



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

OCT 02 2012

Michael O'Keefe
Licensing Manager
Next Era Energy Seabrook, LLC
626 Lafayette Rd. P.O. Box 300
Seabrook, NH 03874

Re: Authorization to discharge under the Remediation General Permit (RGP) – 910000.
Next Era Energy Seabrook, LLC site located at 626 Lafayette Rd. P.O. Box 300
Seabrook, NH 03874, Rockingham County, Authorization # NHG910059

Dear Mr. O'Keefe:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Seabrook Station by Allen Legendre, Jr. from FPL Energy from Seabrook Station, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and 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 check list 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 the parameters which you have marked "Believed Present".

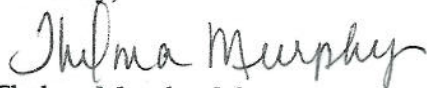
Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. With the absence of dilution of freshwater into tidal water, EPA determined that the Dilution Factor Range (DFR) for each parameter for this site is in the one and five (1-5) range. (See the RGP Appendix IV for New Hampshire

facilities). Therefore, the limits for arsenic of 36 ug/L, copper of 3.7 ug/L, mercury of 1.1 ug/L, zinc of 85.6 ug/L and iron of 1,000 ug/L, are required to achieve permit compliance at your site.

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

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

Sincerely,



Thelma Murphy, Manager
Storm Water and Construction
Permits Section

Enclosure

cc: Jeff Andrews, NHDES
Allen L. Legendre Jr., FPL Energy Seabrook Station

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

NPDES Permit Number:	NHG910059
Authorization Issued:	September, 2012
Facility/Site Name:	Next Era Energy Seabrook, LLC
Facility/Site Address:	626 Lafayette Rd. P.O. Box 300 Seabrook, NH 03874, Rockingham County
	Email address of owner; michael.o'keefe@fpl.com ; phone n: 603- 773-7745
Legal Name of Operator:	Next Era Energy Seabrook, LLC
Operator contact name, title, and Address:	Michael O'Keefe, Licensing Manager
	Email: same as the owner
Estimated Date of Completion:	November 30, 2012
Category and Sub-Category:	NOT SELECTED
Receiving Water:	Atlantic Ocean

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

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) **, 50 mg/l for hydrostatic testing **, Me#60.2/5mL
	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/5.0mg/LmL
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/l **/ Me#335.4/ML 5ug/L
	5. Benzene (B)	5ug/L /50.0 ug/l for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX))/ Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX))/ Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/l)/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether	70.0 ug/l /Me#8260C/ ML 10ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	(MtBE)	
	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/ ML5ug/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/ML50 ug/L
	31. Total Phenols	300 ug/l Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML50 ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/l /Me#8270D/ML5ug/L,Me#604 &625/ML10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML5ug/L,Me#606/ML10ug/L& Me#625/ML5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/l /Me#8270D/ML5ug/L,Me#606/ML10ug/L& Me#625/ML5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l
	a. Benzo(a) Anthracene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/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)
		Me#610/ML5ug/L & Me#625/ML5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	e. Chrysene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l
	h. Acenaphthene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	i. Acenaphthylene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	j. Anthracene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	l. Fluoranthene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	m. Fluorene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	o. Phenanthrene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/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 0.1ug/L

Metal parameter		Total Recoverable Metal Limit @ H ¹⁰ = 25 mg/l CaCO₃ for Discharges in New Hampshire (ug/l) ¹¹	
			Saltwater
	39. Antimony		5.6/10mL
✓	40. Arsenic **		36/20mL
	41. Cadmium **		9.3/10mL
	42. Chromium III (trivalent) **		100/15mL

	Metal parameter	Total Recoverable Metal Limit @ H¹⁰ = 25 mg/l CaCO₃ for Discharges in New Hampshire (ug/l)¹¹		
				Saltwater
	43. Chromium VI (hexavalent) **			50.3/10mL
✓	44. Copper **			3.7/15mL
	45. Lead **			8.5/20mL
✓	46. Mercury **			1.1/0.2mL
	47. Nickel **			8.2/20mL
	48. Selenium **			71/20mL
	49. Silver			2.2/10mL
✓	50. Zinc **			85.6/15mL
✓	51. Iron			1,000/20mL

	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
	65. Dioxin	Monitoring Only

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.

⁹Although 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

58K-L-12-205

NPDES Permit No. MAG910000
NPDES Permit No. NHG910000

NH 910059

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: <u>NextEra Energy Seabrook LLC</u>		Facility/site mailing address:	
Location of facility/site: longitude: <u>70° 50' 57" W</u> latitude: <u>42° 53' 55" N</u>		Street: <u>606 Lafayette Rd</u> <u>P.O. Box 300</u>	
b) Name of facility/site owner: *		Town: <u>Seabrook</u>	
Email address of facility/site owner: <u>Michael.okeefe@fpl.com</u>		State: <u>NH</u> Zip: <u>03874</u> County: <u>Rockingham</u>	
Telephone no. of facility/site owner: <u>603 773-7745</u>		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Fax no. of facility/site owner: <u>603 773-7740</u>		3. Private ☒ 4. Other ☐ if so, describe:	
Address of owner (if different from site):			
Street:			
Town:		State:	
Zip:		County:	
c) Legal name of operator: <u>NextEra Energy Seabrook LLC</u>		Operator telephone no:	
Operator contact name and title: <u>Michael O'Keefe, Licensing Manager</u>		Operator fax no.:	
Address of operator (if different from owner):		Operator email:	
Street:			
Town:		State:	
Zip:		County:	

Remediation General Permit
Appendix V - NOI

Page 10 of 22

* Facility is jointly owned:

NextEra Energy Seabrook (88.229%)
Massachusetts Municipal Wholesale Elec. (11.593%)
Taunton Municipal Lighting (0.190%)
Hudson Light and Power Dept (0.077%)

d) Check Y for "yes" or N for "no" for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☐ N ☒, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y ☐ N ☒, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ☐ N ☒
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ☐ N ☒

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☐ N ☒

If Y, please list:

1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:

1. Multi-Sector General Permit? Y ☐ N ☒, if Y, number: NH8058M65
2. Final Dewatering General Permit? Y ☐ N ☒, if Y, number:
3. EPA Construction General Permit? Y ☐ N ☒, if Y, number:
4. Individual NPDES permit? Y ☐ N ☒, if Y, number: NH 008-0338
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. N/A. Discharge is unevaluated groundwater from an excavation. *

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 ☐

* Local background levels for arsenic and copper exceed RGP App. 111 (Sec. 3 #40 and #44).

IV - Miscellaneous Related Discharges

- A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐
B. Well Development/Rehabilitation at Contaminated/Fomerly 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:

Discharge of uncontaminated groundwater from an excavation after sediment removal to the storm drain system connected to the ocean outfall (NPDES Permit NH000338)

b) Provide the following information about each discharge:

1) Number of discharge points: <u>1</u> *	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow <u>< 100 GPM</u> Is maximum flow a design value? Y ☐ N ☒ Average flow (include units) <u>< 100 GPM</u> Is average flow a design value or estimate? <u>estimate</u>																
3) Latitude and longitude of each discharge within 100 feet: <table border="1"> <tr> <td>pt.1: lat <u>42°53'43" N</u></td> <td>long <u>70°47'27" W</u></td> <td>pt.2: lat</td> <td>long</td> <td>pt.3: lat</td> <td>long</td> <td>pt.4: lat</td> <td>long</td> <td>pt.5: lat</td> <td>long</td> <td>pt.6: lat</td> <td>long</td> <td>pt.7: lat</td> <td>long</td> <td>pt.8: lat</td> <td>long</td> </tr> </table> * ocean outfall ~ 500' off Seabrook Beach. NPDES Permit outfall 001 etc. Permit outfall 001		pt.1: lat <u>42°53'43" N</u>	long <u>70°47'27" W</u>	pt.2: lat	long	pt.3: lat	long	pt.4: lat	long	pt.5: lat	long	pt.6: lat	long	pt.7: lat	long	pt.8: lat	long
pt.1: lat <u>42°53'43" N</u>	long <u>70°47'27" W</u>	pt.2: lat	long	pt.3: lat	long	pt.4: lat	long	pt.5: lat	long	pt.6: lat	long	pt.7: lat	long	pt.8: lat	long		
4) If hydrostatic testing, total volume of the discharge (gals) ☐	5) Is the discharge intermittent ☒ or seasonal ☐ ? <u>Visual inspection/repair of buried pipe requires excavation dewatering</u>																
c) Expected dates of discharge (mm/dd/yy): start <u>9/27/2012</u> end <u>11/30/2012</u>																	
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 water(s) <u>Attached drawing from NPDES Permit NH000338 Renewal Application (pending)</u>																	

