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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 0 1 2015

Mr. William McGuiness
Senior Project Manager
White Skanska Kiewit, JV
200 Innerbelt Rd.
Somerville, MA 02143

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Green Line Extension / Commuter Rail Maintenance Facility Access Road site located at 200 Innerbelt Road, Somerville, MA 02143, Middlesex County; Authorization # MAG910671

Dear Mr. McGuiness:

Based on the review of a Notice of Intent (NOI) submitted by Frank Ricciardi, from Weston & Sampson., on behalf of your company White Skanska Kiewit, JV, 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 your consultant marked "Believed Present". 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), due to the ample dilution at the point of discharge (97) the DFR applicable for this pollutant is

within a dilution range greater than 50 to one hundred (>50-100) established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for arsenic of 500 ug/L, copper of 260 ug/L, lead of 66 ug/L, nickel of 1,451, zinc of 1,480 ug/L and iron of 5,000 ug/L, shall not be exceeded in the discharge.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on July 31, 2015. 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

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Stanley Coty, Commissioner, Somerville DPW
Frank Ricciardi, Weston & Sampson

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910671**
Authorization Issued:	March, 2015
Facility/Site Name:	Green Line Extension/Commuter Rail Maintenance Facility Access
Facility/Site Address:	200 Innerbelt Road, Somerville, MA 02143
	Email address of owner: ddarby@mbta.com
Legal Name of Operator:	White Skanska Kiewit, JV
Operator contact name, title, and Address:	Mr. William McGuiness, Senior Project Manager, 200 Innerbelt Rd. Somerville, MA 02143
	Email: Williammcguiness@skanska.com
Estimated date of the site's Completion:	September 31, 2015
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Subcategory A. & B. General Urban Fill sites and Known Contaminated Sites, respectively.
RGP Termination Date:	September 10, 2015
Receiving Water:	Miller River

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#160.2/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/

	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)
		ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L
	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 Dchloroethane (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

	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)
√	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
√	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

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [11/12]		Minimum level=ML	
		Freshwater Limits			
	39. Antimony	5.6		ML	10
√	40. Arsenic **	500		ML	20
	41. Cadmium **	0.2		ML	10
	42. Chromium III (trivalent) **	48.8		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
√	44. Copper **	260		ML	15
√	45. Lead **	66		ML	20
	46. Mercury **	0.9		ML	02
√	47. Nickel **	1,451		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
√	50. Zinc **	1,480		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 "Aroclor 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 x 1,000ug/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 x 2 =2,000 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

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engineering, energy, planning, permitting, design, construction, operation, maintenance

Weston&Sampson®

Green Line Extension Project – IGMP #3
Weston & Sampson Project No. 2140547.B

March 16, 2015

US Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 021109-3912

Attention: **Remediation General Permit NOI Processing**

Subject: **Notice of Intent (NOI)**
Temporary Construction Site Dewatering – NPDES RGP
Green Line Extension Project – IGMP #3
Millers River Drainage Improvements
Commuter Rail Maintenance Facility (RTN 3-2534)
Boston/Cambridge/Somerville, Massachusetts

To whom it may concern:

Weston & Sampson, on behalf of White-Skanska-Kiewit, JV (WSK), has prepared this Notice of Intent (NOI) in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for Massachusetts (MAG910000) for Category III Contaminated Construction Dewatering. This temporary dewatering is required to support excavation during construction of the Millers River stormwater drainage improvements associated with the Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension (GLX) project. Specifically, this RGP NOI pertains to the installation of new stormwater drainage piping and related stormwater control structures along an approximately 700 linear foot portion of the access road located south of the MBTA Commuter Rail Maintenance Facility (CRMF) in Boston and Cambridge, Massachusetts. The location of the work is shown in Figure 1.

Operator(s)
The applicant for this NOI is:

White Skanska Kiewit, JV
William V. McGuinness, WSK Senior Project Manager
200 Inner Belt Road
Somerville, Massachusetts 02143
(617) 454-1643
William.mcguinness@skanska.com

Site History
The area subject to this NOI has historically been utilized as an access road to the railroad right-of-way associated with the Boston & Maine Railroad and MBTA since at least 1888. The immediate area has been used as a rail yard and lumber yard dating back to that time. During the last 120 years, the area has basically remained unchanged. There have been varying amounts of time where nearby areas were used for locomotive repair, grain storage, warehousing, parking areas and other various commercial/industrial uses.

Based on a review of readily available information, a portion of the subject area is partially located within the boundaries of a Massachusetts Disposal Site listed under Release Tracking Number (RTN) 3-2534, for which a Permanent Solution has been achieved in accordance with the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) but residual contamination above background concentrations remain. Based on the published Disposal Site Boundary for this site, the approximately 150-200 feet of the northwestern end of the proposed excavation area will intersect the disposal site [approximately between well MW-MR 14+80 and the northwestern-most discharge catch basin (see Figure 2)]. RTN 3-2534 is associated with the historic release of various petroleum products at the MBTA's CRMF. Site contaminants of concern include petroleum hydrocarbons, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) in soil and/or groundwater, as well as the limited presence of minor quantities of non-aqueous phase liquid (NAPL) in groundwater from several monitoring wells across the Site.

Summary of Proposed Construction

Proposed construction work associated with this RGP includes the installation of approximately 700 feet of 72- to 84-inch reinforced concrete drainage pipe as well as several related stormwater control structures, catch basins, and manholes. The location of the Millers River discharge outfall into the Charles River is immediately west of the Boston Sand and Gravel Facility in Cambridge, Massachusetts. Given that the final discharge is located in Cambridge, a Cambridge Dewatering Permit will be procured from that City and an application for this permit is provided in Attachment E. The extent of the proposed work is shown in Figure 1.

ACEC, Endangered Species Act & Natural Historic Preservation Act Review

In accordance with Appendix I of the RGP NOI, we evaluated potential impacts to Areas of Critical Environmental Concern (ACEC) and have assessed that neither the project area, discharge locations nor receiving water bodies are in, near or adjacent to ACEC. Supporting documentation is provided in Attachment C.

Appendix II of the RGP NOI, requires an evaluation under the Endangered Species Act for endangered or threatened species and critical habitats in and around the project area, discharge points and receiving water bodies. Based upon our review of the Appendix II reference documents, we have assessed that none of the areas affected by this RGP will impact Federally Listed Endangered and Threatened Species or Critical Habitats. Supporting documentation is provided in Attachment C.

Lastly, Appendix VII of the RGP NOI requires a review to evaluate if any property in or around the project area is subject to the National Historic Preservation Act. We have conducted this review and we have assessed that no such properties exist. Further review of the Massachusetts Cultural Resource Information System (MACRIS) indicated that none of the 1,195 Areas/Objects/Buildings/Structures/Burial Grounds listed within MACRIS in Somerville will be affected by the proposed activities listed in this RGP. Additional details and supporting information are included in Attachment D.

Groundwater Precharacterization Sampling & Analysis

In support of this NOI, Weston & Sampson conducted a subsurface investigation to characterize the groundwater in the area of planned construction along the access road. As part of the investigation, Weston & Sampson installed groundwater monitoring wells approximately every 50 linear feet along the proposed 700 foot alignment of the new drainage and collected one sample of groundwater for laboratory analysis every 150 feet. In total, Weston & Sampson collected groundwater samples from four (4) monitoring wells (MW-MR 9+40; MW-MR 10+60; MW-MR 12+90 and MW-MR 14+80) over a two day period of January 14 and 15, 2015 as shown on Figure 2. The sample were submitted to Con-Test Analytical Laboratories of East Longmeadow, Massachusetts (Con-Test) and analyzed for the NPDES Category III Contaminated Construction Dewatering permit parameters, including:

- Volatile Organic Compounds (VOCs);
- Semi-volatile Organic Compounds (SVOCs);
- Total Metals;
- Total Petroleum Hydrocarbons (TPH);
- Polychlorinated biphenyls (PCBs);
- Total Suspended Solids;
- Chloride;
- Total Cyanide; and
- Total Residual Chlorine.

In addition, Weston & Sampson also collected one sample from MW-MR 9+40 on February 19, 2015 for analysis polychlorinated biphenyls (PCBs). The locations of the monitoring wells are shown on Figure 2. Copies of the laboratory data packages, with the associated quality assurance and quality control information, are provided in Attachment F.

A summary of the groundwater precharacterization sampling results and applicable RGP effluent limitations and Massachusetts Reportable Concentrations (RCGW-2) is provided in Table 1. As shown in the table, groundwater contains detectable concentrations of several parameters, including metals (arsenic, copper, lead, iron, nickel, and zinc), total petroleum hydrocarbons, cyanide and VOCs.

Proposed Dewatering Operations

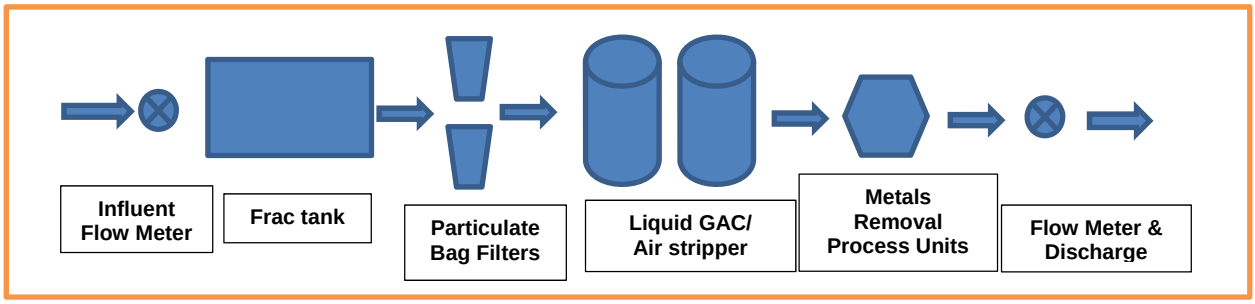
Dewatering will include the lowering of the water table through pumping to intercept groundwater from the slopes or bottoms of excavations. Excavation dewatering will be performed to the extent necessary to increase or maintain the stability of excavations and control groundwater seepage, precipitation, and surface water runoff. Based on groundwater measurements collected during groundwater sampling in January 2015, groundwater elevations within the area of proposed construction range from approximately 6.5 to slightly greater than 10 feet below grade.

Dewatering will be completed using conventional pumps installed in open excavations, ditches, wells, trenches or sumps. All dewatering will be performed so that lowering the groundwater within the work area does not adversely affect structures, utilities, or wells outside the work area. Dewatering and associated treatment facilities will be located in areas where they will not interfere with public/private utilities, roads, active portions of the right-of-way, or construction work done by others.

Treatment of Dewatering Discharges

Based on review of existing information from the subject area, treatment of dewatering influent may be needed to meet the required RGP effluent limitations. The treatment is expected to include equipment for the removal of suspended solids, inorganic (total and dissolved metals) and organic (VOCs and TPH) contaminants. In addition, if non-aqueous phase liquid (NAPL) is encountered, treatment for the separation of oil from water may also be required.

Treatment equipment will likely include use of fractionation (frac) tank(s) for temporary storage, sediment removal, and/or oil/water separation. Additional sediment removal will be accomplished using particulate bag-type filters. For removal of organic contaminants, the system will likely include granular activated carbon (GAC) filters piped in series (primary and secondary treatment). Inorganic contaminants will be removed using various mixed media (anthracite coal, sand, zeolite/clay) filters, metals precipitation/clarification or ion-exchange. A conceptual layout of the proposed treatment system is shown below.



Treated construction dewatering effluent under this RGP will be discharged to existing storm drains along the BET access road through several catch basins within and near the work area. These storm drains discharge into the existing Millers River drainage system below and alongside the railroad at the CRMF, and then travel east approximately where it eventually discharges at the Millers River outfall to the Charles River. The proposed dewatering discharge route is shown in Figure 2.

Dilution Factor

A dilution factor (DF) was calculated for the receiving stream to determine the appropriate effluent limits for the inorganic contaminants including arsenic, copper, lead and iron. The calculated DF was used to find the appropriate dilution range concentrations for these metals. The DF was calculated using the following equation:

$DF = (Q_d+Q_s)/Q_d$

Where Qd is the maximum discharge flow rate, assumed to be 210 gallons per minute (GPM) or approximately 0.48 cubic feet per second (cfs) based on dewatering flow estimates, and Qs is the receiving water flow rate, minimum for 7 consecutive days with a recurrence interval of 10 years, assumed to be 44.62 cfs based on data collected by the United State Geological Survey (USGS) and published in the "Clean Charles 2005 Water Quality Report, 2003 Core Monitoring Report" prepared by the US EPA Office of Environmental Measurement and Evaluation dated November 2004. Using these assumed values, the DF is equal to 97.75. According to Appendix IV of the Remediation General Permit, the ceiling limitations for the calculated dilution factor for arsenic, copper, lead, and iron are 500 µg /L, 260 µg /L, 66 µg /L, and 5000 µg/L, respectively. If testing of the dewatering effluent indicates that the concentrations of arsenic, copper, lead or iron exceed these ceiling values, pretreatment of the dewatering will include implementation of process units to remove metals.

Please feel free to contact us should you have any questions or wish to discuss the information contained in this NOI further.

Very truly yours,
WESTON & SAMPSON

Frank Ricciardi, PE, LSP
Vice President

ATTACHMENTS:
Figures
Table
Attachments

FIGURES

N

Legend

- GLX RGP Excavation / Dewatering Area
- Municipal Boundary

RGP Discharge Location
Miller's River Outflow

SOMERVILLE

CAMBRIDGE

BOSTON

Third Avenue
Inner Belt Road
Rutherford Avenue
Stacey Street
Phipps Street
Dunstable Street
Lawnwood Place
School Street
Hathon Square
West School Street
Wood Street
Green Street
Payson Place
High Street
Cross Street
Cedar Street
Bartlett Street
Laurel Street
Dexter Court
Boyle Street
Cordis Street
Cordis Avenue
Pleasant Street
Dexter Row
Main Street
Union Street
Lawrence Street
New Rutherford Avenue
Monument Avenue
Soley Street
Winthrop Street
Wallace Court
Chestnut Street
Adams Street
Mount Vernon Street
Prospect Street
Prospect Terrace
Robert Lowney Way
Chelsea Street
Fifth Street
Ellwood Street
Devens Street
Lynde Street
Washington Place
Washington Street
Prescott Street
Arrow Street
Henley Street
Warren Street
Park Street
Putnam Street
Austin Street
93
28
Winter Street
Lineham Court
Water Street
Gore Street
Sciarappa Street
Cambridge Street
Monsignor O'Brien Highway
East Street
North Point Boulevard
Charlestown Avenue
99
Harvard Street
City Square
Constitution Road
Charles River Avenue
1
Otis Street
Thorndike Street
Spring Street
Science Park
Charles River Dam Road
Cambridge Parkway
Nashua Street
3A
3
Leverett Circle
Martha Road
Amy Court
Cotting Street
Legends Way
Fleet Center Way
Causeway Street
Haverhill Street
Medford Street
Endicott Court
Thacher Court
North Margin Street
Lambert Place
Snowhill Street
Cleveland Place
Hull Street
Prince Street
Beverly Street
Lovejoy Place
North Washington Street
Commercial Street
North Hudson Street
Copps Hill Terrace

MassGIS, USGS

450 0 450

Scale In Feet

FIGURE 1

GREEN LINE EXTENSION PROJECT IGMP-3 REMEDIATION GENERAL PERMIT

GENERAL SITE OVERVIEW

FEBRUARY 2015 SCALE: NOTED

Weston&Sampson

Path: \\gisdata\srv\GIS\Data\Store\Client\JWhite_Contracting\GLX\Project\Figure 1 - Green Line Extension Project Area.mxd User: Shimchb
Stored: 2/24/2015 7:13:37 AM Updated: 2/24/2015 7:19:50 AM

MATCHLINE SEE SHEET 000-C-2064

MATCHLINE SEE SHEET 000-C-2062

CATCH BASIN DISCHARGE LOCATION

EXIST. 72" RCP TO REMAIN (APPROX. LOCATION)

DMH 13 (EXIST)

72" FRP LENGTH: 117'

6018

16+00

15+00

SEE DETAIL SHEET 000-C-8026 FOR MODIFICATIONS

CLEAN EXISTING PIPE TO REMOVE SEDIMENT AND DEBRIS

REPLACE EXIST. 24"Ø PIPE WITH 72" FRP

DMH 18.1 (SEE DETAIL SHEET 000-C-8027)

CATCH BASIN DISCHARGE LOCATION

4'x4' OLD STONE CULVERT (APPROX. LOCATION)

TEST PIT TO CONFIRM LOCATION OF STONE CULVERT

6016

14+00

ABANDON 4'x4' STONE CULVERT (APPROX. LOCATION)

84" RCP LENGTH: 364'

6015

DRAINAGE SYSTEM TO BE CONSTRUCTED UNDER THIS CONTRACT (TYP.)(SEE NOTE 1)

6014

13+00

CB RIM: 8.83 INV: 3.83 SUMP: 1.83

15" RCP

6013

12+00

CB RIM: 9.58 INV: 3.83 SUMP: 1.83

MH RIM: 9.55 INV: 3.59

6012

11+00

CATCH BASIN DISCHARGE LOCATION

RUTHERFORD AVE. OVERFLOW 5'x5' WOOD CULVERT INV. -6± (PROTECT IN PLACE)

MW-MR 10+60 (Sample collected)

MH RUTHERFORD OVERFLOW #1

INV OUT -4.20

66" FRP PIPE LENGTH: 14' SLOPE: 0.00%

6011

15" INV IN 2.73

DMH 13.2

4'X10' CONC. BOX

INV IN -4.18

MH RUTHERFORD OVERFLOW #2

6010

15" RCP

15" INV IN 3.20

DMH 13.3

EXISTING 66" CMP TO REMAIN (MEET EXIST. INVERT APPROX. -4.65)

FUTURE UTILITY POLE (BY OTHERS)

MW-MR 12+90 (Sample collected)

6017

36" CMP

EXIST. DRAINAGE SYSTEM ABANDON IN PLACE

MW-MR 14+80 (Sample collected)

FUTURE UTILITY POLE (BY OTHERS)

BOSTON SOMERVILLE

APPROXIMATE DISPOSAL SITE BOUNDARY (RTN 3-2534)

NOTES:

1. WHEN PRINTING IN COLOR, THIS SHEET CONTAINS DRAINAGE SYSTEMS IN RED (PIPES AND MANHOLES) TO INDICATE DRAINAGE WORK CONSTRUCTED UNDER THIS CONTRACT (IGMP-03).
2. SEE THE UTILITY PLANS FOR FURTHER DESCRIPTION OF PROPOSED UTILITIES AND IN WHICH SPECIFIC GLX CONTRACT EACH IS TO BE INSTALLED.
3. FOR RUTHERFORD AVENUE OVERFLOW MANHOLE No. 1 AND No. 2 DETAILS, SEE SHEET 000-C-8026.
4. SEE DETAILS SHEET 000-C-8027 FOR DMH 13.2 AND DMH 13.3.
5. ALL EXISTING PIPES CONNECTED TO DMH 13 SHALL REMAIN IN SERVICE, EXCEPT THE 24" PIPE TO BE REPLACED BY 72" FBERGLASS REINFORCED PIPE (FRP) AS SHOWN ON PLAN.
6. CONTRACTOR SHALL COORDINATE AND WORK WITH THE COMMUTER RAIL OPERATOR REGARDING THE REMOVAL OF STOCKPILED MATERIALS WITHIN THE WORK ZONE FOR DMH-13 AND ADJACENT AREA DOWNSTREAM.
7. FOR SPECIAL SUBGRADE PREPARATION AND BACKFILL REQUIREMENTS FOR ALL PIPES AND STRUCTURES ON THIS SHEET, SEE SHEET 000-C-0001.

Monitoring Well

20 0 20 40
SCALE IN FEET

FIGURE 2
Summary of Work & Monitoring Well Locations
Millers River Drainage Improvements
Green Line Extension Project
Boston/Cambridge, Massachusetts

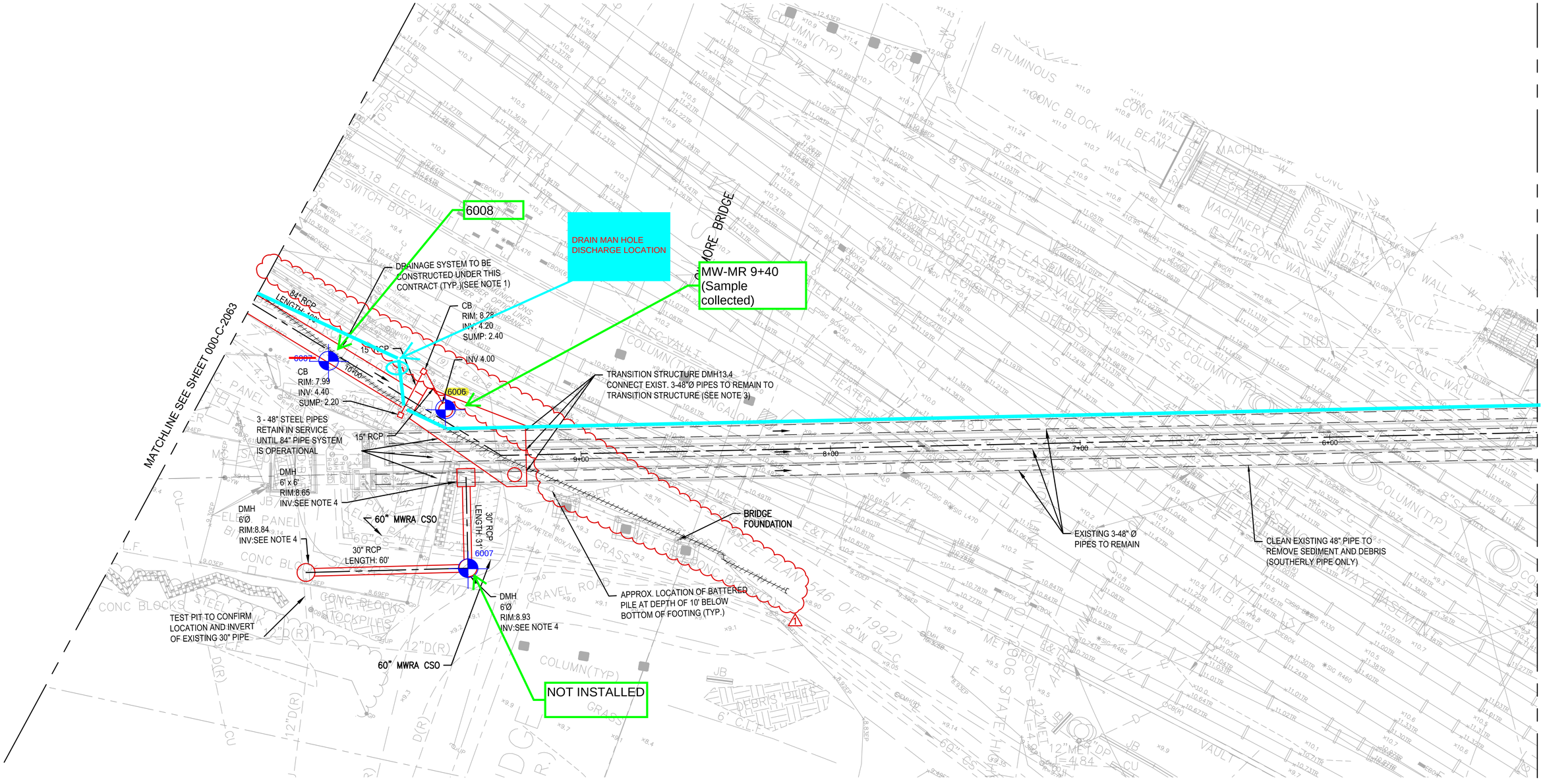
COMMONWEALTH OF MASSACHUSETTS JOSEPH A. CALAGIONE CIVIL No. 33676 REGISTERED PROFESSIONAL ENGINEER 10/17/14

GLX | massDOT Massachusetts Department of Transportation | AECOM | HNTB

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.
1	10/17/14	REF. FM # 003	SJR	PWB	JAC
0	09/12/14	CONFORMED DOCUMENT SUBMISSION - IGMP-03			

SCALE: 1"=20' | DRAWN BY | DESIGN BY | CHECK BY | PLAN NO. 178,656 | ISSUE
DATE: OCT 17, 2014 | SN | PWB | TMC | SHEET: 000-C-2063 | 1

PLOTTED: 10/15/14 11:38AM BY: WONG02
DRAWING: C:\USERS\WONG02\DOCUMENTS\PW DIRECTORY\QM506929\000-C-2061 TO 2069-IGMP3.DWG [000-C-2063_(GMP3) 10/14/14 5:35PM



NOTES:

1. WHEN PRINTING IN COLOR, THIS SHEET CONTAINS DRAINAGE SYSTEMS IN RED (PIPES AND MANHOLES) TO INDICATE DRAINAGE WORK CONSTRUCTED UNDER THIS CONTRACT (IGMP-03).
2. SEE THE UTILITY PLANS FOR FURTHER DESCRIPTION OF PROPOSED UTILITIES AND IN WHICH SPECIFIC GLX CONTRACT EACH IS TO BE INSTALLED.
3. FOR DETAILS OF DMH 13.4 SEE DETAILS ON SHEET 000-C-8028.
4. PROFILE SHALL BE ESTABLISHED BY ENGINEER BASED ON INVERTS ESTABLISHED IN THE FIELD BY CONTRACTOR.
5. FOR SPECIAL SUBGRADE PREPARATION AND BACKFILL REQUIREMENTS FOR ALL PIPES AND STRUCTURES ON THIS SHEET, SEE SHEET 000-C-0001.

Monitoring Well

20 0 20 40
SCALE IN FEET

FIGURE 2 (Cont.)
Summary of Work & Monitoring Well Locations
Millers River Drainage Improvements
Green Line Extension Project
Boston/Cambridge, Massachusetts

COMMONWEALTH OF MASSACHUSETTS
JOSEPH A. CALAGIONE
CIVIL
No. 33676
REGISTERED PROFESSIONAL ENGINEER
10/17/14

GLX | massDOT Massachusetts Department of Transportation | AECOM | HNTB

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.
1	10/17/14	REF. FM # 003	SJR	PWB	JAC
0	09/12/14	CONFORMED DOCUMENT SUBMISSION - IGMP-03			

SCALE: 1"=20'	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO. 178,655	ISSUE
DATE: OCT 17, 2014	SN	PWB	TMC	SHEET: 000-C-2062	1

IGMP-03 REVISED DRAWING - ISSUED FOR CONSTRUCTION - FIELD MEMO #3 DATED 10/23/2014

PLOTTED: 10/15/14 11:35AM BY: WONG02
DRAWING: C:\USERS\WONG02\DOCUMENTS\PW DIRECTORY\DMS08929\000-C-2061 TO 2069-IGMP3.DWG [000-C-2062_IGMP3] 10/14/14 5:35PM

IGMP-03 ISSUED FOR CONSTRUCTION

MATCHLINE SEE SHEET 000-C-2062

3 - 48" DRAIN INSIDE 6' CONC. CULVERT

COMMONWEALTH OF MASSACHUSETTS N/F LAND OF

48" STORM

48" STORM

48" STORM

48" RCP LENGTH: 38'

48" RCP LENGTH: 114'

48" RCP LENGTH: 36'

6002

6001

6003

6004

6005

EMH

EMH

DMH 13.6 7'Ø

DMH 13.7 7'Ø

DMH 13.8 7'Ø

DMH 13.5 7'Ø

EXISTING 42" AND 16" DIP FORCE MAINS TO REMAIN INV. 2.6±

DRAINAGE SYSTEM TO BE CONSTRUCTED UNDER THIS CONTRACT (TYP.)(SEE NOTE 1)

CLEAN EXISTING 48" PIPE TO REMOVE SEDIMENT AND DEBRIS (SOUTHERLY PIPE ONLY)

EXISTING 3-48"Ø PIPES TO REMAIN

ABANDON SOUTHERLY 48" PIPE IN PLACE BETWEEN DMH13.5 AND DMH13.8

CONNECT EXIST. 48"Ø PIPE TO MANHOLE

PLACED RIPRAP

EXISTING OUTLET STRUCTURE (COFFERDAM)

PRECAST MODULAR CONCRETE WALL SIMILAR TO EXISTING WALLS IN VICINITY OF COFFERDAM

48" RCP

INV. IN -3.31

EXIST. CONCRETE BLOCK

N

NOTES:

1. WHEN PRINTING IN COLOR, THIS SHEET CONTAINS DRAINAGE SYSTEMS IN RED (PIPES AND MANHOLES) TO INDICATE DRAINAGE WORK CONSTRUCTED UNDER THIS CONTRACT (IGMP-03).
2. SEE THE UTILITY PLANS FOR FURTHER DESCRIPTION OF PROPOSED UTILITIES AND IN WHICH SPECIFIC GLX CONTRACT EACH IS TO BE INSTALLED.
3. FOR DRAIN MANHOLE DETAILS SEE SHEETS 000-C-8029 AND 8030.
4. FOR MODIFICATION TO EXISTING OUTLET STRUCTURE/COFFERDAM SEE SHEET 000-C-8031.
5. FOR SPECIAL SUBGRADE PREPARATION AND BACKFILL REQUIREMENTS FOR ALL PIPES AND STRUCTURES ON THIS SHEET, SEE SHEET 000-C-0001.

