	20.6	QM10	µg/l		20.0		103	70-130	0.9	25
Toluene	21.3	QM10	µg/l		20.0		106	70-130	3	25
1,2,3-Trichlorobenzene	29.3	QM10, QM9	µg/l		20.0		147	70-130	22	25
1,2,4-Trichlorobenzene	26.9	QM10, QM9	µg/l		20.0		135	70-130	21	25
1,3,5-Trichlorobenzene	25.4	QM10	µg/l		20.0		127	70-130	21	25
1,1,1-Trichloroethane	20.8	QM10	µg/l		20.0		104	70-130	4	25
1,1,2-Trichloroethane	22.2	QM10	µg/l		20.0		111	70-130	6	25
Trichloroethene	20.8	QM10	µg/l		20.0		104	70-130	6	25
Trichlorofluoromethane (Freon 11)	16.1	QM10	µg/l		20.0		80	70-130	3	50
1,2,3-Trichloropropane	22.9	QM10	µg/l		20.0		115	70-130	10	25
1,2,4-Trimethylbenzene	19.7	QM10	µg/l		20.0		98	70-130	6	25
1,3,5-Trimethylbenzene	21.1	QM10	µg/l		20.0		105	70-130	6	25
Vinyl chloride	14.9	QM10	µg/l		20.0		74	70-130	5	25
m,p-Xylene	42.4	QM9	µg/l		40.0		106	70-130	3	25
o-Xylene	22.3	QM10	µg/l		20.0		111	70-130	6	25
Tetrahydrofuran	22.2	QM10	µg/l		20.0		111	70-130	7	25
Ethyl ether	20.8	QM10	µg/l		20.0		104	70-130	10	50
Tert-amyl methyl ether	20.5	QM10	µg/l		20.0		102	70-130	9	25
Ethyl tert-butyl ether	22.6	QM10	µg/l		20.0		113	70-130	7	25
Di-isopropyl ether	21.8	QM10	µg/l		20.0		109	70-130	6	25
Tert-Butanol / butyl alcohol	252	QM10	µg/l		200		126	70-130	13	25
1,4-Dioxane	239	QM10	µg/l		200		120	70-130	12	25
trans-1,4-Dichloro-2-butene	19.7	QM10	µg/l		20.0		98	70-130	5	25
Ethanol	435	QM10	µg/l		400		109	70-130	13	30
Surrogate: 4-Bromofluorobenzene	51.3	QM10	µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	51.6	QM10	µg/l		50.0		103	70-130		
Surrogate: 1,2-Dichloroethane-d4	50.1	QM10	µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	51.8	QM10	µg/l		50.0		104	70-130		

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1211740 - SW846 3510C										
Blank (1211740-BLK1)					<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
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Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.160		µg/l		0.200		80	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.180		µg/l		0.200		90	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.220		µg/l		0.200		110	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
LCS (1211740-BS1)					<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>					
Aroclor-1016	2.49		µg/l	0.200	2.50		100	50-140		
Aroclor-1016 [2C]	2.35		µg/l	0.200	2.50		94	50-140		
Aroclor-1260	2.68		µg/l	0.200	2.50		107	50-140		
Aroclor-1260 [2C]	2.12		µg/l	0.200	2.50		85	50-140		
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Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.220		µg/l		0.200		110	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.230		µg/l		0.200		115	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.290		µg/l		0.200		145	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.260		µg/l		0.200		130	30-150		
LCS Dup (1211740-BSD1)					<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>					
Aroclor-1016	2.47		µg/l	0.200	2.50		99	50-140	0.8	30
Aroclor-1016 [2C]	2.38		µg/l	0.200	2.50		95	50-140	1	30
Aroclor-1260	2.68		µg/l	0.200	2.50		107	50-140	0	30
Aroclor-1260 [2C]	2.14		µg/l	0.200	2.50		86	50-140	0.9	30
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Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.220		µg/l		0.200		110	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.230		µg/l		0.200		115	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.290		µg/l		0.200		145	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.270		µg/l		0.200		135	30-150		

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Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1211873 - SW846 3510C										
Blank (1211873-BLK1)					<u>Prepared: 22-May-12 Analyzed: 23-May-12</u>					
Gasoline	< 0.1		mg/l	0.1						
Fuel Oil #2	< 0.1		mg/l	0.1						
Fuel Oil #4	< 0.1		mg/l	0.1						
Fuel Oil #6	< 0.1		mg/l	0.1						
Motor Oil	< 0.1		mg/l	0.1						
Ligroin	< 0.1		mg/l	0.1						
Aviation Fuel	< 0.1		mg/l	0.1						
Hydraulic Oil	< 0.1		mg/l	0.1						
Dielectric Fluid	< 0.1		mg/l	0.1						
Unidentified	< 0.1		mg/l	0.1						
Other Oil	< 0.1		mg/l	0.1						
Total Petroleum Hydrocarbons	< 0.1		mg/l	0.1						
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Surrogate: 1-Chlorooctadecane	0.0473		mg/l		0.0500		95	40-140		
LCS (1211873-BS1)					<u>Prepared & Analyzed: 22-May-12</u>					
Fuel Oil #2	9.5		mg/l	0.1	10.0		95	40-140		
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Surrogate: 1-Chlorooctadecane	0.0504		mg/l		0.0500		101	40-140		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212281 - SW846 3005A										
<u>Blank (1212281-BLK1)</u>				<u>Prepared & Analyzed: 29-May-12</u>						
Selenium	< 0.0150		mg/l	0.0150						
Thallium	< 0.0050		mg/l	0.0050						
Antimony	< 0.0060		mg/l	0.0060						
Lead	< 0.0075		mg/l	0.0075						
Nickel	< 0.0050		mg/l	0.0050						
Iron	< 0.0150		mg/l	0.0150						
Zinc	< 0.0050		mg/l	0.0050						
Chromium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Beryllium	< 0.0020		mg/l	0.0020						
Arsenic	< 0.0040		mg/l	0.0040						
Silver	< 0.0050		mg/l	0.0050						
Copper	< 0.0050		mg/l	0.0050						
<u>LCS (1212281-BS1)</u>				<u>Prepared & Analyzed: 29-May-12</u>						
Thallium	1.28		mg/l	0.0050	1.25		103	85-115		
Zinc	1.25		mg/l	0.0050	1.25		100	85-115		
Selenium	1.26		mg/l	0.0150	1.25		101	85-115		
Antimony	1.28		mg/l	0.0060	1.25		102	85-115		
Iron	1.26		mg/l	0.0150	1.25		101	85-115		
Nickel	1.25		mg/l	0.0050	1.25		100	85-115		
Lead	1.23		mg/l	0.0075	1.25		99	85-115		
Silver	1.25		mg/l	0.0050	1.25		100	85-115		
Copper	1.28		mg/l	0.0050	1.25		102	85-115		
Arsenic	1.27		mg/l	0.0040	1.25		102	85-115		
Chromium	1.19		mg/l	0.0050	1.25		95	85-115		
Cadmium	1.28		mg/l	0.0025	1.25		102	85-115		
Beryllium	1.29		mg/l	0.0020	1.25		103	85-115		
<u>LCS Dup (1212281-BSD1)</u>				<u>Prepared & Analyzed: 29-May-12</u>						
Thallium	1.28		mg/l	0.0050	1.25		102	85-115	0.5	20
Zinc	1.24		mg/l	0.0050	1.25		99	85-115	0.7	20
Selenium	1.24		mg/l	0.0150	1.25		99	85-115	1	20
Antimony	1.35		mg/l	0.0060	1.25		108	85-115	5	20
Lead	1.22		mg/l	0.0075	1.25		97	85-115	1	20
Nickel	1.23		mg/l	0.0050	1.25		98	85-115	1	20
Iron	1.28		mg/l	0.0150	1.25		102	85-115	2	20
Copper	1.27		mg/l	0.0050	1.25		102	85-115	0.4	20
Chromium	1.18		mg/l	0.0050	1.25		94	85-115	1	20
Silver	1.25		mg/l	0.0050	1.25		100	85-115	0.04	20
Cadmium	1.26		mg/l	0.0025	1.25		101	85-115	0.9	20
Arsenic	1.26		mg/l	0.0040	1.25		101	85-115	0.9	20
Beryllium	1.27		mg/l	0.0020	1.25		102	85-115	1	20

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Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1212284 - EPA200/SW7000 Series										
<u>Blank (1212284-BLK1)</u>										
Mercury	< 0.00020		mg/l	0.00020						
<u>LCS (1212284-BS1)</u>										
Mercury	0.00503		mg/l	0.00020	0.00500		101	85-115		
<u>Duplicate (1212284-DUP1)</u>										
Mercury	< 0.00020		mg/l	0.00020		BRL				20
<u>Matrix Spike (1212284-MS1)</u>										
Mercury	0.00516		mg/l	0.00020	0.00500	BRL	103	80-120		
<u>Matrix Spike Dup (1212284-MSD1)</u>										
Mercury	0.00514		mg/l	0.00020	0.00500	BRL	103	80-120	0.4	20
<u>Post Spike (1212284-PS1)</u>										
Mercury	0.00475		mg/l	0.00020	0.00500	BRL	95	85-115		

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1211627 - General Preparation										
<u>Blank (1211627-BLK1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Suspended Solids	< 5		mg/l	5						
<u>LCS (1211627-BS1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Suspended Solids	90		mg/l	10	100		90	90-110		
Batch 1211672 - General Preparation										
<u>Blank (1211672-BLK1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	< 0.020		mg/l	0.020						
<u>LCS (1211672-BS1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.052		mg/l	0.020	0.0500		104	90-110		
<u>Calibration Blank (1211672-CCB1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.001		mg/l							
<u>Calibration Blank (1211672-CCB2)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.001		mg/l							
<u>Calibration Check (1211672-CCV1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.054		mg/l		0.0500		108	0-200		
<u>Calibration Check (1211672-CCV2)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.054		mg/l		0.0500		108	0-200		
<u>Reference (1211672-SRM1)</u>					<u>Prepared & Analyzed: 18-May-12</u>					
Total Residual Chlorine	0.115		mg/l	0.020	0.110		105	85-115		
Batch 1212049 - General Preparation										
<u>Blank (1212049-BLK1)</u>					<u>Prepared & Analyzed: 23-May-12</u>					
Cyanide (total)	< 0.00500		mg/l	0.00500						
<u>LCS (1212049-BS1)</u>					<u>Prepared & Analyzed: 23-May-12</u>					
Cyanide (total)	0.311		mg/l	0.00500	0.300		104	90-110		
<u>Reference (1212049-SRM1)</u>					<u>Prepared & Analyzed: 23-May-12</u>					
Cyanide (total)	0.173		mg/l	0.00500	0.185		93	65-135		
Batch 1212491 - General Preparation										
<u>Blank (1212491-BLK1)</u>					<u>Prepared & Analyzed: 25-May-12</u>					
Chloride	< 1.00		mg/l	1.00						
<u>Blank (1212491-BLK2)</u>					<u>Prepared & Analyzed: 25-May-12</u>					
Chloride	< 1.00		mg/l	1.00						
<u>LCS (1212491-BS1)</u>					<u>Prepared & Analyzed: 25-May-12</u>					
Chloride	20.7		mg/l	1.00	20.0		104	90-110		
<u>Reference (1212491-SRM1)</u>					<u>Prepared & Analyzed: 25-May-12</u>					
Chloride	23.8		mg/l	1.00	25.0		95	90-110		

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Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 66267 - SW3510										
LCS (LCS-66267)						<u>Prepared & Analyzed: 21-May-12</u>				
Bis(2-ethylhexyl)phthalate	35.88		ug/L	10			71.8	40-125		
4-Chloro-3-methylphenol	35.82		ug/L	10			71.6	45-110		
2-Chlorophenol	32.92		ug/L	10			65.8	35-105		
2,4-Dichlorophenol	35.04		ug/L	10			70.1	50-105		
2,4-Dimethylphenol	34.42		ug/L	10			68.8	30-110		
4,6-Dinitro-2-methylphenol	42.42		ug/L	20			84.8	40-130		
2,4-Dinitrophenol	47.91		ug/L	20			95.8	15-140		
2-Methylphenol	33.35		ug/L	10			66.7	40-110		
2-Nitrophenol	35.33		ug/L	10			70.7	40-115		
4-Nitrophenol	34.53		ug/L	20			69.1	0-125		
Phenol	32.38		ug/L	10			64.8	0-115		
2,4,5-Trichlorophenol	36.03		ug/L	20			72.1	50-110		
2,4,6-Trichlorophenol	37.01		ug/L	10			74.0	50-115		
3-Methylphenol + 4-Methylphenol	33.19		ug/L	10			66.4	30-110		
<hr/>										
Surrogate: 2-Fluorobiphenyl	34.79		ug/L				69.6	50-110		
Surrogate: 2-Fluorophenol	32.18		ug/L				64.4	20-110		
Surrogate: Nitrobenzene-d5	34.46		ug/L				68.9	40-110		
Surrogate: Phenol-d5	33.82		ug/L				67.6	10-115		
Surrogate: Terphenyl-d14	37.41		ug/L				74.8	50-135		
Surrogate: 2,4,6-Tribromophenol	37.27		ug/L				74.5	40-125		
LCS Dup (LCSD-66267)						<u>Prepared & Analyzed: 21-May-12</u>				
Bis(2-ethylhexyl)phthalate	43.75		ug/L	10			87.5	40-125	19.8	40.0
4-Chloro-3-methylphenol	42.03		ug/L	10			84.1	45-110	16.0	40.0
2-Chlorophenol	38.55		ug/L	10			77.1	35-105	15.8	40.0
2,4-Dichlorophenol	41.31		ug/L	10			82.6	50-105	16.4	40.0
2,4-Dimethylphenol	39.89		ug/L	10			79.8	30-110	14.7	40.0
4,6-Dinitro-2-methylphenol	49.80		ug/L	20			99.6	40-130	16.0	40.0
2,4-Dinitrophenol	64.21		ug/L	20			128	15-140	29.1	40.0
2-Methylphenol	38.40		ug/L	10			76.8	40-110	14.1	40.0
2-Nitrophenol	41.81		ug/L	10			83.6	40-115	16.8	40.0
4-Nitrophenol	41.02		ug/L	20			82.0	0-125	17.2	40.0
Phenol	37.78		ug/L	10			75.6	0-115	15.4	40.0
2,4,5-Trichlorophenol	42.45		ug/L	20			84.9	50-110	16.3	40.0
2,4,6-Trichlorophenol	43.89		ug/L	10			87.8	50-115	17.0	40.0
3-Methylphenol + 4-Methylphenol	38.36		ug/L	10			76.7	30-110	14.4	40.0
<hr/>										
Surrogate: 2-Fluorobiphenyl	41.22		ug/L				82.4	50-110		
Surrogate: 2-Fluorophenol	36.48		ug/L				73.0	20-110		
Surrogate: Nitrobenzene-d5	40.64		ug/L				81.3	40-110		
Surrogate: Phenol-d5	39.09		ug/L				78.2	10-115		
Surrogate: Terphenyl-d14	42.89		ug/L				85.8	50-135		
Surrogate: 2,4,6-Tribromophenol	44.45		ug/L				88.9	40-125		
Blank (MB-66267)						<u>Prepared & Analyzed: 21-May-12</u>				
Bis(2-ethylhexyl)phthalate	< 10	U	ug/L	10				-		
4-Chloro-3-methylphenol	< 10	U	ug/L	10				-		
2-Chlorophenol	< 10	U	ug/L	10				-		
2,4-Dichlorophenol	< 10	U	ug/L	10				-		
2,4-Dimethylphenol	< 10	U	ug/L	10				-		
4,6-Dinitro-2-methylphenol	< 20	U	ug/L	20				-		
2,4-Dinitrophenol	< 20	U	ug/L	20				-		
2-Methylphenol	< 10	U	ug/L	10				-		
2-Nitrophenol	< 10	U	ug/L	10				-		

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Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 66267 - SW3510										
Blank (MB-66267)						<u>Prepared & Analyzed: 21-May-12</u>				
4-Nitrophenol	< 20	U	ug/L	20				-		
Phenol	< 10	U	ug/L	10				-		
2,4,5-Trichlorophenol	< 20	U	ug/L	20				-		
2,4,6-Trichlorophenol	< 10	U	ug/L	10				-		
3-Methylphenol + 4-Methylphenol	< 10	U	ug/L	10				-		
<i>Surrogate: 2-Fluorobiphenyl</i>	35.18		ug/L				70.4	50-110		
<i>Surrogate: 2-Fluorophenol</i>	32.95		ug/L				65.9	20-110		
<i>Surrogate: Nitrobenzene-d5</i>	35.80		ug/L				71.6	40-110		
<i>Surrogate: Phenol-d5</i>	33.77		ug/L				67.5	10-115		
<i>Surrogate: Terphenyl-d14</i>	37.74		ug/L				75.5	50-135		
<i>Surrogate: 2,4,6-Tribromophenol</i>	41.25		ug/L				82.5	40-125		
Batch 66268 - SW3510										
LCS (LCS-66268)						<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>				
Pentachlorophenol	2.448		ug/L	1.0			97.9	10-150		
1,4-Dioxane	3.737		ug/L	0.10			74.7	10-150		
<i>Surrogate: 1,4-Dioxane-d8</i>	3.753		ug/L				75.1	10-150		
LCS Dup (LCSD-66268)						<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>				
Pentachlorophenol	2.520		ug/L	1.0			101	10-150	2.92	40.0
1,4-Dioxane	3.770		ug/L	0.10			75.4	10-150	0.884	40.0
<i>Surrogate: 1,4-Dioxane-d8</i>	3.795		ug/L				75.9	10-150		
Blank (MB-66268)						<u>Prepared: 21-May-12 Analyzed: 22-May-12</u>				
Pentachlorophenol	< 1.0	U	ug/L	1.0				-		
1,4-Dioxane	< 0.10	U	ug/L	0.10				-		
<i>Surrogate: 1,4-Dioxane-d8</i>	3.379		ug/L				67.6	10-150		

This laboratory report is not valid without an authorized signature on the cover page.

