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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

NOV 14 2014

Chad Vincent
Vice President of Project Management
J. Derenzo Company Demolition
60 Gerard Street
Boston, MA 02119

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Salem Harbor Station Plant Demolition site located at 24 Fort Avenue, Salem, MA 01970, Essex County; Authorization # MAG910647

Dear Mr. Vincent:

Based on the review of a Notice of Intent (NOI) submitted by Paul Lockwood from Lockwood Remediation Technologies, LLC, on behalf of J. Derenzo Company, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters your consultant have marked "Believed Present." The checklist also includes other parameters for which the laboratory reports accompanying this NOI indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. With the absence of dilution of freshwater into (Salem Harbor) 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, cadmium of 8.9 ug/L, trivalent chromium of 100 ug/L, hexavalent chromium of 50.3 ug/L, copper of 3.7 ug/L, lead of 8.5 ug/L, mercury of 1.1ug/L, nickel of 8.2 ug/L, selenium of 71ug/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 1, 2015. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Richard Rennard, Director Salem MA, PWD
Paul Lockwood, Lockwood Remediation Technologies, LLC

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910647**
Authorization Issued:	November, 2014
Facility/Site Name:	Salem Harbor Station Power Plant Demolition
Facility/Site Address:	24 Fort Avenue, Salem, MA 01970, Essex County
	Email address of owner: ssilverstein@footprintpower.com
Legal Name of Operator:	J. Derenzo Company Demolition
Operator contact name, title, and Address:	Chad Vincent, Vice President of Project Management, 60 Gerard Street, Boston, MA 02119
	Email: cvincent@jdcdemoinc.com
Estimated date of the site's Completion:	September 1, 2015
Category and Sub-Category:	Category I. Petroleum Related Site Remediation. Subcategory C. Petroleum Sites with Additional Contamination.
RGP Termination Date:	September 10, 2015
Receiving Water:	Salem Harbor

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

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
√	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	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

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
√	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
√	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal Parameters	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [(11/12)]		Minimum level=ML	
			Saltwater Limits		
√	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	02
√	47. Nickel **		8.2	ML	20
√	48. Selenium **		71	ML	20
	49. Silver		2.2	ML	10
√	50. Zinc **		85	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 "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

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October 31, 2014

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
Salem Harbor Station Power Plant
24 Fort Ave
Salem, Massachusetts
LRT Reference #2-1199

To whom it may concern:

On behalf of J. Derenzo Company Demolition (JDCD), 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 for the demolition of the former power plant located at the Salem Harbor Station in Salem, Massachusetts (the Site). Please refer to Figure 1 for a locus map and an overview of the immediate area surrounding the Site. The work area is bounded to the south and east by Salem Harbor, to the north by Fort Avenue and to the west by Derby Street as depicted on Figure 2 Site Plan. The proposed discharge location is to one of four storm water outfalls which ultimately discharges to Salem Harbor on the east of the Site as depicted in Figure 3.

Work Summary

The work scope involves localized excavations for the demolition of various components (tanks, buildings, basins, etc.) associated with the former power plant at the Salem Harbor Station. This work requires dewatering within the excavations to complete work 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, LRT collected a sample from a settling basin on October

24, 2014 per NPDES RGP requirements. 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 by LRT, 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 VOCs or SVOCs are expected to be reduced by the carbon treatment. LRT has assumed that metal concentrations will be reduced via filtration and in conjunction with chemical that will reduce the TSS. Any residual dissolved metals will be further reduced with ion exchange media. Refer to Figure 4 for a proposed water treatment system layout.

Calculation of Dilution Criteria

For applications in Massachusetts, the following formula is used to calculate site specific dilution criteria:

DF = (Qd + Qs)/Qd
DF = Dilution Factor
Qd = Maximum flow rate of the discharge in cubic feet per second (cfs)
Qs = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow for seven consecutive days with a reoccurrence interval of 10 years

The receiving water for the dewatering discharge for the site is the Salem Harbor. Since the receiving body is salt water, dilution calculations are not applicable. The applicable discharge standards for the site will be defined as saltwater standards in accordance with Appendix III of the NPDES RGP.

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, neither the Site nor the point where the proposed discharge reaches the receiving surface water body are 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 JDCD, 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, JDCD 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 plockwood@lrt-llc.net if you have any questions or if you require additional information.

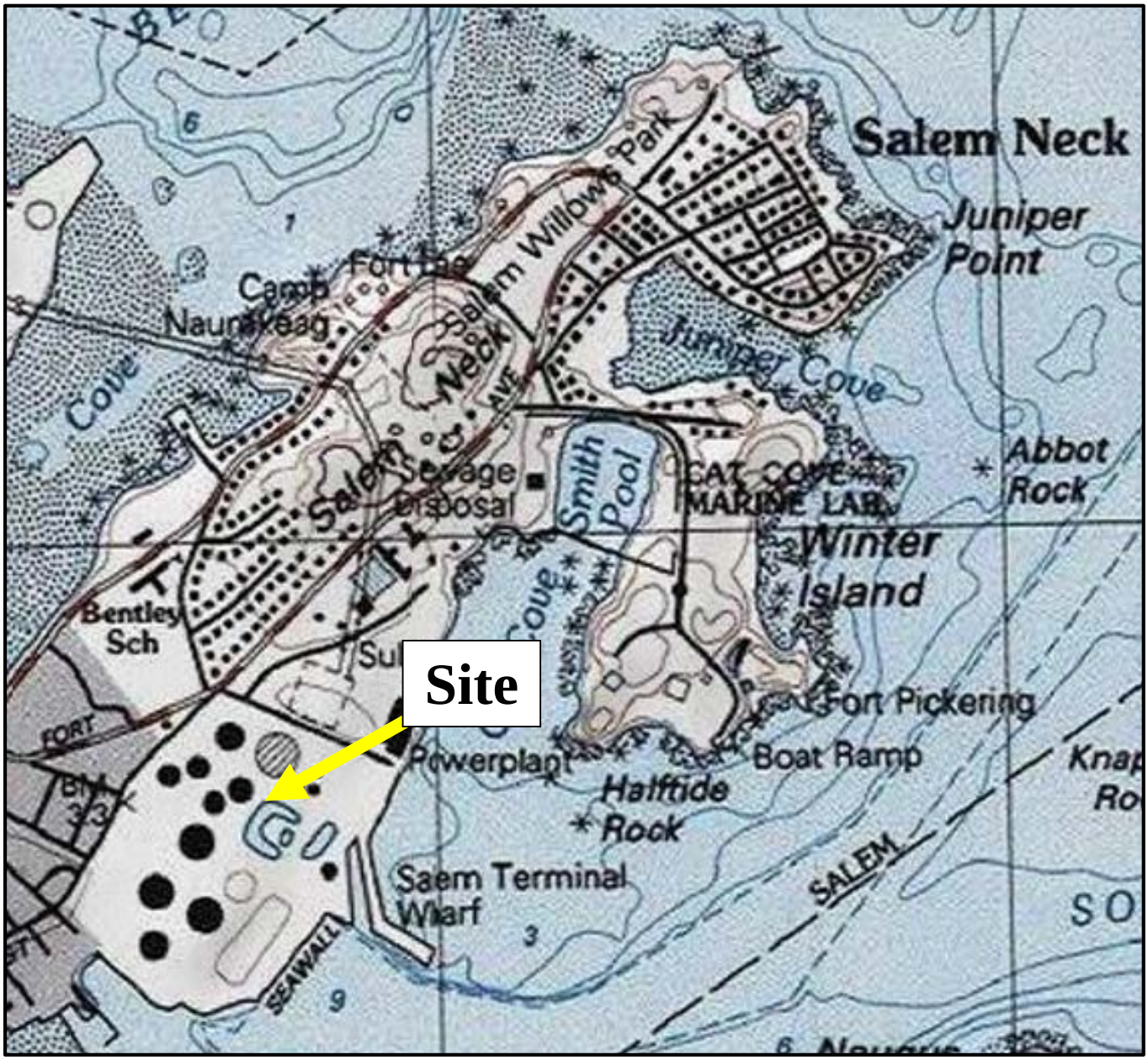
Sincerely,
Lockwood Remediation Technologies, LLC

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
Appendix E – Material Safety Data Sheet

Figures



Source: *Copyright: © 2013 National Geographic Society, i-cubed | DigitalGlobe, GeoEye, Microsoft*

Notes:

1.) Figure is not to scale.