Monitoring Well

20 0 20 40
SCALE IN FEET

FIGURE 2 (Cont.)
Summary of Work & Monitoring Well Locations
Millers River Drainage Improvements
Green Line Extension Project
Boston/Cambridge, Massachusetts

COMMONWEALTH OF MASSACHUSETTS JOSEPH A. CALAGIONE CIVIL No. 32676 REGISTERED PROFESSIONAL ENGINEER 9/16/14

GLX | massDOT Massachusetts Department of Transportation | AECOM | HNTB

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

SCALE:	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.	ISSUE
DATE: SEP 12, 2014				SHEET: DFORD BRANCH DRAINAGE PLAN MILLERS	

PLOTTED: 09/11/14 2:52PM BY: CROUSILLATA
DRAWING: C:\USERS\CROUSILLATA\DMS\DMS6929\000-C-2061 TO 2069-IGMP3.DWG [000-C-2061_IGMP3] 09/02/14 6:15PM

TABLES

TABLE 1
Summary of Groundwater Quality Data
Green Line Extension Project - Millers River Drainage Project
Boston/Cambridge, Massachusetts

Parameter	Units	MCP Reportable Concentrations	NPDES RGP Category III Freshwater Effluent Criteria		Sample Location			
		RCGW-2 (µg/L)	0 DF (µg/L)	>50-100 DF (µg/L)	MW-MR 9+40 (6006)	MW-MR 10+60 (6010)	MW/MR 12+90 (6014)	MW/MR 14+80 (6017)
					1/15/2015 12:30:00 PM	1/15/2015 11:40:00 AM	1/14/2015 3:30:00 PM	1/14/2015 1:00:00 PM
Total Metals								
ANTIMONY, TOTAL	µg/L	8000	5.6	141	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
ARSENIC, TOTAL	µg/L	900	10	500	**11**	**3.2**	**9.8**	**4.3**
CADMIUM, TOTAL	µg/L	4	0.2	10	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
CHROMIUM, TRIVALENT (+3)	µg/L	300	48.8	1710	**3**	**1.8**	**1.4**	**1.6**
CHROMIUM, HEXAVALENT (+6)	µg/L	300	11.4	570	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
COPPER, TOTAL	µg/L	100000	5.2	260	**11**	**7.3**	**7.8**	**6.3**
IRON, TOTAL	µg/L	~	1000	5000	**4500**	**21000**	**21000**	**7600**
LEAD, TOTAL	µg/L	10	1.3	66	**6.7**	**5.4**	**1.4**	**2.3**
MERCURY, TOTAL	µg/L	20	0.9	2.3	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
NICKEL, TOTAL	µg/L	200	29	1451	**9.9**	ND (5.0)	**6.8**	ND (5.0)
SELENIUM, TOTAL	µg/L	100	5	250	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
SILVER, TOTAL	µg/L	7	1.2	57	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
ZINC, TOTAL	µg/L	900	66.6	1480	**48**	**16**	ND (10)	ND (10)
Polychlorinated Biphenyls								
PCB 1016	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1221	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1232	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1242	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1248	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1254	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1260	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1262	µg/L	5	~	~	ND (0.20)	NT	NT	NT
PCB 1268	µg/L	5	~	~	ND (0.20)	NT	NT	NT
TOTAL PCBs	µg/L	5	~	~	ND (0.20)	NT	NT	NT
Total Petroleum Hydrocarbons	µg/L	5000	5000	~	**2600**	**1400**	**1100**	**1400**
Volatile Organic Compounds		NA						
ACETONE*	µg/L	50000	Monitor only	~	**11**	ND (10)	ND (10)	ND (10)
2-BUTANONE (MEK)*	µg/L	50000	~	~	**10**	ND (10)	ND (10)	ND (10)
Semi-Volatile Organic Compounds	µg/L	~	~	~	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
General Chemistry								
CHLORIDE	mg/L	~	Monitor only	~	**1600**	**1400**	**1500**	**1600**
CHLORINE, RESIDUAL	µg/L	~	11	~	**150**	**240**	**130**	**44**
CYANIDE	µg/L	30	5.2	~	ND (10)	ND (10)	**12**	ND (10)
OIL & GREASE (HEM) - via 1664B	µg/L	5000	5000	~	ND (2800)	ND (1400)	ND (1400)	ND (1600)
TOTAL SUSPENDED SOLIDS	mg/L	NA	30	~	**360**	**72**	**62**	**34**

NOTES:
1. DF = Dilution Factor
2. ND = Not detected above the lab reporting limits shown in parenthesis.
3. NT = Not tested.
4. ~ = No RCGW-2 or NPDES Standard
5. Shaded values exceed the MCP Reportable Concentrations (RCs) or NPDES RGP Limits (0 Dilution Factor)
6. **Bolded** values detected above laboratory reporting limits.
7. *Acetone and 2-butanone are suspected lab contaminants

ATTACHMENT A: NOI FORM

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:

<table>
<tr><td colspan="3">a) Name of facility/site: Green Line Extension/Commuter Rail Maintenance Facility Access Road</td><td colspan="3">Facility/site mailing address:</td></tr>
<tr><td colspan="2">Location of facility/site:
longitude: 71.04’ 20”
latitude: 42.22’ 24”</td><td>Facility SIC code(s):4011</td><td colspan="3">Street: 200 Innerbelt Road</td></tr>
<tr><td colspan="3">b) Name of facility/site owner: Massachusetts Bay Transportation Authority</td><td colspan="3">Town: Somerville</td></tr>
<tr><td colspan="3">Email address of facility/site owner: ddarby@mbta.com
Telephone no. of facility/site owner: 617-222-3169</td><td>State: MA</td><td>Zip: 02143</td><td>County: Suffolk</td></tr>
<tr><td colspan="3">Fax no. of facility/site owner:
Address of owner (if different from site):</td><td colspan="3">Owner is (check one): 1. Federal____ 2. State/Tribal__X__ 3. Private____ 4. Other ____ if so, describe:</td></tr>
<tr><td colspan="6">Street: 10 Park Plaza</td></tr>
<tr><td colspan="2">Town: Boston</td><td>State: MA</td><td>Zip: 02110</td><td colspan="2">County: Suffolk</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator:
White Skanska Kiewit, JV</td><td colspan="4">Operator telephone no: 617-454-1643</td></tr>
<tr><td colspan="2">Operator fax no.:</td><td colspan="2">Operator email: William.mcguiness@skanska.com</td></tr>
<tr><td colspan="6">Operator contact name and title: Mr. William McGuiness, Senior Project Manager</td></tr>
<tr><td colspan="2">Address of operator (if different from owner):</td><td colspan="4">Street: 200 Innerbelt Rd</td></tr>
<tr><td colspan="2">Town: Somerville</td><td>State: MA</td><td>Zip:02143</td><td colspan="2">County: Middlesex</td></tr>
</table>

<table>
<tr><td colspan="2">d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N__X_, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y___ N_X__, if Y, date</td></tr>
<tr><td colspan="2">3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y__X_ N___
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y_X__ N___</td></tr>
<tr><td rowspan="4">e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N__X_
If Y, please list:
1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:</td><td>f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y___ N_X__, if Y, number:</td></tr>
<tr><td>2. Final Dewatering General Permit? Y___ N_X__, if Y, number:</td></tr>
<tr><td>3. EPA Construction General Permit? Y_X__ N___, if Y, number: MAR12B154</td></tr>
<tr><td>4. Individual NPDES permit? Y___ N_X__, if Y, number:
5. Any other water quality related individual or general permit? Y___ N__X_, if Y, number:</td></tr>
<tr><td colspan="2">g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y____ N__X__</td></tr>
<tr><td colspan="2">h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</td></tr>
<tr><td>Activity Category</td><td>Activity Sub-Category</td></tr>
<tr><td>I - Petroleum Related Site Remediation</td><td>A. Gasoline Only Sites ____
B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ____
C. Petroleum Sites with Additional Contamination ____</td></tr>
<tr><td>II - Non Petroleum Site Remediation</td><td>A. Volatile Organic Compound (VOC) Only Sites _____
B. VOC Sites with Additional Contamination ____
C. Primarily Heavy Metal Sites ____</td></tr>
<tr><td>III - Contaminated Construction Dewatering</td><td>A. General Urban Fill Sites __X__
B. Known Contaminated Sites __X__</td></tr>
</table>

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:
Construction excavation activities related to infrastructure installation for the Green Line Extension project between Cambridge and Medford, MA.

b) Provide the following information about each discharge:

1) Number of discharge points:4	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow: **0.468 & 0.111** Is maximum flow a **design value**? Y__**X**_ N____
	Average flow (include units) **50 gpm** Is average flow a design value or estimate? **Design**

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat. 42 22’24”	long. 71 4’21”	; pt.2: lat. 42 22’24.50”	long. 71 4’ 20”	;
pt.3: lat. 42 22’22”	long. 71 4’16”	; pt.4: lat. 42 22’21”	long. 71 4’15”	;
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 __**X**__ or seasonal____? Is discharge ongoing? Y ___ N **X**

c) Expected dates of discharge (mm/dd/yy): start**: 03/23/15** end: **07/31/15**

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). **See attached figures.**

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.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value concentration (ug/l)	Maximum daily value mass (kg)	Average daily value concentration (ug/l)	Average daily value mass (kg)
1. Total Suspended Solids (TSS)			X	4	GRAB	2540D	10 mg/L	360	0.172	132	0.063
2. Total Residual Chlorine (TRC)			X	4	GRAB	4500	0.020 mg/L	240	0.115	141	0.067
3. Total Petroleum Hydrocarbons (TPH)			X	4	GRAB	8100M	0.2 mg/L	2600	1.242	1625	0.776
4. Cyanide (CN)	57125		X	4	GRAB	9014	0.010 mg/L	12	0.006	6.8	0.003
5. Benzene (B)	71432	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
6. Toluene (T)	108883	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
7. Ethylbenzene (E)	100414	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	X		4	GRAB	8260C	3.0 µg/L	ND		ND	
9. Total BTEX [2]	n/a	X		4	GRAB	8260C	6.0 µg/L	ND		ND	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	X		4	GRAB	8260C	0.50 µg/L	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	X		4	GRAB	8260C	20 µg/L	ND		ND	

4

***** 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.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	X		4	GRAB	8260C	0.50 µg/L	ND		ND	
14. Naphthalene	91203	X		4	GRAB	8260C	2.0 µg/L	ND		ND	
15. Carbon Tetrachloride	56235	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
18a. Total dichlorobenzene		X		4	GRAB	8260C	1.0 µg/L	ND		ND	
19. 1,1 Dichloroethane (DCA)	75343	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
20. 1,2 Dichloroethane (DCA)	107062	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
22. cis-1,2 Dichloroethene (DCE)	156592	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
23. Methylene Chloride	75092	X		4	GRAB	8260C	5.0 µg/L	ND		ND	
24. Tetrachloroethene (PCE)	127184	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
25. 1,1,1 Trichloroethane (TCA)	71556	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
26. 1,1,2 Trichloroethane (TCA)	79005	X		4	GRAB	8260C	1.0 µg/L	ND		ND	
27. Trichloroethene (TCE)	79016	X		4	GRAB	8260C	1.0 µg/L	ND		ND	

X

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value concentration (ug/l)	Maximum daily value mass (kg)	Average daily value concentration (ug/l)	Average daily value mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	X		4	GRAB	8260C	2.0 µg/L	ND		ND	
29. Acetone	67641	X		4	GRAB	8260C	10 µg/L	ND		ND	
30. 1,4 Dioxane	123911	X		4	GRAB	8260C	50 µg/L	ND		ND	
31. Total Phenols	108952	X		4	GRAB	8270D	120 µg/L	ND		ND	
32. Pentachlorophenol (PCP)	87865	X		4	GRAB	8270D	10 µg/L	ND		ND	
33. Total Phthalates (Phthalate esters) [4]		X		4	GRAB	8270D	60 µg/L	ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	X		4	GRAB	8270D	10 µg/L	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		X		4	GRAB	8270D	35 µg/L	ND		ND	
a.Benzo(a) Anthracene	56553	X		4	GRAB	8270D	5 µg/L	ND		ND	
b. Benzo(a) Pyrene	50328	X		4	GRAB	8270D	5 µg/L	ND		ND	
c.Benzo(b)Fluoranthene	205992	X		4	GRAB	8270D	5 µg/L	ND		ND	
d. Benzo(k)Fluoranthene	207089	X		4	GRAB	8270D	5 µg/L	ND		ND	
e.Chrysene	21801	X		4	GRAB	8270D	5 µg/L	ND		ND	
f. Dibenzo(a,h)anthracene	53703	X		4	GRAB	8270D	5 µg/L	ND		ND	
g. Indeno(1,2,3-cd) Pyrene	193395	X		4	GRAB	8270D	5 µg/L	ND		ND	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		X		4	GRAB	8270D	45 µg/L	ND		ND	

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
i. Acenaphthylene	208968	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
j. Anthracene	120127	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
k. Benzo(ghi) Perylene	191242	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
l. Fluoranthene	206440	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
m. Fluorene	86737	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
n. Naphthalene	91203	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
o. Phenanthrene	85018	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
p. Pyrene	129000	X		4	GRAB	8270D	5.0 µg/L	ND		ND	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	X		0	N/A	N/A	N/A	N/A		N/A	
38. Chloride	16887006		X	4	GRAB	4500	100 mg/L	1,600,000	764	1,525,000	728
39. Antimony	7440360	X		4	GRAB	6020A	1.0 µg/L	ND		ND	
40. Arsenic	7440382		X	4	GRAB	6020A	0.40 µg/L	11	0.005	3.2	0.002
41. Cadmium	7440439	X		4	GRAB	6020A	0.50 µg/L	ND		ND	
42. Chromium III (trivalent)	16065831	X		4	GRAB	6020A	1.0 µg/L	ND		ND	
43. Chromium VI (hexavalent)	18540299	X		4	GRAB	3500	0.0040 µg/L	ND		ND	
44. Copper	7440508		X	4	GRAB	6020A	5.0 µg/L	11	0.005	6.3	0.003
45. Lead	7439921		X	4	GRAB	6020A	1.0 µg/L	6.7	0.003	1.4	0.0007
46. Mercury	7439976	X		4	GRAB	7470A	0.0001 µg/L	ND		ND	
47. Nickel	7440020		X	4	GRAB	6020A	5.0 µg/L	9.9	0.005	5.4	0.0026
48. Selenium	7782492	X		4	GRAB	6020A	5.0 µg/L	ND		ND	
49. Silver	7440224	X		4	GRAB	6020A	0.50 µg/L	ND		ND	
50. Zinc	7440666		X	4	GRAB	6020A	10 µg/L	48	0.023	18.5	0.009
51. Iron	7439896		X	4	GRAB	6010C	0.050 µg/L	21,000	10.0	13,525	6.46
Other											

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value concentration (ug/l)	Maximum daily value mass (kg)	Average daily value concentration (ug/l)	Average daily value mass (kg)
Fats, Oils & Grease		X		4	GRAB	1664B	1.4 mg/L	ND		ND	

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y__**X**__ N____	If yes, which metals? **Iron, Lead, Arsenic, Copper**
Step 2: 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? Metal: **Iron** DF: **98** Metal: **Lead** DF: **98** Metal: **Arsenic** DF: **98** Metal: **Copper** DF: **98**	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)? Y__**X**__ N____ If Y, list which metals: Iron

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including: a) A description of the treatment system, including a schematic of the proposed or existing treatment system: **Groundwater will be pumped from the excavation into one or more fractionation tanks, through 2 20-micron bag filters in series, through GAC unit(s) and if needed through either an ion exchange unit or zeolite filtration units through a flow meter prior to discharge to the storm drain system via catch basin or manhole. See figure in accompanying NOI Letter for system schematic.**

b) Identify each applicable treatment unit (check all that apply):	Frac. tank **X**	Air stripper	Oil/water separator: **X**	Equalization tanks: X	Bag filter: X	GAC filter : X
	Chlorination	De-chlorination	Other (please describe): Ion Exchange; multi-media filter if necessary	Additional pretreatment as necessary to meet NPDES RGP Discharge Criteria.		

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 **50 gpm** Maximum flow rate of treatment system **210 gpm**
Design flow rate of treatment system **210 gpm**

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

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 __**X**__	Wetlands ____	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: **Excavation though treatment system into the nearest storm drain access into the Millers River (segment MA72-31)/Charles River immediately upstream of the Charles River Dam.**

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: **B**

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water: **45 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__**X**__ N____ If yes, for which pollutant(s)? Heavy Metals, PCB, TPH, PAHs
Is there a final TMDL? Y__**X**__ N____ If yes, for which pollutant(s)? **Phosphorus (Charles River)**

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.

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 __**X**__ B ____ C ____ D ____ E ____ F ____

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y____ **N**____ Underway____

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**____

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

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 __**X**__ 3 ____

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.

7. Supplemental information.

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

See accompanying letter for the above-referenced supporting documentation.

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: **MBTA Commuter Rail Maintenance Facility Access Road**

Operator signature: Charles E. Connor Jr. - For William McGuinness

Printed Name &Title: **William McGuinness, WSK Senior Project Manager**

Date: 3/17/15

8. Signature Requirements: The Notice of Intent must be signed by the owner 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: **MBTA Commuter Rail Maintenance Facility Access Road**

Operator signature:

Printed Name &Title: **Debra Darby, Site Remediation Specialist**

Date: 3/18/2015

ATTACHMENT B: BEST MANGEMENT PRACTICES PLAN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIATION GENERAL PERMIT
MILLERS RIVER STORMWATER DRAINAGE IMPROVEMENTS
BOSTON/CAMBRIDGE, MASSACHUSETTS

Best Management Practices Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering planned to occur during Millers River stormwater drainage improvements associated with the Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension (GLX) project in Boston, Cambridge, and Somerville, Massachusetts. Best Management Practices (BMPs) will be implemented during construction activities that will occur during installation of new stormwater drainage piping and related stormwater control structures along an approximately 700 linear foot portion of the access road located south of the MBTA Commuter Rail Maintenance Facility (CRMF) in Boston and Cambridge, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering effluent is anticipated to be pumped from well points installed in sump pits within the excavations, through hoses or temporary pipe, and directly into a tank for sedimentation control. The effluent will then flow through any necessary pre-treatment systems and discharge through hoses or temporary piping to catch basins on site that discharge to the Charles River. As required, dewatering effluent treatment may consist of bag filters, granular activated carbon (GAC), ion exchange, mixed-media filtration or precipitation to meet the effluent discharge limits.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes chemical testing required within the first month of discharge, and then monthly testing through the end of the scheduled discharge.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the "system design flow" by regularly monitoring flow and adjusting the amount of construction dewatering as needed.

Monthly discharge monitoring reports (DMRs) will be compiled and maintained by the Contractor and/or owner's representative. Copies of DMRs will be kept on file at the field office

trailer.

System Maintenance

A number of maintenance methods will be used to minimize the potential for violations during the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the fractionation tanks, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements. WSK has all of the anticipated labor necessary to perform treatment system maintenance.

System Operator Training

Employees who have direct responsibility for ensuring compliance with the RGP will be trained by the Massachusetts licensed wastewater treatment plant operator (minimum Grade 2).

Miscellaneous Items

It is anticipated that the excavation support system, erosion control measures, and the nature of the site and surrounding infrastructure will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control.

Site security for the treatment system will be covered within the overall site security plan.

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Charles River which is located approximately 1,400 feet to the south of the work area.

Management of Treatment System Materials

Dewatering effluent will be pumped via hose directly to the treatment system from the excavations associated with the project to minimize handling. To the extent practicable, the Contractor will establish staging areas for equipment or materials storage of any sources of pollution away from any dewatering activities.

Sediment/sludge from the fractionation tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. If used, granular activated carbon multi-media filters and/or ion exchange resin may be recycled and/or removed from the site to an appropriate receiving facility. Bag filters, if used, will be disposed of in accordance with applicable rules and regulation.

ATTACHMENT C: ENDANGERED SPECIES REVIEW

Remediation General Permit
Appendix I

Areas of Critical Environmental Concern (ACEC) in Massachusetts

This appendix presents the June 2009 list of Massachusetts ACECs, Towns with ACECs within their Boundaries, and a map showing ACECs. If the project proposed is located in one of the communities listed on the "Towns with ACECs within their Boundaries", the project may be located in an ACEC.

To confirm whether the project location is in an ACEC, contact the local Conservation Commission or the Massachusetts Department of Conservation & Recreation (DCR) ACEC program at:

Elizabeth Sorenson, Director
ACEC Program
Massachusetts Department of Conservation and Recreation
Bureau of Planning and Resource Protection
251 Causeway St., Ste. 700, Boston, MA 02114-2104
Phone: 617-626-1394
Email: Elizabeth.Sorenson@state.ma.us
Fax: 617-626-1349

For further information, please reference the Massachusetts DCR ACEC Program Home website at: http://www.mass.gov/dcr/stewardship/acec/index.htm

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
June 2009

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog
(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills
(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed
(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp
(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag
(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay
(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River
(160 acres, 1980) Bourne

Rumney Marshes
(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit
(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

Weir River
(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor
(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

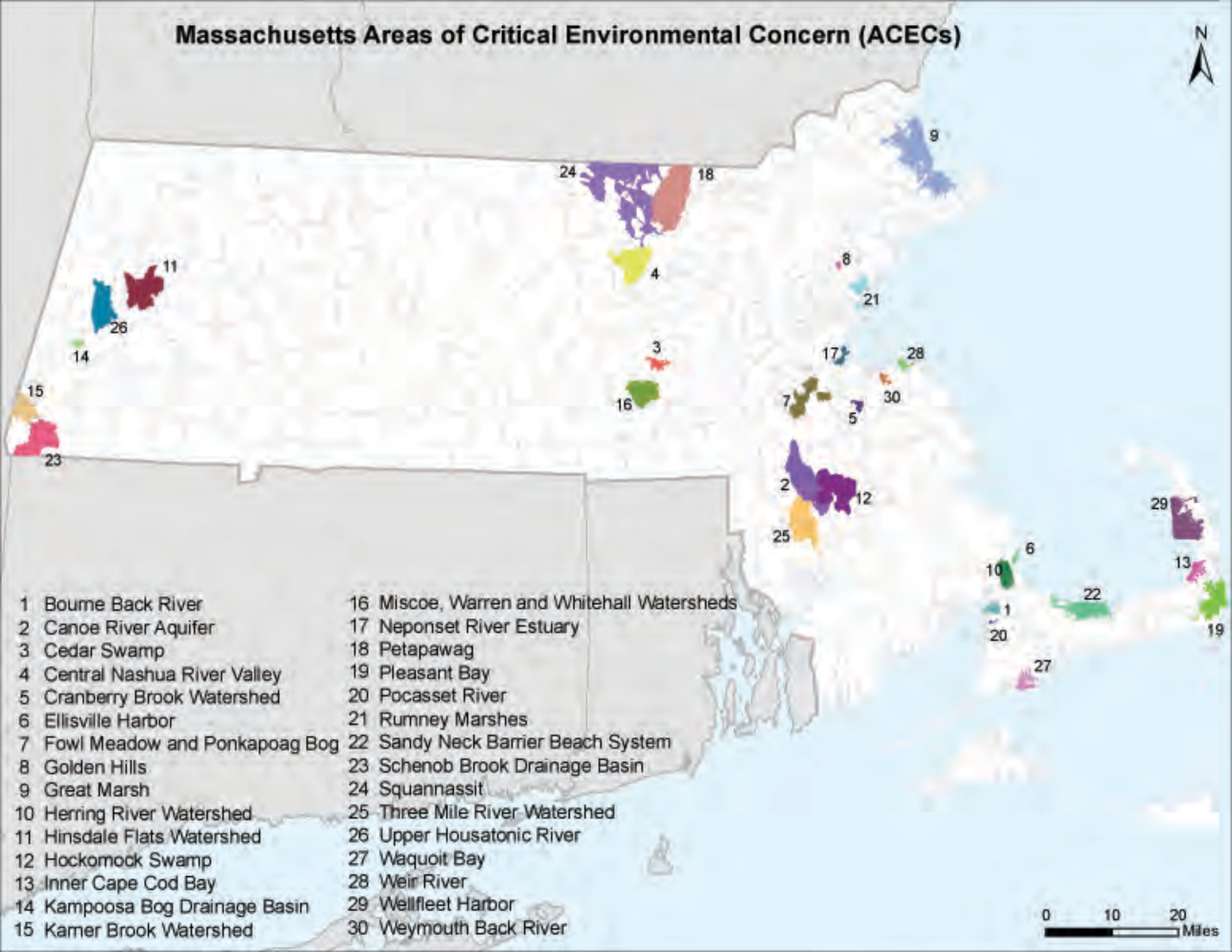
Towns with ACECs within their Boundaries June 2009

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
Hull	Weir River
Ipswich	Great Marsh
Lancaster	Central Nashua River Valley
	Squannassit
Lee	Kampoosa Bog Drainage Basin
	Upper Housatonic River
Lenox	Upper Housatonic River
Leominster	Central Nashua River Valley
Lunenburg	Squannassit
Lynn	Rumney Marshes
Mansfield	Canoe River Aquifer
Mashpee	Waquoit Bay
Melrose	Golden Hills
Milton	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary

TOWN	ACEC
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

.

Massachusetts Areas of Critical Environmental Concern (ACECs)



1 Bourne Back River
2 Canoe River Aquifer
3 Cedar Swamp
4 Central Nashua River Valley
5 Cranberry Brook Watershed
6 Ellisville Harbor
7 Fowl Meadow and Ponkapoag Bog
8 Golden Hills
9 Great Marsh
10 Herring River Watershed
11 Hinsdale Flats Watershed
12 Hockomock Swamp
13 Inner Cape Cod Bay
14 Kampoosa Bog Drainage Basin
15 Karner Brook Watershed
16 Miscoe, Warren and Whitehall Watersheds
17 Neponset River Estuary
18 Petapawag
19 Pleasant Bay
20 Pocasset River
21 Rumney Marshes
22 Sandy Neck Barrier Beach System
23 Schenob Brook Drainage Basin
24 Squannassit
25 Three Mile River Watershed
26 Upper Housatonic River
27 Waquoit Bay
28 Weir River
29 Wellfleet Harbor
30 Weymouth Back River

Remediation General Permit
Appendix II

Endangered Species Act: List of Species by County in Massachusetts and in New Hampshire

The following is the U.S. Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts and New Hampshire. If you are located close to the border of a county or your site is located in one county and your discharge points are located in another, you must look under both counties.

The New Hampshire and Massachusetts lists were updated on 7/31/2008; however, please note that species are listed and de-listed periodically. To get the most current list at the time you are conducting your endangered species assessment, see the FWS Endangered Species Program website at http://www.fws.gov/endangered/ and the U.S. FWS New England Field Office website at http://www.fws.gov/newengland/index.htm

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	Raynham and 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	Glocester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	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.	Hadley, 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, and Wareham
	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.

7/31/2008

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfeboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzey, Keene and Surry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

-Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
-Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
-There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008

ATTACHMENT D: HISTORICAL/MACRIS REVIEW

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.A	Bow Street Historic District		Somerville	
SMV.B	Tufts, Nathan Park		Somerville	
SMV.C	Central Hill		Somerville	
SMV.D	Summit Avenue		Somerville	
SMV.E	Davis Square		Somerville	
smv.f	Powder House - Winter Hill Industrial Area		Somerville	
SMV.G	Union Square Commercial District		Somerville	
SMV.H	Ward Two Industrial Area		Somerville	
SMV.I	Assembly Square		Somerville	
SMV.J	Teele Square		Somerville	
SMV.K	Ball Square		Somerville	
SMV.L	Magoun Square		Somerville	
SMV.M	Gilman Square		Somerville	
SMV.N	Campbell Park - Meacham Road Historic District		Somerville	
SMV.O	Brastow and Harvard Street Subdivision		Somerville	
SMV.P	Concord Square - Concord Avenue		Somerville	
SMV.Q	Homer Square		Somerville	
SMV.R	Houghton - Oak Streets Area		Somerville	
SMV.S	Jacques - Bond - Heath Streets Subdivision		Somerville	
SMV.T	Kent Court		Somerville	
SMV.U	Mount Benedict		Somerville	
SMV.V	Clyde - Murdock Brickworker's Neighborhood		Somerville	
SMV.W	Russell, William A. Subdivision		Somerville	
SMV.X	Somerville Avenue		Somerville	
SMV.Y	Thurston - Dartmouth - School Streets Area		Somerville	
SMV.Z	Wesley Park		Somerville	
SMV.AA	Garrison Streetscape		Somerville	
SMV.AB	Partridge Street Area		Somerville	
SMV.AC	McGregor Street Area		Somerville	

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.AD	Highland Road Area		Somerville	
SMV.AE	Hall Street Area		Somerville	
SMV.AF	Bay State Avenue Area		Somerville	
SMV.AG	Fountain Avenue Area		Somerville	
SMV.AH	Florence Street Area		Somerville	
SMV.AI	Ellsworth Streetscape		Somerville	
SMV.AJ	Harrison Street Area		Somerville	
SMV.AK	Church Street Area		Somerville	
SMV.AL	Beacon Streetscape		Somerville	
SMV.AM	Powder House Boulevard Area		Somerville	
SMV.AN	Paulina Streetscape		Somerville	
SMV.AO	Ossippe Road Area		Somerville	
smv.ap	Westwood Road Historic District		Somerville	
SMV.AQ	Spring Hill Historic District		Somerville	
SMV.AR	Mount Vernon Street Historic District		Somerville	
SMV.AS	Professor's Row		Somerville	
SMV.AT	Westwood Road Historic District		Somerville	
SMV.AU	Hollander Blocks		Somerville	
SMV.AV	Chester Street Historic District		Somerville	
SMV.AW	Columbus Avenue - Warren Avenue Historic District		Somerville	
SMV.AX	Pleasant Avenue Historic District		Somerville	
SMV.AY	Somerville Multiple Resource Area		Somerville	
SMV.AZ	Water Supply System of Metropolitan Boston		Somerville	
SMV.BA	Somerville Single Building Local Historic District		Somerville	
SMV.BB	Metropolitan Park System of Greater Boston		Somerville	
SMV.BC	Diners of Massachusetts		Somerville	
smv.bd	Middlesex Canal Historic and Archaeological		Somerville	
smv.be	Middlesex Canal Historic and Archaeological		Somerville	
SMV.BF	Aldersey - Summit Historic District		Somerville	
SMV.BG	Alewife Brook Parkway		Somerville	
SMV.BH	Immaculate Conception Roman Catholic Church		Somerville	
SMV.BI	Cambridge Multiple Resource Area		Somerville	
SMV.BJ	Mystic Valley Parkway		Somerville	
SMV.BK	Orchard Street Area		Somerville	
smv.bl	Central - Atherton - Spring - Summer Streets		Somerville	
SMV.BM	Dane Street Local Historic District		Somerville	
SMV.BN	Florence - Myrtle Streets Local Historic District		Somerville	
SMV.BO	Everett Street Local Historic District		Somerville	
SMV.BP	Lowell Historic District		Somerville	
SMV.BQ	Lower Franklin Street Local Historic District		Somerville	
SMV.BR	Morrison Avenue Local Historic District		Somerville	
SMV.BS	Mount Vernon Street Local Historic District		Somerville	
SMV.BT	Linden Avenue, 60, Local Historic District		Somerville	

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.BU	Upper Perkins - Webster Streets Local Historic		Somerville	
SMV.BV	East Somerville Local Historic District		Somerville	
SMV.BW	Flint Street Local Historic District		Somerville	
SMV.BX	Pearl Street Local Historic District		Somerville	
SMV.BY	Prospect Hill Local Historic District		Somerville	
SMV.BZ	Thurston - Walnut Local Historic District		Somerville	
SMV.CA	Union Square Local Historic District		Somerville	
SMV.CB	Nine Brastow Avenue Local Historic District		Somerville	
SMV.CC	Bennett Street Industrial Area		Somerville	
SMV.CD	Properzi Way Area		Somerville	
SMV.CE	American Tube Works Company Complex		Somerville	
SMV.331	Harlow, George H. House	7 Adams St	Somerville	1893
SMV.145	Keyes, Amos House	12 Adams St	Somerville	c 1860
SMV.332	Bentley, Emma House	15 Adams St	Somerville	1894
SMV.493		30 Adams St	Somerville	c 1890
SMV.144	Downer Rowhouses	55-63 Adams St	Somerville	c 1880
SMV.143	Williams, F. G. House	37 Albion St	Somerville	c 1860
SMV.1144	Vinal, Quincy A. - Cheever, Albert House	6 Aldersey St	Somerville	c 1895
SMV.1143	Vinal, Quincy A. - Tead, Rev. Edward Sampson House	8 Aldersey St	Somerville	c 1880
SMV.1139	Vinal, Quincy A. House	9-11 Aldersey St	Somerville	c 1849
SMV.1142	Hammond, Stephen G. - Lovering, Joseph House	12 Aldersey St	Somerville	1869
SMV.1141	Elizabeth S. - Steven, Fenno House	14-16 Aldersey St	Somerville	1870
SMV.277	Taylor, Adoniram House and Stable	17-19A Aldersey St	Somerville	1868
SMV.1140	Lord, David D. House	18 Aldersey St	Somerville	r 1890
SMV.142	Mystic Pumping Station	Alewife Brook Pkwy	Somerville	1863
SMV.930	Alewife Brook Parkway - Northern Segment	Alewife Brook Pkwy	Somerville	1908
SMV.932	Alewife Brook Parkway Tree Border	Alewife Brook Pkwy	Somerville	r 1920
SMV.1280	Harding, Chester E. - Psilopoulos, Harry House	279 Alewife Brook Pkwy	Somerville	1928
SMV.1281	Pollock, James N. and Thomas House	283 Alewife Brook Pkwy	Somerville	1928
SMV.689	Alewife Brook Pumping Station	392 Alewife Brook Pkwy	Somerville	c 1927
SMV.367	Rowe, John House	10 Allen Ct	Somerville	c 1860
SMV.368		21 Allen St	Somerville	r 1845
SMV.369		42 Allen St	Somerville	r 1835
SMV.708	Faulkner Brothers Garage	11-15 Alpine St	Somerville	1950
SMV.494		41 Ames St	Somerville	r 1895
SMV.521	Kempton, Charles House	27 Appleton St	Somerville	c 1865
SMV.522	Parkhurst, Charles House	29 Appleton St	Somerville	c 1860
SMV.1008	Building #29	Arlington St	Somerville	c 1925
SMV.141	Williams, Charles Jr. House	1 Arlington St	Somerville	c 1858
SMV.140		10 Arlington St	Somerville	c 1885
SMV.1151	Saint Benedict's Roman Catholic Church Rectory	25 Arlington St	Somerville	1934
SMV.566	Rawson, James House	28 Arlington St	Somerville	1860
SMV.70	Carr, Martin W. School	25 Atherton St	Somerville	1898

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.93	Robinson, Enoch House	36 Atherton St	Somerville	1856
SMV.92	Robinson, William House	40 Atherton St	Somerville	c 1860
SMV.91		44-48 Atherton St	Somerville	c 1850
SMV.1031		47 Atherton St	Somerville	c 1880
SMV.1032	Rogers, Artemas House	53 Atherton St	Somerville	c 1850
SMV.1033	Frost, John O. House	54 Atherton St	Somerville	c 1880
SMV.1034	Dwyer, James A. - Murphy, Elizabeth House	55-57 Atherton St	Somerville	1916
SMV.90		58-60 Atherton St	Somerville	c 1850
SMV.1035	Edgerton, W. L. House	61 Atherton St	Somerville	c 1860
SMV.1036		65-67 Atherton St	Somerville	c 1870
SMV.915	Mystic Valley Parkway - Auburn Street Bridge	Auburn St	Somerville	1906
SMV.567	Baker, James B. T. House	7 Auburn St	Somerville	c 1860
SMV.617	Woods, John M. House	3 Avon St	Somerville	c 1890
SMV.2	Boston Engine Terminal Budd House	B & M Railroad	Somerville	1957
SMV.3	Boston Engine Terminal Yard #5 Shanty	B & M Railroad	Somerville	c 1930
SMV.4	Boston Engine Terminal Diesel Locomotive Shop	B & M Railroad	Somerville	1948
SMV.5	Boston Engine Terminal Tin Store House	B & M Railroad	Somerville	1932
SMV.7	Boston Engine Terminal Office Building	B & M Railroad	Somerville	1930
SMV.8	Boston Engine Terminal Service and Inspection Hse	B & M Railroad	Somerville	1972
SMV.9	Boston Engine Terminal Engine House	B & M Railroad	Somerville	1931
SMV.908	High Line Bridge	B & M Railroad	Somerville	1927
SMV.1152	Harris, Samuel T. - Scott, Herbert K. House	41 Bartlett St	Somerville	1894
SMV.913	Beacon Street Bridge over B and M Railroad	Beacon St	Somerville	1899
SMV.779	Beacon Street Garage	6-8 Beacon St	Somerville	1917
SMV.778	Boston Knitting Mill - Cambridge Rubber Company	10-12 Beacon St	Somerville	c 1925
SMV.777	Graff, George B. Manufacturing Company Factory	14-18 Beacon St	Somerville	1920
SMV.139		28-36 Beacon St	Somerville	c 1880
SMV.138	Wyatt, George House	33 Beacon St	Somerville	c 1860
SMV.370		38 Beacon St	Somerville	c 1885
SMV.371		46-48 Beacon St	Somerville	c 1886
SMV.1025	Delay, Honora Apartment House	50 Beacon St	Somerville	c 1890
SMV.1153	Dimmick, Calvin House	69-71 Beacon St	Somerville	1899
SMV.372		76 Beacon St	Somerville	c 1870
SMV.1154	Forsberg, Eric Bakery	99 Beacon St	Somerville	c 1926
SMV.780		108 Beacon St	Somerville	c 1890
SMV.373		185-187 Beacon St	Somerville	c 1890
SMV.783		189-191 Beacon St	Somerville	c 1928
SMV.784	Colonial Repair Service	225-227 Beacon St	Somerville	1925
SMV.227	Durell, George W. School	245 Beacon St	Somerville	1894
SMV.374		321-323 Beacon St	Somerville	c 1890
SMV.375		328 Beacon St	Somerville	c 1880
SMV.376		336 Beacon St	Somerville	c 1850
SMV.1338	Conant, George F. - Knapp, Oren S. House	11 Belmont St	Somerville	c 1855

