



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 27 2015

Michael MacInnes
Project Manager
J. Derenzo Co.
338 Howard Street
Brockton, MA 02302

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Renovation activities at 333 Summer Street site in Boston, MA 02210,
Suffolk County; Authorization # MAG910678

Dear Mr. MacInnes:

Based on the review of a Notice of Intent (NOI) submitted by Paul Lockwood from Lockwood Remediation Technologies, LLC on behalf of 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".

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. With the absence of dilution of freshwater into tidal water, EPA determined that the Dilution Factor Range (DFR) for each parameter for this site is in the one and five (1-5) range. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for antimony of 5.6 ug/L, arsenic of 36 ug/L, copper of 3.7 ug/L,

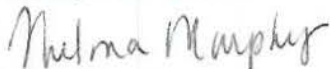
lead of 8.5 ug/L, nickel of 8.2ug/L, zinc of 85.6 ug/L and iron of 1,000 ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on September 18, 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, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Stephen Shea, Boston WSC
Paul Lockwood, LRT

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

NPDES Authorization Number:		MAG910678
Authorization Issued:	April, 2015	
Facility/Site Name:	Renovation Activities	
Facility/Site Address:	333 Summer Street, Boston, MA 02210	
	Email address of owner: Synergy Investments- kkiley@synergy-inv.com	
Legal Name of Operator:	J. Derenzo Co.	
Operator contact name, title, and Address:	338 Howard Street, Brockton, MA 02302, Plymouth County	
	Email: mmacInnes@jderenzo.com	
Estimated date of the site's Completion:	September 18, 2015	
Category and Sub-Category:	Activities Category III- Contaminated Construction Dewatering. Subcategory A. General Urban Fill sites	
RGP Termination Date:	September 9, 2015	
Receiving Water:	Boston Harbor	

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

	<u>Parameter</u>	<u>Effluent Limit/Method# /ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	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/ML 2ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	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 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	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 Metal Limit @ H¹⁰= 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) ^{11/12}		Minimum level=ML	
		Saltwater			
✓	39. Antimony	5.6/ML 10			
✓	40. Arsenic **		36	ML	20
	41. Cadmium **		8.9	ML	10
	42. Chromium III (trivalent) **		100	ML	15
	43. Chromium VI (hexavalent) **		50.3	ML	10
✓	44. Copper **		3.7	ML	15
✓	45. Lead **		8.5	ML	20
	46. Mercury **		1.1	ML	0.2
	47. Nickel **		8.2	ML	20
	48. Selenium **		71	ML	20
	49. Silver		2.2	ML	10
✓	50. Zinc **		85.6	ML	15
✓	51. Iron	1,000		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 $DF \times 1,000 \text{ ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

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

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

¹⁴ Temperature sampling per Method 170.



89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

April 6, 2015

U.S. Environmental Protection Agency—Region 1
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912
Attn.: Remediation General Permit NOI Processing

**Reference: Notice of Intent
NPDES Remediation General Permit
333 Summer Street
Boston, Massachusetts
LRT Reference #2-1240**

To Whom It May Concern:

On behalf of Synergy Investments (Synergy), Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP), Massachusetts General Permit (MAG910000). This NOI was prepared in accordance with the general requirements of the NPDES and related guidance documentation provided by the US Environmental Protection Agency (EPA). The completed NOI form is provided in Appendix A.

Site Information

This NOI has been prepared for the management of water generated from construction dewatering during renovation activities at 333 Summer Street in Boston, Massachusetts (the Site). Please refer to Figure 1 Site Locus for a locus map and an overview of the immediate area surrounding the Site. The work area is located in a commercial area that is bound to the north by Summer Street; to the south by Pastene Alley, to the east by West Service Road Extension; and to the west by A Street. Refer to Figure 2 for a depiction of the Site area. The proposed discharge locations are depicted on Figure 3.

Work Summary

The work scope involves renovations of the buildings located at 327 and 337 Summer Street, now identified as 333 Summer Street. Dewatering will be conducted as necessary so work within any excavation areas will be completed in the “dry”. Water generated from the excavations will be handled in accordance with A Best Management Practices Plan included as Appendix B. To characterize water from the excavation in accordance with the NPDES RGP requirements, samples were collected from a well located within the basement of the existing building on March 10, March 30 and April 1, 2015. These

samples were analyzed for the parameters specified for this RGP NOI. Laboratory data reports for these samples are provided in Appendix C.

Discharge and Receiving Surface Water Information

Based on analytical results of groundwater samples collected for the RGP, there are detectable concentrations of total suspended solids (TSS), semi-volatile organic compounds (SVOCs) and metals that exceed the applicable discharge concentrations. Although TSS concentrations exceed the discharge criteria, it is expected to be significantly reduced via settling occurring in influent equalization tank and also by the filtration that occurs as part of the wastewater treatment plant provided. Any residual SVOCs are expected to be reduced by the carbon treatment. LRT has assumed that metal concentrations will also be reduced in conjunction with reducing the TSS. If metal concentrations still exceed discharge criteria, a metals reduction system will be implemented. Refer to Figure 4 for a proposed water treatment system layout.

Calculation of Dilution Criteria

The discharge location for the proposed treatment system is to a storm drain that ultimately discharges to the Boston Harbor. Therefore, since the receiving water body is a saltwater body, the dilution criteria do not apply.

Consultation with Federal Services

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS) and the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, an endangered bird, the Red Knot, was identified in the surrounding area of the Site. However, based upon a discussion with Ms. Maria Tur of the US Fish and Wildlife Service (FWS) on April 3, 2015, Red Knots are not located in the area of the Site because they are located along the coastal areas. They are not located in highly developed areas which are not considered suitable for habitat. Therefore, neither the Site nor the point where the proposed discharge reaches the receiving surface water body are located within Areas of Critical Environmental Concern (ACEC), Habitats of Rare Wetland Wildlife, Habitats of Rare Species or Estimated Habitats of Rare Wildlife or listed as a National Historic Place. Refer to Appendix D for supporting documentation.

Coverage under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP. On behalf of Synergy, we are requesting coverage under the NPDES RGP for the discharge of wastewater during construction activities to the wetlands located adjacent to the Site.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, J. Derenzo Co. (JDC) has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications.

Please feel free to contact us at 774-450-7177 or at pllockwood@lrt-llc.net if you have any questions or if you require additional information.

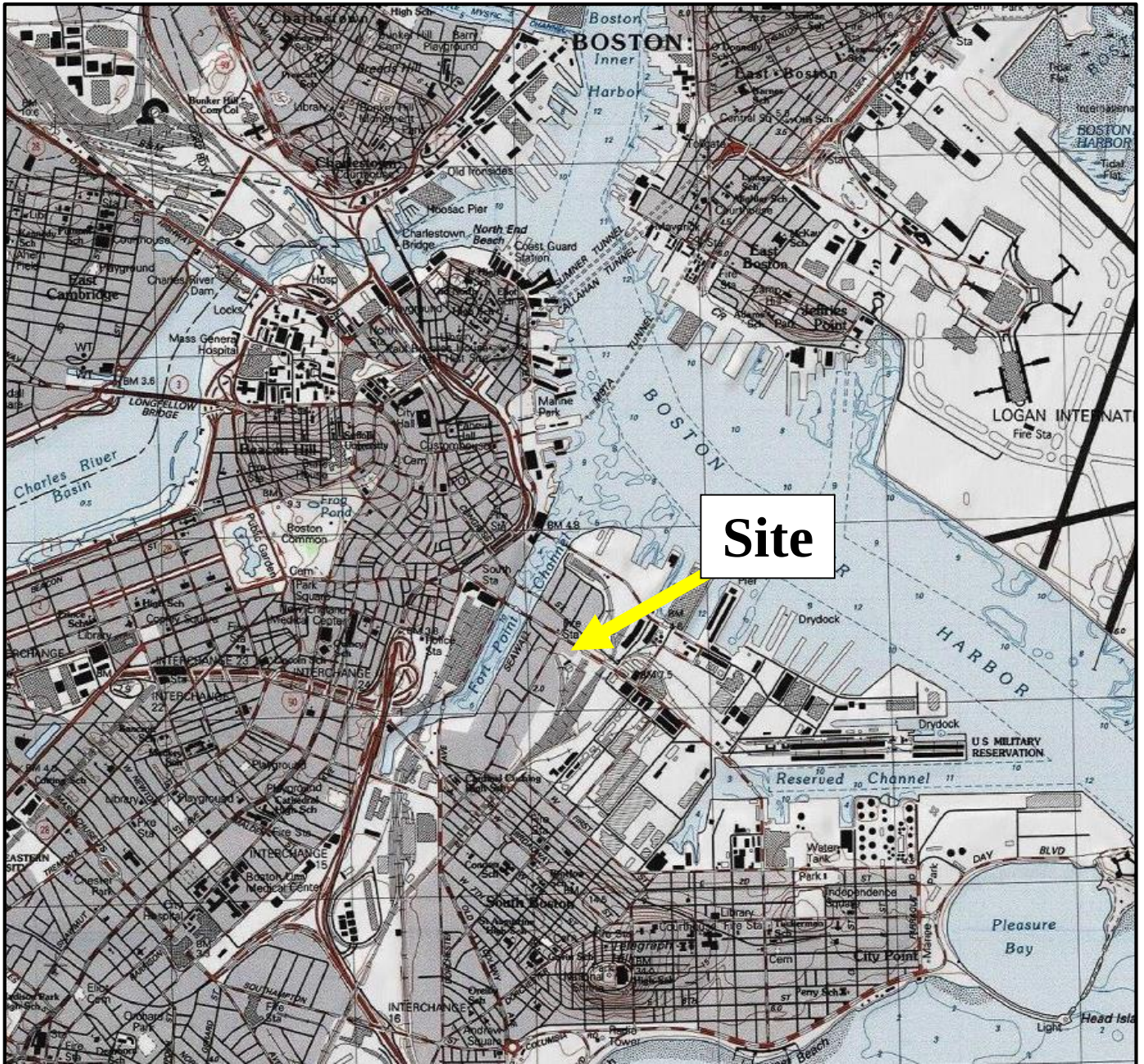
Sincerely,
Lockwood Remediation Technologies, LLC

Paul Lockwood

Paul Lockwood
President

Attachments: Figure 1 – Locus Plan
Figure 2 – Site Plan
Figure 3 – Proposed Dewatering Discharge Location
Figure 4 – Proposed System Layout
Appendix A – NOI Form
Appendix B – Best Management Practices Plan
Appendix C – Laboratory Data
Appendix D – Federal Services Supporting Documentation

Figures



Source: Esri, HERE, DeLorme, Intermap, USGS, METI/NASA, USDA, EPA | Copyright:© 2013 National Geographic Society, i-cubed

Notes:

- 1.) Figure is not to scale.

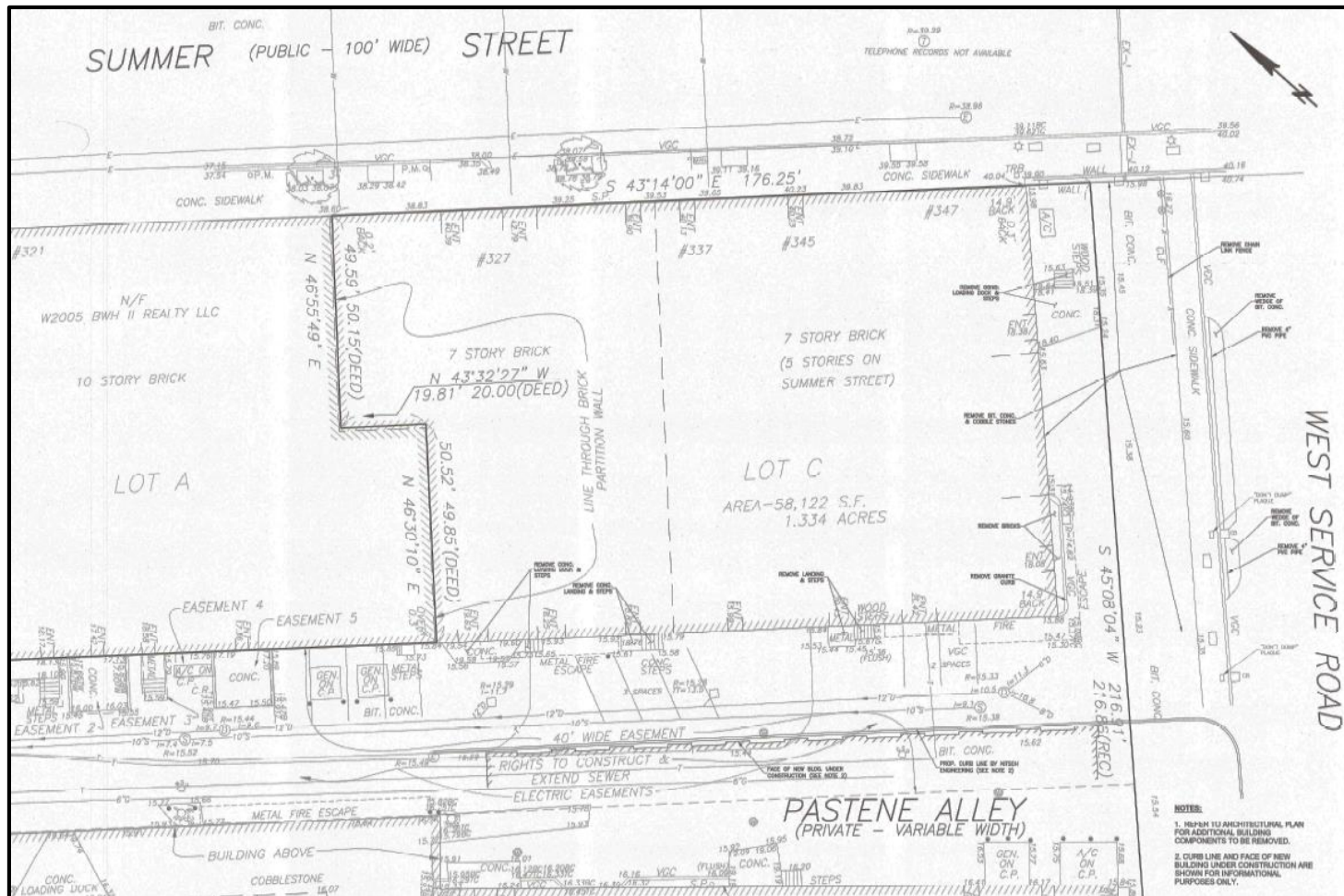
Site Location

Latitude: 42.349267
Longitude: -71.048182



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Figure 1 – Locus Plan
Synergy Investments
333 Summer Street
Boston, Massachusetts



