CONECO
Engineers, Scientists & Surveyors

CIVIL DESIGN & LAND PLANNING
SURVEYING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL ENGINEERING
REGULATORY COMPLIANCE & PLANNING

March 4, 2010
Project No. 6071.B

US Environmental Protection Agency
Shelly Puleo
Industrial NPDES Permits (CIP),
1 Congress Street, Suite 1100
Boston, MA 02114-2023

RE: **Remediation General Permit – Notice of Intent**
Q169/A179 Transmission Line
Lynn Harbor Line Relocation Project
Lynn, Massachusetts

Dear Ms. Puleo:

On behalf of the New England Power Company d/b/a National Grid (NEP), Coneco Engineers & Scientists, Incorporated (Coneco) is submitting the attached Notice of Intent (NOI), requesting coverage under the National Pollutant Discharge Elimination System's (NPDES) Remediation General Permit (RGP). Coverage under the RGP is being requested for potential dewatering operations that may be required for the relocation of a transmission line (Q169/A179 Transmission Line, hereinafter the "Transmission Line) in the area of Harding Street and the Lynnway. A copy of the Form for Notice of Intent for the Remediation General Permit is included as Appendix 1.

As part of the Lynn Harbor Line Relocation project, NEP has proposed to relocate the 115 kV overhead transmission line from the current Q169 Franklin Park-Lynn line, along Lynn Harbor, to the proposed location along the Lynnway and Harding Street in Lynn, Massachusetts. The proposed Transmission Line would be located primarily along property owned by the General Electric Company (GE) and the City of Lynn. The proposed transmission line will cross or be installed adjacent to 20 parcels of land. These 20 properties will hereinafter be referred to as the "Area of Interest" (AOI). Currently, the proposed transmission line would require the installation of 15 steel monopoles, identified as Pole 1A, Pole 1B, and Pole 2 through Pole 14, on support structures in the AOI. A Site Locus Map and Site Plan are included for reference as Figures 1 and 2, respectively.

At the request of the NEP, Coneco conducted a Pre-Characterization and Geotechnical Investigation within the AOI to determine if a release of oil and/or hazardous materials (OHM) had occurred within the AOI as well as to obtain general geotechnical data. Coneco's investigations are detailed in the Pre-Characterization and Environmental Specifications Report which is included for reference as Appendix 2.

As part of Coneco's Pre-Characterization Investigation, a temporary groundwater monitoring well was installed at each of the proposed monopole installation locations. Groundwater samples from each location were collected and submitted for laboratory analysis. As a result, concentrations of cyanide were identified in excess of the applicable Massachusetts Department of Environmental Protection (DEP) RCGW-2 Reportable Concentration (RC) in groundwater samples collected from

two of the proposed monopole installation locations, identified as PZ-13 and PZ-14. In addition, low concentrations of various contaminants were detected at concentrations which may be above background at locations PZ-1B, PZ-5, PZ-7, PZ-8, PZ-9, and PZ-10, and low dissolved metals concentrations were detected in each of the groundwater sampling locations. Based on these findings, Coneco is of the opinion that groundwater encountered during construction activities at these locations would need to be managed in accordance with applicable state and federal regulations, and should not be discharged to the municipal storm water system without treatment and/or sediment removal.

This NOI for coverage under the NPDES-RGP applies to construction dewatering activities at the 15 proposed monopole installation locations, as listed below in Table 1 and depicted in Figure 2. Groundwater extracted from these 15 locations will be treated on-site through a dewatering treatment system as depicted in Figure 3 and as detailed in Appendices 1 and 2, prior to discharge into storm water catch basins located in the proximity of the dewatering sites. If necessary, groundwater may be shipped off-Site to an appropriate shipping facility. The latitude and longitude of the 15 dewatering locations are provided in Table 1.

Catch basins located along the Lynnway, within Harding Street, or Riley Way will receive the effluent from the dewatering system following treatment. Based on information provided by the Lynn Water and Sewer Department, these catch basins ultimately discharge to outfalls located in Lynn Harbor (Riley Way system), or the Saugus River (Lynnway and Harding Street system). A plan depicting the stormwater system in the area of the AOI, as well as the approximate outfall locations is included as Figure 4. The latitude and longitude of the ultimate discharge locations (outfalls) are listed in Table 2.

Table 1 – Extraction Point Latitude and Longitude

Proposed Pole Number	Latitude	Longitude
Pole 1A	42° 26' 47" N	70° 57' 58" W
Pole 1B	42° 26' 46" N	70° 57' 57" W
Pole 2	42° 26' 49" N	70° 57' 58" W
Pole 3	42° 26' 53" N	70° 57' 56" W
Pole 4	42° 26' 56" N	70° 57' 55" W
Pole 5	42° 26' 60" N	70° 57' 54" W
Pole 6	42° 27' 03" N	70° 57' 52" W
Pole 7	42° 27' 06" N	70° 57' 51" W
Pole 8	42° 27' 04" N	70° 57' 44" W
Pole 9	42° 27' 03" N	70° 57' 39" W
Pole 10	42° 27' 02" N	70° 57' 33" W
Pole 11	42° 27' 04" N	70° 57' 29" W
Pole 12	42° 27' 06" N	70° 57' 22" W
Pole 13	42° 27' 09" N	70° 57' 17" W
Pole 14	42° 27' 13" N	70° 57' 13" W

Table 2 – Discharge Point Latitude and Longitude		
Outfall	**Latitude**	**Longitude**
Lynn Harbor	42°27'2.47" N	70°57'13.50"W
Saugus River	42°26'43.64"N	70°57'54.94"W

If there are any questions regarding this submittal, please contact the undersigned.

Respectfully Submitted,
Coneco Engineers & Scientists, Incorporated

Luke S. Feinberg
Environmental Scientist

John D. Aevazelis
Senior Project Manager

Brian F. Klingler, P.G., L.S.P.
Principal Geologist

LSF:CCL:JDA:BFK;jd
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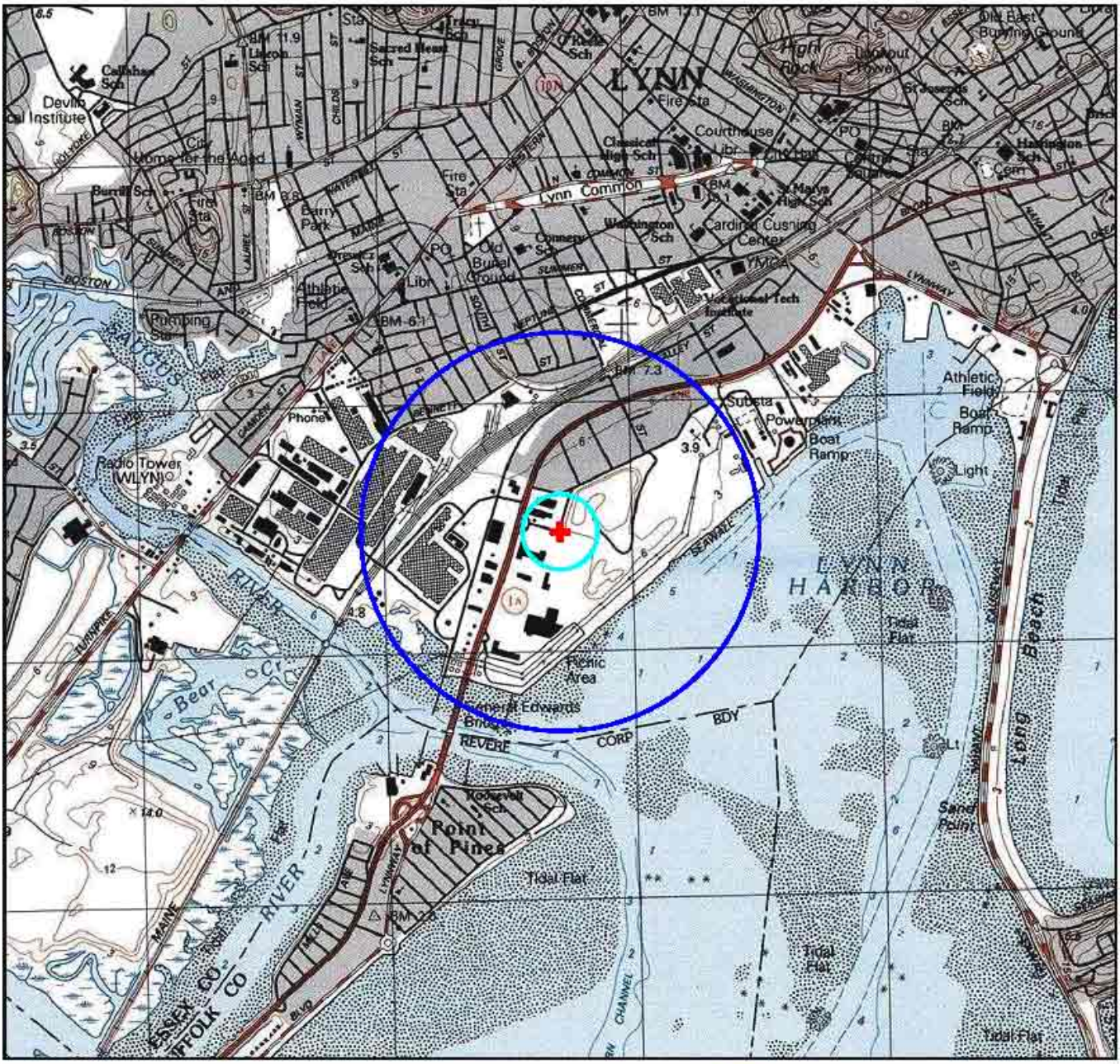
cc: Joe Callanan, Director of Environmental Management - NEP
Joshua Holden, Transmission Environmental Engineer - NEP
Neal Johnson, IPP Coordinator - City of Lynn