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.216	James, Joseph Knightley House	83 Belmont St	Somerville	1893
SMV.618		2-4 Belmont Terr	Somerville	c 1848
SMV.568		23 Benedict St	Somerville	c 1868
SMV.1344	Bennett Auto Exchange Body Shop	26 Bennett St	Somerville	1941
SMV.1345	Prospect Iron and Steel Corporation Warehouse	32 Bennett St	Somerville	c 1970
SMV.1346	Prospect Iron and Steel Corporation	38 Bennett St	Somerville	1989
SMV.619	Benton, Reuben - Corwin, Charles R. House	1 Benton Rd	Somerville	c 1890
SMV.1088	Benton, Reuben - Hood, Charles H. House	2 Benton Rd	Somerville	c 1890
SMV.19	Raymond, Francis House	12 Benton Rd	Somerville	c 1910
SMV.18	Carr, Eugene House	18 Benton Rd	Somerville	c 1910
SMV.621	Haskell, Richard House	40 Benton Rd	Somerville	c 1858
SMV.137	Snow, Lemuel Jr. House	81 Benton Rd	Somerville	c 1890
SMV.136	Crowell, C. C. House	85 Benton Rd	Somerville	c 1890
SMV.622		70 Berkely St	Somerville	r 1895
SMV.1262	Morse, George H. House	4 Berwick St	Somerville	1890
SMV.272	Robbins, Henry House	2 Bigelow St	Somerville	1886
SMV.1155	Bean, Ivory - Bailey, Mary E. House	10 Bigelow St	Somerville	c 1887
SMV.464	Sharpe, Robert - Klenert, John F. House	4 Billingham St	Somerville	c 1890
SMV.465	Robie, Alma M. House	14 Billingham St	Somerville	c 1890
SMV.792	Boston Ice Company Building	Bleachery Ct	Somerville	c 1915
SMV.378		2-4 Bolton St	Somerville	r 1865
SMV.1026		6-8 Bolton St	Somerville	r 1865
SMV.239	Bonner, William House	17 Bonner Ave	Somerville	r 1850
SMV.1115	Bromfield - Pearson School and Engineering Bldg.	Boston Ave	Somerville	
SMV.926	Boston Engine Terminal Oil Separation House	Boston Eng. Terminal	Somerville	c 1932
SMV.1017	Boston Engine Terminal Power Plant	Boston Eng. Terminal	Somerville	1932
SMV.273	Blodgett, Elizabeth House	65 Boston St	Somerville	1887
SMV.1156	Dugan, John House	71-73 Boston St	Somerville	c 1845
SMV.450		79 Boston St	Somerville	r 1855
SMV.274	Marden, Jennie House	83 Boston St	Somerville	1892
SMV.55	Munroe, Edwin and Benjamin House	91 Boston St	Somerville	c 1850
SMV.775	Somerville National Bank	11-15 Bow St	Somerville	1908
SMV.774	U. S. Post Office - Union Square Branch	16-18 Bow St	Somerville	1919
SMV.20	Prospect Hill Congregational Church	17 Bow St	Somerville	1887
SMV.22	Bell, Dr. - Lambert House	26 Bow St	Somerville	c 1874
SMV.21	Orcutt, W. House	30 Bow St	Somerville	c 1874
SMV.1279	Dearborn, Dr. Alvah B. House	32 Bow St	Somerville	c 1890
SMV.26	Richmond, The	33-37 Bow St	Somerville	1892
SMV.23	Sanborn, Robert - Dearborn, Dr, Alvah B. House	34 Bow St	Somerville	c 1852
SMV.24	Plummer, S. N. House	36 Bow St	Somerville	c 1874
SMV.25	Market Building	38-40 Bow St	Somerville	c 1928
SMV.28		39-49 Bow St	Somerville	c 1900
SMV.33	Crumbie, William G. House	42 Bow St	Somerville	c 1874

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.29	Mann, Dr. E. C. House	46 Bow St	Somerville	c 1874
SMV.32	Somerville Police Station	50 Bow St	Somerville	1874
SMV.31	Couch, Dr. - Arnold House	56 Bow St	Somerville	c 1874
SMV.30	Bow Street Hotel	58-68 Bow St	Somerville	c 1900
SMV.776	Cities Service Refining Company Fuel Station	69-71 Bow St	Somerville	c 1925
SMV.752	New England Telephone Building	2-6 Bradley St	Somerville	1904
SMV.623	Sewall, Charles E. House	9 Brastow Ave	Somerville	c 1873
SMV.1157	Sewall, Charles E. Stable	9R Brastow Ave	Somerville	c 1873
SMV.718	Arthur, The	102-114 Bristol Rd	Somerville	1909
SMV.927	Revere, Paul Park	Broadway	Somerville	
SMV.1011	Hurst's Broadway Theater	79-83 Broadway	Somerville	1915
SMV.1009	Columbia Building	84-86 Broadway	Somerville	1902
SMV.1010	Franklin Building	88-90 Broadway	Somerville	1919
SMV.1012		132-146 Broadway	Somerville	c 1915
SMV.1013	Park Garage Company Building	161 Broadway	Somerville	1914
SMV.1014	Somerville Fire Station Engine #2	165 Broadway	Somerville	1895
SMV.318	Holt, Chauncey House	257 Broadway	Somerville	1877
SMV.736	Welden Hall - Broadway Theater	310-318 Broadway	Somerville	c 1880
SMV.737		315-321A Broadway	Somerville	1924
SMV.735		322 Broadway	Somerville	1911
SMV.319	Princeton, The	333 Broadway	Somerville	1914
SMV.733	Princeton Garage	337-345 Broadway	Somerville	1926
SMV.734	Somerville Trust Company	338 Broadway	Somerville	1926
SMV.135	Langmaid Terrace	359-365 Broadway	Somerville	1892
SMV.333	Glidden, Walter House	380 Broadway	Somerville	1898
SMV.334		392-394 Broadway	Somerville	c 1874
SMV.1023		396-398 Broadway	Somerville	c 1874
SMV.1024		400 Broadway	Somerville	c 1874
SMV.134	Broadway Winter Hill Congregational Church	404 Broadway	Somerville	1890
SMV.335	Foote, Edward House	419 Broadway	Somerville	c 1865
SMV.133	Adams - Magoun House	438 Broadway	Somerville	c 1783
SMV.748		491-495 Broadway	Somerville	c 1915
SMV.740	Broadway Garage	643-645 Broadway	Somerville	c 1930
SMV.715	Ball Square Block	674-694 Broadway	Somerville	1910
SMV.1337	Kelly's Diner	674 Broadway	Somerville	1953
SMV.716	North Somerville Railroad Station	675R Broadway	Somerville	c 1880
SMV.717	Hillson Building	693-701 Broadway	Somerville	1925
SMV.714		710-712 Broadway	Somerville	1924
SMV.709		736-744 Broadway	Somerville	1924
SMV.1158	McDonough, Thomas E. House	771 Broadway	Somerville	1903
SMV.1159	Lewis, Andrew R. House	773 Broadway	Somerville	1904
SMV.1160	Cook, George House	787 Broadway	Somerville	1902
SMV.466	Valentine, Herbert E. House	1098 Broadway	Somerville	c 1875

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.686		1112-1122 Broadway	Somerville	c 1910
SMV.681	Cliff, The	1137-1147 Broadway	Somerville	c 1906
SMV.687		1150-1152 Broadway	Somerville	c 1906
SMV.682	Cliff, Zebedee E. Building	1151-1165 Broadway	Somerville	1905
SMV.683	Teele Square Theater	1154-1164 Broadway	Somerville	1922
SMV.1161	Saint James Episcopal Church	1170 Broadway	Somerville	1876
SMV.684		1198-1212 Broadway	Somerville	1923
SMV.1162	Hammond, Horace W. - Howard, Ralph House	66 Bromfield Rd	Somerville	1908
SMV.624	Morse, Albert House	10 Burnside St	Somerville	c 1845
SMV.187	Murphy, Thomas - Lea, James L. House	3-5 Campbell Pk	Somerville	1892
SMV.186	Simonds, Nathan House	7 Campbell Pk	Somerville	1891
SMV.185	Buttimer, Maurice House	9-11 Campbell Pk	Somerville	c 1891
SMV.184	Hillman, John House	13 Campbell Pk	Somerville	1891
SMV.183	Holbrook, Julia A. House	15 Campbell Pk	Somerville	1892
SMV.182	Weeks, Henry A. House	19 Campbell Pk	Somerville	1891
SMV.917	Cedar Street Bridge over B and M Railroad	Cedar St	Somerville	1888
SMV.524	Merrill, Seth W. House	111 Cedar St	Somerville	c 1890
SMV.661	White Cross Laundry	154 Cedar St	Somerville	1909
SMV.719	Royal White Laundry	165 Cedar St	Somerville	c 1929
SMV.938	Central Street Bridge over MBTA - B & M Railroad	Central St	Somerville	1889
SMV.1163	Stone, Jonathan House	7 Central St	Somerville	c 1870
SMV.1164	Stone, Nathaniel T. House	15 Central St	Somerville	1869
SMV.1165	Elk Club Meeting Hall	29 Central St	Somerville	1922
SMV.1037	Thierry, William O. - Galvin, James J. House	34 Central St	Somerville	c 1904
SMV.1038	Cox, Edward F. House	36 Central St	Somerville	c 1890
SMV.1039	Hemenway, Charles M. House	40 Central St	Somerville	1892
SMV.625	Haigh, John House	44 Central St	Somerville	c 1890
SMV.1090		58 Central St	Somerville	c 1898
SMV.626	Carnervan, The	60 Central St	Somerville	c 1895
SMV.627	Stevens, George House	71 Central St	Somerville	r 1865
SMV.495	Dacey, John House	121 Central St	Somerville	r 1865
SMV.327	Veazie, William Rowhouses	137-145 Central St	Somerville	1889
SMV.496	Keyes, Amos House	154 Central St	Somerville	c 1872
SMV.328	Yeaton, Martha and May House	155 Central St	Somerville	1889
SMV.329	Darling, Samuel House	158 Central St	Somerville	1879
SMV.330	Downer, Cutler House	170 Central St	Somerville	1868
SMV.132	Adams, Charles - Locke, Woodbury House	178 Central St	Somerville	c 1840
SMV.131	Downer Rowhouses	192-200 Central St	Somerville	c 1880
SMV.1166	Temple B'Nai B'Rith Synagogue	201 Central St	Somerville	1919
SMV.343	French, Horace F. House	9 Chandler St	Somerville	1873
SMV.467	Wade, Mary House	44 Chandler St	Somerville	c 1894
SMV.344	Snow, J. Parker House	58 Chandler St	Somerville	1890
SMV.1167	College Avenue Methodist Episcopal Church	14 Chapel St	Somerville	1925

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MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.469	Baldwin, Robert E. House	17 Chapel St	Somerville	c 1890
SMV.210		8 Cherry St	Somerville	1908
SMV.628		17 Cherry St	Somerville	c 1820
SMV.631		30 Cherry St	Somerville	c 1860
SMV.629	Demmon, D. L. House - Fireman's Hospital and Home	31 Cherry St	Somerville	1855
SMV.630	Vincent, George House	32 Cherry St	Somerville	c 1855
SMV.130	Mentzner, W. C. House	36 Cherry St	Somerville	1890
SMV.1169	Fletcher, William G. - Haskell, Frederika E. House	19 Chester St	Somerville	1867
SMV.206	Chapman, Kendrick W. House	20 Chester St	Somerville	1873
SMV.205	Perry, John - Page, Lemuel House	23 Chester St	Somerville	1867
SMV.207	Smith, Alonzo R. House	24 Chester St	Somerville	1857
SMV.129	Bacon, Clifton House	27 Chester St	Somerville	c 1885
SMV.540	Poor, F. N. House	30 Chester St	Somerville	r 1880
SMV.128		14 Chestnut St	Somerville	c 1860
SMV.1168	Tripp, George H. House	7 Clarendon Ave	Somerville	1875
SMV.231	Clark, J. H. House	11 Clark St	Somerville	c 1860
SMV.379	Clark, Joseph House	17 Clark St	Somerville	c 1860
SMV.433		37 Clark St	Somerville	r 1825
SMV.726	Uzeit Soap Manufacturing Company	32 Clifton Ave	Somerville	c 1900
SMV.525		5 Clyde St	Somerville	r 1855
SMV.526		9 Clyde St	Somerville	r 1855
SMV.127		25 Clyde St	Somerville	c 1850
SMV.721	Carlisle-Ayer Door Manufacturing Company	50 Clyde St	Somerville	1926
SMV.720	Agar Manufacturing Corrugated Box Company Building	55 Clyde St	Somerville	c 1928
SMV.702		12-14 College Ave	Somerville	1909
SMV.703		28 College Ave	Somerville	c 1890
SMV.65	West Somerville Branch Library	40 College Ave	Somerville	1909
SMV.342	Third Universalist Church	45 College Ave	Somerville	1884
SMV.345	Lockhardt, Charles H. House	88 College Ave	Somerville	1889
SMV.1171	First Congregational Church of West Somerville	89 College Ave	Somerville	1912
SMV.470	Porter, Isaac House	97 College Ave	Somerville	r 1895
SMV.1172	Garten, Rev. J. Vanor House	113 College Ave	Somerville	1901
SMV.1173	Colson, H. W. P. - Knowles, David S. House	149 College Ave	Somerville	1897
SMV.1174	Dartnell, M. - Winward, Edwin Double House	151 College Ave	Somerville	1897
SMV.1175	Cook, Washington - Brisben, Edwin R. House	215 College Ave	Somerville	1903
SMV.1112	Cook, Thomas House	21 College Hill Rd	Somerville	c 1850
SMV.240	Gustin, Julia House	27 Columbus Ave	Somerville	1892
SMV.451	Richardson, Artemas C. House	39 Columbus Ave	Somerville	1870
SMV.241	Richardson, Artemus C. House	41 Columbus Ave	Somerville	c 1865
SMV.242	Richardson, Artemus C. House	45 Columbus Ave	Somerville	1889
SMV.243	Eberle, Phillip House	47 Columbus Ave	Somerville	c 1882
SMV.267	Gould, Aaron House	50 Columbus Ave	Somerville	1897
SMV.244		53 Columbus Ave	Somerville	1874

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Inv. No.	Property Name	Street	Town	Year
SMV.245	McCormic, Thomas J. House	55 Columbus Ave	Somerville	r 1880
SMV.266	Cushman, Charles A. House	56 Columbus Ave	Somerville	1875
SMV.246	Canavan, William - High, William C. House	57 Columbus Ave	Somerville	1877
SMV.265	Kimball, George House	58 Columbus Ave	Somerville	c 1874
SMV.247	Canavan, William - High, William C. House	59 Columbus Ave	Somerville	1877
SMV.126	Brooks, James H. House	61 Columbus Ave	Somerville	c 1880
SMV.52	Brackett, S. E. House	63 Columbus Ave	Somerville	c 1880
SMV.248	Ryder, Henry House	67 Columbus Ave	Somerville	c 1873
SMV.255	Ambrose, John House	68 Columbus Ave	Somerville	1890
SMV.249	Thompson, Benjamin - Flanders, John C. House	69 Columbus Ave	Somerville	1885
SMV.254	Sturtevant, Lindley - Coolidge, Aaron House	70 Columbus Ave	Somerville	1875
SMV.250	Drouet, Charles House	73 Columbus Ave	Somerville	c 1885
SMV.251	Sturtevant, Richard House	75-77 Columbus Ave	Somerville	c 1884
SMV.253	Sanborn, Robert - Sturtevant, Lindley House	76 Columbus Ave	Somerville	c 1882
SMV.1021	Sanborn, Robert - Sturtevant, Lindley Barn	76 Columbus Ave	Somerville	c 1882
SMV.252	Sanborn, Robert - Sturtevant, Richard House	78 Columbus Ave	Somerville	c 1882
SMV.380	Downing, M. C. House	69 Concord Ave	Somerville	c 1880
SMV.1335		22 Connecticut Ave	Somerville	c 1910
SMV.541	Bower, F. E. Milk Company Stable	6 Cottage Ave	Somerville	r 1875
SMV.542		12 Cottage Ave	Somerville	r 1865
SMV.543		18 Cottage Ave	Somerville	c 1853
SMV.544	Morse, Perley House	24 Cottage Ave	Somerville	r 1865
SMV.546	Wilson, Nathan House	3 Cottage Cir	Somerville	c 1850
SMV.214	Spring, Andrew Craigie House	23 Craigie St	Somerville	c 1860
SMV.1176	Dickerman, Frank E. House	47 Craigie St	Somerville	1892
SMV.632		63 Craigie St	Somerville	c 1890
SMV.215	Brownell, William S. House	70 Craigie St	Somerville	1873
SMV.569	Trott, H. House	24 Crescent St	Somerville	c 1870
SMV.923	Cross Street Bridge over B and M Railroad	Cross St	Somerville	1928
SMV.572		16 Cross St	Somerville	c 1855
SMV.316	Grace Baptist Church	59 Cross St	Somerville	1892
SMV.573		67 Cross St	Somerville	c 1885
SMV.1015		76-78 Cross St	Somerville	1922
SMV.112	Williams, Charles House	108 Cross St	Somerville	c 1848
SMV.571	First Universalist Church	138-140 Cross St	Somerville	1869
SMV.315	Klous, Seman Rowhouses	8-16 Cross St East	Somerville	1879
SMV.1334		44 Cross St East	Somerville	c 1940
SMV.1016	M and M Transportation Company Building	60 Cross St East	Somerville	c 1934
SMV.471	Holden, Simon House	97 Curtis St	Somerville	c 1860
SMV.914	Dane Street Bridge over B and M Railroad	Dane St	Somerville	1913
SMV.1109	American Tube Works Boiler House	24 Dane St	Somerville	c 1915
SMV.381	Hadley and Lombard House	50 Dane St	Somerville	c 1880
SMV.382	Hodson, Richard - Branagan, James House	62 Dane St	Somerville	c 1855

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Inv. No.	Property Name	Street	Town	Year
SMV.1177	Littlefield, Rufus - James, William House	64 Dane St	Somerville	c 1851
SMV.1178	Mills, William - Proctor, Levi H. House	65 Dane St	Somerville	c 1856
SMV.1179	Mills, William - Healey, Michael House	66 Dane St	Somerville	c 1855
SMV.102		72R Dane St	Somerville	r 1775
SMV.100		21 Dartmouth St	Somerville	c 1890
SMV.701		37-39 Davis Sq	Somerville	c 1885
SMV.660	Somerville Theatre	55 Davis Sq	Somerville	1914
SMV.547	Collins, Richard House	23-25 Day St	Somerville	c 1865
SMV.204	Stebbins, Eliza House	30 Day St	Somerville	1878
SMV.125	Knight, R. A. - Lacount, Eugene House	34 Day St	Somerville	c 1870
SMV.662	Sprague, W.D. and Hathaway, J. F. Studio Annex	58 Day St	Somerville	1890
SMV.1180	Mendum, Samuel W. - Lambert, Frederick D. House	16 Dearborn Rd	Somerville	c 1894
SMV.1310		29 Derby St	Somerville	c 1910
SMV.1309		33 Derby St	Somerville	c 1910
SMV.1308		35 Derby St	Somerville	c 1910
SMV.1305		41 Derby St	Somerville	c 1915
SMV.1304		45 Derby St	Somerville	c 1910
SMV.549	Lovering, John W. House	55 Dover St	Somerville	c 1874
SMV.550		72 Dover St	Somerville	c 1880
SMV.551		74 Dover St	Somerville	c 1870
SMV.552		89 Dover St	Somerville	c 1860
SMV.553	Blanchard, B. House	93 Dover St	Somerville	c 1860
SMV.663	Dolleris, Neils A. Automotible Service Station	102 Dover St	Somerville	c 1910
SMV.1181	Abbot, Alice K. - Mayo, Frank A. House	24 Electric Ave	Somerville	1916
SMV.472		81 Electric St	Somerville	c 1890
SMV.1041	Johnson, Josiah D. House	21-23 Elm Pl	Somerville	c 1870
SMV.1040		22-24 Elm Pl	Somerville	c 1910
SMV.1042		25 Elm Pl	Somerville	c 1890
SMV.900	British Soldiers Graves Marker	Elm St	Somerville	
SMV.633	Henderson, William House	20 Elm St	Somerville	1870
SMV.729		143-149 Elm St	Somerville	1923
SMV.696		240-244 Elm St	Somerville	c 1931
SMV.699		245-249 Elm St	Somerville	c 1926
SMV.697		246-254 Elm St	Somerville	c 1940
SMV.700	Medina, John Block	263-269 Elm St	Somerville	1888
SMV.698	Studio Building	274-282 Elm St	Somerville	c 1933
SMV.1149	Cambridge Almshouse	Endicott Ave	Somerville	1850
SMV.1150	Matignon Central Catholic High School	Endicott Ave	Somerville	1946
SMV.124	Cooper - Davenport Tavern Wing	81 Eustis St	Somerville	1808
SMV.575	Horton, Calvin House	26 Everett Ave	Somerville	c 1885
SMV.1182	Tuttle, Samuel A. - Phillips, George House	14 Everett St	Somerville	c 1852
SMV.634		1-8 Evergreen Sq	Somerville	c 1865
SMV.123	Dow, L. W. Farmhouse	13 Fairmount Ave	Somerville	1848

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

Inv. No.	Property Name	Street	Town	Year
SMV.434		18 Farragut St	Somerville	c 1885
SMV.943	Foss Park	Fellsway West	Somerville	
SMV.562	Smith, T. G. Rowhouse	18-26 Fellsway West	Somerville	r 1880
SMV.563	Keene, Helen House	56 Fellsway West	Somerville	c 1890
SMV.1183	Christ Episcopal Church	66 Fellsway West	Somerville	1914
SMV.1263	Hennesey, Michael House	23 Fisk Ave	Somerville	1870
SMV.1184	Knox, Warren - Mahoney, Cornelius House	25 Fisk Ave	Somerville	c 1871
SMV.1185	Farnham, William House	37 Fisk Ave	Somerville	c 1866
SMV.905	New Hampshire Railroad Bridge	Fitchburg Railroad	Somerville	1924
SMV.664	Great Atlantic & Pacific Tea Co. Distribution Ctr	1 Fitchburg St	Somerville	1920
SMV.1186	Matson, Edward A. - Hoyt, Alfred D. House	11-13 Flint St	Somerville	1858
SMV.1187	Davis, John - Nickerson, John F. House	14 Flint St	Somerville	1857
SMV.1188	Whitman, William D. House	15-17 Flint St	Somerville	1860
SMV.1189	Nickerson, John Double House	16-18 Flint St	Somerville	1883
SMV.1190	Donahoe, Patrick - Davis, Charles M. House	22 Flint St	Somerville	1857
SMV.577	Furber, W. H. House	37 Florence St	Somerville	c 1870
SMV.578	Wood, James Wood Row House	39-43 Florence St	Somerville	c 1875
SMV.1191	Higgins, Charles - Jewell, Nathan Double House	42-44 Florence St	Somerville	c 1874
SMV.579	Conant, Ezra Double House	45-47 Florence St	Somerville	1878
SMV.580	Cole, Herbert A. - Wilson, Seth Apartment House	46-48 Florence St	Somerville	1885
SMV.1030	Cole, Herbert A. - Wilson, Seth Apartment House	50-52 Florence St	Somerville	1885
SMV.581	Bagley, John T. House	61 Florence St	Somerville	1855
SMV.1192	Hardy, Isaac House	67 Florence St	Somerville	1857
SMV.582	Cole, Herbert A. Apartment House	69-71 Florence St	Somerville	1886
SMV.583	Buffam, Thomas J. House	75 Florence St	Somerville	1866
SMV.1004	First National Store Warehouse	Foley St	Somerville	c 1929
SMV.1005	B & M Railroad East Somerville Locomotive Shop	Foley St	Somerville	c 1925
SMV.1006	Porter, H. K. Tool Manufacturing Company	74 Foley St	Somerville	c 1945
SMV.226	Phillips, Franklin House	30 Forest St	Somerville	c 1870
SMV.1193	Chandler, John T. House	8 Franklin St	Somerville	1889
SMV.1194	Bowers, Alonzo House	47 Franklin St	Somerville	c 1870
SMV.584	Blodgett, Nathan - Slade, Frederick W. House	74 Franklin St	Somerville	c 1848
SMV.1117		77 Franklin St	Somerville	c 1874
SMV.1118		79-79A Franklin St	Somerville	c 1875
SMV.1195	Blodgett, Nathan - Gee, John Double House	80 Franklin St	Somerville	c 1848
SMV.1119		81 Franklin St	Somerville	c 1897
SMV.1120		83 Franklin St	Somerville	c 1897
SMV.1121		85A Franklin St	Somerville	c 1897
SMV.1122		87 Franklin St	Somerville	c 1874
SMV.1123		91-93 Franklin St	Somerville	c 1874
SMV.1124		95R Franklin St	Somerville	c 1897
SMV.586		10-12 George St	Somerville	r 1835
SMV.311	Lattimore - Pratt House	20 George St	Somerville	r 1880

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

Inv. No.	Property Name	Street	Town	Year
SMV.53		6A-B Giles Pk	Somerville	c 1900
SMV.497	Gilman, Charles E. House	108 Gilman St	Somerville	r 1840
SMV.636		6 Gilson Terr	Somerville	c 1885
SMV.1196	Horton, Calvin Double House	34 Glen St	Somerville	1857
SMV.587	Rigg, Alfred Double House	116 Glen St	Somerville	c 1880
SMV.1125		127-133 Glen St	Somerville	c 1889
SMV.1126		137-139 Glen St	Somerville	c 1925
SMV.1127		147-151 Glen St	Somerville	c 1889
SMV.1128		152-154 Glen St	Somerville	c 1889
SMV.483		34 Glenwood Rd	Somerville	c 1870
SMV.554		3 Glover Cir	Somerville	c 1880
SMV.665	Carr, Martin W. Novelty and Jewelry Factory	Gorham St	Somerville	c 1894
SMV.452		12 Grandview Ave	Somerville	c 1870
SMV.1029		14 Grandview Ave	Somerville	c 1870
SMV.453	Taylor, Charles - Briggs, J. Albion House	23 Grandview Ave	Somerville	1891
SMV.1316		51 Grant St	Somerville	c 1920
SMV.1315		55 Grant St	Somerville	c 1910
SMV.1314		59 Grant St	Somerville	c 1920
SMV.1313		62 Grant St	Somerville	c 1910
SMV.1312		64 Grant St	Somerville	c 1920
SMV.1311		72 Grant St	Somerville	c 1910
SMV.454	Dugan, John - Twombly, Joseph Q. House	19 Greenville St	Somerville	c 1850
SMV.383		8 Greenwood Terr	Somerville	
SMV.384	Price, E. House	12-14 Greenwood Terr	Somerville	c 1895
SMV.707	Harding, Arthur Oil Can Manufacturing Company	48-50 Grove St	Somerville	c 1924
SMV.1129		10 Hadley Ct	Somerville	c 1874
SMV.11		14 Hall Ave	Somerville	c 1895
SMV.1113		15 Hall Ave	Somerville	
SMV.1197	Chick, Herbert A. - Jenness, Mary S. Stable	25 Hamlet St	Somerville	1887
SMV.666	McGann, Thomas F. Bronze Foundry	Hanson St	Somerville	1909
SMV.97	Chestnut Court Houses	1-3 Harvard Pl	Somerville	c 1850
SMV.96	Chestnut Court Houses	9-11 Harvard Pl	Somerville	c 1850
SMV.1043	Johnson, Amos - Purdy, Edmund C. House	10 Harvard Pl	Somerville	r 1865
SMV.1044	Purdy, Edmund C. - Clark, Joseph House	14 Harvard Pl	Somerville	r 1865
SMV.1045		7-9 Harvard St	Somerville	c 1910
SMV.1046		11 Harvard St	Somerville	c 1920
SMV.1047	Boyden, Dr. Wyatt C. - Bradford, William R. House	12 Harvard St	Somerville	1850
SMV.1048		16 Harvard St	Somerville	c 1920
SMV.1049		18 Harvard St	Somerville	c 1920
SMV.1050		20 Harvard St	Somerville	c 1950
SMV.1051		22 Harvard St	Somerville	c 1950
SMV.1052		35 Harvard St	Somerville	c 1890
SMV.1053		37 Harvard St	Somerville	c 1880

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

Inv. No.	Property Name	Street	Town	Year
SMV.1054	Stetson, Susan House	38 Harvard St	Somerville	1891
SMV.1055		40 Harvard St	Somerville	c 1885
SMV.588	Gilman, Sarah House	11 Hathorn St	Somerville	c 1890
SMV.1198	Saint Benedict's Roman Catholic Church	25 Hathorn St	Somerville	1911
SMV.1264	Zweireiltes, John House	10 Henderson St	Somerville	1890
SMV.1265	Corey, Frank J. House	13 Henderson St	Somerville	1890
SMV.1266	McDonald, Allen J. House	21 Henderson St	Somerville	1890
SMV.1267	Kennedy, Thomas F. House	22 Henderson St	Somerville	1897
SMV.1268	Bezanson, John G. House	23 Henderson St	Somerville	1890
SMV.1199	Zinn, Gilbert J. - Gertz, Erwin A. House	25-27 High St	Somerville	c 1921
SMV.69	Somerville High School	Highland Ave	Somerville	1928
SMV.302		13-15 Highland Ave	Somerville	c 1884
SMV.1022		17-19 Highland Ave	Somerville	c 1884
SMV.301	Carvill, Alphonso and Jemima House	28 Highland Ave	Somerville	1894
SMV.359	Cumberland, The	40-42 Highland Ave	Somerville	c 1890
SMV.300	Langmaid Building	48-52 Highland Ave	Somerville	1889
SMV.101	Highland, The	66 Highland Ave	Somerville	1892
SMV.358	Legg, George M. D. House	72 Highland Ave	Somerville	c 1890
SMV.36	Loring, George House	76 Highland Ave	Somerville	c 1895
SMV.66	Central Library	79 Highland Ave	Somerville	1914
SMV.936	Somerville Spanish War Monument	79 Highland Ave	Somerville	1929
SMV.937	Somerville Civil War Memorial	79 Highland Ave	Somerville	1908
SMV.37	Somerville City Hall	93 Highland Ave	Somerville	1852
SMV.919	Dilboy, George Bust	93 Highland Ave	Somerville	1930
SMV.755	Somerville Y. M. C. A.	101-103 Highland Ave	Somerville	1904
SMV.322		117-119 Highland Ave	Somerville	c 1850
SMV.122	First Universalist Church	125 Highland Ave	Somerville	r 1920
SMV.121	First Unitarian Church	130 Highland Ave	Somerville	1894
SMV.323	Wadleigh, William House	135 Highland Ave	Somerville	1893
SMV.38	Gaut, Samuel House	137 Highland Ave	Somerville	c 1850
SMV.39	Barnes, Melissa E. and Walter S. House	140 Highland Ave	Somerville	r 1890
SMV.363	Conant, Harlan Page House	145 Highland Ave	Somerville	c 1870
SMV.728		148-152 Highland Ave	Somerville	c 1915
SMV.756	Central Building, The	149-153 Highland Ave	Somerville	1921
SMV.360	Lovejoy, George S. House	167 Highland Ave	Somerville	1899
SMV.361		169 Highland Ave	Somerville	c 1910
SMV.710	Somerville Armory	191 Highland Ave	Somerville	1903
SMV.711		215-217 Highland Ave	Somerville	c 1917
SMV.712	Somerville Fire Station Engine #7	265 Highland Ave	Somerville	c 1890
SMV.362	Lawrence, Bernard House	289 Highland Ave	Somerville	c 1885
SMV.1205	Curran, John House	309 Highland Ave	Somerville	c 1871
SMV.713	Taylor, Mary Dry Good Store	317 Highland Ave	Somerville	1914
SMV.120		343 Highland Ave	Somerville	c 1880

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Inv. No.	Property Name	Street	Town	Year
SMV.727	Somerville Sales and Service Building	363 Highland Ave	Somerville	1922
SMV.555	Rice, W. P. House	368 Highland Ave	Somerville	c 1885
SMV.705	A and W Hastings Door Company Factory	373 Highland Ave	Somerville	r 1923
SMV.695	Davis Building	402 Highland Ave	Somerville	c 1928
SMV.694	Somerville Trust Company Building	406-408 Highland Ave	Somerville	1919
SMV.692	Beal, A. B. Commercial Block	407 Highland Ave	Somerville	1909
SMV.693	Dreyfus, Edwin J. Building	420-424 Highland Ave	Somerville	1922
SMV.1202	Hobbs, Joseph House	8 Hinckley St	Somerville	1871
SMV.1203	Peters, Cyrus S. - Ring, Matthew C. House	12 Hinckley St	Somerville	c 1870
SMV.1204	Kane, Patrick House	16 Hinckley St	Somerville	1886
SMV.1269	Chute, David A. House	23 Hinckley St	Somerville	1867
SMV.1270	Hood, James H. - Doyle, Andrew House	80 Hinckley St	Somerville	1890
SMV.1271	Stengard, Peter House	84 Hinckley St	Somerville	1890
SMV.918	Deco Panels	14-48 Holland St	Somerville	1989
SMV.688	Teele Square Fire Station	218-220 Holland St	Somerville	c 1920
SMV.685		235-237 Holland St	Somerville	c 1890
SMV.667	Norton, George W. Soap Works	Horace St	Somerville	1903
SMV.786	Mystic Valley Foundry	14-16 Horace St	Somerville	c 1940
SMV.1027		26-32 Houghton St	Somerville	r 1865
SMV.385		36-40 Houghton St	Somerville	r 1865
SMV.229	Fairborn, T. House	39 Houghton St	Somerville	c 1854
SMV.119		53 Hudson St	Somerville	c 1890
SMV.529	Blaikie, Thomas House	145 Hudson St	Somerville	c 1890
SMV.386	Tarbell and Tarbell Apartment House	2-6 Ivaloo St	Somerville	c 1890
SMV.387	Chase, Daniel E. House	8-10 Ivaloo St	Somerville	c 1860
SMV.388	Chase, Daniel E. House	16 Ivaloo St	Somerville	c 1860
SMV.798	Amercian Radiator Company Warehouse	17 Ivaloo St	Somerville	c 1928
SMV.389	Mansfield, E. G. House	18 Ivaloo St	Somerville	c 1895
SMV.390	Stevens, Charles House	36 Ivaloo St	Somerville	c 1870
SMV.564	Littlefield, Samuel House	60-64 Jacques St	Somerville	c 1850
SMV.565		93 Jacques St	Somerville	r 1845
SMV.1323		12 Jaques St	Somerville	c 1900
SMV.1320		13 Jaques St	Somerville	c 1920
SMV.1322		14 Jaques St	Somerville	c 1885
SMV.1319		15 Jaques St	Somerville	c 1920
SMV.1321		16 Jaques St	Somerville	c 1885
SMV.1318		17 Jaques St	Somerville	c 1920
SMV.1317		19 Jaques St	Somerville	c 1920
SMV.1018	New England Baking Company	66-68 Joy St	Somerville	1919
SMV.391		2 Kent Ct	Somerville	c 1840
SMV.118		6 Kent Ct	Somerville	c 1750
SMV.392		14 Kent Ct	Somerville	c 1840
SMV.393		47 Kent Ct	Somerville	r 1835