* 100 gpm = .2228 ft³/sec

3. Contaminant information.

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value concentration (ug/l)	mass (kg)	Average daily value concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	0							
2. Total Residual Chlorine (TRC)		☒	☐	0							
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	0							
4. Cyanide (CN)	57125	☒	☐	1	grab	4500CNE	2.0	< 20			
5. Benzene (B)	71432	☒	☐	1	grab	624	1	< 1			
6. Toluene (T)	108883	☒	☐	1	grab	624	1	< 1			
7. Ethylbenzene (E)	100414	☒	☐	1	grab	624	1	< 1			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	grab	624	1	< 1			
9. Total BTEX ²	n/a	☒	☐	1	grab	624	1	< 1			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☐	☐								
11. Methyl-tert-Butyl Ether (MTBE)	1634044	☒	☐	1	grab	624	10	< 10			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	0							

* 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 concentration (ug/l)	mass (kg)	Average daily value concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	0							
14. Naphthalene	91203	☒	☐	1	grab	625nd	1	< 1			
15. Carbon Tetrachloride	56235	☒	☐	1	grab	624	2	< 2			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	grab	624	1	< 1			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	grab	624	1	< 1			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	grab	624	1	< 1			
18a. Total dichlorobenzene		☒	☐	1	grab	624	1	< 1			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	grab	624	2	< 2			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	grab	624	2	< 2			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	grab	624	1	< 1			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	grab	624	2	< 2			
23. Methylene Chloride (PCE)	75092	☒	☐	1	grab	624	5	< 5			
24. Tetrachloroethene (PCE)	127184	☒	☐	1	grab	624	2	< 2			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	grab	624	2	< 2			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	grab	624	2	< 2			
27. Trichloroethene (TCE)	79016	☒	☐	1	grab	624	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 concentration (ug/l)	mass (kg)	Average daily value concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	grab	6224	2	<2			
29. Acetone	67641	☒	☐	1	grab	6224	50	<50			
30. 1,4 Dioxane	123911	☒	☐	0							
31. Total Phenols	108952	☒	☐	1	grab	625mod	1	<1			
32. Pentachlorophenol (PCP)	87865	☒	☐	1	grab	625mod	5	<5			
33. Total Phthalates (Phthalate esters) ⁴		☒	☐	0*							
34. Bis (2-Ethylhexyl) Phthalate [Di-ethylhexyl] Phthalate]	117817	☒	☐	1	grab	625mod	5	<5			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0*							
a. Benzo(a) Anthracene	56553	☒	☐	1	grab	625mod	1	<1			
b. Benzo(a) Pyrene	50328	☒	☐	1	grab	625mod	1	<1			
c. Benzo(b) Fluoranthene	205992	☒	☐	1	grab	625mod	1	<1			
d. Benzo(k) Fluoranthene	207089	☒	☐	1	grab	625mod	1	<1			
e. Chrysene	21801	☒	☐	1	grab	625mod	1	<1			
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	grab	625mod	1	<1			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	grab	625mod	1	<1			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0*							

⁴ The sum of individual phthalate compounds.

* No individual phthalates detected

Remediation General Permit

Page 15 of 22

Appendix V - NOI

No individual Group I PAH
No individual Group II PAH

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	625mod	1	<1			
i. Acenaphthylene	208968	☒	☐	1	grab	625mod	1	<1			
j. Anthracene	120127	☒	☐	1	grab	625mod	1	<1			
k. Benzo(ghi) Perylene	191242	☒	☐	1	grab	625mod	1	<1			
l. Fluoranthene	206440	☒	☐	1	grab	625mod	1	<1			
m. Fluorene	86737	☒	☐	1	grab	625mod	1	<1			
n. Naphthalene	91203	☒	☐	1	grab	625mod	1	<1			
o. Phenanthrene	85018	☒	☐	1	grab	625mod	1	<1			
p. Pyrene	129000	☒	☐	1	grab	625mod	1	<1			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	grab	608	.3	<.3			
38. Chloride	16887006	☒	☐	0							
39. Antimony	7440360	☒	☐	1	grab	200.8	1	<1			
40. Arsenic	7440382	☒	☒	1	grab	200.8	1	56			
41. Cadmium	7440439	☒	☐	1	grab	200.8	1	<1			
42. Chromium III (trivalent)	16065831	☒	☐	1	grab	200.8	1	<1			
43. Chromium VI (hexavalent)	18540299	☒	☐	1	grab	200.8	1	<1			
44. Copper	7440508	☐	☒	1	grab	200.8	1	15			
45. Lead	7439921	☒	☐	1	grab	200.8	1	<1			
46. Mercury	7439976	☐	☒	1	grab	200.8	1	.4			
47. Nickel	7440020	☐	☒	1	grab	200.8	1	6			
48. Selenium	7782492	☒	☐	1	grab	200.8	1	<1			
49. Silver	7440224	☒	☐	1	grab	200.8	1	<1			
50. Zinc	7440666	☐	☒	1	grab	200.8	1	6			
51. Iron	7439896	☒	☐	0							
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 concentration (ug/l)	mass (kg)	Average daily value 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?

arsenic and copper

Step 2: For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?

Metal: arsenic DF 100 * dilution in Atlantic Ocean
Metal: copper DF 100 cooling water system and at discharge
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:

diffuser nozzles (continued)

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

Groundwater will be placed in frac tank for suspended solid removal. Effluent from frac tank will be filtered for additional sediment removal.

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):	Filtration of effluent from frac tank for additional sediment removal		

* dilution is approx 100:1 with one operating ocean service water pump and an additional 10:1 by the multipoint diffuser nozzles. 100:1 dilution is assumed.

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 100 gpm Maximum flow rate of treatment system N/A gpm

Design flow rate of treatment system N/A gpm

* No treatment proposed for naturally-occurring metals. Dilution will reduce to < ROP April 11

No chemicals will be used in dewatering operation

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

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

a) Identify the discharge pathway:	Direct to receiving water ☒	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe):
------------------------------------	---	--	---	-----------------------------------	-------------------

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Storm drain system is connected to open cycle ocean cooling water system

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 discharges, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water N/A cfs

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

Dioxin, Enterococcus, Bacteria, Mercury, PCB

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 ☐ *Discharge concentrations are < RGP App III levels*
- 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 ☐ *Discharge is 500' off Seabrook NH Beach.*
- 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:	NextEra Energy Seabrook, LLC
Operator signature:	
Printed Name & Title:	Michael O'Keefe, Licensing Manager
Date:	9/21/2012



NORMANDEAU ASSOCIATES, INC.
 25 Nashua Road
 Bedford, NH 03110-5500
 (603) 472-5191
 (603) 472-7052 (Fax)



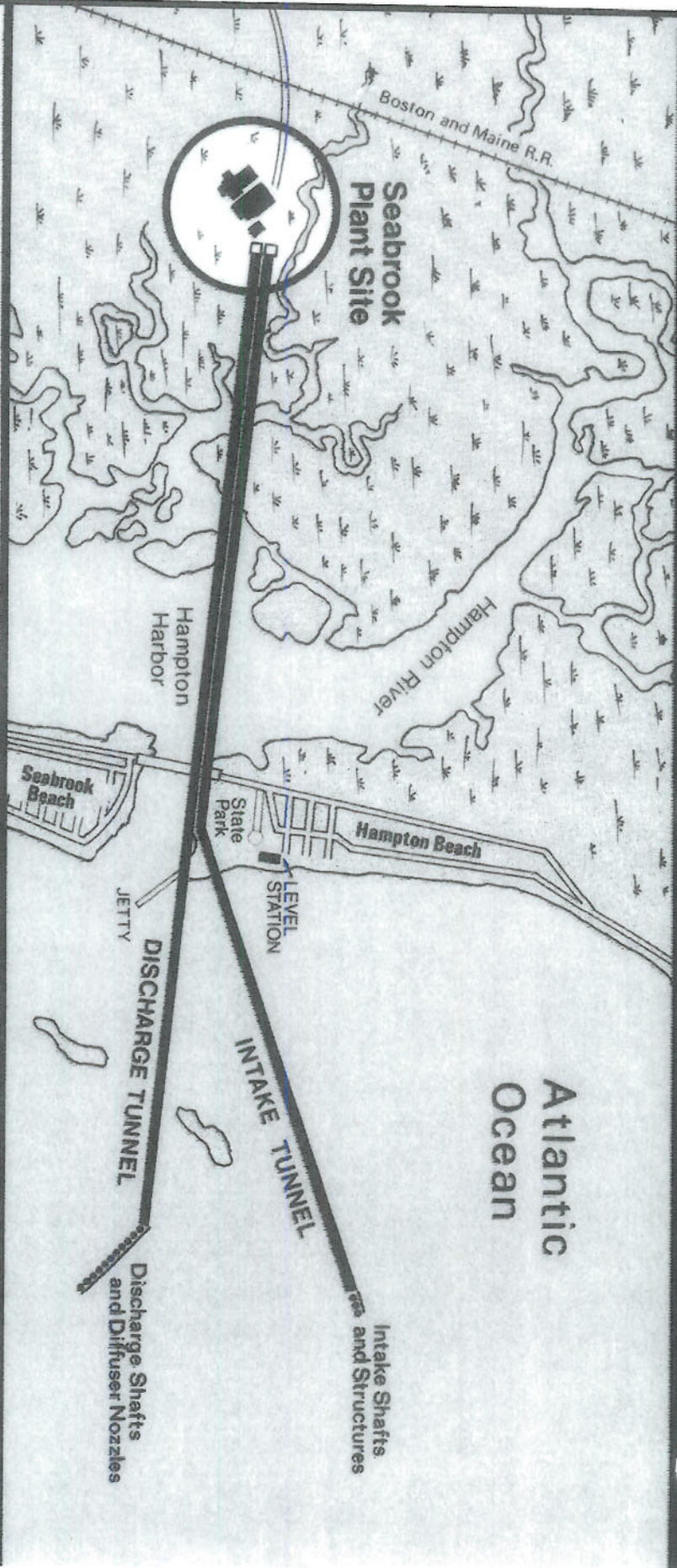
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Seabrook Station
Intake and Discharge Locations