ENCLOSURES: Figure 1 – Site Locus Map
Figure 2 – Site Plan
Figure 3 – Dewatering Treatment Plan
Figure 4 – Plan Overview
Appendix 1 – Form for Notice of Intent for the Remediation General Permit
Appendix 2 – Pre-Characterization and Environmental Specifications Report



SITE LOCUS
500-FOOT RADIUS
0.5-MILE RADIUS

COORDINATES OBTAINED FROM NAD83 DATUM
LATITUDE: 42° 36' 10" N
LONGITUDE: 71° 09' 40" W
UTM: 4,718,714 N 322,643 E (Zone 19)

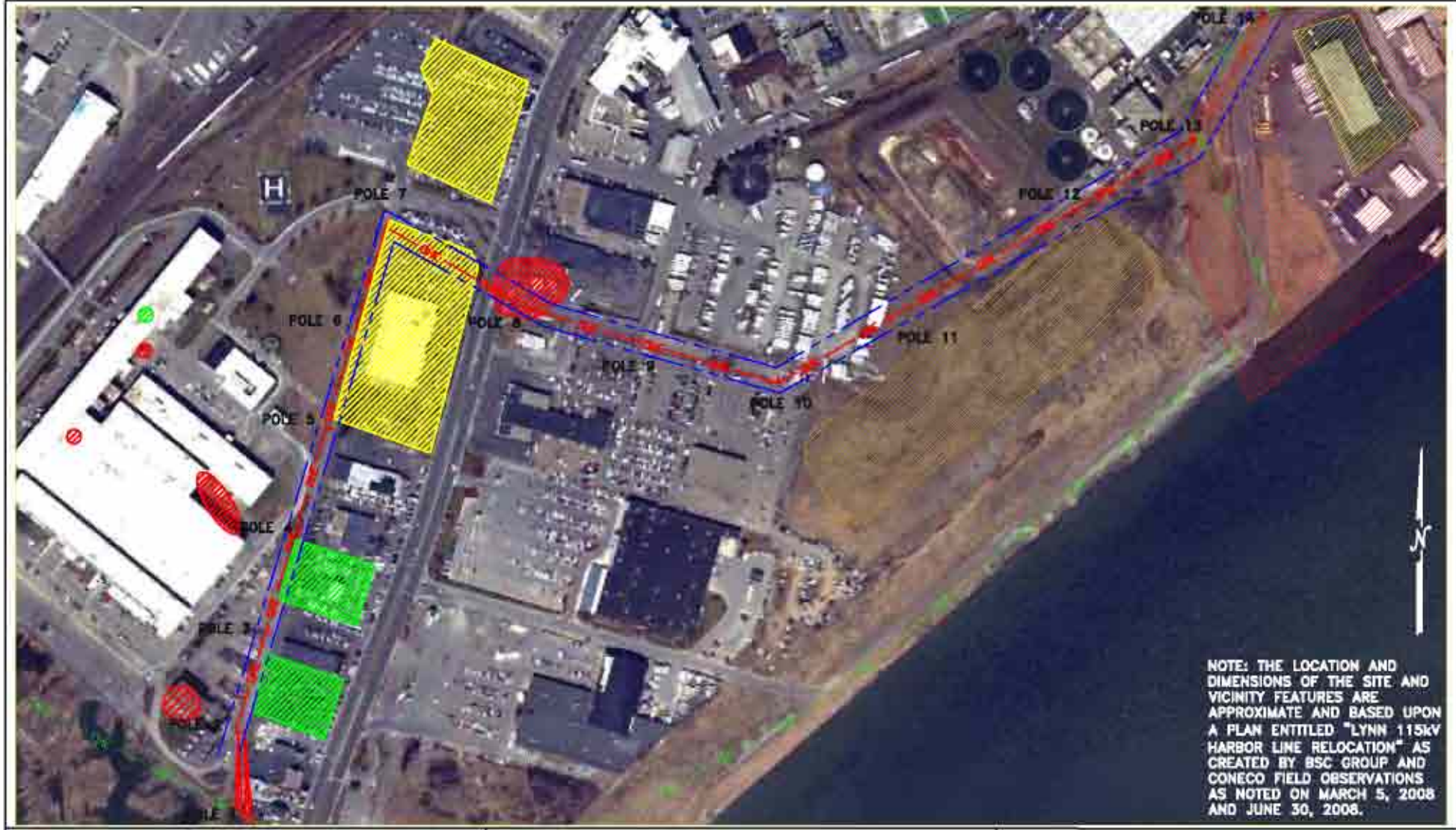
U.S.G.S. 1997 LYNN, MASSACHUSETTS
7.5X15 MINUTE QUADRANGLE

CONECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

SITE LOCUS MAP

LYNNWAY RELOCATION PROJECT
Q169 / A179 TRANSMISSION LINE
LYNN, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1:25,000	6071.B	FIGURE 1



LEGEND

- APPROXIMATE ROUTE OF NEW LINE
- APPROXIMATE ROUTE OF EXISTING LINE
- APPROXIMATE EDGE OF PROPOSED EASEMENT
- APPROXIMATE AREA OF EXISTING AUL
- APPROXIMATE AREA OF KNOWN CONTAMINATION
- APPROXIMATE AREA OF CLOSED DISPOSAL SITES
- APPROXIMATE AREA OF LANDFILL

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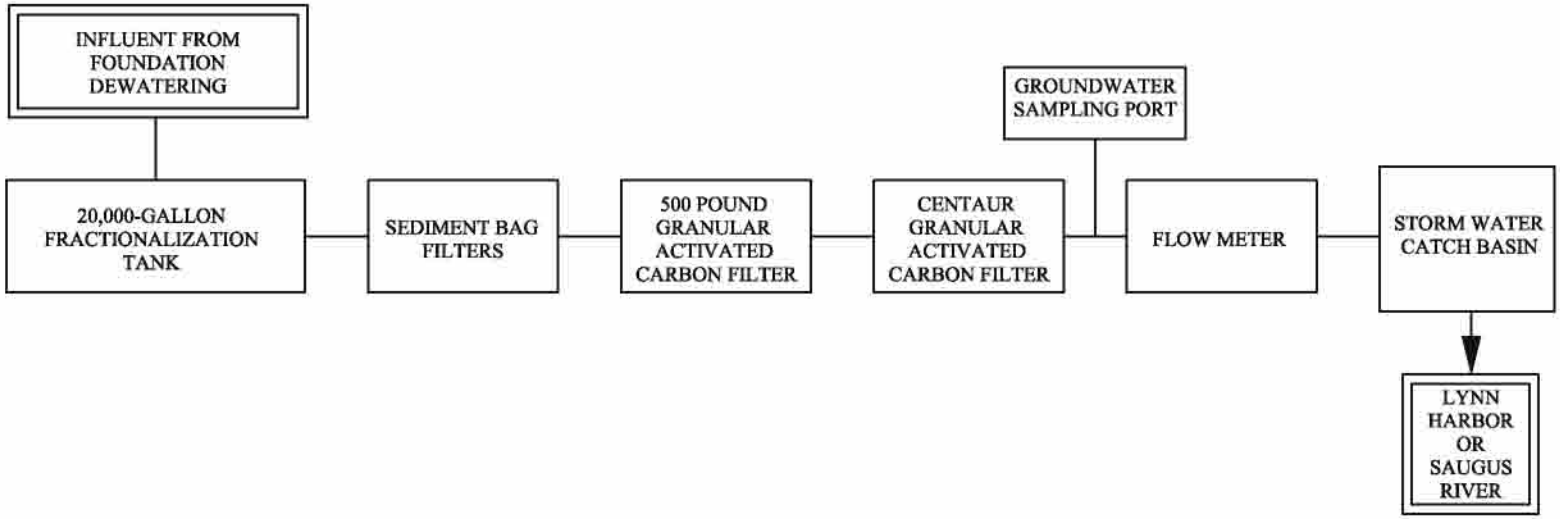
	DRAWN	CHECKED	CAD FILE NO.
BY	MMP	JDA	D://6071.A-Figure 2.dwg
DATE	7/9/2008	7/9/2008	

SITE PLAN

Q169/A179 TRANSMISSION LINE LYNNWAY RELOCATION PROJECT LYNN, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1"=500'	6071.9	FIGURE 2