Notes and Definitions

GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM10	LCS/LCSD were analyzed in place of MS/MSD.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
R01	The Reporting Limit has been raised to account for matrix interference.
U	Compound not detected below method detection limit at or above the MRL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
CIHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

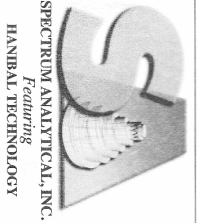
Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Nicole Leja



CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- Standard TAT - 7 to 10 business days
- Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

SB 49328 *59*

Report To: Greenlight Inc Suite 201
One Morrison Drive
Littleton, MA 01460

Invoice To: _____
 P.O. No.: _____ RQN: _____

Project No.: 6463
 Site Name: Cambridge Abcote 2
 Location: Cambridge State: MA
 Sampler(s): RUVS

Telephone #: 978-679-1600
 Project Mgr: Kevin Travers

1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid 7=CH₃OH
 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= _____ 12= _____

DW=Drinking Water GW=Groundwater WW=Wastewater
 O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
 X1= _____ X2= _____ X3= _____

List preservative code below:
 2 5 2 1 4

QA/QC Reporting Notes:
 * additional charges may apply

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers:				Analyses:	Temp °C
						# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		
<u>49328-21</u>	<u>MW-202</u>	<u>05/16/12</u>	<u>08:00</u>	<u>G</u>	<u>GW</u>	<u>3</u>	<u>5</u>	<u>1</u>	<u>3</u>	<u>TSS, TRC & Chloride</u>	<u>X</u>
										<u>TPH</u>	<u>X</u>
										<u>Cyanide</u>	<u>X</u>
										<u>VOC 8260</u>	<u>X</u>
										<u>1,4 Dioxane 8270s</u>	<u>X</u>
										<u>Phenols, PCP & Bis(2-ethylhexyl)phthalate</u>	<u>X</u>
										<u>PCBs</u>	<u>X</u>
										<u>PA3 Metals</u>	<u>X</u>

MA DEP MCP CAM Report: Yes No
 CT DPH RCP Report: Yes No
 * additional charges may apply

QA/QC Reporting Level
 Standard No QC DOA*
 NY ASP A* NY ASP B*
 NJ Reduced* NJ Full*
 TIER II* TIER IV*
 Other _____

State-specific reporting standards:

Relinquished by: [Signature]

Received by: [Signature]

Date: 5/22/12 Time: 10:30
5/17/12 17:10 2:3

EDD Format
 E-mail to katravers@gainco.com
katravers@gainco.com
kinserson@gainco.com

Condition upon receipt:
 Ambient Iced Refrigerated DI VOA Frozen Soil Jar Frozen

August 2, 2011

Mr. Kevin Trainer
Geolnsight, Inc.
1 Monarch Drive, Suite 201
Littleton, MA 01460

LABORATORY REPORT

Project: **Abode Z Development/6463-000**
Lab ID: **143671**
Received: **07-25-11**

Dear Kevin:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority 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 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,



Karyn E. Raymond
Project Manager

KER/saj

Sample Receipt Report

Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Lab ID: **143671**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-25-11**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-1	MW-9	Aqueous	7/23/11 8:12	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037506	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-2	TMW-1	Aqueous	7/23/11 10:07	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037514	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-3	HP-4/MW-4	Aqueous	7/23/11 14:20	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037565	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-4	TMW-2	Aqueous	7/23/11 11:02	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037505	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-5	HP-2/MW-2	Aqueous	7/23/11 15:30	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037563	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-6	MW-202	Aqueous	7/23/11 16:20	EPA 6010B/7470A 8 RCRA Metals Dissolved				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037561	250 mL Plastic	Proline	BX39403	HNO3	R-6348C	06-21-11	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-7	MW-9	Aqueous	7/23/11 8:12	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1266525	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
C1266521	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-8	TMW-1	Aqueous	7/23/11 10:07	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1266524	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
C1266520	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-9	HP-4/MW-4	Aqueous	7/23/11 14:20	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1266522	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
C1278363	1 L Amber Glass	Scientific Specialist Service	BX37281	H2SO4	R-6054E	08-13-10	n/a	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-10	TMW-2	Aqueous	7/23/11 11:02	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1266526	1 L Amber Glass	Scientific Specialist Service	BX36573	H2SO4	R-6048D	06-09-10	n/a	
C1278345	1 L Amber Glass	Scientific Specialist Service	BX37282	H2SO4	R-6054E	08-13-10	n/a	

Sample Receipt Report (Continued)

Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Lab ID: **143671**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-25-11**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-11	HP-2/MW-2	Aqueous	7/23/11 15:30	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037744	1 L Amber Glass	Proline	BX39423	H2SO4	R-6407C	06-29-11	n/a	
C2037739	1 L Amber Glass	Proline	BX39423	H2SO4	R-6407C	06-29-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-12	MW-202	Aqueous	7/23/11 16:20	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037747	1 L Amber Glass	Proline	BX39423	H2SO4	R-6407C	06-29-11	n/a	
C2037741	1 L Amber Glass	Proline	BX39423	H2SO4	R-6407C	06-29-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-13	MW-9	Aqueous	7/23/11 8:12	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037024	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036969	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036957	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-14	TMW-1	Aqueous	7/23/11 10:07	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037043	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036967	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036958	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-15	HP-4/MW-4	Aqueous	7/23/11 14:20	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037044	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037034	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037023	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-16	TMW-2	Aqueous	7/23/11 11:02	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037033	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036968	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2036966	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-17	HP-2/MW-2	Aqueous	7/23/11 15:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037045	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037036	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037035	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-18	MW-202	Aqueous	7/23/11 16:20	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2037047	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037046	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	
C2037037	40 mL VOA Vial	Proline	BX39397	HCL	R-6179A	06-21-11	n/a	

Sample Receipt Report (Continued)

Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Lab ID: **143671**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-25-11**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-19	B-7 5-7'	Soil	7/22/11 13:20	EPA 6010B/7471A 8 RCRA Metals MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2039705	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039706	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-20	B-13 5-7'	Soil	7/23/11 12:00	EPA 8011 Mod EDB MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2039707	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039700	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-21	B-9 5-7'	Soil	7/23/11 12:45	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2039704	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039703	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039699	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-22	B-6 5-7'	Soil	7/24/11 8:04	EPA 6010B/7471A 8 RCRA Metals MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2028793	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028785	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-23	B-2 5-7'	Soil	7/24/11 9:33	EPA 6010B/7471A 8 RCRA Metals MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2028779	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028778	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-24	B-9A 2-4'	Soil	7/24/11 11:15	EPA 6010B/7471A 8 RCRA Metals MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2028792	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028791	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-25	B-7 5-7'	Soil	7/22/11 13:20	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2026242	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-26	B-13 5-7'	Soil	7/23/11 12:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2026232	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Sample Receipt Report (Continued)

Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Lab ID: **143671**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-25-11**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-27	B-9 5-7'		Soil	7/23/11 12:45	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2026183	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-28	B-6 5-7'		Soil	7/24/11 8:04	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2026193	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-29	B-2 5-7'		Soil	7/24/11 9:33	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2026203	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-30	B-9A 2-4'		Soil	7/24/11 11:15	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2026222	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-31	Wheeler St. Comp.		Soil	7/22/11 13:55	EPA 8260B Volatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2040792	40 mL VOA Vial	Proline	BX39501	n/a	R-6405B	07-20-11	n/a	
C2026171	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	
C2026141	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	
C2026130	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-32	603 Concord St. Comp.		Soil	7/23/11 13:20	EPA 8260B Volatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2040763	40 mL VOA Vial	Proline	BX39501	n/a	R-6405B	07-20-11	n/a	
C2026210	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	
C2026140	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	
C2026139	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
143671-33	615 Concord Ave. Comp.		Soil	7/24/11 11:25	EPA 8260B Volatile Organics			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C2040773	40 mL VOA Vial	Proline	BX39501	n/a	R-6405B	07-20-11	n/a	
C2026181	40 mL VOA Vial	Proline	BX39455	Methanol	R-6380J	07-14-11	n/a	
C2026132	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	
C2026131	40 mL VOA Vial	Proline	BX39456	n/a	R-6405A	07-15-11	n/a	

Sample Receipt Report (Continued)

Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Lab ID: **143671**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-25-11**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-34	Wheeler St. Comp.	Soil	7/22/11 13:55	EPA 6010B/7471A 5 RCRA Metals EPA 8082 PCBs TPH by GC EPA 8015B Mod EPA 9045C Corrosivity EPA 1010 Mod Ignitability EPA SW-846,Chp.7 Reactivity				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2039689	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039695	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039691	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039697	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039692	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039693	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-35	603 Concord St. Comp.	Soil	7/23/11 13:20	EPA 6010B/7471A 5 RCRA Metals EPA 8082 PCBs TPH by GC EPA 8015B Mod EPA 9045C Corrosivity EPA 1010 Mod Ignitability EPA SW-846,Chp.7 Reactivity				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2039690	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039696	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039702	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039694	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039698	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	
C2039701	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
143671-36	615 Concord Ave. Comp.	Soil	7/24/11 11:25	EPA 6010B/7471A 5 RCRA Metals EPA 8082 PCBs TPH by GC EPA 8015B Mod EPA 9045C Corrosivity EPA 1010 Mod Ignitability EPA SW-846,Chp.7 Reactivity				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C2028784	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028783	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028777	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028774	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028773	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	
C2028772	120 mL Amber Glass	Proline	BX39297	None	n/a	n/a	n/a	

Data Certification

Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**

Lab ID: **143671**
 Received: **07-25-11 19:05**

Mass DEP Analytical Protocol Certification Form						
Project Location: n/a		MA DEP RTN: n/a				
This Form provides certifications for the following data set:						
EPA 8260B:	143671-31,-32,-33					
EPA 8082:	143671-21,-34,-35,-36					
MA DEP VPH:	143671-13,-14,-15,-16,-17,-18,-25,-26,-27,-28,-29,-30					
MA DEP EPH:	143671-7,-8,-9,-10,-11,-12,-19,-20,-21,-22,-23,-24					
EPA 6010B:	143671-1,-2,-3,-4,-5,-6,-19,-21,-22,-23,-24,-34,-35,-36					
EPA 7470A/1A:	143671-1,-2,-3,-4,-5,-6,-19,-21,-22,-23,-24,-34,-35,-36					
Sample Matrices: Groundwater/Surface <input checked="" type="checkbox"/> Soil/Sediment <input checked="" type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other <input type="checkbox"/>						
CAM Protocol (check all that apply below):						
8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	Mass DEP VPH CAM IV A <input checked="" type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>	
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>	
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9012 Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>		
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 laboratory, 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.	<u>VPH, EPH and APH methods only:</u> 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)?					No
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: Project Manager				
Printed Name: <i>Karyn E. Raymond</i>		Date: 08-02-11				

Trace Metals

Field ID: **MW-9**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-1**
 Sampled: **07-23-11 08:12**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **07-23-11 08:12**
 Filtered: **07-23-11 08:12**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	0.01		mg/L	0.01	1	07-28-11 13:02	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.64		mg/L	0.05	1	07-28-11 13:01	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:02	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:02	EPA 6010B ¹
7439-92-1	Lead, Dissolved	0.006		mg/L	0.005	1	07-28-11 13:02	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 14:42	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:02	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:01	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **TMW-1**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-2**
 Sampled: **07-23-11 10:07**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO₃ / Cool**
 Preserved: **07-23-11 10:07**
 Filtered: **07-23-11 10:07**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:06	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.41		mg/L	0.05	1	07-28-11 13:06	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:06	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:06	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	07-28-11 13:06	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 14:51	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:06	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:06	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **HP-4/MW-4**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-3**
 Sampled: **07-23-11 14:20**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **07-23-11 14:20**
 Filtered: **07-23-11 14:20**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:10	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.87		mg/L	0.05	1	07-28-11 13:10	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:10	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:10	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	07-28-11 13:10	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 14:55	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:10	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:10	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **TMW-2**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-4**
 Sampled: **07-23-11 11:02**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **07-23-11 11:02**
 Filtered: **07-23-11 11:02**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:24	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.58		mg/L	0.05	1	07-28-11 13:24	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:24	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:24	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	07-28-11 13:24	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 14:58	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:24	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:24	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **HP-2/MW-2**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-5**
 Sampled: **07-23-11 15:30**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO₃ / Cool**
 Preserved: **07-23-11 15:30**
 Filtered: **07-23-11 15:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:28	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.73		mg/L	0.05	1	07-28-11 13:28	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:28	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:28	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	07-28-11 13:28	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 15:01	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:28	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:28	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **MW-202**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-6**
 Sampled: **07-23-11 16:20**
 Received: **07-25-11 19:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO₃ / Cool**
 Preserved: **07-23-11 16:20**
 Filtered: **07-23-11 16:20**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B ¹	MB-4493-W	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	LMS
EPA 7470A ²	MP-2415-W	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:33	EPA 6010B ¹
7440-39-3	Barium, Dissolved	0.52		mg/L	0.05	1	07-28-11 13:32	EPA 6010B ¹
7440-43-9	Cadmium, Dissolved	BRL		mg/L	0.004	1	07-28-11 13:33	EPA 6010B ¹
7440-47-3	Chromium, Dissolved	BRL		mg/L	0.01	1	07-28-11 13:32	EPA 6010B ¹
7439-92-1	Lead, Dissolved	BRL		mg/L	0.005	1	07-28-11 13:33	EPA 6010B ¹
7439-97-6	Mercury, Dissolved	BRL		mg/L	0.0002	1	07-28-11 15:11	EPA 7470A ²
7782-49-2	Selenium, Dissolved	BRL		mg/L	0.05	1	07-28-11 13:33	EPA 6010B ¹
7440-22-4	Silver, Dissolved	BRL		mg/L	0.007	1	07-28-11 13:32	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: MW-9
 Project: Abode Z Development/6463-000
 Client: GeolInsight, Inc.
 Laboratory ID: 143671-7
 Sampled: 07-23-11 08:12
 Received: 07-25-11 19:05
 Extracted: 07-26-11 13:00
 Analyzed (AL): 07-27-11 08:11
 Analyzed (AR): 07-27-11 08:55
 Analyst: JJT

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2432-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 850 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	120
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	120
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		ug/L	120

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	120
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	6
91-57-6	2-Methylnaphthalene	BRL		ug/L	6
85-01-8	Phenanthrene	BRL		ug/L	6
83-32-9	Acenaphthene	BRL		ug/L	6
208-96-8	Acenaphthylene	BRL		ug/L	6
86-73-7	Fluorene	BRL		ug/L	6
120-12-7	Anthracene	BRL		ug/L	6
206-44-0	Fluoranthene	BRL		ug/L	6
129-00-0	Pyrene	BRL		ug/L	6
56-55-3	Benzo[a]anthracene	BRL		ug/L	6
218-01-9	Chrysene	BRL		ug/L	6
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	6
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	6
50-32-8	Benzo[a]pyrene	BRL		ug/L	6
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	6
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	6
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	6

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	47	42	88 %	40 - 140 %
	2-Bromonaphthalene	47	37	79 %	40 - 140 %
Extraction:	Chloro-octadecane	47	28	60 %	40 - 140 %
	ortho -Terphenyl	47	28	59 %	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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **TMW-1**
 Project: **Abode Z Development/6463-000**
 Client: **GeolInsight, Inc.**
 Laboratory ID: **143671-8**
 Sampled: **07-23-11 10:07**
 Received: **07-25-11 19:05**
 Extracted: **07-26-11 13:00**
 Analyzed (AL): **07-27-11 09:39**
 Analyzed (AR): **07-27-11 10:23**
 Analyst: **JJT**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2432-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **890 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	850		ug/L	110
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	280		ug/L	110
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	1,000		ug/L	110

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	1,000		ug/L	110
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	6
91-57-6	2-Methylnaphthalene	14		ug/L	6
85-01-8	Phenanthrene	BRL		ug/L	6
83-32-9	Acenaphthene	BRL		ug/L	6
208-96-8	Acenaphthylene	BRL		ug/L	6
86-73-7	Fluorene	BRL		ug/L	6
120-12-7	Anthracene	BRL		ug/L	6
206-44-0	Fluoranthene	BRL		ug/L	6
129-00-0	Pyrene	BRL		ug/L	6
56-55-3	Benzo[a]anthracene	BRL		ug/L	6
218-01-9	Chrysene	BRL		ug/L	6
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	6
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	6
50-32-8	Benzo[a]pyrene	BRL		ug/L	6
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	6
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	6
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	6

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	45	42	94 %	40 - 140 %
	2-Bromonaphthalene	45	44	98 %	40 - 140 %
Extraction:	Chloro-octadecane	45	30	66 %	40 - 140 %
	<i>ortho</i> -Terphenyl	45	31	69 %	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.