Date September, 2006

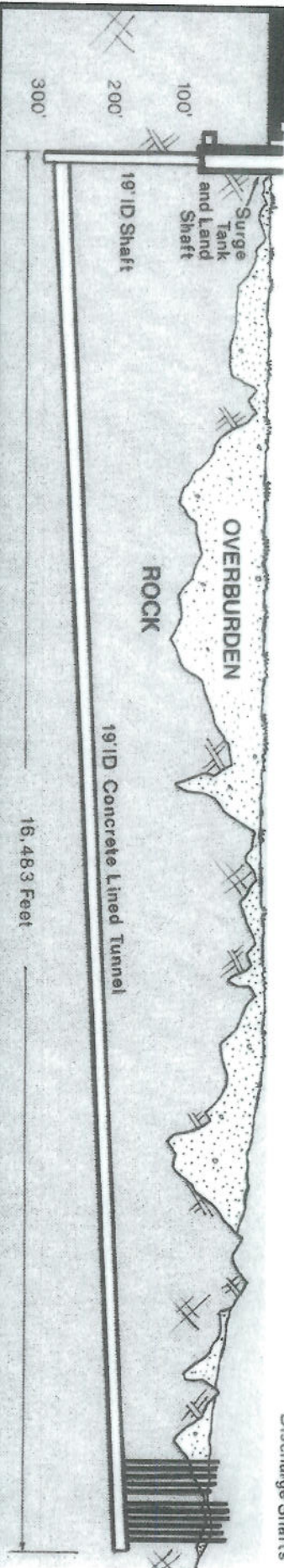


Figure 3-2. Location of Seabrook Nuclear Power Station.



Seabrook Plant

DISCHARGE TUNNEL AND SHAFTS





eastern analytical

professional laboratory services

Al Legendre

NextEra Energy Seabrook, LLC

Route 1, P.O. Box 300

Seabrook, NH 03874



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 107803

Client Identification: Seabrook Station-Buried Piping

Date Received: 2/17/2012

Dear Mr. Legendre :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,


Lorraine Olashaw, Lab Director

3.15.12
Date

39
of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Temperature upon receipt (°C): 6

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date	Date	Sample	% Dry	Exceptions/Comments (other than thermal preservation)
		Received	Sampled	Matrix	Weight	
107803.01	SW-5 12-045	2/17/12	2/16/12	aqueous		Adheres to Sample Acceptance Policy
107803.02	SW-5/12-046	2/17/12	2/16/12	aqueous		Adheres to Sample Acceptance Policy
107803.03	SW-5/12-047	2/17/12	2/16/12	aqueous		Adheres to Sample Acceptance Policy
107803.04	SW-5/12-048	2/17/12	2/16/12	aqueous		Adheres to Sample Acceptance Policy
107803.05	SW-5/12-049	2/17/12	2/16/12	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater: Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5 12-045