Source: Site Preparation Plan: Drawing C001 by Bargmann Hendrie + Archetype, Inc. March 14, 2014

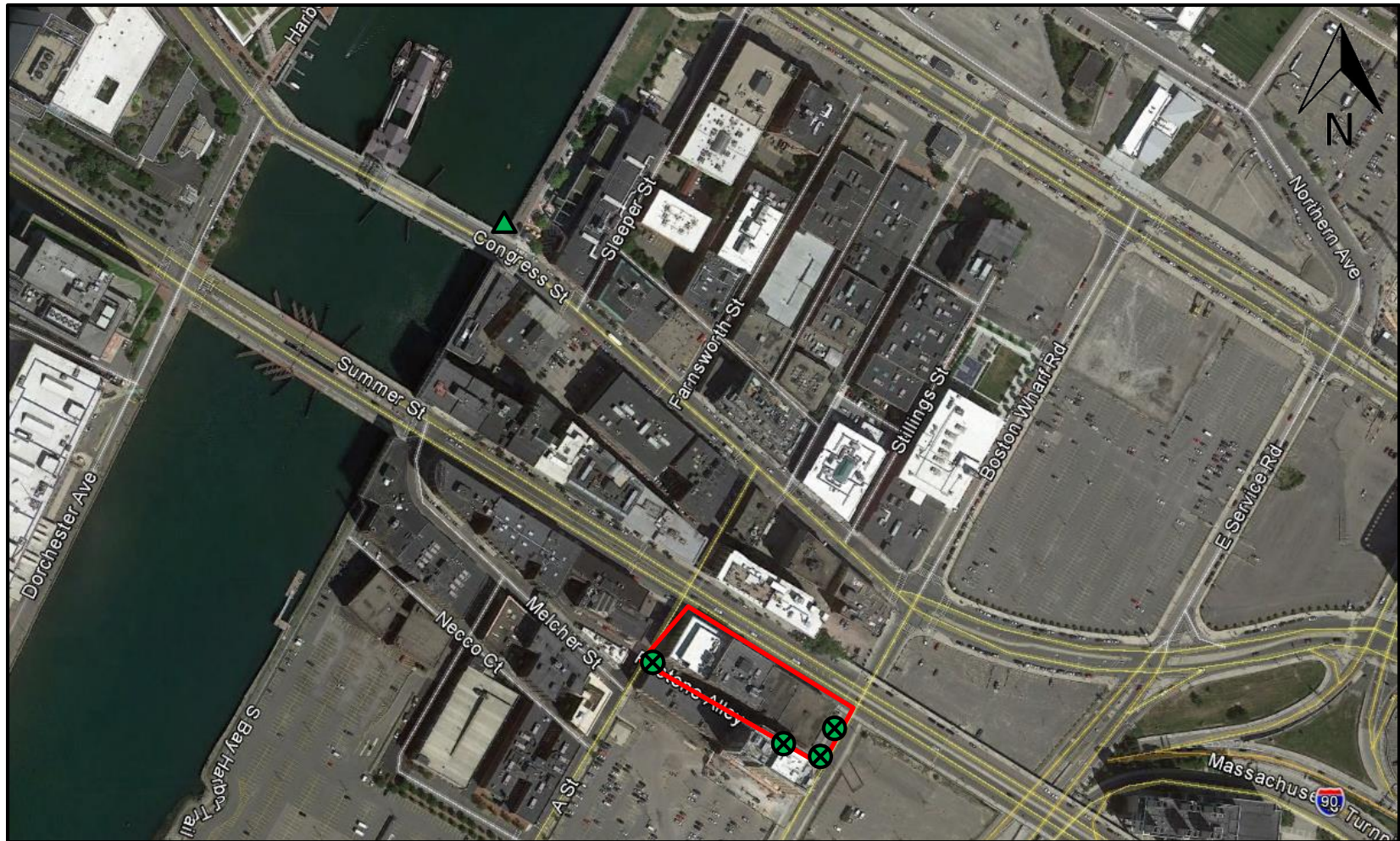
Notes:

1.) Figure is not to scale.



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Figure 2 – Site Plan
Synergy Investments
333 Summer Street
Boston, Massachusetts



Source: Imagery ©2015 Google, Map data ©2015 Google

Notes:

- 1.) Figure is not to scale.

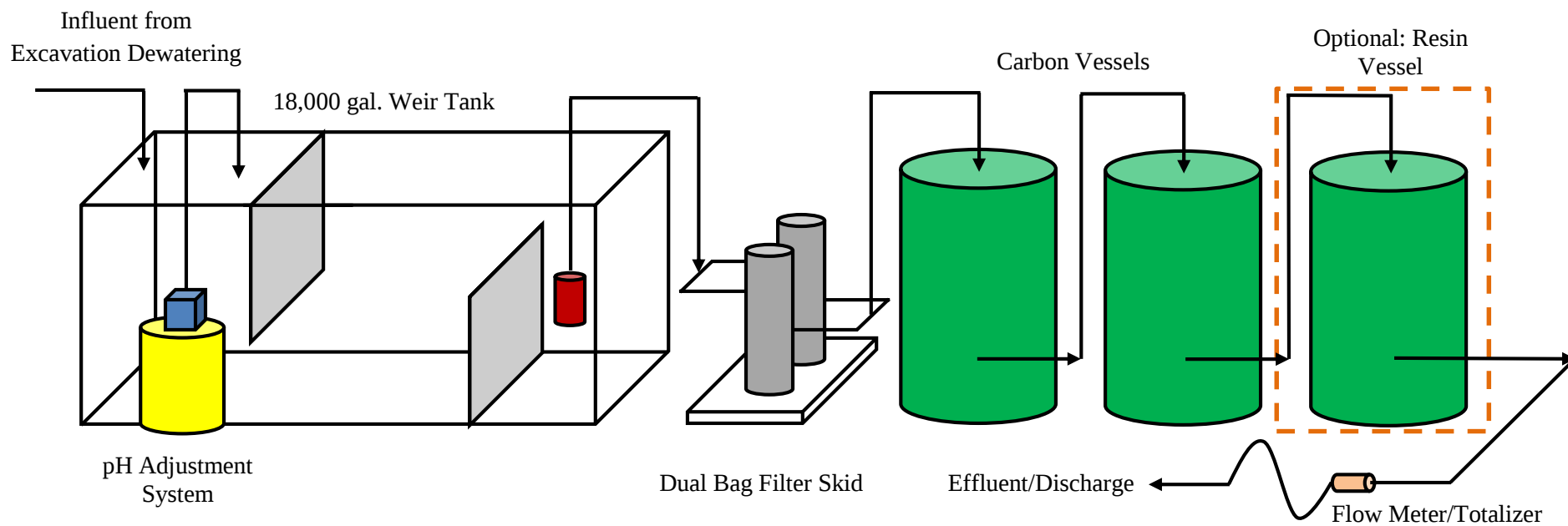
KEY

Approximate Work Area
 Proposed Treatment Discharge Point
 Proposed Discharge Point



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Figure 3 – Proposed Dewatering Discharge Location
 Synergy Investments
 333 Summer Street
 Boston, Massachusetts



Notes:

- 1.) Figure is not to scale.
- 2.) The water treatment system is rated for 100 gallons per minute.
- 3.) All discharge water shall be routed to the treatment system.



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Figure 4 – Proposed System Layout
Synergy Investments
333 Summer Street
Boston, Massachusetts

Appendix 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:

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

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___, if Y, number:_____ 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y___ N___, if Y, date and tracking #:_____ 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y___ N___ 4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___	
e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___ 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: _____	f) Is the site/facility covered by any other EPA permit, including: 1. Multi-Sector General Permit? Y___ N___, if Y, number: _____ 2. Final Dewatering General Permit? Y___ N___, if Y, number: _____ 3. EPA Construction General Permit? Y___ N___, if Y, number: _____ 4. Individual NPDES permit? Y___ N___, if Y, number: _____ 5. Any other water quality related individual or general permit? Y___ N___, if Y, number: _____
g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N___	
h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.	
<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	A. Gasoline Only Sites _____ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) _____ C. Petroleum Sites with Additional Contamination _____
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites _____ B. VOC Sites with Additional Contamination _____ C. Primarily Heavy Metal Sites _____
III - Contaminated Construction Dewatering	A. General Urban Fill Sites _____ B. Known Contaminated Sites _____

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

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

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

3. Contaminant information.

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

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

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

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

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

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

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

⁴The sum of individual phthalate compounds.

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

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

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

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

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:

b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	De-chlorination	Other (please describe):			

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

Average flow rate of discharge _____ gpm Maximum flow rate of treatment system _____ gpm

Design flow rate of treatment system _____ gpm

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

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

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

6. ESA and NHPA Eligibility.

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

- a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?
A ____ B ____ C ____ D ____ E ____ F ____
- 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 ____ 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.

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:	333 Summer Street, Boston, MA
Operator signature:	
Printed Name & Title:	Michael MacInnes of J. Derenzo Co./Project Manager
Date:	4/6/2015

Appendix B
Best Management Practices Plan



89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

BEST MANAGEMENT PRACTICES PLAN
National Pollutant Discharge Elimination System – Remediation General Permit
Temporary Construction Dewatering
333 Summer Street
Boston, Massachusetts

A Notice of Intent (NOI) for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) on behalf of Synergy Investments (Synergy) by Lockwood Remediation Technologies, LLC (LRT) in anticipation of temporary construction site dewatering at 333 Summer Street in Boston, Massachusetts (the Site). This Best Management Practices Plan (BMPP) was prepared in accordance with the general requirements of the NPDES RGP, and related guidance documentation provided by the EPA. The BMPP is included as Appendix B to the NOI and will be posted at the Site during the time of the work as specified in the NOI.

Water Treatment and Management

Construction dewatering will be conducted from sumps located inside the excavations. The treatment system will include a weir tank, pumps, bag filtration, carbon adsorption and optional resin to reduce concentrations of total suspended solids (TSS), semi-volatile organic compounds (SVOCs) and metals. This NOI has been prepared for the management of dewatering from the Site; please refer to Figure 1 Locus Plan for an overview of the immediate area surrounding the Site. The proposed work area is referred to as 333 Summer Street as depicted on Figure 2 Site Plan. The proposed discharge location adjacent to the Site is presented on Figure 3. The proposed treatment system layout is presented on Figure 4.

Discharge Monitoring and Compliance

Routine Operation & Maintenance (O&M) will be completed on the water treatment system. Typical monitoring includes checking the condition of the treatment system and the collection of samples throughout the treatment system to verify the discharge is in compliance with the RGP. In the event that the system effluent is not within the discharge criteria of the RGP, modifications to the treatment system may occur until discharge compliance can be consistently achieved. Please refer to Figure 4 for a layout of the proposed treatment system.

The total monthly discharge will be monitored by a non-resettable flow meter and totalizer. Monthly monitoring reports will be compiled and maintained at the Site. Employees who have direct or indirect responsibility for enduring compliance with the RGP will be trained by the treatment system operator.

Management of Treatment System Materials

Potential sources of pollutants from the Site include TSS, SVOCs and metals. Dewatering effluent will be pumped directly to the treatment system from the excavations via sumps to minimize handling. The general contractor at the Site will establish staging areas on the Site away from the excavations and treatment system. Sediment collected in the frac tank, spent bag filters and spent media used in the treatment system will be characterized and sent to an approved receiving facility for disposal.