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **HP-4/MW-4**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-9**
 Sampled: **07-23-11 14:20**
 Received: **07-25-11 19:05**
 Extracted: **07-26-11 13:00**
 Analyzed (AL): **07-27-11 11:07**
 Analyzed (AR): **07-27-11 11:51**
 Analyst: **JJT**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2432-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **930 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	130		ug/L	110
n-C19 to n-C36 Aliphatic Hydrocarbons [†]		BRL	ug/L	110
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	130		ug/L	110
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	140		ug/L	110

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	43	41	96 %	40 - 140 %
	2-Bromonaphthalene	43	40	93 %	40 - 140 %
Extraction:	Chloro-octadecane	43	19	44 %	40 - 140 %
	<i>ortho</i> -Terphenyl	43	24	55 %	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.

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: TMW-2
 Project: Abode Z Development/6463-000
 Client: Geolnsight, Inc.
 Laboratory ID: 143671-10
 Sampled: 07-23-11 11:02
 Received: 07-25-11 19:05
 Extracted: 07-26-11 13:00
 Analyzed (AL): 07-27-11 12:35
 Analyzed (AR): 07-27-11 13:19
 Analyst: JJT

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2432-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 890 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	180		ug/L	110
n-C19 to n-C36 Aliphatic Hydrocarbons [†]		BRL	ug/L	110
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	810		ug/L	110
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	840		ug/L	110

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	45	42	94 %	40 - 140 %
	2-Bromonaphthalene	45	42	94 %	40 - 140 %
Extraction:	Chloro-octadecane	45	33	74 %	40 - 140 %
	ortho -Terphenyl	45	33	73 %	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.

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **HP-2/MW-2**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-11**
 Sampled: **07-23-11 15:30**
 Received: **07-25-11 19:05**
 Extracted: **07-26-11 13:00**
 Analyzed (AL): **07-28-11 00:36**
 Analyzed (AR): **07-28-11 01:20**
 Analyst: **JJT**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **EP-2432-F**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Volume: **930 mL**
 Final Volume: **1 mL**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	110
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	110
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	BRL		ug/L	110
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	110

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	43	37	86 %	40 - 140 %
	2-Bromonaphthalene	43	35	81 %	40 - 140 %
Extraction:	Chloro-octadecane	43	31	72 %	40 - 140 %
	<i>ortho</i> -Terphenyl	43	35	81 %	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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: MW-202
 Project: Abode Z Development/6463-000
 Client: GeolInsight, Inc.
 Laboratory ID: 143671-12
 Sampled: 07-23-11 16:20
 Received: 07-25-11 19:05
 Extracted: 07-26-11 13:00
 Analyzed (AL): 07-28-11 02:04
 Analyzed (AR): 07-28-11 02:48
 Analyst: JJT

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: EP-2432-F
 Instrument ID: GC-9 Agilent 6890
 Sample Volume: 930 mL
 Final Volume: 1 mL
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	150		ug/L	110
n-C19 to n-C36 Aliphatic Hydrocarbons [†]		BRL	ug/L	110
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	170		ug/L	110
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	170		ug/L	110

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	43	37	85 %	40 - 140 %
	2-Bromonaphthalene	43	36	83 %	40 - 140 %
Extraction:	Chloro-octadecane	43	30	69 %	40 - 140 %
	<i>ortho</i> -Terphenyl	43	36	83 %	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.

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

Field ID: **MW-9**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-13**
 Sampled: **07-23-11 08:12**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 19:13**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

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
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	26		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -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	50	100 %	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.

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

Field ID: **TMW-1**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-14**
 Sampled: **07-23-11 10:07**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 19:53**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	360		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	190		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	290		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	400		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	480		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		ug/L	5
71-43-2	Benzene [⌘]	40		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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	5		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	51	101 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	49	97 %	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.

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

Field ID: **HP-4/MW-4**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-15**
 Sampled: **07-23-11 14:20**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 20:33**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	940		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	530		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	750		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	1,200		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	1,300		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	13		ug/L	5
71-43-2	Benzene [⌘]	200		ug/L	1
108-88-3	Toluene [⌘]	12		ug/L	5
100-41-4	Ethylbenzene [‡]	6		ug/L	5
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	10		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	8		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	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	48	95 %	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.

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

Field ID: **TMW-2**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-16**
 Sampled: **07-23-11 11:02**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 21:13**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	180		ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	300		ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons [†]	420		ug/L	20
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	180		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	720		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	5
91-20-3	Naphthalene	6		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	48	95 %	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.

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

Field ID: **HP-2/MW-2**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-17**
 Sampled: **07-23-11 15:30**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 21:53**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **1**

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
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		ug/L	20
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		ug/L	20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -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	105 %	70 - 130 %
2,5-Dibromotoluene (FID)	50	54	108 %	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.

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

Field ID: **MW-202**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-18**
 Sampled: **07-23-11 16:20**
 Received: **07-25-11 19:05**
 Analyzed: **07-28-11 22:32**
 Analyst: **JFR**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/ Cool**
 QC Batch ID: **VGA-4809-W**
 Instrument ID: **GC-10 Agilent 6890**
 Sample Volume: **5 mL**
 Dilution Factor: **2**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	720		ug/L	40
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	600		ug/L	40
n-C9 to n-C10 Aromatic Hydrocarbons [†]	890		ug/L	40
<u>Unadjusted</u> n-C5 to n-C8 Aliphatic Hydrocarbons [†]	1,000		ug/L	40
<u>Unadjusted</u> n-C9 to n-C12 Aliphatic Hydrocarbons [†]	1,500		ug/L	40

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	36		ug/L	10
71-43-2	Benzene [⌘]	260		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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		ug/L	10
91-20-3	Naphthalene	BRL		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	50	49	99 %	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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID:	B-7 5-7'	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	Geolnsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-19	QC Batch ID:	EP-3250-M
Sampled:	07-22-11 13:20	Instrument ID:	GC-9 Agilent 6890
Received:	07-25-11 19:05	Sample Weight:	16 g
Extracted:	07-28-11 17:00	Final Volume:	1 mL
Analyzed (AL):	07-29-11 10:07	% Solids:	80
Analyzed (AR):	07-29-11 10:51	Aliphatic Dilution Factor:	5
Analyst:	JJT	Aromatic Dilution Factor:	5

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	3,000		mg/Kg	120
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	890		mg/Kg	120
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	2,900		mg/Kg	120

<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	3,000		mg/Kg	120
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	3.0
91-57-6	2-Methylnaphthalene	16		mg/Kg	3.0
85-01-8	Phenanthrene	9.5		mg/Kg	3.0
83-32-9	Acenaphthene	4.9		mg/Kg	3.0
208-96-8	Acenaphthylene	BRL		mg/Kg	3.0
86-73-7	Fluorene	7.1		mg/Kg	3.0
120-12-7	Anthracene	BRL		mg/Kg	3.0
206-44-0	Fluoranthene	9.0		mg/Kg	3.0
129-00-0	Pyrene	7.2		mg/Kg	3.0
56-55-3	Benzo[a]anthracene	3.9		mg/Kg	3.0
218-01-9	Chrysene	4.9		mg/Kg	3.0
205-99-2	Benzo[b]fluoranthene	3.6		mg/Kg	3.0
207-08-9	Benzo[k]fluoranthene	3.6		mg/Kg	3.0
50-32-8	Benzo[a]pyrene	4.1		mg/Kg	3.0
193-39-5	Indeno[1,2,3-c,d]pyrene	3.0		mg/Kg	3.0
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	3.0
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	3.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.2	n/a	d	40 - 140 %
	2-Bromonaphthalene	3.2	n/a	d	40 - 140 %
Extraction:	Chloro-octadecane	3.2	n/a	d	40 - 140 %
	<i>ortho</i> -Terphenyl	3.2	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 11.3.1.1? | 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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **B-13 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-20**
 Sampled: **07-23-11 12:00**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 17:00**
 Analyzed (AL): **07-29-11 00:56**
 Analyzed (AR): **07-29-11 01:40**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3250-M**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Weight: **16 g**
 Final Volume: **1 mL**
 % Solids: **69**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	130		mg/Kg	27
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	410		mg/Kg	27
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	370		mg/Kg	27
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	430		mg/Kg	27

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	0.87		mg/Kg	0.68
91-57-6	2-Methylnaphthalene	0.71		mg/Kg	0.68
85-01-8	Phenanthrene	3.8		mg/Kg	0.68
83-32-9	Acenaphthene	2.2		mg/Kg	0.68
208-96-8	Acenaphthylene	BRL		mg/Kg	0.68
86-73-7	Fluorene	1.3		mg/Kg	0.68
120-12-7	Anthracene	1.3		mg/Kg	0.68
206-44-0	Fluoranthene	12		mg/Kg	0.68
129-00-0	Pyrene	8.8		mg/Kg	0.68
56-55-3	Benzo[a]anthracene	3.6		mg/Kg	0.68
218-01-9	Chrysene	5.3		mg/Kg	0.68
205-99-2	Benzo[b]fluoranthene	3.8		mg/Kg	0.68
207-08-9	Benzo[k]fluoranthene	3.1		mg/Kg	0.68
50-32-8	Benzo[a]pyrene	2.9		mg/Kg	0.68
193-39-5	Indeno[1,2,3-c,d]pyrene	2.0		mg/Kg	0.68
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.68
191-24-2	Benzo[g,h,i]perylene	2.0		mg/Kg	0.68

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.6	3.2	88 %	40 - 140 %
	2-Bromonaphthalene	3.6	3.2	88 %	40 - 140 %
Extraction:	Chloro-octadecane	3.6	2.5	69 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.6	2.8	76 %	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 11.3.1.1?	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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **B-9 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-21**
 Sampled: **07-23-11 12:45**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 17:00**
 Analyzed (AL): **07-29-11 02:24**
 Analyzed (AR): **07-29-11 03:08**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3250-M**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **77**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	270		mg/Kg	25
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	360		mg/Kg	25
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	460		mg/Kg	25
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	520		mg/Kg	25

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	2.3		mg/Kg	0.63
91-57-6	2-Methylnaphthalene	2.8		mg/Kg	0.63
85-01-8	Phenanthrene	5.6		mg/Kg	0.63
83-32-9	Acenaphthene	1.1		mg/Kg	0.63
208-96-8	Acenaphthylene	BRL		mg/Kg	0.63
86-73-7	Fluorene	1.3		mg/Kg	0.63
120-12-7	Anthracene	1.5		mg/Kg	0.63
206-44-0	Fluoranthene	8.0		mg/Kg	0.63
129-00-0	Pyrene	7.1		mg/Kg	0.63
56-55-3	Benzo[a]anthracene	4.0		mg/Kg	0.63
218-01-9	Chrysene	4.8		mg/Kg	0.63
205-99-2	Benzo[b]fluoranthene	3.6		mg/Kg	0.63
207-08-9	Benzo[k]fluoranthene	3.4		mg/Kg	0.63
50-32-8	Benzo[a]pyrene	3.9		mg/Kg	0.63
193-39-5	Indeno[1,2,3-c,d]pyrene	2.6		mg/Kg	0.63
53-70-3	Dibenzof[a,h]anthracene	0.69		mg/Kg	0.63
191-24-2	Benzo[g,h,i]perylene	2.2		mg/Kg	0.63

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.4	2.6	78 %	40 - 140 %
	2-Bromonaphthalene	3.4	2.5	74 %	40 - 140 %
Extraction:	Chloro-octadecane	3.4	2.1	61 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.4	2.2	65 %	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 11.3.1.1?	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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **B-6 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-22**
 Sampled: **07-24-11 08:04**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 17:00**
 Analyzed (AL): **07-29-11 10:05**
 Analyzed (AR): **07-29-11 10:45**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3250-M**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **78**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **5**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	140		mg/Kg	25
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	690		mg/Kg	25
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	830		mg/Kg	130

<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	1,000		mg/Kg	130
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	3.2
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	3.2
85-01-8	Phenanthrene	31		mg/Kg	3.2
83-32-9	Acenaphthene	3.6		mg/Kg	3.2
208-96-8	Acenaphthylene	BRL		mg/Kg	3.2
86-73-7	Fluorene	5.2		mg/Kg	3.2
120-12-7	Anthracene	8.1		mg/Kg	3.2
206-44-0	Fluoranthene	32		mg/Kg	3.2
129-00-0	Pyrene	27		mg/Kg	3.2
56-55-3	Benzo[a]anthracene	13		mg/Kg	3.2
218-01-9	Chrysene	16		mg/Kg	3.2
205-99-2	Benzo[b]fluoranthene	10		mg/Kg	3.2
207-08-9	Benzo[k]fluoranthene	8.9		mg/Kg	3.2
50-32-8	Benzo[a]pyrene	12		mg/Kg	3.2
193-39-5	Indeno[1,2,3-c,d]pyrene	6.3		mg/Kg	3.2
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	3.2
191-24-2	Benzo[g,h,i]perylene	4.9		mg/Kg	3.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.4	n/a	d	40 - 140 %
	2-Bromonaphthalene	3.4	n/a	d	40 - 140 %
Extraction:	Chloro-octadecane	3.4	2.5	73 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.4	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 11.3.1.1? | 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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **B-2 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-23**
 Sampled: **07-24-11 09:33**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 17:00**
 Analyzed (AL): **07-29-11 05:19**
 Analyzed (AR): **07-29-11 06:03**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3250-M**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **60**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	120		mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	1,700		mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	1,600		mg/Kg	32

<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	1,700		mg/Kg	32
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.81
91-57-6	2-Methylnaphthalene	1.1		mg/Kg	0.81
85-01-8	Phenanthrene	11		mg/Kg	0.81
83-32-9	Acenaphthene	1.2		mg/Kg	0.81
208-96-8	Acenaphthylene	BRL		mg/Kg	0.81
86-73-7	Fluorene	1.7		mg/Kg	0.81
120-12-7	Anthracene	2.6		mg/Kg	0.81
206-44-0	Fluoranthene	15		mg/Kg	0.81
129-00-0	Pyrene	12		mg/Kg	0.81
56-55-3	Benzo[a]anthracene	6.2		mg/Kg	0.81
218-01-9	Chrysene	8.3		mg/Kg	0.81
205-99-2	Benzo[b]fluoranthene	4.7		mg/Kg	0.81
207-08-9	Benzo[k]fluoranthene	4.4		mg/Kg	0.81
50-32-8	Benzo[a]pyrene	3.5		mg/Kg	0.81
193-39-5	Indeno[1,2,3-c,d]pyrene	2.7		mg/Kg	0.81
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.81
191-24-2	Benzo[g,h,i]perylene	2.7		mg/Kg	0.81