Site Location

Latitude: 42.524938
Longitude: -70.878224

N

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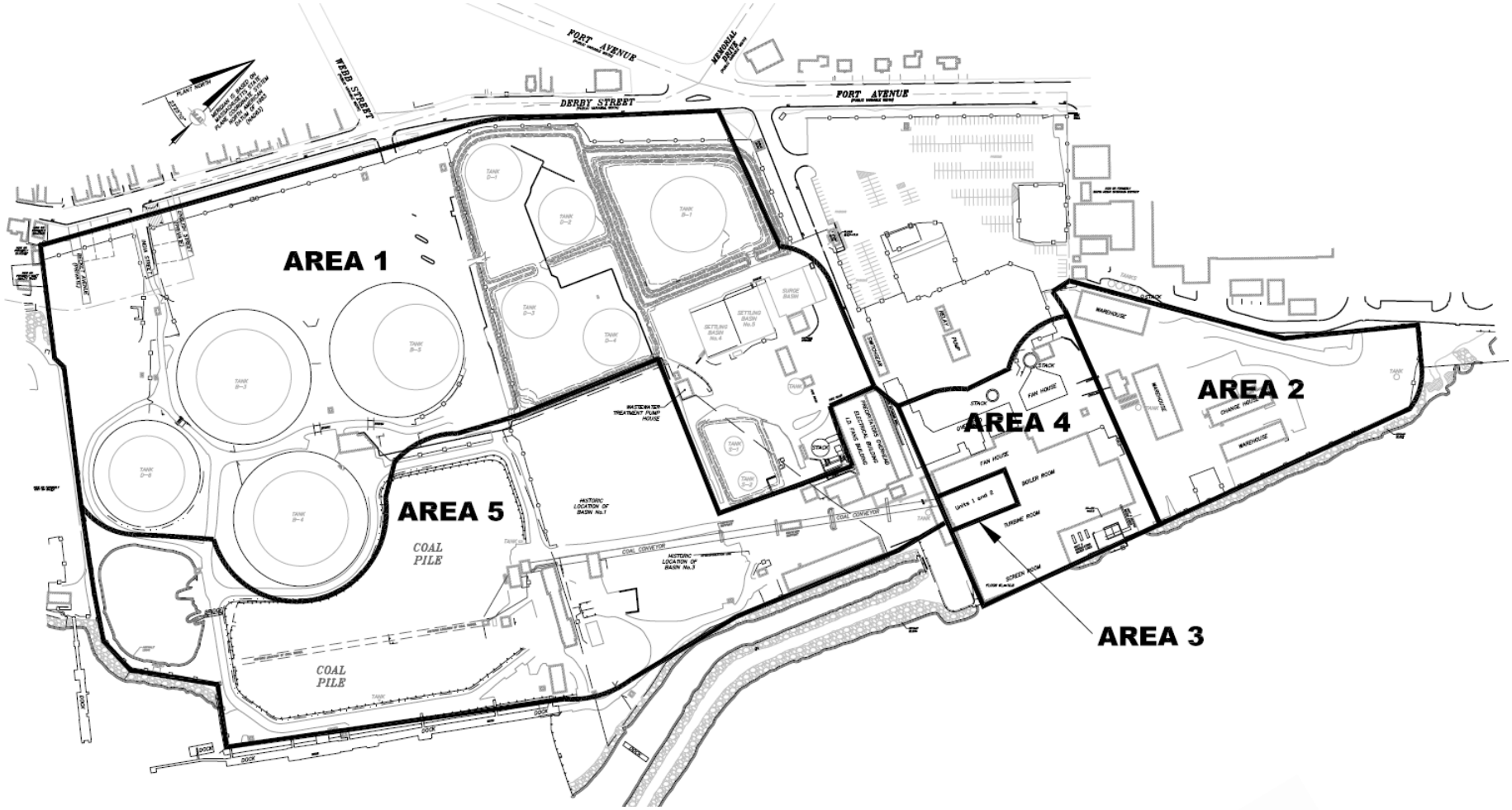
Fax: 888.835.0617
www.lrt-llc.net

Figure 1 – Locus Plan
Salem Harbor Station Power Plant
24 Fort Avenue
Salem, Massachusetts



Source: *Site Plan: Footprint Salem Harbor by AEI Consultants dated May 5, 2013*

Notes:

1.) Figure is not to scale.

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Figure 2 – Site Plan
Salem Harbor Station Power Plant
24 Fort Avenue
Salem, Massachusetts

Source: Imagery @2014 Google, Map data @2014 Google

Notes:

1.) Figure is not to scale.

KEY

Approximate Work Area
Proposed Treatment Discharge Point
Proposed Discharge Point

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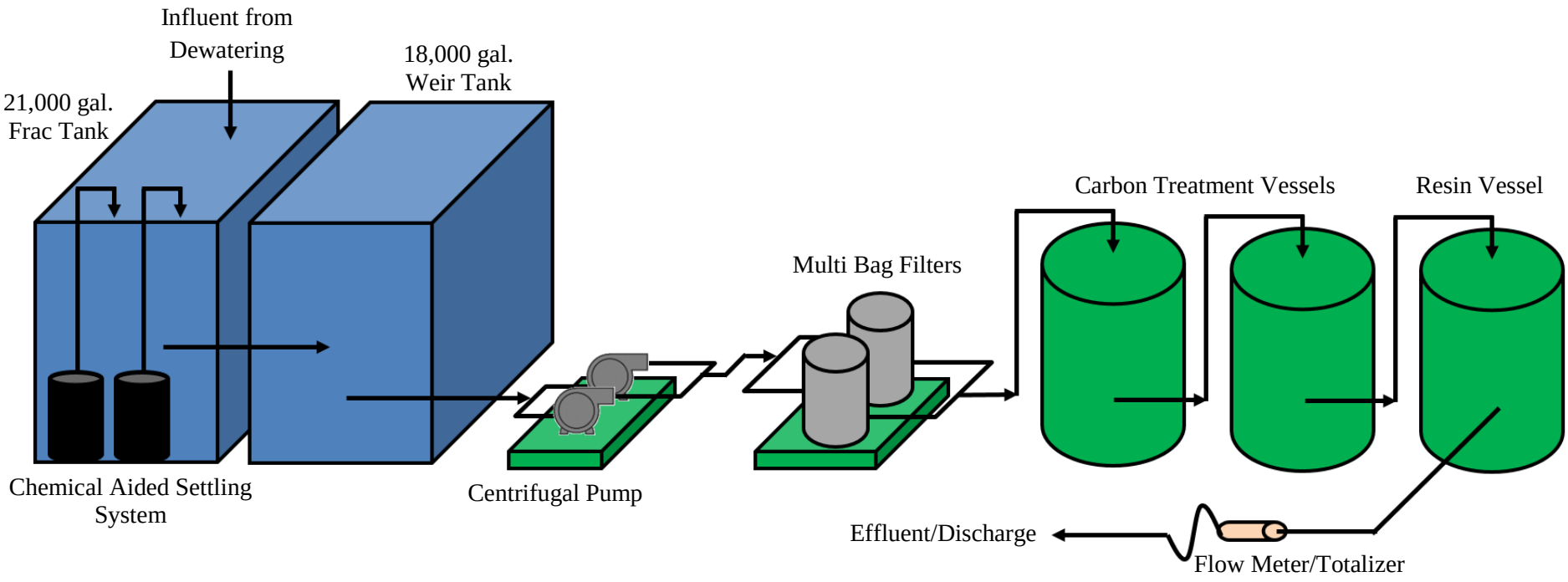
Figure 3 – Proposed Dewatering Discharge Location
Salem Harbor Station Power Plant
24 Fort Avenue
Salem, Massachusetts



Notes:

1. This figure is not to scale.
2. The water treatment system is rated for 500 gallons per minute.
3. All discharge water shall be routed to the treatment system.
4. This figure is property of Lockwood Remediation Technologies, LLC.