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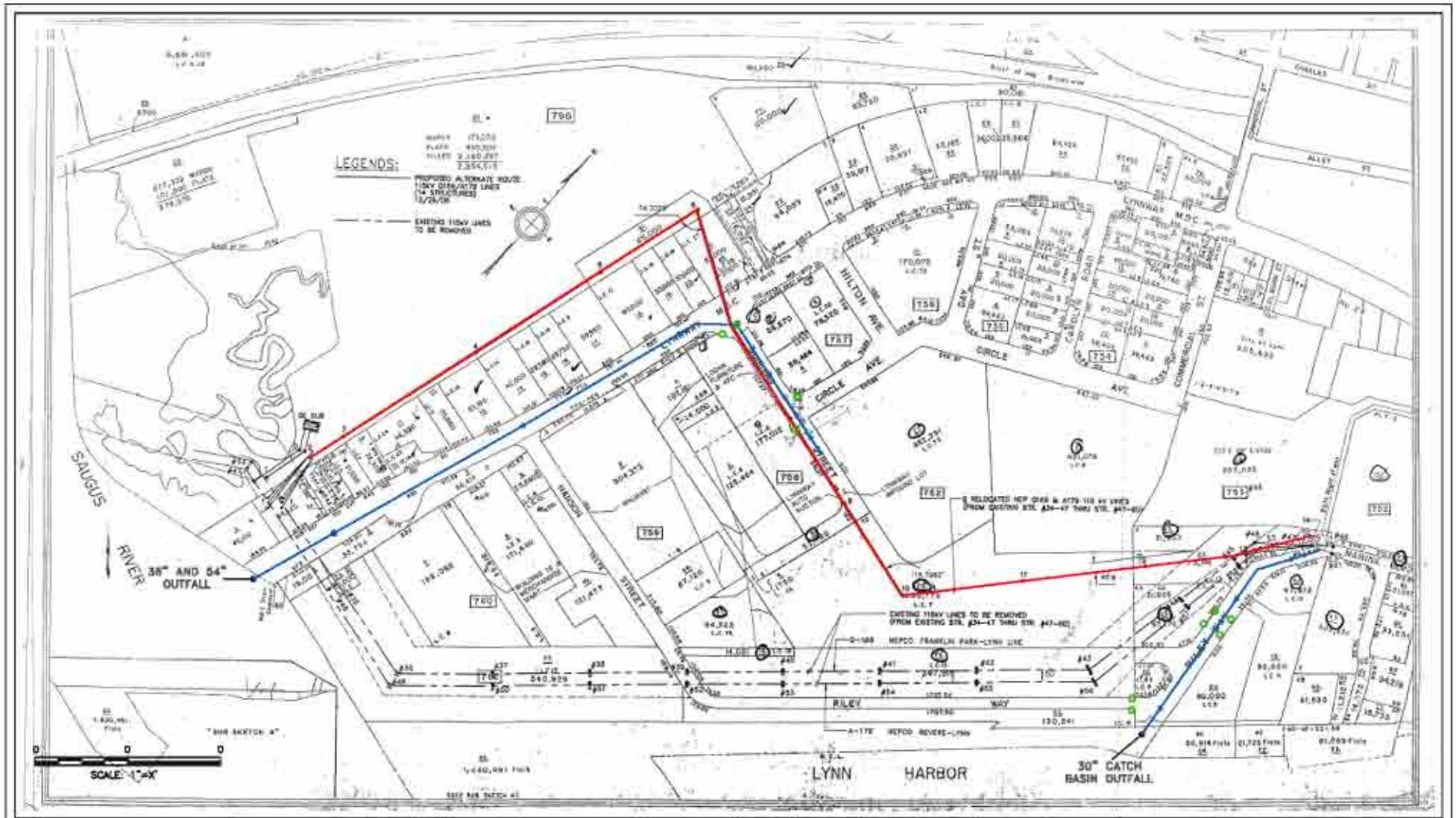
DEWATERING TREATMENT PLAN

Q169/A179 TRANSMISSION LINE
LYNNWAY RELOCATION PROJECT
LYNN, MASSACHUSETTS

	DRAWN	CHECKED	CAD FILE NO.
BY	LSF	JDA	
DATE	6/17/2009	6/18/2009	

SCALE	PROJECT NO.	DRAWING NUMBER
N / A	6071.B	FIGURE 3



NOTE: THE LOCATION AND DIMENSIONS OF THE SITE AND VICINITY FEATURES ARE APPROXIMATE AND BASED UPON A PLAN ENTITLED "LYNN, MASS ASSESSORS MAP 85" AS OBTAINED BY THE LYNN WATER AND SEWER COMMISSION.

LEGEND

APPROXIMATE ROUTE OF NEW TRANSMISSION LINE

POTENTIAL DISCHARGE POINTS

DIRECTION OF WATER FLOW

CONECO
Engineers, Scientists & Surveyors
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-2101

	DRAWN	CHECKED	CAD FILE NO.
BY	LSF	BFK	G:\6071.0 Figures\dwg
DATE	5/4/2010	5/4/2010	

PLAN OVERVIEW

Q169/A179 TRANSMISSION LINE LYNNWAY RELOCATION PROJECT LYNN, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
AS NOTED	6071.0	FIGURE 4

FORM FOR NOTICE OF INTENT FOR THE REMEDIATION GENERAL PERMIT

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

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

a) Name of **facility/site**: Q169/A179 Transmission Line Lynn Harbor Line Relocation Project		**Facility/site** address:		
Location of **facility/site**: Q169/A179 Transmission Line longitude: 70° 57' 40" latitude: 42° 27' 03"	Facility SIC code(s): 4911	Street: Lynnway and Harding Street		
b) Name of **facility/site owner:** New England Power Company		Town: Lynn		
Email address of owner: Joesph.Callanan@us.ngrid.com		State: MA	Zip: 01905	County: USA
Telephone no.of facility/site **owner**: (508) 328-4222				
Fax no. of facility/site **owner**: (781) 907-5719		**Owner** is (check one): 1. Federal____ 2. State/Tribal_____ 3. Private__✓___ 4. other, if so, describe:		
Address of **owner** (if different from site): New England Power Company				
Street: 40 Sylvan Road				
Town: Waltham	State: MA	Zip: 02451	County: USA	
c) Legal name of **operator**: Coneco Engineers & Scientists, Incorporated	**Operator** telephone no: (508) 697-3191			
	Operator fax no.: (508) 697-5996		**Operator** email: jaevazelis@coneco.com	
Operator contact name and title: John D. Aevazelis, Senior Project Manager				
Address of **operator** (if different from owner):	Street: 4 First Street			
Town: Bridgewater	State: MA	Zip: 02324	County: USA	

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No✓, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No✓, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes✓ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes✓ No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ✓ No ___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: MA 2. permit or license # assigned: RTNs: 3-2326, 3-4486, 3-1308, 3-21477 3. state agency contact information: name, location, and telephone number: MassDEP Bureau of Waste Site Cleanup, 205B Lowell Street, Wilmington, MA, 978-694-3200	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y ___ N ✓, if Y, number: 2. phase I or II construction storm water general permit? Y ___ N ✓, if Y, number: 3. individual NPDES permit? Y ___ N ✓, if Y, number: 4. any other water quality related permit? Y ___ N ✓, if Y, number:

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Dewatering during excavation of foundations for 15 steel monopole electrical transmission line support structures. Groundwater will be extracted from the excavations and pumped into a 20,000-gallon frac tank and bag filters for sediment removal. Groundwater will be treated with 500-pound granular activated carbon filters to remove contaminants of concern prior to discharge to the local storm water drainage system which terminates into Lynn Harbor.

b) Provide the following information about each discharge:	1) Number of discharge points: 2	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft3/s)? Max. flow 0.04 ft3/s Average flow 0.02 ft3/s Is maximum flow a **design value**? Y ___ N ✓ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 70.95 lat. 42.45; pt.2: long. 70.97 lat. 42.44; pt.3: long._____ lat._____;
pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.

4) If hydrostatic testing, total volume of the discharge (gals): N/A	5) Is the discharge intermittent ✓ or seasonal _____? Is discharge ongoing Yes ____ No ✓ ?

c) Expected dates of discharge (mm/dd/yy): start 03/18/10 end 11/01/10

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

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites ✓	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites ✓	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	**Believe Absent**	**Believe Present**	**# of Samples (1 min-imum)**	**Type of Sample (e.g., grab)**	**Analytical Method Used (method #)**	**Minimum Level (ML) of Test Method**	**Maximum daily value**		**Avg. daily value**	
							concentration (ug/l)	**mass (kg)**	**concentration (ug/l)**	**mass (kg)**
1. Total Suspended Solids		✓					NS			
2. Total Residual Chlorine		✓					NS			
3. Total Petroleum Hydrocarbons		✓	15	Grab	3510C	200	ND			
4. Cyanide		✓	15	Grab	9012A/335.4	1.0	5,010			
5. Benzene		✓	15	Grab	8260B	1.0	10.1			
6. Toluene		✓	15	Grab	8260B	1.0	1.3			
7. Ethylbenzene		✓	15	Grab	8260B	1.0	3.6			
8. (m,p,o) Xylenes		✓	15	Grab	8260B	1.0	1.3			
9. Total BTEX[4]		✓	15	Grab	8260B	5.0	16.2			

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide [5] (1,2- Dibromo-methane)	✓		15	Grab	8260B	0.5	ND			
11. Methyl-tert-Butyl Ether (MtBE)		✓	15	Grab	8260B	1.0	12.1			
12. tert-Butyl Alcohol (TBA)	✓		15	Grab	8260B	10.0	ND			
13. tert-Amyl Methyl Ether (TAME)		✓	15	Grab	8260B	1.0	1.0			
14. Naphthalene		✓	15	Grab	8260B	1.0	2.1			
15. Carbon Tetra-chloride	✓		15	Grab	8260B	1.0	ND			
16. 1,4 Dichlorobenzene		✓	15	Grab	8260B	1.0	1.9			
17. 1,2 Dichlorobenzene		✓	15	Grab	8260B	1.0	1.9			
18. 1,3 Dichlorobenzene	✓		15	Grab	8260B	1.0	ND			
19. 1,1 Dichloroethane	✓		15	Grab	8260B	1.0	ND			
20. 1,2 Dichloroethane	✓		15	Grab	8260B	1.0	ND			
21. 1,1 Dichloroethylene	✓		15	Grab	8260B	1.0	ND			
22. cis-1,2 Dichloro-ethylene	✓		15	Grab	8260B	1.0	ND			
23. Dichloromethane (Methylene Chloride)	✓		15	Grab	8260B	5.0	ND			
24. Tetrachloroethylene	✓		15	Grab	8260B	1.0	ND			