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	4.3	3.1	72 %	40 - 140 %
	2-Bromonaphthalene	4.3	3.2	74 %	40 - 140 %
Extraction:	Chloro-octadecane	4.3	2.8	65 %	40 - 140 %
	<i>ortho</i> -Terphenyl	4.3	3.0	70 %	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 11.3.1.1?			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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

**Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID**

Field ID: **B-9A 2-4'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-24**
 Sampled: **07-24-11 11:15**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 17:00**
 Analyzed (AL): **07-29-11 06:47**
 Analyzed (AR): **07-29-11 07:31**
 Analyst: **JJT**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **EP-3250-M**
 Instrument ID: **GC-9 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **1 mL**
 % Solids: **83**
 Aliphatic Dilution Factor: **1**
 Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]		BRL	mg/Kg	24
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	130		mg/Kg	24
n-C11 to n-C22 Aromatic Hydrocarbons [†] ◊	63		mg/Kg	24
<u>Unadjusted</u> n-C11 to n-C22 Aromatic Hydrocarbons [†]	70		mg/Kg	24

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.59
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.59
85-01-8	Phenanthrene	BRL		mg/Kg	0.59
83-32-9	Acenaphthene	BRL		mg/Kg	0.59
208-96-8	Acenaphthylene	BRL		mg/Kg	0.59
86-73-7	Fluorene	BRL		mg/Kg	0.59
120-12-7	Anthracene	BRL		mg/Kg	0.59
206-44-0	Fluoranthene	0.95		mg/Kg	0.59
129-00-0	Pyrene	0.85		mg/Kg	0.59
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.59
218-01-9	Chrysene	0.73		mg/Kg	0.59
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.59
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.59
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.59
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.59
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.59
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.59

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.2	3.0	94 %	40 - 140 %
	2-Bromonaphthalene	3.2	3.0	94 %	40 - 140 %
Extraction:	Chloro-octadecane	3.2	2.8	89 %	40 - 140 %
	<i>ortho</i> -Terphenyl	3.2	3.2	101 %	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 11.3.1.1?	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 Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
 Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

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.

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

Field ID: B-7 5-7'
Project: Abode Z Development/6463-000
Client: Geolnsight, Inc.
Laboratory ID: 143671-25
Sampled: 07-22-11 13:20
Received: 07-25-11 19:05
Analyzed: 07-29-11 14:32
Analyst: TRA

Matrix: Soil
Container: 40 mL VOA Vial
Preservation: Methanol/ Cool
QC Batch ID: VP-1784-E
Instrument ID: GC-1 HP 5890
Sample Weight: 11 g
Final Volume: 15 mL
% Solids: 80
Dilution Factor: 2

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	230		mg/Kg	4.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	230		mg/Kg	4.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	260		mg/Kg	4.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	230		mg/Kg	4.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	500		mg/Kg	4.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	0.48		mg/Kg	0.20
71-43-2	Benzene [⌘]	2.2		mg/Kg	0.40
108-88-3	Toluene [⌘]	2.1		mg/Kg	0.40
100-41-4	Ethylbenzene [‡]	3.0		mg/Kg	0.40
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	2.3		mg/Kg	0.40
95-47-6	<i>ortho</i> -Xylene [‡]	2.1		mg/Kg	0.40
91-20-3	Naphthalene	5.6		mg/Kg	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	3.7	75 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	6.2	125 %	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).
Results are reported on a dry weight basis.

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.

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

Field ID: **B-13 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-26**
 Sampled: **07-23-11 12:00**
 Received: **07-25-11 19:05**
 Analyzed: **07-29-11 15:13**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1784-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **14 g**
 Final Volume: **15 mL**
 % Solids: **69**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	58		mg/Kg	2.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	68		mg/Kg	2.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	83		mg/Kg	2.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	61		mg/Kg	2.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	160		mg/Kg	2.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	0.72		mg/Kg	0.10
71-43-2	Benzene [⌘]	1.4		mg/Kg	0.20
108-88-3	Toluene [⌘]	0.71		mg/Kg	0.20
100-41-4	Ethylbenzene [‡]	1.7		mg/Kg	0.20
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	1.5		mg/Kg	0.20
95-47-6	<i>ortho</i> -Xylene [‡]	1.1		mg/Kg	0.20
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	4.9	98 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	4.7	93 %	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).
 Results are reported on a dry weight basis.

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.

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

Field ID: **B-9 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-27**
 Sampled: **07-23-11 12:45**
 Received: **07-25-11 19:05**
 Analyzed: **07-29-11 15:55**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1784-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **12 g**
 Final Volume: **15 mL**
 % Solids: **77**
 Dilution Factor: **5**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	670		mg/Kg	9.9
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	350		mg/Kg	9.9
n-C9 to n-C10 Aromatic Hydrocarbons [†]	320		mg/Kg	9.9
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	690		mg/Kg	9.9
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	700		mg/Kg	9.9

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.50
71-43-2	Benzene [⌘]	6.9		mg/Kg	0.99
108-88-3	Toluene [⌘]	9.0		mg/Kg	0.99
100-41-4	Ethylbenzene [‡]	13		mg/Kg	0.99
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	9.0		mg/Kg	0.99
95-47-6	<i>ortho</i> -Xylene [‡]	5.9		mg/Kg	0.99
91-20-3	Naphthalene	BRL		mg/Kg	2.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	5.5	112 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	4.5	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).
 Results are reported on a dry weight basis.

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.

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

Field ID: **B-6 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-28**
 Sampled: **07-24-11 08:04**
 Received: **07-25-11 19:05**
 Analyzed: **07-29-11 16:36**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1784-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **12 g**
 Final Volume: **15 mL**
 % Solids: **78**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	130		mg/Kg	1.9
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	65		mg/Kg	1.9
n-C9 to n-C10 Aromatic Hydrocarbons [†]	32		mg/Kg	1.9
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	140		mg/Kg	1.9
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	100		mg/Kg	1.9

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	0.15		mg/Kg	0.09
71-43-2	Benzene [⌘]	1.1		mg/Kg	0.19
108-88-3	Toluene [⌘]	1.1		mg/Kg	0.19
100-41-4	Ethylbenzene [‡]	2.9		mg/Kg	0.19
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	0.63		mg/Kg	0.19
95-47-6	<i>ortho</i> -Xylene [‡]	0.33		mg/Kg	0.19
91-20-3	Naphthalene	BRL		mg/Kg	0.46

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	4.6	3.7	79 %	70 - 130 %
2,5-Dibromotoluene (FID)	4.6	3.7	80 %	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).
 Results are reported on a dry weight basis.

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.

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

Field ID: B-2 5-7'
Project: Abode Z Development/6463-000
Client: Geolnsight, Inc.
Laboratory ID: 143671-29
Sampled: 07-24-11 09:33
Received: 07-25-11 19:05
Analyzed: 07-29-11 17:17
Analyst: TRA

Matrix: Soil
Container: 40 mL VOA Vial
Preservation: Methanol/ Cool
QC Batch ID: VP-1784-E
Instrument ID: GC-1 HP 5890
Sample Weight: 10 g
Final Volume: 15 mL
% Solids: 60
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	72		mg/Kg	3.1
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	20		mg/Kg	3.1
n-C9 to n-C10 Aromatic Hydrocarbons [†]	18		mg/Kg	3.1
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	74		mg/Kg	3.1
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	40		mg/Kg	3.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	0.41		mg/Kg	0.16
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.31
108-88-3	Toluene [⌘]	0.82		mg/Kg	0.31
100-41-4	Ethylbenzene [‡]	1.0		mg/Kg	0.31
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.31
95-47-6	<i>ortho</i> -Xylene [‡]	0.33		mg/Kg	0.31
91-20-3	Naphthalene	BRL		mg/Kg	0.78

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	7.8	7.3	94 %	70 - 130 %
2,5-Dibromotoluene (FID)	7.8	7.0	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).
Results are reported on a dry weight basis.

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.

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

Field ID: **B-9A 2-4'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-30**
 Sampled: **07-24-11 11:15**
 Received: **07-25-11 19:05**
 Analyzed: **07-29-11 17:58**
 Analyst: **TRA**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VP-1784-E**
 Instrument ID: **GC-1 HP 5890**
 Sample Weight: **11 g**
 Final Volume: **15 mL**
 % Solids: **83**
 Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	2.2		mg/Kg	1.9
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.9
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.9
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	2.3		mg/Kg	1.9
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.9

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.1
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.19
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.19
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.19
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.19
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.19
91-20-3	Naphthalene	BRL		mg/Kg	0.48

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	4.8	3.7	78 %	70 - 130 %
2,5-Dibromotoluene (FID)	4.8	3.9	80 %	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).
 Results are reported on a dry weight basis.

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.

**EPA Method 8011 (Modified)
EDB by GC/ECD**

Field ID:	B-13 5-7'	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	Geolnsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-20	QC Batch ID:	PV-0227-S
Sampled:	07-23-11 12:00	Instrument ID:	GC-6 HP 5890
Received:	07-25-11 19:05	Sample Weight:	5 g
Extracted:	07-27-11 14:00	Final Volume:	1 mL
Analyzed:	07-28-11 16:56	Percent Solids:	69
Analyst:	CRL	Dilution Factor:	1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	2.9

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	1,1,1,2-Tetrachloroethane	5.8	3.2 55 % m	70 - 130 %
Second Column	1,1,1,2-Tetrachloroethane	5.8	2.5 43 % m	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Modified with guidance from "Determination of 1,2-Dibromoethane (EDB) in Field Soils: Implications for Volatile Organic Compounds," B.L. Sawhney, J.J. Pignatello, and S.M. Steinberg, Journal of Environmental Quality, Vol. 17, No. 1, January - March 1988. Results are reported on a dry weight basis.

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.
m Surrogate recovery outside recommended limits due to sample matrix interference.

Trace Metals

Field ID: **B-7 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-19**
 Sampled: **07-22-11 13:20**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **80**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.51 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	8.3		mg/Kg	3.7	1	07-28-11 15:35	EPA 6010B ¹
7440-39-3	Barium, Total	180		mg/Kg	6.2	1	07-28-11 15:35	EPA 6010B ¹
7440-43-9	Cadmium, Total	3.3		mg/Kg	0.62	1	07-28-11 15:35	EPA 6010B ¹
7440-47-3	Chromium, Total	22		mg/Kg	1.2	1	07-28-11 15:35	EPA 6010B ¹
7439-92-1	Lead, Total	1100		mg/Kg	6.2	1	07-28-11 15:35	EPA 6010B ¹
7439-97-6	Mercury, Total	0.51		mg/Kg	0.021	1	07-29-11 10:19	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	6.2	1	07-28-11 15:35	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.2	1	07-28-11 15:35	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **B-9 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-21**
 Sampled: **07-23-11 12:45**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **77**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.515 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	6.4		mg/Kg	3.8	1	07-28-11 15:41	EPA 6010B ¹
7440-39-3	Barium, Total	320		mg/Kg	6.3	1	07-28-11 15:41	EPA 6010B ¹
7440-43-9	Cadmium, Total	1.7		mg/Kg	0.63	1	07-28-11 15:41	EPA 6010B ¹
7440-47-3	Chromium, Total	17		mg/Kg	1.3	1	07-28-11 15:41	EPA 6010B ¹
7439-92-1	Lead, Total	620		mg/Kg	6.3	1	07-28-11 15:41	EPA 6010B ¹
7439-97-6	Mercury, Total	52		mg/Kg	1.1	50	07-29-11 10:29	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	6.3	1	07-28-11 15:41	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.3	1	07-28-11 15:41	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **B-6 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-22**
 Sampled: **07-24-11 08:04**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **78**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.52 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	7.1		mg/Kg	3.7	1	07-28-11 15:47	EPA 6010B ¹
7440-39-3	Barium, Total	210		mg/Kg	6.2	1	07-28-11 15:47	EPA 6010B ¹
7440-43-9	Cadmium, Total	3.4		mg/Kg	0.62	1	07-28-11 15:47	EPA 6010B ¹
7440-47-3	Chromium, Total	28		mg/Kg	1.2	1	07-28-11 15:47	EPA 6010B ¹
7439-92-1	Lead, Total	380		mg/Kg	6.2	1	07-28-11 15:47	EPA 6010B ¹
7439-97-6	Mercury, Total	0.66		mg/Kg	0.021	1	07-29-11 10:32	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	6.2	1	07-28-11 15:47	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.2	1	07-28-11 15:47	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **B-2 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-23**
 Sampled: **07-24-11 09:33**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **60**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.485 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	7.4		mg/Kg	5.2	1	07-28-11 15:54	EPA 6010B ¹
7440-39-3	Barium, Total	340		mg/Kg	8.6	1	07-28-11 15:53	EPA 6010B ¹
7440-43-9	Cadmium, Total	6.7		mg/Kg	0.86	1	07-28-11 15:54	EPA 6010B ¹
7440-47-3	Chromium, Total	44		mg/Kg	1.7	1	07-28-11 15:53	EPA 6010B ¹
7439-92-1	Lead, Total	1000		mg/Kg	8.6	1	07-28-11 15:53	EPA 6010B ¹
7439-97-6	Mercury, Total	1.4		mg/Kg	0.027	1	07-29-11 10:35	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	8.6	1	07-28-11 15:54	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.7	1	07-28-11 15:53	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **B-9A 2-4'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-24**
 Sampled: **07-24-11 11:15**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **83**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.49 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	5.4		mg/Kg	3.7	1	07-28-11 16:00	EPA 6010B ¹
7440-39-3	Barium, Total	130		mg/Kg	6.2	1	07-28-11 16:00	EPA 6010B ¹
7440-43-9	Cadmium, Total	2.8		mg/Kg	0.62	1	07-28-11 16:00	EPA 6010B ¹
7440-47-3	Chromium, Total	17		mg/Kg	1.2	1	07-28-11 16:00	EPA 6010B ¹
7439-92-1	Lead, Total	97		mg/Kg	6.2	1	07-28-11 16:00	EPA 6010B ¹
7439-97-6	Mercury, Total	0.19		mg/Kg	0.021	1	07-29-11 10:39	EPA 7471A ²
7782-49-2	Selenium, Total		BRL	mg/Kg	6.2	1	07-28-11 16:00	EPA 6010B ¹
7440-22-4	Silver, Total		BRL	mg/Kg	1.2	1	07-28-11 16:00	EPA 6010B ¹

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **Wheeler St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-34**
 Sampled: **07-22-11 13:55**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **79**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.505 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	4.9		mg/Kg	3.8	1	07-28-11 16:04	EPA 6010B ¹
7440-43-9	Cadmium, Total	1.3		mg/Kg	0.63	1	07-28-11 16:04	EPA 6010B ¹
7440-47-3	Chromium, Total	17		mg/Kg	1.3	1	07-28-11 16:04	EPA 6010B ¹
7439-92-1	Lead, Total	760		mg/Kg	6.3	1	07-28-11 16:04	EPA 6010B ¹
7439-97-6	Mercury, Total	0.23		mg/Kg	0.021	1	07-29-11 10:48	EPA 7471A ²

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **603 Concord St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-35**
 Sampled: **07-23-11 13:20**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **82**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.515 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	5.7		mg/Kg	3.6	1	07-28-11 16:20	EPA 6010B ¹
7440-43-9	Cadmium, Total	1.3		mg/Kg	0.59	1	07-28-11 16:20	EPA 6010B ¹
7440-47-3	Chromium, Total	15		mg/Kg	1.2	1	07-28-11 16:20	EPA 6010B ¹
7439-92-1	Lead, Total	130		mg/Kg	5.9	1	07-28-11 16:20	EPA 6010B ¹
7439-97-6	Mercury, Total	1.1		mg/Kg	0.1	5	07-29-11 10:52	EPA 7471A ²

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

Trace Metals

Field ID: **615 Concord Ave. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-36**
 Sampled: **07-24-11 11:25**
 Received: **07-25-11 19:05**

Matrix: **Soil**
 Container: **120 mL Glass**
 Preservation: **Cool**
 Percent Solids: **70**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B ¹	MB-02056-S	EPA 3050B	07-27-11 00:00	0.515 g	ICP-1 PE 3000	LMS
EPA 7471A ²	MP-2687-S	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	5		mg/Kg	4.2	1	07-28-11 16:26	EPA 6010B ¹
7440-43-9	Cadmium, Total	2.2		mg/Kg	0.7	1	07-28-11 16:26	EPA 6010B ¹
7440-47-3	Chromium, Total	31		mg/Kg	1.4	1	07-28-11 16:26	EPA 6010B ¹
7439-92-1	Lead, Total	790		mg/Kg	7	1	07-28-11 16:26	EPA 6010B ¹
7439-97-6	Mercury, Total	0.77		mg/Kg	0.024	1	07-29-11 10:55	EPA 7471A ²

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Results are reported on a dry weight basis.