Lab Sample ID: 107803.01

Matrix: aqueous

Date Sampled: 2/16/12

Date Received: 2/17/12

Units: ug/l

Date of Analysis: 2/23/12

Analyst: KJP

Method: 624

Dilution Factor: 1

Chloromethane < 5

Vinyl chloride < 2

Bromomethane < 2

Chloroethane < 5

Trichlorofluoromethane < 5

Acrolein < 50

Acetone < 50

1,1-Dichloroethene < 1

Methylene chloride < 5

Acrylonitrile < 50

Methyl-t-butyl ether(MTBE) < 10

trans-1,2-Dichloroethene < 2

Vinyl acetate < 10

1,1-Dichloroethane < 2

cis-1,2-Dichloroethene < 2

2-Butanone(MEK) < 10

Chloroform < 2

1,1,1-Trichloroethane < 2

Carbon tetrachloride < 2

Benzene < 1

1,2-Dichloroethane < 2

Trichloroethene < 2

1,2-Dichloropropane < 2

Bromodichloromethane < 2

2-Chloroethylvinylether < 2

4-Methyl-2-pentanone(MIBK) < 10

cis-1,3-Dichloropropene < 2

Toluene < 1

trans-1,3-Dichloropropene < 2

1,1,2-Trichloroethane < 2

2-Hexanone < 10

Tetrachloroethene < 2

Dibromochloromethane < 2

Chlorobenzene < 2

Ethylbenzene < 1

mp-Xylene < 1

o-Xylene < 1

Styrene < 1

Bromoform < 2

1,1,2,2-Tetrachloroethane < 2

1,3-Dichlorobenzene < 1

1,4-Dichlorobenzene < 1

1,2-Dichlorobenzene < 1

4-Bromofluorobenzene (surr) 103 %R

1,2-Dichlorobenzene-d4 (surr) 103 %R

Toluene-d8 (surr) 103 %R



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 5	22 (112 %R)	20 (99 %R) (12 RPD)	2/23/2012	ug/l	0 - 273	20	624
Vinyl chloride	< 2	24 (121 %R)	22 (108 %R) (11 RPD)	2/23/2012	ug/l	0 - 251	20	624
Bromomethane	< 2	24 (120 %R)	23 (115 %R) (4 RPD)	2/23/2012	ug/l	0 - 242	20	624
Chloroethane	< 5	19 (93 %R)	18 (92 %R) (1 RPD)	2/23/2012	ug/l	14 - 230	20	624
Trichlorofluoromethane	< 5	20 (99 %R)	19 (95 %R) (4 RPD)	2/23/2012	ug/l	17 - 181	20	624
Acrolein	< 50	< 50 (%R N/A)	< 50 (%R N/A) (RPD N/A)	2/23/2012	ug/l	40 - 160	20	624
Acetone	< 50	< 50 (91 %R)	< 50 (87 %R) (4 RPD)	2/23/2012	ug/l	40 - 160	20	624
1,1-Dichloroethene	< 1	20 (101 %R)	19 (96 %R) (5 RPD)	2/23/2012	ug/l	0 - 234	20	624
Methylene chloride	< 5	19 (94 %R)	19 (95 %R) (1 RPD)	2/23/2012	ug/l	0 - 221	20	624
Acrylonitrile	< 50	< 50 (95 %R)	< 50 (91 %R) (4 RPD)	2/23/2012	ug/l	40 - 160	20	624
Methyl-t-butyl ether(MTBE)	< 10	20 (113 %R)	20 (110 %R) (3 RPD)	2/23/2012	ug/l	70 - 130	20	624
trans-1,2-Dichloroethene	< 2	20 (102 %R)	19 (96 %R) (6 RPD)	2/23/2012	ug/l	54 - 156	20	624
Vinyl acetate	< 10	20 (119 %R)	20 (116 %R) (3 RPD)	2/23/2012	ug/l	40 - 160	20	624
1,1-Dichloroethane	< 2	20 (101 %R)	20 (98 %R) (3 RPD)	2/23/2012	ug/l	59 - 155	20	624
cis-1,2-Dichloroethene	< 2	20 (100 %R)	19 (97 %R) (3 RPD)	2/23/2012	ug/l	70 - 130	20	624
2-Butanone(MEK)	< 10	20 (89 %R)	20 (96 %R) (8 RPD)	2/23/2012	ug/l	40 - 160	20	624
Chloroform	< 2	22 (109 %R)	21 (104 %R) (5 RPD)	2/23/2012	ug/l	51 - 138	20	624
1,1,1-Trichloroethane	< 2	22 (111 %R)	21 (107 %R) (4 RPD)	2/23/2012	ug/l	52 - 162	20	624
Carbon tetrachloride	< 2	22 (110 %R)	22 (108 %R) (2 RPD)	2/23/2012	ug/l	70 - 140	20	624
Benzene	< 1	20 (102 %R)	19 (97 %R) (5 RPD)	2/23/2012	ug/l	37 - 151	20	624
1,2-Dichloroethane	< 2	21 (107 %R)	21 (104 %R) (3 RPD)	2/23/2012	ug/l	49 - 155	20	624
Trichloroethene	< 2	21 (105 %R)	20 (99 %R) (6 RPD)	2/23/2012	ug/l	71 - 157	20	624
1,2-Dichloropropane	< 2	19 (97 %R)	19 (95 %R) (2 RPD)	2/23/2012	ug/l	0 - 210	20	624
Bromodichloromethane	< 2	22 (110 %R)	21 (107 %R) (3 RPD)	2/23/2012	ug/l	35 - 155	20	624
2-Chloroethylvinylether	< 2	< 2 (%R N/A)	< 2 (%R N/A) (RPD N/A)	2/23/2012	ug/l	0 - 305	20	624
4-Methyl-2-pentanone(MIBK)	< 10	20 (108 %R)	20 (106 %R) (2 RPD)	2/23/2012	ug/l	40 - 160	20	624
cis-1,3-Dichloropropene	< 2	22 (112 %R)	22 (109 %R) (3 RPD)	2/23/2012	ug/l	0 - 227	20	624
Toluene	< 1	21 (105 %R)	21 (103 %R) (2 RPD)	2/23/2012	ug/l	47 - 150	20	624
trans-1,3-Dichloropropene	< 2	19 (95 %R)	19 (95 %R) (0 RPD)	2/23/2012	ug/l	17 - 183	20	624
1,1,2-Trichloroethane	< 2	21 (104 %R)	20 (102 %R) (2 RPD)	2/23/2012	ug/l	52 - 150	20	624
2-Hexanone	< 10	20 (110 %R)	20 (108 %R) (2 RPD)	2/23/2012	ug/l	40 - 160	20	624
Tetrachloroethene	< 2	23 (113 %R)	22 (108 %R) (5 RPD)	2/23/2012	ug/l	64 - 148	20	624
Dibromochloromethane	< 2	22 (111 %R)	22 (111 %R) (0 RPD)	2/23/2012	ug/l	53 - 149	20	624
Chlorobenzene	< 2	20 (102 %R)	20 (101 %R) (1 RPD)	2/23/2012	ug/l	37 - 160	20	624
Ethylbenzene	< 1	21 (106 %R)	21 (106 %R) (0 RPD)	2/23/2012	ug/l	37 - 162	20	624
mp-Xylene	< 1	42 (105 %R)	41 (103 %R) (2 RPD)	2/23/2012	ug/l	70 - 130	20	624
o-Xylene	< 1	21 (105 %R)	21 (105 %R) (0 RPD)	2/23/2012	ug/l	70 - 130	20	624
Styrene	< 1	21 (107 %R)	21 (107 %R) (0 RPD)	2/23/2012	ug/l	70 - 130	20	624
Bromoform	< 2	19 (95 %R)	19 (96 %R) (1 RPD)	2/23/2012	ug/l	45 - 169	20	624
1,1,2,2-Tetrachloroethane	< 2	19 (97 %R)	20 (100 %R) (3 RPD)	2/23/2012	ug/l	46 - 157	20	624
1,3-Dichlorobenzene	< 1	21 (103 %R)	20 (100 %R) (3 RPD)	2/23/2012	ug/l	59 - 156	20	624
1,4-Dichlorobenzene	< 1	20 (100 %R)	20 (100 %R) (0 RPD)	2/23/2012	ug/l	18 - 190	20	624
1,2-Dichlorobenzene	< 1	20 (101 %R)	20 (99 %R) (2 RPD)	2/23/2012	ug/l	18 - 190	20	624
4-Bromofluorobenzene (surr)	103 %R	105 %R	105 %R	2/23/2012	% Rec	70 - 130		624
1,2-Dichlorobenzene-d4 (surr)	103 %R	99 %R	100 %R	2/23/2012	% Rec	70 - 130		624

eastern analytical, inc.

www.eailabs.com

Phone: (603) 228-0525



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Toluene-d8 (surr)	103 %R	103 %R	103 %R	2/23/2012	% Rec	70 - 130		624

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*! Flagged analyte recoveries deviated from the QA/QC limits. Any impact to data is addressed below.



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-048

Lab Sample ID: 107803.04
Matrix: aqueous
Date Sampled: 2/16/12
Date Received: 2/17/12
Units: ug/l
Date of Extraction/Preparation: 2/22/12
Date of Analysis: 2/22/12
Analyst: JMR
Method: 625mod
Dilution Factor: 1

Phenol	< 1
2-Chlorophenol	< 1
2,4-Dichlorophenol	< 1
2,4,5-Trichlorophenol	< 1
2,4,6-Trichlorophenol	< 1
Pentachlorophenol	< 5
2-Nitrophenol	< 1
4-Nitrophenol	< 5
2,4-Dinitrophenol	< 5
2-Methylphenol	< 1
3/4-Methylphenol	< 1
2,4-Dimethylphenol	< 1
4-Chloro-3-methylphenol	< 1
4,6-Dinitro-2-methylphenol	< 5
Benzoic Acid	< 50
N-Nitrosodimethylamine	< 1
n-Nitroso-di-n-propylamine	< 1
n-Nitrosodiphenylamine	< 1
bis(2-Chloroethyl)ether	< 1
bis(2-chloroisopropyl)ether	< 1
bis(2-Chloroethoxy)methane	< 1
1,3-Dichlorobenzene	< 1
1,4-Dichlorobenzene	< 1
1,2-Dichlorobenzene	< 1
1,2,4-Trichlorobenzene	< 1
2-Chloronaphthalene	< 1
4-Chlorophenyl-phenylether	< 1
4-Bromophenyl-phenylether	< 1
Hexachloroethane	< 1
Hexachlorobutadiene	< 1
Hexachlorocyclopentadiene	< 5
Hexachlorobenzene	< 1
4-Chloroaniline	< 1
2-Nitroaniline	< 5
3-Nitroaniline	< 1
4-Nitroaniline	< 1
Benzyl alcohol	< 5
Nitrobenzene	< 1
Isophorone	< 1
2,4-Dinitrotoluene	< 1
2,6-Dinitrotoluene	< 1
Benzidine (estimated)	< 5
3,3'-Dichlorobenzidine	< 1
Pyridine	< 5
Azobenzene	< 1

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Phone: (603) 228-0525



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-048

Lab Sample ID:	107803.04
Matrix:	aqueous
Date Sampled:	2/16/12
Date Received:	2/17/12
Units:	ug/l
Date of Extraction/Preparation	2/22/12
Date of Analysis:	2/22/12
Analyst:	JMR
Method:	625mod
Dilution Factor:	1
Carbazole	< 1
Dimethylphthalate	< 1
Diethylphthalate	< 1
Di-n-butylphthalate	< 5
Butylbenzylphthalate	< 1
bis(2-Ethylhexyl)phthalate	< 5
Di-n-octylphthalate	< 1
Dibenzofuran	< 1
Naphthalene	< 1
2-Methylnaphthalene	< 1
Acenaphthylene	< 1
Acenaphthene	< 1
Fluorene	< 1
Phenanthrene	< 1
Anthracene	< 1
Fluoranthene	< 1
Pyrene	< 1
Benzo[a]anthracene	< 1
Chrysene	< 1
Benzo[b]fluoranthene	< 1
Benzo[k]fluoranthene	< 1
Benzo[a]pyrene	< 1
Indeno[1,2,3-cd]pyrene	< 1
Dibenz[a,h]anthracene	< 1
Benzo[g,h,i]perylene	< 1
2-Fluorophenol (surr)	37 %R
Phenol-d6 (surr)	28 %R
2,4,6-Tribromophenol (surr)	83 %R
Nitrobenzene-D5 (surr)	71 %R
2-Fluorobiphenyl (surr)	74 %R
p-Terphenyl-D14 (surr)	84 %R



QC REPORT

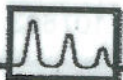
EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Batch ID: 734555-38279/A022212E6251