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	✓		15	Grab	8260B	1.0	ND			
26. 1,1,2 Trichloroethane	✓		15	Grab	8260B	1.0	ND			
27. Trichloroethylene	✓		15	Grab	8260B	1.0	ND			
28. Vinyl Chloride	✓		15	Grab	8260B	1.0	ND			
29. Acetone		✓	15	Grab	8260B	10.0	11.6			
30. 1,4 Dioxane	✓		15	Grab	8260B	20.0	ND			
31. Total Phenols		✓					NS			
32. Pentachlorophenol		✓					NS			
33. Total Phthalates [6] (Phthalate esthers)		✓					NS			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]		✓					NS			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene	✓		15	Grab	3510C	5.95	ND			
b. Benzo(a) Pyrene	✓		15	Grab	3510C	5.95	ND			
c. Benzo(b)Fluoranthene	✓		15	Grab	3510C	5.95	ND			
d. Benzo(k) Fluoranthene	✓		15	Grab	3510C	5.95	ND			
e. Chrysene	✓		15	Grab	3510C	5.95	ND			

[6] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (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)
f. Dibenzo(a,h) anthracene	✓		15	Grab	3510C	5.95	ND			
g. Indeno(1,2,3-cd) Pyrene	✓		15	Grab	3510C	5.95	ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓									
h. Acenaphthene	✓		15	Grab	3510C	5.95	ND			
i. Acenaphthylene	✓		15	Grab	3510C	5.95	ND			
j. Anthracene	✓		15	Grab	3510C	5.95	ND			
k. Benzo(ghi) Perylene	✓		15	Grab	3510C	5.95	ND			
l. Fluoranthene	✓		15	Grab	3510C	5.95	ND			
m. Fluorene	✓		15	Grab	3510C	5.95	ND			
n. Naphthalene-	✓		15	Grab	3510C	5.95	ND			
o. Phenanthrene	✓		15	Grab	3510C	5.95	ND			
p. Pyrene	✓		15	Grab	3510C	5.95	ND			
37. Total Polychlorinated Biphenyls (PCBs)	✓									
***3*8. Antimony**		✓					NS			
39. Arsenic		✓	15	Grab	6010B	4.0	9.6			
40. Cadmium	✓		15	Grab	6010B	3.0	ND			
41. Chromium III		✓	15	Grab	6010B	5.0	5.0			
42. Chromium VI		✓	15	Grab	6010B	5.0	5.0			

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	**mass** (kg)	**concentration** (ug/l)	**mass** (kg)
43. Copper		✓					NS			
44. Lead	✓		15	Grab	6010B	8.0	ND			
45. Mercury	✓		15	Grab	7470A	0.20	ND			
46. Nickel		✓					NS			
47. Selenium	✓		15	Grab	6010B	15.0	ND			
48. Silver	✓		15	Grab	6010B	5.0	ND			
49. Zinc		✓					NS			
50. Iron		✓					NS			
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N__✓__	If yes, which metals?
Step 2: For any metals which have **reasonable potential** to 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? Metals:_____ DF: _____	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 "Yes," list which metals:

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system: See Figure 4. 20,000-gallon frac tank, GAC filters and flow meter						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank ✓	Air stripper	Oil/water separator ✓	Equalization tanks	Bag filter ✓	GAC filter ✓
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system: Average flow rate of discharge 10 Maximum flow rate of treatment system 20 Design flow rate of treatment system 10						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): N/A						

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

a) Identify the discharge pathway:	Direct_____	Within facility__	Storm drain____✓	River/brook____	Wetlands_____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Discharge to catch basins and the storm water drainage system located on Riley Way, Lynnway, and Harding Street, which discharge to Lynn Harbor & Saugus River.						
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 Lynn Harbor is designated as SB____,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water N/A discharge to saline water_____cfs Please attach any calculation sheets used to support stream flow and dilution calculations.						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes____ No_✓__ If yes, for which pollutant(s)? Is there a TMDL? Yes_✓__ No____ If yes, for which pollutant(s)? pathogens						

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____ No ✓
Has any consultation with the federal services been completed ? Yes___ No ✓ or is consultation underway? Yes ____ No ✓
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):
a "no jeopardy" opinion? _____or written concurrence____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes_____ No ✓ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No ✓

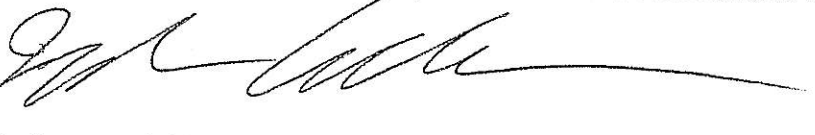
7. Supplemental information. :

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: Q169/A179 Transmission Line Lynn Harbor Line Relocation Project

Operator signature: 

Title: Director of Environmental Management

Date: 3/5/2010

PRE-CHARACTERIZATION AND ENVIRONMENTAL SPECIFICATIONS REPORT

PRE-CHARACTERIZATION AND ENVIRONMENTAL SPECIFICATIONS REPORT
Q169/A179 TRANSMISSION LINE
LYNN HARBOR LINE RELOCATION PROJECT
LYNN, MASSACHUSETTS

SUBMITTED TO:

Mr. Joshua Holden
Lead Environmental Engineer
Environmental Permitting
New England Power Company d/b/a National Grid
40 Sylvan Road
Waltham, Massachusetts 02451

PREPARED BY:

Coneco Engineers & Scientists, Incorporated
4 First Street
Bridgewater, Massachusetts 02324
(508) 697-3191

March 4, 2010
Coneco Project No. 6071.A

CONECO
Engineers, Scientists & Surveyors

CIVIL DESIGN & LAND PLANNING
SURVEYING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL ENGINEERING
REGULATORY COMPLIANCE & PLANNING

March 4, 2010
Project No. 6071.A

Mr. Joshua Holden
Lead Environmental Engineer
Environmental Permitting
New England Power Company d/b/a National Grid
40 Sylvan Road
Waltham, Massachusetts 02451

RE: Pre-Characterization and Environmental Specifications Report
Q169/A179 Transmission Line
Lynn Harbor Line Relocation Project
Lynn, Massachusetts

Dear Mr. Holden:

At the request of the New England Power Company d/b/a National Grid (NEP), Coneco Engineers & Scientists, Incorporated (Coneco) has conducted a pre-characterization investigation in regards to the proposed construction of the Q169/A179 Transmission Line, hereinafter the "Transmission Line," as part of the Lynn Harbor Line Relocation project. This investigation was initiated prior to the proposed construction of the Transmission Line to determine if a release of oil and/or hazardous materials (OHM) has occurred within the proposed construction area as well as establish general geotechnical conditions. Such a release could represent a liability to the property owner or operator under the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws. Geotechnical sampling activities were performed in accordance with the American Society for Testing and Materials (ASTM) Standard Method for Penetration Test and Split Barrel Sampling of Soils, ASTM Specification D-1586. Subsurface investigation activities were performed and evaluated in accordance with the requirements of the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws, and the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

Coneco's investigations are detailed in the attached report. If there are any questions, please contact the undersigned.

Respectfully Submitted,
Coneco Engineers & Scientists, Incorporated

John D. Aevazelis
Project Manager

Brian F. Klingler, P.G., L.S.P.
Principal Geologist

MMP;SLF;FJC;JDA;BFK: jd
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1.0 EXECUTIVE SUMMARY

The New England Power Company d/b/a National Grid (NEP) has proposed to relocate the 115 kV overhead transmission line from the current Q169 Franklin Park-Lynn line, along Lynn Harbor, to the proposed location along the Lynnway and Harding Street in Lynn, Massachusetts. The proposed Q169/A179 Transmission Line, hereinafter the "Transmission Line," would be located primarily along property owned by the General Electric Company (GE) and the City of Lynn. The proposed transmission line will cross or be installed adjacent to twenty parcels of land. These twenty properties will hereinafter be referred to as the "Area of Interest" (AOI). Currently, the proposed transmission line would require the installation of fifteen steel monopoles on support structures in the AOI. The AOI includes mixed commercial and industrial properties.

At the request of the NEP, Coneco Engineers & Scientists, Incorporated (Coneco) has conducted a Pre-Characterization and Geotechnical Investigation within the AOI. This Pre-Characterization and Geotechnical Investigation was initiated to determine if a release of oil and/or hazardous materials (OHM) has occurred within the AOI as well as to obtain general geotechnical data.

Between June 27 and August 8, 2008, Coneco directed personnel of Geologic Incorporated (Geologic) in the installation of 16 soil borings. Soil borings were installed by means of drive and wash drilling techniques to a predetermined depth in the vicinity of the proposed monopole locations. At each boring location environmental and geotechnical sampling was conducted. Representative soil samples were submitted to Spectrum Analytical, Incorporated (Spectrum) to ensure proper management and facilitate the disposal of excess soil generated as a result of proposed construction activities. Upon completion of each boring to the required depth, a temporary monitoring well was installed to intercept the top of the estimated water table. Groundwater samples were collected from temporary sampling points and were submitted to Spectrum for laboratory analysis to determine whether any potential contaminants were present in groundwater at the proposed monopole locations in the event that dewatering would be required as part of proposed construction activities.