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.
 DF Dilution Factor.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **Wheeler St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-31**
 Sampled: **07-22-11 13:55**
 Received: **07-25-11 19:05**
 Analyzed: **07-27-11 10:29**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1481-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **12 g**
 Final Volume: **15 mL**
 % Solids: **79**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	790
74-87-3	Chloromethane	BRL		ug/Kg	790
75-01-4	Vinyl Chloride	BRL		ug/Kg	790
74-83-9	Bromomethane	BRL		ug/Kg	790
75-00-3	Chloroethane	BRL		ug/Kg	790
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	790
60-29-7	Diethyl Ether	BRL		ug/Kg	790
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	390
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,900
67-64-1	Acetone	BRL		ug/Kg	3,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,900
75-09-2	Methylene Chloride	BRL		ug/Kg	1,600
107-13-1	Acrylonitrile	BRL		ug/Kg	390
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	390
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	390
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	390
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	390
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	390
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,900
74-97-5	Bromochloromethane	BRL		ug/Kg	390
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,900
67-66-3	Chloroform	BRL		ug/Kg	390
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	390
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	390
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	390
71-43-2	Benzene	BRL		ug/Kg	390
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	390
79-01-6	Trichloroethene	BRL		ug/Kg	390
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	390
74-95-3	Dibromomethane	BRL		ug/Kg	390
75-27-4	Bromodichloromethane	BRL		ug/Kg	390
123-91-1	1,4-Dioxane	BRL		ug/Kg	390,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	390
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,900
108-88-3	Toluene	BRL		ug/Kg	390
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	390
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	390
127-18-4	Tetrachloroethene	BRL		ug/Kg	390
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	390
591-78-6	2-Hexanone	BRL		ug/Kg	3,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	790
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	390
108-90-7	Chlorobenzene	BRL		ug/Kg	390
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	390
100-41-4	Ethylbenzene	BRL		ug/Kg	390
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	390

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **Wheeler St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-31**
 Sampled: **07-22-11 13:55**
 Received: **07-25-11 19:05**
 Analyzed: **07-27-11 10:29**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1481-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **12 g**
 Final Volume: **15 mL**
 % Solids: **79**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	390
100-42-5	Styrene	BRL		ug/Kg	390
75-25-2	Bromoform	BRL		ug/Kg	790
98-82-8	Isopropylbenzene	840		ug/Kg	390
108-86-1	Bromobenzene	BRL		ug/Kg	390
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	390
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	390
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	3,900
103-65-1	<i>n</i> -Propylbenzene	1,500		ug/Kg	390
95-49-8	2-Chlorotoluene	BRL		ug/Kg	390
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	390
106-43-4	4-Chlorotoluene	BRL		ug/Kg	390
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	390
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	390
135-98-8	<i>sec</i> -Butylbenzene	780		ug/Kg	390
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	390
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	390
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	390
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	390
104-51-8	<i>n</i> -Butylbenzene	910		ug/Kg	390
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	790
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	390
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	390
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	390
91-20-3	Naphthalene	BRL		ug/Kg	790
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	790
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	16,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	390
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	390
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	390

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	79 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,300	92 %	70 - 130 %
Toluene-d ₈	2,500	2,400	98 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,100	85 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

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.

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **603 Concord St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-32**
 Sampled: **07-23-11 13:20**
 Received: **07-25-11 19:05**
 Analyzed: **07-27-11 13:06**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1481-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **16 g**
 Final Volume: **15 mL**
 % Solids: **82**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	580
74-87-3	Chloromethane	BRL		ug/Kg	580
75-01-4	Vinyl Chloride	BRL		ug/Kg	580
74-83-9	Bromomethane	BRL		ug/Kg	580
75-00-3	Chloroethane	BRL		ug/Kg	580
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	580
60-29-7	Diethyl Ether	BRL		ug/Kg	580
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	290
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,900
67-64-1	Acetone	BRL		ug/Kg	2,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,900
75-09-2	Methylene Chloride	BRL		ug/Kg	1,200
107-13-1	Acrylonitrile	BRL		ug/Kg	290
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	290
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	290
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	290
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	290
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	290
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,900
74-97-5	Bromochloromethane	BRL		ug/Kg	290
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,900
67-66-3	Chloroform	BRL		ug/Kg	290
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	290
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	290
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	290
71-43-2	Benzene	BRL		ug/Kg	290
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	290
79-01-6	Trichloroethene	BRL		ug/Kg	290
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	290
74-95-3	Dibromomethane	BRL		ug/Kg	290
75-27-4	Bromodichloromethane	BRL		ug/Kg	290
123-91-1	1,4-Dioxane	BRL		ug/Kg	290,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	290
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,900
108-88-3	Toluene	BRL		ug/Kg	290
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	290
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	290
127-18-4	Tetrachloroethene	BRL		ug/Kg	290
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	290
591-78-6	2-Hexanone	BRL		ug/Kg	2,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	580
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	290
108-90-7	Chlorobenzene	BRL		ug/Kg	290
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	290
100-41-4	Ethylbenzene	350		ug/Kg	290
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	470		ug/Kg	290

EPA Method 8260B Volatile Organics by GC/MS

Field ID: **603 Concord St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**
 Laboratory ID: **143671-32**
 Sampled: **07-23-11 13:20**
 Received: **07-25-11 19:05**
 Analyzed: **07-27-11 13:06**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Methanol/ Cool**
 QC Batch ID: **VM8-1481-E**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **16 g**
 Final Volume: **15 mL**
 % Solids: **82**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	290
100-42-5	Styrene	BRL		ug/Kg	290
75-25-2	Bromoform	BRL		ug/Kg	580
98-82-8	Isopropylbenzene	1,500		ug/Kg	290
108-86-1	Bromobenzene	BRL		ug/Kg	290
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	290
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	290
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	2,900
103-65-1	<i>n</i> -Propylbenzene	3,600		ug/Kg	290
95-49-8	2-Chlorotoluene	BRL		ug/Kg	290
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	290
106-43-4	4-Chlorotoluene	BRL		ug/Kg	290
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	290
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	290
135-98-8	<i>sec</i> -Butylbenzene	410		ug/Kg	290
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	290
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	290
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	290
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	290
104-51-8	<i>n</i> -Butylbenzene	680		ug/Kg	290
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	580
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	290
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	290
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	290
91-20-3	Naphthalene	BRL		ug/Kg	580
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	580
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	12,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	290
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	290
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	290

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	1,800	73 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,100	85 %	70 - 130 %
Toluene-d ₈	2,500	2,300	94 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,000	81 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

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.

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **615 Concord Ave. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-33**
 Sampled: **07-24-11 11:25**
 Received: **07-25-11 19:05**
 Frozen: **07-25-11 19:05**
 Analyzed: **07-28-11 11:26**
 Analyst: **LMG**

Matrix: **Soil**
 Container: **40 mL VOA Vial**
 Preservation: **Frozen**
 QC Batch ID: **VM8-1482-S**
 Instrument ID: **MS-8 HP 6890**
 Sample Weight: **3.3 g**
 % Solids: **70**
 Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	22
74-87-3	Chloromethane	BRL		ug/Kg	22
75-01-4	Vinyl Chloride	BRL		ug/Kg	22
74-83-9	Bromomethane	BRL		ug/Kg	22
75-00-3	Chloroethane	BRL		ug/Kg	22
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	22
60-29-7	Diethyl Ether	BRL		ug/Kg	22
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	11
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	110
67-64-1	Acetone	BRL		ug/Kg	430
75-15-0	Carbon Disulfide	BRL		ug/Kg	110
75-09-2	Methylene Chloride	BRL		ug/Kg	110
107-13-1	Acrylonitrile	BRL		ug/Kg	11
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	11
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	11
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	11
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	11
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	11
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	110
74-97-5	Bromochloromethane	BRL		ug/Kg	11
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	110
67-66-3	Chloroform	BRL		ug/Kg	11
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	11
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	11
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	11
71-43-2	Benzene	BRL		ug/Kg	11
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	11
79-01-6	Trichloroethene	BRL		ug/Kg	11
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	11
74-95-3	Dibromomethane	BRL		ug/Kg	11
75-27-4	Bromodichloromethane	BRL		ug/Kg	11
123-91-1	1,4-Dioxane	BRL		ug/Kg	11,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	11
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	110
108-88-3	Toluene	BRL		ug/Kg	11
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	11
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	11
127-18-4	Tetrachloroethene	BRL		ug/Kg	11
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	11
591-78-6	2-Hexanone	BRL		ug/Kg	110
124-48-1	Dibromochloromethane	BRL		ug/Kg	22
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	11
108-90-7	Chlorobenzene	BRL		ug/Kg	11
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	11
100-41-4	Ethylbenzene	BRL		ug/Kg	11

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **615 Concord Ave. Comp.**
Project: **Abode Z Development/6463-000**
Client: **Geolnsight, Inc.**

Laboratory ID: **143671-33**
Sampled: **07-24-11 11:25**
Received: **07-25-11 19:05**
Frozen: **07-25-11 19:05**
Analyzed: **07-28-11 11:26**
Analyst: **LMG**

Matrix: **Soil**
Container: **40 mL VOA Vial**
Preservation: **Frozen**

QC Batch ID: **VM8-1482-S**
Instrument ID: **MS-8 HP 6890**
Sample Weight: **3.3 g**
% Solids: **70**
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/Kg	11
95-47-6	<i>ortho</i> -Xylene	BRL		ug/Kg	11
100-42-5	Styrene	BRL		ug/Kg	11
75-25-2	Bromoform	BRL		ug/Kg	22
98-82-8	Isopropylbenzene	BRL		ug/Kg	11
108-86-1	Bromobenzene	BRL		ug/Kg	11
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	11
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	11
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	110
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	11
95-49-8	2-Chlorotoluene	BRL		ug/Kg	11
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	11
106-43-4	4-Chlorotoluene	BRL		ug/Kg	11
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	11
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	11
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	11
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	11
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	11
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	11
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	11
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	11
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	22
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	11
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	11
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	11
91-20-3	Naphthalene	BRL		ug/Kg	22
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	22
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	430
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	11
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	11
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	11

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	37	74 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	47	94 %	70 - 130 %
Toluene-d ₈	50	48	97 %	70 - 130 %
4-Bromofluorobenzene	50	41	81 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

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.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **B-9 5-7'**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-21**
 Sampled: **07-23-11 12:45**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 10:30**
 Cleaned Up: **07-28-11 20:30**
 Analyzed: **07-29-11 01:38**
 Analyst: **CRL**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-3777-P**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **16 g**
 Final Volume: **10 mL**
 Percent Solids: **77**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	98
11104-28-2	Aroclor 1221		BRL	ug/Kg	98
11141-16-5	Aroclor 1232		BRL	ug/Kg	98
53469-21-9	Aroclor 1242		BRL	ug/Kg	98
12672-29-6	Aroclor 1248		BRL	ug/Kg	98
11097-69-1	Aroclor 1254		BRL	ug/Kg	98
11096-82-5	Aroclor 1260		BRL	ug/Kg	98
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	98
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	98

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	16	15	93 %	30 - 150 %
	Decachlorobiphenyl	16	7	45 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	16	15	93 %	30 - 150 %
	Decachlorobiphenyl	16	9	52 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
 Results are reported on a dry weight basis.

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.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Wheeler St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-34**
 Sampled: **07-22-11 13:55**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 10:30**
 Cleaned Up: **07-28-11 20:30**
 Analyzed: **07-29-11 02:02**
 Analyst: **CRL**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-3777-P**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **15 g**
 Final Volume: **10 mL**
 Percent Solids: **79**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	99
11104-28-2	Aroclor 1221		BRL	ug/Kg	99
11141-16-5	Aroclor 1232		BRL	ug/Kg	99
53469-21-9	Aroclor 1242		BRL	ug/Kg	99
12672-29-6	Aroclor 1248		BRL	ug/Kg	99
11097-69-1	Aroclor 1254		BRL	ug/Kg	99
11096-82-5	Aroclor 1260		BRL	ug/Kg	99
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	99
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	99

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	16	13	82 %	30 - 150 %
	Decachlorobiphenyl	16	8	46 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	16	14	87 %	30 - 150 %
	Decachlorobiphenyl	16	9	56 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
 Results are reported on a dry weight basis.

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.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **603 Concord St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**
 Laboratory ID: **143671-35**
 Sampled: **07-23-11 13:20**
 Received: **07-25-11 19:05**
 Extracted: **07-28-11 10:30**
 Cleaned Up: **07-28-11 20:30**
 Analyzed: **07-29-11 02:26**
 Analyst: **CRL**

Matrix: **Soil**
 Container: **120 mL Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-3777-P**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **16 g**
 Final Volume: **10 mL**
 Percent Solids: **82**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	94
11104-28-2	Aroclor 1221		BRL	ug/Kg	94
11141-16-5	Aroclor 1232		BRL	ug/Kg	94
53469-21-9	Aroclor 1242		BRL	ug/Kg	94
12672-29-6	Aroclor 1248		BRL	ug/Kg	94
11097-69-1	Aroclor 1254		BRL	ug/Kg	94
11096-82-5	Aroclor 1260		BRL	ug/Kg	94
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	94
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	94

QC Surrogate Compound	Analyte	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	16	14	91 %	30 - 150 %
	Decachlorobiphenyl	16	7	46 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	16	14	88 %	30 - 150 %
	Decachlorobiphenyl	16	8	52 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
 Results are reported on a dry weight basis.

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.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID:	615 Concord Ave. Comp.	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	Geolnsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-36	QC Batch ID:	PB-3777-P
Sampled:	07-24-11 11:25	Instrument ID:	GC-13 Agilent 6890
Received:	07-25-11 19:05	Sample Weight:	15 g
Extracted:	07-28-11 10:30	Final Volume:	10 mL
Cleaned Up:	07-28-11 20:30	Percent Solids:	70
Analyzed:	07-29-11 02:49	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	110
11104-28-2	Aroclor 1221		BRL	ug/Kg	110
11141-16-5	Aroclor 1232		BRL	ug/Kg	110
53469-21-9	Aroclor 1242		BRL	ug/Kg	110
12672-29-6	Aroclor 1248		BRL	ug/Kg	110
11097-69-1	Aroclor 1254		BRL	ug/Kg	110
11096-82-5	Aroclor 1260		BRL	ug/Kg	110
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	110
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	110

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	19	17	88 %	30 - 150 %
	Decachlorobiphenyl	19	8	44 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	19	17	91 %	30 - 150 %
	Decachlorobiphenyl	19	10	50 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on a dry weight basis.

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.

† Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	Wheeler St. Comp.	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-34	QC Batch ID:	HF-3226-M
Sampled:	07-22-11 13:55	Instrument ID:	GC4 HP 5890
Received:	07-25-11 19:05	Sample Weight:	16 g
Extracted:	07-28-11 20:30	Final Volume:	1 mL
Analyzed:	08-01-11 12:15	Dilution Factor:	5
Analyst:	MB	% Solids:	79

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	3,000		mg/Kg	360

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	3.2	NA	d	30 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3546. Results are reported on a dry weight basis.