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Figure 4 – Proposed System Layout
Salem Harbor Station Power Plant
24 Fort Avenue
Salem, 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**: Salem Harbor Station		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -70.878224 latitude: 42.524938	Facility SIC code(s): 2911	Street: 24 Fort Ave		
b) Name of **facility/site owner:**		Town: Salem		
Email address of facility/site owner: ssilverstein@footprintpower.com		State: MA	Zip: 01970	County: Essex
Telephone no. of facility/site **owner**: 908-864-4905				
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: 1140 Route 22 East Suite 303				
Town: Bridgewater	State: NJ	Zip: 08807	County:	
c) Legal name of **operator**: J. Derenzo Company Demolition	**Operator** telephone no: 508-897-8092			
	Operator fax no.: 508-897-8592	**Operator** email: cvincent@jdcdemoinc.com		
Operator contact name and title: Chad Vincent, Vice President of Project Management				
Address of **operator** (if different from owner):	Street: 60 Gerard Street			
Town: Boston	State: MA	Zip: 02119	County: Suffolk	

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: RTN #: 3-21283
2. permit or license # assigned: RTN #: 3-21283
3. state agency contact information: name, location, and telephone number:

NERO - MADEP
205B Lowell Street Wilmington, MA 01887 (978-694-3200)

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: MAR120000
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.

Activity Category	**Activity Sub-Category**
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:

Water from a dewatering system for a demolition/construction project.

b) Provide the following information about each discharge:

1) Number of discharge points: 4

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow: 1.11 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 0.45 (ft3/s) Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.526364 long. -70.878030 pt.2: lat. 42.526111 long. -70.877485;
pt.3: lat. 42.525541 long. -70.875793 pt.4: lat. 42.525724 long. -70.875506;
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 11/1/2014 end 9/1/2015

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). See Figures 2, 3 and 4

3. Contaminant information.

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	1	Grab	2540D	4,000	1,050,000			
2. Total Residual Chlorine (TRC)		☒	☐	1	Grab	4500	20	<20			
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	1	Grab	8100M	5,000	<5,000			
4. Cyanide (CN)	57125	☒	☐	1	Grab	SM4500	10	<10			
5. Benzene (B)	71432	☒	☐	1	Grab	8260	2	<2			
6. Toluene (T)	108883	☒	☐	1	Grab	8260	2	<2			
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	8260	2	<2			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	Grab	8260	2	<2			
9. Total BTEX [2]	n/a	☒	☐								
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	Grab	8260	2	<2			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	Grab	8260	2	<2			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	Grab	8260	2	<20			

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

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	Grab	8260	2.0	<2.0			
29. Acetone	67641	☒	☐	1	Grab	8260	10	<10			
30. 1,4 Dioxane	123911	☒	☐	1	Grab	8260	500	<500			
31. Total Phenols	108952	☒	☐								
32. Pentachlorophenol (PCP)	87865	☒	☐	1	Grab	8270	2.50	<2.50			
33. Total Phthalates (Phthalate esters) [4]		☐	☒								
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☐	☒	1	Grab	8270	1	1.54			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐								
a. Benzo(a) Anthracene	56553	☐	☒	1	Grab	8270	0.1	0.79			
b. Benzo(a) Pyrene	50328	☐	☒	1	Grab	8270	0.1	1.11			
c. Benzo(b)Fluoranthene	205992	☐	☒	1	Grab	8270	0.1	1.67			
d. Benzo(k)Fluoranthene	207089	☐	☒	1	Grab	8270	0.1	0.655			
e. Chrysene	21801	☐	☒	1	Grab	8270	1	1.32			
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	Grab	8270	0.1	<0.1			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	Grab	8270	0.1	<0.1			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐								

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	1	Grab	8270	1	<1			
i. Acenaphthylene	208968	☒	☐	1	Grab	8270	1	<1			
j. Anthracene	120127	☒	☐	1	Grab	8270	1	<1			
k. Benzo(ghi) Perylene	191242	☒	☐	1	Grab	8270	1	<1			
l. Fluoranthene	206440	☐	☒	1	Grab	8270	1	2.83			
m. Fluorene	86737	☒	☐	1	Grab	8270	1	<1			
n. Naphthalene	91203	☒	☐	1	Grab	8270	1	<1			
o. Phenanthrene	85018	☐	☒	1	Grab	8270	1	1.60			
p. Pyrene	129000	☐	☒	1	Grab	8270	1	2.52			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	Grab	8082	1	<0.25			
38. Chloride	16887006	☐	☒	1	Grab	300	371,000	30,000			
39. Antimony	7440360	☐	☒	1	Grab	6010	10	18			
40. Arsenic	7440382	☐	☒	1	Grab	6010	10	99			
41. Cadmium	7440439	☒	☐	1	Grab	6010	10	<10			
42. Chromium III (trivalent)	16065831	☐	☒	1	Grab	6010	10	32			
43. Chromium VI (hexavalent)	18540299	☐	☒								
44. Copper	7440508	☐	☒	1	Grab	6010	10	72			
45. Lead	7439921	☐	☒	1	Grab	6010	10	56			
46. Mercury	7439976	☐	☒	1	Grab	245.1	0.5	0.6			
47. Nickel	7440020	☐	☒	1	Grab	6010	10	99			
48. Selenium	7782492	☐	☒	1	Grab	6010	10	51			
49. Silver	7440224	☒	☐	1	Grab	6010	10	<10			
50. Zinc	7440666	☐	☒	1	Grab	6010	10	477			
51. Iron	7439896	☐	☒	1	Grab	6010	10	16,400			
Other (describe):		☐	☐								

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

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y◉ N○	If yes, which metals? Sb, Ar, Cr, Cu, Pb, Hg, Ni, Se, ZN, Fe
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: NA - Saltwater Standards 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: NA - Saltwater Standards

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:

The proposed treatment system consists of settling, filtration, GAC filters, metals treatment and chemical aided settling. Sample ports will be provided at each system component to monitor the treatment system. See attached Figure 4.

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):	Metals Treatment		

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 200 gpm Maximum flow rate of treatment system 500 gpm
Design flow rate of treatment system 500 gpm

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

Chemical Aided Settling System: LRT E-50 Coagulant and LRT 810 Dry Polymer.

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:

Discharge to a storm drain located on site that discharges to Salem Harbor. See Figure 3.

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 SB

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water N/A cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ◉ N ○ If yes, for which pollutant(s)?

Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

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

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:	Footprint Power Salem Harbor
Operator signature:	
Printed Name &Title:	Chad Vincent/Vice President of Project Management
Date:	10/30/14

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
Salem Harbor Station Power Plant
Salem, 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 J. Derenzo Company Demolition (JDCD) by Lockwood Remediation Technologies, LLC (LRT) in anticipation of temporary construction site dewatering for demolition of the former power plant located at the Salem Harbor Station in Salem, 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 an Appendix 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 frac tank, weir tank, bag filtration, carbon adsorption to reduce concentrations of compounds associated with petroleum and resin treatment to reduce concentrations of metals associated with fly ash on site. Additionally, a chemical feed system consisting of coagulant and flocculant will be utilized in the influent stream to further reduce TSS. The material safety data sheets for these chemicals are found in Appendix E. 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 Salem Harbor Station Power Plant as depicted on Figure 2 Site Plan. The proposed discharge location adjacent to the Site is presented on Figure 3.