Concentrations of cadmium in excess of the applicable DEP RCS-1 RC were identified in soil samples B-1B and B-12. Laboratory analysis also identified concentrations of benzo(a)pyrene in excess of the applicable DEP RCS-1 RCs in soil samples B-1B and B-13. Additionally, laboratory analysis of the soil samples identified lead and TPH at concentrations greater than the applicable DEP RCS-1 RCs in soil sample B-12. Laboratory analysis of the groundwater samples identified total cyanide at a concentration greater than the applicable DEP RCGW-2 RC in groundwater sample PZ-13 and PZ-14.

Remaining soil generated as a result of proposed construction must be disposed of pursuant to the anti-degradation provisions of the Massachusetts Contingency Plan. As specified in 310 CMR 40.0032(3), soil containing OHM at concentrations less than an otherwise applicable Reportable Concentrations may be transported from a Disposal Site without notice to or approval from the DEP. This action is allowed provided that such soils are not disposed

or reused at locations where the concentrations of OHM in the soil would be in excess of a release notification threshold applicable at the receiving site or where existing concentrations of OHM at the receiving site are significantly lower than the levels of those OHM present in the soil being disposed or reused.

Groundwater encountered during construction will require proper management and cannot be directly discharged to the stormwater collection system without prior approval or appropriate pre-treatment and filtration. At a minimum, a NPDES-RGP will be necessary to manage groundwater at locations PZ-13 and PZ-14 and may be required at locations PZ1B, PZ-5, PZ-7, PZ-8, PZ-9, and PZ-10.

Based on the findings of this investigation, it is the opinion of Coneco that concentrations of OHM were detected in soil and groundwater within the area of proposed construction activities which requires proper management under the MCP and the Site-specific Soil and Groundwater Management Plan. As such, Coneco is of the opinion that the submittal of a Utility Related Abatement Measure (URAM) Plan in accordance with 310 CMR 40.0460 to the DEP is required prior to the commencement of any excavation activities in the AOI.

2.0 INTRODUCTION

The New England Power Company d/b/a National Grid (NEP) has proposed to relocate the 115 kV overhead transmission line from the current Q169 Franklin Park-Lynn line, along Lynn Harbor, to the proposed location detailed in Figure 2. The proposed Q169/A179 Transmission Line, hereinafter the "Transmission Line," would be located primarily along property owned by the General Electric Company (GE) and the City of Lynn. The proposed transmission line will cross or be installed adjacent to twenty parcels of land. These twenty properties will hereinafter be referred to as the "Area of Interest" (AOI). Currently, the proposed transmission line would require the installation of fifteen steel monopoles on support structures in the AOI. The AOI includes mixed commercial and industrial properties. The precise locus of the transmission line may be altered by NEP during subsequent engineering, planning, and design revisions.

At the request of the NEP, Coneco Engineers & Scientists, Incorporated (Coneco) has conducted a Pre-Characterization and Geotechnical Investigation within the AOI. This Pre-Characterization and Geotechnical Investigation was initiated to determine if a release of oil and/or hazardous materials (OHM) has occurred within the AOI as well as to obtain general geotechnical data. To facilitate these goals, Coneco performed the following tasks:

1. Between June 27 and August 8, 2008, Coneco directed personnel of Geologic Incorporated (Geologic) of Norfolk, Massachusetts in the installation of 16 soil borings, designated B-1A, B-1B, B-2 through B-14. Soil borings were installed by means of drive and wash drilling techniques to a predetermined depth as detailed in Section 4.2.

2. At each boring location, environmental and geotechnical sampling, utilizing a hammer attachment and split-barrel sampler, was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard Method for Penetration Test and Split Barrel Sampling of Soils, ASTM Specification D-1586, during the installation of borings. Utilizing a split barrel sampler, discreet soil samples were collected every 5 feet in 2 foot intervals from 0.5 feet below surface grade until the boring was advanced to the predetermined depth. Soil boring logs are included as Appendix 1. Soil samples were submitted to Spectrum Analytical, Incorporated (Spectrum), an independent, Massachusetts-certified analytical laboratory located in Agawam, Massachusetts to ensure proper management and facilitate the disposal of excess soil generated as a result of proposed construction activities.

3. Upon completion of each boring to the required depth, a temporary monitoring well was installed to intercept the top of the estimated water table. Groundwater samples were collected from temporary sampling points and were submitted to Spectrum for laboratory analysis to determine whether any potential contaminants were present in groundwater at the proposed monopole locations in the event that dewatering is required during construction.

4. At the completion of the boring program, soil and groundwater within the AOI were evaluated within the scope and meaning of the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws, and the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

3.0 SITE OVERVIEW

The AOI consists of twenty mixed commercial and industrial parcels of land. A Site Locus Map and Site Plan are provided for reference as Figures 1 and 2, respectively.

3.1 Site Parameters

The construction of the proposed transmission line includes the installation of fifteen steel monopoles along the route, as depicted in Figure 2. The steel monopoles will be installed on or adjacent to twenty parcels of land. The majority of the AOI was submerged as part of the Lynn Harbor until the 1930s, at which time the portion of the Lynn Harbor containing the AOI was filled. As such, contaminants of concern include those typically found in areas of "urban/historic fill," as documented in Massachusetts Department of Environmental Protection (DEP) technical updates and workgroup studies. Furthermore, numerous state-listed properties have been identified within the immediate vicinity of the AOI. Based on the findings of an initial due diligence investigation, the contaminants of concern anticipated at respective boring locations were identified and are summarized in Table 2.

3.2 Sensitive Receptors

A Massachusetts Geographic Information Systems (MassGIS) DEP Priority Resource Map for the City of Lynn was generated on March 24, 2008. Information presented on this map was confirmed online (http://www.mass.gov/mgis/mapping.htm) on June 9, 2009. The AOI is not located within the boundaries of a groundwater resource area and no private or public potable water supply wells are depicted. The proposed transmission line is in proximity to the Rumney Marsh, and crosses through the 100-year flood plain of the Saugus River and Lynn Harbor, as well as a solid waste site. Areas of protected open space are depicted to the southeast and southwest of the AOI. No additional relevant features were identified within the AOI on the MassGIS Priority Resource Map. The MassGIS Priority Resource Map is included for reference as Figure 3.

3.3 Reporting Categories

Under the MCP 310 CMR 40.0000, soil and groundwater at a specific property are classified into reporting categories based upon location relative to sensitive receptors. Reporting categories are titled RCS-1 and RCS-2 for soil and RCGW-1 and RCGW-2 for groundwater. Based on the findings of Coneco's assessment, the reporting categories for the Disposal Site are determined below.

Table 1 - Groundwater and Soil Reporting Categories

RCGW-1 Criteria	RCGW-1 Classification
1) within the Zone II for a public water supply	No
2) within an Interim Wellhead Protection Area	No
3) within a Potentially Productive Aquifer	No
4) within the Zone A of a Class A surface water body used as a public water supply	No
5) at any point located 500 or more feet from a public water supply distribution pipeline	No
6) at any groundwater sampling point located within 500 feet of a private water supply well	No
7) within an Aquifer Protection District	No
RCS-1 Criteria	**RCS-1 Classification**
1) at or within 500 feet of a residential dwelling, a residentially-zoned property, school, playground, recreational area or park	**Yes**
2) within the geographic boundaries of a groundwater resource area categorized as RCGW-1	No

Notes: 1. Reporting Category for Groundwater based on 310 CMR 40.0362
2. Reporting Category for Soil based on 310 CMR 40.0361

Based on the above evaluation, groundwater at the AOI is subject to the RCGW-2 reportable classification; which refers to groundwater which is not used or suitable for use as a potable water supply. Portions of the AOI are within 500 feet of areas designated as protected open space. As such, soil within the AOI is subject to the RCS-1 classification. Additionally, the RCS-1 threshold is utilized as a conservative means of identifying potential contaminants which may need to be managed pursuant to the MCP during proposed construction activities.

4.0 FIELD ACTIVITIES

4.1 Background

Coneco directed soil boring installation activities between June 27 and August 8, 2008 to characterize geotechnical conditions and determine whether any evidence of a release of OHM exists within the AOI. Sixteen soil borings and monitoring wells were installed within the AOI to assess the environmental and geotechnical conditions within the proposed construction area. Soil boring locations are depicted in Figure 2.

4.2 Soil Boring Installation

With oversight provided by Coneco, Geologic personnel advanced each soil boring to the predetermined target depth included in Table 2. Standard penetration tests and split spoon

sampling were performed every five feet in 2-foot intervals from 0.5 feet below surface grade until the boring was complete. Penetration tests and soil sampling were accomplished by driving a split-barrel sampler in accordance with ASTM Specification D-1586, "Standard Method for Penetration Test and Split Barrel Sampling of Soils." Penetration tests and soil sampling were conducted every 5 feet. Soil samples recovered in the split-barrel sampler were visually classified in the field and the samples were retained in an airtight container for additional classification and testing. If refusal was encountered before the desired sampling interval was attained, the sampler was removed from the hole and drilling was continued.

The soil description, number of blows required to drive the sampler each increment of six inches, and percent recovery are recorded and documented on test boring reports, which are included in Appendix 1. Soil boring locations can be referenced in Figure 2. The standard operating procedure for the advancement of soil borings is included in Appendix 2. Observations made during the installation of the soil borings are detailed in Section 6.0.