Appendix C

Laboratory Data

March 13, 2015

John R. McRobbie
URS - New Hampshire
1155 Elm Street, 4th Floor, Suite 11
Manchester, NH 03101

Project Location: 333 Summer St., Boston
Client Job Number:
Project Number: 39744173.00084
Laboratory Work Order Number: 15C0359

Enclosed are results of analyses for samples received by the laboratory on March 10, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "James Georgantas". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James M. Georgantas
Project Manager

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

URS - New Hampshire
1155 Elm Street, 4th Floor, Suite 11
Manchester, NH 03101
ATTN: John R. McRobbie

REPORT DATE: 3/13/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 39744173.00084

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15C0359

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

PROJECT LOCATION: 333 Summer St., Boston

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GWS-1	15C0359-01	Ground Water		SM21-22 3500 Cr B SM21-22 4500 CL B SM21-22 4500 H B SW-846 6010C SW-846 6020A SW-846 7470A	

CASE NARRATIVE SUMMARY

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

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**

15C0359-01[GWS-1]

SW-846 6020A**Qualifications:****L-07**

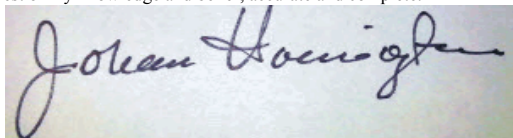
Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**Silver**

B116807-BS1

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

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

Project Location: 333 Summer St., Boston

Sample Description:

Work Order: 15C0359

Date Received: 3/10/2015

Field Sample #: GWS-1

Sampled: 3/10/2015 12:30

Sample ID: 15C0359-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	6.9	1.0	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Arsenic	8.8	0.40	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Chromium	5.2	1.0	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Copper	90	5.0	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Iron	4.4	0.050	mg/L	1		SW-846 6010C	3/11/15	3/12/15 13:03	MJH
Lead	49	1.0	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Mercury	0.00023	0.00010	mg/L	1		SW-846 7470A	3/11/15	3/12/15 10:30	SCB
Nickel	7.1	5.0	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	3/11/15	3/13/15 13:23	KSH
Zinc	140	50	µg/L	5		SW-846 6020A	3/11/15	3/13/15 15:03	KSH

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Project Location: 333 Summer St., Boston

Sample Description:

Work Order: 15C0359

Date Received: 3/10/2015

Field Sample #: GWS-1

Sampled: 3/10/2015 12:30

Sample ID: 15C0359-01

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	460	10	mg/L	10		SM21-22 4500 CL B	3/12/15	3/12/15 15:15	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	3/10/15	3/10/15 20:50	DJM
pH @22.8°C	7.8		pH Units	1	H-05	SM21-22 4500 H B	3/11/15	3/11/15 7:55	LL

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Sample Extraction Data

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0359-01 GWS-1]	B116724	50.0	50.0	03/10/15

SM21-22 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0359-01 GWS-1]	B116917	100	100	03/12/15

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]		Date
15C0359-01 GWS-1]	B116741	50.0		03/11/15

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0359-01 GWS-1]	B116805	50.0	50.0	03/11/15

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0359-01 GWS-1]	B116807	50.0	50.0	03/11/15

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0359-01 GWS-1]	B116754	6.00	6.00	03/11/15

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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 B116754 - SW-846 7470A Prep										
Blank (B116754-BLK1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Mercury	ND	0.00010	mg/L							
LCS (B116754-BS1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Mercury	0.00206	0.00010	mg/L	0.00200		103	80-120			
LCS Dup (B116754-BSD1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Mercury	0.00213	0.00010	mg/L	0.00200		106	80-120	3.28	20	
Batch B116805 - SW-846 3005A										
Blank (B116805-BLK1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Iron	ND	0.050	mg/L							
LCS (B116805-BS1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Iron	2.12	0.050	mg/L	2.00		106	80-120			
LCS Dup (B116805-BSD1)				Prepared: 03/11/15 Analyzed: 03/12/15						
Iron	2.01	0.050	mg/L	2.00		101	80-120	5.35	20	
Batch B116807 - SW-846 3005A										
Blank (B116807-BLK1)				Prepared: 03/11/15 Analyzed: 03/13/15						
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							
Silver	ND	0.50	µg/L							
Zinc	ND	10	µg/L							
LCS (B116807-BS1)				Prepared: 03/11/15 Analyzed: 03/13/15						
Antimony	298	5.0	µg/L	250		119	80-120			
Arsenic	286	2.0	µg/L	250		115	80-120			
Cadmium	293	2.5	µg/L	250		117	80-120			
Chromium	286	5.0	µg/L	250		114	80-120			
Copper	290	25	µg/L	250		116	80-120			
Lead	295	5.0	µg/L	250		118	80-120			
Nickel	282	25	µg/L	250		113	80-120			
Silver	304	2.5	µg/L	250		122 *	80-120			L-07
Zinc	295	50	µg/L	250		118	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
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Batch B116807 - SW-846 3005A

LCS Dup (B116807-BSD1)

Prepared: 03/11/15 Analyzed: 03/13/15

Antimony	285	5.0	µg/L	250		114	80-120	4.32	20	
Arsenic	281	2.0	µg/L	250		112	80-120	1.89	20	
Cadmium	280	2.5	µg/L	250		112	80-120	4.26	20	
Chromium	284	5.0	µg/L	250		114	80-120	0.578	20	
Copper	284	25	µg/L	250		114	80-120	1.98	20	
Lead	286	5.0	µg/L	250		114	80-120	3.18	20	
Nickel	286	25	µg/L	250		114	80-120	1.59	20	
Silver	289	2.5	µg/L	250		116	80-120	4.86	20	
Zinc	290	50	µg/L	250		116	80-120	1.75	20	

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

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 B116724 - SM21-22 3500 Cr B										
Blank (B116724-BLK1)				Prepared & Analyzed: 03/10/15						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B116724-BS1)				Prepared & Analyzed: 03/10/15						
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		108	92.1-114			
LCS Dup (B116724-BSD1)				Prepared & Analyzed: 03/10/15						
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		110	92.1-114	1.26	8.55	
Reference (B116724-SRM1)				Prepared & Analyzed: 03/10/15						
Hexavalent Chromium	0.0945	0.0040	mg/L	0.100		94.5	0-200			
Batch B116741 - SM21-22 4500 H B										
LCS (B116741-BS1)				Prepared & Analyzed: 03/11/15						
pH	5.98		pH Units	6.00		99.7	98.5-102			
Batch B116917 - SM21-22 4500 CL B										
Blank (B116917-BLK1)				Prepared & Analyzed: 03/12/15						
Chloride	ND	1.0	mg/L							
LCS (B116917-BS1)				Prepared & Analyzed: 03/12/15						
Chloride	12	1.0	mg/L	11.8		105	81.5-116			
LCS Dup (B116917-BSD1)				Prepared & Analyzed: 03/12/15						
Chloride	12	1.0	mg/L	11.8		105	81.5-116	0.00	8.97	

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-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.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
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 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
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

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 Public 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

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



Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: AECOM RECEIVED BY: JDL DATE: 3/10/15

- 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 3.4

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 3/10/15 Time 16:25

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		8 oz amber/clear jar	<u>2</u>
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		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:

samples poured off into appropriate sample containers
(see pg 2) (KM)

40 mL vials: # HCl _____ # Methanol _____

Time and Date Frozen: _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpres _____

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)	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.	(KM) X F	rec'd GW sample in 8-oz
16) Proper collection media used.	(KM) X F	amber jars instead of plastic (KM)
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	possibly limited volume (KM)
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?

Log-In Technician Initials: TDL

Date/Time:

Date/Time: 3/10/15 1625

Doc #277 Rev. 4 August 2013

Report Date:
03-Apr-15 09:07



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
Attn: Paul Lockwood

Project: Synergy Investment - Boston, MA
Project #: 2-1240

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC05092-01	Well 033015	Ground Water	30-Mar-15 12:15	31-Mar-15 15:51

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

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



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 24 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 0.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

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

SM4500-Cl-G

Spikes:

1505790-MS1 *Source: SC05092-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Total Residual Chlorine

1505790-MSD1 *Source: SC05092-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Total Residual Chlorine

SW846 8260C

Calibration:

1503080

Analyte quantified by quadratic equation type calibration.

Naphthalene

This affected the following samples:

1505849-BLK1
1505849-BS1
1505849-BSD1
1505849-MS1
1505849-MSD1
S502527-ICV1
S502696-CCV1
Well 033015

S502527-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

o-Xylene (123%)

SW846 8260C

Calibration:

S502527-ICV1

This affected the following samples:

1505849-BLK1
1505849-BS1
1505849-BSD1
1505849-MS1
1505849-MSD1
S502696-CCV1
Well 033015

Laboratory Control Samples:

1505849 BS/BSD

Ethanol percent recoveries (69/66) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

Well 033015

Methylene chloride percent recoveries (67/71) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

Well 033015

Spikes:

1505849-MS1 *Source: SC05092-01*

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Ethanol

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Acetone
Bromomethane
Carbon disulfide
Chloroethane
Chloromethane
Ethyl ether
Methylene chloride
Tert-Butanol / butyl alcohol
Vinyl chloride

1505849-MSD1 *Source: SC05092-01*

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Ethanol

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Acetone
Bromomethane
Carbon disulfide
Chloroethane
Chloromethane
Ethyl ether
Methylene chloride
Tert-Butanol / butyl alcohol
Vinyl chloride

SW846 8260C

Samples:

S502696-CCV1

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

1,1,2,2-Tetrachloroethane (21.3%)
1,1-Dichloroethene (-22.3%)
2,2-Dichloropropane (27.5%)
Acrylonitrile (-33.4%)
Carbon disulfide (-28.3%)
Chloroethane (-31.2%)
Chloromethane (-24.2%)
Ethanol (-31.0%)
Ethyl ether (-28.8%)
Methylene chloride (-33.1%)
Vinyl chloride (-28.2%)

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

Acetone (-28.5%)

This affected the following samples:

1505849-BLK1
1505849-BS1
1505849-BSD1
1505849-MS1
1505849-MSD1
Well 033015

SW846 8270D

Laboratory Control Samples:

LCS-81520

Spike recovery falls outside of the control limit

4-Nitrophenol
Phenol

Samples:

SC05092-01 *Well 033015*

Spike recovery falls outside of the control limit

Phenol-d5

Sample Acceptance Check Form

Client: Lockwood Remediation Technologies, LLC - MA
Project: Synergy Investment - Boston, MA / 2-1240
Work Order: SC05092
Sample(s) received on: 3/31/2015

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☐	☒	☐
Were custody seals intact?	☐	☐	☒
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☒	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☐	☒	☐
Were samples refrigerated upon transfer to laboratory representative?	☐	☒	☐
Were sample containers received intact?	☒	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
Were samples accompanied by a Chain of Custody document?	☒	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☒	☐	☐
Did sample container labels agree with Chain of Custody document?	☒	☐	☐
Were samples received within method-specific holding times?	☒	☐	☐

Sample Identification

Well 033015

SC05092-01

Client Project #

2-1240

Matrix

Ground Water

Collection Date/Time

30-Mar-15 12:15

Received

31-Mar-15

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

Volatile Organic Compounds by SW846 8260

Prepared by method SW846 5030 Water MS

67-64-1	Acetone	< 10.0		µg/l	10.0	2.5	1	SW846 8260C	01-Apr-15	01-Apr-15	GMA	1505849	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.3	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	7.5	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.4	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	22.7	1	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	90			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	100			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	98			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	107			70-130 %			"	"	"	"	"	

Extractable Petroleum Hydrocarbons

Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.2	1	EPA 1664B	01-Apr-15	01-Apr-15	JK	1505820	
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Total Metals by EPA 200/6000 Series Methods

Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			JS	1505764	
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Total Metals by EPA 200 Series Methods

7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0106	1	EPA 200.7	31-Mar-15	01-Apr-15	BJW	1505804	X
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General Chemistry Parameters

7782-50-5	Total Residual Chlorine	< 0.020	CIHT	mg/l	0.020	0.006	1	SM4500-Cl-G	31-Mar-15 17:49	31-Mar-15 20:06	CAA/T	1505790	X
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00442	1	EPA 335.4 / SW846 9012B	01-Apr-15	01-Apr-15	RLT	1505903	X

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

Sample Identification

Well 033015

SC05092-01

Client Project #

2-1240

Matrix

Ground Water

Collection Date/Time

30-Mar-15 12:15

Received

31-Mar-15

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

Total Suspended Solids

22.0

mg/l

5.0

2.8

1

SM2540D

01-Apr-15

02-Apr-15

BD

1505927

X

Subcontracted AnalysesSubcontracted AnalysesPrepared by method SW3510*Analysis performed by Spectrum Analytical, Inc. - North Kingstown, RI*