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, petroleum related compounds and metals associated with fly ash. 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/weir 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

ANALYTICAL REPORT

Friday, October 31, 2014

GeoLabs, Inc.
45 Johnson Lane
Braintree MA 02184
Tele: 781 848 7844
Fax: 781 848 7811

Paul Lockwood
LRT, LLC
89 Crawford Street
Leominster, MA 01453

TEL: (774) 450-7177
FAX:

Project: 2-1199
Location: Salem Power Plant

Order No.: 1410186

Dear Paul Lockwood:

GeoLabs, Inc. received 1 sample(s) on 10/24/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Mick
Laboratory Director

For current certifications, please visit our website at www.geolabs.com

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

Date: *31-Oct-14*

CLIENT:	LRT, LLC
Project:	2-1199
Lab Order:	1410186

CASE NARRATIVE

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

SIGNATURE:  LAB DIRECTOR

PRINTED NAME: David Mick DATE: 10/31/14

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						Analyst: **CR**
Prep Method:		**Prep Date:**				
Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	10/31/2014
TOTAL SUSPENDED SOLIDS - SM2540D						Analyst: **CR**
Prep Method:		**Prep Date:**				
Total Suspended Solids	*1050*	4.00		mg/L	1	10/27/2014
POLYCHLORINATED BIPHENYLS - SW8082A						Analyst: **KG**
Prep Method: (SW3510B)		**Prep Date:** 10/27/2014 10:27:43 AM				
Aroclor 1016	ND	0.250		µg/L	1	10/28/2014
Aroclor 1221	ND	0.250		µg/L	1	10/28/2014
Aroclor 1232	ND	0.250		µg/L	1	10/28/2014
Aroclor 1242	ND	0.250		µg/L	1	10/28/2014
Aroclor 1248	ND	0.250		µg/L	1	10/28/2014
Aroclor 1254	ND	0.250		µg/L	1	10/28/2014
Aroclor 1260	ND	0.250		µg/L	1	10/28/2014
Surr: Decachlorobiphenyl Sig 1	73.4	30-150		%REC	1	10/28/2014
Surr: Decachlorobiphenyl Sig 2	91.7	30-150		%REC	1	10/28/2014
Surr: Tetrachloro-m-Xylene Sig 1	61.6	30-150		%REC	1	10/28/2014
Surr: Tetrachloro-m-Xylene Sig 2	88.6	30-150		%REC	1	10/28/2014
TOTAL METALS BY ICP - SW6010C						Analyst: **QS**
Prep Method: (SW3010A)		**Prep Date:** 10/28/2014 10:16:38 AM				
Antimony	*0.0180*	0.0100		mg/L	1	10/28/2014
Arsenic	*0.0990*	0.0100		mg/L	1	10/28/2014
Cadmium	ND	0.0100		mg/L	1	10/28/2014
Chromium	*0.0320*	0.0100		mg/L	1	10/28/2014
Copper	*0.0720*	0.0100		mg/L	1	10/28/2014
Iron	*16.4*	0.0100		mg/L	1	10/28/2014
Lead	*0.0560*	0.0100		mg/L	1	10/28/2014
Nickel	*0.0990*	0.0100		mg/L	1	10/28/2014
Selenium	*0.0510*	0.0100		mg/L	1	10/28/2014

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP - SW6010C						Analyst: **QS**
Prep Method:	**(SW3010A)**		**Prep Date:**	**10/28/2014 10:16:38 AM**		
Silver	ND	0.0100		mg/L	1	10/28/2014
Zinc	*0.477*	0.0100		mg/L	1	10/28/2014
TOTAL MERCURY - E245.1						Analyst: **EC**
Prep Method:	**(SW7470A/E245.1)**		**Prep Date:**	**10/30/2014 3:36:45 PM**		
Mercury	*0.0006*	0.0005		mg/L	1	10/30/2014
SEMIVOLATILE ORGANICS - SW8270D						Analyst: **ZYZ**
Prep Method:	**(SW3510)**		**Prep Date:**	**10/28/2014 9:41:55 AM**		
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
1,2-Dinitrobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
1,3-Dinitrobenzene	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
1,4-Dinitrobenzene	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,4,5-Trichlorophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,4,6-Trichlorophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,4-Dichlorophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,4-Dimethylphenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,4-Dinitrophenol	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Chloronaphthalene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Chlorophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Methylnaphthalene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Methylphenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Nitroaniline	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
2-Nitrophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
3,3´-Dichlorobenzidine	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
3-Methylphenol/4-Methylphenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270D						Analyst: **ZYZ**
Prep Method: (SW3510)			**Prep Date:**	**10/28/2014 9:41:55 AM**		
3-Nitroaniline	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
4-Bromophenyl Phenyl Ether	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
4-Chloro-3-Methylphenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
4-Chloroaniline	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
4-Nitroaniline	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
4-Nitrophenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Acenaphthene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Acenaphthylene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Acetophenone	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Aniline	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
Anthracene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Azobenzene	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
Benz(a)Anthracene	*0.790*	0.100		µg/L	1	10/28/2014 2:39:00 PM
Benzidine	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
Benzo(a)Pyrene	*1.11*	0.100		µg/L	1	10/28/2014 2:39:00 PM
Benzo(b)Fluoranthene	*1.67*	0.100		µg/L	1	10/28/2014 2:39:00 PM
Benzo(g,h,i)Perylene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Benzo(k)Fluoranthene	*0.655*	0.100		µg/L	1	10/28/2014 2:39:00 PM
Benzyl Alcohol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Bis(2-Chloroethyl)Ether	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Bis(2-Ethylhexyl)Phthalate	*1.54*	1.00		µg/L	1	10/28/2014 2:39:00 PM
Butyl Benzyl Phthalate	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Carbazole	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Chrysene	*1.32*	1.00		µg/L	1	10/28/2014 2:39:00 PM
Dibenz(a,h)Anthracene	ND	0.100		µg/L	1	10/28/2014 2:39:00 PM
Dibenzofuran	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Diethyl Phthalate	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Dimethyl Phthalate	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Di-n-Butyl Phthalate	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Di-n-Octyl Phthalate	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Fluoranthene	*2.83*	1.00		µg/L	1	10/28/2014 2:39:00 PM
Fluorene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270D						Analyst: **ZYZ**
Prep Method: (SW3510)		**Prep Date: 10/28/2014 9:41:55 AM**				
Hexachlorobenzene	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
Hexachlorobutadiene	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
Hexachloroethane	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		µg/L	1	10/28/2014 2:39:00 PM
Isophorone	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Naphthalene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Nitrobenzene	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
N-Nitrosodimethylamine	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
N-Nitrosodi-n-Propylamine	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
N-Nitrosodiphenylamine	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
Pentachlorophenol	ND	2.50		µg/L	1	10/28/2014 2:39:00 PM
Phenanthrene	*1.60*	1.00		µg/L	1	10/28/2014 2:39:00 PM
Phenol	ND	1.00		µg/L	1	10/28/2014 2:39:00 PM
Pyrene	*2.52*	1.00		µg/L	1	10/28/2014 2:39:00 PM
Pyridine	ND	5.00		µg/L	1	10/28/2014 2:39:00 PM
Surr: 2,4,6-Tribromophenol	41.4	15-110		%REC	1	10/28/2014 2:39:00 PM
Surr: 2-Fluorobiphenyl	32.2	30-130		%REC	1	10/28/2014 2:39:00 PM
Surr: 2-Fluorophenol	15.7	15-110		%REC	1	10/28/2014 2:39:00 PM
Surr: Nitrobenzene-d5	25.7	30-130	S	%REC	1	10/28/2014 2:39:00 PM
Surr: Phenol-d6	9.90	15-110	S	%REC	1	10/28/2014 2:39:00 PM
Surr: Terphenyl-d14	42.3	30-130		%REC	1	10/28/2014 2:39:00 PM
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
1,4-Dioxane	ND	500		µg/L	1	10/30/2014 2:35:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
2-Butanone	ND	10.0		µg/L	1	10/30/2014 2:35:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
2-Hexanone	ND	10.0		µg/L	1	10/30/2014 2:35:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	10/30/2014 2:35:00 PM
Acetone	ND	10.0		µg/L	1	10/30/2014 2:35:00 PM
Benzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Bromobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Bromochloromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Bromoform	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Bromomethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Chlorobenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Chloroethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Chloroform	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Chloromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	10/30/2014 2:35:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Dibromomethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
Dichlorodifluoromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Diethyl Ether	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Ethylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Methylene Chloride	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Naphthalene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Styrene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	10/30/2014 2:35:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Toluene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	10/30/2014 2:35:00 PM
Trichloroethene	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Xylenes, Total	ND	2.00		µg/L	1	10/30/2014 2:35:00 PM
Surr: 1,2-Dichloroethane-d4	95.1	70-130		%REC	1	10/30/2014 2:35:00 PM
Surr: 4-Bromofluorobenzene	122	70-130		%REC	1	10/30/2014 2:35:00 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/30/2014 2:35:00 PM
Surr: Toluene-d8	108	70-130		%REC	1	10/30/2014 2:35:00 PM
CHLORIDE - E300.0						Analyst: **SUB**
Prep Method:		**Prep Date:**				
Chloride	*371*	30.0		mg/L	1	10/30/2014