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.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	603 Concord St. Comp.	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-35	QC Batch ID:	HF-3226-M
Sampled:	07-23-11 13:20	Instrument ID:	GC4 HP 5890
Received:	07-25-11 19:05	Sample Weight:	15 g
Extracted:	07-28-11 20:30	Final Volume:	1 mL
Analyzed:	08-01-11 13:10	Dilution Factor:	2
Analyst:	MB	% Solids:	82

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	510		mg/Kg	140

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	3.2	2.5	78 %	30 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3546. Results are reported on a dry weight basis.

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.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	615 Concord Ave. Comp.	Matrix:	Soil
Project:	Abode Z Development/6463-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	143671-36	QC Batch ID:	HF-3226-M
Sampled:	07-24-11 11:25	Instrument ID:	GC4 HP 5890
Received:	07-25-11 19:05	Sample Weight:	15 g
Extracted:	07-28-11 20:30	Final Volume:	1 mL
Analyzed:	08-01-11 14:05	Dilution Factor:	5
Analyst:	MB	% Solids:	70

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	1,400		mg/Kg	430

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	3.8	NA	d	30 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3546. Results are reported on a dry weight basis.

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.

Inorganic Chemistry

Field ID: **Wheeler St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **GeoInsight, Inc.**

Matrix: **Soil**
 Received: **07-25-11 19:05**

Lab ID: **143671-34** Sampled: **07-22-11 13:55** % Solids: **79** Container: **120 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Weight	Analyzed	QC Batch	Method	Inst	Analyst
Corrosivity (as pH)	7.7	pH	NA	1	20 g	07-27-11 14:00	PH-1062-S	EPA 9045C	2	CG
Ignitability (as Flashpoint)	> 165	°F	70	1	100 g	07-27-11 11:00	FP-1057-S	EPA 1010 Mod	3	DEB
Reactive Cyanide	BRL	mg/Kg	50	1	10 g	07-27-11 11:00	RC-0965-S	SW-846 Chp. 7.3.3	1	DEB
Reactive Sulfide	BRL	mg/Kg	100	1	10 g	07-27-11 11:00	RS-0965-S	SW-846 Chp. 7.3.4	n/a	DEB

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).
 Results are reported on a dry weight basis.

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: Milton Roy Spectronic 401
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Boekel 152800 Flash Point Tester

Inorganic Chemistry

Field ID: **603 Concord St. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**

Matrix: **Soil**
 Received: **07-25-11 19:05**

Lab ID: **143671-35** Sampled: **07-23-11 13:20** % Solids: **82** Container: **120 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Weight	Analyzed	QC Batch	Method	Inst	Analyst
Corrosivity (as pH)	7.5	pH	NA	1	20 g	07-27-11 14:00	PH-1062-S	EPA 9045C	2	CG
Ignitability (as Flashpoint)	> 165	°F	70	1	100 g	07-27-11 11:00	FP-1057-S	EPA 1010 Mod	3	DEB
Reactive Cyanide	BRL	mg/Kg	50	1	10 g	07-27-11 11:00	RC-0965-S	SW-846 Chp. 7.3.3	1	DEB
Reactive Sulfide	BRL	mg/Kg	100	1	10 g	07-27-11 11:00	RS-0965-S	SW-846 Chp. 7.3.4	n/a	DEB

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).
 Results are reported on a dry weight basis.

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: Milton Roy Spectronic 401
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Boekel 152800 Flash Point Tester

Inorganic Chemistry

Field ID: **615 Concord Ave. Comp.**
 Project: **Abode Z Development/6463-000**
 Client: **Geolnsight, Inc.**

Matrix: **Soil**
 Received: **07-25-11 19:05**

Lab ID: **143671-36** Sampled: **07-24-11 11:25** % Solids: **70** Container: **120 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Weight	Analyzed	QC Batch	Method	Inst	Analyst
Corrosivity (as pH)	7.7	pH	NA	1	20 g	07-27-11 14:00	PH-1062-S	EPA 9045C	2	CG
Ignitability (as Flashpoint)	> 165	°F	70	1	100 g	07-27-11 11:00	FP-1057-S	EPA 1010 Mod	3	DEB
Reactive Cyanide	BRL	mg/Kg	50	1	10 g	07-27-11 11:00	RC-0965-S	SW-846 Chp. 7.3.3	1	DEB
Reactive Sulfide	BRL	mg/Kg	100	1	10 g	07-27-11 11:00	RS-0965-S	SW-846 Chp. 7.3.4	n/a	DEB

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).
 Results are reported on a dry weight basis.

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: Milton Roy Spectronic 401
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Boekel 152800 Flash Point Tester

Project Narrative

Project: **Abode Z Development/6463-000**
Client: **GeoInsight, Inc.**

Lab ID: **143671**
Received: **07-25-11 19:05**

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 6010B Note: Samples 143671-1,-2,-3,-4,-5,-6,-19,-21,-22,-23,-24,-34,-35,-36. Samples were analyzed for selected target analytes, as requested by client.
2. EPA 8011 EDB Non-conformance: Sample 143671-20. Sample had surrogate below recommended recovery limits due to sample matrix interference.
3. EPA 8260B Note: Sample 143671-33. Analytes Acetone, 2-Butanone did not meet the minimum required average response factors in the ICAL. Recovery for analyte trans-1,4-dichloro-2-butene was outside the recommended 70 - 130% criteria in the ICV. Analyte 2-Butanone did not meet the minimum average response factor in the CCV. The relative percent deviations for analytes tert-butyl Alcohol, Carbon Disulfide, Methyl tert-butyl Ether, Ethyl tert-butyl Ether, 2,2-Dichloropropane, trans-1,3-dichloropropene, 1,2,4-Trichlorobenzene were above the recommended limits in the CCV. A quadratic equation was used in the calculation for analyte Vinyl chloride for QC batch VM8-1482-S.
4. EPA 8260B Note: Sample 143671-31,-32,-33. Dibromochloromethane, Bromoform, 1,2-dibromo-3-chloropropane, Naphthalene, 1,2,3-Trichlorobenzene did not meet the 70 - 130% recovery criteria for the low calibration standard. The RL was raised to the next highest acceptable calibration standard.
5. EPA 8260B Note: Samples 143671-31,-32. Recovery for analyte trans-1,4-dichloro-2-butene was outside the recommended 70 - 130% criteria in the ICV. Analytes Acetone, 2-Butanone did not meet the minimum average response factor in the ICAL and CCV. The relative percent deviations for analytes Ethyl tert-butyl Ether, 2,2-Dichloropropane, 1,1,1,2-Tetrachloroethane were above the recommended limits in the CCV. A quadratic equation was used in the calculation for analyte Vinyl Chloride for QC batch VM8-1481-E.
6. EPA 8260B Non-conformance: Samples 143671-33. Vinyl Chloride has a quadratic curve with five points rather than the required six points. FR for Acetone was below the required limit of 0.056 in the CCV.
7. MA DEP EPH Non-conformance: Samples 143671-19, -22. Sample did not have measurable surrogate recoveries due to required sample dilution.
8. MA DEP EPH Note: Samples 143671-19, -22. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above CAM recommended reporting limits.
9. MA DEP VPH Note: Samples 143671-18. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above CAM recommended reporting limits.
10. TPH by GC/FID Note: Samples 143671-34 and -36. Samples were diluted prior to analysis. Dilution was required due to presence of non-target analyte interference.
11. TPH by GC/FID Non-conformance: Samples 143671-34 and -36. Samples did not have measurable surrogate recoveries due to required sample dilution.

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.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8082	LCS	Instrument ID:	GC-13 Agilent 6890	LCS D	Instrument ID:	GC-13 Agilent 6890
QC Batch ID:	PB-3777-P		Extracted:	07-28-11 10:30		Extracted:	07-28-11 10:30
Matrix:	Soil		Cleaned Up:	07-28-11 20:30		Cleaned Up:	07-28-11 20:30
Units:	ug/Kg		Analyzed:	07-29-11 00:51		Analyzed:	07-29-11 01:15
			Analyst:	CRL		Analyst:	CRL

CAS Number	Analyte	LCS					LCS Duplicate						QC Limits		
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD		Spike	RPD
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col		
12674-11-2	Aroclor 1016	330	310	320	94%	96%	330	330	320	100%	96%	6 %	1 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	330	290	310	86%	93%	330	290	310	88%	93%	3 %	1 %	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery											QC Limits	
Tetrachloro- <i>m</i> -xylene	13	12	11	87%	85%	13	13	12	96%	93%			30 - 150 %
Decachlorobiphenyl	13	6.8	7.4	51%	56%	13	6.9	7.3	52%	55%			30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

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.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-3777-P**
 Matrix: **Soil**

Instrument ID: **GC-13 Agilent 6890**
 Extracted: **07-28-11 10:30**
 Cleaned Up: **07-28-11 20:30**
 Analyzed: **07-29-11 00:28**
 Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	80
11104-28-2	Aroclor 1221	BRL		ug/Kg	80
11141-16-5	Aroclor 1232	BRL		ug/Kg	80
53469-21-9	Aroclor 1242	BRL		ug/Kg	80
12672-29-6	Aroclor 1248	BRL		ug/Kg	80
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	80
37324-23-5	Aroclor 1262 [†]	BRL		ug/Kg	80
11100-14-4	Aroclor 1268 [†]	BRL		ug/Kg	80

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	13	11	84 %	30 - 150 %
Second Column	Decachlorobiphenyl	13	6.3	47 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	13	11	83 %	30 - 150 %
Second Column	Decachlorobiphenyl	13	7	53 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

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.
 † Non-target analyte. Result is based on a single mid-range calibration standard.

Quality Control Report Laboratory Control Samples

Category:	MA DEP VPH	LCS	Instrument ID: GC-1 HP 5890	LCSD	Instrument ID: GC-1 HP 5890
QC Batch ID:	VP-1784-E	Analyzed:	07-29-11 12:29	Analyzed:	07-29-11 13:10
Matrix:	Soil	Analyst:	TRA	Analyst:	TRA
Units:	mg/Kg				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	2.5	2.8	111 %	2.5	2.7	109 %	1 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.8	111 %	2.5	2.6	104 %	6 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.7	110 %	2.5	2.7	107 %	2 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	8.3	110 %	7.5	8.0	107 %	3 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	2.5	2.4	97 %	2.5	2.3	93 %	4 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	2.5	2.6	103 %	2.5	2.4	95 %	8 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	2.5	2.5	101 %	2.5	2.4	95 %	6 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	7.5	101 %	7.5	7.1	94 %	6 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	2.5	2.6	105 %	2.5	2.6	102 %	3 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.5	100 %	2.5	2.5	98 %	2 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.6	103 %	2.5	2.5	99 %	4 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.6	102 %	2.5	2.5	99 %	3 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	5.0	5.2	104 %	5.0	5.0	100 %	3 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	2.5	2.4	97 %	2.5	2.4	94 %	3 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.6	104 %	2.5	2.5	100 %	3 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	2.4	94 %	2.5	2.3	93 %	1 %	70 - 130 %	25%
n/a	Aromatic Group	23	23	102 %	23	22	98 %	4 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits		
2,5-Dibromotoluene (PID)		2.5	2.4	97 %	2.5	2.3	92 %	70 - 130 %		
2,5-Dibromotoluene (FID)		2.5	2.5	98 %	2.5	2.4	96 %	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.

**Quality Control Report
Method Blank**

Category: **MA DEP VPH**
 QC Batch ID: **VP-1784-E**
 Matrix: **Soil**

Instrument ID: **GC-1 HP 5890**
 Analyzed: **07-29-11 13:51**
 Analyst: **TRA**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons [†] [◇]	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons [†] [⊗]	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons [†]	BRL		mg/Kg	1.0

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl <i>tert</i> -butyl Ether [⌘]	BRL		mg/Kg	0.05
71-43-2	Benzene [⌘]	BRL		mg/Kg	0.10
108-88-3	Toluene [⌘]	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene [‡]	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		mg/Kg	0.10
95-47-6	<i>ortho</i> -Xylene [‡]	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	2.5	2.4	96 %	70 - 130 %
2,5-Dibromotoluene (FID)	2.5	2.4	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.

Quality Control Report Laboratory Control Samples

Category: **Metals**
 Matrix: **Soil**
 Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-2056-SL	EPA 3050B	07-27-11 00:00	07-28-11 14:41	ICP-1 PE 3000	PD
LCS	EPA 7471A	MP-2687-SL	EPA 7471A	07-27-11 00:00	07-29-11 10:13	CVAA-1 PE FIMS	LMS
LCSD	EPA 6010B	MB-2056-SL	EPA 3050B	07-27-11 00:00	07-28-11 14:47	ICP-1 PE 3000	PD
LCSD	EPA 7471A	MP-2687-SL	EPA 7471A	07-27-11 00:00	07-29-11 10:16	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	120	120	99%	120	120	94%	3 %	78-122 %	30 %	EPA 6010B
7440-39-3	Barium	320	330	103%	320	310	97%	3 %	80-120 %	30 %	EPA 6010B
7440-43-9	Cadmium	120	120	100%	120	110	96%	2 %	80-120 %	30 %	EPA 6010B
7440-47-3	Chromium	96	110	112%	96	100	107%	2 %	77-123 %	30 %	EPA 6010B
7439-92-1	Lead	140	140	104%	140	140	100%	2 %	77-123 %	30 %	EPA 6010B
7439-97-6	Mercury	15	13	86%	15	13	86%	0 %	72-128 %	30 %	EPA 7471A
7782-49-2	Selenium	200	190	96%	200	180	89%	4 %	77-123 %	30 %	EPA 6010B
7440-22-4	Silver	54	48	89%	54	45	85%	2 %	66-134 %	30 %	EPA 6010B

Method Reference: 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.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Soil**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-2056-SB	EPA 3050B	07-27-11 00:00	0.5 g	ICP-1 PE 3000	PD
EPA 7471A	MP-2687-SB	EPA 7471A	07-27-11 00:00	0.6 g	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/Kg	3.0	1	07-28-11 14:37	EPA 6010B
7440-39-3	Barium		BRL	mg/Kg	5.0	1	07-28-11 14:37	EPA 6010B
7440-43-9	Cadmium		BRL	mg/Kg	0.5	1	07-28-11 14:37	EPA 6010B
7440-47-3	Chromium		BRL	mg/Kg	1.0	1	07-28-11 14:37	EPA 6010B
7439-92-1	Lead		BRL	mg/Kg	5.0	1	07-28-11 14:37	EPA 6010B
7439-97-6	Mercury		BRL	mg/Kg	0.017	1	07-29-11 10:13	EPA 7471A
7782-49-2	Selenium		BRL	mg/Kg	5.0	1	07-28-11 14:37	EPA 6010B
7440-22-4	Silver		BRL	mg/Kg	1.0	1	07-28-11 14:37	EPA 6010B

Method Reference: 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.
DF Dilution Factor.