Massachusetts Cultural Resource Information System
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MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.394	Flemming, Nicolas House	53 Kent Ct	Somerville	c 1850
SMV.668	Victoria Iron Works	32 Kent St	Somerville	1889
SMV.530		22 Kidder Ave	Somerville	
SMV.338	Lewis, Laurence House	44 Kidder Ave	Somerville	1895
SMV.635		10 Knapp St	Somerville	c 1890
SMV.1170	Sawyer, Augustus T. - Lange, Adolphus House	14 Knapp St	Somerville	c 1893
SMV.1130		32 Knowlton St	Somerville	c 1894
SMV.1131		35-37 Knowlton St	Somerville	c 1894
SMV.1106	American Tube Works - Building #2	Lake St	Somerville	1912
SMV.395		5 Lake St	Somerville	r 1855
SMV.794	American Tube Works Garage and Warehouse	40 Lake St	Somerville	c 1912
SMV.224	Bonner - Snow House	16-18 Laurel St	Somerville	c 1860
SMV.637	Lockwood, Rhodes Apartment House	35-41 Laurel St	Somerville	c 1890
SMV.117	Foster, Alexander House	45 Laurel St	Somerville	c 1860
SMV.531	Parsons, John House	96 Lexington St	Somerville	c 1890
SMV.589	Wild, Charles D. Jr. Double House	12-14 Lincoln Ave	Somerville	c 1871
SMV.1206	Lattemoor, Peter J. House	20 Lincoln Ave	Somerville	1871
SMV.1207	Towle, Albion House	16 Lincoln St	Somerville	1885
SMV.1208	Gulliver, Lemuel Double House	20-22 Lincoln St	Somerville	1873
SMV.1114	Story, Isaac House	11 Linden Ave	Somerville	c 1853
SMV.1201	Clancy, Michael House	60 Linden Ave	Somerville	r 1865
SMV.638	Scott, James House	15 Linden St	Somerville	r 1845
SMV.396		78 Line St	Somerville	c 1820
SMV.1020	Kiley, James A. Wagon Shop	5-9 Linwood St	Somerville	c 1896
SMV.916	Lowell Street Bridge over B and M Railroad	Lowell St	Somerville	1910
SMV.939	Lowell Street Bridge over MBTA - B & M Railroad	Lowell St	Somerville	1910
SMV.722	Winter Hill Motor Company	226 Lowell St	Somerville	1915
SMV.723	Dad's Cookie Company	231 Lowell St	Somerville	c 1926
SMV.724	Fruit Nut Cereal Company	259 Lowell St	Somerville	1921
SMV.1272	Cotter, Michael House	282 Lowell St	Somerville	1875
SMV.1273	Shannahan, Dennis House	283 Lowell St	Somerville	1867
SMV.484		300 Lowell St	Somerville	c 1850
SMV.337	Spelan, Michael House	302 Lowell St	Somerville	1874
SMV.1274	McGrath, William - Harrington, Jeremiah House	308 Lowell St	Somerville	1876
SMV.1275	Binney, Moses Double House	326-328 Lowell St	Somerville	1851
SMV.1209	Hennesey, Michael House	342 Lowell St	Somerville	1861
SMV.1276	Sumner, Samuel R. - Dugan, Patrick House	5-7 Lowell Terr	Somerville	1851
SMV.1277	Dugan, Patrick House	10 Lowell Terr	Somerville	c 1870
SMV.336	Hunt, Benjamin House	52 Main St	Somerville	c 1870
SMV.435		25 Malvern St	Somerville	r 1885
SMV.397	Green, Julia Three Decker	16-18 Mansfield St	Somerville	c 1890
SMV.398	Purcell, Mary Three Decker	51-53 Mansfield St	Somerville	c 1890
SMV.1212	Jones, William Preble House	13 Maple Ave	Somerville	c 1880

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MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.320	Marston, Elias House	27 Maple Ave	Somerville	1874
SMV.499	Beals, H. M. House	28 Maple Ave	Somerville	c 1870
SMV.1059		7 Mardell Cir	Somerville	c 1880
SMV.1200	Barber, William L. Barn	36A Marshall St	Somerville	r 1890
SMV.1282	Smith, Cyrus A. - Rand, Ira House	36 Marshall St	Somerville	c 1859
SMV.500	Moore, William A. House	72 Marshall St	Somerville	c 1870
SMV.501	Dowd, C. O. House	88 Marshall St	Somerville	c 1870
SMV.399	Sturtevant Brothers Provisions Company Warehouse	1-5 May Pl	Somerville	c 1880
SMV.911	McGrath Highway Bridge over B and M Railroad	McGrath Hwy	Somerville	1926
SMV.1332		McGrath Hwy	Somerville	c 1970
SMV.1333		McGrath Hwy	Somerville	c 1970
SMV.1019	Jackson and Newton Door and Sash Manufacturing Co.	51 McGrath Hwy	Somerville	r 1905
SMV.590	Griffin Florist Shop	561 McGrath Hwy	Somerville	c 1925
SMV.1331		709 McGrath Hwy	Somerville	c 1940
SMV.116	Sparrow, Edmund House	27 Meacham Rd	Somerville	c 1890
SMV.203	Waters, Lucretia G. House	38 Meacham Rd	Somerville	c 1891
SMV.188	Lea, James L. House	39-41 Meacham Rd	Somerville	1892
SMV.202	Taylor, Nellie F. House	42 Meacham Rd	Somerville	c 1891
SMV.201	Glover, Henry R. House	44 Meacham Rd	Somerville	c 1892
SMV.189	Glover, Henry R. House	45 Meacham Rd	Somerville	1892
SMV.200	Glover, Henry R. House	46 Meacham Rd	Somerville	c 1892
SMV.190	Glover, Henry R. House	47 Meacham Rd	Somerville	c 1892
SMV.199	Glover, Henry R. House	48 Meacham Rd	Somerville	c 1892
SMV.191	Farnham, Wilbert D. House	51 Meacham Rd	Somerville	1890
SMV.192	Glover, Henry R. House	53-55 Meacham Rd	Somerville	1892
SMV.198	Glover, Henry R. House	54 Meacham Rd	Somerville	1892
SMV.197	Simpson House	56 Meacham Rd	Somerville	c 1874
SMV.193	Glover, Henry R. House	57 Meacham Rd	Somerville	1892
SMV.196	Glover, Henry R. House	58 Meacham Rd	Somerville	c 1892
SMV.195	Glover, Henry R. House	62 Meacham Rd	Somerville	c 1892
SMV.194	Smith, W. and T. G. House	64 Meacham Rd	Somerville	c 1874
SMV.556	Glover, Henry R. House	36 Meacham St	Somerville	c 1885
SMV.557	Glover, Henry R. Stable	50-52 Meacham St	Somerville	c 1880
SMV.474	Austin House	18 Mead St	Somerville	c 1870
SMV.6	Boston and Maine Signal System Tower H	Medford St	Somerville	1927
SMV.909	B and M Railroad Bridge over Medford Street	Medford St	Somerville	1913
SMV.922	Medford Street Bridge over B and M Railroad	Medford St	Somerville	1910
SMV.1001	Squire, John P. and Company	33 Medford St	Somerville	1916
SMV.799	North Packing and Provision Company	35-37 Medford St	Somerville	c 1880
SMV.1000	North Packing and Provision Company	37R Medford St	Somerville	c 1880
SMV.400		46 Medford St	Somerville	r 1845
SMV.401		54 Medford St	Somerville	c 1855
SMV.669	Hill - Michie Company Automobile Garage	295-297 Medford St	Somerville	1906

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

Inv. No.	Property Name	Street	Town	Year
SMV.742	Malta Temple - Signet Commandery #188	339-343 Medford St	Somerville	1902
SMV.1210	Saint Ann's Roman Catholic Church	339 Medford St	Somerville	1897
SMV.753	Reid and Murdock Wholesale Grocery Warehouse	350 Medford St	Somerville	1929
SMV.324	Robinson, James House	371 Medford St	Somerville	1887
SMV.502	Rich, Lyman B. House	381 Medford St	Somerville	1886
SMV.1211	Saint Ann's Roman Catholic Church Rectory	399A Medford St	Somerville	1885
SMV.739		415-415C Medford St	Somerville	c 1930
SMV.503	Brown, Charles H. House	421 Medford St	Somerville	c 1850
SMV.504	Keyes, Charles A. House	481 Medford St	Somerville	c 1880
SMV.746		495-499 Medford St	Somerville	c 1896
SMV.747		498-498B Medford St	Somerville	c 1928
SMV.745		503-505 Medford St	Somerville	c 1924
SMV.744		507-509 Medford St	Somerville	c 1920
SMV.743	Magoun Square Building	529-535 Medford St	Somerville	1924
SMV.670	Ford Motor Company Assembly Plant	Middlesex Ave	Somerville	1926
SMV.1002		Middlesex Ave	Somerville	c 1940
SMV.1003	First National Store Garage	Middlesex Ave	Somerville	c 1927
SMV.671	First National Store Warehouse and office	5 Middlesex Ave	Somerville	c 1927
SMV.942	Middlesex Canal	Middlesex Canal	Somerville	1802
SMV.944	Middlesex Canal	Middlesex Canal	Somerville	1802
SMV.402	Allen, Benjamin House	4 Milk Pl	Somerville	c 1860
SMV.403		10-12 Miller St	Somerville	r 1830
SMV.680	Miller Brothers Coffin Factory	11 Miller St	Somerville	1881
SMV.404	Chase, Daniel E. Rowhouse	12-26 Mondamon Ct	Somerville	r 1865
SMV.1056	Williston, Belvin T. House	3 Monmouth St	Somerville	c 1896
SMV.1057	Hook, George Greenleaf House	9 Monmouth St	Somerville	c 1845
SMV.1058	Hinckley, William V. T. House	10 Monmouth St	Somerville	1894
SMV.1105	Pushee, John E. - Watts, Albert E. House	17 Monmouth St	Somerville	c 1896
SMV.94	Chestnut Court Houses	23-25 Monmouth St	Somerville	c 1850
SMV.95	Chestnut Court Houses	31-33 Monmouth St	Somerville	c 1850
SMV.505	Fiske, Mary House	16 Montrose St	Somerville	c 1875
SMV.181		53 Moore St	Somerville	
SMV.63	Lowe, Martha Perry School	Morrison Ave	Somerville	1903
SMV.340	Pierce, William Rowhouses	140-148 Morrison Ave	Somerville	c 1870
SMV.532		163 Morrison Ave	Somerville	c 1885
SMV.533		169 Morrison Ave	Somerville	c 1890
SMV.115		197 Morrison Ave	Somerville	c 1860
SMV.534		211 Morrison Ave	Somerville	c 1880
SMV.535	Shedd, William C. House	216-218 Morrison Ave	Somerville	c 1870
SMV.341	Shedd, William House	222 Morrison Ave	Somerville	1873
SMV.639		5 Mossland St	Somerville	c 1820
SMV.211	Foster, Jacob House	10 Mossland St	Somerville	1875
SMV.640		12 Mossland St	Somerville	c 1870

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

Inv. No.	Property Name	Street	Town	Year
SMV.641		14 Mossland St	Somerville	c 1880
SMV.114	Worthen, Daniel House	8 Mount Pleasant St	Somerville	1841
SMV.591	Robinson, Augustus House	15 Mount Pleasant St	Somerville	c 1840
SMV.592		17 Mount Pleasant St	Somerville	c 1840
SMV.594	Kent's Block	21-39 Mount Pleasant St	Somerville	c 1870
SMV.593	Poor, S. House	28 Mount Pleasant St	Somerville	r 1855
SMV.595	Treadwell, Abbie - Poor, S. Double House	34 Mount Pleasant St	Somerville	c 1850
SMV.87	Davis, Ebenezer House	8 Mount Vernon St	Somerville	r 1845
SMV.85	Howard, Henry House	12R Mount Vernon St	Somerville	c 1820
SMV.86	Howard, Henry House	12 Mount Vernon St	Somerville	c 1850
SMV.84	Hutchins, Harrison M. House	16 Mount Vernon St	Somerville	c 1850
SMV.1213	Fitz, Able - Curtis, Edward House	17 Mount Vernon St	Somerville	1845
SMV.1086		18 Mount Vernon St	Somerville	c 1850
SMV.75		20 Mount Vernon St	Somerville	r 1850
SMV.596	Curtis, E. A. Double House	22-24 Mount Vernon St	Somerville	c 1865
SMV.1214	Cutter, Edmund F. House	26 Mount Vernon St	Somerville	1846
SMV.113		29 Mount Vernon St	Somerville	c 1845
SMV.308	Poole, George House	46 Mount Vernon St	Somerville	1885
SMV.309	Coburn, Fred House	47 Mount Vernon St	Somerville	1885
SMV.1215	Davis, Thomas L. House	50 Mount Vernon St	Somerville	1895
SMV.1216	Hosmer, Frederick H. House	51 Mount Vernon St	Somerville	1892
SMV.307	Webcowit Club	64 Mount Vernon St	Somerville	c 1870
SMV.306	Lombard, Lewis House	68 Mount Vernon St	Somerville	1879
SMV.305	Durell, Walter House	74 Mount Vernon St	Somerville	1873
SMV.597		80-82 Mount Vernon St	Somerville	c 1875
SMV.901	Prospect Hill Tower and Observatory	Munroe St	Somerville	1903
SMV.455	Elliot, Matthew P. House	5-7 Munroe St	Somerville	c 1865
SMV.456	Newton, Alonzo House	12 Munroe St	Somerville	1852
SMV.268	Gilson House	15 Munroe St	Somerville	c 1845
SMV.47		25 Munroe St	Somerville	1900
SMV.49	Grandview, The	82 Munroe St	Somerville	1893
SMV.48	Munroe, Benjamin House	88 Munroe St	Somerville	c 1850
SMV.271	Niles, Louville House	97 Munroe St	Somerville	1890
SMV.598		26 Myrtle St	Somerville	c 1870
SMV.1217	Mullay, John - Mullay, Thomas Double House	37-39 Myrtle St	Somerville	1870
SMV.1219	Stevens, Seth Double House	53-55 Myrtle St	Somerville	1856
SMV.1218	Hubbard, Abraham P. - Merritt, Obediah House	54 Myrtle St	Somerville	1853
SMV.1220	Stevens, Seth Double House	57-59 Myrtle St	Somerville	1853
SMV.1336		Mystic Ave	Somerville	c 1960
SMV.754	Williams Table and Lumber Company	356 Mystic Ave	Somerville	c 1888
SMV.1288		500 Mystic Ave	Somerville	c 2000
SMV.1289		500 Mystic Ave	Somerville	c 1999
SMV.1290		500 Mystic Ave	Somerville	c 1960

Massachusetts Cultural Resource Information System
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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1291		500 Mystic Ave	Somerville	c 1900
SMV.1287		708 Mystic Ave	Somerville	c 1991
SMV.1286		712 Mystic Ave	Somerville	c 1900
SMV.903	B and M Railroad Bridge over Mystic River	Mystic River	Somerville	1894
SMV.904	B and M Railroad Bridge over Mystic River	Mystic River	Somerville	1835
SMV.906	B and M Railroad Bridge over Mystic Valley Parkway	Mystic Valley Pkwy	Somerville	1908
SMV.912	Mystic Valley Parkway - Alewife Brook Bridge	Mystic Valley Pkwy	Somerville	1908
SMV.931	Mystic Valley Rotarty and Miters	Mystic Valley Pkwy	Somerville	r 1920
SMV.934	Mystic Valley Parkway - Central Segment	Mystic Valley Pkwy	Somerville	c 1905
SMV.935	Mystic Valley Parkway Tree Canopy	Mystic Valley Pkwy	Somerville	r 1920
SMV.691		600A Mystic Valley Pkwy	Somerville	c 1915
SMV.1285		600 Mystic Valley Pkwy	Somerville	c 1910
SMV.1278	Donovan, Jeremiah House	28 Nashua St	Somerville	r 1820
SMV.405		411 Norfolk St	Somerville	r 1855
SMV.1223	Dunbar, Victor Y. - Windsor, Percy House	122 North St	Somerville	1921
SMV.1227	Andrews, William H. - Elliot, William M. House	128-130 North St	Somerville	1916
SMV.406	Hunter House	39 Oak St	Somerville	c 1855
SMV.407		43 Oak St	Somerville	c 1855
SMV.408	Haines, Edward House	73 Oak St	Somerville	c 1860
SMV.409	Eagle Roller Shade Company Worker Housing	2-4 Olive Sq	Somerville	c 1880
SMV.1132		20-22 Olive St	Somerville	c 1884
SMV.599		3 Oliver St	Somerville	c 1850
SMV.208	Russell, Edward House	97 Orchard St	Somerville	1868
SMV.558	Wilkins, Henry Stable	135 Orchard St	Somerville	c 1885
SMV.642		Oxford St	Somerville	c 1915
SMV.643	Stanley, T. House	46 Oxford St	Somerville	c 1860
SMV.377	Oxford, The	146-148 Oxford St	Somerville	1901
SMV.1133		5 Palmer Ave	Somerville	c 1887
SMV.476	Stevens, John H. House	11 Park St	Somerville	c 1880
SMV.559	Boyden, F. House	14 Park St	Somerville	c 1870
SMV.477	Collieson, John F. House	21 Park St	Somerville	c 1870
SMV.672	Forg, Peter Hardware Factory	50 Park St	Somerville	c 1892
SMV.304	Wright, Henry House	31 Pearl St	Somerville	1896
SMV.601	Callahan, Charles House	32 Pearl St	Somerville	1887
SMV.602	Reed, Nathan H. House	35 Pearl St	Somerville	1894
SMV.603	Buffram and Adams Double House	45-47 Pearl St	Somerville	c 1890
SMV.1224	Conant, Ezra D. - Hadley, S. Henry House	46 Pearl St	Somerville	r 1870
SMV.1225	Burke, Edward House	70 Pearl St	Somerville	1871
SMV.111		81 Pearl St	Somerville	c 1860
SMV.1226	Davis, Oliver J. House	94 Pearl St	Somerville	1870
SMV.1111	Kemp Nut Company	226 Pearl St	Somerville	r 1922
SMV.741	Litchfield Block	247-251 Pearl St	Somerville	1891
SMV.1228	Teague, Charles I. - Fowler, H. M. House	5 Pearson Rd	Somerville	1902

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Inv. No.	Property Name	Street	Town	Year
SMV.1229	Moir, George - Auerbach, Bernard House	31-33 Pearson Rd	Somerville	1905
SMV.507	Fletcher, Annie House	6-12 Pembroke Ct	Somerville	c 1890
SMV.110	Prescott, Gustavus G. House	65-67 Perkins St	Somerville	r 1845
SMV.310	Bailey House	77 Perkins St	Somerville	c 1830
SMV.604	Lockwood, R. Apartment House	79-85 Perkins St	Somerville	c 1880
SMV.605	Dole, Charles A. House	84 Perkins St	Somerville	1870
SMV.606	Whiting, John Apartment House	91 Perkins St	Somerville	c 1890
SMV.607	Hughes, John A. House	129 Perkins St	Somerville	c 1870
SMV.312	Waters, Charles House	132 Perkins St	Somerville	c 1860
SMV.608	Waters, Charles House	136 Perkins St	Somerville	c 1850
SMV.609	Hadley, G. W. House	139 Perkins St	Somerville	r 1865
SMV.313	Hemenway, Dr. Horace House	143-145 Perkins St	Somerville	c 1884
SMV.314	Roberts Brothers House	157 Perkins St	Somerville	c 1850
SMV.1060		4 Phillips Pl	Somerville	c 1900
SMV.610		15 Pinckney St	Somerville	c 1870
SMV.611	Wood, Joseph House	26-28 Pinckney St	Somerville	c 1880
SMV.612	Callahan, Charles House	35-37 Pinckney St	Somerville	1890
SMV.1103	Hollander Block, The	4-6 Pleasant Ave	Somerville	c 1890
SMV.279	Tyler, James L. House	8-10 Pleasant Ave	Somerville	1883
SMV.296	White, Hiram L. House	9 Pleasant Ave	Somerville	r 1885
SMV.295	White, Hiram L. House	11 Pleasant Ave	Somerville	r 1885
SMV.280	Walker, Elijah House	12 Pleasant Ave	Somerville	1873
SMV.294	Clary, John - Hollander, Charles B. House	13 Pleasant Ave	Somerville	1872
SMV.293	Walker, Elijah House	15 Pleasant Ave	Somerville	c 1884
SMV.281	Marston, Walter F. - Walker, Elijah House	16 Pleasant Ave	Somerville	c 1874
SMV.292	Walker, Elijah House	17 Pleasant Ave	Somerville	c 1874
SMV.282	Colson, Henry W. P. House	18 Pleasant Ave	Somerville	1895
SMV.283	Colson, Henry W. P. House	20 Pleasant Ave	Somerville	1895
SMV.291	Harwood, P. Merrick House	21 Pleasant Ave	Somerville	1881
SMV.284	Colson, Henry W. P. House	22 Pleasant Ave	Somerville	c 1890
SMV.290	Colson, Henry W. P. House	23 Pleasant Ave	Somerville	1893
SMV.285	Wellington, J. Frank House	24 Pleasant Ave	Somerville	1875
SMV.212		22 Porter St	Somerville	c 1850
SMV.213		23 Porter St	Somerville	c 1850
SMV.645	Winship, Henry A. - Fisher, Mary G. House	31 Porter St	Somerville	c 1846
SMV.646	Emerson, Enoch House	32 Porter St	Somerville	r 1855
SMV.647		36 Porter St	Somerville	c 1850
SMV.902	Reynolds, James A. Traffic Circle Memorial	Powder House Blvd	Somerville	1940
SMV.933	Powder House Boulevard Rotary and Miters	Powder House Blvd	Somerville	r 1935
SMV.346		52 Powder House Blvd	Somerville	1916
SMV.479		143 Powder House Blvd	Somerville	c 1905
SMV.1231	Clarendon Hill Presbyterian Church	155 Powder House Blvd	Somerville	1923
SMV.928	Powder House Windmill	Powder House Park	Somerville	c 1704

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Inv. No.	Property Name	Street	Town	Year
SMV.929	Tufts, Nathan Park	Powder House Park	Somerville	c 1710
SMV.1104	Tufts, Nathan Park Field House	Powder House Park	Somerville	1935
SMV.108	Cliff, Zebedee E. House	29 Powder House Terr	Somerville	c 1900
SMV.109		16-18 Preston Rd	Somerville	c 1910
SMV.221	Ireland, George House	20 Preston Rd	Somerville	1853
SMV.347	Capen, Elmer Hewitt House	8 Professor's Row	Somerville	1875
SMV.348	Anthony, Gardner C. House	14 Professor's Row	Somerville	r 1895
SMV.349	Ballou, Hosea II - Lewis, Leo R. House	20 Professor's Row	Somerville	1854
SMV.350	Schneider, Jerome - Richardson, Mary House	28 Professor's Row	Somerville	1857
SMV.351	Marshall, John P. House	48 Professor's Row	Somerville	1857
SMV.1145	Metcalf Hall	56 Professor's Row	Somerville	1895
SMV.352	Tweed, Benjamin F. - Dearborn, Heman A. House	72 Professor's Row	Somerville	1857
SMV.353	Shipman, William R. House	80 Professor's Row	Somerville	1868
SMV.354	Fay, Charles Earnest House	92 Professor's Row	Somerville	c 1875
SMV.355	Tufts University - Delta Tau Delta Fraternity	98 Professor's Row	Somerville	1936
SMV.356	Tousey, William C. - Rockwell, Edward H. House	106 Professor's Row	Somerville	1875
SMV.357	Sawyer, Dr. Thomas J. - Knight, George T. House	114 Professor's Row	Somerville	c 1860
SMV.1146	Hooper, William L. House	124 Professor's Row	Somerville	1892
SMV.1147		128 Professor's Row	Somerville	c 1930
SMV.1148	Tufts University - Alpha Tau Omega Fraternity	134 Professor's Row	Somerville	c 1935
SMV.410	Cotter, Thomas House	7-9 Properzi Way	Somerville	c 1890
SMV.1232	Saint Anthony of Padua Roman Catholic Church	12 Properzi Way	Somerville	c 1916
SMV.411		22 Properzi Way	Somerville	c 1870
SMV.1350	Fitzgerald, Peter J. House	72 Properzi Way	Somerville	c 1890
SMV.1351	Woodwell, Charles H. House	76 Properzi Way	Somerville	c 1850
SMV.1352	Woodwell, Charles H. - McGarr, John H. House	80 Properzi Way	Somerville	c 1850
SMV.1353	Smith, Joseph - O'Brien, John Duplex	84-86 Properzi Way	Somerville	c 1870
SMV.1354	Chase, Mary A. House	85 Properzi Way	Somerville	c 1890
SMV.1355	Maloy, James W. House	88 Properzi Way	Somerville	c 1850
SMV.1356	Maloy, James W. - Marchant, Albert L. House	92 Properzi Way	Somerville	c 1850
SMV.1357	Chase, Daniel E. House	93 Properzi Way	Somerville	c 1870
SMV.45	Hines, Richard A. House	5 Prospect Hill Ave	Somerville	1886
SMV.940	Prospect Street Bridge over B & M Railroad	Prospect St	Somerville	r 1915
SMV.1221	Bennett, Clark House	26-28 Prospect St	Somerville	r 1865
SMV.1222	Frost, John A. House	30 Prospect St	Somerville	r 1890
SMV.1347	Bennett Auto Exchange Garage	32-34 Prospect St	Somerville	1924
SMV.1348	Schertzer Offices	36-38 Prospect St	Somerville	1973
SMV.412	Sanborn, David A. Double House	41-43 Prospect St	Somerville	r 1860
SMV.1349	Propsect Waste Paper Corporation	50-52R Prospect St	Somerville	c 1951
SMV.413	Briggs, Harris House	75 Prospect St	Somerville	r 1855
SMV.673	O'Neill, James P. Garage	92-96 Prospect St	Somerville	1911
SMV.788	A and P Grocery Store	97 Prospect St	Somerville	c 1925
SMV.414	Norcross, Edmund D. House	105 Prospect St	Somerville	c 1860

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

Inv. No.	Property Name	Street	Town	Year
SMV.230	Walsh, John House	122 Prospect St	Somerville	c 1880
SMV.235	Lord, David Apartments	5-13 Putnam St	Somerville	1892
SMV.447	Hadley, Benjamin - Giles, Joseph House	35 Putnam St	Somerville	c 1868
SMV.1235	Dyer, Frances S. - Woodman, Herbert K. House	61 Putnam St	Somerville	1867
SMV.448		4-8 Quincy St	Somerville	r 1880
SMV.233	Quincy, The	15 Quincy St	Somerville	1895
SMV.449	Marcy, Rev. Icabod House	22 Quincy St	Somerville	c 1870
SMV.234	Hills, John D. House	29-31 Quincy St	Somerville	1873
SMV.51		46 Quincy St	Somerville	1900
SMV.1134		6 Reed Ct	Somerville	c 1880
SMV.1135		7 Reed Ct	Somerville	c 1880
SMV.1234	Ryan, James House	31 Richardson St	Somerville	r 1850
SMV.107	Russell, Philemon House	25 Russell St	Somerville	c 1850
SMV.560	Bowers, F. E. House	41 Russell St	Somerville	c 1865
SMV.561		51 Russell St	Somerville	1900
SMV.910	Sacramento Street Pedestrian Subway Bridge	Sacramento St	Somerville	1897
SMV.415	Lomax, George House	111 Sacramento St	Somerville	c 1852
SMV.437		12 Sanborn Ave	Somerville	c 1900
SMV.237		18 Sanborn Ave	Somerville	1908
SMV.1236	Brackett - Frost, George Row House	29-33 Sargent Ave	Somerville	c 1880
SMV.1237	Simmons, Peabody House	50 Sargent Ave	Somerville	c 1870
SMV.68	Cummings School	School St	Somerville	1931
SMV.921	School Street Bridge over B and M Railroad	School St	Somerville	r 1900
SMV.648	Ridgeway, Edward W. Rowhouse	5-9 School St	Somerville	c 1880
SMV.439		21 School St	Somerville	c 1900
SMV.440	Craig, James P. House	25 School St	Somerville	c 1875
SMV.649	Landers, Alvin Apartment House	40 School St	Somerville	c 1900
SMV.674	Boston Elevated Railway Somerville Substation	76 School St	Somerville	c 1920
SMV.223		101 School St	Somerville	1889
SMV.441		107 School St	Somerville	r 1865
SMV.222	Long, James House	117 School St	Somerville	c 1870
SMV.321	Montrose, The	156 School St	Somerville	1894
SMV.1238	Stickney, Rufus B. - Babb, Nathaneil T. House	193 School St	Somerville	c 1870
SMV.106	Warren, H. House	205 School St	Somerville	c 1870
SMV.508	Hunt, Georgiana House	218 School St	Somerville	c 1890
SMV.509	Ham, Lemuel House	220 School St	Somerville	c 1890
SMV.510	Miles, Frank House	232 School St	Somerville	c 1885
SMV.511	Bingham, N. W. House	235 School St	Somerville	c 1880
SMV.105	Hopkins, Elisha House	237 School St	Somerville	1867
SMV.228	Leonard, Patrick House	9 Smith Ave	Somerville	r 1870
SMV.416		10 Smith Ct	Somerville	c 1870
SMV.800	Old Cemetery - Milk Row Cemetery	Somerville Ave	Somerville	1804
SMV.771	Northern Artery Filling Station	181 Somerville Ave	Somerville	1927

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

Inv. No.	Property Name	Street	Town	Year
SMV.765		218-222 Somerville Ave	Somerville	1926
SMV.417	Fitzpatrick, Honora - Fitzpatrick, Michael House	223-225 Somerville Ave	Somerville	1890
SMV.766	Barnes and Walsh Auto Body Company	224 Somerville Ave	Somerville	c 1933
SMV.1339	O'Keefe, Thomas House	261 Somerville Ave	Somerville	c 1890
SMV.772	Union Square Garage	267-271 Somerville Ave	Somerville	1914
SMV.1340	Saint Thomas Episcopal Church	300 Somerville Ave	Somerville	1870
SMV.767	Rafferty - Wasserman Shop	314-316 Somerville Ave	Somerville	1890
SMV.1341	Rafferty, Patrick Block	318-322 Somerville Ave	Somerville	c 1880
SMV.1342	Rafferty, Patrick Rowhouse	318R Somerville Ave	Somerville	c 1880
SMV.768	Young, J. F. Block	324-328 Somerville Ave	Somerville	c 1880
SMV.769	Bremner, J. A. and Company Building	344-346 Somerville Ave	Somerville	c 1910
SMV.1343	Bent, Cyrus House	349 Somerville Ave	Somerville	c 1860
SMV.770	Star Theater	374 Somerville Ave	Somerville	c 1890
SMV.1240	Bennett, William F. Block	380 Somerville Ave	Somerville	1892
SMV.364	Towne, George B. Rowhouse	431-439 Somerville Ave	Somerville	c 1870
SMV.104		437 Somerville Ave	Somerville	c 1830
SMV.1359	American Tube Works Blacksmith Shop	438R Somerville Ave	Somerville	r 1905
SMV.103	Hollingsworth, Robert House	439-441R Somerville Ave	Somerville	c 1840
SMV.365	Hollingsworth, Robert House	439-441 Somerville Ave	Somerville	c 1880
SMV.793	American Tube Works Machine and Pattern Shop	440R Somerville Ave	Somerville	c 1900
SMV.1110	American Tube Works Administration Office Building	440 Somerville Ave	Somerville	1913
SMV.1107	American Tube Works Drawing Mill	444 Somerville Ave	Somerville	c 1900
SMV.1108	American Tube Works Rolling and Drawing Mill	460 Somerville Ave	Somerville	c 1900
SMV.1241	Ireland, Jonathan - Dane, Osgood House	461 Somerville Ave	Somerville	c 1791
SMV.366	Campbell, William House	467 Somerville Ave	Somerville	c 1868
SMV.731		577-579 Somerville Ave	Somerville	c 1924
SMV.225	Flanagan, Edward House	589 Somerville Ave	Somerville	c 1850
SMV.790	Dahlquist Manufacturing Company	610-620 Somerville Ave	Somerville	c 1940
SMV.791		624 Somerville Ave	Somerville	c 1900
SMV.730		665 Somerville Ave	Somerville	c 1926
SMV.1360	Llewellyn, Edward J. Building	216 Somverville Ave	Somerville	1896
SMV.418	Koenig, H. F. - McCue, M. House	26 South St	Somerville	r 1860
SMV.651		16 Spring Hill Terr	Somerville	1896
SMV.89		15 Spring St	Somerville	c 1845
SMV.1061	Marsh, Henry J. - Bradford, William House	18-20 Spring St	Somerville	c 1850
SMV.1062	Bugbee, James R. - Morse, Enoch R. House	22-24 Spring St	Somerville	1854
SMV.1063		28 Spring St	Somerville	c 1960
SMV.1065	Jaskun, Justin J. - Clarke, George A. House	31-33 Spring St	Somerville	c 1925
SMV.1064		32 Spring St	Somerville	c 1950
SMV.1066	Robinson, George N. - Lovejoy, Loyal House	34 Spring St	Somerville	c 1852
SMV.1067		35 Spring St	Somerville	c 1900
SMV.1068		37 Spring St	Somerville	c 1920
SMV.1069	Robinson, Ezra B. - Bird, Henry M. House	38 Spring St	Somerville	c 1852