Qualifiers:			
B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 31-Oct-14

CLIENT:	LRT, LLC	**Client Sample ID:**	GW102414
Lab Order:	1410186	**Collection Date:**	10/24/2014 9:30:00 AM
Project:	2-1199	**Date Received:**	10/24/2014
Lab ID:	1410186-001	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
CHLORIDE - E300.0						Analyst: **SUB**
Prep Method:		**Prep Date:**				
NOTES: Analyzed by Phoenix Environmental Laboratories M-CT007						
CYANIDE, TOTAL - E335.4/9010						Analyst: **SUB**
Prep Method:		**Prep Date:**				
Cyanide	ND	0.0100		mg/L	1	10/28/2014
NOTES: Analyzed by Phoenix Environmental Laboratories M-CT007						
TOTAL RESIDUAL CHLORINE- SM 4500 CL-G						Analyst: **SUB**
Prep Method:		**Prep Date:**				
Total Residual Chlorine	ND	0.0200	H	mg/L	1	10/28/2014 5:45:00 PM
NOTES: Analyzed by Phoenix Environmental Laboratories M-CT007						

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

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14101 86

PAGE 1 OF 2

CHAIN OF CUSTODY RECORD

GeoLabs, Inc. *Environmental Laboratories*
45 Johnson Lane, Braintree, MA 02184
p 781.848.7844 • f 781.848.7811
www.geolabs.com

Sample Handling: circle choice
Filtration: Done / Not Needed / Lab to do
Preservation: Lab to do Y / N

Special Instructions
1) Please refer to the attached sheet for parameters and reporting limits
2) pH and temp taken in the field
3) Metals = total chromium

Turnaround: circle one
1-day 3-day
2-day 5 / 7-days

Data Delivery: circle choice (s)
Fax email
Format:
Excel PDF

Requirements: circle choice (s)
GW-1 MCP Methods CT RCP (Reasonable Confidence Protocols)
S-1 DEP State / Fed Program - Criteria _____
QC Other _____

Client: LRT
Address: 89 Crawford St
Leominster MA 01453
Contact: Paul Lockwood

Phone: 774-450-7177
Fax:
email: Plockwood@lrt-llc.net

Project: Salem power Plant
Project PO: 2-1199
Invoice to *: LRT

COLLECTION				CONTAINER							Preservative:	1			2	2	4		5	Lab Use Only	
											Analysis Requested										
DATE	TIME	SAMPLED BY	SAMPLE LOCATION / ID	TYPE	QUANTITY	MATRIX	COMP	GRAB	GeoLabs SAMPLE NUMBER		8260	8270	TSS [1]	Mercury [2]	*Metals [2] see coc	TPH [2]	TRC [1]	Cyanide [2,4]	TEMPERATURE	pH
10/24/14	930	BW	GW102414-[redacted]			GW		X	10186-001		2V	1A	1P	1P	4P	1A	1P	1P		
																1				

Matrix Codes:
GW = Ground Water DW = Drinking Water S = Soil A = Air
WW = Waste Water SL = Sludge O = Oil OT = Other

Received on Ice ☐

Preservatives
1 = Hcl 3 = H2SO4 5 = NaOH 7 = Other
2 = HNO3 4 = Na2S2O3 6 = MEOH

Containers:
A = Amber B = Bag O = Other
G = Glass P = Plastic
S = Summa V = Voa

Relinquished by:	Date / Time	Received by:	Date / Time
[redacted]	10/24/14 1:05	[redacted]	10.24.14 1:05
[redacted]	10.24.14 1635	[redacted]	10/24/14 1635

CT (PH-0148) NH (2508) MA (MA-015) RI (LA000252)

1410186 PAGE 2 OF 2

CHAIN OF CUSTODY RECORD

GeoLabs, Inc. *Environmental Laboratories*
45 Johnson Lane, Braintree, MA 02184
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www.geolabs.com

Sample Handling: circle choice
Filtration: Done / Not Needed / Lab to do
Preservation: Lab to do Y / N

Special Instructions
3) Metals include: total chromium, Antimony, Arsenic, Cadmium, Copper, lead, Nickel, Selenium, Silver, Zinc, Iron

Turnaround: circle one
1-day 3-day
2-day 5 / 7-days

Data Delivery: circle choice (s)
Fax email
Format:
Excel PDF

Requirements: circle choice (s)
GW-1 MCP Methods CT RCP (Reasonable Confidence Protocols)
S-1 DEP State / Fed Program - Criteria _____
QC Other _____

Client: LRT
Address: 89 Crawford St. Leominster, MA 01453
Contact: Paul Lockwood

Phone: 774-450-7177
Fax:
email: PLockwood@LRT-LLC.NET

Project: Salem Power Plant
Project PO: 2-1199
Invoice to *: LRT

Preservative:

COLLECTION DATE	COLLECTION TIME	SAMPLED BY	SAMPLE LOCATION / ID	CONTAINER TYPE	CONTAINER QUANTITY	MATRIX	COMP	GRAB	GeoLabs SAMPLE NUMBER	Analysis Requested: PCB's	Analysis Requested: Chloride	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Lab Use Only: TEMPERATURE	Lab Use Only: LAB pH
10/24/14	930	BW	GW102414 - [redacted]			GW		X	10186-001	1A	1P								

Matrix Codes:
GW = Ground Water DW = Drinking Water S = Soil A = Air
WW = Waste Water SL = Sludge O = Oil OT = Other

Received on Ice ☐

Preservatives
1 = Hcl 3 = H2SO4 5 = NaOH 7 = Other
2 = HNO3 4 = Na2S2O3 6 = MEOH

Containers:
A = Amber B = Bag O = Other
G = Glass P = Plastic
S = Summa V = Voa

Relinquished by: [signature] Date / Time 10/24/14 1:05
[signature] 10-24-14 433

Received by: [signature] 10.24.14 Date / Time 1:05
[signature] 10/24/14 1635

 THANK YOU - WE APPRECIATE YOUR BUSINESS *All discounting will be removed after 90 days* * All Payment terms are NET 30 Days. A late payment charge of 1.5% per month or 18% per year, together with expenses above and beyond collection costs, including attorney"s fees and court costs, will be applied to balances that go beyond NET 30 days.

CT (PH-0148)

NH (2508) MA (MA-015)
RI (LA000252)

Appendix D
Federal Services Supporting Documentation

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

Results

Get Results in Report Format
PDF Spreadsheet

Below are the results of your search, using the following search criteria:
Town(s): Salem
Street No: 24
Street Name: Fort Ave
Resource Type(s): Area, Building, Burial Ground, Object, Structure
Name: Salem Harbor Station Power Plant

For more information about this page and how to use it, click here

No Results Found.

New Search | New Search – Same Town(s) | Previous

MHC Home | MACRIS Home

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:

Salem Harbor Station Power Plant

U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:

Project Counties:

Essex, MA

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

MULTIPOLYGON (((-70.8828201 42.5231076, -70.8809748 42.5254765, -70.8799877 42.5261091, -70.8769407 42.5284494, -70.8744946 42.5270294, -70.8760824 42.5242794, -70.8757391 42.5230775, -70.8746662 42.5226663, -70.8747521 42.5223817, -70.8770266 42.5231724, -70.8782711 42.521844, -70.8799448 42.5217175, -70.8801594 42.5216226, -70.8828201 42.5231076)))

Project Type:

Development

U.S. Fish and Wildlife Service

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
Roseate tern (*Sterna dougallii dougallii*) Population: northeast U.S. nesting pop.	Endangered	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

Trust Resources List

(2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without 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 **21** 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 (*Haematopus palliatus*)	Yes	species info	Breeding
American bittern (*Botaurus lentiginosus*)	Yes	species info	Breeding
Bald eagle (*Haliaeetus leucocephalus*)	Yes	species info	Year-round
Black-billed Cuckoo (*Coccyzus erythropthalmus*)	Yes	species info	Breeding
Blue-winged Warbler (*Vermivora pinus*)	Yes	species info	Breeding
Canada Warbler (*Wilsonia canadensis*)	Yes	species info	Breeding

Trust Resources List

Horned Grebe (*Podiceps auritus*)	Yes	species info	Wintering
Hudsonian Godwit (*Limosa haemastica*)	Yes	species info	Migrating
Least Bittern (*Ixobrychus exilis*)	Yes	species info	Breeding
Least tern (*Sterna antillarum*)	Yes	species info	Breeding
Peregrine Falcon (*Falco peregrinus*)	Yes	species info	Breeding
Pied-billed Grebe (*Podilymbus podiceps*)	Yes	species info	Breeding
Prairie Warbler (*Dendroica discolor*)	Yes	species info	Breeding
Purple Sandpiper (*Calidris maritima*)	Yes	species info	Wintering
Saltmarsh Sparrow (*Ammodramus caudacutus*)	Yes	species info	Breeding
Seaside Sparrow (*Ammodramus maritimus*)	Yes	species info	Breeding
Short-eared Owl (*Asio flammeus*)	Yes	species info	Wintering
Snowy Egret (*Egretta thula*)	Yes	species info	Breeding
Upland Sandpiper (*Bartramia longicauda*)	Yes	species info	Breeding
Wood Thrush (*Hylocichla mustelina*)	Yes	species info	Breeding
Worm eating Warbler (*Helmitheros vermivorum*)	Yes	species info	Breeding

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 tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

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.