Table 2 - Summary of Soil Boring Locations

Boring ID	Owner/Occupant Parcel ID	Contaminants of Concern	Target Depth (feet)
1A	New England Power Co 017-796-001	Background Contaminants	60
1B	New England Power Co 017-796-001	Background Contaminants	60
2	General Electric 035-796-082	Background Contaminants	60
3	General Electric 035-796-082	Background Contaminants	60
4	General Electric 035-796-082	Background Contaminants, lead, PAHs[1]	60
5	General Electric 035-796-082	Background Contaminants	60
6	General Electric 035-796-082	Background Contaminants, VOCs[2], TPH[3], SVOCs[4], metals / VOCs[4]	60
7	General Electric 035-796-082	Background Contaminants, VOCs, TPH, SVOCs, metals / VOCs	Bedrock
7B[5]	General Electric 035-796-082	Background Contaminants, VOCs, TPH, SVOCs, metals / VOCs	Bedrock
8	Harding Street Public Roadway & Logan Furniture/KFC	Background Contaminants / gasoline	60
9	Lynnway Auto Auction Harding Street Public Roadway	Background Contaminants	60
10	Lynnway Auto Auction Harding Street Public Roadway	Background Contaminants	Bedrock
11	Garelick Farms 034-752-027	Background Contaminants	60
12	Lynn WWTP 050-752-026	Background Contaminants	60
13	Lynn WWTP 050-752-033	Background Contaminants	60
14	Mass Electric Co. 050-752-055	Background Contaminants, PAHs/VOCs, PAHs	60

Notes:
1. Polycyclic Aromatic Hydrocarbons
2. Volatile Organic Compounds
3. Total Petroleum Hydrocarbons
4. Semi Volatile Organic Compounds
5. Boring B-7B was advanced in the vicinity of B-7 due to shallow refusal at boring B-7

4.3 Temporary Monitoring Well Installation

Upon completion of each boring to the predetermined depth, a temporary monitoring well was installed to intercept the top of the estimated water table. Monitoring wells were constructed of 10-foot long sections of 2-inch ID, Schedule 40 PVC, No. 10-slotted screen material. The well screen was installed to intercept the top of the water table and solid 2-inch

PVC riser was placed from the top of the screen to approximately 2 feet above grade. A visual depiction of the monitoring well construction is included as Appendix 1. No permanent monitoring wells were installed at the proposed sampling locations. Monitoring wells were removed following collection of groundwater samples and the bore holes plugged with a bentonite and cement slurry in accordance with DEP *Standard Reference for Monitoring Wells*, Section 4.6, and were not in place more than 14 days after installation.

4.4 Soil Headspace Screening

Soil samples, collected from split-barrel sampling from each soil boring, were placed in clean, tightly sealed glass jars topped with aluminum foil cover liners for in-field headspace screening using a RAE Systems MiniRAE 2000 PID (PID) with a 10.2 eV lamp, calibrated to an isobutylene standard. Headspace screening procedures were performed in accordance with "DEP Policy WSC 94-400." Coneco's standard operating procedure for headspace screening of soil samples is provided in Appendix 2. Headspace concentrations for collected soil samples are displayed on the respective test boring logs included in Appendix 1.

PID results for soil collected from borings B-1A, B-1B, B-2 through B-6, B-8, B-9, and B-11 through B-14 indicated headspace concentrations ranging from below the instrument quantification limit of 0.1 parts per million (ppm) to 82 ppm. PID results for soil collected from soil borings B-7 and B-10 indicated headspace concentrations ranging from below the instrument quantification limit of 0.1 ppm to 5,898 ppm. However, visual and olfactory observations of soil samples from borings B-7 and B-10 were uncharacteristic of the elevated headspace readings provided by the PID; therefore, it was the opinion of Coneco that the elevated headspace readings were likely attributed to equipment error and/or damage. As such Coneco personal replaced the damage PID with a new one of the same make and model and compared the results from soil borings B-7 and B-10. Following the replacement of the PID, elevated headspace concentrations were not detected. Furthermore, laboratory analysis of soil samples collected from soil borings B-7 and B-10 identified no concentration of volatile organic compounds (VOCs) in excess of the laboratory quantification limit.

4.5 Soil Sampling

Soil sampling was conducted within the AOI in order to identify any preliminary evidence of contamination and to facilitate the disposal of excess soil that will be generated during construction. Discrete soil samples collected from surface grade to the bottom of the urban fill layer at each soil boring were composited into representative samples and designated B-1A, B-1B, and B-2 through B-14. As soil boring B-7B was advanced within 5 feet of B-7A, soil samples obtained from B-7A were representative of the point of investigation and no soil samples were collected at boring location B-7B.

The composite soil samples were preserved in accordance with appropriate DEP and/or Environmental Protection Agency (EPA) protocol and were submitted to Spectrum for laboratory for the following analyses:

- Total Petroleum Hydrocarbons (TPH) by EPA Method 8100M
- Polychlorinated Biphenyls (PCB) by EPA Method 8082
- Polycyclic Aromatic Hydrocarbons (PAH) by EPA Method 8270

- Resource Conservation and Recovery Act (RCRA) 8 Metals by EPA 7000 and 200 Series Methods
- Flashpoint, pH, and Reactivity

In addition, the discreet soil sample with the highest PID reading from each boring was submitted for laboratory analysis of VOCs by EPA Method 8260. Soils samples B-1B, B-9, B-11, B-12, and B-13 were also analyzed for Hexavalent Chromium. In addition, due to previous documentation of cyanide in the vicinity of B-13 and B-14, composite soil samples from B-13 and B-14 were submitted for analysis of total cyanide by EPA Method 335.4. Following the receipt of laboratory analytical results for the composite soil samples, soil sample B-12 was analyzed for Toxicity Characteristic Leachate Procedure (TCLP) lead due to elevated concentrations of total lead.

Coneco's standard operating procedures for equipment decontamination and sample collection are provided in Appendix 2. Soil boring locations can be referenced in Figure 2.

4.6 Groundwater Sampling

Groundwater monitoring wells were developed and purged by Coneco personnel prior to sampling. This was accomplished by surging and purging the saturated portion of the well screen with a single stage submersible whale© pump until at least five well volumes were evacuated and the stabilization of suspended fines was noted. No visual or olfactory evidence of contamination was noted during monitoring well development.

Groundwater samples from each of the 15 temporary monitoring wells were submitted to Spectrum for the following analyses:

- VOCs by EPA Method 8260
- Volatile Petroleum Hydrocarbons (VPH) by DEP Method
- Extractable Petroleum Hydrocarbons (EPH) by the DEP Method
- RCRA 8 Metals

In addition, due to previous documentation of cyanide in the vicinity of B-13 and B-14, groundwater samples from the temporary groundwater monitoring wells at these locations were also submitted for total cyanide.

4.7 Hydrogeology

Based on the Coneco's field investigation, groundwater at the AOI was generally encountered at depths ranging from approximately 2.5 to 21 feet below grade, as presented in Table 5 in Section 6.2. Groundwater flow is expected to be in a general southwesterly and southeasterly direction towards the Saugus River and Lynn Harbor with local variations along the AOI.

5.0 LABORATORY ANALYTICAL RESULTS

5.1 Soil and Groundwater Analytical Results

Laboratory analytical results for detected analytes in soil are presented in Table 3. Laboratory analytical results for detected analytes in groundwater are presented in Table 4. A copy of the original laboratory narratives, analytical data, Quality Assurance/Quality Control (QA/QC), analytical methods, and chain of custody forms is included in Appendix 3.