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Phenol	< 1	16 (31 %R)	15 (30 %R) (3 RPD)	2/22/2012	ug/l	15 - 130	20	625mod
2-Chlorophenol	< 1	29 (58 %R)	28 (57 %R) (2 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
2,4-Dichlorophenol	< 1	34 (69 %R)	33 (67 %R) (3 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
2,4,5-Trichlorophenol	< 1	19 (78 %R)	19 (75 %R) (4 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
2,4,6-Trichlorophenol	< 1	32 (65 %R)	32 (64 %R) (2 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
Pentachlorophenol	< 5	36 (72 %R)	34 (68 %R) (6 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
2-Nitrophenol	< 1	35 (69 %R)	33 (67 %R) (3 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
4-Nitrophenol	< 5	18 (35 %R)	17 (34 %R) (3 RPD)	2/22/2012	ug/l	15 - 130	20	625mod
2,4-Dinitrophenol	< 5	31 (61 %R)	30 (60 %R) (2 RPD)	2/22/2012	ug/l	15 - 130	20	625mod
2-Methylphenol	< 1	15 (59 %R)	14 (58 %R) (2 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
3/4-Methylphenol	< 1	12 (50 %R)	12 (49 %R) (2 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
2,4-Dimethylphenol	< 1	31 (62 %R)	30 (60 %R) (3 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
4-Chloro-3-methylphenol	< 1	38 (75 %R)	36 (72 %R) (4 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
4,6-Dinitro-2-methylphenol	< 5	34 (68 %R)	33 (67 %R) (1 RPD)	2/22/2012	ug/l	30 - 130	20	625mod
Benzoic Acid	< 50	< 50 (35 %R)	< 50 (33 %R) (6 RPD)	2/22/2012	ug/l	15 - 140	20	625mod
N-Nitrosodimethylamine	< 1	13 (51 %R)	12 (50 %R) (2 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
n-Nitroso-di-n-propylamine	< 1	19 (77 %R)	19 (75 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
n-Nitrosodiphenylamine	< 1	22 (86 %R)	21 (85 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
bis(2-Chloroethyl)ether	< 1	16 (64 %R)	15 (61 %R) (5 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
bis(2-chloroisopropyl)ether	< 1	15 (60 %R)	15 (58 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
bis(2-Chloroethoxy)methane	< 1	17 (70 %R)	17 (66 %R) (6 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
1,3-Dichlorobenzene	< 1	15 (60 %R)	14 (55 %R) (9 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
1,4-Dichlorobenzene	< 1	16 (62 %R)	14 (57 %R) (8 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
1,2-Dichlorobenzene	< 1	15 (60 %R)	14 (56 %R) (7 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
1,2,4-Trichlorobenzene	< 1	16 (64 %R)	15 (59 %R) (8 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
2-Chloronaphthalene	< 1	16 (65 %R)	16 (62 %R) (5 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
4-Chlorophenyl-phenylether	< 1	18 (74 %R)	18 (71 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
4-Bromophenyl-phenylether	< 1	19 (74 %R)	18 (72 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Hexachloroethane	< 1	15 (58 %R)	13 (52 %R) (11 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Hexachlorobutadiene	< 1	17 (67 %R)	14 (58 %R) (14 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Hexachlorocyclopentadiene	< 5	10 (40 %R)	* 9 (36 %R) (11 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Hexachlorobenzene	< 1	20 (79 %R)	19 (78 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
4-Chloroaniline	< 1	19 (78 %R)	18 (74 %R) (5 RPD)	2/22/2012	ug/l	15 - 140	20	625mod
2-Nitroaniline	< 5	18 (71 %R)	17 (68 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
3-Nitroaniline	< 1	18 (73 %R)	18 (71 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
4-Nitroaniline	< 1	19 (75 %R)	18 (72 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzyl alcohol	< 5	17 (67 %R)	16 (65 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Nitrobenzene	< 1	17 (67 %R)	16 (64 %R) (5 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Isophorone	< 1	20 (80 %R)	19 (75 %R) (6 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
2,4-Dinitrotoluene	< 1	19 (77 %R)	19 (76 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
2,6-Dinitrotoluene	< 1	19 (76 %R)	18 (73 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzidine (estimated)	< 5	12 (49 %R)	16 (63 %R) (25 RPD) !	2/22/2012	ug/l	15 - 168	20	625mod
3,3'-Dichlorobenzidine	< 1	18 (74 %R)	18 (72 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Pyridine	< 5	11 (44 %R)	11 (46 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Azobenzene	< 1	17 (69 %R)	17 (67 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Batch ID: 734555-38279/A022212E6251

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Carbazole	< 1	19 (77 %R)	19 (76 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Dimethylphthalate	< 1	18 (71 %R)	17 (69 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Diethylphthalate	< 1	19 (74 %R)	18 (72 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Di-n-butylphthalate	< 5	19 (75 %R)	18 (73 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Butylbenzylphthalate	< 1	19 (74 %R)	18 (72 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
bis(2-Ethylhexyl)phthalate	< 5	19 (74 %R)	18 (71 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Di-n-octylphthalate	< 1	19 (77 %R)	19 (74 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Dibenzofuran	< 1	17 (66 %R)	16 (64 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Naphthalene	< 1	18 (72 %R)	17 (69 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
2-Methylnaphthalene	< 1	17 (68 %R)	16 (64 %R) (6 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Acenaphthylene	< 1	17 (67 %R)	16 (65 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Acenaphthene	< 1	18 (73 %R)	17 (69 %R) (6 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Fluorene	< 1	19 (75 %R)	18 (72 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Phenanthrene	< 1	19 (75 %R)	18 (74 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Anthracene	< 1	18 (73 %R)	18 (73 %R) (0 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Fluoranthene	< 1	19 (77 %R)	19 (76 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Pyrene	< 1	17 (69 %R)	17 (68 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzo[a]anthracene	< 1	18 (73 %R)	18 (71 %R) (3 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Chrysene	< 1	19 (75 %R)	19 (74 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzo[b]fluoranthene	< 1	18 (71 %R)	17 (68 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzo[k]fluoranthene	< 1	20 (79 %R)	19 (76 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzo[a]pyrene	< 1	18 (72 %R)	18 (71 %R) (1 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Indeno[1,2,3-cd]pyrene	< 1	18 (74 %R)	18 (70 %R) (6 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Dibenz[a,h]anthracene	< 1	19 (78 %R)	19 (74 %R) (5 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
Benzo[g,h,i]perylene	< 1	19 (76 %R)	18 (73 %R) (4 RPD)	2/22/2012	ug/l	40 - 140	20	625mod
2-Fluorophenol (surr)	37 %R	39 %R	38 %R	2/22/2012	% Rec	21 - 110	20	625mod
Phenol-d6 (surr)	28 %R	29 %R	28 %R	2/22/2012	% Rec	15 - 94	20	625mod
2,4,6-Tribromophenol (surr)	70 %R	84 %R	81 %R	2/22/2012	% Rec	15 - 110	20	625mod
Nitrobenzene-D5 (surr)	70 %R	75 %R	71 %R	2/22/2012	% Rec	35 - 114	20	625mod
2-Fluorobiphenyl (surr)	72 %R	70 %R	69 %R	2/22/2012	% Rec	43 - 116	20	625mod
p-Terphenyl-D14 (surr)	79 %R	83 %R	81 %R	2/22/2012	% Rec	33 - 130	20	625mod

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.

*If Flagged analyte recoveries deviated from the QA/QC limits.

Hexachlorocyclopentadiene exhibited recovery below acceptance limits in the LCS Duplicate. Hexachlorocyclopentadiene was not detected in the samples.



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-048

Lab Sample ID: 107803.04

Matrix: aqueous

Date Sampled: 2/16/12

Date Received: 2/17/12

Units: ug/l

Date of Extraction/Prep: 2/23/12

Date of Analysis: 3/1/12

Analyst: JW

Method: 608

Dilution Factor: 1

Aldrin	< 0.06
alpha-BHC	< 0.06
beta-BHC	< 0.06
Lindane (gamma-BHC)	< 0.06
delta-BHC	< 0.06
Chlordane	< 0.3
4,4'-DDT	< 0.06
4,4'-DDE	< 0.06
4,4'-DDD	< 0.06
Dieldrin	< 0.06
Endosulfan I	< 0.06
Endosulfan II	< 0.06
Endosulfan Sulfate	< 0.06
Endrin	< 0.06
Endrin Aldehyde	< 0.06
Endrin Ketone	< 0.06
Heptachlor	< 0.06
Heptachlor Epoxide	< 0.06
Methoxychlor	< 0.06
Toxaphene	< 0.6
TMX (surr)	74 %R
DCB (surr)	58 %R



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Batch ID: 734556-56041/A022312E608P2