The following wetland types intersect your project area in one or more locations:

Wetland Types	NWI Classification Code	Total Acres

Trust Resources List

Estuarine and Marine Deepwater	E1UBL	1081.7693

Appendix E
Material Safety Data Sheet

MATERIAL SAFETY DATA SHEET

I. Chemical Product and Company Identification

Product Name: Nonionic / Anionic Polymer
Product #s: LRT- 800 Series Polymers

Distributor: Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774-450-7177
Fax: 885-835-0617
Email: plockwood@lrt-llc.net

For Chemical Emergency - Spill, Leak, Fire, Exposure or Accident
Call **CHEMTEL** - Day or Night – 1800-255-3924

II. Composition and Ingredient Information

Components:	CAS #:
Anionic Polyacrylamide	25085-02-3
Permissible Exposure Limit (PEL):	No information available.
Threshold Limit Value (TLV):	Information not available.

III. Hazard Identification

Primary Routes of Exposure: Skin Contact - Eye Contact - Inhalation

Skin Contact: May cause irritation, especially after prolonged or repeated contact.

Eye Contact: Dust contact and solution may cause irritation.

Ingestion: May cause discomfort or gastrointestinal disturbance. Low oral toxicity.

Inhalation: Dust contact and solution may cause irritation.

Unusual Chronic Toxicity: None Known.

IV. First Aid Measures

Skin Contact: Flush with plenty of soap and water for at least 15 minutes. If irritation persists, get medical attention.

Eyes Contact: Immediately flush with water, continuing for 15 minutes. Immediately contact a physician for additional treatment.

Ingestion: If conscious, immediately give 2 to 4 glasses of water, and induce vomiting by touching finger to back of throat or giving syrup of Ipecac.

CAUTION: If unconscious, having breathing or in convulsions, do not induce vomiting or give water.

Inhalation: Remove to fresh air.

V. Fire-Fighting Measures

Flammability Classification: NFPA - Minimal - Will not burn under normal conditions.

Flash Point: Not flammable.

Flammable and Explosive Limits: UEL: ND LEL: ND

Hazardous Combustion Byproducts:

Thermal decomposition expected to produce carbon monoxide, carbon dioxide, and various nitrous oxides and some HCl vapors.

Extinguishing Media: Foam - Carbon Dioxide - Dry Chemical

AVOID USING WATER - MAY CAUSE EXTREMELY SLIPPERY CONDITIONS.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus.
Solutions of product are extremely slippery.

Unusual Fire and Explosion Hazards: Material and its solutions are extremely slippery.

VI. Accidental Release Measures

Procedures: Sweep up or shovel into metal or plastic container. Do not use water to clean area; product is very slippery when wet.

Waste Disposal: Incineration and/or disposal in a chemical landfill. Disposer must comply with Federal, State, and Local disposal or discharge laws.

VII. Handling and Storage Avoid contact with skin, eyes, or clothing.
Do not inhale mist if formed.
Use normal personal hygiene and housekeeping.
Store in a cool dry place.

VIII. Exposure Controls and Personal Protection

Eye Protection: Safety glasses for normal handling conditions.
Splash-proof goggles when handling solutions.
Do not wear contact lens.

Hand Protection: Rubber gloves.

Ventilation: Local exhaust - if dusting occurs. Natural ventilation adequate in absence of dust.

Respiratory Protection: If dusty conditions are encountered, wear NIOSH approved respirator.

Other Protection: Eye wash recommended, full work clothing, add protective rubber clothing if splashing or repeated contact with solution is likely.

IX. Physical and Chemical Properties

Appearance	White granular
State	Solid
Specific Gravity (Water = 1)	0.8 - 1.0
Solubility in Water	Complete

X. Stability and Reactivity

Stability: Product is stable as supplied.

Incompatibility: Oxidizing Agents may cause exothermic reaction.

Hazardous Decomposition or Byproducts:

Thermal decomposition expected to produce carbon oxides, and various nitrous oxides.

Hazardous Polymerization: Will not occur.

XI. Toxicological Information Not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.

XII. Ecological Information This product or a similar product is toxic to fish.

XIII. Disposal Considerations

Incineration and/or disposal in chemical landfill. Disposer must comply with federal, state, and local disposal or discharge laws.

RCRA Status of Unused Material if Discarded: Not a hazardous waste.

Hazardous Waste Number: N/A

XIV. Transport Information

Not DOT regulated. Not a RCRA hazardous waste.

Label Instructions: Signal Word: **"Caution! Products are extremely slippery! "**

XV. Regulatory Information

Reportable Quantity (EPA 40 CFR 302): N/A

Threshold Planning Quantity (EPA 40 CFR 355): N/A

Toxic Chemical Release Reporting (EPA 40 CFR 372): N/A

SARA TITLE 3: Section 311 Hazard Categorizations (40CFR 370): N/A

SARA TITLE 3: Section 313 Information (40CFR 372): N/A

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Information (40CFR 302.4) N/A

US TSCA: Product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.

XVI. Other Information

		Scale
Health	0	4 = Severe
Flammability	1	3 = Serious
Reactivity	0	2 = Moderate
Personal Protection	**F**	1 = Slight
		0 = Insignificant

Personal Protective Equipment Guide

A = Safety Glasses

B = Safety Glasses, Gloves

C = Safety Glasses, Gloves, Apron

D = Gloves, Apron, Face shield

E = Safety Glasses, Gloves, and Dust Respirator

F = Safety Glasses, Gloves, Apron and Dust Respirator

G = Safety Glasses, Gloves, and Vapor Respirator

H = Splash Goggles, Gloves, Apron, Vapor Respirator

I = Safety Glasses, Gloves, and Dust & Vapor Respirator

J = Splash Goggles, Gloves, Apron, and Dust & Vapor Respirator

K = Air Line Hood/Mask, Gloves, Full Suit, Boots

X = Ask supervisor for special handling instructions

ABBREVIATIONS:

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short-Term Exposure Limit
ANSI - American National Standard Institute
MSHA - Mine Safety and Health Administration
NIOSH - National Institute for Occupational Safety & Health
NA - Not Applicable
NE - Not Established
NR - Not Required
PPE - Personal Protective Equipment
LEL - Lower Exposure Level
UEL - Upper Exposure Level

Material Safety Data Sheet

Product Name: LRT E50
MSDS #: 40

Effective date: 3/15/2004

Section 1 – Chemical Product and Company Information

PRODUCT NAME: LRT E50
SYNONYMS: Water And Wastewater Treatment Coagulant/Flocculant
DISTRIBUTOR: Lockwood Remediation Technologies, LLC
89 Crawford Street, Leominster, Massachusetts 01453
Tel: 774-450-7177
Fax: 885-835-0617

NFPA Rating		HMIS Rating	
HEALTH:	1	HEALTH:	1
FLAMMABILITY:	0	FLAMMABILITY:	0
REACTIVITY:	0	REACTIVITY:	0

EMERGENCY TELEPHONE NUMBER: CHEMTREC 1-800-424-9300

EMERGENCY OVERVIEW

Clear to slightly hazy, colorless to yellow liquid with no appreciable odor. May cause skin, eye and respiratory irritation.