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Inv. No.	Property Name	Street	Town	Year
SMV.1070	Pond, William - Hayden, J. Orlin House	42 Spring St	Somerville	c 1845
SMV.1071	Carlton, Amos D. - Proctor, George O. House	44 Spring St	Somerville	1868
SMV.1072	Lavelli, Edwin C. House	45 Spring St	Somerville	1960
SMV.1073	Sutherland, George E. House	46-46A Spring St	Somerville	r 1890
SMV.1074	Woods, John House	47 Spring St	Somerville	c 1860
SMV.88	Rymes, Christopher House	49 Spring St	Somerville	c 1883
SMV.1075	Freeman, Moses H. - Daniels, Edward S. House	50 Spring St	Somerville	c 1850
SMV.1076	Clark, James - Andrews, Harriet M. House	54 Spring St	Somerville	1850
SMV.1007	Sears Roebuck and Company Warehouse	Sturtevant St	Somerville	1941
SMV.27	First United Methodist Church	1 Summer St	Somerville	r 1865
SMV.442	Simonds, George H. Rowhouse	8-20 Summer St	Somerville	c 1880
SMV.1244	Huff, Orrison - Mullholland, James House	22 Summer St	Somerville	1870
SMV.1245	Odiorne, William - Langley, George M. House	24 Summer St	Somerville	1870
SMV.1246	Price, Rev. Lewis V. House	26 Summer St	Somerville	c 1885
SMV.1247	Fish, Eugene W. - Hart, Mary House	28 Summer St	Somerville	c 1885
SMV.757	Perry, Oscar Barber Shop	36-38 Summer St	Somerville	c 1899
SMV.443	Henry, William G. Rowhouse	57 Summer St	Somerville	c 1880
SMV.652		91 Summer St	Somerville	r 1855
SMV.220		104 Summer St	Somerville	1908
SMV.219	Homer, Jacob House	125 Summer St	Somerville	1848
SMV.653	Durell, Rev. George W. House	137 Summer St	Somerville	c 1865
SMV.654	Locke, Marshall House	139 Summer St	Somerville	c 1860
SMV.655	Rice, Charles F. House	143 Summer St	Somerville	c 1890
SMV.218	Haigh, John House	151 Summer St	Somerville	1891
SMV.98	Crane, Edward House	152 Summer St	Somerville	1895
SMV.1077	Cox, Edward F. - Polsey, Henry S. House	154 Summer St	Somerville	c 1890
SMV.1078	Somerset Chambers	156-158 Summer St	Somerville	r 1935
SMV.1079		162 Summer St	Somerville	c 1960
SMV.1080		166-168 Summer St	Somerville	c 1895
SMV.656	Howie, John House	170 Summer St	Somerville	c 1865
SMV.1082		172 Summer St	Somerville	c 1890
SMV.1083	Hayden, J. Orlin House	174 Summer St	Somerville	1899
SMV.217	Bradshaw, Charles House	175 Summer St	Somerville	1884
SMV.1084	Dolliver, Edwin C. House	176 Summer St	Somerville	c 1890
SMV.1085		184 Summer St	Somerville	c 1890
SMV.706	Texas Company Oils Building	360-366 Summer St	Somerville	c 1920
SMV.704	Highland Trust Company - Winter Hill Coop Bank	361-371 Summer St	Somerville	c 1930
SMV.732		379 Summer St	Somerville	c 1930
SMV.209	Rosebud, The	381 Summer St	Somerville	1941
SMV.1138	Jackman, Edward N. House	16-18 Summit Ave	Somerville	c 1871
SMV.278	Sylvester, John House	26 Summit Ave	Somerville	1885
SMV.445	Hopkins, James House	27 Summit Ave	Somerville	c 1890
SMV.74		13 Summit St	Somerville	c 1890

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Inv. No.	Property Name	Street	Town	Year
SMV.480		15 Summit St	Somerville	c 1895
SMV.481	Nichols, John F. House	17 Summit St	Somerville	c 1890
SMV.71		12 Sunnyside St	Somerville	1880
SMV.72		14 Sunnyside St	Somerville	1880
SMV.73		16 Sunnyside St	Somerville	1880
SMV.920	Sycamore Street Bridge over B and M Railroad	Sycamore St	Somerville	1902
SMV.40	Russell, Susan House	58 Sycamore St	Somerville	r 1835
SMV.41	Tufts, Peter and Oliver House	78 Sycamore St	Somerville	c 1714
SMV.512	Hanscom, Edgar F. House	137 Sycamore St	Somerville	c 1884
SMV.325	Dempsey, Addis House	143 Sycamore St	Somerville	1899
SMV.516	Broadway Congregational Church Chapel	Sycamore Terr	Somerville	1867
SMV.515	Hill, William P. House	155 Sycamore Terr	Somerville	1891
SMV.1294		Sydney St	Somerville	c 1915
SMV.1307		32 Sydney St	Somerville	c 1916
SMV.1306		36 Sydney St	Somerville	c 1916
SMV.1303		40 Sydney St	Somerville	c 1916
SMV.1301		44 Sydney St	Somerville	c 1910
SMV.1302		46 Sydney St	Somerville	c 1910
SMV.1300		48-50 Sydney St	Somerville	c 1910
SMV.1299		52 Sydney St	Somerville	c 1910
SMV.1298		54 Sydney St	Somerville	c 1900
SMV.1297		56 Sydney St	Somerville	c 1910
SMV.1296		60 Sydney St	Somerville	c 1915
SMV.1295		64 Sydney St	Somerville	c 1910
SMV.675	Hillson, Hyman M. Tinware Factory	16 Taylor St	Somerville	c 1893
SMV.1		35 Temple St	Somerville	r 1765
SMV.34		65 Temple St	Somerville	c 1885
SMV.1249	Saint Polycarp's Roman Catholic Church	100 Temple St	Somerville	c 1927
SMV.1292		107 Temple St	Somerville	c 1920
SMV.1258	Saint Polycarp's Roman Catholic Church Rectory	114 Temple St	Somerville	c 1930
SMV.517		5-5A Tennyson St	Somerville	c 1900
SMV.326	Spinney, Lawrence House	45 Tennyson St	Somerville	1875
SMV.276		11 Thorpe St	Somerville	c 1830
SMV.446		22 Thorpe St	Somerville	c 1875
SMV.518	Mathison, Joseph House	21 Thurston St	Somerville	c 1885
SMV.1259	Saint Ann's Roman Catholic Church	50B Thurston St	Somerville	1881
SMV.1260	Saint Ann's Roman Catholic Church Parochial School	50A Thurston St	Somerville	1916
SMV.1261	Saint Ann's Roman Catholic Church Convent	50 Thurston St	Somerville	1923
SMV.99	Otis - Wyman House	67 Thurston St	Somerville	c 1883
SMV.419	Flynn, Michael House	4-6 Tremont Pl	Somerville	c 1884
SMV.485	Johnson, Phillip House	40 Trull St	Somerville	c 1870
SMV.486		45 Trull St	Somerville	c 1880
SMV.487		57 Trull St	Somerville	c 1815

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Inv. No.	Property Name	Street	Town	Year
SMV.690	Vinal, Robert A. House	15 Union Sq	Somerville	1845
SMV.760	Union Building	16-19 Union Sq	Somerville	c 1922
SMV.761	Hurley Building	20-29 Union Sq	Somerville	1932
SMV.762	Eberle, Philip Building	31-34 Union Sq	Somerville	c 1884
SMV.1358	Cobb, Eberle Weston Building	35 Union Sq	Somerville	r 1880
SMV.773	Hill Building	38 Union Sq	Somerville	1874
SMV.763	Stone Building - Barrister's Hall	61 Union Sq	Somerville	1888
SMV.764	Somerville Police Headquarters	66-70 Union Sq	Somerville	1932
SMV.67	Somerville Fire Station	92 Union Sq	Somerville	1903
SMV.488	Pollard, Warren Quarry Worker Housing	13 Vernon St	Somerville	c 1845
SMV.750	Derby Desk Company Building	20 Vernon St	Somerville	1887
SMV.489	Pollard, Warren Quarry Worker Housing	38-40 Vernon St	Somerville	c 1870
SMV.738	Gavel, Harry Garage	55 Vernon St	Somerville	c 1910
SMV.490	Pollard, Warren Quarry Worker Housing	90-92 Vernon St	Somerville	c 1840
SMV.1250	Waugh, William Lindsay House	37 Victoria St	Somerville	1914
SMV.797	Somerville Charcoal Company	19-21 Village St	Somerville	c 1918
SMV.1251	McCarthy, Catherine E. House	21 Vinal Ave	Somerville	c 1890
SMV.42	Hammond, A. P. - Watson, J. Sumner House	42 Vinal Ave	Somerville	1884
SMV.287	Wellington, Lizzie House	45 Vinal Ave	Somerville	c 1875
SMV.286	Wellington, Lizzie House	47 Vinal Ave	Somerville	c 1875
SMV.288	Parker - Burnett House	48 Vinal Ave	Somerville	1873
SMV.43	Hailey, Fred House	49 Vinal Ave	Somerville	1895
SMV.44	Wright House	54 Vinal Ave	Somerville	c 1895
SMV.299		56 Vinal Ave	Somerville	1913
SMV.64	Southern Junior High School	8 Vinal St	Somerville	1930
SMV.458		11 Vinal St	Somerville	
SMV.289	Parker, Silas House	50 Vinal St	Somerville	1873
SMV.436	Pond, S. H. House	58 Vinal St	Somerville	c 1880
SMV.795		21-29 Vine St	Somerville	c 1930
SMV.420	McGrath House	80 Vine St	Somerville	c 1850
SMV.421		88 Vine St	Somerville	c 1840
SMV.796	Bailie Basket Company	100 Vine St	Somerville	c 1920
SMV.925	Walnut Street Bridge over B & M Railroad	Walnut St	Somerville	1894
SMV.459	Sturtevant, Richard Apartment House	3-5 Walnut St	Somerville	c 1890
SMV.236	Somerville Journal Building	8-10 Walnut St	Somerville	1894
SMV.460	Somerville District Court House	19 Walnut St	Somerville	1925
SMV.56		24 Walnut St	Somerville	r 1890
SMV.57	Munroe, Robert House	37 Walnut St	Somerville	c 1849
SMV.58	Brooks, Elbridge Streeter House	44 Walnut St	Somerville	1887
SMV.59	Niles, Louville House	45 Walnut St	Somerville	1890
SMV.60	Hollander Block, The	56-58 Walnut St	Somerville	1895
SMV.297		60 Walnut St	Somerville	1935
SMV.298	Thorpe, Eliza House	63 Walnut St	Somerville	c 1870

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Inv. No.	Property Name	Street	Town	Year
SMV.1253	Folsom, Abraham - Duxbury, Caleb House	67 Walnut St	Somerville	c 1860
SMV.751	Kemp Nut Company	98-100 Walnut St	Somerville	1918
SMV.519	Veazie, William House	133 Walnut St	Somerville	c 1870
SMV.317	Ayre, John House	141 Walnut St	Somerville	c 1870
SMV.520	Fuller, Stephen W. House	151 Walnut St	Somerville	1861
SMV.422	Sullivan, D. House	32 Ward St	Somerville	r 1860
SMV.1255	Weinheimer, John - Murphy, Michael F. House	9 Warner St	Somerville	1905
SMV.260	Almy, Benjamin - Ellis, Frank House	24 Warren Ave	Somerville	1874
SMV.259	Thompson, Benjamin - Shattuck, Francelia M. House	26 Warren Ave	Somerville	c 1875
SMV.261	Baxter, George L. House	27 Warren Ave	Somerville	1874
SMV.258	Munroe, Emery H. House	28 Warren Ave	Somerville	c 1875
SMV.262	Hines, Richard A. House	29 Warren Ave	Somerville	1873
SMV.257	Lovejoy, Alvan L. House	30 Warren Ave	Somerville	1871
SMV.263	Sturtevant, Hazen House	31 Warren Ave	Somerville	1873
SMV.256	Ambrose, John L. House	32 Warren Ave	Somerville	c 1880
SMV.264	Kimball, George A. House	33 Warren Ave	Somerville	1877
SMV.423	Quinn, William House and Store	51 Warren St	Somerville	c 1860
SMV.536		Warwick St	Somerville	r 1860
SMV.537	Boston Brick Company Boarding House	26 Warwick St	Somerville	c 1870
SMV.613		4 Washington Ave	Somerville	r 1820
SMV.907	B and M Railroad Bridge over Washington Street	Washington St	Somerville	1928
SMV.941	Washington Street Bridge over B & M Railroad	Washington St	Somerville	r 1915
SMV.303	Buddy's Truck Stop	113 Washington St	Somerville	1929
SMV.12	Ireland, Samuel House	117 Washington St	Somerville	c 1792
SMV.758		157-161 Washington St	Somerville	c 1902
SMV.759		163-179 Washington St	Somerville	c 1927
SMV.462	Holt, Samuel House	197 Washington St	Somerville	c 1860
SMV.463		198 Washington St	Somerville	r 1840
SMV.676	Boston Elevated Railway - MBTA Bus Garage	208-220 Washington St	Somerville	1926
SMV.1361	Allen, Hannah J. Building	210 Washington St	Somerville	c 1890
SMV.238	Walker, William House	215 Washington St	Somerville	c 1865
SMV.10	U. S. Post Office - Somerville Main Branch	237 Washington St	Somerville	1936
SMV.424	Burt, William House	264 Washington St	Somerville	c 1865
SMV.425	Saint Joseph's Roman Catholic Parochial School	272 Washington St	Somerville	c 1890
SMV.426	Ashley, John House	273 Washington St	Somerville	c 1870
SMV.232	Smith, John House	275-277 Washington St	Somerville	c 1870
SMV.678	Brown, I. H. Moulding Company	285 Washington St	Somerville	r 1885
SMV.1254	Saint Joseph's Roman Catholic Church	294 Washington St	Somerville	1871
SMV.677	Fresh Pond Ice Company	321 Washington St	Somerville	c 1892
SMV.427	Leland, John House	377 Washington St	Somerville	r 1865
SMV.13	Schuebeler, Charles House	384 Washington St	Somerville	c 1860
SMV.428	Devine, Michael H. Building	388 Washington St	Somerville	c 1890
SMV.1028	Devine, Michael H. Building	392 Washington St	Somerville	c 1890

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Inv. No.	Property Name	Street	Town	Year
SMV.782		406 Washington St	Somerville	c 1888
SMV.781		415-427 Washington St	Somerville	1932
SMV.1256	Clough, Elmer Three-Decker	27-29 Waterhouse St	Somerville	1919
SMV.538	Wentworth, L. Roger House	16 Watson St	Somerville	c 1900
SMV.924	Webster - Newton Street Bridge over B & M Railroad	Webster Ave	Somerville	1911
SMV.789	Canny, Michael J. Used Cars Dealership	45 Webster Ave	Somerville	1924
SMV.787	O'Neill, J. P. Coal Company Truck Garage	62 Webster Ave	Somerville	1924
SMV.614	Edgerly, John S. House	1 Webster St	Somerville	1851
SMV.615	Junkins, R. F. House	27 Webster St	Somerville	c 1850
SMV.14	Somerville Historical Society	1 Westwood Rd	Somerville	c 1925
SMV.15	Berry - Kelley House	2 Westwood Rd	Somerville	c 1900
SMV.16	Sibley, Edwin D. House	3 Westwood Rd	Somerville	c 1895
SMV.1091		5 Westwood Rd	Somerville	c 1898
SMV.1092		6 Westwood Rd	Somerville	c 1910
SMV.1093	Bradshaw, Charles H. House	7 Westwood Rd	Somerville	1899
SMV.17	Newton, Elbridge W. House	8 Westwood Rd	Somerville	c 1896
SMV.1094		9 Westwood Rd	Somerville	c 1898
SMV.1095		10 Westwood Rd	Somerville	
SMV.1096		11 Westwood Rd	Somerville	c 1900
SMV.1097		12 Westwood Rd	Somerville	c 1900
SMV.1098		14 Westwood Rd	Somerville	c 1900
SMV.1099		15 Westwood Rd	Somerville	c 1900
SMV.1100		16 Westwood Rd	Somerville	c 1910
SMV.1101		17 Westwood Rd	Somerville	c 1900
SMV.1102		18 Westwood Rd	Somerville	c 1900
SMV.1328		25 Wheatland St	Somerville	c 1885
SMV.1327		29 Wheatland St	Somerville	c 1885
SMV.1325		30 Wheatland St	Somerville	c 1900
SMV.1326		31-33 Wheatland St	Somerville	c 1885
SMV.1324		34 Wheatland St	Somerville	c 1890
SMV.616		14 Wheeler St	Somerville	c 1895
SMV.1257	Littlefield, H. L. Three-Decker	20 Wheeler St	Somerville	1899
SMV.657		28-30 White St	Somerville	c 1845
SMV.482	Wilmont, Charles W. House	11 William St	Somerville	c 1890
SMV.76		1 Williams Ct	Somerville	c 1855
SMV.77		2 Williams Ct	Somerville	c 1855
SMV.78		5 Williams Ct	Somerville	c 1855
SMV.79		6 Williams Ct	Somerville	c 1855
SMV.80		7 Williams Ct	Somerville	c 1855
SMV.81		8 Williams Ct	Somerville	c 1855
SMV.82		11 Williams Ct	Somerville	c 1855
SMV.83		12 Williams Ct	Somerville	c 1855
SMV.658	Fiske, Benjamin M. House	46 Willow Ave	Somerville	c 1875

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
SMV.679	Somerville Electric Light Generating Station	106 Willow Ave	Somerville	1887
SMV.1116	Brown, Benjamin G. Elementary School	199 Willow Ave	Somerville	1900
SMV.725	Smith, Walter S. Auto Company	80-84 Winslow Ave	Somerville	c 1912
SMV.339	Walker Garage	88 Winslow Ave	Somerville	1911
SMV.539	Hill, Ira House	21 Winter St	Somerville	c 1870

ATTACHMENT E: CAMBRIDGE DEWATERING PERMIT

PERMIT TO DEWATER

Location: Green Line Extension, Education Street

Owner: Massachusetts Bay Transportation Authority (MBTA

Contractor: White-Skanska-Kiewit

Temporary ☑

Permanent ☐

The property owner, Massachusetts Bay Transportation Authority 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:

NPDES RGP Permit Application: Notice of Intent (NOI), Temporary Construction Dewatering, Millers River Drainage Improvements - Green Line Extension Project, Cambridge, Massachusetts

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

Not applicable

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 MBTA (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

Print Form

ATTACHMENT F: ANALYTICAL DATA

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 3, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15B0813

Enclosed are results of analyses for samples received by the laboratory on February 25, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 3/3/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15B0813

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

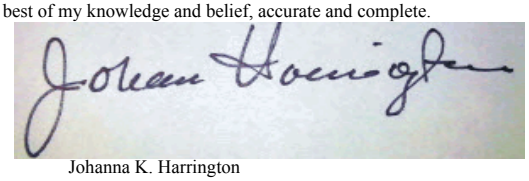
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KE202WSS	15B0813-01	Ground Water		SW-846 8082A	

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15B0813

Date Received: 2/25/2015

Field Sample #: KE202WSS | Sampled: 2/18/2015 12:40

Sample ID: 15B0813-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	79.2	30-150		2/26/15	22:26
Decachlorobiphenyl [2]	91.4	30-150		2/26/15	22:26
Tetrachloro-m-xylene [1]	92.9	30-150		2/26/15	22:26
Tetrachloro-m-xylene [2]	102	30-150		2/26/15	22:26

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

Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0813-01 [KE202WSS]	B115972	1000	10.0	02/25/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115972 - SW-846 3510C										
Blank (B115972-BLK1)				Prepared: 02/25/15 Analyzed: 02/26/15						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.84*		µg/L	2.00		92.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.14*		µg/L	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/L	2.00		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.95*		µg/L	2.00		97.7	30-150			
LCS (B115972-BS1)				Prepared: 02/25/15 Analyzed: 02/26/15						
Aroclor-1016	0.50	0.20	µg/L	0.500		99.4	40-140			
Aroclor-1016 [2C]	0.57	0.20	µg/L	0.500		113	40-140			
Aroclor-1260	0.52	0.20	µg/L	0.500		103	40-140			
Aroclor-1260 [2C]	0.61	0.20	µg/L	0.500		123	40-140			
Surrogate: Decachlorobiphenyl	*1.83*		µg/L	2.00		91.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.11*		µg/L	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/L	2.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.94*		µg/L	2.00		97.1	30-150			
LCS Dup (B115972-BSD1)				Prepared: 02/25/15 Analyzed: 02/26/15						
Aroclor-1016	0.51	0.20	µg/L	0.500		101	40-140	1.94	20	
Aroclor-1016 [2C]	0.58	0.20	µg/L	0.500		116	40-140	2.19	20	
Aroclor-1260	0.53	0.20	µg/L	0.500		105	40-140	1.73	20	
Aroclor-1260 [2C]	0.63	0.20	µg/L	0.500		125	40-140	2.12	20	
Surrogate: Decachlorobiphenyl	*1.83*		µg/L	2.00		91.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.11*		µg/L	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*1.79*		µg/L	2.00		89.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.96*		µg/L	2.00		98.1	30-150			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B115972-BS1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.50	
	2	0.00	0.00	0.00	0.57	14
Aroclor-1260	1	0.00	0.00	0.00	0.52	
	2	0.00	0.00	0.00	0.61	17

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B115972-BSD1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.51	
	2	0.00	0.00	0.00	0.58	13
Aroclor-1260	1	0.00	0.00	0.00	0.53	
	2	0.00	0.00	0.00	0.63	18

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

15B0813

CHAIN OF CUSTODY RECORD

15B0577 M10

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev. 04.05.12

Page 1 of 1

Company Name: Weston & Sampson
Address: 5 Centennial Drive
Peabody, MA 01960
Attention: Todd Bridgeo
Project Location: Green Line Extension
Sampled By: SMS

Telephone: 800 SAMPSON
Project # 2140547
Client PO# 20141204

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ◉ WEBSITE
Fax # ~~Quotes@wseinc.com~~
Email: bridgeot@wseinc.com
Format: ◉ PDF ◉ EXCEL ○ GIS
◉ OTHER Special data package for this project.

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

○ "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code
01	KE202WSD	2/18/15	1110		X	W	U
02 new 12hrs	KE202WSS	2/18/15	1240		X	W	U
Please Revise per attached email. MAC 2/25/15							

	1	2	1	2	3	1	1	1	1	2	
# of Containers	1	1	X	1	H	I	N	I	I	O	
** Preservation	P	A	P	A	V	P	P	P	P	A	
***Container Code	Total residual chlorine (TRC)	TPH	Cyanide (CN)	SVOCs via 8270D	VOCs via 8260C	Chloride	Total Metals (see comments)	Total Suspended Solids	pH	Pats, oil, and grease (FOG).	
ANALYSIS REQUESTED											
01	X	X	X	X	X	X	X	X	X	X	
02	X	X	X	X	X	X	X	X	X	X	X

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW = groundwater
WW = wastewater
DW = drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
Total Metals to include: Sb, As, Cd, Cr III, CrVI, Cu, Pb, Hg, Ni, Ag, Se, Zn, Fe.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 2/18/15 1300	
Received by: (signature)	Date/Time: 2/18/15 13:00	
Relinquished by: (signature)	Date/Time: 2/18/15 16:00	
Received by: (signature) 3.6	Date/Time: 2/18/15 1600	

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: s-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 2/18/15

1) Was the chain(s) of custody relinquished and signed? (Yes) No No CoC Included
2) Does the chain agree with the samples? (Yes) No
If not, explain:
3) Are all the samples in good condition? (Yes) No
If not, explain:
4) How were the samples received:
On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒
Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.6
5) Are there Dissolved samples for the lab to filter? Yes (No)
Who was notified _____ Date _____ Time _____
6) Are there any RUSH or SHORT HOLDING TIME samples? (Yes) No
Who was notified David Date 2/18/15 Time 1600
7) Location where samples are stored: 19
Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____
8) Do all samples have the proper Acid pH: (Yes) No N/A
9) Do all samples have the proper Base pH: (Yes) No N/A
10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	12	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	2	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	6	Non-ConTest Container	
40 mL Vial - type listed below	6	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 6 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Doc #277 Rev. 4 August 2013

Who notified of False statements?
Log-In Technician Initials: JDL

Date/Time:
Date/Time: 2/18/15 1600

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15B0813
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15B0813-01

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	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 A ( )	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 (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is 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[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
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[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]
	A response to questions G, H and I below is 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[1]
	***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 perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case 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: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 03/03/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 2, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15B0705

Enclosed are results of analyses for samples received by the laboratory on February 20, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

con-test® ANALYTICAL LABORATORY

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

JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 3/2/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15B0705

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Charles River	15B0705-01	Ground Water		SM21-22 2340B	
MWMR9+40 (6006)	15B0705-02	Ground Water		SW-846 8082A	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

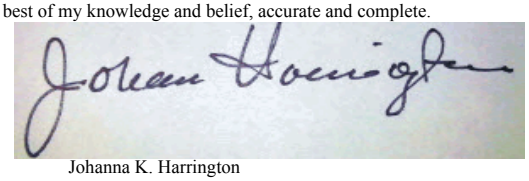
O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

15B0705-02[MWMR9+40 (6006)]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15B0705

Date Received: 2/20/2015

Field Sample #: Charles River | Sampled: 2/19/2015 12:45

Sample ID: 15B0705-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hardness	5000	60	mg/L	20		SM21-22 2340B	2/25/15	2/27/15 15:22	KSH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15B0705

Date Received: 2/20/2015

Field Sample #: MWMR9+40 (6006) | Sampled: 2/19/2015 11:40

Sample ID: 15B0705-02

Sample Matrix: Ground Water

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/24/15	2/26/15 23:28	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	47.3	30-150		2/26/15 23:28
Decachlorobiphenyl [2]	55.5	30-150		2/26/15 23:28
Tetrachloro-m-xylene [1]	71.4	30-150		2/26/15 23:28
Tetrachloro-m-xylene [2]	80.3	30-150		2/26/15 23:28

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Sample Extraction Data

Prep Method: SW-846 3005A-SM21-22 2340B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0705-01 [Charles River]	B115980	50.0	50.0	02/25/15

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0705-02 [MWMR9+40 (6006)]	B115897	1000	10.0	02/24/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115897 - SW-846 3510C										
Blank (B115897-BLK1)				Prepared: 02/24/15 Analyzed: 02/26/15						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.73*		µg/L	2.00		86.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.99*		µg/L	2.00		99.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.71*		µg/L	2.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.88*		µg/L	2.00		94.1	30-150			
LCS (B115897-BS1)				Prepared: 02/24/15 Analyzed: 02/26/15						
Aroclor-1016	0.50	0.20	µg/L	0.500		100	40-140			
Aroclor-1016 [2C]	0.58	0.20	µg/L	0.500		115	40-140			
Aroclor-1260	0.53	0.20	µg/L	0.500		106	40-140			
Aroclor-1260 [2C]	0.63	0.20	µg/L	0.500		126	40-140			
Surrogate: Decachlorobiphenyl	*1.80*		µg/L	2.00		90.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/L	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*1.74*		µg/L	2.00		86.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.91*		µg/L	2.00		95.6	30-150			
LCS Dup (B115897-BSD1)				Prepared: 02/24/15 Analyzed: 02/26/15						
Aroclor-1016	0.52	0.20	µg/L	0.500		104	40-140	4.23	20	
Aroclor-1016 [2C]	0.60	0.20	µg/L	0.500		120	40-140	4.16	20	
Aroclor-1260	0.55	0.20	µg/L	0.500		109	40-140	3.00	20	
Aroclor-1260 [2C]	0.65	0.20	µg/L	0.500		130	40-140	3.47	20	
Surrogate: Decachlorobiphenyl	*1.84*		µg/L	2.00		91.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.11*		µg/L	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/L	2.00		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.95*		µg/L	2.00		97.6	30-150			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115980 - SW-846 3005A										
Blank (B115980-BLK1)				Prepared: 02/25/15 Analyzed: 02/27/15						
Hardness	ND	3.0	mg/L							

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B115897-BS1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.50	
	2	0.00	0.00	0.00	0.58	15
Aroclor-1260	1	0.00	0.00	0.00	0.53	
	2	0.00	0.00	0.00	0.63	17

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B115897-BSD1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.52	
	2	0.00	0.00	0.00	0.60	14
Aroclor-1260	1	0.00	0.00	0.00	0.55	
	2	0.00	0.00	0.00	0.65	17

con-test® ANALYTICAL LABORATORY
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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
O-32	A dilution was performed as part of the standard analytical procedure.

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM21-22 2340B in Water	
Hardness	CT,MA,NH,NY
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

CHAIN OF CUSTODY RECORD

15B0705

Rev 04.05.12

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Company Name: Weston & Sampson
Address: 5 Centennial Drive
Peabody, MA 01960
Attention: Todd Bridgeo/Frank Ricciardi
Project Location: Green Line Extension
Sampled By: TPS / SMS

Telephone: 800 SAMPSON
Project # 2140547
Client PO# 20141204

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ◉ WEBSITE
Fax # quattrinis@wseinc.com
Email: bridgeot@wseinc.com
Format: ◉ PDF ◉ EXCEL ○ GIS
◉ OTHER Special data package for this project.
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Hardness	PCBs 8082
01	*Charles River	2/19/15	1245		G	G W	U	✓	
		[redacted]			[redacted]	[redacted]	[redacted]	[redacted]	
02	* MWMR9+40 (Lodge)	2/19/15	1140		G	G W	U		✓
		[redacted]			[redacted]	[redacted]	[redacted]		[redacted]

1 2 | # of Containers
N I | ** Preservation
P A | ***Container Code

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

****Preservation**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
* Please filter
Please also cc a copy to Gendronk@wseinc.com

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
William M. Symington	2/19/15 1500
Received by: (signature)	Date/Time:
Joseph M. Gabrielson	2/20/15 1015
Relinquished by: (signature)	Date/Time:
Joseph M. Gabrielson	2/20/15 1750
Received by: (signature)	Date/Time:
[signature] 2.5	2/20/15 1750

Turnaround ††
☐ 7-Day
☐ 10-Day
◉ Other 5-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: GW-1, GW-2, GW-3
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 2/20/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No No CoC Included

2) **Does the chain agree with the samples?** (Yes) No
If not, explain:

3) **Are all the samples in good condition?** (Yes) No
If not, explain:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.5

5) **Are there Dissolved samples for the lab to filter?** Yes (No)
Who was notified _____ Date _____ Time _____

6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes (No)
Who was notified _____ Date _____ Time _____

7) **Location where samples are stored:** 19

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

8) **Do all samples have the proper Acid pH:** (Yes) No N/A _____

9) **Do all samples have the proper Base pH:** Yes No (N/A) _____

10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	2	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	1	Non-ConTest Container	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

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

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** DL **Date/Time:** 2/20/15 1750

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15B0705
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15B0705-01 thru 15B0705-02

Matrices: Water

CAM Protocol (check all that below)

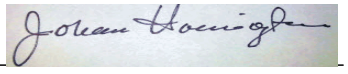
8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is 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[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
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[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]
	A response to questions G, H and I below is 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[1]
	***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 perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case 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: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 03/02/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

January 22, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15A0431

Enclosed are results of analyses for samples received by the laboratory on January 15, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

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con-test® ANALYTICAL LABORATORY
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JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 1/22/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15A0431

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-MR 10+60 (6010)	15A0431-01	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	
MW-MR 9+40 (6006)	15A0431-02	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6020, only a select list of metals were requested and reported.