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Aldrin	< 0.05	0.37 (75 %R)	0.39 (79 %R) (5 RPD)	3/1/2012	ug/l	42 - 122	20	608
alpha-BHC	< 0.05	0.40 (81 %R)	0.42 (85 %R) (5 RPD)	3/1/2012	ug/l	37 - 134	20	608
beta-BHC	< 0.05	0.40 (81 %R)	0.42 (85 %R) (5 RPD)	3/1/2012	ug/l	17 - 147	20	608
Lindane (gamma-BHC)	< 0.05	0.41 (83 %R)	0.43 (87 %R) (5 RPD)	3/1/2012	ug/l	32 - 127	20	608
delta-BHC	< 0.05	0.39 (78 %R)	0.42 (83 %R) (6 RPD)	3/1/2012	ug/l	19 - 140	20	608
Chlordane	< 0.3	0.4 (78 %R)	0.4 (82 %R) (5 RPD)	3/1/2012	ug/l	45 - 119	20	608
4,4'-DDT	< 0.05	0.43 (87 %R)	0.46 (93 %R) (7 RPD)	3/1/2012	ug/l	25 - 160	20	608
4,4'-DDE	< 0.05	0.40 (81 %R)	0.43 (85 %R) (5 RPD)	3/1/2012	ug/l	30 - 145	20	608
4,4'-DDD	< 0.05	0.40 (80 %R)	0.42 (85 %R) (6 RPD)	3/1/2012	ug/l	31 - 141	20	608
Dieldrin	< 0.05	0.40 (80 %R)	0.43 (85 %R) (6 RPD)	3/1/2012	ug/l	36 - 146	20	608
Endosulfan I	< 0.05	0.32 (65 %R)	0.34 (69 %R) (6 RPD)	3/1/2012	ug/l	36 - 146	20	608
Endosulfan II	< 0.05	0.33 (67 %R)	0.36 (71 %R) (6 RPD)	3/1/2012	ug/l	45 - 153	20	608
Endosulfan Sulfate	< 0.05	0.42 (83 %R)	0.45 (90 %R) (8 RPD)	3/1/2012	ug/l	1 - 202	20	608
Endrin	< 0.05	0.42 (83 %R)	0.45 (90 %R) (8 RPD)	3/1/2012	ug/l	30 - 147	20	608
Endrin Aldehyde	< 0.05	0.39 (78 %R)	0.42 (84 %R) (7 RPD)	3/1/2012	ug/l	40 - 140	20	608
Endrin Ketone	< 0.05	0.42 (85 %R)	0.45 (90 %R) (6 RPD)	3/1/2012	ug/l	40 - 140	20	608
Heptachlor	< 0.05	0.38 (76 %R)	0.40 (80 %R) (5 RPD)	3/1/2012	ug/l	34 - 111	20	608
Heptachlor Epoxide	< 0.05	0.41 (82 %R)	0.43 (86 %R) (5 RPD)	3/1/2012	ug/l	37 - 142	20	608
Methoxychlor	< 0.05	0.41 (83 %R)	0.45 (89 %R) (7 RPD)	3/1/2012	ug/l	40 - 140	20	608
Toxaphene	< 0.5	< 0.5 (%R N/A)	< 0.5 (%R N/A) (RPD N/A)	3/1/2012	ug/l		20	608
TMX (surr)	74 %R	71 %R	72 %R	3/1/2012	% Rec	30 - 150		608
DCB (surr)	83 %R	76 %R	81 %R	3/1/2012	% Rec	30 - 150		608

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

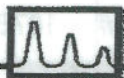
The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.

*! Flagged analyte recoveries deviated from the QA/QC limits.



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-048

Lab Sample ID: 107803.04
Matrix: aqueous
Date Sampled: 2/16/12
Date Received: 2/17/12
Units: ug/l
Date of Extraction/Prep: 2/23/12
Date of Analysis: 3/1/12
Analyst: JW
Method: 608
Dilution Factor: 1

PCB-1016	< 0.3
PCB-1221	< 0.3
PCB-1232	< 0.3
PCB-1242	< 0.3
PCB-1248	< 0.3
PCB-1254	< 0.3
PCB-1260	< 0.3
TMX (surr)	86 %R
DCB (surr)	80 %R



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Batch ID: 734556-55883/A022312E608P1

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
PCB-1016	< 0.3	1.9 (95 %R)	2.0 (100 %R) (5 RPD)	3/1/2012	ug/l	50 - 114	20	608
PCB-1221	< 0.3	< 0.3 (%R N/A)	< 0.3 (%R N/A) (RPD N/A)	3/1/2012	ug/l			608
PCB-1232	< 0.3	< 0.3 (%R N/A)	< 0.3 (%R N/A) (RPD N/A)	3/1/2012	ug/l			608
PCB-1242	< 0.3	< 0.3 (%R N/A)	< 0.3 (%R N/A) (RPD N/A)	3/1/2012	ug/l			608
PCB-1248	< 0.3	< 0.3 (%R N/A)	< 0.3 (%R N/A) (RPD N/A)	3/1/2012	ug/l			608
PCB-1254	< 0.3	< 0.3 (%R N/A)	< 0.3 (%R N/A) (RPD N/A)	3/1/2012	ug/l			608
PCB-1260	< 0.3	1.9 (97 %R)	2.1 (107 %R) (10 RPD)	3/1/2012	ug/l	8 - 127	20	608
TMX (surr)	89 %R	86 %R	88 %R	3/1/2012	% Rec	30 - 150		608
DCB (surr)	115 %R	104 %R	111 %R	3/1/2012	% Rec	30 - 150		608

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.

*! Flagged analyte recoveries deviated from the QA/QC limits.



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-047

Lab Sample ID: 107803.03

Matrix: aqueous

Date Sampled: 2/16/12

Date Received: 2/17/12

Cyanide Total < 0.02

Units	Analysis			Analyst
	Date	Time	Method	
mg/L	2/23/12	10:00	4500CNE	KJR



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	< 0.02	0.21 (85 %R)		NA mg/L	2/23/12	85 - 115	20	4500CNE

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	MSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	107817.01	< 0.02	0.25 (103 %R)	0.25 (103 %R) (0 RPD)	mg/L	2/23/12	75-125	20	4500CNE

Samples were analyzed within holding times unless noted on the sample results page.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
*/! Flagged analyte recoveries deviated from the QA/QC limits.



LABORATORY REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Sample ID: SW-5/12-046

Lab Sample ID: 107803.02

Matrix: aqueous

Date Sampled: 2/16/12

Date Received: 2/17/12

		Analytical Matrix	Units	Date of Analysis	Method	Analyst
Antimony	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Arsenic	0.056	AqTot	mg/L	2/23/12	200.8	DS
Beryllium	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Cadmium	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Chromium	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Copper	0.015	AqTot	mg/L	2/23/12	200.8	DS
Lead	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Mercury	0.0004	AqTot	mg/L	2/23/12	200.8	DS
Nickel	0.006	AqTot	mg/L	2/23/12	200.8	DS
Selenium	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Silver	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Thallium	< 0.001	AqTot	mg/L	2/23/12	200.8	DS
Zinc	0.006	AqTot	mg/L	2/23/12	200.8	DS



QC REPORT

EAI ID#: 107803

Client: NextEra Energy Seabrook, LLC

Client Designation: Seabrook Station-Buried Piping

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Antimony	< 0.001	1.1 (107 %R)		mg/L	2/23/12	85 - 115	20	200.8
Arsenic	< 0.001	0.99 (99 %R)		mg/L	2/23/12	85 - 115	20	200.8
Beryllium	< 0.001	1.2 (124 %R)		mg/L	2/23/12	85 - 115	20	200.8
Cadmium	< 0.001	1.0 (104 %R)		mg/L	2/23/12	85 - 115	20	200.8
Chromium	< 0.001	1.1 (105 %R)		mg/L	2/23/12	85 - 115	20	200.8
Copper	< 0.001	1.0 (103 %R)		mg/L	2/23/12	85 - 115	20	200.8
Lead	< 0.001	1.1 (107 %R)		mg/L	2/23/12	85 - 115	20	200.8
Mercury	< 0.0001	0.0010 (105 %R)		mg/L	2/23/12	85 - 115	20	200.8
Nickel	< 0.001	0.95 (95 %R)		mg/L	2/23/12	85 - 115	20	200.8
Selenium	< 0.001	0.93 (93 %R)		mg/L	2/23/12	85 - 115	20	200.8
Silver	< 0.001	0.10 (103 %R)		mg/L	2/23/12	85 - 115	20	200.8
Thallium	< 0.001	1.1 (109 %R)		mg/L	2/23/12	85 - 115	20	200.8
Zinc	< 0.005	0.92 (92 %R)		mg/L	2/23/12	85 - 115	20	200.8

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	MSD	Units	Date of Analysis	Limits	RPD	Method
Antimony	107823.01	< 0.001	1.1 (109 %R)	1.1 (107 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Arsenic	107823.01	< 0.001	0.99 (99 %R)	0.99 (99 %R) (0 RPD)	mg/L	2/23/12	70-130	20	200.8
Beryllium	107823.01	< 0.001	1.2 (115 %R)	1.2 (118 %R) (3 RPD)	mg/L	2/23/12	70-130	20	200.8
Cadmium	107823.01	< 0.001	1.1 (105 %R)	1.0 (103 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Chromium	107823.01	< 0.001	0.96 (96 %R)	0.98 (98 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Copper	107823.01	< 0.001	0.92 (92 %R)	0.94 (94 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Lead	107823.01	< 0.001	1.1 (106 %R)	1.1 (108 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Mercury	107823.01	< 0.0001	0.0010 (103 %R)	0.0011 (106 %R) (3 RPD)	mg/L	2/23/12	70-130	20	200.8
Nickel	107823.01	< 0.001	0.86 (85 %R)	0.87 (86 %R) (1 RPD)	mg/L	2/23/12	70-130	20	200.8
Selenium	107823.01	< 0.001	0.83 (83 %R)	0.83 (83 %R) (0 RPD)	mg/L	2/23/12	70-130	20	200.8
Silver	107823.01	< 0.001	0.89 (89 %R)	0.87 (87 %R) (2 RPD)	mg/L	2/23/12	70-130	20	200.8
Thallium	107823.01	< 0.001	1.1 (106 %R)	1.1 (109 %R) (3 RPD)	mg/L	2/23/12	70-130	20	200.8
Zinc	107823.01	< 0.005	0.82 (82 %R)	0.83 (83 %R) (1 RPD)	mg/L	2/23/12	70-130	20	200.8

The laboratory control sample for Beryllium did not meet the acceptance criteria. The high bias has no impact on the data reported as no Beryllium was found in any of the samples.