Section 2 - Composition Information

INGREDIENTS	CAS NO.	% WT/WT	PEL		TLV	
Trade Secret Ingredients	Trade Secret	100	*15	mg/m^3 (TD)	SOLUBLE SALTS:	
			*5	mg/m^3 (RF)	*2	mg/m^3 (TWA)

*Aluminum metal, (as Al)

LISTED AS CARCINOGEN BY:

IARC: NO NTP: NO
OSHA: NO ACGIH: NO

PEL:	OSHA Permissible Exposure Limit	TWA:	Time Weighted Average, 8-hr	TD:	Total dust
STEL:	Short Term Exposure Limit	TLV:	ACGIH Threshold Limit	ND:	Nuisance dust
HI:	Hazardous Ingredient	C.LIM:	Ceiling Limit	INP:	Inhalable Particulate
OM:	Oil mist	WF:	Wax fume	RF:	Respirable fraction
ST:	Skin TWA				

Section 3 - Hazards Identification

ROUTES OF EXPOSURE

INHALATION: Inhalation of mist or spray may irritate respiratory tract.

SKIN CONTACT: May cause skin irritation, especially on prolonged contact.

SKIN ABSORBTION: No Data

EYE CONTACT: Direct eye contact may cause irritation, redness, and swelling. Prolonged exposure to Aluminum salts may cause conjunctivitis.

INGESTION: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

EFFECTS OF OVEREXPOSURE

ACUTE OVEREXPOSURE: Possible eye, skin and respiratory tract irritation.

CHRONIC OVEREXPOSURE: May aggravate existing skin, eye, and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

Section 4 - First Aid Measures

EYES: Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek medical attention.

SKIN: Wash thoroughly with soap and water, remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention if irritation should develop.

INHALATION: Remove to fresh air.

INGESTION: Seek medical attention immediately. Give large amounts of water to drink. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other an this product may have occurred.

Section 5 - Fire Fighting Measures

FLASHPOINT: NAPL

AUTOIGNITION TEMPERATURE: NAPL

FLAMMABLE LIMITS IN AIR, % BY VOLUME:

LOWER FLAMMABILITY LIMIT: NAPL

UPPER FLAMMABILITY LIMIT: NAPL

EXTINGUISHING MEDIA: Water Spray, Carbon Dioxide, Foam, Dry Chemical.

FIRE OR EXPLOSION HAZARDS: May produce hazardous fumes or hazardous decomposition products.

FIRE FIGHTING PROCEDURES: Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container; cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing vapors or dust.

Material Safety Data Sheet

Section 6 - Accidental Release Measures

Stop leaks. Clean up spill immediately. Build dikes as necessary to contain flow of large spills. Do not allow liquid to enter stream or waterways. For small spills, use soda ash or lime to neutralize, an inert material to absorb, or wash product to a chemical sewer. Place contaminated materials into containers and store in a safe place to await proper disposal. Wear adequate personal protective clothing and equipment. Caution use of soda ash or lime may generate carbon dioxide gas. Provide adequate ventilation to spill area. Approved breathing apparatus may be necessary.

Section 7 - Handling and Storage

PRECAUTIONARY STATEMENTS:

CAUTION!
MAY CAUSE IRRITATION.
Avoid contact with eyes, skin, and clothing.
Avoid breathing mist or spray.
Wear chemical splash goggles, gloves, and protective clothing when handling.
Use with adequate ventilation and employ respiratory protection where mist or spray may be generated.
Wash thoroughly after handling.
May be harmful if swallowed or inhaled.
Keep away from heat and open flame.
Keep container closed when not in use.
FOR INDUSTRIAL USE ONLY.

HANDLING/STORAGE REQUIREMENTS:

Store in a cool, dry place away from direct heat. Keep container tightly closed when not in use. Do not store in unlined metal containers. Product may slowly corrode iron, brass, copper, aluminum and mild steel.

Section 8 - Exposure Controls/Personal Protection

VENTILATION REQUIREMENTS:	Local exhaust ventilation recommended.
EYE PROTECTION:	Chemical splash goggles and/or face shield.
SKIN PROTECTION:	Chemical resistant gloves.
RESPIRATORY PROTECTION:	When exposures exceed the PEL, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.
OTHER REQUIRED EQUIPMENT:	Standard work clothing and work shoes. Safety shower and eye wash located in immediate area.

Material Safety Data Sheet

Section 9 - Physical and Chemical Properties

APPEARANCE:	Clear to slightly hazy, colorless to yellow liquid			
ODOR:	Odorless			
SOLUBILITY IN WATER:	Soluble	pH:	3.5 (AS IS)	
SPECIFIC GRAVITY (WATER=1):	1.33-1.35	DENSITY @ 25°C:	11.0-11.3	lb/gal
BOILING POINT:	~220°F(104°C)	MELTING POINT:	NAV	
FREEZING POINT:	~19°F(-7°C)	EVAPORATION RATE:	NAV	
VAPOR PRESSURE:	NAV	VAPOR DENSITY (AIR=1):	NAV	
VISCOSITY:	<50 cps	VOLATILES BY WEIGHT:	40-50%	

Section 10 - Stability and Reactivity

STABLE: YES HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID:	NONE
IINCOMPATIBLE MATERIALS:	Product is incompatible with alkalis.
DECOMPOSITION PRODUCTS:	Thermal decomposition may release toxic and/or hazardous gases such as aluminum, Cl2, and HCl.

Section 11 Toxicological Information

Skin Irritation (human): 150 mg/3D-I Mild irritation effects (1)

(1) "Cutaneous Toxicity" Drill, V. A. and P. Lazar, eds., New York, NY, Academic Press, 1977

Material Safety Data Sheet

Section 12 - Ecological Information

BOD5:	mg 02/mg:	NAV
	ppm:	NAV
	Biodegradable, %:	NAV
BOD28:	mg 02/mg:	NAV
	ppm:	NAV
	Biodegradable, %:	NAV
COD:	mg 02/mg:	NAV
	ppm:	NAV
	Biodegradable, %:	NAV

Aquatic Toxicity:

LC 50 (24 hour, static)	50 mg/L	Ceridaphnia dubia	(1)
LC 50 (48 hour, static)	5 mg/L	Ceridaphnia dubia	(1)

LC 50: Lethal concentration at which 50% of the subjects die

Generated from tests conducted by SEAUS Testing Laboratories Nov., 1993 using EPA /600-4-90/027

Section 13 - Disposal Considerations

Dispose of in accordance with all applicable federal, state and local regulations.

Section 14 - Transportation Information

DOT Proper Shipping Name:
NOT APPLICABLE, NOT RESTRICTED

Harmonized Tariff Schedule Number: 2827.49.50 00

Section 15 - Regulatory Information

This product does not contain any ingredients subject to the reporting requirements of SARA Title III, Section 313 (40 CFR Part 372).

SARA Section 311/312: Acute Health Hazard.
TSCA: Components found in TSCA Inventory.

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

MATERIAL SAFETY DATA SHEET

Revision Date: 11/11

1.1 IDENTIFICATION OF PRODUCT.

Designation: - Activated carbon

1.2 COMPANY.

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
Phone: 774-450-7177
Fax: 888-835-0617

2 HAZARDOUS AND OTHER INGREDIENTS.

Exposure limits may vary. It is recommended that information about locally applicable exposure limits be obtained.

%w/w	Compound	CAS No	MAK mg/m^3	TLV mg/m^3	PEL mg/m^3
			(Germany)	(ACGIH)	(OSHA)
100	Bituminous Carbon	7440-44-0		2 mg/m3	15 mg/m3
			T Dust	T dust	

3 PHYSICAL DATA.

State:	Solid
Appearance:	Black granule, extradite, or powder
pH:	Not applicable
Boiling point or range:	Sublimes
Melting point or range:	3550 C (6422 F)
Vapor pressure:	1 @3586 C (6487 F)
Vapor density:	0.4
Density relative to water:	1.5 – 1.8 Specific gravity
Solubility in water:	Insoluble in water
Partition coefficient: (n-octanol/water):	
Other data:	odorless

4 FIRE AND EXPLOSION HAZARD DATA.

Fire, explosion and reactivity hazards:	Flammable.
Flammability and flammability limits:	Flammable.
Autoflammability:	Not applicable.
Explosive properties:	Non explosive.
Oxidizing properties:	Non oxidizing.

Fire fighting measures:
As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration 0.140 g/l.

Fire Extinguishing Media:
Water or water spray.

Unusual Fire and Explosion Hazards:
Contact with strong oxidize such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5 STABILITY AND REACTIVITY DATA.