Quality Control Report Laboratory Control Samples

Category: **Metals**
 Matrix: **Aqueous**
 Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-4493-WL	EPA 3010A	07-27-11 00:00	07-28-11 12:30	ICP-1 PE 3000	PD
LCS	EPA 7470A	MP-2415-WL	EPA 7470A	07-27-11 00:00	07-28-11 14:35	CVAA-1 PE FIMS	LMS
LCSD	EPA 6010B	MB-4493-WL	EPA 3010A	07-27-11 00:00	07-28-11 12:36	ICP-1 PE 3000	PD
LCSD	EPA 7470A	MP-2415-WL	EPA 7470A	07-27-11 00:00	07-28-11 14:38	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	5.0	5.0	100%	5.0	5.1	101%	0 %	80-120 %	20 %	EPA 6010B
7440-39-3	Barium	5.0	5.0	99%	5.0	4.9	98%	1 %	80-120 %	20 %	EPA 6010B
7440-43-9	Cadmium	1.0	1.0	102%	1.0	1.0	103%	0 %	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	1.0	102%	1.0	1.0	102%	0 %	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	5.0	5.3	106%	5.0	5.1	102%	2 %	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0009	89%	0.0010	0.0009	87%	1 %	80-120 %	20 %	EPA 7470A
7782-49-2	Selenium	5.0	4.8	95%	5.0	4.8	97%	1 %	80-120 %	20 %	EPA 6010B
7440-22-4	Silver	1.0	1.0	104%	1.0	1.0	103%	0 %	80-120 %	20 %	EPA 6010B

Method Reference: 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.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-4493-WB	EPA 3010A	07-27-11 00:00	50 mL	ICP-1 PE 3000	PD
EPA 7470A	MP-2415-WB	EPA 7470A	07-27-11 00:00	25 mL	CVAA-1 PE FIMS	LMS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/L	0.01	1	07-28-11 12:26	EPA 6010B
7440-39-3	Barium		BRL	mg/L	0.05	1	07-28-11 12:26	EPA 6010B
7440-43-9	Cadmium		BRL	mg/L	0.004	1	07-28-11 12:26	EPA 6010B
7440-47-3	Chromium		BRL	mg/L	0.01	1	07-28-11 12:26	EPA 6010B
7439-92-1	Lead		BRL	mg/L	0.005	1	07-28-11 12:26	EPA 6010B
7439-97-6	Mercury		BRL	mg/L	0.0002	1	07-28-11 14:35	EPA 7470A
7782-49-2	Selenium		BRL	mg/L	0.05	1	07-28-11 12:26	EPA 6010B
7440-22-4	Silver		BRL	mg/L	0.007	1	07-28-11 12:26	EPA 6010B

Method Reference: 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.
DF Dilution Factor.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8011 (Modified)**
 QC Batch ID: **PV-0227-S**
 Matrix: **Soil**
 Units: **ug/Kg**

Instrument ID: **GC-6 HP 5890**
 Extracted: **07-27-11 14:00**
 Analyzed: **07-28-11 15:36**
 Analyst: **CRL**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
106-93-4	1,2-Dibromoethane (EDB)	16	15	15	95 %	95 %	70 - 130 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
1,1,1,2-Tetrachloroethane	4.0	4.0	3.9	100 %	98 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Modified with guidance from "Determination of 1,2-Dibromoethane (EDB) in Field Soils: Implications for Volatile Organic Compounds," B.L. Sawhney, J.J. Pignatello, and S.M. Steinberg, Journal of Environmental Quality, Vol. 17, No. 1, January - March 1988.

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.

**Quality Control Report
Method Blank**

Category: **EPA Method 8011 (Modified)**
 QC Batch ID: **PV-0227-S**
 Matrix: **Soil**

Instrument ID: **GC-6 HP 5890**
 Extracted: **07-27-11 14:00**
 Analyzed: **07-28-11 16:29**
 Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	2.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	1,1,1,2-Tetrachloroethane	4.0	3.9	99 %	70 - 130 %
Second Column	1,1,1,2-Tetrachloroethane	4.0	3.8	96 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Modified with guidance from "Determination of 1,2-Dibromoethane (EDB) in Field Soils: Implications for Volatile Organic Compounds," B.L. Sawhney, J.J. Pignatello, and S.M. Steinberg, Journal of Environmental Quality, Vol. 17, No. 1, January - March 1988.

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.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-9 Agilent 6890	LCSD	Instrument ID:	GC-9 Agilent 6890
QC Batch ID:	EP-3250-M		Extracted:	07-28-11 17:00		Extracted:	07-28-11 17:00
Matrix:	Soil		Analyzed (AL):	07-28-11 23:23		Analyzed (AL):	07-29-11 00:51
Units:	mg/Kg		Analyzed (AR):	07-29-11 00:07		Analyzed (AR):	07-29-11 01:34
			Analyst:	JJT		Analyst:	JJT

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	n-Nonane (C ₉)	3.3	1.8	53 %	3.3	1.9	56 %	5 %	30 - 140 %	25 %
124-18-5	n-Decane (C ₁₀)	3.3	2.0	62 %	3.3	2.2	66 %	6 %	40 - 140 %	25 %
112-40-3	n-Dodecane (C ₁₂)	3.3	2.2	67 %	3.3	2.4	71 %	6 %	40 - 140 %	25 %
629-59-4	n-Tetradecane (C ₁₄)	3.3	2.3	70 %	3.3	2.4	73 %	5 %	40 - 140 %	25 %
544-76-3	n-Hexadecane (C ₁₆)	3.3	2.6	79 %	3.3	2.7	81 %	2 %	40 - 140 %	25 %
593-45-3	n-Octadecane (C ₁₈)	3.3	2.9	87 %	3.3	2.9	87 %	0 %	40 - 140 %	25 %
n/a	n-C9 to n-C18 Group	20	14	70 %	20	14	73 %	4 %	40 - 140 %	25 %
629-92-5	n-Nonadecane (C ₁₉)	3.3	3.0	90 %	3.3	2.9	89 %	1 %	40 - 140 %	25 %
112-95-8	n-Eicosane (C ₂₀)	3.3	3.0	91 %	3.3	2.9	89 %	2 %	40 - 140 %	25 %
629-97-0	n-Docosane (C ₂₂)	3.3	2.8	85 %	3.3	2.7	82 %	3 %	40 - 140 %	25 %
646-31-1	n-Tetracosane (C ₂₄)	3.3	2.8	84 %	3.3	2.7	81 %	4 %	40 - 140 %	25 %
630-01-3	n-Hexacosane (C ₂₆)	3.3	2.7	82 %	3.3	2.6	79 %	4 %	40 - 140 %	25 %
630-02-4	n-Octacosane (C ₂₈)	3.3	2.7	82 %	3.3	2.6	79 %	4 %	40 - 140 %	25 %
638-68-6	n-Triacontane (C ₃₀)	3.3	2.7	81 %	3.3	2.6	78 %	4 %	40 - 140 %	25 %
630-06-8	n-Hexatriacontane (C ₃₆)	3.3	2.6	79 %	3.3	2.5	76 %	3 %	40 - 140 %	25 %
n/a	n-C19 to n-C36 Group	26	22	84 %	26	22	82 %	3 %	40 - 140 %	25 %
91-20-3	Naphthalene	3.3	2.4	74 %	3.3	2.5	76 %	3 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	3.3	2.6	78 %	3.3	2.6	80 %	3 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	3.3	2.7	83 %	3.3	2.8	84 %	2 %	40 - 140 %	25 %
83-32-9	Acenaphthene	3.3	2.6	79 %	3.3	2.7	80 %	2 %	40 - 140 %	25 %
86-73-7	Fluorene	3.3	2.6	80 %	3.3	2.7	82 %	3 %	40 - 140 %	25 %
85-01-8	Phenanthrene	3.3	3.0	89 %	3.3	3.0	89 %	0 %	40 - 140 %	25 %
120-12-7	Anthracene	3.3	3.0	92 %	3.3	3.0	92 %	1 %	40 - 140 %	25 %
206-44-0	Fluoranthene	3.3	3.0	91 %	3.3	3.0	91 %	0 %	40 - 140 %	25 %
129-00-0	Pyrene	3.3	3.1	93 %	3.3	3.0	92 %	1 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	3.3	2.6	78 %	3.3	2.6	78 %	1 %	40 - 140 %	25 %
218-01-9	Chrysene	3.3	3.0	92 %	3.3	3.0	92 %	0 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	3.3	2.8	84 %	3.3	2.7	83 %	1 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	3.3	2.9	86 %	3.3	2.8	86 %	0 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	3.3	3.0	90 %	3.3	3.0	90 %	1 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	2.7	81 %	3.3	2.6	80 %	2 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	3.3	2.6	80 %	3.3	2.6	79 %	1 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	3.3	2.5	76 %	3.3	2.5	74 %	2 %	40 - 140 %	25 %
n/a	PAH Group	56	47	84 %	56	47	84 %	0 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.3	85 %	2.7	2.3	85 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.2	81 %	2.7	2.1	78 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.3	85 %	2.7	2.2	81 %	40 - 140 %
	ortho-Terphenyl	2.7	2.4	89 %	2.7	2.4	89 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction 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.

**Quality Control Report
Method Blank**

Category: **MA DEP EPH**
QC Batch ID: **EP-3250-M**
Matrix: **Soil**

Instrument ID: **GC-9 Agilent 6890**
Extracted: **07-28-11 17:00**
Analyzed (AL): **07-29-11 02:18**
Analyzed (AR): **07-29-11 03:02**
Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons ^{†◊}	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.2	83 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.2	81 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.3	87 %	40 - 140 %
	<i>ortho</i> -Terphenyl	2.7	2.2	83 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction 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.

Quality Control Report Laboratory Control Samples

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1481-E**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-27-11 06:35**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-27-11 07:08**
 Analyst: **LMG**

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	2,500	2,200	87 %	2,500	2,100	84 %	3 %	70 - 130 %	20%
74-87-3	Chloromethane	2,500	2,400	94 %	2,500	2,400	97 %	3 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	2,500	2,400	97 %	2,500	2,300	94 %	3 %	70 - 130 %	20%
74-83-9	Bromomethane	2,500	2,500	101 %	2,500	2,500	102 %	1 %	70 - 130 %	20%
75-00-3	Chloroethane	2,500	2,300	93 %	2,500	2,300	94 %	1 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	2,500	2,300	90 %	2,500	2,200	87 %	4 %	70 - 130 %	20%
60-29-7	Diethyl Ether	5,000	4,600	93 %	5,000	4,700	95 %	2 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	2,500	2,300	93 %	2,500	2,400	95 %	2 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	5,000	4,900	98 %	5,000	4,700	94 %	5 %	70 - 130 %	20%
67-64-1	Acetone	5,000	5,100	101 %	5,000	5,000	101 %	0 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	5,000	4,200	85 %	5,000	4,100	82 %	3 %	70 - 130 %	20%
75-09-2	Methylene Chloride	2,500	2,600	105 %	2,500	2,500	101 %	4 %	70 - 130 %	20%
107-13-1	Acrylonitrile	2,500	2,500	98 %	2,500	2,500	100 %	1 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	2,500	2,600	103 %	2,500	2,500	100 %	4 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	2,500	2,100	86 %	2,500	2,100	86 %	0 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	2,500	2,300	93 %	2,500	2,300	90 %	3 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	2,500	1,900	77 %	2,500	1,900	75 %	3 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	2,500	2,600	103 %	2,500	2,600	104 %	1 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	5,000	4,700	94 %	5,000	4,600	91 %	3 %	70 - 130 %	20%
74-97-5	Bromochloromethane	2,500	2,500	102 %	2,500	2,500	100 %	2 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	5,000	4,400	87 %	5,000	4,500	91 %	4 %	70 - 130 %	20%
67-66-3	Chloroform	2,500	2,400	96 %	2,500	2,400	96 %	0 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	2,500	2,400	98 %	2,500	2,400	96 %	2 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	2,500	2,800	111 %	2,500	2,700	108 %	2 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	2,500	2,500	99 %	2,500	2,500	99 %	0 %	70 - 130 %	20%
71-43-2	Benzene	2,500	2,500	101 %	2,500	2,500	100 %	2 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	2,500	2,500	101 %	2,500	2,500	101 %	0 %	70 - 130 %	20%
79-01-6	Trichloroethene	2,500	2,700	107 %	2,500	2,600	104 %	3 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	2,500	2,400	97 %	2,500	2,400	98 %	0 %	70 - 130 %	20%
74-95-3	Dibromomethane	2,500	2,600	104 %	2,500	2,500	101 %	2 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	2,500	2,500	101 %	2,500	2,600	103 %	1 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	50,000	46,000	91 %	50,000	46,000	92 %	1 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	2,500	2,400	95 %	2,500	2,400	96 %	1 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	5,000	4,700	93 %	5,000	4,700	93 %	0 %	70 - 130 %	20%
108-88-3	Toluene	2,500	2,600	102 %	2,500	2,500	101 %	2 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	2,500	2,000	82 %	2,500	2,000	82 %	0 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	2,500	2,400	96 %	2,500	2,500	100 %	3 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	2,500	2,800	114 %	2,500	2,800	111 %	2 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	2,500	2,300	93 %	2,500	2,300	94 %	0 %	70 - 130 %	20%
591-78-6	2-Hexanone	5,000	4,400	88 %	5,000	4,700	94 %	7 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	2,500	2,600	105 %	2,500	2,600	102 %	2 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	2,500	2,700	107 %	2,500	2,700	108 %	1 %	70 - 130 %	20%
108-90-7	Chlorobenzene	2,500	2,700	107 %	2,500	2,600	105 %	2 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	2,500	3,000	122 %	2,500	3,100	123 %	1 %	70 - 130 %	20%
100-41-4	Ethylbenzene	2,500	2,500	100 %	2,500	2,500	100 %	0 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	5,000	5,100	102 %	5,000	5,000	100 %	2 %	70 - 130 %	20%
95-47-6	ortho- Xylene	2,500	2,600	105 %	2,500	2,700	106 %	1 %	70 - 130 %	20%
100-42-5	Styrene	2,500	2,800	110 %	2,500	2,700	108 %	2 %	70 - 130 %	20%
75-25-2	Bromoform	2,500	2,500	101 %	2,500	2,500	102 %	0 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1481-E**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-27-11 06:35**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-27-11 07:08**
 Analyst: **LMG**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	2,500	2,200	87 %	2,500	2,000	81 %	7 %	70 - 130 %	20%
108-86-1	Bromobenzene	2,500	2,800	112 %	2,500	2,700	108 %	4 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	2,500	2,600	102 %	2,500	2,500	100 %	2 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	2,500	2,600	104 %	2,500	2,600	105 %	1 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	10,000	11,000	111 %	10,000	11,000	107 %	3 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	2,500	2,500	99 %	2,500	2,400	95 %	4 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	2,500	2,700	109 %	2,500	2,600	105 %	3 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	2,500	2,700	106 %	2,500	2,600	103 %	4 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	2,500	2,600	105 %	2,500	2,600	102 %	3 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	2,500	2,700	107 %	2,500	2,600	104 %	3 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	2,500	2,700	106 %	2,500	2,500	101 %	5 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	2,500	2,500	101 %	2,500	2,400	97 %	4 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	2,500	2,700	110 %	2,500	2,600	105 %	4 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	2,500	2,600	103 %	2,500	2,500	99 %	4 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	2,500	2,700	109 %	2,500	2,700	106 %	3 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	2,500	2,800	113 %	2,500	2,800	110 %	2 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	2,500	2,600	103 %	2,500	2,400	98 %	5 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	2,500	2,300	90 %	2,500	2,200	87 %	4 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	2,500	2,500	100 %	2,500	2,300	93 %	7 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	2,500	2,800	110 %	2,500	2,700	107 %	3 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	2,500	2,500	100 %	2,500	2,500	99 %	1 %	70 - 130 %	20%
91-20-3	Naphthalene	2,500	2,500	102 %	2,500	2,500	102 %	0 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	2,500	2,500	101 %	2,500	2,500	101 %	0 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	50,000	41,000	82 %	50,000	41,000	82 %	0 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	2,500	2,200	89 %	2,500	2,200	88 %	1 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	2,500	2,000	79 %	2,500	1,900	78 %	1 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	2,500	2,000	80 %	2,500	2,000	81 %	1 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	92 %	2,500	2,100	85 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,300	90 %	2,500	2,400	94 %	70 - 130 %
Toluene-d ₈	2,500	2,500	102 %	2,500	2,400	97 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,200	88 %	2,500	2,100	82 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

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.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1481-E**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-27-11 07:41**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
107-13-1	Acrylonitrile	BRL		ug/Kg	250
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	250
95-47-6	ortho- Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	500

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
QC Batch ID: **VM8-1481-E**
Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
Analyzed: **07-27-11 07:41**
Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	2,500
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	500
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	500
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	500
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	89 %	70 - 130 %
1,2-Dichloroethane-d ₄	2,500	2,300	93 %	70 - 130 %
Toluene-d ₈	2,500	2,400	95 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,300	92 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5035A.