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

SM21-22 4500 H B

Qualifications:

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:

pH

15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113585-DUP1

SW-846 8260C

Qualifications:

L-06

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone

15A0431-02[MW-MR 9+40 (6006)], B113602-BS1, B113602-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

1,1-Dichloropropene

B113602-BSD1

2-Butanone (MEK)

B113602-BS1

Bromochloromethane

B113602-BSD1

Methylene Chloride

B113602-BSD1

L-07A

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

n-Propylbenzene

B113602-BSD1

L-14

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)

B113602-BSD1

2-Hexanone (MBK)

B113602-BS1, B113602-BSD1

Bromomethane

B113602-BS1

Dichlorodifluoromethane (Freon 1

B113602-BS1

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R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

1,1-Dichloroethylene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

1,3,5-Trimethylbenzene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

2-Chlorotoluene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

4-Chlorotoluene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Bromobenzene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Bromomethane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Chloromethane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Hexachlorobutadiene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

n-Butylbenzene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

n-Propylbenzene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

p-Isopropyltoluene (p-Cymene)
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

sec-Butylbenzene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Trichloroethylene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Vinyl Chloride
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Bromomethane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

Carbon Disulfide
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

Chloromethane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

Methylene Chloride
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,2-Dichloropropane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

Hexachlorobutadiene
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113602-BLK1, B113602-BS1, B113602-BSD1

SW-846 8270D

Qualifications:

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

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Aniline

15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)], B113750-BLK1, B113750-BS1, B113750-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Hexachlorobenzene

15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

Hexachlorobutadiene

15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

15A0431-01[MW-MR 10+60 (6010)], 15A0431-02[MW-MR 9+40 (6006)]

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

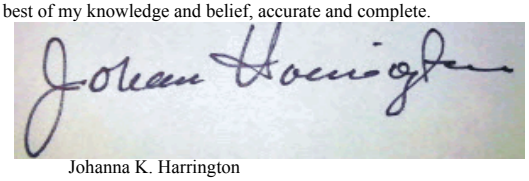
SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Bromomethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:20	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:20	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		1/18/15 0:20
Toluene-d8	98.7	70-130		1/18/15 0:20
4-Bromofluorobenzene	102	70-130		1/18/15 0:20

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:23	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	44.6	15-110		1/21/15 16:23
Phenol-d6	29.6	15-110		1/21/15 16:23
Nitrobenzene-d5	92.8	30-130		1/21/15 16:23
2-Fluorobiphenyl	96.2	30-130		1/21/15 16:23
2,4,6-Tribromophenol	104	15-110		1/21/15 16:23
p-Terphenyl-d14	103	30-130		1/21/15 16:23

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	1.4	0.20	mg/L	1		SW-846 8100 Modified	1/20/15	1/20/15 22:11	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	99.8	40-140				1/20/15 22:11	

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:03	AMP
Arsenic	3.2	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:03	AMP
Chromium	1.8	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Chromium, Trivalent	0.0018		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:14	AMP
Copper	7.3	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Iron	21	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 21:14	OP
Lead	5.4	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:53	SCB
Nickel	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:03	AMP
Zinc	16	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:25	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 10+60 (6010) | Sampled: 1/15/2015 11:40

Sample ID: 15A0431-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	1400	100	mg/L	1		SM21-22 4500 CL B	1/21/15	1/21/15 20:20	DJM
Chlorine, Residual	0.24	0.020	mg/L	1		SM21-22 4500 CL G	1/15/15	1/15/15 22:27	DJM
Cyanide	ND	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 23:00	DJM
pH @19.9°C	6.9		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	72	10	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	1.4	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	11	10	µg/L	1	L-06	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Bromomethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
2-Butanone (MEK)	10	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/18/15 0:46	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/18/15 0:46	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	88.9	70-130		1/18/15 0:46
Toluene-d8	97.6	70-130		1/18/15 0:46
4-Bromofluorobenzene	103	70-130		1/18/15 0:46

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 16:48	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	27.6	15-110		1/21/15 16:48
Phenol-d6	20.5	15-110		1/21/15 16:48
Nitrobenzene-d5	43.7	30-130		1/21/15 16:48
2-Fluorobiphenyl	45.6	30-130		1/21/15 16:48
2,4,6-Tribromophenol	47.3	15-110		1/21/15 16:48
p-Terphenyl-d14	45.8	30-130		1/21/15 16:48

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	2.6	0.20	mg/L	1		SW-846 8100 Modified	1/20/15	1/20/15 22:29	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	94.5	40-140					1/20/15 22:29

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Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:08	AMP
Arsenic	11	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:08	AMP
Chromium	3.0	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Chromium, Trivalent	0.0030		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:14	AMP
Copper	11	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Iron	4.5	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 21:19	OP
Lead	6.7	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:54	SCB
Nickel	9.9	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 15:08	AMP
Zinc	48	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:30	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0431

Date Received: 1/15/2015

Field Sample #: MW-MR 9+40 (6006) | Sampled: 1/15/2015 12:30

Sample ID: 15A0431-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	1600	100	mg/L	1		SM21-22 4500 CL B	1/21/15	1/21/15 20:20	DJM
Chlorine, Residual	0.15	0.020	mg/L	1		SM21-22 4500 CL G	1/15/15	1/15/15 22:27	DJM
Cyanide	ND	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 23:00	DJM
pH @21.5°C	7.2		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	360	10	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	2.8	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113767	1000	01/20/15
15A0431-02 [MW-MR 9+40 (6006)]	B113767	500	01/20/15

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113617	50.0	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113617	50.0	01/16/15

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113566	50.0	50.0	01/15/15
15A0431-02 [MW-MR 9+40 (6006)]	B113566	50.0	50.0	01/15/15

SM21-22 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113939	1.00	100	01/21/15
15A0431-02 [MW-MR 9+40 (6006)]	B113939	1.00	100	01/21/15

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113565	100	100	01/15/15
15A0431-02 [MW-MR 9+40 (6006)]	B113565	100	100	01/15/15

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113585	50.0	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113585	50.0	01/16/15

Prep Method: SW-846 3005A-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113638	50.0	50.0	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113638	50.0	50.0	01/16/15

Prep Method: SW-846 3005A-SW-846 6020A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113639	50.0	50.0	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113639	50.0	50.0	01/16/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113606	6.00	6.00	01/17/15
15A0431-02 [MW-MR 9+40 (6006)]	B113606	6.00	6.00	01/17/15

Prep Method: SW-846 3510C-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113757	1000	1.00	01/20/15
15A0431-02 [MW-MR 9+40 (6006)]	B113757	1000	1.00	01/20/15

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113602	5	5.00	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113602	5	5.00	01/16/15

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113750	1000	1.00	01/19/15
15A0431-02 [MW-MR 9+40 (6006)]	B113750	500	0.500	01/19/15

SW-846 9014

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113686	50.0	50.0	01/19/15
15A0431-02 [MW-MR 9+40 (6006)]	B113686	50.0	50.0	01/19/15

Prep Method: SW-846 3005A-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0431-01 [MW-MR 10+60 (6010)]	B113640	1.00	1.00	01/16/15
15A0431-02 [MW-MR 9+40 (6006)]	B113640	1.00	1.00	01/16/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113602 - SW-846 5030B										
Blank (B113602-BLK1)				Prepared: 01/16/15 Analyzed: 01/17/15						
Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							R-05
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							R-05
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							R-05
sec-Butylbenzene	ND	1.0	µg/L							R-05
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							R-05
2-Chlorotoluene	ND	1.0	µg/L							R-05
4-Chlorotoluene	ND	1.0	µg/L							R-05
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							R-05
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							V-05
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							R-05, V-05
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							R-05
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B113602 - SW-846 5030B												
Blank (B113602-BLK1)				Prepared: 01/16/15 Analyzed: 01/17/15								
n-Propylbenzene	ND	1.0	µg/L								R-05	
Styrene	ND	1.0	µg/L									
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L									
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L									
Tetrachloroethylene	ND	1.0	µg/L									
Tetrahydrofuran	ND	2.0	µg/L									
Toluene	ND	1.0	µg/L									
1,2,3-Trichlorobenzene	ND	2.0	µg/L									
1,2,4-Trichlorobenzene	ND	1.0	µg/L									
1,1,1-Trichloroethane	ND	1.0	µg/L									
1,1,2-Trichloroethane	ND	1.0	µg/L									
Trichloroethylene	ND	1.0	µg/L								R-05	
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L									
1,2,3-Trichloropropane	ND	2.0	µg/L									
1,2,4-Trimethylbenzene	ND	1.0	µg/L									
1,3,5-Trimethylbenzene	ND	1.0	µg/L								R-05	
Vinyl Chloride	ND	2.0	µg/L								R-05	
m+p Xylene	ND	2.0	µg/L									
o-Xylene	ND	1.0	µg/L									
Surrogate: 1,2-Dichloroethane-d4	*25.5*		µg/L	25.0		102		70-130				
Surrogate: Toluene-d8	*23.2*		µg/L	25.0		92.8		70-130				
Surrogate: 4-Bromofluorobenzene	*27.4*		µg/L	25.0		110		70-130				
LCS (B113602-BS1)				Prepared: 01/16/15 Analyzed: 01/17/15								
Acetone	179	10	µg/L	100		**179**	*	40-160			L-06	†
tert-Amyl Methyl Ether (TAME)	8.72	0.50	µg/L	10.0		87.2		70-130				
Benzene	9.86	1.0	µg/L	10.0		98.6		70-130				
Bromobenzene	10.0	1.0	µg/L	10.0		100		70-130			R-05	
Bromochloromethane	11.9	1.0	µg/L	10.0		119		70-130				
Bromodichloromethane	9.79	1.0	µg/L	10.0		97.9		70-130				
Bromoform	10.9	1.0	µg/L	10.0		109		70-130				
Bromomethane	6.15	2.0	µg/L	10.0		61.5		40-160			L-14, R-05	†
2-Butanone (MEK)	175	10	µg/L	100		**175**	*	40-160			L-07	†
n-Butylbenzene	8.71	1.0	µg/L	10.0		87.1		70-130			R-05	
sec-Butylbenzene	9.32	1.0	µg/L	10.0		93.2		70-130			R-05	
tert-Butylbenzene	9.27	1.0	µg/L	10.0		92.7		70-130				
tert-Butyl Ethyl Ether (TBEE)	10.8	0.50	µg/L	10.0		108		70-130				
Carbon Disulfide	9.56	5.0	µg/L	10.0		95.6		70-130				
Carbon Tetrachloride	10.0	1.0	µg/L	10.0		100		70-130				
Chlorobenzene	10.0	1.0	µg/L	10.0		100		70-130				
Chlorodibromomethane	10.2	0.50	µg/L	10.0		102		70-130				
Chloroethane	10.2	2.0	µg/L	10.0		102		70-130				
Chloroform	10.4	2.0	µg/L	10.0		104		70-130				
Chloromethane	7.68	2.0	µg/L	10.0		76.8		40-160			R-05	†
2-Chlorotoluene	9.39	1.0	µg/L	10.0		93.9		70-130			R-05	
4-Chlorotoluene	9.66	1.0	µg/L	10.0		96.6		70-130			R-05	
1,2-Dibromo-3-chloropropane (DBCP)	10.2	2.0	µg/L	10.0		102		70-130				
1,2-Dibromoethane (EDB)	11.6	0.50	µg/L	10.0		116		70-130				
Dibromomethane	10.5	1.0	µg/L	10.0		105		70-130				
1,2-Dichlorobenzene	9.65	1.0	µg/L	10.0		96.5		70-130				
1,3-Dichlorobenzene	9.57	1.0	µg/L	10.0		95.7		70-130				
1,4-Dichlorobenzene	9.37	1.0	µg/L	10.0		93.7		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B113602 - SW-846 5030B											
LCS (B113602-BS1)				Prepared: 01/16/15 Analyzed: 01/17/15							
Dichlorodifluoromethane (Freon 12)	6.46	2.0	µg/L	10.0		64.6	40-160			L-14	†
1,1-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,2-Dichloroethane	10.5	1.0	µg/L	10.0		105	70-130				
1,1-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			R-05	
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130				
trans-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
1,2-Dichloropropane	9.59	1.0	µg/L	10.0		95.9	70-130				
1,3-Dichloropropane	9.75	0.50	µg/L	10.0		97.5	70-130				
2,2-Dichloropropane	7.05	1.0	µg/L	10.0		70.5	70-130			V-05	
1,1-Dichloropropene	11.0	0.50	µg/L	10.0		110	70-130				
cis-1,3-Dichloropropene	8.54	0.40	µg/L	10.0		85.4	70-130				
trans-1,3-Dichloropropene	9.45	0.40	µg/L	10.0		94.5	70-130				
Diethyl Ether	10.7	2.0	µg/L	10.0		107	70-130				
Diisopropyl Ether (DIPE)	10.8	0.50	µg/L	10.0		108	70-130				
1,4-Dioxane	97.4	50	µg/L	100		97.4	40-160			V-16	†
Ethylbenzene	10.1	1.0	µg/L	10.0		101	70-130				
Hexachlorobutadiene	7.97	0.50	µg/L	10.0		79.7	70-130			R-05, V-05	
2-Hexanone (MBK)	142	10	µg/L	100		142	40-160			L-14	†
Isopropylbenzene (Cumene)	9.94	1.0	µg/L	10.0		99.4	70-130				
p-Isopropyltoluene (p-Cymene)	9.33	1.0	µg/L	10.0		93.3	70-130			R-05	
Methyl tert-Butyl Ether (MTBE)	11.0	1.0	µg/L	10.0		110	70-130				
Methylene Chloride	12.3	5.0	µg/L	10.0		123	70-130				
4-Methyl-2-pentanone (MIBK)	104	10	µg/L	100		104	40-160				†
Naphthalene	11.3	2.0	µg/L	10.0		113	70-130				
n-Propylbenzene	9.97	1.0	µg/L	10.0		99.7	70-130			R-05	
Styrene	10.4	1.0	µg/L	10.0		104	70-130				
1,1,1,2-Tetrachloroethane	10.2	1.0	µg/L	10.0		102	70-130				
1,1,2,2-Tetrachloroethane	9.74	0.50	µg/L	10.0		97.4	70-130				
Tetrachloroethylene	9.73	1.0	µg/L	10.0		97.3	70-130				
Tetrahydrofuran	10.8	2.0	µg/L	10.0		108	70-130				
Toluene	9.51	1.0	µg/L	10.0		95.1	70-130				
1,2,3-Trichlorobenzene	10.1	2.0	µg/L	10.0		101	70-130				
1,2,4-Trichlorobenzene	9.52	1.0	µg/L	10.0		95.2	70-130				
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,1,2-Trichloroethane	9.96	1.0	µg/L	10.0		99.6	70-130				
Trichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			R-05	
Trichlorofluoromethane (Freon 11)	9.79	2.0	µg/L	10.0		97.9	70-130				
1,2,3-Trichloropropane	11.2	2.0	µg/L	10.0		112	70-130				
1,2,4-Trimethylbenzene	9.43	1.0	µg/L	10.0		94.3	70-130				
1,3,5-Trimethylbenzene	9.78	1.0	µg/L	10.0		97.8	70-130			R-05	
Vinyl Chloride	9.47	2.0	µg/L	10.0		94.7	70-130			R-05	
m+p Xylene	19.9	2.0	µg/L	20.0		99.4	70-130				
o-Xylene	9.99	1.0	µg/L	10.0		99.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	*27.0*		µg/L	25.0		108	70-130				
Surrogate: Toluene-d8	*23.9*		µg/L	25.0		95.6	70-130				
Surrogate: 4-Bromofluorobenzene	*26.0*		µg/L	25.0		104	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes	
Batch B113602 - SW-846 5030B													
LCS Dup (B113602-BSD1)				Prepared: 01/16/15 Analyzed: 01/17/15									
Acetone	178	10	µg/L	100		**178**	*	40-160	0.601		20	L-06	†
tert-Amyl Methyl Ether (TAME)	8.84	0.50	µg/L	10.0		88.4		70-130	1.37		20		
Benzene	10.7	1.0	µg/L	10.0		107		70-130	8.17		20		
Bromobenzene	12.4	1.0	µg/L	10.0		124		70-130	**21.5**	*	20	R-05	
Bromochloromethane	13.9	1.0	µg/L	10.0		**139**	*	70-130	15.5		20	L-07	
Bromodichloromethane	11.5	1.0	µg/L	10.0		115		70-130	16.0		20		
Bromoform	11.5	1.0	µg/L	10.0		115		70-130	5.55		20		
Bromomethane	8.59	2.0	µg/L	10.0		85.9		40-160	**33.1**	*	20	R-05	†
2-Butanone (MEK)	159	10	µg/L	100		159		40-160	9.44		20	L-14	†
n-Butylbenzene	10.8	1.0	µg/L	10.0		108		70-130	**21.4**	*	20	R-05	
sec-Butylbenzene	11.5	1.0	µg/L	10.0		115		70-130	**21.0**	*	20	R-05	
tert-Butylbenzene	11.3	1.0	µg/L	10.0		113		70-130	19.7		20		
tert-Butyl Ethyl Ether (TBEE)	11.8	0.50	µg/L	10.0		118		70-130	8.47		20		
Carbon Disulfide	11.0	5.0	µg/L	10.0		110		70-130	14.3		20		
Carbon Tetrachloride	11.8	1.0	µg/L	10.0		118		70-130	16.9		20		
Chlorobenzene	11.9	1.0	µg/L	10.0		119		70-130	17.7		20		
Chlorodibromomethane	11.6	0.50	µg/L	10.0		116		70-130	13.2		20		
Chloroethane	12.3	2.0	µg/L	10.0		123		70-130	18.0		20		
Chloroform	12.6	2.0	µg/L	10.0		126		70-130	18.3		20		
Chloromethane	10.1	2.0	µg/L	10.0		101		40-160	**27.0**	*	20	R-05	†
2-Chlorotoluene	12.2	1.0	µg/L	10.0		122		70-130	**26.1**	*	20	R-05	
4-Chlorotoluene	12.3	1.0	µg/L	10.0		123		70-130	**24.0**	*	20	R-05	
1,2-Dibromo-3-chloropropane (DBCP)	9.41	2.0	µg/L	10.0		94.1		70-130	7.66		20		
1,2-Dibromoethane (EDB)	11.7	0.50	µg/L	10.0		117		70-130	1.29		20		
Dibromomethane	11.9	1.0	µg/L	10.0		119		70-130	13.2		20		
1,2-Dichlorobenzene	11.4	1.0	µg/L	10.0		114		70-130	16.9		20		
1,3-Dichlorobenzene	11.5	1.0	µg/L	10.0		115		70-130	18.2		20		
1,4-Dichlorobenzene	11.4	1.0	µg/L	10.0		114		70-130	19.5		20		
Dichlorodifluoromethane (Freon 12)	7.80	2.0	µg/L	10.0		78.0		40-160	18.8		20		†
1,1-Dichloroethane	10.9	1.0	µg/L	10.0		109		70-130	3.94		20		
1,2-Dichloroethane	12.2	1.0	µg/L	10.0		122		70-130	15.7		20		
1,1-Dichloroethylene	12.4	1.0	µg/L	10.0		124		70-130	**20.7**	*	20	R-05	
cis-1,2-Dichloroethylene	12.2	1.0	µg/L	10.0		122		70-130	13.8		20		
trans-1,2-Dichloroethylene	11.1	1.0	µg/L	10.0		111		70-130	3.01		20		
1,2-Dichloropropane	10.9	1.0	µg/L	10.0		109		70-130	12.4		20		
1,3-Dichloropropane	10.7	0.50	µg/L	10.0		107		70-130	9.29		20		
2,2-Dichloropropane	7.51	1.0	µg/L	10.0		75.1		70-130	6.32		20	V-05	
1,1-Dichloropropene	13.4	0.50	µg/L	10.0		**134**	*	70-130	19.4		20	L-07	
cis-1,3-Dichloropropene	9.58	0.40	µg/L	10.0		95.8		70-130	11.5		20		
trans-1,3-Dichloropropene	10.6	0.40	µg/L	10.0		106		70-130	11.6		20		
Diethyl Ether	11.9	2.0	µg/L	10.0		119		70-130	10.9		20		
Diisopropyl Ether (DIPE)	12.4	0.50	µg/L	10.0		124		70-130	13.7		20		
1,4-Dioxane	91.0	50	µg/L	100		91.0		40-160	6.85		20	V-16	†
Ethylbenzene	11.9	1.0	µg/L	10.0		119		70-130	16.2		20		
Hexachlorobutadiene	9.85	0.50	µg/L	10.0		98.5		70-130	**21.1**	*	20	R-05, V-05	
2-Hexanone (MBK)	143	10	µg/L	100		143		40-160	0.960		20	L-14	†
Isopropylbenzene (Cumene)	11.7	1.0	µg/L	10.0		117		70-130	16.6		20		
p-Isopropyltoluene (p-Cymene)	11.4	1.0	µg/L	10.0		114		70-130	**20.1**	*	20	R-05	
Methyl tert-Butyl Ether (MTBE)	10.1	1.0	µg/L	10.0		101		70-130	7.87		20		
Methylene Chloride	13.8	5.0	µg/L	10.0		**138**	*	70-130	11.2		20	L-07	
4-Methyl-2-pentanone (MIBK)	105	10	µg/L	100		105		40-160	0.564		20		†
Naphthalene	10.8	2.0	µg/L	10.0		108		70-130	4.88		20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B113602 - SW-846 5030B												
LCS Dup (B113602-BSD1)				Prepared: 01/16/15 Analyzed: 01/17/15								
n-Propylbenzene	13.2	1.0	µg/L	10.0		**132**	*	70-130	**27.5**	*	20	L-07A, R-05
Styrene	11.8	1.0	µg/L	10.0		118		70-130	12.4		20	
1,1,1,2-Tetrachloroethane	11.9	1.0	µg/L	10.0		119		70-130	15.3		20	
1,1,2,2-Tetrachloroethane	9.53	0.50	µg/L	10.0		95.3		70-130	2.18		20	
Tetrachloroethylene	11.2	1.0	µg/L	10.0		112		70-130	13.7		20	
Tetrahydrofuran	11.2	2.0	µg/L	10.0		112		70-130	4.55		20	
Toluene	11.5	1.0	µg/L	10.0		115		70-130	18.7		20	
1,2,3-Trichlorobenzene	10.4	2.0	µg/L	10.0		104		70-130	2.64		20	
1,2,4-Trichlorobenzene	10.7	1.0	µg/L	10.0		107		70-130	12.0		20	
1,1,1-Trichloroethane	12.4	1.0	µg/L	10.0		124		70-130	17.1		20	
1,1,2-Trichloroethane	11.1	1.0	µg/L	10.0		111		70-130	11.0		20	
Trichloroethylene	12.4	1.0	µg/L	10.0		124		70-130	**21.1**	*	20	R-05
Trichlorofluoromethane (Freon 11)	11.7	2.0	µg/L	10.0		117		70-130	17.5		20	
1,2,3-Trichloropropane	11.4	2.0	µg/L	10.0		114		70-130	1.24		20	
1,2,4-Trimethylbenzene	11.4	1.0	µg/L	10.0		114		70-130	19.2		20	
1,3,5-Trimethylbenzene	12.1	1.0	µg/L	10.0		121		70-130	**20.9**	*	20	R-05
Vinyl Chloride	11.8	2.0	µg/L	10.0		118		70-130	**21.7**	*	20	R-05
m+p Xylene	23.3	2.0	µg/L	20.0		116		70-130	15.8		20	
o-Xylene	11.8	1.0	µg/L	10.0		118		70-130	16.2		20	
Surrogate: 1,2-Dichloroethane-d4	*26.1*		µg/L	25.0		104		70-130				
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.4		70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		100		70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113750 - SW-846 3510C										
Blank (B113750-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Acetophenone	ND	10	µg/L							
Aniline	ND	5.0	µg/L							R-05
Anthracene	ND	5.0	µg/L							
Benzo(a)anthracene	ND	5.0	µg/L							
Benzo(a)pyrene	ND	5.0	µg/L							
Benzo(b)fluoranthene	ND	5.0	µg/L							
Benzo(g,h,i)perylene	ND	5.0	µg/L							
Benzo(k)fluoranthene	ND	5.0	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloroaniline	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
Chrysene	ND	5.0	µg/L							
Dibenz(a,h)anthracene	ND	5.0	µg/L							
Dibenzofuran	ND	5.0	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
2,4-Dinitrophenol	ND	10	µg/L							
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							
Hexachloroethane	ND	10	µg/L							
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L							
Isophorone	ND	10	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
2-Methylphenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
Pentachlorophenol	ND	10	µg/L							
Phenanthrene	ND	5.0	µg/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B113750 - SW-846 3510C											
Blank (B113750-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Phenol	ND	10	µg/L								
Pyrene	ND	5.0	µg/L								
1,2,4-Trichlorobenzene	ND	5.0	µg/L								
2,4,5-Trichlorophenol	ND	10	µg/L								
2,4,6-Trichlorophenol	ND	10	µg/L								
Surrogate: 2-Fluorophenol	*92.6*		µg/L	200		46.3	15-110				
Surrogate: Phenol-d6	*59.6*		µg/L	200		29.8	15-110				
Surrogate: Nitrobenzene-d5	*92.1*		µg/L	100		92.1	30-130				
Surrogate: 2-Fluorobiphenyl	*94.2*		µg/L	100		94.2	30-130				
Surrogate: 2,4,6-Tribromophenol	*199*		µg/L	200		99.4	15-110				
Surrogate: p-Terphenyl-d14	*98.8*		µg/L	100		98.8	30-130				
LCS (B113750-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Acenaphthene	76.3	5.0	µg/L	100		76.3	40-140				
Acenaphthylene	81.8	5.0	µg/L	100		81.8	40-140				
Acetophenone	75.4	10	µg/L	100		75.4	40-140				
Aniline	72.2	5.0	µg/L	100		72.2	40-140			R-05	
Anthracene	83.8	5.0	µg/L	100		83.8	40-140				
Benzo(a)anthracene	83.2	5.0	µg/L	100		83.2	40-140				
Benzo(a)pyrene	82.0	5.0	µg/L	100		82.0	40-140				
Benzo(b)fluoranthene	90.3	5.0	µg/L	100		90.3	40-140				
Benzo(g,h,i)perylene	70.7	5.0	µg/L	100		70.7	40-140				
Benzo(k)fluoranthene	87.5	5.0	µg/L	100		87.5	40-140				
Bis(2-chloroethoxy)methane	85.6	10	µg/L	100		85.6	40-140				
Bis(2-chloroethyl)ether	84.5	10	µg/L	100		84.5	40-140				
Bis(2-chloroisopropyl)ether	77.2	10	µg/L	100		77.2	40-140				
Bis(2-Ethylhexyl)phthalate	90.7	10	µg/L	100		90.7	40-140				
4-Bromophenylphenylether	84.2	10	µg/L	100		84.2	40-140				
Butylbenzylphthalate	89.2	10	µg/L	100		89.2	40-140				
4-Chloroaniline	80.6	10	µg/L	100		80.6	15-140				†
2-Chloronaphthalene	76.6	10	µg/L	100		76.6	40-140				
2-Chlorophenol	70.0	10	µg/L	100		70.0	30-130				
Chrysene	85.0	5.0	µg/L	100		85.0	40-140				
Dibenz(a,h)anthracene	69.6	5.0	µg/L	100		69.6	40-140				
Dibenzofuran	82.8	5.0	µg/L	100		82.8	40-140				
Di-n-butylphthalate	85.4	10	µg/L	100		85.4	40-140				
1,2-Dichlorobenzene	68.4	5.0	µg/L	100		68.4	40-140				
1,3-Dichlorobenzene	65.9	5.0	µg/L	100		65.9	40-140				
1,4-Dichlorobenzene	66.1	5.0	µg/L	100		66.1	40-140				
3,3-Dichlorobenzidine	90.6	10	µg/L	100		90.6	40-140				
2,4-Dichlorophenol	78.4	10	µg/L	100		78.4	30-130				
Diethylphthalate	86.4	10	µg/L	100		86.4	40-140				
2,4-Dimethylphenol	70.2	10	µg/L	100		70.2	30-130				
Dimethylphthalate	85.7	10	µg/L	100		85.7	40-140				
2,4-Dinitrophenol	43.8	10	µg/L	100		43.8	15-140				†
2,4-Dinitrotoluene	84.8	10	µg/L	100		84.8	40-140				
2,6-Dinitrotoluene	87.1	10	µg/L	100		87.1	40-140				
Di-n-octylphthalate	105	10	µg/L	100		105	40-140				
1,2-Diphenylhydrazine (as Azobenzene)	88.3	10	µg/L	100		88.3	40-140				
Fluoranthene	81.9	5.0	µg/L	100		81.9	40-140				
Fluorene	83.2	5.0	µg/L	100		83.2	40-140				
Hexachlorobenzene	82.1	10	µg/L	100		82.1	40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B113750 - SW-846 3510C											
LCS (B113750-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Hexachlorobutadiene	70.9	10	µg/L	100		70.9	40-140				
Hexachloroethane	67.7	10	µg/L	100		67.7	40-140				
Indeno(1,2,3-cd)pyrene	69.3	5.0	µg/L	100		69.3	40-140				
Isophorone	85.0	10	µg/L	100		85.0	40-140				
2-Methylnaphthalene	77.2	5.0	µg/L	100		77.2	40-140				
2-Methylphenol	59.4	10	µg/L	100		59.4	30-130				
3/4-Methylphenol	56.8	10	µg/L	100		56.8	30-130				
Naphthalene	75.4	5.0	µg/L	100		75.4	40-140				
Nitrobenzene	78.3	10	µg/L	100		78.3	40-140				
2-Nitrophenol	78.6	10	µg/L	100		78.6	30-130				
4-Nitrophenol	46.2	10	µg/L	100		46.2	15-140				†
Pentachlorophenol	67.0	10	µg/L	100		67.0	30-130				
Phenanthrene	83.8	5.0	µg/L	100		83.8	40-140				
Phenol	27.3	10	µg/L	100		27.3	15-140				†
Pyrene	84.7	5.0	µg/L	100		84.7	40-140				
1,2,4-Trichlorobenzene	75.0	5.0	µg/L	100		75.0	40-140				
2,4,5-Trichlorophenol	78.3	10	µg/L	100		78.3	30-130				
2,4,6-Trichlorophenol	81.3	10	µg/L	100		81.3	30-130				
Surrogate: 2-Fluorophenol	*85.8*		µg/L	200		42.9	15-110				
Surrogate: Phenol-d6	*56.9*		µg/L	200		28.4	15-110				
Surrogate: Nitrobenzene-d5	*84.0*		µg/L	100		84.0	30-130				
Surrogate: 2-Fluorobiphenyl	*86.6*		µg/L	100		86.6	30-130				
Surrogate: 2,4,6-Tribromophenol	*184*		µg/L	200		92.1	15-110				
Surrogate: p-Terphenyl-d14	*88.5*		µg/L	100		88.5	30-130				
LCS Dup (B113750-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Acenaphthene	81.1	5.0	µg/L	100		81.1	40-140	6.07		20	
Acenaphthylene	87.1	5.0	µg/L	100		87.1	40-140	6.30		20	
Acetophenone	80.0	10	µg/L	100		80.0	40-140	5.93		20	
Aniline	58.0	5.0	µg/L	100		58.0	40-140	**21.8**	*	20	R-05
Anthracene	88.1	5.0	µg/L	100		88.1	40-140	4.98		20	
Benzo(a)anthracene	86.7	5.0	µg/L	100		86.7	40-140	4.18		20	
Benzo(a)pyrene	90.1	5.0	µg/L	100		90.1	40-140	9.36		20	
Benzo(b)fluoranthene	95.5	5.0	µg/L	100		95.5	40-140	5.60		20	
Benzo(g,h,i)perylene	71.8	5.0	µg/L	100		71.8	40-140	1.47		20	
Benzo(k)fluoranthene	92.0	5.0	µg/L	100		92.0	40-140	5.03		20	
Bis(2-chloroethoxy)methane	91.6	10	µg/L	100		91.6	40-140	6.77		20	
Bis(2-chloroethyl)ether	88.6	10	µg/L	100		88.6	40-140	4.75		20	
Bis(2-chloroisopropyl)ether	82.1	10	µg/L	100		82.1	40-140	6.10		20	
Bis(2-Ethylhexyl)phthalate	90.0	10	µg/L	100		90.0	40-140	0.708		20	
4-Bromophenylphenylether	89.8	10	µg/L	100		89.8	40-140	6.45		20	
Butylbenzylphthalate	90.7	10	µg/L	100		90.7	40-140	1.66		20	
4-Chloroaniline	79.7	10	µg/L	100		79.7	15-140	1.16		20	†
2-Chloronaphthalene	82.5	10	µg/L	100		82.5	40-140	7.48		20	
2-Chlorophenol	74.1	10	µg/L	100		74.1	30-130	5.69		20	
Chrysene	85.8	5.0	µg/L	100		85.8	40-140	0.948		20	
Dibenz(a,h)anthracene	70.6	5.0	µg/L	100		70.6	40-140	1.38		20	
Dibenzofuran	88.1	5.0	µg/L	100		88.1	40-140	6.22		20	
Di-n-butylphthalate	90.2	10	µg/L	100		90.2	40-140	5.51		20	
1,2-Dichlorobenzene	71.0	5.0	µg/L	100		71.0	40-140	3.72		20	
1,3-Dichlorobenzene	68.0	5.0	µg/L	100		68.0	40-140	3.09		20	
1,4-Dichlorobenzene	68.6	5.0	µg/L	100		68.6	40-140	3.71		20	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113750 - SW-846 3510C										
LCS Dup (B113750-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15						
3,3-Dichlorobenzidine	95.5	10	µg/L	100		95.5	40-140	5.19	20	
2,4-Dichlorophenol	82.7	10	µg/L	100		82.7	30-130	5.32	20	
Diethylphthalate	91.9	10	µg/L	100		91.9	40-140	6.25	20	
2,4-Dimethylphenol	74.6	10	µg/L	100		74.6	30-130	6.07	20	
Dimethylphthalate	91.4	10	µg/L	100		91.4	40-140	6.41	20	
2,4-Dinitrophenol	50.4	10	µg/L	100		50.4	15-140	14.0	20	†
2,4-Dinitrotoluene	90.4	10	µg/L	100		90.4	40-140	6.37	20	
2,6-Dinitrotoluene	92.7	10	µg/L	100		92.7	40-140	6.18	20	
Di-n-octylphthalate	108	10	µg/L	100		108	40-140	2.91	20	
1,2-Diphenylhydrazine (as Azobenzene)	93.1	10	µg/L	100		93.1	40-140	5.28	20	
Fluoranthene	86.7	5.0	µg/L	100		86.7	40-140	5.66	20	
Fluorene	88.8	5.0	µg/L	100		88.8	40-140	6.57	20	
Hexachlorobenzene	87.1	10	µg/L	100		87.1	40-140	5.93	20	
Hexachlorobutadiene	69.9	10	µg/L	100		69.9	40-140	1.38	20	
Hexachloroethane	68.9	10	µg/L	100		68.9	40-140	1.68	20	
Indeno(1,2,3-cd)pyrene	70.5	5.0	µg/L	100		70.5	40-140	1.66	20	
Isophorone	90.6	10	µg/L	100		90.6	40-140	6.38	20	
2-Methylnaphthalene	81.6	5.0	µg/L	100		81.6	40-140	5.58	20	
2-Methylphenol	63.1	10	µg/L	100		63.1	30-130	5.99	20	
3/4-Methylphenol	59.9	10	µg/L	100		59.9	30-130	5.35	20	
Naphthalene	79.3	5.0	µg/L	100		79.3	40-140	4.96	20	
Nitrobenzene	82.9	10	µg/L	100		82.9	40-140	5.77	20	
2-Nitrophenol	82.6	10	µg/L	100		82.6	30-130	4.91	20	
4-Nitrophenol	47.6	10	µg/L	100		47.6	15-140	2.94	20	†
Pentachlorophenol	70.4	10	µg/L	100		70.4	30-130	4.86	20	
Phenanthrene	88.7	5.0	µg/L	100		88.7	40-140	5.69	20	
Phenol	28.3	10	µg/L	100		28.3	15-140	3.59	20	†
Pyrene	85.2	5.0	µg/L	100		85.2	40-140	0.553	20	
1,2,4-Trichlorobenzene	78.4	5.0	µg/L	100		78.4	40-140	4.41	20	
2,4,5-Trichlorophenol	83.2	10	µg/L	100		83.2	30-130	6.09	20	
2,4,6-Trichlorophenol	86.8	10	µg/L	100		86.8	30-130	6.47	20	
Surrogate: 2-Fluorophenol	*89.5*		µg/L	200		44.7	15-110			
Surrogate: Phenol-d6	*59.2*		µg/L	200		29.6	15-110			
Surrogate: Nitrobenzene-d5	*87.6*		µg/L	100		87.6	30-130			
Surrogate: 2-Fluorobiphenyl	*91.7*		µg/L	100		91.7	30-130			
Surrogate: 2,4,6-Tribromophenol	*194*		µg/L	200		97.2	15-110			
Surrogate: p-Terphenyl-d14	*88.5*		µg/L	100		88.5	30-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113757 - SW-846 3510C										
Blank (B113757-BLK1)				Prepared & Analyzed: 01/20/15						
TPH (C9-C36)	ND	0.20	mg/L							
Surrogate: o-Terphenyl	*0.0861*		mg/L	0.100		86.1	40-140			
LCS (B113757-BS1)				Prepared & Analyzed: 01/20/15						
TPH (C9-C36)	0.809	0.20	mg/L	1.00		80.9	40-140			
Surrogate: o-Terphenyl	*0.0894*		mg/L	0.100		89.4	40-140			
LCS Dup (B113757-BSD1)				Prepared & Analyzed: 01/20/15						
TPH (C9-C36)	0.694	0.20	mg/L	1.00		69.4	40-140	15.2	30	
Surrogate: o-Terphenyl	*0.0761*		mg/L	0.100		76.1	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113606 - SW-846 7470A Prep										
Blank (B113606-BLK1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	ND	0.00010	mg/L							
LCS (B113606-BS1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	0.00187	0.00010	mg/L	0.00200		93.6	80-120			
LCS Dup (B113606-BSD1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	0.00190	0.00010	mg/L	0.00200		94.9	80-120	1.36	20	
Batch B113638 - SW-846 3005A										
Blank (B113638-BLK1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	ND	0.050	mg/L							
LCS (B113638-BS1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	2.04	0.050	mg/L	2.00		102	80-120			
LCS Dup (B113638-BSD1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	2.04	0.050	mg/L	2.00		102	80-120	0.380	20	
Batch B113639 - SW-846 3005A										
Blank (B113639-BLK1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.40	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	5.0	µg/L							
Lead	ND	1.0	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
Zinc	ND	10	µg/L							
LCS (B113639-BS1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	283	5.0	µg/L	250		113	80-120			
Arsenic	274	2.0	µg/L	250		110	80-120			
Cadmium	285	2.5	µg/L	250		114	80-120			
Chromium	261	5.0	µg/L	250		105	80-120			
Copper	278	25	µg/L	250		111	80-120			
Lead	287	5.0	µg/L	250		115	80-120			
Nickel	264	25	µg/L	250		106	80-120			
Selenium	275	25	µg/L	250		110	80-120			
Silver	294	2.5	µg/L	250		118	80-120			
Zinc	280	50	µg/L	250		112	80-120			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113639 - SW-846 3005A										
LCS Dup (B113639-BSD1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	289	5.0	µg/L	250		116	80-120	2.14	20	
Arsenic	278	2.0	µg/L	250		111	80-120	1.31	20	
Cadmium	278	2.5	µg/L	250		111	80-120	2.51	20	
Chromium	261	5.0	µg/L	250		104	80-120	0.0770	20	
Copper	280	25	µg/L	250		112	80-120	0.864	20	
Lead	290	5.0	µg/L	250		116	80-120	0.886	20	
Nickel	261	25	µg/L	250		104	80-120	1.20	20	
Selenium	277	25	µg/L	250		111	80-120	0.744	20	
Silver	293	2.5	µg/L	250		117	80-120	0.405	20	
Zinc	278	50	µg/L	250		111	80-120	0.468	20	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113565 - SM21-22 4500 CL G										
Blank (B113565-BLK1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B113565-BS1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	1.4	0.020	mg/L	1.25		112	81.9-127			
LCS Dup (B113565-BSD1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	1.4	0.020	mg/L	1.25		113	81.9-127	0.980	9.61	
Duplicate (B113565-DUP1)	**Source: 15A0431-01**			Prepared & Analyzed: 01/15/15						
Chlorine, Residual	0.16	0.020	mg/L		0.24			41.2	52.6	
Matrix Spike (B113565-MS1)	**Source: 15A0431-01**			Prepared & Analyzed: 01/15/15						
Chlorine, Residual	1.1	0.020	mg/L	1.00	0.24	80.9	10-183			
Batch B113566 - SM21-22 3500 Cr B										
Blank (B113566-BLK1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B113566-BS1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		102	92.1-114			
LCS Dup (B113566-BSD1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		105	92.1-114	2.45	8.55	
Duplicate (B113566-DUP1)	**Source: 15A0431-01**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	ND	0.0040	mg/L		ND			NC	20	
Matrix Spike (B113566-MS1)	**Source: 15A0431-01**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.095	0.0040	mg/L	0.100	ND	94.6	17.2-160			
Matrix Spike Dup (B113566-MSD1)	**Source: 15A0431-01**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100	ND	99.6	17.2-160	5.21	18.2	
Batch B113585 - SM21-22 4500 H B										
LCS (B113585-BS1)				Prepared & Analyzed: 01/16/15						
pH	5.99		pH Units	6.00		99.8	98.5-102			
Duplicate (B113585-DUP1)	**Source: 15A0431-02**			Prepared & Analyzed: 01/16/15						
pH	7.2		pH Units		7.2			0.139	3.22	H-05