The product is stable under normal handling and storage conditions.

Conditions to avoid:	Incompatibilities.
Materials to avoid:	Liquid air and oxidizing materials. Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc
Hazardous decomposition products:	Involvement in a fire causes formation of carbon dioxide and carbon monoxide.

Emergency Overview

WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

CAUTION!!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal regulations.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; CLASS B EXTINGUISHER
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
May cause mild irritation to the respiratory tract. The acute inhalation LC50 (Rat) is >64.4 mg/l (nominal concentration) for activated carbon.

Ingestion:
No adverse effects expected. May cause mild irritation to the gastrointestinal tract. The acute oral LD50 (Rat) is >10g/kg.

Skin Contact:
Not expected to be a health hazard from skin exposure. May cause mild irritation and redness. The primary skin irritation index (Rabbit) is 0.

Eye Contact:
No adverse effects expected. May cause mild irritation, possible reddening.

Chronic Exposure:
Prolonged inhalation of excessive dust may produce pulmonary disorders. The effects of long-term, low-level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.

Aggravation of Pre-existing Conditions:
No information found.

6. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
Give several glasses of water to drink to dilute. If large amounts were swallowed, seek medical attention.

Skin Contact:
Not expected to require first aid measures. Wash exposed area with soap and water. Seek medical attention if irritation develops.

Eye Contact:
Wash thoroughly with running water for at least 15 minutes. Seek medical attention if irritation develops.

7. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Warning! Spent product may have absorbed hazardous materials.

8. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

CAUTION!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal or national regulations.

9. Exposure Controls/Personal Protection

Exposure Guidelines:
OSHA PEL*:
5mg/M3 (Respirable)
ACGIH TLV*:
10 mg/M3 (Total)
*PELs and TLVs are 8-hour TWAs unless otherwise noted.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

10. Toxicological Information

Investigated as a reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Activated Carbon (7440-44-0)	No	No	None

11. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
No information found.

12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

13. Transport Information

Proper Shipping Name:
NOT REGULATED
Hazard Class:
N/A
Identification Number:
N/A
Packing Group:
N/A
This product has been tested according to the United Nations *Transport of Dangerous Goods* test protocol for spontaneously combustible materials. It has been specifically determined that this product does not meet the definition of a self heating substance or any hazard class, and therefore is not a hazardous material and not regulated.

14. Regulatory Information

SARA TITLE III:
N/A
TSCA:
The ingredients of this product are on the TSCA Inventory List.
OSHA:
Nonhazardous according to definitions of health hazard and physical hazard provided in the Hazard Communication Standard (29 CFR 1910.1200)
CANADA

WHMIS CLASSIFICATION:
Not Classified
DSL#:
6798
EEC
Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations.
Risk (R) and Safety (S) phrases:
May be irritating to eyes (R36).

15. Other Information

NFPA Ratings: Health: 0 **Flammability:** 1 **Reactivity:** 0

Label Hazard Warning:
WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

Label Precautions:
Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

MATERIAL SAFETY DATA SHEET

ION EXCHANGE RESINS

Product Name: CG10-H, CG10-H-ULTRA, CG10-H-LTOC, CG10-H-SC, CG10-H-NG, CG10-H-C, CG10-H-F, CG10-H-UPS, CG8-H, CG8-H-ULTRA, CG8-H-LTOC, CG8-H-SC, CG8-H-NG, CG8-H-C, CG8-H-F, CG8-H-UPS, CGS-H, CGS-H-C, CGS-H-F, CGS-H-UPS, CG6-H, GP-SAC-H

Cation Exchange Resin, Hydrogen Form

Effective Date: 11/1/07

1. Company Information:

Company Address:

ResinTech, Inc.
1 ResinTech Plaza
160 Cooper Road
West Berlin, NJ 08091 USA

Information Numbers:

Phone Number: 856-768-9600
Fax Number: 856-768-9601
Email: ixresin@resintech.com
Website: www.resintech.com

2. Composition/Ingredients:

Sulfonated copolymer of styrene and divinylbenzene in the hydrogen form. CAS# 69011-20-7 (35 – 65%)

Water CAS# 7732-18-5 (35 – 65%)

This document is prepared pursuant to the OSHA Hazard Communication Standard (29CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

3. Physical/Chemical Data:

Boiling Point:	Not Applicable
Vapor Pressure (MM HG):	Not Applicable
Evaporation Rate (water = 1):	1
Appearance & Odor:	Amber solid beads. No to low odor.
Specific Gravity:	1.2 (water = 1)
Melting Point (deg. F)	Not applicable
Solubility in Water:	Insoluble
Thermal:	May yield oxides of carbon and nitrogen
Vapor Density:	Not Applicable

Product Hazard Rating	Scale
Toxicity = 0	0 = Negligible
Fire = 0	1 = Slight
Reactivity = 0	2 = Moderate
Special – N/A	3 = High
	4 = Extreme

4. Fire & Explosion Hazard Data

Flammable Limits:	800 ° Deg. F
Unusual Fire & Explosion Hazards:	Product is not combustible until moisture is removed, then resin starts to burn in flame at

	230 C. Autoignition occurs above 500C. Possible fire.
Combustion Products:	Hazardous combustion products may include and are not limited to: hydrocarbons, sulfur oxides, organic sulfonates, carbon monoxide, carbon dioxide, benzene compounds.
Extinguishing Media:	Water, CO_2, Talc, Dry Chemical
Special Fire Fighting Procedures:	MSHA/NIOSH approved self-contained breathing gear.

5. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Temperatures above 400° F
Hazardous by Products:	See Section 3 above for possible combustion products.
Materials to avoid contact with:	Strong oxidizing agents (i.e. nitric acid)
Hazardous Polymerization:	Material does not polymerize
Storage:	Store in a cool dry place

6. Health Hazards & Sara (Right to Know)

Emergency First Aid Procedures:	Contact with eyes can and skins can cause irritation.
Skin Absorption:	Skin absorption is unlikely due to physical properties.
Ingestion:	Single dose oral LD50 has not been determined. Single does oral toxicity is believed to be low. No hazards anticipated from ingestion incidental to industrial exposure.
Inhalation:	Vapors are unlikely due to physical properties.
Systemic & Other Effects:	No specific data available, however, repeated exposures are not anticipated to cause any significant adverse effects.
Carcinogenicity:	Not Applicable
Sara – title 3, sections 311 & 312:	All ingredients are non-hazardous

7. First Aid

Eyes:	Irrigate immediately with water for at least 5 minutes. Mechanical irritation only.
Skin:	No adverse effects anticipated by this route of exposure.
Ingestion:	No adverse effects anticipated by this route of exposure incidental to proper industrial handling.
Inhalation:	No adverse effects anticipated by this route of exposure.

8. Control Measures

Respiratory protection:	Not required for normal uses if irritation occurs from breathing-get fresh air!
Eye protection:	Splash goggles
Ventilation:	Normal
Protective Gloves:	Not required.

9. Safe handling procedures

In Case of Spills:	Sweep up material and transfer to containers. Use caution – the floor will be slippery!

Disposal Method**:**	Bury resin in licensed landfill or burn in approved Incinerator according to local, state, and federal regulations. For resin contaminated with hazardous material, dispose of mixture as hazardous material according to local, state and federal regulations.

10. Additional Information:

Special precautions to be taken in handling and storage**:**	Practice reasonable care and caution. Metal equipment with feed, regenerant, resin form, and effluent of that process.
TSCA Considerations:	Every different salt or ionic form of an ion-exchange resin is a separate chemical. If you use an ion-exchange resin for ion-exchange purposes and then remove the by-product resin from its vessel or container prior to recovery of the original or another form of the resin or of another chemical, the by-product resin must be listed on the TSCA Inventory (unless an exemption is applicable). It is the responsibility of the customer to ensure that such isolated, recycled by-product resins are in compliance with TSCA. Failure to comply could result in substantial civil or criminal penalties being assessed by the Environmental Production Agency.
MSDS Status:	Canadian regulatory information added.

11. Regulatory Information: (Not meant to be all-inclusive—selected regulations represented.)

Notice:	The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

12. Canadian Regulations:

WHMIS Information**:**	The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is: This product is not a "Controlled Product" under WHMIS.
Canadian TDG Information:	For guidance, the Transportation of Dangerous Good Classification for this product is: Not Regulated.