Samples were analyzed within holding times unless noted on the sample results page.
 Instrumentation was calibrated in accordance with the method requirements.
 The method blanks were free of contamination at the reporting limits.
 The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
 Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
 *! Flagged analyte recoveries deviated from the QA/QC limits.



March 06, 2012

Service Request No: E1200158

Michael Serard
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Laboratory Results for: 1613B_TCDD in water

Dear Michael:

Enclosed are the results of the sample(s) submitted to our laboratory on February 22, 2012. For your reference, these analyses have been assigned our service request number **E1200158**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2959. You may also contact me via email at AKodur@caslab.com.

Respectfully submitted,

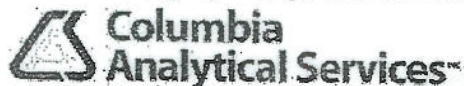
Columbia Analytical Services, Inc. dba ALS Environmental

Digitally signed by
Arthi Kodur
Date: 2012.03.07
15:00:15 -06'00'

Arthi Kodur
Project Manager

Page 1 of 22

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

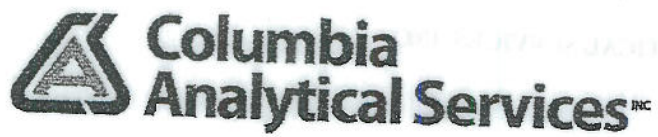


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Columbia Analytical Services, Inc.
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Certificate of Analysis

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COLUMBIA ANALYTICAL SERVICES, INC

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water
Sample Matrix: Water

Service Request No.: E1200158
Date Received: 2/22/12

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 2/22/12.

The following discrepancies were noted upon initial sample inspection: no custody seals on cooler. The exceptions are also noted on the cooler receipt and preservation form included in this data package.

The sample was received at 1°C in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1200103: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water

Service Request: E1200158

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E1200158-001	SW-5/12-049	2/16/12	13:20

Laboratory Certifications 2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
ARIZONA	AZ-DHS	AZ0725	05/27/12	Yes
ARKANSAS	ADEQ	10-035-0	06/16/11	Yes
CALIFORNIA	CA-ELAP	2452	02/28/13	Yes
FLORIDA/NELAP	FL-DOHS	E87611	06/30/12	Yes
HAWAII	HI-DOH	N/A	06/30/12	Yes
ILLINOIS/NELAP	IL-EPA	002611	10/26/2012	Yes
LOUISIANA/NELAP	LELAP	03048	06/30/12	Yes
LOUISIANA/NELAP	LDHH	LA100032	12/31/11	Yes
MAINE	ME-DOHS	2010041	06/05/12	Yes
MICHIGAN	MIDEQ	9971	06/30/12	Yes
MINNESOTA	MDH	048-999-427	12/31/11	Yes
NEVADA	NDEP	TX014112010A	07/31/12	Yes (Extension)
NEW JERSEY	NJDEP	TX008	06/30/12	Yes
NEW MEXICO	NMED-DWB	N/A	06/30/12	Yes
NEW YORK/NELAP	NY-DOH	11707	04/1/12	Yes
OKLAHOMA	OKDEQ	2010-022	08/31/12	Yes
OREGON/NELAP	ORELAP	TX200002-006	03/24/12	Yes
PENNSYLVANIA/NELAP	PLAP	002	06/30/12	Yes
TENNESSEE	TNDEC	04016	06/30/12	Yes
TEXAS/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
SOIL IMPORT PERMIT	USDA	P330-09-00067	03/27/12	Yes
WASHINGTON/NELAP	WA-Ecology	C819-10	11/14/12	Yes
WEST VIRGINIA	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.
- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.
- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.
- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).
- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.
- **U** Indicates the compound was analyzed and not detected.
- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.
- **ND** Indicates concentration is reported as 'Not Detected.'
- **S** Peak is saturated; data not reportable.
- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. - Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1200158

DB-5

DB-225

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:

Analyst:

Samples:

03/02/12

TC

-001

Second Level - Data Review - to be filled by person doing peer review

Date:

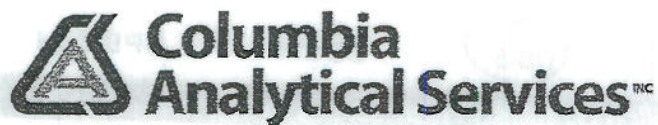
Analyst:

Samples:

03/05/12

LKC

-001



Analytical Results

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Analytical Report

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water
Sample Matrix: Water
Sample Name: SW-5/12-049
Lab Code: E1200158-001

Service Request: E1200158
Date Collected: 2/16/12 1320
Date Received: 2/22/12

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 880mL
Data File Name: P156565
ICAL Date: 03/24/11

Date Analyzed: 3/1/12 2106
Date Extracted: 2/24/12
Instrument Name: E-HRMS-03
GC Column: DB-5
Blank File Name: P156562
Cal Ver. File Name: P156557

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.808	11.4			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1267.106	63		31-137	0.79	1.007
37Cl-2,3,7,8-TCDD	800	527.532	66		42-164	NA	1.009

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Analytical Report

Client: Eastern Analytical, Inc.
Project: I613B_TCDD in water
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: EQ1200103-01

Service Request: E1200158
Date Collected: NA
Date Received: NA
Units: pg/L
Basis: NA

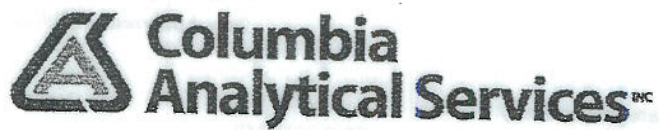
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: I613B
Prep Method: Method
Sample Amount: 1000mL
Data File Name: P156562
ICAL Date: 03/24/11

Date Analyzed: 3/1/12 1843
Date Extracted: 2/24/12
Instrument Name: E-HRMS-03
GC Column: DB-5
Blank File Name: P156562
Cal Ver. File Name: P156557

Analyte Name	Result Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND U	0.605	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1209.017	60		31-137	0.79	1.008
37Cl-2,3,7,8-TCDD	800	566.269	71		42-164	NA	1.009



Accuracy and Precision

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QA/QC Report

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water
Sample Matrix: Water

Service Request: E1200158

Date Analyzed: 2/29/12

Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method

Units: pg/L

Basis: NA

Extraction Lot: 152288

Analyte Name	Lab Control Sample EQ1200103-02			Duplicate Lab Control Sample EQ1200103-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
2,3,7,8-TCDD	204	200	102	200	200	100	73 - 146	2	50

Results flagged with an asterisk (*) indicate values outside control criteria.

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

Printed 3/6/12 16:42

W:\flow2\Start\lms\lmsReps\LabControlSample.rpt

Form 3C

SuperSet Reference:

12-0000204742 rev 00

E1200158

13 of 22

29

COLUMBIA ANALYTICAL SERVICES, INC.