83-32-9	Acenaphthene	< 0.33	U	ug/L	2.5	0.33	1	SW846 8270D	02-Apr-15	02-Apr-15	MRI90	81520
208-96-8	Acenaphthylene	< 0.21	U	ug/L	2.5	0.21	1					
120-12-7	Anthracene	< 0.24	U	ug/L	2.5	0.24	1					
56-55-3	Benzo(a)anthracene	< 0.20	U	ug/L	2.5	0.20	1					
50-32-8	Benzo(a)pyrene	< 0.60	U	ug/L	2.5	0.60	1					
205-99-2	Benzo(b)fluoranthene	< 0.47	U	ug/L	2.5	0.47	1					
191-24-2	Benzo(g,h,i)perylene	< 0.20	U	ug/L	2.5	0.20	1					
207-08-9	Benzo(k)fluoranthene	< 0.60	U	ug/L	2.5	0.60	1					
117-81-7	Bis(2-ethylhexyl)phthalate	< 0.65	U	ug/L	2.5	0.65	1					
85-68-7	Butylbenzylphthalate	< 0.16	U	ug/L	2.5	0.16	1					
59-50-7	4-Chloro-3-methylphenol	< 0.30	U	ug/L	2.5	0.30	1					
95-57-8	2-Chlorophenol	< 0.31	U	ug/L	2.5	0.31	1					
218-01-9	Chrysene	< 0.21	U	ug/L	2.5	0.21	1					
53-70-3	Dibenzo(a,h)anthracene	< 0.22	U	ug/L	2.5	0.22	1					
120-83-2	2,4-Dichlorophenol	< 0.29	U	ug/L	2.5	0.29	1					
84-66-2	Diethylphthalate	< 0.23	U	ug/L	2.5	0.23	1					
131-11-3	Dimethylphthalate	< 0.19	U	ug/L	2.5	0.19	1					
105-67-9	2,4-Dimethylphenol	< 0.90	U	ug/L	2.5	0.90	1					
84-74-2	Di-n-butylphthalate	0.65	J	ug/L	2.5	0.24	1					
534-52-1	4,6-Dinitro-2-methylphenol	< 0.40	U	ug/L	2.5	0.40	1					
51-28-5	2,4-Dinitrophenol	< 1.8	U	ug/L	2.5	1.8	1					
117-84-0	Di-n-octylphthalate	< 0.24	U	ug/L	2.5	0.24	1					
206-44-0	Fluoranthene	< 0.17	U	ug/L	2.5	0.17	1					
86-73-7	Fluorene	< 0.22	U	ug/L	2.5	0.22	1					
193-39-5	Indeno(1,2,3-cd)pyrene	< 0.19	U	ug/L	2.5	0.19	1					
95-48-7	2-Methylphenol	< 0.48	U	ug/L	2.5	0.48	1					
91-20-3	Naphthalene	< 0.48	U	ug/L	2.5	0.48	1					
88-75-5	2-Nitrophenol	< 0.30	U	ug/L	2.5	0.30	1					
100-02-7	4-Nitrophenol	< 0.27	U	ug/L	10	0.27	1					
87-86-5	Pentachlorophenol	< 0.85	U	ug/L	10	0.85	1					
85-01-8	Phenanthrene	< 0.23	U	ug/L	2.5	0.23	1					
108-95-2	Phenol	< 0.38	U	ug/L	2.5	0.38	1					
129-00-0	Pyrene	< 0.22	U	ug/L	2.5	0.22	1					
95-95-4	2,4,5-Trichlorophenol	< 0.13	U	ug/L	2.5	0.13	1					
88-06-2	2,4,6-Trichlorophenol	< 0.27	U	ug/L	2.5	0.27	1					
111-11-1	3-Methylphenol + 4-Methylphenol	< 0.70	U	ug/L	5.0	0.70	1					

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	80.6			30-130 %
367-12-4	2-Fluorophenol	22.2			15-110 %
4165-60-0	Nitrobenzene-d5	67.1			30-130 %
4165-62-2	Phenol-d5	11.6	S		15-110 %

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Sample Identification

Well 033015

SC05092-01

Client Project #

2-1240

Matrix

Ground Water

Collection Date/Time

30-Mar-15 12:15

Received

31-Mar-15

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

Subcontracted Analyses

Prepared by method SW3510

Analysis performed by Spectrum Analytical, Inc. - North Kingstown, RI

1718-51-0	Terphenyl-d14	69.3			30-130 %			SW846 8270D	02-Apr-15	02-Apr-15	MRI90	81520	
118-79-6	2,4,6-Tribromophenol	71.4			15-110 %								

Subcontracted Analyses

Prepared by method SW3510

Analysis performed by Spectrum Analytical, Inc. - North Kingstown, RI

131-11-3	Dimethylphthalate	< 0.050	U	ug/L	0.50	0.050	1	SW846 8270D SIM			MRI90	81521	
84-66-2	Diethylphthalate	< 0.050	U	ug/L	0.50	0.050	1						
87-86-5	Pentachlorophenol	< 0.028	U	ug/L	0.50	0.028	1						
84-74-2	Di-n-butylphthalate	0.74		ug/L	0.50	0.050	1						
85-68-7	Butylbenzylphthalate	< 0.050	U	ug/L	0.50	0.050	1						
56-55-3	Benzo(a)anthracene	0.075		ug/L	0.050	0.021	1						
218-01-9	Chrysene	0.091		ug/L	0.050	0.037	1						
117-81-7	Bis(2-ethylhexyl)phthalate	< 0.036	U	ug/L	0.50	0.036	1						
117-84-0	Di-n-octylphthalate	< 0.050	U	ug/L	0.50	0.050	1						
205-99-2	Benzo(b)fluoranthene	0.088		ug/L	0.050	0.028	1						
207-08-9	Benzo(k)fluoranthene	0.070		ug/L	0.050	0.010	1						
50-32-8	Benzo(a)pyrene	0.073		ug/L	0.050	0.0085	1						
193-39-5	Indeno(1,2,3-cd)pyrene	0.095		ug/L	0.050	0.0095	1						
53-70-3	Dibenzo(a,h)anthracene	0.054		ug/L	0.050	0.0090	1						

Surrogate recoveries:

205440-82-0	Benzo(e)pyrene-d12	73.8			48-162 %								
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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
Blank (1505849-BLK1)										<u>Prepared & Analyzed: 01-Apr-15</u>
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
Blank (1505849-BLK1)					<u>Prepared & Analyzed: 01-Apr-15</u>					
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	47.0		µg/l		50.0		94	70-130		
Surrogate: Toluene-d8	49.0		µg/l		50.0		98	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.0		µg/l		50.0		96	70-130		
Surrogate: Dibromofluoromethane	51.5		µg/l		50.0		103	70-130		
LCS (1505849-BS1)					<u>Prepared & Analyzed: 01-Apr-15</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	17.7		µg/l		20.0		89	70-130		
Acetone	14.3		µg/l		20.0		72	70-130		
Acrylonitrile	13.3	QC2	µg/l		20.0		67	70-130		
Benzene	20.7		µg/l		20.0		104	70-130		
Bromobenzene	21.7		µg/l		20.0		108	70-130		
Bromochloromethane	20.4		µg/l		20.0		102	70-130		
Bromodichloromethane	19.6		µg/l		20.0		98	70-130		
Bromoform	22.7		µg/l		20.0		114	70-130		
Bromomethane	16.4		µg/l		20.0		82	70-130		
2-Butanone (MEK)	20.3		µg/l		20.0		102	70-130		
n-Butylbenzene	21.8		µg/l		20.0		109	70-130		
sec-Butylbenzene	22.5		µg/l		20.0		113	70-130		
tert-Butylbenzene	22.6		µg/l		20.0		113	70-130		
Carbon disulfide	14.4		µg/l		20.0		72	70-130		
Carbon tetrachloride	22.8		µg/l		20.0		114	70-130		
Chlorobenzene	20.1		µg/l		20.0		101	70-130		
Chloroethane	13.8	QM9	µg/l		20.0		69	70-130		
Chloroform	20.1		µg/l		20.0		101	70-130		
Chloromethane	15.2		µg/l		20.0		76	70-130		
2-Chlorotoluene	22.6		µg/l		20.0		113	70-130		
4-Chlorotoluene	22.4		µg/l		20.0		112	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
LCS (1505849-BS1)	Prepared & Analyzed: 01-Apr-15									
1,2-Dibromo-3-chloropropane	21.2		µg/l		20.0		106	70-130		
Dibromochloromethane	20.6		µg/l		20.0		103	70-130		
1,2-Dibromoethane (EDB)	20.4		µg/l		20.0		102	70-130		
Dibromomethane	19.0		µg/l		20.0		95	70-130		
1,2-Dichlorobenzene	20.2		µg/l		20.0		101	70-130		
1,3-Dichlorobenzene	22.2		µg/l		20.0		111	70-130		
1,4-Dichlorobenzene	19.9		µg/l		20.0		99	70-130		
Dichlorodifluoromethane (Freon12)	20.9		µg/l		20.0		105	70-130		
1,1-Dichloroethane	19.1		µg/l		20.0		95	70-130		
1,2-Dichloroethane	18.2		µg/l		20.0		91	70-130		
1,1-Dichloroethene	15.5		µg/l		20.0		78	70-130		
cis-1,2-Dichloroethene	20.8		µg/l		20.0		104	70-130		
trans-1,2-Dichloroethene	20.1		µg/l		20.0		100	70-130		
1,2-Dichloropropane	19.0		µg/l		20.0		95	70-130		
1,3-Dichloropropane	18.7		µg/l		20.0		93	70-130		
2,2-Dichloropropane	25.5		µg/l		20.0		127	70-130		
1,1-Dichloropropene	21.7		µg/l		20.0		109	70-130		
cis-1,3-Dichloropropene	20.4		µg/l		20.0		102	70-130		
trans-1,3-Dichloropropene	20.2		µg/l		20.0		101	70-130		
Ethylbenzene	21.9		µg/l		20.0		110	70-130		
Hexachlorobutadiene	22.9		µg/l		20.0		114	70-130		
2-Hexanone (MBK)	19.2		µg/l		20.0		96	70-130		
Isopropylbenzene	22.8		µg/l		20.0		114	70-130		
4-Isopropyltoluene	21.1		µg/l		20.0		105	70-130		
Methyl tert-butyl ether	19.8		µg/l		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	19.1		µg/l		20.0		96	70-130		
Methylene chloride	13.4	QM9	µg/l		20.0		67	70-130		
Naphthalene	22.4		µg/l		20.0		112	70-130		
n-Propylbenzene	21.0		µg/l		20.0		105	70-130		
Styrene	23.1		µg/l		20.0		116	70-130		
1,1,1,2-Tetrachloroethane	21.2		µg/l		20.0		106	70-130		
1,1,2,2-Tetrachloroethane	24.3		µg/l		20.0		121	70-130		
Tetrachloroethene	22.3		µg/l		20.0		112	70-130		
Toluene	20.0		µg/l		20.0		100	70-130		
1,2,3-Trichlorobenzene	23.5		µg/l		20.0		118	70-130		
1,2,4-Trichlorobenzene	22.3		µg/l		20.0		111	70-130		
1,3,5-Trichlorobenzene	21.8		µg/l		20.0		109	70-130		
1,1,1-Trichloroethane	22.0		µg/l		20.0		110	70-130		
1,1,2-Trichloroethane	19.8		µg/l		20.0		99	70-130		
Trichloroethene	17.4		µg/l		20.0		87	70-130		
Trichlorofluoromethane (Freon 11)	19.4		µg/l		20.0		97	70-130		
1,2,3-Trichloropropane	19.8		µg/l		20.0		99	70-130		
1,2,4-Trimethylbenzene	21.6		µg/l		20.0		108	70-130		
1,3,5-Trimethylbenzene	21.7		µg/l		20.0		108	70-130		
Vinyl chloride	14.4		µg/l		20.0		72	70-130		
m,p-Xylene	23.4		µg/l		20.0		117	70-130		
o-Xylene	23.8		µg/l		20.0		119	70-130		
Tetrahydrofuran	16.7		µg/l		20.0		84	70-130		
Ethyl ether	14.2		µg/l		20.0		71	70-130		
Tert-amyl methyl ether	19.9		µg/l		20.0		100	70-130		
Ethyl tert-butyl ether	20.7		µg/l		20.0		103	70-130		
Di-isopropyl ether	19.1		µg/l		20.0		96	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
LCS (1505849-BS1)					<u>Prepared & Analyzed: 01-Apr-15</u>					
Tert-Butanol / butyl alcohol	181		µg/l		200		90	70-130		
1,4-Dioxane	211		µg/l		200		105	70-130		
trans-1,4-Dichloro-2-butene	22.4		µg/l		20.0		112	70-130		
Ethanol	276	QC2	µg/l		400		69	70-130		
Surrogate: 4-Bromofluorobenzene	52.3		µg/l		50.0		105	70-130		
Surrogate: Toluene-d8	49.2		µg/l		50.0		98	70-130		
Surrogate: 1,2-Dichloroethane-d4	46.7		µg/l		50.0		93	70-130		
Surrogate: Dibromofluoromethane	50.1		µg/l		50.0		100	70-130		
LCS Dup (1505849-BSD1)					<u>Prepared & Analyzed: 01-Apr-15</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	17.7		µg/l		20.0		89	70-130	0	20
Acetone	14.4		µg/l		20.0		72	70-130	0.6	20
Acrylonitrile	12.8	QC2	µg/l		20.0		64	70-130	4	20
Benzene	20.4		µg/l		20.0		102	70-130	2	20
Bromobenzene	21.2		µg/l		20.0		106	70-130	2	20
Bromochloromethane	20.2		µg/l		20.0		101	70-130	0.7	20
Bromodichloromethane	19.6		µg/l		20.0		98	70-130	0.2	20
Bromoform	23.1		µg/l		20.0		115	70-130	1	20
Bromomethane	15.0		µg/l		20.0		75	70-130	9	20
2-Butanone (MEK)	19.2		µg/l		20.0		96	70-130	6	20
n-Butylbenzene	21.6		µg/l		20.0		108	70-130	0.9	20
sec-Butylbenzene	22.5		µg/l		20.0		113	70-130	0.09	20
tert-Butylbenzene	22.3		µg/l		20.0		112	70-130	0.9	20
Carbon disulfide	15.3		µg/l		20.0		77	70-130	6	20
Carbon tetrachloride	21.8		µg/l		20.0		109	70-130	4	20
Chlorobenzene	19.9		µg/l		20.0		99	70-130	1	20
Chloroethane	14.0		µg/l		20.0		70	70-130	2	20
Chloroform	20.0		µg/l		20.0		100	70-130	0.3	20
Chloromethane	15.3		µg/l		20.0		76	70-130	0.8	20
2-Chlorotoluene	22.2		µg/l		20.0		111	70-130	2	20
4-Chlorotoluene	22.0		µg/l		20.0		110	70-130	2	20
1,2-Dibromo-3-chloropropane	19.6		µg/l		20.0		98	70-130	8	20
Dibromochloromethane	20.6		µg/l		20.0		103	70-130	0.2	20
1,2-Dibromoethane (EDB)	20.2		µg/l		20.0		101	70-130	1	20
Dibromomethane	19.0		µg/l		20.0		95	70-130	0.2	20
1,2-Dichlorobenzene	20.1		µg/l		20.0		100	70-130	0.3	20
1,3-Dichlorobenzene	22.4		µg/l		20.0		112	70-130	0.7	20
1,4-Dichlorobenzene	19.6		µg/l		20.0		98	70-130	2	20
Dichlorodifluoromethane (Freon12)	22.2		µg/l		20.0		111	70-130	6	20
1,1-Dichloroethane	18.5		µg/l		20.0		92	70-130	3	20
1,2-Dichloroethane	17.5		µg/l		20.0		88	70-130	4	20
1,1-Dichloroethene	15.9		µg/l		20.0		79	70-130	2	20
cis-1,2-Dichloroethene	19.9		µg/l		20.0		100	70-130	4	20
trans-1,2-Dichloroethene	19.7		µg/l		20.0		99	70-130	2	20
1,2-Dichloropropane	18.0		µg/l		20.0		90	70-130	5	20
1,3-Dichloropropane	18.6		µg/l		20.0		93	70-130	0.4	20
2,2-Dichloropropane	25.4		µg/l		20.0		127	70-130	0.2	20
1,1-Dichloropropene	21.3		µg/l		20.0		107	70-130	2	20
cis-1,3-Dichloropropene	20.4		µg/l		20.0		102	70-130	0.4	20
trans-1,3-Dichloropropene	20.6		µg/l		20.0		103	70-130	2	20
Ethylbenzene	21.8		µg/l		20.0		109	70-130	0.4	20
Hexachlorobutadiene	23.0		µg/l		20.0		115	70-130	0.6	20