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.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP VPH	LCS	Instrument ID: GC-10 HP 5890	LCSD	Instrument ID: GC-10 HP 5890
QC Batch ID:	VGA-4809-W	Analyzed:	07-28-11 13:25	Analyzed:	07-28-11 14:06
Matrix:	Aqueous	Analyst:	JFR	Analyst:	JFR
Units:	ug/L				

CAS Number	Analyte	LCS			LCS Duplicate			QC Limits		
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	<i>n</i> -Pentane	50	38	75 %	50	40	79 %	5 %	70 - 130 %	25%
107-83-5	2-Methylpentane	50	47	94 %	50	49	99 %	5 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	50	52	103 %	50	55	109 %	6 %	70 - 130 %	25%
n/a	Aliphatic Group 1	150	140	93 %	150	140	93 %	0 %	70 - 130 %	25%
111-84-2	<i>n</i> -Nonane	50	50	100 %	50	53	106 %	6 %	70 - 130 %	25%
124-18-5	<i>n</i> -Decane	50	48	96 %	50	49	99 %	4 %	70 - 130 %	25%
1678-93-9	<i>n</i> -Butylcyclohexane	50	53	105 %	50	54	107 %	2 %	70 - 130 %	25%
n/a	Aliphatic Group 2	150	150	100 %	150	160	107 %	6 %	70 - 130 %	25%
1634-04-4	Methyl <i>tert</i> -butyl Ether	50	49	99 %	50	50	99 %	1 %	70 - 130 %	25%
71-43-2	Benzene	50	49	97 %	50	49	98 %	1 %	70 - 130 %	25%
108-88-3	Toluene	50	50	100 %	50	51	101 %	1 %	70 - 130 %	25%
100-41-4	Ethylbenzene	50	51	102 %	50	51	102 %	0 %	70 - 130 %	25%
108-38-3 and 106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	100	100	100 %	100	100	100 %	0 %	70 - 130 %	25%
95-47-6	<i>ortho</i> -Xylene	50	50	100 %	50	51	103 %	3 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	50	51	102 %	50	51	103 %	1 %	70 - 130 %	25%
91-20-3	Naphthalene	50	48	96 %	50	49	99 %	3 %	70 - 130 %	25%
n/a	Aromatic Group	450	450	100 %	450	450	100 %	0 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		50	49	98 %	50	50	100 %		70 - 130 %	
2,5-Dibromotoluene (FID)		50	48	97 %	50	50	100 %		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.

**Quality Control Report
Method Blank**

Category: **MA DEP VPH**
 QC Batch ID: **VGA-4809-W**
 Matrix: **Aqueous**

Instrument ID: **GC-10 Agilent 6890**
 Analyzed: **07-28-11 14:46**
 Analyst: **JFR**

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 <i>tert</i> -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	<i>meta</i> -Xylene and <i>para</i> -Xylene [‡]	BRL		ug/L	5
95-47-6	<i>ortho</i> -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	97 %	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.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-9 Agilent 6890	LCSD	Instrument ID:	GC-9 Agilent 6890
QC Batch ID:	EP-2432-F		Extracted:	07-26-11 10:30		Extracted:	07-26-11 10:30
Matrix:	Aqueous		Analyzed (AL):	07-26-11 23:29		Analyzed (AL):	07-27-11 00:57
Units:	ug/L		Analyzed (AR):	07-27-11 00:13		Analyzed (AR):	07-27-11 01:41
			Analyst:	JJT		Analyst:	JJT

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	29	58 %	50	31	62 %	7 %	30 - 140 %	25 %
124-18-5	n-Decane (C ₁₀)	50	34	67 %	50	36	72 %	6 %	40 - 140 %	25 %
112-40-3	n-Dodecane (C ₁₂)	50	36	72 %	50	38	77 %	6 %	40 - 140 %	25 %
629-59-4	n-Tetradecane (C ₁₄)	50	37	74 %	50	40	80 %	7 %	40 - 140 %	25 %
544-76-3	n-Hexadecane (C ₁₆)	50	41	82 %	50	45	90 %	8 %	40 - 140 %	25 %
593-45-3	n-Octadecane (C ₁₈)	50	45	89 %	50	49	98 %	10 %	40 - 140 %	25 %
n/a	n-C9 to n-C18 Group	300	220	74 %	300	240	80 %	8 %	40 - 140 %	25 %
629-92-5	n-Nonadecane (C ₁₉)	50	45	90 %	50	50	101 %	11 %	40 - 140 %	25 %
112-95-8	n-Eicosane (C ₂₀)	50	45	91 %	50	50	101 %	11 %	40 - 140 %	25 %
629-97-0	n-Docosane (C ₂₂)	50	41	83 %	50	46	93 %	11 %	40 - 140 %	25 %
646-31-1	n-Tetracosane (C ₂₄)	50	42	84 %	50	47	94 %	11 %	40 - 140 %	25 %
630-01-3	n-Hexacosane (C ₂₆)	50	41	82 %	50	46	93 %	12 %	40 - 140 %	25 %
630-02-4	n-Octacosane (C ₂₈)	50	40	81 %	50	45	91 %	12 %	40 - 140 %	25 %
638-68-6	n-Triacontane (C ₃₀)	50	40	79 %	50	45	89 %	12 %	40 - 140 %	25 %
630-06-8	n-Hexatriacontane (C ₃₆)	50	37	74 %	50	42	83 %	12 %	40 - 140 %	25 %
n/a	n-C19 to n-C36 Group	400	330	83 %	400	370	93 %	11 %	40 - 140 %	25 %
91-20-3	Naphthalene	50	38	76 %	50	39	78 %	3 %	40 - 140 %	25 %
91-57-6	2-Methylnaphthalene	50	40	81 %	50	42	84 %	3 %	40 - 140 %	25 %
208-96-8	Acenaphthylene	50	45	90 %	50	47	94 %	4 %	40 - 140 %	25 %
83-32-9	Acenaphthene	50	42	85 %	50	44	88 %	3 %	40 - 140 %	25 %
86-73-7	Fluorene	50	44	87 %	50	46	92 %	6 %	40 - 140 %	25 %
85-01-8	Phenanthrene	50	49	98 %	50	53	105 %	7 %	40 - 140 %	25 %
120-12-7	Anthracene	50	49	99 %	50	53	106 %	7 %	40 - 140 %	25 %
206-44-0	Fluoranthene	50	50	100 %	50	54	108 %	8 %	40 - 140 %	25 %
129-00-0	Pyrene	50	51	102 %	50	55	111 %	8 %	40 - 140 %	25 %
56-55-3	Benzo[a]anthracene	50	43	86 %	50	46	93 %	8 %	40 - 140 %	25 %
218-01-9	Chrysene	50	52	104 %	50	55	110 %	6 %	40 - 140 %	25 %
205-99-2	Benzo[b]fluoranthene	50	45	89 %	50	49	97 %	9 %	40 - 140 %	25 %
207-08-9	Benzo[k]fluoranthene	50	48	97 %	50	52	103 %	6 %	40 - 140 %	25 %
50-32-8	Benzo[a]pyrene	50	49	98 %	50	53	106 %	7 %	40 - 140 %	25 %
193-39-5	Indeno[1,2,3-c,d]pyrene	50	45	89 %	50	48	97 %	8 %	40 - 140 %	25 %
53-70-3	Dibenzo[a,h]anthracene	50	47	93 %	50	49	99 %	6 %	40 - 140 %	25 %
191-24-2	Benzo[g,h,i]perylene	50	45	89 %	50	49	97 %	8 %	40 - 140 %	25 %
n/a	PAH Group	850	780	92 %	850	830	98 %	7 %	40 - 140 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	39	98 %	40	40	101 %	40 - 140 %
	2-Bromonaphthalene	40	39	98 %	40	41	102 %	40 - 140 %
Extraction:	Chloro-octadecane	40	31	77 %	40	34	85 %	40 - 140 %
	ortho-Terphenyl	40	38	94 %	40	42	104 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5 %
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	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.

**Quality Control Report
Method Blank**

Category: **MA DEP EPH**
QC Batch ID: **EP-2432-F**
Matrix: **Aqueous**

Instrument ID: **GC-9 Agilent 6890**
Extracted: **07-26-11 10:30**
Analyzed (AL): **07-27-11 02:25**
Analyzed (AR): **07-27-11 03:09**
Analyst: **JJT**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons [†]	BRL		ug/L	100
n-C19 to n-C36 Aliphatic Hydrocarbons [†]	BRL		ug/L	100
n-C11 to n-C22 Aromatic Hydrocarbons [†] [◊]	BRL		ug/L	100

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL		ug/L	100
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	5
91-57-6	2-Methylnaphthalene	BRL		ug/L	5
85-01-8	Phenanthrene	BRL		ug/L	5
83-32-9	Acenaphthene	BRL		ug/L	5
208-96-8	Acenaphthylene	BRL		ug/L	5
86-73-7	Fluorene	BRL		ug/L	5
120-12-7	Anthracene	BRL		ug/L	5
206-44-0	Fluoranthene	BRL		ug/L	5
129-00-0	Pyrene	BRL		ug/L	5
56-55-3	Benzo[a]anthracene	BRL		ug/L	5
218-01-9	Chrysene	BRL		ug/L	5
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	5
50-32-8	Benzo[a]pyrene	BRL		ug/L	5
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	5
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	40	40	99 %	40 - 140 %
	2-Bromonaphthalene	40	39	98 %	
Extraction:	Chloro-octadecane	40	34	85 %	40 - 140 %
	ortho-Terphenyl	40	40	99 %	

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.

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1482-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 07:33**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 08:07**
 Analyst: **LMG**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	50	43	86 %	50	43	86 %	0 %	70 - 130 %	20%
74-87-3	Chloromethane	50	46	93 %	50	48	97 %	4 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	50	48	95 %	50	51	102 %	7 %	70 - 130 %	20%
74-83-9	Bromomethane	50	48	97 %	50	51	102 %	5 %	70 - 130 %	20%
75-00-3	Chloroethane	50	44	89 %	50	47	94 %	6 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	50	41	81 %	50	41	83 %	2 %	70 - 130 %	20%
60-29-7	Diethyl Ether	100	87	87 %	100	84	84 %	3 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	50	44	88 %	50	45	90 %	3 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	100	87	87 %	100	96	96 %	11 %	70 - 130 %	20%
67-64-1	Acetone	100	87	87 %	100	81	81 %	6 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	100	73	73 %	100	81	81 %	10 %	70 - 130 %	20%
75-09-2	Methylene Chloride	50	45	90 %	50	47	93 %	3 %	70 - 130 %	20%
107-13-1	Acrylonitrile	50	46	93 %	50	43	87 %	7 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	50	45	90 %	50	51	103 %	13 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	50	38	75 %	50	41	81 %	7 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	50	41	82 %	50	45	91 %	10 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	50	35	70 %	50	38	76 %	8 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	50	50	99 %	50	52	104 %	5 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	100	88	88 %	100	97	97 %	9 %	70 - 130 %	20%
74-97-5	Bromochloromethane	50	50	100 %	50	50	99 %	1 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	100	88	88 %	100	81	81 %	7 %	70 - 130 %	20%
67-66-3	Chloroform	50	45	91 %	50	47	94 %	4 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	50	51	101 %	50	54	107 %	6 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	50	55	110 %	50	59	118 %	7 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	50	52	104 %	50	55	110 %	5 %	70 - 130 %	20%
71-43-2	Benzene	50	52	104 %	50	55	109 %	4 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	50	52	105 %	50	54	109 %	4 %	70 - 130 %	20%
79-01-6	Trichloroethene	50	56	112 %	50	57	114 %	2 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	50	51	101 %	50	52	104 %	2 %	70 - 130 %	20%
74-95-3	Dibromomethane	50	53	105 %	50	54	108 %	2 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	50	52	104 %	50	52	104 %	0 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	1,000	920	92 %	1,000	940	94 %	2 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	50	49	98 %	50	51	101 %	3 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	100	96	96 %	100	95	95 %	2 %	70 - 130 %	20%
108-88-3	Toluene	50	53	106 %	50	55	110 %	4 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	50	40	80 %	50	40	79 %	1 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	50	46	92 %	50	49	97 %	6 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	50	57	115 %	50	61	121 %	5 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	50	46	92 %	50	47	93 %	1 %	70 - 130 %	20%
591-78-6	2-Hexanone	100	88	88 %	100	84	84 %	5 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	50	50	100 %	50	50	100 %	0 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	50	53	106 %	50	53	105 %	1 %	70 - 130 %	20%
108-90-7	Chlorobenzene	50	53	106 %	50	54	109 %	3 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	50	59	118 %	50	61	121 %	3 %	70 - 130 %	20%
100-41-4	Ethylbenzene	50	50	100 %	50	52	103 %	4 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	100	100	100 %	100	110	106 %	6 %	70 - 130 %	20%
95-47-6	ortho- Xylene	50	53	106 %	50	54	109 %	3 %	70 - 130 %	20%
100-42-5	Styrene	50	54	108 %	50	56	112 %	3 %	70 - 130 %	20%
75-25-2	Bromoform	50	49	99 %	50	51	103 %	4 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1482-S**
 Matrix: **Soil**
 Units: **ug/kg**

LCS
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 07:33**
 Analyst: **LMG**

LCSD
 Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 08:07**
 Analyst: **LMG**

Page: 2 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	50	42	83 %	50	45	90 %	8 %	70 - 130 %	20%
108-86-1	Bromobenzene	50	57	113 %	50	58	116 %	2 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	50	49	98 %	50	50	100 %	2 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	50	52	104 %	50	55	109 %	5 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	210	106 %	200	210	104 %	1 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	50	48	95 %	50	51	101 %	6 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	50	53	107 %	50	56	113 %	5 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	50	51	103 %	50	54	108 %	5 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	50	53	105 %	50	56	113 %	7 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	50	53	105 %	50	56	113 %	7 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	50	51	102 %	50	54	108 %	6 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	50	49	97 %	50	53	105 %	8 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	54	108 %	50	56	113 %	4 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	50	50	101 %	50	54	107 %	6 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	50	55	109 %	50	58	116 %	6 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	56	112 %	50	59	119 %	6 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	50	50	100 %	50	53	106 %	6 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	50	43	86 %	50	44	87 %	2 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	50	53	106 %	50	54	109 %	3 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	61	122 %	50	63	127 %	4 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	50	55	109 %	50	58	116 %	6 %	70 - 130 %	20%
91-20-3	Naphthalene	50	54	108 %	50	53	107 %	1 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	50	56	112 %	50	55	111 %	1 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	1,000	710	71 %	1,000	720	72 %	1 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	50	41	82 %	50	42	85 %	4 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	50	37	75 %	50	38	76 %	2 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	50	41	83 %	50	40	80 %	3 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	41	82 %	50	40	79 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	45	91 %	50	44	89 %	70 - 130 %
Toluene-d ₈	50	50	100 %	50	49	98 %	70 - 130 %
4-Bromofluorobenzene	50	41	81 %	50	40	80 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

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.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1482-S**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 08:40**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5.0
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
107-13-1	Acrylonitrile	BRL		ug/Kg	5.0
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/Kg	5.0
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/Kg	5.0
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5.0
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5.0
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/Kg	5.0
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5.0
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5.0
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5.0
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5.0
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5.0
71-43-2	Benzene	BRL		ug/Kg	5.0
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5.0
79-01-6	Trichloroethene	BRL		ug/Kg	5.0
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5.0
74-95-3	Dibromomethane	BRL		ug/Kg	5.0
75-27-4	Bromodichloromethane	BRL		ug/Kg	5.0
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/Kg	5.0
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5.0
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/Kg	5.0
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5.0
127-18-4	Tetrachloroethene	BRL		ug/Kg	5.0
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5.0
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	10
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5.0
108-90-7	Chlorobenzene	BRL		ug/Kg	5.0
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5.0
100-41-4	Ethylbenzene	BRL		ug/Kg	5.0
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/Kg	5.0
95-47-6	<i>ortho</i> - Xylene	BRL		ug/Kg	5.0
100-42-5	Styrene	BRL		ug/Kg	5.0
75-25-2	Bromoform	BRL		ug/Kg	10

Quality Control Report Method Blank

Category: **EPA Method 8260B**
 QC Batch ID: **VM8-1482-S**
 Matrix: **Soil**

Instrument ID: **MS-8 HP 6890**
 Analyzed: **07-28-11 08:40**
 Analyst: **LMG**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/Kg	5.0
108-86-1	Bromobenzene	BRL		ug/Kg	5.0
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5.0
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5.0
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/Kg	50
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/Kg	5.0
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5.0
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5.0
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5.0
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/Kg	5.0
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5.0
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/Kg	5.0
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5.0
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5.0
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5.0
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5.0
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/Kg	5.0
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	10
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/Kg	5.0
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5.0
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5.0
91-20-3	Naphthalene	BRL		ug/Kg	10
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	10
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5.0
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/Kg	5.0
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/Kg	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	42	85 %	70 - 130 %
1,2-Dichloroethane-d ₄	50	45	90 %	70 - 130 %
Toluene-d ₈	50	50	100 %	70 - 130 %
4-Bromofluorobenzene	50	44	87 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5035A.

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.

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, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
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, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<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

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