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113617 - SM21-22 2540D										
Blank (B113617-BLK1)				Prepared & Analyzed: 01/16/15						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B113617-BS1)				Prepared & Analyzed: 01/16/15						
Total Suspended Solids	186	10	mg/L	200		93.0	74.6-112			
Batch B113686 - SW-846 9014										
Blank (B113686-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	ND	0.010	mg/L							
LCS (B113686-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.61	0.010	mg/L	0.660		91.8	80-120			
LCS Dup (B113686-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.66	0.010	mg/L	0.660		100	80-120	8.67	20	
Batch B113767 - EPA 1664B										
Blank (B113767-BLK1)				Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	ND	1.4	mg/L							
LCS (B113767-BS1)				Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	35		mg/L	40.0		88.0	78-114			
Batch B113939 - SM21-22 4500 CL B										
Blank (B113939-BLK1)				Prepared & Analyzed: 01/21/15						
Chloride	ND	1.0	mg/L							
LCS (B113939-BS1)				Prepared & Analyzed: 01/21/15						
Chloride	11	1.0	mg/L	11.3		96.9	81.5-116			
LCS Dup (B113939-BSD1)				Prepared & Analyzed: 01/21/15						
Chloride	11	1.0	mg/L	11.3		101	81.5-116	4.21	8.97	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
L-06	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
Oil & Grease (HEM)	CT,MA,NH,NY,RI,NC,ME,VA,NJ
SM21-22 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA,NJ
SM21-22 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NJ,NC
SM21-22 4500 CL B in Water	
Chloride	NH,CT,MA,NY,RI,NC,ME,VA,NJ
SM21-22 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME
SM21-22 4500 H B in Water	
pH	CT,MA,RI
SW-846 6010C in Water	
Iron	CT,NH,NY,ME,NC,VA,NJ
SW-846 6020A in Water	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,NC,ME,VA,NJ
Cadmium	CT,NH,NY,RI,NC,ME,VA,NJ
Chromium	CT,NH,NY,NC,ME,VA,NJ
Copper	CT,NH,NY,NC,ME,VA,NJ
Lead	CT,NH,NY,NC,ME,VA,NJ
Nickel	CT,NH,NY,NC,ME,VA,NJ
Selenium	CT,NH,NY,NC,ME,VA,NJ
Silver	CT,NH,NY,NC,ME,VA,NJ
Zinc	CT,NH,NY,NC,ME,VA,NJ
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA,NJ
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Water	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Water	
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH
SW-846 9014 in Water	
Cyanide	NY,CT,NH,NC,ME,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
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www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

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Rev 04.05.12

15A0431

Company Name: Weston & Sampson
Address: 5 Centennial Drive
Peabody, MA 01960
Attention: Todd Bridgeo
Project Location: Green Line Extension
Sampled By:

Telephone: 800 SAMPSON
Project # 2140547
Client PO# 20141204

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ◉ WEBSITE
Fax #
Email: bridgeot@wseinc.com
Format: ◉ PDF ◉ EXCEL ○ GIS
◉ OTHER Special data package for this project.
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code
01	MW-MR10+Dup(6010)	1/15/15	1140		X	GW	U
02	MW-MR9+Dup(6006)	1/15/15	1230		X	GW	U
					~~X~~		
	Only 1 Amber each TPH & FOG				~~X~~		

# of Containers	1	2	1	2	3	1	1	1	1	2	1
** Preservation	I	I	X	I	H	I	N	I	I	S	I
***Container Code	P	A	P	A	V	P	P	~~P~~	P	A	P

ANALYSIS REQUESTED

Total residual chlorine (TRC)	TPH	Cyanide (CN)	SVOCs via 8270D	VOCs via 8260C	Chloride	Total Metals (see comments)	~~Total Metals~~	pH	Fats, oil, and grease (FOG).	TSS/Suspended Solids
X	X	X	X	X	X	X	~~X~~	X	X	X
X	X	X	X	X	X	X	~~X~~	X	X	X
									~~X~~	

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
Total Metals to include: Sb, As, Cd, Cr III, CrVI, Cu, Pb, Hg, Ni, Ag, Se, Zn, Fe.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature) 4.5°C	Date/Time: 1/15/15 16:30

Turnaround ††
☐ 7-Day
☐ 10-Day
◉ Other 5-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
Require lab approval

Detection Limit Requirements
Massachusetts: s-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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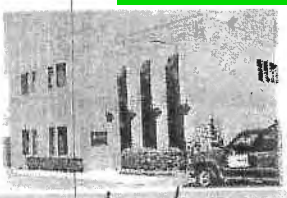
con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Weston & Sampson RECEIVED BY: KKM DATE: 11/15/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No No CoC Included

2) **Does the chain agree with the samples?** (Yes) No
If not, explain:

3) **Are all the samples in good condition?** (Yes) No
If not, explain:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.5

5) **Are there Dissolved samples for the lab to filter?** Yes (No)
Who was notified _____ Date _____ Time _____

6) **Are there any RUSH or SHORT HOLDING TIME samples?** (Yes) No
Who was notified Ashley Date 11/15/15 Time 16:30

7) **Location where samples are stored:** 19

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

8) **Do all samples have the proper Acid pH:** (Yes) No N/A _____

9) **Do all samples have the proper Base pH:** (Yes) No N/A _____

10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	10	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	2	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	6	Non-ConTest Container	
40 mL Vial - type listed below	6	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 6 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	F	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	(KM) T F	limited sample volume for MW-ME 9+40 (both) 0+G (FOG) & TPH (only one 1-liter amber each provided)
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Log-In Technician Initials: KKM **Date/Time:** 11/15/15 16:30

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15A0431
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15A0431-01 thru 15A0431-02

Matrices: Water

CAM Protocol (check all that below)

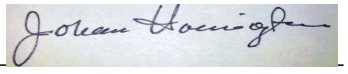
8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D (X)	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A (X)	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is 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[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
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[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]
	A response to questions G, H and I below is 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[1]
	***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 perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case 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: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 01/22/15

con-test® ANALYTICAL LABORATORY
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January 22, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15A0430

Enclosed are results of analyses for samples received by the laboratory on January 15, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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con-test® ANALYTICAL LABORATORY
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JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 1/22/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15A0430

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW/MR 12+90 (6014)	15A0430-01	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	
MW/MR 14+80 (6017)	15A0430-02	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	

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JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 1/22/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15A0430

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-MR 1+50 (6002)	15A0430-03	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	
MW-MR 0+25 (6003)	15A0430-04	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6020, only a select list of metals was requested and reported.

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SM21-22 4500 H B

Qualifications:

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:

pH

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

SW-846 8260C

Qualifications:

L-06

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone

B113602-BS1, B113602-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

1,1-Dichloropropene

B113602-BSD1

2-Butanone (MEK)

B113602-BS1

Bromochloromethane

B113602-BSD1

Methylene Chloride

B113602-BSD1

L-07A

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

n-Propylbenzene

B113602-BSD1

L-14

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)

B113602-BSD1

2-Hexanone (MBK)

B113602-BS1, B113602-BSD1

Bromomethane

B113602-BS1

Dichlorodifluoromethane (Freon 1

B113602-BS1

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R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

1,1-Dichloroethylene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

1,3,5-Trimethylbenzene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

2-Chlorotoluene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

4-Chlorotoluene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Bromobenzene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Bromomethane
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Chloromethane
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Hexachlorobutadiene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

n-Butylbenzene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

n-Propylbenzene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

p-Isopropyltoluene (p-Cymene)
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

sec-Butylbenzene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Trichloroethylene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Vinyl Chloride
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Bromomethane
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

Carbon Disulfide
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

Chloromethane
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

Methylene Chloride
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,2-Dichloropropane
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

Hexachlorobutadiene
15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

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V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113602-BLK1, B113602-BS1, B113602-BSD1

SW-846 8270D

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Aniline

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)], B113750-BLK1, B113750-BS1, B113750-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Hexachlorobenzene

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

Hexachlorobutadiene

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

15A0430-01[MW/MR 12+90 (6014)], 15A0430-02[MW/MR 14+80 (6017)], 15A0430-03[MW-MR 1+50 (6002)], 15A0430-04[MW-MR 0+25 (6003)]

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

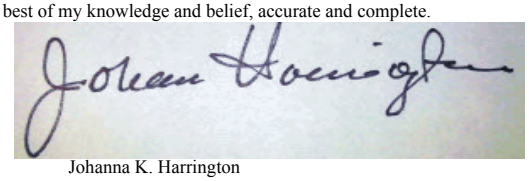
SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

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Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Bromomethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 22:34	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 22:34	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	92.8	70-130		1/17/15 22:34
Toluene-d8	105	70-130		1/17/15 22:34
4-Bromofluorobenzene	101	70-130		1/17/15 22:34

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 14:20	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	47.6	15-110		1/21/15 14:20
Phenol-d6	31.7	15-110		1/21/15 14:20
Nitrobenzene-d5	94.6	30-130		1/21/15 14:20
2-Fluorobiphenyl	99.7	30-130		1/21/15 14:20
2,4,6-Tribromophenol	107	15-110		1/21/15 14:20
p-Terphenyl-d14	105	30-130		1/21/15 14:20

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	1.1	0.20	mg/L	1		SW-846 8100 Modified	1/19/15	1/20/15 16:00	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	80.4	40-140					1/20/15 16:00

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:45	AMP
Arsenic	9.8	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:45	AMP
Chromium	1.4	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Chromium, Trivalent	0.0014		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:13	AMP
Copper	7.8	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Iron	21	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 20:32	OP
Lead	1.4	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:43	SCB
Nickel	6.8	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:45	AMP
Zinc	ND	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:07	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 12+90 (6014) | Sampled: 1/14/2015 15:30

Sample ID: 15A0430-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	1500	100	mg/L	1		SM21-22 4500 CL B	1/20/15	1/20/15 18:55	DJM
Chlorine, Residual	0.13	0.040	mg/L	2		SM21-22 4500 CL G	1/15/15	1/15/15 12:50	LL
Cyanide	0.012	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 12:20	LL
pH @22.9°C	7.2		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	62	10	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	1.4	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Bromomethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:00	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:00	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	92.1	70-130		1/17/15 23:00
Toluene-d8	99.7	70-130		1/17/15 23:00
4-Bromofluorobenzene	92.5	70-130		1/17/15 23:00

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:10	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	40.8	15-110		1/21/15 15:10
Phenol-d6	27.0	15-110		1/21/15 15:10
Nitrobenzene-d5	80.6	30-130		1/21/15 15:10
2-Fluorobiphenyl	86.9	30-130		1/21/15 15:10
2,4,6-Tribromophenol	92.7	15-110		1/21/15 15:10
p-Terphenyl-d14	90.7	30-130		1/21/15 15:10

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	1.4	0.20	mg/L	1		SW-846 8100 Modified	1/19/15	1/20/15 16:18	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	88.7	40-140					1/20/15 16:18

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:50	AMP
Arsenic	4.3	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:50	AMP
Chromium	1.6	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Chromium, Trivalent	0.0016		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:13	AMP
Copper	6.3	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Iron	7.6	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 20:37	OP
Lead	2.3	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:44	SCB
Nickel	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:50	AMP
Zinc	ND	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:11	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW/MR 14+80 (6017) | Sampled: 1/14/2015 13:00

Sample ID: 15A0430-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	1600	100	mg/L	1		SM21-22 4500 CL B	1/20/15	1/20/15 18:55	DJM
Chlorine, Residual	0.044	0.020	mg/L	1		SM21-22 4500 CL G	1/15/15	1/15/15 12:50	LL
Cyanide	ND	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 12:20	LL
pH @21.1°C	7.2		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	34	10	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	1.6	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Bromomethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:27	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:27	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	90.0	70-130		1/17/15 23:27
Toluene-d8	90.7	70-130		1/17/15 23:27
4-Bromofluorobenzene	102	70-130		1/17/15 23:27

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:34	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	40.9	15-110		1/21/15 15:34
Phenol-d6	27.0	15-110		1/21/15 15:34
Nitrobenzene-d5	82.1	30-130		1/21/15 15:34
2-Fluorobiphenyl	86.1	30-130		1/21/15 15:34
2,4,6-Tribromophenol	95.5	15-110		1/21/15 15:34
p-Terphenyl-d14	91.5	30-130		1/21/15 15:34

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	0.56	0.20	mg/L	1		SW-846 8100 Modified	1/19/15	1/20/15 16:35	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	92.0	40-140					1/20/15 16:35

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

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:54	AMP
Arsenic	6.3	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:54	AMP
Chromium	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Chromium, Trivalent	0.0		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:13	AMP
Copper	6.1	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Iron	0.37	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 21:03	OP
Lead	ND	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:46	SCB
Nickel	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:54	AMP
Zinc	ND	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:16	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 1+50 (6002) | Sampled: 1/14/2015 15:50

Sample ID: 15A0430-03

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	840	10	mg/L	1		SM21-22 4500 CL B	1/21/15	1/21/15 20:20	DJM
Chlorine, Residual	ND	0.020	mg/L	1		SM21-22 4500 CL G	1/15/15	1/15/15 12:50	LL
Cyanide	ND	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 12:20	LL
pH @22.4°C	8.4		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	ND	5.0	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	1.6	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Bromobenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07, R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
n-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
sec-Butylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Chloromethane	ND	5.0	µg/L	1	R-05, RL-07	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
2-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
4-Chlorotoluene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1	R-05, V-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
n-Propylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Trichloroethylene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	1/16/15	1/17/15 23:53	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/16/15	1/17/15 23:53	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	88.8	70-130		1/17/15 23:53
Toluene-d8	92.6	70-130		1/17/15 23:53
4-Bromofluorobenzene	101	70-130		1/17/15 23:53

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Acetophenone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4-Dinitrophenol	ND	10	µg/L	1	V-05	SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Hexachlorobenzene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-07	SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Isophorone	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Phenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	1/19/15	1/21/15 15:59	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	38.7	15-110		1/21/15 15:59
Phenol-d6	25.7	15-110		1/21/15 15:59
Nitrobenzene-d5	66.5	30-130		1/21/15 15:59
2-Fluorobiphenyl	68.7	30-130		1/21/15 15:59
2,4,6-Tribromophenol	76.8	15-110		1/21/15 15:59
p-Terphenyl-d14	75.8	30-130		1/21/15 15:59

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	1.1	0.20	mg/L	1		SW-846 8100 Modified	1/19/15	1/20/15 16:53	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
o-Terphenyl	92.6	40-140					1/20/15 16:53

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	1.4	1.0	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:59	AMP
Arsenic	7.4	0.40	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:59	AMP
Chromium	1.6	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Chromium, Trivalent	0.0016		mg/L	1		Tri Chrome Calc.	1/16/15	1/21/15 12:13	AMP
Copper	19	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Iron	0.45	0.050	mg/L	1		SW-846 6010C	1/16/15	1/19/15 21:08	OP
Lead	3.5	1.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/17/15	1/19/15 9:51	SCB
Nickel	9.3	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/16/15	1/21/15 14:59	AMP
Zinc	ND	10	µg/L	1		SW-846 6020A	1/16/15	1/20/15 16:20	AMP

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension | Sample Description: | Work Order: 15A0430

Date Received: 1/15/2015

Field Sample #: MW-MR 0+25 (6003) | Sampled: 1/14/2015 13:30

Sample ID: 15A0430-04

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	3600	100	mg/L	1		SM21-22 4500 CL B	1/21/15	1/21/15 20:20	DJM
Chlorine, Residual	ND	0.020	mg/L	1		SM21-22 4500 CL G	1/15/15	1/15/15 12:50	LL
Cyanide	0.013	0.010	mg/L	1		SW-846 9014	1/19/15	1/20/15 10:40	VAK/A
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	1/15/15	1/15/15 12:20	LL
pH @19.2°C	8.2		pH Units	1	H-05	SM21-22 4500 H B	1/16/15	1/16/15 8:30	LL
Total Suspended Solids	15	5.0	mg/L	1		SM21-22 2540D	1/16/15	1/16/15 19:10	ABH
Oil & Grease (HEM)	ND	1.5	mg/L	1		EPA 1664B	1/20/15	1/20/15 14:00	LL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113767	980	01/20/15
15A0430-02 [MW/MR 14+80 (6017)]	B113767	890	01/20/15
15A0430-03 [MW-MR 1+50 (6002)]	B113767	900	01/20/15
15A0430-04 [MW-MR 0+25 (6003)]	B113767	940	01/20/15

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113617	50.0	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113617	50.0	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113617	100	01/16/15
15A0430-04 [MW-MR 0+25 (6003)]	B113617	100	01/16/15

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113583	50.0	50.0	01/15/15
15A0430-02 [MW/MR 14+80 (6017)]	B113583	50.0	50.0	01/15/15
15A0430-03 [MW-MR 1+50 (6002)]	B113583	50.0	50.0	01/15/15
15A0430-04 [MW-MR 0+25 (6003)]	B113583	50.0	50.0	01/15/15

SM21-22 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113829	1.00	100	01/20/15
15A0430-02 [MW/MR 14+80 (6017)]	B113829	1.00	100	01/20/15

SM21-22 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-03 [MW-MR 1+50 (6002)]	B113939	10.0	100	01/21/15
15A0430-04 [MW-MR 0+25 (6003)]	B113939	1.00	100	01/21/15

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113613	100	100	01/15/15
15A0430-02 [MW/MR 14+80 (6017)]	B113613	100	100	01/15/15
15A0430-03 [MW-MR 1+50 (6002)]	B113613	100	100	01/15/15
15A0430-04 [MW-MR 0+25 (6003)]	B113613	100	100	01/15/15

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113585	50.0	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113585	50.0	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113585	50.0	01/16/15

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Sample Extraction Data

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15A0430-04 [MW-MR 0+25 (6003)]	B113585	50.0	01/16/15

Prep Method: SW-846 3005A-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113638	50.0	50.0	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113638	50.0	50.0	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113638	50.0	50.0	01/16/15
15A0430-04 [MW-MR 0+25 (6003)]	B113638	50.0	50.0	01/16/15

Prep Method: SW-846 3005A-SW-846 6020A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113639	50.0	50.0	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113639	50.0	50.0	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113639	50.0	50.0	01/16/15
15A0430-04 [MW-MR 0+25 (6003)]	B113639	50.0	50.0	01/16/15

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113606	6.00	6.00	01/17/15
15A0430-02 [MW/MR 14+80 (6017)]	B113606	6.00	6.00	01/17/15
15A0430-03 [MW-MR 1+50 (6002)]	B113606	6.00	6.00	01/17/15
15A0430-04 [MW-MR 0+25 (6003)]	B113606	6.00	6.00	01/17/15

Prep Method: SW-846 3510C-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113693	1000	1.00	01/19/15
15A0430-02 [MW/MR 14+80 (6017)]	B113693	1000	1.00	01/19/15
15A0430-03 [MW-MR 1+50 (6002)]	B113693	1000	1.00	01/19/15
15A0430-04 [MW-MR 0+25 (6003)]	B113693	1000	1.00	01/19/15

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113602	5	5.00	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113602	5	5.00	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113602	5	5.00	01/16/15
15A0430-04 [MW-MR 0+25 (6003)]	B113602	5	5.00	01/16/15

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113750	1000	1.00	01/19/15
15A0430-02 [MW/MR 14+80 (6017)]	B113750	1000	1.00	01/19/15

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Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-03 [MW-MR 1+50 (6002)]	B113750	1000	1.00	01/19/15
15A0430-04 [MW-MR 0+25 (6003)]	B113750	1000	1.00	01/19/15

SW-846 9014

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113686	50.0	50.0	01/19/15
15A0430-02 [MW/MR 14+80 (6017)]	B113686	50.0	50.0	01/19/15
15A0430-03 [MW-MR 1+50 (6002)]	B113686	50.0	50.0	01/19/15
15A0430-04 [MW-MR 0+25 (6003)]	B113686	50.0	50.0	01/19/15

Prep Method: SW-846 3005A-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15A0430-01 [MW/MR 12+90 (6014)]	B113640	1.00	1.00	01/16/15
15A0430-02 [MW/MR 14+80 (6017)]	B113640	1.00	1.00	01/16/15
15A0430-03 [MW-MR 1+50 (6002)]	B113640	1.00	1.00	01/16/15
15A0430-04 [MW-MR 0+25 (6003)]	B113640	1.00	1.00	01/16/15