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
LCS Dup (1505849-BSD1)					Prepared & Analyzed: 01-Apr-15					
2-Hexanone (MBK)	18.6		µg/l		20.0		93	70-130	3	20
Isopropylbenzene	22.8		µg/l		20.0		114	70-130	0.4	20
4-Isopropyltoluene	21.3		µg/l		20.0		106	70-130	1	20
Methyl tert-butyl ether	19.8		µg/l		20.0		99	70-130	0.05	20
4-Methyl-2-pentanone (MIBK)	18.9		µg/l		20.0		94	70-130	1	20
Methylene chloride	14.2		µg/l		20.0		71	70-130	6	20
Naphthalene	22.8		µg/l		20.0		114	70-130	2	20
n-Propylbenzene	20.8		µg/l		20.0		104	70-130	1	20
Styrene	23.2		µg/l		20.0		116	70-130	0.2	20
1,1,1,2-Tetrachloroethane	21.5		µg/l		20.0		107	70-130	1	20
1,1,2,2-Tetrachloroethane	23.9		µg/l		20.0		119	70-130	2	20
Tetrachloroethene	21.8		µg/l		20.0		109	70-130	2	20
Toluene	19.6		µg/l		20.0		98	70-130	2	20
1,2,3-Trichlorobenzene	23.6		µg/l		20.0		118	70-130	0.4	20
1,2,4-Trichlorobenzene	22.6		µg/l		20.0		113	70-130	1	20
1,3,5-Trichlorobenzene	22.0		µg/l		20.0		110	70-130	0.7	20
1,1,1-Trichloroethane	21.4		µg/l		20.0		107	70-130	3	20
1,1,2-Trichloroethane	19.5		µg/l		20.0		98	70-130	2	20
Trichloroethene	17.0		µg/l		20.0		85	70-130	2	20
Trichlorofluoromethane (Freon 11)	19.4		µg/l		20.0		97	70-130	0.05	20
1,2,3-Trichloropropane	20.3		µg/l		20.0		101	70-130	2	20
1,2,4-Trimethylbenzene	21.4		µg/l		20.0		107	70-130	0.9	20
1,3,5-Trimethylbenzene	21.6		µg/l		20.0		108	70-130	0.3	20
Vinyl chloride	14.8		µg/l		20.0		74	70-130	3	20
m,p-Xylene	23.5		µg/l		20.0		117	70-130	0.5	20
o-Xylene	24.4		µg/l		20.0		122	70-130	2	20
Tetrahydrofuran	17.1		µg/l		20.0		86	70-130	3	20
Ethyl ether	14.2		µg/l		20.0		71	70-130	0.5	20
Tert-amyl methyl ether	19.4		µg/l		20.0		97	70-130	2	20
Ethyl tert-butyl ether	20.7		µg/l		20.0		103	70-130	0	20
Di-isopropyl ether	19.1		µg/l		20.0		95	70-130	0.2	20
Tert-Butanol / butyl alcohol	160		µg/l		200		80	70-130	12	20
1,4-Dioxane	212		µg/l		200		106	70-130	0.7	20
trans-1,4-Dichloro-2-butene	21.6		µg/l		20.0		108	70-130	4	20
Ethanol	264	QC2	µg/l		400		66	70-130	4	20
Surrogate: 4-Bromofluorobenzene	52.3		µg/l		50.0		105	70-130		
Surrogate: Toluene-d8	49.4		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	46.4		µg/l		50.0		93	70-130		
Surrogate: Dibromofluoromethane	50.4		µg/l		50.0		101	70-130		
Matrix Spike (1505849-MS1)					Source: SC05092-01					
					Prepared & Analyzed: 01-Apr-15					
1,1,2-Trichlorotrifluoroethane (Freon 113)	17.6	D	µg/l		20.0	BRL	88	70-130		
Acetone	12.0	QM7, D	µg/l		20.0	BRL	60	70-130		
Acrylonitrile	10.8	QC2, D	µg/l		20.0	BRL	54	70-130		
Benzene	20.0	D	µg/l		20.0	BRL	100	70-130		
Bromobenzene	21.6	D	µg/l		20.0	BRL	108	70-130		
Bromochloromethane	19.4	D	µg/l		20.0	BRL	97	70-130		
Bromodichloromethane	19.7	D	µg/l		20.0	BRL	98	70-130		
Bromoform	22.9	D	µg/l		20.0	BRL	114	70-130		
Bromomethane	13.4	QM7, D	µg/l		20.0	BRL	67	70-130		
2-Butanone (MEK)	18.8	D	µg/l		20.0	BRL	94	70-130		
n-Butylbenzene	22.0	D	µg/l		20.0	BRL	110	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
Matrix Spike (1505849-MS1)	Source: SC05092-01				Prepared & Analyzed: 01-Apr-15					
sec-Butylbenzene	22.8	D	µg/l		20.0	BRL	114	70-130		
tert-Butylbenzene	23.0	D	µg/l		20.0	BRL	115	70-130		
Carbon disulfide	13.3	QM7, D	µg/l		20.0	BRL	67	70-130		
Carbon tetrachloride	23.0	D	µg/l		20.0	BRL	115	70-130		
Chlorobenzene	20.3	D	µg/l		20.0	BRL	101	70-130		
Chloroethane	12.8	QM7, D	µg/l		20.0	BRL	64	70-130		
Chloroform	20.2	D	µg/l		20.0	BRL	101	70-130		
Chloromethane	10.9	QM7, D	µg/l		20.0	BRL	55	70-130		
2-Chlorotoluene	22.5	D	µg/l		20.0	BRL	113	70-130		
4-Chlorotoluene	22.0	D	µg/l		20.0	BRL	110	70-130		
1,2-Dibromo-3-chloropropane	19.9	D	µg/l		20.0	BRL	100	70-130		
Dibromochloromethane	21.0	D	µg/l		20.0	BRL	105	70-130		
1,2-Dibromoethane (EDB)	19.4	D	µg/l		20.0	BRL	97	70-130		
Dibromomethane	18.5	D	µg/l		20.0	BRL	92	70-130		
1,2-Dichlorobenzene	20.1	D	µg/l		20.0	BRL	100	70-130		
1,3-Dichlorobenzene	22.5	D	µg/l		20.0	BRL	113	70-130		
1,4-Dichlorobenzene	19.5	D	µg/l		20.0	BRL	98	70-130		
Dichlorodifluoromethane (Freon12)	16.4	D	µg/l		20.0	BRL	82	70-130		
1,1-Dichloroethane	18.5	D	µg/l		20.0	BRL	93	70-130		
1,2-Dichloroethane	17.5	D	µg/l		20.0	BRL	88	70-130		
1,1-Dichloroethene	15.1	D	µg/l		20.0	BRL	75	70-130		
cis-1,2-Dichloroethene	19.9	D	µg/l		20.0	BRL	100	70-130		
trans-1,2-Dichloroethene	19.4	D	µg/l		20.0	BRL	97	70-130		
1,2-Dichloropropane	18.0	D	µg/l		20.0	BRL	90	70-130		
1,3-Dichloropropane	18.4	D	µg/l		20.0	BRL	92	70-130		
2,2-Dichloropropane	26.0	D	µg/l		20.0	BRL	130	70-130		
1,1-Dichloropropene	21.4	D	µg/l		20.0	BRL	107	70-130		
cis-1,3-Dichloropropene	20.4	D	µg/l		20.0	BRL	102	70-130		
trans-1,3-Dichloropropene	20.0	D	µg/l		20.0	BRL	100	70-130		
Ethylbenzene	22.0	D	µg/l		20.0	BRL	110	70-130		
Hexachlorobutadiene	23.4	D	µg/l		20.0	BRL	117	70-130		
2-Hexanone (MBK)	17.1	D	µg/l		20.0	BRL	86	70-130		
Isopropylbenzene	23.3	D	µg/l		20.0	BRL	117	70-130		
4-Isopropyltoluene	21.1	D	µg/l		20.0	BRL	106	70-130		
Methyl tert-butyl ether	19.2	D	µg/l		20.0	BRL	96	70-130		
4-Methyl-2-pentanone (MIBK)	17.7	D	µg/l		20.0	BRL	88	70-130		
Methylene chloride	12.9	QM7, D	µg/l		20.0	BRL	65	70-130		
Naphthalene	21.1	D	µg/l		20.0	BRL	105	70-130		
n-Propylbenzene	21.2	D	µg/l		20.0	BRL	106	70-130		
Styrene	23.0	D	µg/l		20.0	BRL	115	70-130		
1,1,1,2-Tetrachloroethane	21.6	D	µg/l		20.0	BRL	108	70-130		
1,1,2,2-Tetrachloroethane	24.9	D	µg/l		20.0	BRL	125	70-130		
Tetrachloroethene	22.6	D	µg/l		20.0	BRL	113	70-130		
Toluene	19.8	D	µg/l		20.0	BRL	99	70-130		
1,2,3-Trichlorobenzene	22.9	D	µg/l		20.0	BRL	114	70-130		
1,2,4-Trichlorobenzene	22.5	D	µg/l		20.0	BRL	112	70-130		
1,3,5-Trichlorobenzene	22.0	D	µg/l		20.0	BRL	110	70-130		
1,1,1-Trichloroethane	21.8	D	µg/l		20.0	BRL	109	70-130		
1,1,2-Trichloroethane	19.4	D	µg/l		20.0	BRL	97	70-130		
Trichloroethene	16.4	D	µg/l		20.0	BRL	82	70-130		
Trichlorofluoromethane (Freon 11)	18.7	D	µg/l		20.0	BRL	94	70-130		
1,2,3-Trichloropropane	19.9	D	µg/l		20.0	BRL	100	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
Matrix Spike (1505849-MS1)	Source: SC05092-01				Prepared & Analyzed: 01-Apr-15					
1,2,4-Trimethylbenzene	21.9	D	µg/l		20.0	BRL	109	70-130		
1,3,5-Trimethylbenzene	22.0	D	µg/l		20.0	BRL	110	70-130		
Vinyl chloride	12.5	QM7, D	µg/l		20.0	BRL	62	70-130		
m,p-Xylene	23.5	D	µg/l		20.0	BRL	117	70-130		
o-Xylene	24.2	D	µg/l		20.0	BRL	121	70-130		
Tetrahydrofuran	15.8	D	µg/l		20.0	BRL	79	70-130		
Ethyl ether	13.0	QM7, D	µg/l		20.0	BRL	65	70-130		
Tert-amyl methyl ether	18.7	D	µg/l		20.0	BRL	93	70-130		
Ethyl tert-butyl ether	20.2	D	µg/l		20.0	BRL	101	70-130		
Di-isopropyl ether	17.9	D	µg/l		20.0	BRL	89	70-130		
Tert-Butanol / butyl alcohol	137	QM7, D	µg/l		200	BRL	68	70-130		
1,4-Dioxane	187	D	µg/l		200	BRL	94	70-130		
trans-1,4-Dichloro-2-butene	20.9	D	µg/l		20.0	BRL	104	70-130		
Ethanol	212	QC2, D	µg/l		400	BRL	53	70-130		
Surrogate: 4-Bromofluorobenzene	53.3		µg/l		50.0		107	70-130		
Surrogate: Toluene-d8	48.9		µg/l		50.0		98	70-130		
Surrogate: 1,2-Dichloroethane-d4	45.0		µg/l		50.0		90	70-130		
Surrogate: Dibromofluoromethane	50.8		µg/l		50.0		102	70-130		
Matrix Spike Dup (1505849-MSD1)	Source: SC05092-01				Prepared & Analyzed: 01-Apr-15					
1,1,2-Trichlorotrifluoroethane (Freon 113)	16.3	D	µg/l		20.0	BRL	82	70-130	8	20
Acetone	13.2	QM7, D	µg/l		20.0	BRL	66	70-130	9	20
Acrylonitrile	11.8	QC2, D	µg/l		20.0	BRL	59	70-130	9	20
Benzene	19.6	D	µg/l		20.0	BRL	98	70-130	2	20
Bromobenzene	22.1	D	µg/l		20.0	BRL	110	70-130	2	20
Bromochloromethane	20.1	D	µg/l		20.0	BRL	100	70-130	3	20
Bromodichloromethane	20.0	D	µg/l		20.0	BRL	100	70-130	2	20
Bromoform	24.1	D	µg/l		20.0	BRL	120	70-130	5	20
Bromomethane	13.2	QM7, D	µg/l		20.0	BRL	66	70-130	1	20
2-Butanone (MEK)	19.4	D	µg/l		20.0	BRL	97	70-130	3	20
n-Butylbenzene	21.8	D	µg/l		20.0	BRL	109	70-130	0.6	20
sec-Butylbenzene	22.8	D	µg/l		20.0	BRL	114	70-130	0.2	20
tert-Butylbenzene	22.8	D	µg/l		20.0	BRL	114	70-130	0.8	20
Carbon disulfide	13.2	QM7, D	µg/l		20.0	BRL	66	70-130	1	20
Carbon tetrachloride	22.8	D	µg/l		20.0	BRL	114	70-130	0.9	20
Chlorobenzene	20.4	D	µg/l		20.0	BRL	102	70-130	0.6	20
Chloroethane	12.4	QM7, D	µg/l		20.0	BRL	62	70-130	3	20
Chloroform	19.8	D	µg/l		20.0	BRL	99	70-130	2	20
Chloromethane	10.4	QM7, D	µg/l		20.0	BRL	52	70-130	5	20
2-Chlorotoluene	22.1	D	µg/l		20.0	BRL	110	70-130	2	20
4-Chlorotoluene	22.1	D	µg/l		20.0	BRL	110	70-130	0.3	20
1,2-Dibromo-3-chloropropane	20.9	D	µg/l		20.0	BRL	104	70-130	5	20
Dibromochloromethane	21.0	D	µg/l		20.0	BRL	105	70-130	0.3	20
1,2-Dibromoethane (EDB)	19.8	D	µg/l		20.0	BRL	99	70-130	2	20
Dibromomethane	18.5	D	µg/l		20.0	BRL	92	70-130	0	20
1,2-Dichlorobenzene	20.5	D	µg/l		20.0	BRL	102	70-130	2	20
1,3-Dichlorobenzene	22.9	D	µg/l		20.0	BRL	115	70-130	2	20
1,4-Dichlorobenzene	19.6	D	µg/l		20.0	BRL	98	70-130	0.4	20
Dichlorodifluoromethane (Freon12)	15.2	D	µg/l		20.0	BRL	76	70-130	8	20
1,1-Dichloroethane	18.3	D	µg/l		20.0	BRL	92	70-130	1	20
1,2-Dichloroethane	17.5	D	µg/l		20.0	BRL	88	70-130	0.2	20
1,1-Dichloroethene	14.3	D	µg/l		20.0	BRL	72	70-130	5	20