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Analytical Report

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water
Sample Matrix: Water
Sample Name: Lab Control Sample
Lab Code: EQ1200103-02

Service Request: E1200158

Date Collected: NA

Date Received: NA

Units: pg/L

Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: P156519
ICAL Date: 03/24/11

Date Analyzed: 2/29/12 0006
Date Extracted: 2/24/12
Instrument Name: E-HRMS-03
GC Column: DB-5
Blank File Name: P156562
Cal Ver. File Name: P156507

Analyte Name	Result Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	204	0.634	10.0	0.76	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1124.509	56		25-141	0.78	1.008
37Cl-2,3,7,8-TCDD	800	556.295	70		37-158	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

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Analytical Report

Client: Eastern Analytical, Inc.
Project: 1613B_TCDD in water
Sample Matrix: Water
Sample Name: Duplicate Lab Control Sample
Lab Code: EQ1200103-03

Service Request: E1200158

Date Collected: NA

Date Received: NA

Units: pg/L

Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

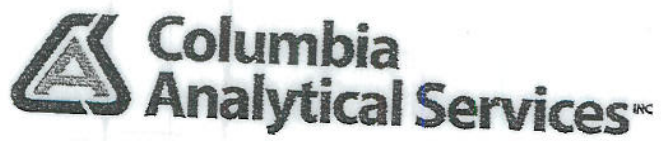
Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: P156520
ICAL Date: 03/24/11

Date Analyzed: 2/29/12 0054
Date Extracted: 2/24/12
Instrument Name: E-HRMS-03
GC Column: DB-5
Blank File Name: P156562
Cal Ver. File Name: P156507

Analyte Name	Result Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	200	0.766	10.0	0.74	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1113.357	56		25-141	0.79	1.008
37Cl-2,3,7,8-TCDD	800	535.051	67		37-158	NA	1.009



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Chain of Custody

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CHAIN-OF-CUSTODY RECORD

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professional laboratory services

EAI SRB# 107803

33

Sample ID

Date Sampled Matrix

aParameters

Sample Notes

W-5/12-049

2/16/2012 13:20

aqueous

2,3,7,8 TCDD Dioxin Method 1613 DW

EAI SRB# 107803 Project State: NH

Project ID:

Results Needed by: Preferred date

QC Deliverables

☐ A ☐ A+ ☒ B ☐ B+ ☐ C ☐ PC

Notes about project:

Email pdf of results and invoice to
customerservice@eailabs.com.

Company CAS (TX) Columbia Analytical

Address 19408 Park Row, Suite 320

Address Houston, TX 77084

Account #

Phone # 713-266-1599

Fax Number 713-266-0130

E1200158

Eastern Analytical Inc. PO Number 27801

Please call prior to analyzing, if RUSH surcharges will be applied.

*NO. 2015 101
we need Babcock 11/11/12
T-12 12.246 594 139097 7487*

Samples Collected by:

Relinquished by:

Date/Time

Received by

Relinquished by

Date/Time

Received by

Rev. 1/2012

Cooler Receipt Form

Project Chemist **AK**

Client/Project **Eastern Analytical/107803**

Service Request **E1200158**

Date/Time Received: **2/22/12**
14:25:00

Date/Time Logged in: **2/22/12**
14:30:00

Technician **TL**

Technician **TL**

1. Method of delivery: ☐ US Mail ☐ Fed Ex ☒ UPS ☐ DHL ☐ Courier ☐ Client
2. Samples received in: ☒ Cooler ☐ Box ☐ Envelope ☐ Other
3. Were custody seals on coolers? ☐ Yes ☒ No ☐ N/A
 Were they intact? ☐ Yes ☐ No ☒ N/A
 Were they signed and dated? ☐ Yes ☐ No ☒ N/A

If yes, how many and where?

4. Method of delivery: ☐ Inserts ☐ Baggies ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other

5. Foreign or Regulated Soil? ☐ Yes ☒ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1ZX465991399977297		Feb 22, 2012	1425	TL	1	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ☒ Yes ☐ No ☐ N/A
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ☒ Yes ☐ No ☐ N/A
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ☒ Yes ☐ No ☐ N/A
9. Were appropriate bottles/containers and volumes received for the requested tests? ☒ Yes ☐ No ☐ N/A
10. Did sample labels and tags agree with custody documents? ☒ Yes ☐ No ☐ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

E1200158

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #:

E1200158

Client Name:Eastern Analytical, Inc.
1613B_TCDD in water**Project Name:****Report To:**Michael Serard
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301
603-228-0525**Phone Number:****Fax Number:****E-mail:**603-228-4591
mica@ealabs.com

2

. 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: E-Disposed, E-WIC01-D3**Project Chemist:** Arthi Kodur
Originating Lab: HOUSTON
Logged By: TLAFPERTY
Date Received: 2/22/12
Internal Due Date: 3/7/12**QAP:** Tetras Only**Qualifier Set:** CAS Standard**Formset:** CAS Standard**Merged?:** N**Report to MDL?:** Y**P.O. Number:** 107803**EDD:** No EDD Specified

CAS Samp No	Client Samp No.	Matrix	Collected	SVM
E1200158-001	SW-5/12-049	Water	2/16/12 1320	1613B/ Dioxins Furans II

Folder Comments:

CC report to customerservice@ealabs.com

Preparation Information Benchsheet

Prep Run#: 152288
Team: Semivva GCMS/BAUCH

Prep Workflow: OrgExAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/24/12 01:15 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1200156-001	12-04040	.01	1613B/Dioxins Furans	7	Water	980mL	clear colorless liquid with brown filtrate
2	E1200157-001	12-04149	.01	1613B/Dioxins Furans	7	Water	900mL	clear colorless liquid with brown filtrate
3	E1200158-001	SW-5/12-049	.01	1613B/Dioxins Furans	7	Water	880mL	clear yellow liquid
4	E1200159-001	DFW2 Rt Worth	.01	1613B/Dioxins Furans	7	Water	960mL	clear colorless liquid
5	E1200159-002	DFW2 Dallas Supply	.01	1613B/Dioxins Furans	7	Water	920mL	clear colorless liquid
6	E1200160-001	12-013840	.01	1613B/Dioxins Furans	7	Water	980mL	clear colorless liquid
7	E1200103-01	MB		1613B/Dioxins Furans	5	Liquid	1000mL	
8	E1200103-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
9	E1200103-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	

Splitting Solutions

Name: 8290/1613B Cleanup Working Standard	Inventory ID 40947	Logbook Ref. D12-91-5 (40947)	Expires On: 02/17/2013
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E1200156-001 100.00µL	E1200157-001 100.00µL	E1200158-001 100.00µL	E1200159-001 100.00µL	E1200159-002 100.00µL	E1200160-001 100.00µL
E1200103-01 100.00µL	E1200103-02 100.00µL	E1200103-03 100.00µL			

Name: 1613B Labeled Working Standard	Inventory ID 41042	Logbook Ref. D12-92-2 (41042)	Expires On: 02/21/2013
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E1200156-001 1,000.00µL	E1200157-001 1,000.00µL	E1200158-001 1,000.00µL	E1200159-001 1,000.00µL	E1200159-002 1,000.00µL	E1200160-001 1,000.00µL
E1200103-01 1,000.00µL	E1200103-02 1,000.00µL	E1200103-03 1,000.00µL			

Name: 1613B Matrix Working Standard	Inventory ID 41048	Logbook Ref. D12-92-3 (41048)	Expires On: 02/22/2013
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E1200103-02 100.00µL	E1200103-03 100.00µL
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Preparation Materials

Sensate Free Chlorine WTR	C2-36-1 (15785)	Acetone 99.5% Minimum	C2-39-7 (32865)	Carbon, High Purity	C2-66-5 (38673)
CHX					
Ethyl Acetate 99.9% Minimum	C2-62-5 (35709)	Glass Wool	C2-67-3 (K9290086) (39784)	Sulfuric Acid Reagent Grade	C2-67-1 (38675)
EIOAc				H2SO4	
Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-68-3 (31308) (39790)	Sodium Thiosulfate Anhydrous	C2-54-6 (28404)	Sodium Chloride Reagent Grade	C2-65-5 (38670)
Sodium Hydroxide Reagent Grade NaOH	C2-53-6 (27836)	Sodium Sulfate Anhydrous	C2-69-4 (2351C512) (40800)	NaCl	C2-65-1 (37777)
Hexane (n-Hexane) 98.5%	C2-69-6 (51300) (40802)	Reagent Grade Na2SO4	C2-48-7 (STBB5477) (39812)	Tridecane (n-Tridecane)	(1008)
Minimum		Nonane (n-Nonane) 99%		pH Paper 0-14	
Silica Gel Reagent Grade	C2-64-1 (37034)	Toluene 99.9% Minimum	C2-66-2 (38665)		

Preparation Information Benchsheet

Prep Run#: 152288
Team: Seminova GCMS/EB/UCH
Preparation Steps

Prep Workflow: OrgExIAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/24/12 01:15 PM

Step: Extraction
Started: 2/24/12 13:15
Finished: 2/25/12 09:39
By: TLAFPERY
Comments

Step: Acid Clean
Started: 2/27/12 09:15
Finished: 2/27/12 09:40
By: CDIAZ
Comments

Step: Silica Gel Clean
Started: 2/27/12 12:20
Finished: 2/27/12 13:40
By: CDIAZ
Comments

Step: Final Volume
Started: 2/28/12 09:15
Finished: 2/28/12 12:45
By: CDIAZ
Comments

Comments:

Reviewed By: EB

Chain of Custody Date: 2/29/12

Relinquished By:

Received By: Date:

Extra's Examined
Yes No

39

MATERIALS: A-Air, S-Soil, GW-Ground Water, SW-Surface Water, DW-Drinking Water,
 WY-Waste Water
 PRECURSORS: H-HCl, N-HNO₃, S-H₂SO₄, Na-NaOH, M-MeOH

TE: ORIGINAL GREEN: PROJECT MANAGER)

CUSTOMER_SERVICE@EALABS.COM | WWW.EALABS.COM