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113602 - SW-846 5030B										
Blank (B113602-BLK1)				Prepared: 01/16/15 Analyzed: 01/17/15						
Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							R-05
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							R-05
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							R-05
sec-Butylbenzene	ND	1.0	µg/L							R-05
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							R-05
2-Chlorotoluene	ND	1.0	µg/L							R-05
4-Chlorotoluene	ND	1.0	µg/L							R-05
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							R-05
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							V-05
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							R-05, V-05
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							R-05
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B113602 - SW-846 5030B												
Blank (B113602-BLK1)				Prepared: 01/16/15 Analyzed: 01/17/15								
n-Propylbenzene	ND	1.0	µg/L								R-05	
Styrene	ND	1.0	µg/L									
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L									
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L									
Tetrachloroethylene	ND	1.0	µg/L									
Tetrahydrofuran	ND	2.0	µg/L									
Toluene	ND	1.0	µg/L									
1,2,3-Trichlorobenzene	ND	2.0	µg/L									
1,2,4-Trichlorobenzene	ND	1.0	µg/L									
1,1,1-Trichloroethane	ND	1.0	µg/L									
1,1,2-Trichloroethane	ND	1.0	µg/L									
Trichloroethylene	ND	1.0	µg/L								R-05	
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L									
1,2,3-Trichloropropane	ND	2.0	µg/L									
1,2,4-Trimethylbenzene	ND	1.0	µg/L									
1,3,5-Trimethylbenzene	ND	1.0	µg/L								R-05	
Vinyl Chloride	ND	2.0	µg/L								R-05	
m+p Xylene	ND	2.0	µg/L									
o-Xylene	ND	1.0	µg/L									
Surrogate: 1,2-Dichloroethane-d4	*25.5*		µg/L	25.0		102		70-130				
Surrogate: Toluene-d8	*23.2*		µg/L	25.0		92.8		70-130				
Surrogate: 4-Bromofluorobenzene	*27.4*		µg/L	25.0		110		70-130				
LCS (B113602-BS1)				Prepared: 01/16/15 Analyzed: 01/17/15								
Acetone	179	10	µg/L	100		**179**	*	40-160			L-06	†
tert-Amyl Methyl Ether (TAME)	8.72	0.50	µg/L	10.0		87.2		70-130				
Benzene	9.86	1.0	µg/L	10.0		98.6		70-130				
Bromobenzene	10.0	1.0	µg/L	10.0		100		70-130			R-05	
Bromochloromethane	11.9	1.0	µg/L	10.0		119		70-130				
Bromodichloromethane	9.79	1.0	µg/L	10.0		97.9		70-130				
Bromoform	10.9	1.0	µg/L	10.0		109		70-130				
Bromomethane	6.15	2.0	µg/L	10.0		61.5		40-160			L-14, R-05	†
2-Butanone (MEK)	175	10	µg/L	100		**175**	*	40-160			L-07	†
n-Butylbenzene	8.71	1.0	µg/L	10.0		87.1		70-130			R-05	
sec-Butylbenzene	9.32	1.0	µg/L	10.0		93.2		70-130			R-05	
tert-Butylbenzene	9.27	1.0	µg/L	10.0		92.7		70-130				
tert-Butyl Ethyl Ether (TBEE)	10.8	0.50	µg/L	10.0		108		70-130				
Carbon Disulfide	9.56	5.0	µg/L	10.0		95.6		70-130				
Carbon Tetrachloride	10.0	1.0	µg/L	10.0		100		70-130				
Chlorobenzene	10.0	1.0	µg/L	10.0		100		70-130				
Chlorodibromomethane	10.2	0.50	µg/L	10.0		102		70-130				
Chloroethane	10.2	2.0	µg/L	10.0		102		70-130				
Chloroform	10.4	2.0	µg/L	10.0		104		70-130				
Chloromethane	7.68	2.0	µg/L	10.0		76.8		40-160			R-05	†
2-Chlorotoluene	9.39	1.0	µg/L	10.0		93.9		70-130			R-05	
4-Chlorotoluene	9.66	1.0	µg/L	10.0		96.6		70-130			R-05	
1,2-Dibromo-3-chloropropane (DBCP)	10.2	2.0	µg/L	10.0		102		70-130				
1,2-Dibromoethane (EDB)	11.6	0.50	µg/L	10.0		116		70-130				
Dibromomethane	10.5	1.0	µg/L	10.0		105		70-130				
1,2-Dichlorobenzene	9.65	1.0	µg/L	10.0		96.5		70-130				
1,3-Dichlorobenzene	9.57	1.0	µg/L	10.0		95.7		70-130				
1,4-Dichlorobenzene	9.37	1.0	µg/L	10.0		93.7		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B113602 - SW-846 5030B											
LCS (B113602-BS1)				Prepared: 01/16/15 Analyzed: 01/17/15							
Dichlorodifluoromethane (Freon 12)	6.46	2.0	µg/L	10.0		64.6	40-160			L-14	†
1,1-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,2-Dichloroethane	10.5	1.0	µg/L	10.0		105	70-130				
1,1-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			R-05	
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130				
trans-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
1,2-Dichloropropane	9.59	1.0	µg/L	10.0		95.9	70-130				
1,3-Dichloropropane	9.75	0.50	µg/L	10.0		97.5	70-130				
2,2-Dichloropropane	7.05	1.0	µg/L	10.0		70.5	70-130			V-05	
1,1-Dichloropropene	11.0	0.50	µg/L	10.0		110	70-130				
cis-1,3-Dichloropropene	8.54	0.40	µg/L	10.0		85.4	70-130				
trans-1,3-Dichloropropene	9.45	0.40	µg/L	10.0		94.5	70-130				
Diethyl Ether	10.7	2.0	µg/L	10.0		107	70-130				
Diisopropyl Ether (DIPE)	10.8	0.50	µg/L	10.0		108	70-130				
1,4-Dioxane	97.4	50	µg/L	100		97.4	40-160			V-16	†
Ethylbenzene	10.1	1.0	µg/L	10.0		101	70-130				
Hexachlorobutadiene	7.97	0.50	µg/L	10.0		79.7	70-130			R-05, V-05	
2-Hexanone (MBK)	142	10	µg/L	100		142	40-160			L-14	†
Isopropylbenzene (Cumene)	9.94	1.0	µg/L	10.0		99.4	70-130				
p-Isopropyltoluene (p-Cymene)	9.33	1.0	µg/L	10.0		93.3	70-130			R-05	
Methyl tert-Butyl Ether (MTBE)	11.0	1.0	µg/L	10.0		110	70-130				
Methylene Chloride	12.3	5.0	µg/L	10.0		123	70-130				
4-Methyl-2-pentanone (MIBK)	104	10	µg/L	100		104	40-160				†
Naphthalene	11.3	2.0	µg/L	10.0		113	70-130				
n-Propylbenzene	9.97	1.0	µg/L	10.0		99.7	70-130			R-05	
Styrene	10.4	1.0	µg/L	10.0		104	70-130				
1,1,1,2-Tetrachloroethane	10.2	1.0	µg/L	10.0		102	70-130				
1,1,2,2-Tetrachloroethane	9.74	0.50	µg/L	10.0		97.4	70-130				
Tetrachloroethylene	9.73	1.0	µg/L	10.0		97.3	70-130				
Tetrahydrofuran	10.8	2.0	µg/L	10.0		108	70-130				
Toluene	9.51	1.0	µg/L	10.0		95.1	70-130				
1,2,3-Trichlorobenzene	10.1	2.0	µg/L	10.0		101	70-130				
1,2,4-Trichlorobenzene	9.52	1.0	µg/L	10.0		95.2	70-130				
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,1,2-Trichloroethane	9.96	1.0	µg/L	10.0		99.6	70-130				
Trichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			R-05	
Trichlorofluoromethane (Freon 11)	9.79	2.0	µg/L	10.0		97.9	70-130				
1,2,3-Trichloropropane	11.2	2.0	µg/L	10.0		112	70-130				
1,2,4-Trimethylbenzene	9.43	1.0	µg/L	10.0		94.3	70-130				
1,3,5-Trimethylbenzene	9.78	1.0	µg/L	10.0		97.8	70-130			R-05	
Vinyl Chloride	9.47	2.0	µg/L	10.0		94.7	70-130			R-05	
m+p Xylene	19.9	2.0	µg/L	20.0		99.4	70-130				
o-Xylene	9.99	1.0	µg/L	10.0		99.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	*27.0*		µg/L	25.0		108	70-130				
Surrogate: Toluene-d8	*23.9*		µg/L	25.0		95.6	70-130				
Surrogate: 4-Bromofluorobenzene	*26.0*		µg/L	25.0		104	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes	
Batch B113602 - SW-846 5030B													
LCS Dup (B113602-BSD1)				Prepared: 01/16/15 Analyzed: 01/17/15									
Acetone	178	10	µg/L	100		**178**	*	40-160	0.601		20	L-06	†
tert-Amyl Methyl Ether (TAME)	8.84	0.50	µg/L	10.0		88.4		70-130	1.37		20		
Benzene	10.7	1.0	µg/L	10.0		107		70-130	8.17		20		
Bromobenzene	12.4	1.0	µg/L	10.0		124		70-130	**21.5**	*	20	R-05	
Bromochloromethane	13.9	1.0	µg/L	10.0		**139**	*	70-130	15.5		20	L-07	
Bromodichloromethane	11.5	1.0	µg/L	10.0		115		70-130	16.0		20		
Bromoform	11.5	1.0	µg/L	10.0		115		70-130	5.55		20		
Bromomethane	8.59	2.0	µg/L	10.0		85.9		40-160	**33.1**	*	20	R-05	†
2-Butanone (MEK)	159	10	µg/L	100		159		40-160	9.44		20	L-14	†
n-Butylbenzene	10.8	1.0	µg/L	10.0		108		70-130	**21.4**	*	20	R-05	
sec-Butylbenzene	11.5	1.0	µg/L	10.0		115		70-130	**21.0**	*	20	R-05	
tert-Butylbenzene	11.3	1.0	µg/L	10.0		113		70-130	19.7		20		
tert-Butyl Ethyl Ether (TBEE)	11.8	0.50	µg/L	10.0		118		70-130	8.47		20		
Carbon Disulfide	11.0	5.0	µg/L	10.0		110		70-130	14.3		20		
Carbon Tetrachloride	11.8	1.0	µg/L	10.0		118		70-130	16.9		20		
Chlorobenzene	11.9	1.0	µg/L	10.0		119		70-130	17.7		20		
Chlorodibromomethane	11.6	0.50	µg/L	10.0		116		70-130	13.2		20		
Chloroethane	12.3	2.0	µg/L	10.0		123		70-130	18.0		20		
Chloroform	12.6	2.0	µg/L	10.0		126		70-130	18.3		20		
Chloromethane	10.1	2.0	µg/L	10.0		101		40-160	**27.0**	*	20	R-05	†
2-Chlorotoluene	12.2	1.0	µg/L	10.0		122		70-130	**26.1**	*	20	R-05	
4-Chlorotoluene	12.3	1.0	µg/L	10.0		123		70-130	**24.0**	*	20	R-05	
1,2-Dibromo-3-chloropropane (DBCP)	9.41	2.0	µg/L	10.0		94.1		70-130	7.66		20		
1,2-Dibromoethane (EDB)	11.7	0.50	µg/L	10.0		117		70-130	1.29		20		
Dibromomethane	11.9	1.0	µg/L	10.0		119		70-130	13.2		20		
1,2-Dichlorobenzene	11.4	1.0	µg/L	10.0		114		70-130	16.9		20		
1,3-Dichlorobenzene	11.5	1.0	µg/L	10.0		115		70-130	18.2		20		
1,4-Dichlorobenzene	11.4	1.0	µg/L	10.0		114		70-130	19.5		20		
Dichlorodifluoromethane (Freon 12)	7.80	2.0	µg/L	10.0		78.0		40-160	18.8		20		†
1,1-Dichloroethane	10.9	1.0	µg/L	10.0		109		70-130	3.94		20		
1,2-Dichloroethane	12.2	1.0	µg/L	10.0		122		70-130	15.7		20		
1,1-Dichloroethylene	12.4	1.0	µg/L	10.0		124		70-130	**20.7**	*	20	R-05	
cis-1,2-Dichloroethylene	12.2	1.0	µg/L	10.0		122		70-130	13.8		20		
trans-1,2-Dichloroethylene	11.1	1.0	µg/L	10.0		111		70-130	3.01		20		
1,2-Dichloropropane	10.9	1.0	µg/L	10.0		109		70-130	12.4		20		
1,3-Dichloropropane	10.7	0.50	µg/L	10.0		107		70-130	9.29		20		
2,2-Dichloropropane	7.51	1.0	µg/L	10.0		75.1		70-130	6.32		20	V-05	
1,1-Dichloropropene	13.4	0.50	µg/L	10.0		**134**	*	70-130	19.4		20	L-07	
cis-1,3-Dichloropropene	9.58	0.40	µg/L	10.0		95.8		70-130	11.5		20		
trans-1,3-Dichloropropene	10.6	0.40	µg/L	10.0		106		70-130	11.6		20		
Diethyl Ether	11.9	2.0	µg/L	10.0		119		70-130	10.9		20		
Diisopropyl Ether (DIPE)	12.4	0.50	µg/L	10.0		124		70-130	13.7		20		
1,4-Dioxane	91.0	50	µg/L	100		91.0		40-160	6.85		20	V-16	†
Ethylbenzene	11.9	1.0	µg/L	10.0		119		70-130	16.2		20		
Hexachlorobutadiene	9.85	0.50	µg/L	10.0		98.5		70-130	**21.1**	*	20	R-05, V-05	
2-Hexanone (MBK)	143	10	µg/L	100		143		40-160	0.960		20	L-14	†
Isopropylbenzene (Cumene)	11.7	1.0	µg/L	10.0		117		70-130	16.6		20		
p-Isopropyltoluene (p-Cymene)	11.4	1.0	µg/L	10.0		114		70-130	**20.1**	*	20	R-05	
Methyl tert-Butyl Ether (MTBE)	10.1	1.0	µg/L	10.0		101		70-130	7.87		20		
Methylene Chloride	13.8	5.0	µg/L	10.0		**138**	*	70-130	11.2		20	L-07	
4-Methyl-2-pentanone (MIBK)	105	10	µg/L	100		105		40-160	0.564		20		†
Naphthalene	10.8	2.0	µg/L	10.0		108		70-130	4.88		20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B113602 - SW-846 5030B												
LCS Dup (B113602-BSD1)				Prepared: 01/16/15 Analyzed: 01/17/15								
n-Propylbenzene	13.2	1.0	µg/L	10.0		**132**	*	70-130	**27.5**	*	20	L-07A, R-05
Styrene	11.8	1.0	µg/L	10.0		118		70-130	12.4		20	
1,1,1,2-Tetrachloroethane	11.9	1.0	µg/L	10.0		119		70-130	15.3		20	
1,1,2,2-Tetrachloroethane	9.53	0.50	µg/L	10.0		95.3		70-130	2.18		20	
Tetrachloroethylene	11.2	1.0	µg/L	10.0		112		70-130	13.7		20	
Tetrahydrofuran	11.2	2.0	µg/L	10.0		112		70-130	4.55		20	
Toluene	11.5	1.0	µg/L	10.0		115		70-130	18.7		20	
1,2,3-Trichlorobenzene	10.4	2.0	µg/L	10.0		104		70-130	2.64		20	
1,2,4-Trichlorobenzene	10.7	1.0	µg/L	10.0		107		70-130	12.0		20	
1,1,1-Trichloroethane	12.4	1.0	µg/L	10.0		124		70-130	17.1		20	
1,1,2-Trichloroethane	11.1	1.0	µg/L	10.0		111		70-130	11.0		20	
Trichloroethylene	12.4	1.0	µg/L	10.0		124		70-130	**21.1**	*	20	R-05
Trichlorofluoromethane (Freon 11)	11.7	2.0	µg/L	10.0		117		70-130	17.5		20	
1,2,3-Trichloropropane	11.4	2.0	µg/L	10.0		114		70-130	1.24		20	
1,2,4-Trimethylbenzene	11.4	1.0	µg/L	10.0		114		70-130	19.2		20	
1,3,5-Trimethylbenzene	12.1	1.0	µg/L	10.0		121		70-130	**20.9**	*	20	R-05
Vinyl Chloride	11.8	2.0	µg/L	10.0		118		70-130	**21.7**	*	20	R-05
m+p Xylene	23.3	2.0	µg/L	20.0		116		70-130	15.8		20	
o-Xylene	11.8	1.0	µg/L	10.0		118		70-130	16.2		20	
Surrogate: 1,2-Dichloroethane-d4	*26.1*		µg/L	25.0		104		70-130				
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.4		70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		100		70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113750 - SW-846 3510C										
Blank (B113750-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Acetophenone	ND	10	µg/L							
Aniline	ND	5.0	µg/L							R-05
Anthracene	ND	5.0	µg/L							
Benzo(a)anthracene	ND	5.0	µg/L							
Benzo(a)pyrene	ND	5.0	µg/L							
Benzo(b)fluoranthene	ND	5.0	µg/L							
Benzo(g,h,i)perylene	ND	5.0	µg/L							
Benzo(k)fluoranthene	ND	5.0	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloroaniline	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
Chrysene	ND	5.0	µg/L							
Dibenz(a,h)anthracene	ND	5.0	µg/L							
Dibenzofuran	ND	5.0	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
2,4-Dinitrophenol	ND	10	µg/L							
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							
Hexachloroethane	ND	10	µg/L							
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L							
Isophorone	ND	10	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
2-Methylphenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
Pentachlorophenol	ND	10	µg/L							
Phenanthrene	ND	5.0	µg/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B113750 - SW-846 3510C											
Blank (B113750-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Phenol	ND	10	µg/L								
Pyrene	ND	5.0	µg/L								
1,2,4-Trichlorobenzene	ND	5.0	µg/L								
2,4,5-Trichlorophenol	ND	10	µg/L								
2,4,6-Trichlorophenol	ND	10	µg/L								
Surrogate: 2-Fluorophenol	*92.6*		µg/L	200		46.3	15-110				
Surrogate: Phenol-d6	*59.6*		µg/L	200		29.8	15-110				
Surrogate: Nitrobenzene-d5	*92.1*		µg/L	100		92.1	30-130				
Surrogate: 2-Fluorobiphenyl	*94.2*		µg/L	100		94.2	30-130				
Surrogate: 2,4,6-Tribromophenol	*199*		µg/L	200		99.4	15-110				
Surrogate: p-Terphenyl-d14	*98.8*		µg/L	100		98.8	30-130				
LCS (B113750-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15							
Acenaphthene	76.3	5.0	µg/L	100		76.3	40-140				
Acenaphthylene	81.8	5.0	µg/L	100		81.8	40-140				
Acetophenone	75.4	10	µg/L	100		75.4	40-140				
Aniline	72.2	5.0	µg/L	100		72.2	40-140			R-05	
Anthracene	83.8	5.0	µg/L	100		83.8	40-140				
Benzo(a)anthracene	83.2	5.0	µg/L	100		83.2	40-140				
Benzo(a)pyrene	82.0	5.0	µg/L	100		82.0	40-140				
Benzo(b)fluoranthene	90.3	5.0	µg/L	100		90.3	40-140				
Benzo(g,h,i)perylene	70.7	5.0	µg/L	100		70.7	40-140				
Benzo(k)fluoranthene	87.5	5.0	µg/L	100		87.5	40-140				
Bis(2-chloroethoxy)methane	85.6	10	µg/L	100		85.6	40-140				
Bis(2-chloroethyl)ether	84.5	10	µg/L	100		84.5	40-140				
Bis(2-chloroisopropyl)ether	77.2	10	µg/L	100		77.2	40-140				
Bis(2-Ethylhexyl)phthalate	90.7	10	µg/L	100		90.7	40-140				
4-Bromophenylphenylether	84.2	10	µg/L	100		84.2	40-140				
Butylbenzylphthalate	89.2	10	µg/L	100		89.2	40-140				
4-Chloroaniline	80.6	10	µg/L	100		80.6	15-140				†
2-Chloronaphthalene	76.6	10	µg/L	100		76.6	40-140				
2-Chlorophenol	70.0	10	µg/L	100		70.0	30-130				
Chrysene	85.0	5.0	µg/L	100		85.0	40-140				
Dibenz(a,h)anthracene	69.6	5.0	µg/L	100		69.6	40-140				
Dibenzofuran	82.8	5.0	µg/L	100		82.8	40-140				
Di-n-butylphthalate	85.4	10	µg/L	100		85.4	40-140				
1,2-Dichlorobenzene	68.4	5.0	µg/L	100		68.4	40-140				
1,3-Dichlorobenzene	65.9	5.0	µg/L	100		65.9	40-140				
1,4-Dichlorobenzene	66.1	5.0	µg/L	100		66.1	40-140				
3,3-Dichlorobenzidine	90.6	10	µg/L	100		90.6	40-140				
2,4-Dichlorophenol	78.4	10	µg/L	100		78.4	30-130				
Diethylphthalate	86.4	10	µg/L	100		86.4	40-140				
2,4-Dimethylphenol	70.2	10	µg/L	100		70.2	30-130				
Dimethylphthalate	85.7	10	µg/L	100		85.7	40-140				
2,4-Dinitrophenol	43.8	10	µg/L	100		43.8	15-140				†
2,4-Dinitrotoluene	84.8	10	µg/L	100		84.8	40-140				
2,6-Dinitrotoluene	87.1	10	µg/L	100		87.1	40-140				
Di-n-octylphthalate	105	10	µg/L	100		105	40-140				
1,2-Diphenylhydrazine (as Azobenzene)	88.3	10	µg/L	100		88.3	40-140				
Fluoranthene	81.9	5.0	µg/L	100		81.9	40-140				
Fluorene	83.2	5.0	µg/L	100		83.2	40-140				
Hexachlorobenzene	82.1	10	µg/L	100		82.1	40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes	
Batch B113750 - SW-846 3510C												
LCS (B113750-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15								
Hexachlorobutadiene	70.9	10	µg/L	100		70.9	40-140					
Hexachloroethane	67.7	10	µg/L	100		67.7	40-140					
Indeno(1,2,3-cd)pyrene	69.3	5.0	µg/L	100		69.3	40-140					
Isophorone	85.0	10	µg/L	100		85.0	40-140					
2-Methylnaphthalene	77.2	5.0	µg/L	100		77.2	40-140					
2-Methylphenol	59.4	10	µg/L	100		59.4	30-130					
3/4-Methylphenol	56.8	10	µg/L	100		56.8	30-130					
Naphthalene	75.4	5.0	µg/L	100		75.4	40-140					
Nitrobenzene	78.3	10	µg/L	100		78.3	40-140					
2-Nitrophenol	78.6	10	µg/L	100		78.6	30-130					
4-Nitrophenol	46.2	10	µg/L	100		46.2	15-140					†
Pentachlorophenol	67.0	10	µg/L	100		67.0	30-130					
Phenanthrene	83.8	5.0	µg/L	100		83.8	40-140					
Phenol	27.3	10	µg/L	100		27.3	15-140					†
Pyrene	84.7	5.0	µg/L	100		84.7	40-140					
1,2,4-Trichlorobenzene	75.0	5.0	µg/L	100		75.0	40-140					
2,4,5-Trichlorophenol	78.3	10	µg/L	100		78.3	30-130					
2,4,6-Trichlorophenol	81.3	10	µg/L	100		81.3	30-130					
Surrogate: 2-Fluorophenol	*85.8*		µg/L	200		42.9	15-110					
Surrogate: Phenol-d6	*56.9*		µg/L	200		28.4	15-110					
Surrogate: Nitrobenzene-d5	*84.0*		µg/L	100		84.0	30-130					
Surrogate: 2-Fluorobiphenyl	*86.6*		µg/L	100		86.6	30-130					
Surrogate: 2,4,6-Tribromophenol	*184*		µg/L	200		92.1	15-110					
Surrogate: p-Terphenyl-d14	*88.5*		µg/L	100		88.5	30-130					
LCS Dup (B113750-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15								
Acenaphthene	81.1	5.0	µg/L	100		81.1	40-140	6.07		20		
Acenaphthylene	87.1	5.0	µg/L	100		87.1	40-140	6.30		20		
Acetophenone	80.0	10	µg/L	100		80.0	40-140	5.93		20		
Aniline	58.0	5.0	µg/L	100		58.0	40-140	**21.8**	*	20	R-05	
Anthracene	88.1	5.0	µg/L	100		88.1	40-140	4.98		20		
Benzo(a)anthracene	86.7	5.0	µg/L	100		86.7	40-140	4.18		20		
Benzo(a)pyrene	90.1	5.0	µg/L	100		90.1	40-140	9.36		20		
Benzo(b)fluoranthene	95.5	5.0	µg/L	100		95.5	40-140	5.60		20		
Benzo(g,h,i)perylene	71.8	5.0	µg/L	100		71.8	40-140	1.47		20		
Benzo(k)fluoranthene	92.0	5.0	µg/L	100		92.0	40-140	5.03		20		
Bis(2-chloroethoxy)methane	91.6	10	µg/L	100		91.6	40-140	6.77		20		
Bis(2-chloroethyl)ether	88.6	10	µg/L	100		88.6	40-140	4.75		20		
Bis(2-chloroisopropyl)ether	82.1	10	µg/L	100		82.1	40-140	6.10		20		
Bis(2-Ethylhexyl)phthalate	90.0	10	µg/L	100		90.0	40-140	0.708		20		
4-Bromophenylphenylether	89.8	10	µg/L	100		89.8	40-140	6.45		20		
Butylbenzylphthalate	90.7	10	µg/L	100		90.7	40-140	1.66		20		
4-Chloroaniline	79.7	10	µg/L	100		79.7	15-140	1.16		20		†
2-Chloronaphthalene	82.5	10	µg/L	100		82.5	40-140	7.48		20		
2-Chlorophenol	74.1	10	µg/L	100		74.1	30-130	5.69		20		
Chrysene	85.8	5.0	µg/L	100		85.8	40-140	0.948		20		
Dibenz(a,h)anthracene	70.6	5.0	µg/L	100		70.6	40-140	1.38		20		
Dibenzofuran	88.1	5.0	µg/L	100		88.1	40-140	6.22		20		
Di-n-butylphthalate	90.2	10	µg/L	100		90.2	40-140	5.51		20		
1,2-Dichlorobenzene	71.0	5.0	µg/L	100		71.0	40-140	3.72		20		
1,3-Dichlorobenzene	68.0	5.0	µg/L	100		68.0	40-140	3.09		20		
1,4-Dichlorobenzene	68.6	5.0	µg/L	100		68.6	40-140	3.71		20		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113750 - SW-846 3510C										
LCS Dup (B113750-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15						
3,3-Dichlorobenzidine	95.5	10	µg/L	100		95.5	40-140	5.19	20	
2,4-Dichlorophenol	82.7	10	µg/L	100		82.7	30-130	5.32	20	
Diethylphthalate	91.9	10	µg/L	100		91.9	40-140	6.25	20	
2,4-Dimethylphenol	74.6	10	µg/L	100		74.6	30-130	6.07	20	
Dimethylphthalate	91.4	10	µg/L	100		91.4	40-140	6.41	20	
2,4-Dinitrophenol	50.4	10	µg/L	100		50.4	15-140	14.0	20	†
2,4-Dinitrotoluene	90.4	10	µg/L	100		90.4	40-140	6.37	20	
2,6-Dinitrotoluene	92.7	10	µg/L	100		92.7	40-140	6.18	20	
Di-n-octylphthalate	108	10	µg/L	100		108	40-140	2.91	20	
1,2-Diphenylhydrazine (as Azobenzene)	93.1	10	µg/L	100		93.1	40-140	5.28	20	
Fluoranthene	86.7	5.0	µg/L	100		86.7	40-140	5.66	20	
Fluorene	88.8	5.0	µg/L	100		88.8	40-140	6.57	20	
Hexachlorobenzene	87.1	10	µg/L	100		87.1	40-140	5.93	20	
Hexachlorobutadiene	69.9	10	µg/L	100		69.9	40-140	1.38	20	
Hexachloroethane	68.9	10	µg/L	100		68.9	40-140	1.68	20	
Indeno(1,2,3-cd)pyrene	70.5	5.0	µg/L	100		70.5	40-140	1.66	20	
Isophorone	90.6	10	µg/L	100		90.6	40-140	6.38	20	
2-Methylnaphthalene	81.6	5.0	µg/L	100		81.6	40-140	5.58	20	
2-Methylphenol	63.1	10	µg/L	100		63.1	30-130	5.99	20	
3/4-Methylphenol	59.9	10	µg/L	100		59.9	30-130	5.35	20	
Naphthalene	79.3	5.0	µg/L	100		79.3	40-140	4.96	20	
Nitrobenzene	82.9	10	µg/L	100		82.9	40-140	5.77	20	
2-Nitrophenol	82.6	10	µg/L	100		82.6	30-130	4.91	20	
4-Nitrophenol	47.6	10	µg/L	100		47.6	15-140	2.94	20	†
Pentachlorophenol	70.4	10	µg/L	100		70.4	30-130	4.86	20	
Phenanthrene	88.7	5.0	µg/L	100		88.7	40-140	5.69	20	
Phenol	28.3	10	µg/L	100		28.3	15-140	3.59	20	†
Pyrene	85.2	5.0	µg/L	100		85.2	40-140	0.553	20	
1,2,4-Trichlorobenzene	78.4	5.0	µg/L	100		78.4	40-140	4.41	20	
2,4,5-Trichlorophenol	83.2	10	µg/L	100		83.2	30-130	6.09	20	
2,4,6-Trichlorophenol	86.8	10	µg/L	100		86.8	30-130	6.47	20	
Surrogate: 2-Fluorophenol	*89.5*		µg/L	200		44.7	15-110			
Surrogate: Phenol-d6	*59.2*		µg/L	200		29.6	15-110			
Surrogate: Nitrobenzene-d5	*87.6*		µg/L	100		87.6	30-130			
Surrogate: 2-Fluorobiphenyl	*91.7*		µg/L	100		91.7	30-130			
Surrogate: 2,4,6-Tribromophenol	*194*		µg/L	200		97.2	15-110			
Surrogate: p-Terphenyl-d14	*88.5*		µg/L	100		88.5	30-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113693 - SW-846 3510C										
Blank (B113693-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15						
TPH (C9-C36)	ND	0.20	mg/L							
Surrogate: o-Terphenyl	*0.0914*		mg/L	0.100		91.4	40-140			
LCS (B113693-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15						
TPH (C9-C36)	0.859	0.20	mg/L	1.00		85.9	40-140			
Surrogate: o-Terphenyl	*0.0851*		mg/L	0.100		85.1	40-140			
LCS Dup (B113693-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15						
TPH (C9-C36)	0.871	0.20	mg/L	1.00		87.1	40-140	1.32	30	
Surrogate: o-Terphenyl	*0.0935*		mg/L	0.100		93.5	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113606 - SW-846 7470A Prep										
Blank (B113606-BLK1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	ND	0.00010	mg/L							
LCS (B113606-BS1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	0.00187	0.00010	mg/L	0.00200		93.6	80-120			
LCS Dup (B113606-BSD1)				Prepared: 01/17/15 Analyzed: 01/19/15						
Mercury	0.00190	0.00010	mg/L	0.00200		94.9	80-120	1.36	20	
Batch B113638 - SW-846 3005A										
Blank (B113638-BLK1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	ND	0.050	mg/L							
LCS (B113638-BS1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	2.04	0.050	mg/L	2.00		102	80-120			
LCS Dup (B113638-BSD1)				Prepared: 01/16/15 Analyzed: 01/19/15						
Iron	2.04	0.050	mg/L	2.00		102	80-120	0.380	20	
Batch B113639 - SW-846 3005A										
Blank (B113639-BLK1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.40	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	5.0	µg/L							
Lead	ND	1.0	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
Zinc	ND	10	µg/L							
LCS (B113639-BS1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	283	5.0	µg/L	250		113	80-120			
Arsenic	274	2.0	µg/L	250		110	80-120			
Cadmium	285	2.5	µg/L	250		114	80-120			
Chromium	261	5.0	µg/L	250		105	80-120			
Copper	278	25	µg/L	250		111	80-120			
Lead	287	5.0	µg/L	250		115	80-120			
Nickel	264	25	µg/L	250		106	80-120			
Selenium	275	25	µg/L	250		110	80-120			
Silver	294	2.5	µg/L	250		118	80-120			
Zinc	280	50	µg/L	250		112	80-120			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113639 - SW-846 3005A										
LCS Dup (B113639-BSD1)				Prepared: 01/16/15 Analyzed: 01/20/15						
Antimony	289	5.0	µg/L	250		116	80-120	2.14	20	
Arsenic	278	2.0	µg/L	250		111	80-120	1.31	20	
Cadmium	278	2.5	µg/L	250		111	80-120	2.51	20	
Chromium	261	5.0	µg/L	250		104	80-120	0.0770	20	
Copper	280	25	µg/L	250		112	80-120	0.864	20	
Lead	290	5.0	µg/L	250		116	80-120	0.886	20	
Nickel	261	25	µg/L	250		104	80-120	1.20	20	
Selenium	277	25	µg/L	250		111	80-120	0.744	20	
Silver	293	2.5	µg/L	250		117	80-120	0.405	20	
Zinc	278	50	µg/L	250		111	80-120	0.468	20	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113583 - SM21-22 3500 Cr B										
Blank (B113583-BLK1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B113583-BS1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		105	92.1-114			
LCS Dup (B113583-BSD1)				Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		101	92.1-114	3.70	8.55	
Duplicate (B113583-DUP1)	**Source: 15A0430-03**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	ND	0.0040	mg/L		ND			NC	20	
Matrix Spike (B113583-MS1)	**Source: 15A0430-04**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.093	0.0040	mg/L	0.100	ND	93.4	17.2-160			
Matrix Spike Dup (B113583-MSD1)	**Source: 15A0430-04**			Prepared & Analyzed: 01/15/15						
Hexavalent Chromium	0.090	0.0040	mg/L	0.100	ND	89.6	17.2-160	4.16	18.2	
Batch B113585 - SM21-22 4500 H B										
LCS (B113585-BS1)				Prepared & Analyzed: 01/16/15						
pH	5.99		pH Units	6.00		99.8	98.5-102			
Batch B113613 - SM21-22 4500 CL G										
Blank (B113613-BLK1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B113613-BS1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	1.4	0.020	mg/L	1.25		112	81.9-127			
LCS Dup (B113613-BSD1)				Prepared & Analyzed: 01/15/15						
Chlorine, Residual	1.4	0.020	mg/L	1.25		113	81.9-127	0.980	9.61	
Duplicate (B113613-DUP1)	**Source: 15A0430-03**			Prepared & Analyzed: 01/15/15						
Chlorine, Residual	ND	0.020	mg/L		ND			NC	52.6	
Batch B113617 - SM21-22 2540D										
Blank (B113617-BLK1)				Prepared & Analyzed: 01/16/15						
Total Suspended Solids	ND	2.5	mg/L							

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113617 - SM21-22 2540D										
LCS (B113617-BS1)				Prepared & Analyzed: 01/16/15						
Total Suspended Solids	186	10	mg/L	200		93.0	74.6-112			
Duplicate (B113617-DUP2)		**Source: 15A0430-03**		Prepared & Analyzed: 01/16/15						
Total Suspended Solids	ND	5.0	mg/L		ND			NC	5	
Batch B113686 - SW-846 9014										
Blank (B113686-BLK1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	ND	0.010	mg/L							
LCS (B113686-BS1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.61	0.010	mg/L	0.660		91.8	80-120			
LCS Dup (B113686-BSD1)				Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.66	0.010	mg/L	0.660		100	80-120	8.67	20	
Matrix Spike (B113686-MS2)		**Source: 15A0430-04**		Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.33	0.010	mg/L	0.368	0.013	86.8	75-125			
Matrix Spike Dup (B113686-MSD2)		**Source: 15A0430-04**		Prepared: 01/19/15 Analyzed: 01/20/15						
Cyanide	0.34	0.010	mg/L	0.368	0.013	87.6	75-125	0.889	20	
Batch B113767 - EPA 1664B										
Blank (B113767-BLK1)				Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	ND	1.4	mg/L							
LCS (B113767-BS1)				Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	35		mg/L	40.0		88.0	78-114			
Duplicate (B113767-DUP1)		**Source: 15A0430-02**		Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	ND	1.6	mg/L		ND			NC	18	
Matrix Spike (B113767-MS1)		**Source: 15A0430-02**		Prepared & Analyzed: 01/20/15						
Oil & Grease (HEM)	360	14	mg/L	400	ND	90.2	78-114			
Batch B113829 - SM21-22 4500 CL B										
Blank (B113829-BLK1)				Prepared & Analyzed: 01/20/15						
Chloride	ND	1.0	mg/L							

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B113829 - SM21-22 4500 CL B										
LCS (B113829-BS1)				Prepared & Analyzed: 01/20/15						
Chloride	11	1.0	mg/L	11.3		101	81.5-116			
LCS Dup (B113829-BSD1)				Prepared & Analyzed: 01/20/15						
Chloride	11	1.0	mg/L	11.3		101	81.5-116	0.00	8.97	
Batch B113939 - SM21-22 4500 CL B										
Blank (B113939-BLK1)				Prepared & Analyzed: 01/21/15						
Chloride	ND	1.0	mg/L							
LCS (B113939-BS1)				Prepared & Analyzed: 01/21/15						
Chloride	11	1.0	mg/L	11.3		96.9	81.5-116			
LCS Dup (B113939-BSD1)				Prepared & Analyzed: 01/21/15						
Chloride	11	1.0	mg/L	11.3		101	81.5-116	4.21	8.97	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
L-06	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
Oil & Grease (HEM)	CT,MA,NH,NY,RI,NC,ME,VA,NJ
SM21-22 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA,NJ
SM21-22 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NJ,NC
SM21-22 4500 CL B in Water	
Chloride	NH,CT,MA,NY,RI,NC,ME,VA,NJ
SM21-22 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME
SM21-22 4500 H B in Water	
pH	CT,MA,RI
SW-846 6010C in Water	
Iron	CT,NH,NY,ME,NC,VA,NJ
SW-846 6020A in Water	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,NC,ME,VA,NJ
Cadmium	CT,NH,NY,RI,NC,ME,VA,NJ
Chromium	CT,NH,NY,NC,ME,VA,NJ
Copper	CT,NH,NY,NC,ME,VA,NJ
Lead	CT,NH,NY,NC,ME,VA,NJ
Nickel	CT,NH,NY,NC,ME,VA,NJ
Selenium	CT,NH,NY,NC,ME,VA,NJ
Silver	CT,NH,NY,NC,ME,VA,NJ
Zinc	CT,NH,NY,NC,ME,VA,NJ
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA,NJ
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Water	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Water	
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH
SW-846 9014 in Water	
Cyanide	NY,CT,NH,NC,ME,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev. 04.05.12

15A0430

Company Name: Weston & Sampson
Address: 5 Centennial Drive
Peabody, MA 01960
Attention: Todd Bridgeo
Project Location: Green Line Extension
Sampled By:

Telephone: 800 SAMPSON
Project # 2140547
Client PO# 20141204

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ◉ WEBSITE
Fax #
Email: bridgeot@wseinc.com
Format: ◉ PDF ◉ EXCEL ○ GIS
◉ OTHER Special data package for this project.
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code
01	MW/MR 12+90 (6014)	1/14/15	1530		X	GW	U
02	MW/MR 14+80 (6017)	1/14/15	1300		X	GW	U
03	MW-MR 1+50 (6002)	1/14/15	1550		X	GW	U
04	MW-MR 0+25 (6003)	1/14/15	1330		X	GW	U

# of Containers	1	2	1	2	3	1	1	5	1	2	1
** Preservation	I	I	X	I	H	I	N	S	I	S	I
***Container Code	P	A	P	A	V	P	P	S	P	A	P

ANALYSIS REQUESTED

	Total residual chlorine (TRC)	TPH	Cyanide (CN)	SVOCs via 8270D	VOCs via 8260C	Chloride	Total Metals (see comments)	Antimony SM3113B	pH	Fats, oil, and grease (FOG).	Total Suspended Solids
01	X	X	X	X	X	X	X		X	X	X
02	X	X	X	X	X	X	X		X	X	X
03	X	X	X	X	X	X	X		X	X	X
04	X	X	X	X	X	X	X		X	X	X

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
Total Metals to include: Sb, As, Cd, Cr III, CrVI, Cu, Pb, Hg, Ni, Ag, Se, Zn, Fe.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

	Relinquished by: (signature)	Received by: (signature)	Relinquished by: (signature)	Received by: (signature)
Date/Time:	1/14/15 1800	1/15/15 9:50	1/15/15 12:05	11/15/15 12:10

Turnaround ††
☐ 7-Day
☐ 10-Day
◉ Other 5-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: s-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

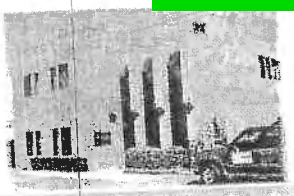
†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 1/15/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No No CoC Included

2) **Does the chain agree with the samples?** (Yes) No

If not, explain:

3) **Are all the samples in good condition?** (Yes) No

If not, explain:

4) **How were the samples received:**

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.5

5) **Are there Dissolved samples for the lab to filter?** Yes (No)

Who was notified _____ Date _____ Time _____

6) **Are there any RUSH or SHORT HOLDING TIME samples?** (Yes) No

Who was notified David Date 1/15/15 Time 1210

7) **Location where samples are stored:** 19

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

8) **Do all samples have the proper Acid pH:** (Yes) No N/A _____

9) **Do all samples have the proper Base pH:** (Yes) No N/A _____

10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	24	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	4	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	12	Non-ConTest Container	
40 mL Vial - type listed below	12	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 12 # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Log-In Technician Initials: JDL **Date/Time:** 1/15/15 1210

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15A0430
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15A0430-01 thru 15A0430-04

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	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 (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	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 (X)	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A (X)	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is 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[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
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[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]
	A response to questions G, H and I below is 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[1]
	***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 perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case 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: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 01/22/15