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505849 - SW846 5030 Water MS										
Matrix Spike Dup (1505849-MSD1)	Source: SC05092-01				Prepared & Analyzed: 01-Apr-15					
cis-1,2-Dichloroethene	19.6	D	µg/l		20.0	BRL	98	70-130	2	20
trans-1,2-Dichloroethene	18.5	D	µg/l		20.0	BRL	92	70-130	5	20
1,2-Dichloropropane	17.7	D	µg/l		20.0	BRL	88	70-130	2	20
1,3-Dichloropropane	18.6	D	µg/l		20.0	BRL	93	70-130	1	20
2,2-Dichloropropane	25.0	D	µg/l		20.0	BRL	125	70-130	4	20
1,1-Dichloropropene	21.0	D	µg/l		20.0	BRL	105	70-130	2	20
cis-1,3-Dichloropropene	20.0	D	µg/l		20.0	BRL	100	70-130	2	20
trans-1,3-Dichloropropene	20.3	D	µg/l		20.0	BRL	102	70-130	2	20
Ethylbenzene	22.0	D	µg/l		20.0	BRL	110	70-130	0.2	20
Hexachlorobutadiene	23.7	D	µg/l		20.0	BRL	118	70-130	1	20
2-Hexanone (MBK)	18.2	D	µg/l		20.0	BRL	91	70-130	6	20
Isopropylbenzene	22.9	D	µg/l		20.0	BRL	114	70-130	2	20
4-Isopropyltoluene	21.0	D	µg/l		20.0	BRL	105	70-130	0.4	20
Methyl tert-butyl ether	19.5	D	µg/l		20.0	BRL	97	70-130	1	20
4-Methyl-2-pentanone (MIBK)	18.5	D	µg/l		20.0	BRL	93	70-130	5	20
Methylene chloride	12.8	QM7, D	µg/l		20.0	BRL	64	70-130	0.9	20
Naphthalene	22.6	D	µg/l		20.0	BRL	113	70-130	7	20
n-Propylbenzene	20.9	D	µg/l		20.0	BRL	105	70-130	1	20
Styrene	23.4	D	µg/l		20.0	BRL	117	70-130	2	20
1,1,1,2-Tetrachloroethane	21.9	D	µg/l		20.0	BRL	110	70-130	1	20
1,1,2,2-Tetrachloroethane	25.7	D	µg/l		20.0	BRL	128	70-130	3	20
Tetrachloroethene	22.0	D	µg/l		20.0	BRL	110	70-130	2	20
Toluene	19.8	D	µg/l		20.0	BRL	99	70-130	0.2	20
1,2,3-Trichlorobenzene	23.8	D	µg/l		20.0	BRL	119	70-130	4	20
1,2,4-Trichlorobenzene	23.4	D	µg/l		20.0	BRL	117	70-130	4	20
1,3,5-Trichlorobenzene	22.6	D	µg/l		20.0	BRL	113	70-130	2	20
1,1,1-Trichloroethane	21.1	D	µg/l		20.0	BRL	106	70-130	3	20
1,1,2-Trichloroethane	19.0	D	µg/l		20.0	BRL	95	70-130	2	20
Trichloroethene	16.1	D	µg/l		20.0	BRL	81	70-130	2	20
Trichlorofluoromethane (Freon 11)	17.5	D	µg/l		20.0	BRL	88	70-130	7	20
1,2,3-Trichloropropane	20.3	D	µg/l		20.0	BRL	101	70-130	2	20
1,2,4-Trimethylbenzene	21.6	D	µg/l		20.0	BRL	108	70-130	1	20
1,3,5-Trimethylbenzene	21.9	D	µg/l		20.0	BRL	110	70-130	0.09	20
Vinyl chloride	12.2	QM7, D	µg/l		20.0	BRL	61	70-130	2	20
m,p-Xylene	23.4	D	µg/l		20.0	BRL	117	70-130	0.04	20
o-Xylene	24.0	D	µg/l		20.0	BRL	120	70-130	0.6	20
Tetrahydrofuran	15.8	D	µg/l		20.0	BRL	79	70-130	0.4	20
Ethyl ether	12.9	QM7, D	µg/l		20.0	BRL	64	70-130	1	20
Tert-amyl methyl ether	18.9	D	µg/l		20.0	BRL	94	70-130	1	20
Ethyl tert-butyl ether	20.5	D	µg/l		20.0	BRL	103	70-130	2	20
Di-isopropyl ether	18.2	D	µg/l		20.0	BRL	91	70-130	2	20
Tert-Butanol / butyl alcohol	129	QM7, D	µg/l		200	BRL	65	70-130	6	20
1,4-Dioxane	209	D	µg/l		200	BRL	104	70-130	11	20
trans-1,4-Dichloro-2-butene	23.1	D	µg/l		20.0	BRL	115	70-130	10	20
Ethanol	241	QC2, D	µg/l		400	BRL	60	70-130	13	20
Surrogate: 4-Bromofluorobenzene	53.7		µg/l		50.0		107	70-130		
Surrogate: Toluene-d8	49.7		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	46.8		µg/l		50.0		94	70-130		
Surrogate: Dibromofluoromethane	50.6		µg/l		50.0		101	70-130		

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Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505820 - SW846 3510C										
<u>Blank (1505820-BLK1)</u>								<u>Prepared & Analyzed: 01-Apr-15</u>		
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
<u>LCS (1505820-BS1)</u>								<u>Prepared & Analyzed: 01-Apr-15</u>		
Non-polar material (SGT-HEM)	19.5		mg/l	1.0	22.4		87	83-101		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505804 - SW846 3005A										
<u>Blank (1505804-BLK1)</u>										
Selenium	< 0.0150		mg/l	0.0150						
<u>LCS (1505804-BS1)</u>										
Selenium	1.28		mg/l	0.0150	1.25		103	85-115		
<u>Duplicate (1505804-DUP1)</u>										
Selenium	< 0.0150		mg/l	0.0150		BRL				20
<u>Matrix Spike (1505804-MS1)</u>										
Selenium	1.32		mg/l	0.0150	1.25	BRL	106	70-130		
<u>Post Spike (1505804-PS1)</u>										
Selenium	1.24		mg/l	0.0150	1.25	BRL	100	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1505790 - General Preparation										
<u>Blank (1505790-BLK1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	< 0.020		mg/l	0.020						
<u>LCS (1505790-BS1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	0.053		mg/l	0.020	0.0500		105	90-110		
<u>Duplicate (1505790-DUP1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	< 0.020		mg/l	0.020		BRL				20
<u>Matrix Spike (1505790-MS1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	0.037	QM7	mg/l	0.020	0.0500	BRL	74	80-120		
<u>Matrix Spike Dup (1505790-MSD1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	0.034	QM7	mg/l	0.020	0.0500	BRL	68	80-120	7	200
<u>Reference (1505790-SRM1)</u>						<u>Prepared & Analyzed: 31-Mar-15</u>				
Total Residual Chlorine	0.110		mg/l	0.020	0.110		100	85-115		
Batch 1505903 - General Preparation										
<u>Blank (1505903-BLK1)</u>						<u>Prepared & Analyzed: 01-Apr-15</u>				
Cyanide (total)	< 0.00500		mg/l	0.00500						
<u>Blank (1505903-BLK2)</u>						<u>Prepared & Analyzed: 01-Apr-15</u>				
Cyanide (total)	< 0.00500		mg/l	0.00500						
<u>LCS (1505903-BS1)</u>						<u>Prepared & Analyzed: 01-Apr-15</u>				
Cyanide (total)	0.298		mg/l	0.00500	0.300		99	90-110		
<u>LCS (1505903-BS2)</u>						<u>Prepared & Analyzed: 01-Apr-15</u>				
Cyanide (total)	0.298		mg/l	0.00500	0.300		99	90-110		
<u>Reference (1505903-SRM1)</u>						<u>Prepared & Analyzed: 01-Apr-15</u>				
Cyanide (total)	0.210		mg/l	0.00500	0.270		78	65-135		
Batch 1505927 - General Preparation										
<u>Blank (1505927-BLK1)</u>						<u>Prepared: 01-Apr-15 Analyzed: 02-Apr-15</u>				
Total Suspended Solids	< 5.0		mg/l	5.0						
<u>LCS (1505927-BS1)</u>						<u>Prepared: 01-Apr-15 Analyzed: 02-Apr-15</u>				
Total Suspended Solids	110		mg/l	50.0	100		110	90-110		