Table 3 - Soil Sample Results

Analyte	Units	B-1A 8/8/2008	B-1B 8/7/2008	B-2 7/31/2008	B-3 7/30/2008	B-4 7/29/2008	B-5 7/28/2008	B-6 7/25/2008	B-7 7/14/2008	B-8 6/30/2008	B-9 6/27/2008	B-10 7/8/2008	B-11 8/1/2008	B-12 7/2/2008	B-13 7/3/2008	B-14 7/7/2008	Reportable Concentration RCS-1
PAHs by EPA Method 8270																	
Acenaphthene	mg/kg	<0.155	0.784	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	2.48	<0.142	4
Acenaphthylene	mg/kg	<0.155	<0.444	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	0.547	0.189	1
Anthracene	mg/kg	0.183	1.91	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.352	<0.155	<0.813	2.81	0.156	1000
Benzo (a) anthracene	mg/kg	0.38	2.92	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.778	0.278	1.65	2.52	0.516	7
Benzo (a) pyrene	mg/kg	0.318	**2.21**	<0.3	<0.174	<0.52	<0.156	<0.143	0.165	<0.181	<0.195	0.711	0.451	1.38	**2.61**	0.576	2
Benzo (b) fluoranthene	mg/kg	0.282	1.76	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.754	0.473	1.19	3.49	0.658	7
Benzo (g,h,i) perylene	mg/kg	0.157	1.03	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.365	0.25	<0.813	2.25	0.371	1000
Benzo (k) fluoranthene	mg/kg	0.313	2.03	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.484	0.401	1.42	2.02	0.373	70
Chrysene	mg/kg	0.396	2.79	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.769	0.316	1.55	3.05	0.626	70
Dibenzo (a,h) anthracene	mg/kg	<0.155	<0.444	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	0.624	<0.142	0.7
Fluoranthene	mg/kg	1.14	8.11	<0.3	<0.174	<0.52	<0.156	<0.143	0.16	0.227	0.213	1.69	0.541	2.87	5.39	0.849	1000
Fluorene	mg/kg	<0.155	0.873	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	1.98	<0.142	1000
Indeno (1,2,3-cd) pyrene	mg/kg	0.18	1.27	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	0.349	0.221	0.929	1.99	0.33	7
1-Methylnaphthalene	mg/kg	<0.155	<0.444	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	<0.348	<0.142	NA
2-Methylnaphthalene	mg/kg	<0.155	<0.444	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	<0.348	<0.142	0.7
Naphthalene	mg/kg	<0.155	<0.444	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	<0.306	<0.155	<0.813	0.913	0.202	4
Phenanthrene	mg/kg	0.986	7.66	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	<0.181	<0.195	1.87	0.299	2.17	7.44	0.54	10
Pyrene	mg/kg	0.791	5.21	<0.3	<0.174	<0.52	<0.156	<0.143	<0.154	0.252	0.24	1.59	0.46	3.49	7.27	1.04	1000
PCBs by EPA Method 8082																	
Total PCBs	mg/kg	<0.0242	0.0431	<0.041	<0.02	<0.04	<0.02	<0.02	<0.02	<0.03	<0.03	<0.02	0.0235	<0.03	<0.03	<0.03	2
TPH 8100																	
Total Petroleum Hydrocarbons	mg/kg	192	599	243	252	548	114	74.9	199	167	171	673	106	**1,670**	596	237	1000
Total Metals by EPA 6000/7000 Series Methods																	
Silver	mg/kg	<1.75	<2.24	<1.54	<1.72	<2.82	<1.67	<1.57	<1.48	<1.72	<1.95	<1.53	<1.77	<1.75	<1.79	<1.45	100
Arsenic	mg/kg	4.31	6.14	3.49	<1.72	5.17	<1.67	1.8	4.05	1.8	6.03	4.03	6.7	9.23	5.63	4.6	20
Barium	mg/kg	58.1	160	12.1	7.43	6.14	7.44	7.93	20.1	13.8	39.3	34.4	115	275	97.5	31.6	1000
Cadmium	mg/kg	0.795	**2.8**	<0.515	<0.572	1.22	<0.555	<0.523	<0.494	<0.573	<0.650	<0.511	1.24	**2.45**	<0.598	<0.484	2
Chromium	mg/kg	26	41.2	11.1	10.2	28.1	9.45	9.71	16.3	20.8	63.3	21	53	52.6	114	24.3	1000
Mercury	mg/kg	0.202	4.33	<0.0308	<0.0368	<0.0595	<0.0348	<0.0298	<0.034	0.098	0.14	0.171	0.453	0.742	0.997	0.071	100
Lead	mg/kg	134	265	4.31	2.48	47.2	1.78	2.02	6.08	20.3	21.2	141	205	**1,360**	69.4	69.5	300
Selenium	mg/kg	1.94	2.7	<1.54	<1.72	3.8	<1.67	<1.57	<1.48	<1.72	2.7	<1.53	<1.77	<1.75	<1.79	<1.45	400
TCLP Metals by EPA 1311 & 6000/7000 Series																	
Lead	mg/l	0.125	0.903	NS	NS	NS	NS	NS	NS	NS	NS	0.845	1.44	4.12	NS	NS	5 (7)
Hexavalent Chromium																	
Chromium (VI)	mg/kg	NS	<1.88	NS	NS	NS	NS	NS	NS	NS	<1.55	NS	1.46	<1.26	<1.49	NS	30
Reactivity Cyanide/Sulfide																	
Reactivity	mg/kg	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	Nonreactive	NA
Reactivity Cyanide	mg/kg	<25	<25	<25	<25	<25	<25.0	<25.0	<24.6	<24.8	<25.0	<25.0	<25	<24.8	<24.9	<24.8	NA
Reactivity Sulfide	mg/kg	<50	<50	<50	<60	79.8	<50.0	<50.0	<49.2	<49.7	<49.9	<50.0	<50	<49.7	131	<49.6	NA
VOCs by EPA Method 8260																	
Naphthalene	mg/kg	0.197	<0.139	<0.0648	<0.0764	<0.147	<0.156	<0.057	<0.093	<0.050	<0.063	<0.045	<0.049	0.231	0.507	<0.045	4
Total Cyanide																	
Cyanide (total)	mg/kg	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12.6	29.1	100
Toxicity Characteristics																	
Flashpoint	°F	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	NA
pH	pH Units	6.80	7.19	7.09	7.83	7.43	8.37	5.63	7.72	8.14	6.84	7.10	7.25	6.91	7.86	*8.08*	NA

Notes:
1) MCP Reportable Concentrations obtained from MCP 310 CMR 40.0000.
2) Units of mg/kg = milligrams per kilogram.
3) NA = Not Applicable
4) *<1.0* = less than the minimum detectable limit of 1.0 mg/kg.
5) **Bold (red)** indicates exceedance of MCP RCS-1 Reportable Concentration.
6) NS = Not Sampled
7) Standards for TCLP Lead RCRA hazardous waste threshold reported in mg/l pursuant to 40 CFR 261.24(b)

Table 4 - Groundwater Sample Results

Analyte	Units	PZ-1A 8/11/2008	PZ-1B 8/8/2008	PZ-2 8/1/2008	PZ-3 8/1/2008	PZ-4 8/4/2008	PZ-5 7/29/2008	PZ-6 7/29/2008	PZ-7 7/25/2008	PZ-8 7/2/2008	PZ-9 6/30/2008	PZ-10 7/11/2008	PZ-11 8/4/2008	PZ-12 7/7/2008	PZ-13 7/7/2008	PZ-14 7/9/2008	Reportable Concentration RCGW-2
VOCs by EPA Method 8260																	
Benzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.01	2
Acetone	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.0116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	50
Bromodichloromethane	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.006
Chloroform	mg/l	<0.001	0.0014	<0.001	<0.001	<0.001	0.0023	<0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05
Chlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0191	0.0018	<0.001	<0.001	<0.001	0.2
Dibromochloromethane	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.02
Ethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0036	5
1,2-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	0.0019	<0.001	2
1,4-Dichlorobenzene	mg/l	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0019	<0.001	<0.001	<0.001	<0.001	0.2
Methyl tert-butyl ether	mg/l	<0.001	0.0029	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0121	0.0018	0.0043	<0.001	<0.001	<0.001	<0.001	5
Isopropylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	NA
Ethyl ether	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.0076	0.0017	<0.001	<0.001	10
n-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	NA
Naphthalene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	<0.001	<0.001	0.0013	0.0014	<0.001	<0.001	0.0021	1
Styrene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.1
Tert-amyl metyl ether	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA
Toluene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	40
o-Xylene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013	NA
EPH by the DEP Method																	
C_9-C_{18} Aliphatic Hydrocarbons	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5
C_{19}-C_{36} Aliphatic Hydrocarbons	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	50
C_{11}-C_{22} Aromatic Hydrocarbons	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5
Total Petroleum Hydrocarbons	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5
VPH Aliphatic/Aromatic Carbon Ranges																	
C_5-C_8 Aliphatic Hydrocarbons	mg/l	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	3
C_9-C_{12} Aliphatic Hydrocarbons	mg/l	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0.0253	<0.0250	<0.0250	<0.0250	<0.0250	5
C_9-C_{10} Aromatic Hydrocarbons	mg/l	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0.0386	<0.0250	<0.0250	<0.0250	0.0451	7
VPH Target Analytes																	
Benzene	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	2
Methyl tert-butyl ether	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0121	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5
Soluble Metals by EPA 6000/7000 Series Methods																	
Silver	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007
Arsenic	mg/l	<0.004	<0.004	<0.004	<0.004	0.0052	0.0096	0.0059	<0.004	<0.004	<0.004	<0.004	0.007	<0.004	<0.004	<0.004	0.9
Barium	mg/l	0.064	0.213	0.0254	0.0156	0.0129	0.0373	0.0328	0.0466	0.0441	0.039	0.378	1.72	0.738	0.0237	0.0282	50
Cadmium	mg/l	<0.003	<0.003	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.004
Chromium	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	0.3
Lead	mg/l	<0.008	<0.008	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	0.01
Selenium	mg/l	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.1
Soluble Metals by EPA 200 Series Methods																	
Mercury		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002	0.02
Total Cyanide																	
Cyanide (total)	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.675**	**5.01**	0.03

1) VPH/EPH = Volatile and extractable petroleum hydrocarbons using DEP Method 1.0.
2) Units of mg/l = milligrams per liter.
3) NA = Not Applicable
4) *<1.0* = less than the minimum detectable limit of 1.0 mg/kg.
5) **Bold (red)** indicates exceedance of MCP RCGW-2 Reportable Concentration.
6) NS = Not sampled for applicable analyte.

5.2 Soil Analytical Results: Discussion

Due to the urban setting of the AOC and the related historic filling of the area previously occupied by Lynn Harbor, contaminant concentrations were detected above the reported laboratory quantification limits. Additionally, certain heavy metals are known to be naturally occurring and present in the environment. Therefore, identified contaminant concentrations may be representative of "background" conditions, as defined at 310 CMR 40.0006. However, these contaminant concentrations are regulated pursuant to the anti-degradation provisions of the MCP presented at 310 CMR 40.0032(3). To determine whether detected concentrations of OHM were representative of background conditions, detected concentrations were compared to the RCS-1 reportable concentrations as well as those listed in the May 23, 2002 DEP Technical Update: Background Levels of PAHs and Metals in Soil.