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Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 81520 - SW3510										
LCS (LCS-81520)					<u>Prepared & Analyzed: 02-Apr-15</u>					
Acenaphthene	19.60		ug/L	2.5	25.00		78.4	40-140		
Acenaphthylene	19.76		ug/L	2.5	25.00		79.0	40-140		
Anthracene	19.91		ug/L	2.5	25.00		79.6	40-140		
Benzo(a)anthracene	20.56		ug/L	2.5	25.00		82.2	40-140		
Benzo(a)pyrene	20.47		ug/L	2.5	25.00		81.9	40-140		
Benzo(b)fluoranthene	18.64		ug/L	2.5	25.00		74.6	40-140		
Benzo(g,h,i)perylene	19.99		ug/L	2.5	25.00		80.0	40-140		
Benzo(k)fluoranthene	21.39		ug/L	2.5	25.00		85.6	40-140		
Bis(2-ethylhexyl)phthalate	19.80		ug/L	2.5	25.00		79.2	40-140		
Butylbenzylphthalate	19.96		ug/L	2.5	25.00		79.8	40-140		
4-Chloro-3-methylphenol	11.89		ug/L	2.5	25.00		47.6	30-130		
2-Chlorophenol	12.79		ug/L	2.5	25.00		51.2	30-130		
Chrysene	23.32		ug/L	2.5	25.00		93.3	40-140		
Dibenzo(a,h)anthracene	20.72		ug/L	2.5	25.00		82.9	40-140		
2,4-Dichlorophenol	14.62		ug/L	2.5	25.00		58.5	30-130		
Diethylphthalate	18.51		ug/L	2.5	25.00		74.1	40-140		
Dimethylphthalate	18.59		ug/L	2.5	25.00		74.4	40-140		
2,4-Dimethylphenol	12.50		ug/L	2.5	25.00		50.0	30-130		
Di-n-butylphthalate	19.25		ug/L	2.5	25.00		77.0	40-140		
4,6-Dinitro-2-methylphenol	14.42		ug/L	2.5	25.00		57.7	30-130		
2,4-Dinitrophenol	13.46		ug/L	2.5	25.00		53.8	30-130		
Di-n-octylphthalate	19.06		ug/L	2.5	25.00		76.2	40-140		
Fluoranthene	18.96		ug/L	2.5	25.00		75.9	40-140		
Fluorene	19.29		ug/L	2.5	25.00		77.1	40-140		
Indeno(1,2,3-cd)pyrene	20.47		ug/L	2.5	25.00		81.9	40-140		
2-Methylphenol	9.694		ug/L	2.5	25.00		38.8	30-130		
Naphthalene	18.89		ug/L	2.5	25.00		75.5	40-140		
2-Nitrophenol	16.61		ug/L	2.5	25.00		66.5	30-130		
4-Nitrophenol	2.129	J, S	ug/L	10	25.00		8.52	30-130		
Pentachlorophenol	13.66		ug/L	10	25.00		54.6	30-130		
Phenanthrene	20.36		ug/L	2.5	25.00		81.4	40-140		
Phenol	2.724	S	ug/L	2.5	25.00		10.9	30-130		
Pyrene	21.06		ug/L	2.5	25.00		84.3	40-140		
2,4,5-Trichlorophenol	16.47		ug/L	2.5	25.00		65.9	30-130		
2,4,6-Trichlorophenol	15.57		ug/L	2.5	25.00		62.3	30-130		
3-Methylphenol + 4-Methylphenol	8.379		ug/L	5.0	25.00		33.5	30-130		
Surrogate: 2-Fluorobiphenyl	21.03		ug/L		25.00		84.1	30-130		
Surrogate: 2-Fluorophenol	5.238		ug/L		25.00		21.0	15-110		
Surrogate: Nitrobenzene-d5	17.89		ug/L		25.00		71.6	30-130		
Surrogate: Phenol-d5	3.801		ug/L		25.00		15.2	15-110		
Surrogate: Terphenyl-d14	23.05		ug/L		25.00		92.2	30-130		
Surrogate: 2,4,6-Tribromophenol	18.50		ug/L		25.00		74.0	15-110		
Blank (MB-81520)					<u>Prepared & Analyzed: 02-Apr-15</u>					
Acenaphthene	< 0.33	U	ug/L	0.33				-		
Acenaphthylene	< 0.21	U	ug/L	0.21				-		
Anthracene	< 0.24	U	ug/L	0.24				-		
Benzo(a)anthracene	< 0.20	U	ug/L	0.20				-		
Benzo(a)pyrene	< 0.60	U	ug/L	0.60				-		
Benzo(b)fluoranthene	< 0.47	U	ug/L	0.47				-		
Benzo(g,h,i)perylene	< 0.20	U	ug/L	0.20				-		
Benzo(k)fluoranthene	< 0.60	U	ug/L	0.60				-		

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Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 81520 - SW3510										
Blank (MB-81520)	<u>Prepared & Analyzed: 02-Apr-15</u>									
Bis(2-ethylhexyl)phthalate	< 0.65	U	ug/L	0.65				-		
Butylbenzylphthalate	< 0.16	U	ug/L	0.16				□		
4-Chloro-3-methylphenol	< 0.30	U	ug/L	0.30				□		
2-Chlorophenol	< 0.31	U	ug/L	0.31				-		
Chrysene	< 0.21	U	ug/L	0.21				□		
Dibenzo(a,h)anthracene	< 0.22	U	ug/L	0.22				□		
2,4-Dichlorophenol	< 0.29	U	ug/L	0.29				-		
Diethylphthalate	< 0.23	U	ug/L	0.23				-		
Dimethylphthalate	< 0.19	U	ug/L	0.19				□		
2,4-Dimethylphenol	< 0.90	U	ug/L	0.90				□		
Di-n-butylphthalate	< 0.24	U	ug/L	0.24				□		
4,6-Dinitro-2-methylphenol	< 0.40	U	ug/L	0.40				□		
2,4-Dinitrophenol	< 1.8	U	ug/L	1.8				□		
Di-n-octylphthalate	< 0.24	U	ug/L	0.24				-		
Fluoranthene	< 0.17	U	ug/L	0.17				-		
Fluorene	< 0.22	U	ug/L	0.22				□		
Indeno(1,2,3-cd)pyrene	< 0.19	U	ug/L	0.19				□		
2-Methylphenol	< 0.48	U	ug/L	0.48				□		
Naphthalene	< 0.48	U	ug/L	0.48				□		
2-Nitrophenol	< 0.30	U	ug/L	0.30				□		
4-Nitrophenol	< 0.27	U	ug/L	0.27				-		
Pentachlorophenol	< 0.85	U	ug/L	0.85				-		
Phenanthrene	< 0.23	U	ug/L	0.23				□		
Phenol	< 0.38	U	ug/L	0.38				-		
Pyrene	< 0.22	U	ug/L	0.22				□		
2,4,5-Trichlorophenol	< 0.13	U	ug/L	0.13				□		
2,4,6-Trichlorophenol	< 0.27	U	ug/L	0.27				□		
3-Methylphenol + 4-Methylphenol	< 0.70	U	ug/L	0.70				□		
Surrogate: 2-Fluorobiphenyl	56.35		ug/L		50.00		113	30-130		
Surrogate: 2-Fluorophenol	52.53		ug/L		50.00		105	15-110		
Surrogate: Nitrobenzene-d5	43.28		ug/L		50.00		86.6	30-130		
Surrogate: Phenol-d5	40.93		ug/L		50.00		81.9	15-110		
Surrogate: Terphenyl-d14	62.20		ug/L		50.00		124	30-130		
Surrogate: 2,4,6-Tribromophenol	54.08		ug/L		50.00		108	15-110		
Batch 81521 - SW3510										
LCS (LCS-81521)	<u>Prepared & Analyzed: 02-Apr-15</u>									
Dimethylphthalate	1.856		ug/L	0.50	2.500		74.2	45-135		
Diethylphthalate	1.933		ug/L	0.50	2.500		77.3	45-135		
Pentachlorophenol	1.770		ug/L	0.50	2.500		70.8	10-150		
Di-n-butylphthalate	2.028		ug/L	0.50	2.500		81.1	45-135		
Butylbenzylphthalate	2.043		ug/L	0.50	2.500		81.7	45-135		
Benzo(a)anthracene	1.723		ug/L	0.050	2.500		68.9	58-112		
Chrysene	2.042		ug/L	0.050	2.500		81.7	64-110		
Bis(2-ethylhexyl)phthalate	1.973		ug/L	0.50	2.500		78.9	45-135		
Di-n-octylphthalate	1.931		ug/L	0.50	2.500		77.2	45-135		
Benzo(b)fluoranthene	1.900		ug/L	0.050	2.500		76.0	61-130		
Benzo(k)fluoranthene	1.707		ug/L	0.050	2.500		68.3	62-131		
Benzo(a)pyrene	1.715		ug/L	0.050	2.500		68.6	66-114		
Indeno(1,2,3-cd)pyrene	1.619		ug/L	0.050	2.500		64.7	52-142		
Dibenzo(a,h)anthracene	1.530		ug/L	0.050	2.500		61.2	49-143		
Surrogate: Benzo(e)pyrene-d12	1.664		ug/L		2.500		66.5	48-162		

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Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 81521 - SW3510										
Blank (MB-81521)	<u>Prepared & Analyzed: 02-Apr-15</u>									
Dimethylphthalate	< 0.050	U	ug/L	0.050				-		
Diethylphthalate	< 0.050	U	ug/L	0.050				-		
Pentachlorophenol	< 0.028	U	ug/L	0.028				□		
Di-n-butylphthalate	< 0.050	U	ug/L	0.050				-		
Butylbenzylphthalate	< 0.050	U	ug/L	0.050				□		
Benzo(a)anthracene	< 0.021	U	ug/L	0.021				-		
Chrysene	< 0.037	U	ug/L	0.037				□		
Bis(2-ethylhexyl)phthalate	< 0.036	U	ug/L	0.036				□		
Di-n-octylphthalate	< 0.050	U	ug/L	0.050				□		
Benzo(b)fluoranthene	< 0.028	U	ug/L	0.028				□		
Benzo(k)fluoranthene	< 0.010	U	ug/L	0.010				□		
Benzo(a)pyrene	< 0.0085	U	ug/L	0.0085				□		
Indeno(1,2,3-cd)pyrene	< 0.0095	U	ug/L	0.0095				□		
Dibenzo(a,h)anthracene	< 0.0090	U	ug/L	0.0090				□		
<i>Surrogate: Benzo(e)pyrene-d12</i>	<i>2.300</i>		<i>ug/L</i>		<i>2.500</i>		<i>92.0</i>	<i>48-162</i>		

Notes and Definitions

D	Data reported from a dilution
J	Reading was less than the PQL but greater than the MDL or Estimated concentration for Tentatively Identified Compound
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
S	Spike recovery falls outside of the control limit
U	Compound not detected below method detection limit at or above the MRL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
CIHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

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

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

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

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

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

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

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

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

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

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

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

Validated by:
Nicole Leja

✓ 3005092 AME



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HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 4/2/15

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: Lockwood Remediation Tech.
89 Crawford St.
Leominster, MA 01453

Invoice To: LRT
89 Crawford St.
Leominster, MA 01453

Project No: 2-1240

Site Name: Synergy Investment

Location: 333 Summer St. Boston State: MA

Sampler(s): BW

Telephone #: 774-450-7177

Project Mgr: Paul Lockwood

P.O No.: 2-1240 Quote/RQN: _____

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

List Preservative Code below:

3 2 5 4

QA/QC Reporting Notes:

* additional charges may apply

MA DEP MCP CAM Report? ☐ Yes ☒ No

CT DPH RCP Report? ☐ Yes ☐ No

☐ Standard ☐ No QC

☐ DQA*

☐ ASP A* ☐ ASP B*

☐ NJ Reduced* ☐ NJ Full*

☐ Tier II* ☐ Tier IV*

☒ Other: _____
State-specific reporting standards:

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

Containers

Analysis

G= Grab

C=Composite

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

TSS

TPH 1/6640

EPA Method 8260 - Full List

EPA Method 8270 - Full List

Total PCBs by 8082

TRC

Cyanide

Total Selenium

Check if chlorinated

☐ Samples must meet RCP
☐ Appendix III.
☐ See attached.
☐ TPH method per Client req 3/31/15

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:

☒ E-mail to: thagiea@lrt-llc.net

Observed

Correction Factor

Corrected

IR ID #

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☒ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Category I - Petroleum Related Site Remediation				
Sub-category C - Petroleum Sites with Additional Contamination				
Category II - Non Petroleum Site Remediation				
Sub-category B - VOC Sites with Additional Contamination				
Category III - Contaminated Construction Dewatering				
Sub-category A - General Urban Fill Sites				
Sub-category B - Known Contaminated Sites				
Category IV - Miscellaneous Related Discharges				
Sub-category A - Aquifer Pump Testing to Evaluate Formerly Contaminated Sites				
Sub-category B - Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites				
Sub-category D - Long-Term Remediation of Contaminated Non-residential Sumps and Dikes				
Sub-category E - Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit)				
<u>Parameter</u>	<u>CAS Number(s)</u>	<u>Effluent Limit</u>	<u>Limit type based on monthly sample</u>	<u>Sample Type</u>
✓ 1. Total Suspended Solids (TSS)		30 milligrams/liter (mg/l), 50 mg/l for hydrostatic testing	monthly average	grab
✓ 2. Total Residual Chlorine (TRC) ¹		Freshwater = 11 ug/l Saltwater = 7.5 ug/l	monthly average	grab
✓ 3. Total Petroleum Hydrocarbons (TPH)		5.0 mg/l	daily maximum	grab
✓ 4. Cyanide (CN) ^{2,3}	57125	Freshwater = 5.2 ug/l Saltwater = 1.0 ug/l	monthly average	grab
5. Benzene (B)	71432	50.0 ug/l for hydrostatic testing only	daily maximum	grab
✓ 6. Toluene (T)	108883	(limited as ug/L total BTEX)	daily maximum	grab
7. Ethylbenzene (E)	100-41-4	(limited as ug/L total BTEX)	daily maximum	grab
8. (m,p,o) Xylenes (X)	108-88-3; 106-42-3; 95-47-6; 1330-20-7	(limited as ug/L total BTEX)	daily maximum	grab
9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴		100 ug/l	daily maximum	grab
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	106-93-4	0.05 ug/l	daily maximum	grab
11. Methyl-tert-Butyl Ether (MtBE)	1634-04-4	70.0 ug/l	daily maximum	grab

Category I - Petroleum Related Site Remediation				
Sub-category C - Petroleum Sites with Additional Contamination				
Category II - Non Petroleum Site Remediation				
Sub-category B - VOC Sites with Additional Contamination				
Category III - Contaminated Construction Dewatering				
Sub-category A - General Urban Fill Sites				
Sub-category B - Known Contaminated Sites				
Category IV - Miscellaneous Related Discharges				
Sub-category A - Aquifer Pump Testing to Evaluate Formerly Contaminated Sites				
Sub-category B - Well Development/Rehabilitation at Contaminated/Formely Contaminated Sites				
Sub-category D - Long-Term Remediation of Contaminated Non-residential Sumps and Dikes				
Sub-category E - Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit)				
<u>Parameter</u>	<u>CAS Number(s)</u>	<u>Effluent Limit</u>	<u>Limit type based on monthly sample</u>	<u>Sample Type</u>
12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	75-65-0	Monitor Only (ug/L)	daily maximum	grab
13. tert-Amyl Methyl Ether (TAME)	994-05-08	Monitor Only (ug/L)	daily maximum	grab
14. Naphthalene ⁵	91-20-3	20 ug/l	daily maximum	grab
15. Carbon Tetrachloride	56-23-5	4.4 ug/l	daily maximum	grab
16. 1,2 Dichlorobenzene (o-DCB)	95-50-1	600 ug/l	daily maximum	grab
17. 1,3 Dichlorobenzene (m-DCB)	541-73-1	320 ug/l	daily maximum	grab
18. 1,4 Dichlorobenzene (p-DCB)	106-46-7	5.0 ug/l	daily maximum	grab
18a. Total dichlorobenzene		763 ug/l - NH only	daily maximum	grab
19. 1,1 Dichloroethane (DCA)	75-34-3	70 ug/l	daily maximum	grab
20. 1,2 Dichloroethane (DCA)	107-06-2	5.0 ug/l	daily maximum	grab
21. 1,1 Dichloroethene (DCE)	75-35-4	3.2 ug/l	daily maximum	grab
22. cis-1,2 Dichloroethene (DCE)	156-59-2	70 ug/l	daily maximum	grab
23. Methylene Chloride	75-09-2	4.6 ug/l	daily maximum	grab
24. Tetrachloroethene (PCE)	127-18-4	5.0 ug/l	daily maximum	grab
25. 1,1,1 Trichloro-ethane (TCA)	71-55-6	200 ug/l	daily maximum	grab
26. 1,1,2 Trichloro-ethane (TCA)	79-00-5	5.0 ug/l	daily maximum	grab
27. Trichloroethene (TCE)	79-01-6	5.0 ug/l	daily maximum	grab

Category I - Petroleum Related Site Remediation				
Sub-category C - Petroleum Sites with Additional Contamination				
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Sub-category B - VOC Sites with Additional Contamination				
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Sub-category B - Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites				
Sub-category D - Long-Term Remediation of Contaminated Non-residential Sumps and Dikes				
Sub-category E - Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit)				
Parameter	CAS Number(s)	Effluent Limit	Limit type based on monthly sample	Sample Type
28. Vinyl Chloride (Chloroethene)	75-01-4	2.0 ug/l	daily maximum	grab
29. Acetone	67-64-1-	Monitor Only (ug/L)	daily maximum	grab
30. 1,4 Dioxane	123-91-1	Monitor Only (ug/L)	daily maximum	grab
31. Total Phenols	108-95-2	300 ug/l	daily maximum	grab
32. Pentachlorophenol (PCP)	87-86-5	1.0 ug/l	daily maximum	grab
33. Total Phthalates (Phthalate esters) ⁶		3.0 ug/L	monthly average	grab
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117-81-7	6.0 ug/l	daily maximum	grab
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		10.0 ug/l	daily maximum	grab
a. Benzo(a) Anthracene ⁷	56-55-3	0.0038 ug/l	daily maximum	grab
b. Benzo(a) Pyrene ⁷	50-32-8	0.0038 ug/l	daily maximum	grab
c. Benzo(b)Fluoranthene ⁷	205-99-2	0.0038 ug/l	daily maximum	grab
d. Benzo(k)Fluoranthene ⁷	207-08-9	0.0038 ug/l	daily maximum	grab
e. Chrysene ⁷	218-01	0.0038 ug/l	daily maximum	grab
f. Dibenzo(a,h)anthracene ⁷	53-70-3	0.0038 ug/l	daily maximum	grab
g. Indeno(1,2,3-cd) Pyrene ⁷	193-39-5	0.0038 ug/l	daily maximum	grab

Category I - Petroleum Related Site Remediation				
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Sub-category E - Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit)				
Parameter	CAS Number(s)	Effluent Limit	Limit type based on monthly sample	Sample Type
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		100 ug/l	daily maximum	grab
h. Acenaphthene	83-32-9	(limited as total ug/L Group II PAHs)	daily maximum	grab
i. Acenaphthylene	208-96-8	(limited as total ug/L Group II PAHs)	daily maximum	grab
j. Anthracene	120-12-7	(limited as total ug/L Group II PAHs)	daily maximum	grab
k. Benzo(ghi) Perylene	191-24-2	(limited as total ug/L Group II PAHs)	daily maximum	grab
l. Fluoranthene	206-44-0	(limited as total ug/L Group II PAHs)	daily maximum	grab
m. Fluorene	86-73-7	(limited as total ug/L Group II PAHs)	daily maximum	grab
n. Naphthalene ⁵	91-20-3	20 ug/l	daily maximum	grab
o. Phenanthrene	85-01-8	(limited as ug/L total Group II PAHs)	daily maximum	grab
p. Pyrene	129-00-0	(limited as ug/L total Group II PAHs)	daily maximum	grab
✓ 37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	85-68-7; 84-74-2; 117-84-0; 84-66-2; 131-11-3;	0.000064 ug/L	daily maximum	grab
	117-81-7.			
✓ 38. Chloride	16887006	Monitor only	daily maximum	grab

Report Date:
03-Apr-15 14:14



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
Attn: Tamara Hagie

Project: Synergy Investment - Boston, MA
Project #: 2-1240

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC05257-01	Well 033015	Ground Water	01-Apr-15 13:00	02-Apr-15 15:15

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

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



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 6 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NJ-MA012, PA-68-04426 and FL-E87936).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 0.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client: Lockwood Remediation Technologies, LLC - MA
Project: Synergy Investment - Boston, MA / 2-1240
Work Order: SC05257
Sample(s) received on: 4/2/2015

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☐	☒	☐
Were custody seals intact?	☐	☐	☒
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☒	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☒	☐	☐
Were sample containers received intact?	☒	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
Were samples accompanied by a Chain of Custody document?	☒	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☒	☐	☐
Did sample container labels agree with Chain of Custody document?	☒	☐	☐
Were samples received within method-specific holding times?	☒	☐	☐

Sample Identification

Well 033015

SC05257-01

Client Project #

2-1240

Matrix

Ground Water

Collection Date/Time

01-Apr-15 13:00

Received

02-Apr-15

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCPolychlorinated BiphenylsPrepared by method SW846 3510C

12674-11-2	Aroclor-1016	< 0.206		µg/l	0.206	0.118	1	SW846 8082A	02-Apr-15	03-Apr-15	IMR	1506035	
11104-28-2	Aroclor-1221	< 0.206		µg/l	0.206	0.111	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.206		µg/l	0.206	0.129	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.206		µg/l	0.206	0.0804	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.206		µg/l	0.206	0.116	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.206		µg/l	0.206	0.0773	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.206		µg/l	0.206	0.0639	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.206		µg/l	0.206	0.101	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.206		µg/l	0.206	0.140	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	75			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	85			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	90			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	90			30-150 %			"	"	"	"	"	

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1506035 - SW846 3510C										
<u>Blank (1506035-BLK1)</u>					<u>Prepared: 02-Apr-15 Analyzed: 03-Apr-15</u>					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.160		µg/l		0.200		80	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.180		µg/l		0.200		90	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.210		µg/l		0.200		105	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
<u>LCS (1506035-BS1)</u>					<u>Prepared: 02-Apr-15 Analyzed: 03-Apr-15</u>					
Aroclor-1016	2.42		µg/l	0.200	2.50		97	40-140		
Aroclor-1016 [2C]	2.38		µg/l	0.200	2.50		95	40-140		
Aroclor-1260	2.32		µg/l	0.200	2.50		93	40-140		
Aroclor-1260 [2C]	2.22		µg/l	0.200	2.50		89	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.200		µg/l		0.200		100	30-150		
<u>LCS Dup (1506035-BSD1)</u>					<u>Prepared: 02-Apr-15 Analyzed: 03-Apr-15</u>					
Aroclor-1016	2.42		µg/l	0.200	2.50		97	40-140	0	20
Aroclor-1016 [2C]	2.35		µg/l	0.200	2.50		94	40-140	1	20
Aroclor-1260	2.32		µg/l	0.200	2.50		93	40-140	0	20
Aroclor-1260 [2C]	2.14		µg/l	0.200	2.50		86	40-140	4	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.200		µg/l		0.200		100	30-150		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

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

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

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

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

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

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

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

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

Validated by:
June O'Connor

Appendix D
Federal Services Supporting Documentation

MassDEP - Bureau of Waste Site Cleanup

Site Information:

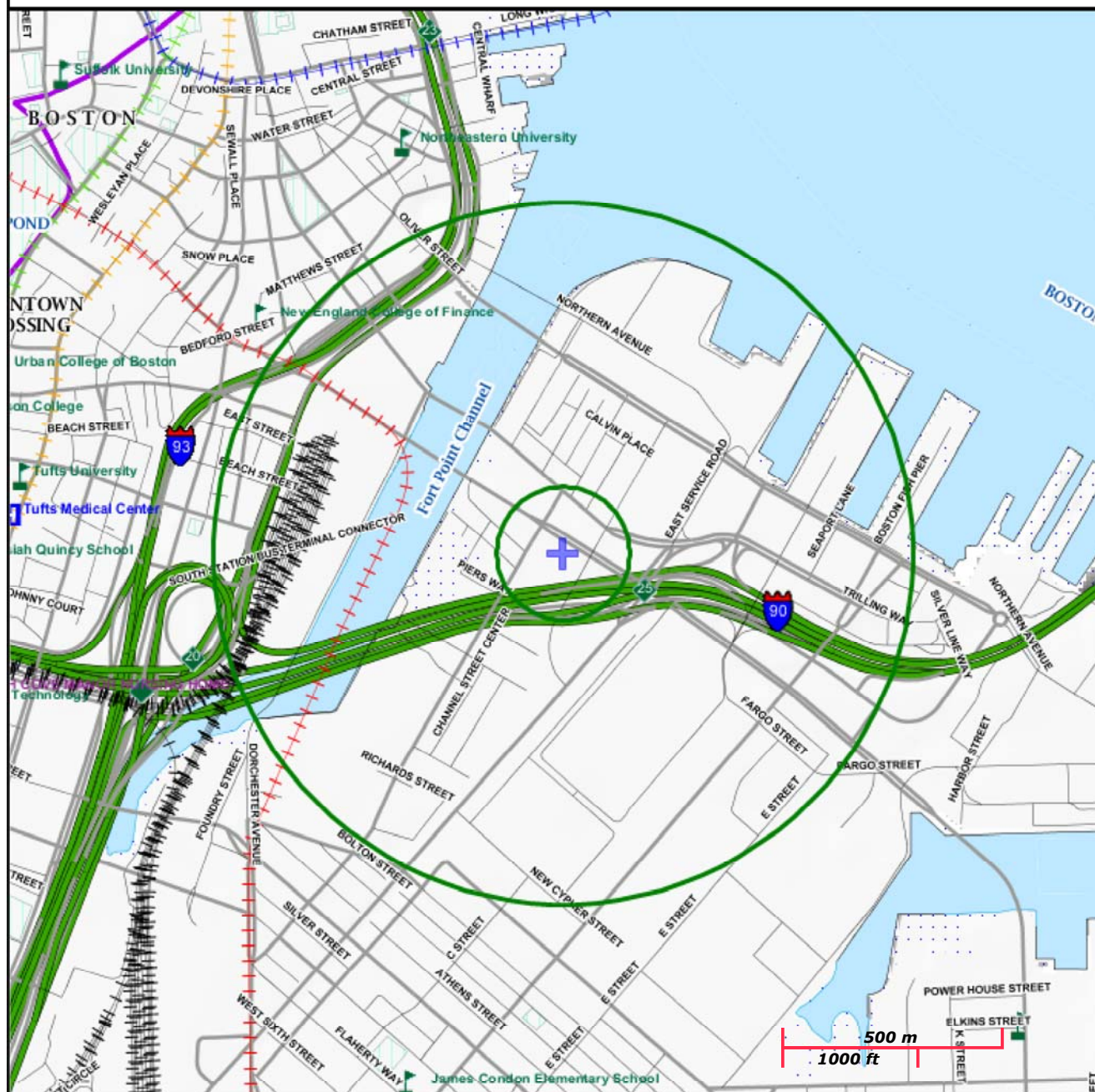
333 SUMMER STREET
333 SUMMER STREET BOSTON, MA
NAD83 UTM Meters:
4690565mN, 331282mE (Zone: 19)
March 30, 2015

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<http://www.mass.gov/mgis/>.



MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A		
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat		
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog		
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC		
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential		
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.		



U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland>

Project Name:

Summer Street



U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:



Project Counties:

Suffolk, MA

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-71.0485169 42.3492975, -71.0475942 42.3489494, -71.047959 42.3485688, -71.0487529 42.3489336, -71.0485169 42.3492975)))

Project Type:

Development



Trust Resources List

Endangered Species Act Species List ([USFWS Endangered Species Program](#))

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Birds	Status		Has Critical Habitat	Contact
Red Knot (<i>Calidris canutus rufa</i>) Population:	Threatened	species info		New England Ecological Services Field Office

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#))

There are no refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#))

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without



Trust Resources List

additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

Migratory birds of concern that may be affected by your project:

There are 7 birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American Oystercatcher (<i>Haematopus palliatus</i>)	Yes	species info	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	species info	Year-round
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Yes	species info	Breeding
Hudsonian Godwit (<i>Limosa haemastica</i>)	Yes	species info	Migrating
Purple Sandpiper (<i>Calidris maritima</i>)	Yes	species info	Wintering
Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	species info	Breeding



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Worm eating Warbler (<i>Helmitheros vermivorum</i>)	Yes	species info	Breeding
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NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.



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Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC is unable to display wetland information at this time.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: South Boston; Street No: 333; Street Name: Summer;

Inv. No.	Property Name	Street	Town	Year
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