Laboratory analysis detected benzo(a)pyrene in soil samples B-1B and B-12 at concentrations of 2.21 mg/kg and 2.61 mg/kg, respectively. These concentrations are in excess of the applicable RCS-1 standards for benzo(a)pyrene of 2 mg/kg. Additionally, cadmium was identified in soil samples B-1B and B-13 at concentrations of 2.8 mg/kg and 2.45 mg/kg, respectively. These concentrations are in excess of the applicable RCS-1 standards of 2 mg/kg for cadmium. However, the concentrations of benzo(a)pyrene and cadmium detected in select soil samples are below the values associated with urban fill as listed in Table 1 of DEP's Technical Update: Background Levels of PAHs and Metals in Soil. Specifically, concentrations of benzo(a)pyrene are below 7 mg/kg, and concentration of cadmium are below 3 mg/kg. Therefore it is the opinion of Coneco that these concentrations are consistent with background and do not represent a DEP reportable condition.

Total chromium was detected in excess of the applicable DEP RCS-1 RC of 30 mg/kg in the soil samples designated B-1B, B-9, B-11, B-12, and B-13 and therefore the samples were subsequently analyzed for hexavalent chromium. This effort was initiated to determine if the total chromium concentrations identified were exempt from reporting requirements pursuant to 310 CMR 40.0360(4) and whether the soil would require management under the MCP. Laboratory analysis of B-1B, B-9, B-11, B-12, and B-13 identified no concentrations of hexavalent chromium in excess of the laboratory quantification limit. Therefore, the total chromium concentrations identified in B-1B, B-9, B-11, B-12, and B-13 are attributable to trivalent chromium. As the applicable DEP RCS-1 RC for trivalent chromium is 1,000 mg/kg, there is no RC exceedance regarding chromium concentrations in soil at the Site.

Laboratory analysis of the soil samples identified total lead and TPH in soil sample B-12 (located at the City of Lynn WWTP) at concentrations of 1,360 mg/kg and 1,670 mg/kg, respectively. These concentrations are in excess of the applicable RCS-1 standards of 300 mg/kg for total lead and 1,000 mg/kg for TPH. Due to elevated concentrations of total lead, soil sample B-12 was analyzed for TCLP lead. Results of additional analysis identified TCLP lead at a concentration of 4.12 mg/l, which are below the RCRA hazardous waste threshold of 5 mg/l as identified at 40 CFR 261.24(b).

5.3 Groundwater Analytical Results: Discussion

Laboratory analysis of the groundwater samples identified total cyanide at a concentration greater than the applicable DEP RCGW-2 RC in groundwater sample PZ-13 and PZ-14.

These temporary monitoring wells were located within the limits of an existing Disposal Site associated with RTN 3-1308, the former Lynn Gas and Electric facility. Additionally, low levels of VOCs were detected at locations PZ-1B, PZ-5, PZ-7, PZ-8, PZ-9, PZ-10, PZ-11, PZ-12, PZ-13, and PZ-14. Low dissolved metals concentrations were detected in each of the groundwater sampling locations. Based on these findings, it is the opinion of Coneco that groundwater generated as the result of dewatering activities would need to be managed in accordance with 310 CMR 40.0040. Groundwater should not be discharged to the City of Lynn stormwater system without obtaining permission from the City of Lynn Department of Public Works and a National Pollutant Discharge Elimination System permit and proper pretreatment. Groundwater could also be disposed of at a licensed hazardous waste facility for proper disposal.

6.0 SITE GEOLOGICAL CONDITIONS

6.1 Surficial Features

The AOI includes mixed commercial and industrial properties. The majority of the AOI was submerged as part of the Lynn Harbor until the 1930s, at which time the portion of the Lynn Harbor containing the AOI was filled. Therefore, Recognized Environmental Conditions (RECs) associated with urban fill may be encountered. The western portion of the AOI was undeveloped until around 1950 when a gear cutting machine shop was constructed on the southeastern portion of the current GE facility. Remaining portions of the AOI were developed by 1965, at which time several light industrial and commercial properties were developed along Lynnway. The majority of the AOI is covered by asphalt-paved surfaces or sparse vegetation.

Topography within the AOI slopes gradually downward in a southeastern direction towards the Saugus River and Lynn Harbor. Drainage within the paved portion of the Site is directed toward storm water catch basins which are connected to the City of Lynn storm water system, discharge directly to the Saugus River, or discharge to storm water infiltration/drainage swales. Within the unpaved portions of the AOI, drainage consists mainly of infiltration through grass and soil that covers the surface in these areas.

6.2 Subsurface Conditions

Based on the findings of Coneco's investigation, the top layer of asphalt, trap rock, or sparse vegetation is generally underlain by 15 to 20 feet of urban fill comprised of silty gravelly sand with interspersed brick, glass, and rubber fragments. The urban fill is generally underlain by approximately 30 to 50 feet of marine deposits consisting of clayey sand intermixed with shell fragments. The marine deposits were underlain by 50 to 100 feet of Boston blue clay, underlain by 5 to 10 feet of till. At soil borings B-7 and B-7B bedrock was encountered at 80 and 85 feet respectively. At soil boring B-10 bedrock was encountered at 120 feet. Bedrock was not encountered at remaining borings as each soil boring was completed to its pre-determined target depth. A summary of observations made during the installation of soil borings is included in Table 5. Additionally, a Subsurface Strata Plan is included as Figure 4, depicting a typical cross-sectional view of soil units encountered during test boring activities. Complete soil boring logs are included for reference as Appendix 1.

Table 5 - Summary of Soil Boring Observations

Boring ID	Surface	Fill Layer (feet)	Sand/Silt Layer (feet)	Clay Layer (feet)	Till Layer (feet)	Bedrock (feet)	Soil Boring Depth (feet)	Water Table (feet)
1A	Vegetation	0 - 16	NE	16 - 60	NE	NE	60	7.05
1B	Vegetation	0 - 16	NE	16 - 60	NE	NE	60	8.05
2	Vegetation	0 - 11	11 - 25	26 - 60	NE	NE	60	4.05
3	Asphalt	0 - 22	NE	26 - 60	NE	NE	60	4.65
4	Asphalt	0 - 11	11 - 17.5	17.5 - 60	NE	NE	60	3.58
5	Asphalt	0 - 19.5	NE	19.5 - 50	50 - 58	NE	58	4.71
6	Asphalt	0 - 4	NE	4 - 60	NE	NE	60	2.46
7	Asphalt	0 - 8.5	8.5 - 13	13 - 36	36 - 74.5	74.5	78	4.45
7B	Asphalt	NS	NS	NS	NS	84.0	96	NS
8	Grass	0 - 17.5	NE	17.5 - 60	NE	NE	60	5.65
9	Asphalt	0 - 18.5	NE	18.5 - 60	NE	NE	60	4.54
10	Asphalt	0 - 11	NE	11 - 91.5	91.5 - 124	124	125	8.60
11	Vegetation	0 - 26	NE	26 - 60	NE	NE	60	18.20
12	Vegetation	0 - 27	NE	27 - 60	NE	NE	60	20.8
13	Vegetation	0 - 16	16 - 30.5	30.5 - 60	NE	NE	60	6.45
14	Vegetation	0 - 16	16 - 41	41 - 60	NE	NE	60	6.95

Notes: 1. NE: Not Encountered
2. NS: No Samples taken from applicable layer

7.0 SOIL MANAGEMENT PLAN

The following sections will provide procedures for the excavation, storage, and disposal of soil at the Site during proposed construction activities. The potential materials that will be generated by this activity are asphalt, uncontaminated road base material, uncontaminated material generated during excavation, contaminated material generated during excavation, and groundwater. This soil management plan addresses the handling of the materials generated on-site. The on-site contractor shall be responsible for all aspects of soil management. Excess materials (and asphalt) that have been determined to be uncontaminated based on field screening results and pre-characterization will be managed by the contractor. All construction activities at the AOI will be completed in accordance with a Health and Safety Plan developed by the contractor based on the chemical data herein. A copy of a representative Health and Safety Plan is included for informational purposes only as Appendix 4. The contractor's project field staff will have completed 40 hours of comprehensive health and safety training (OSHA HAZWPR), which meets the requirements of 29 CFR 1910.120.

7.1 Environmental Monitoring Activities

Oversight of soil excavation and field analysis of soil will be conducted by a Licensed Site Professional (LSP) or qualified environmental engineer or consultant designated by an LSP (hereinafter referred to as the QEE). The quantity of non-contaminated soil versus contaminated soil encountered during construction activities will be determined in the field. The basis for segregating material will be determined by visual observations and previous field testing and laboratory analytical results. All soil generated at the Site as part of construction activities will be managed in accordance with this soil management plan. Soil management will be provided for any utility work and associated earth work to be conducted in the immediate vicinity of the proposed monopole locations as depicted on the Site Plan.

Soil samples were collected by the QEE from soil borings advanced at each proposed monopole location for field and laboratory analysis during pre-characterization activities conducted at the AOI between June 27 and August 8, 2008. Soil samples were collected for laboratory analysis as detailed in Section 4.6.

The urban fill layer at each boring location is underlain by the Boston Blue Clay. According to 310 CMR 40.0317(22), U.S. Geological Survey and/or scientific literature have identified elevated concentrations of arsenic, beryllium, and nickel in Boston Blue Clay. These concentrations are consistent with background and are exempt from notification, pursuant to 310 CMR 40.0317.

7.2 Soil Treatment or Disposal

Based on the results of pre-characterization sampling and analysis, in accordance with 310 CMR 40.0300, an appropriate disposal or recycling method will be selected for soil exceeding the RCS-1 criteria. Based on guidance from NEP, it is anticipated that contaminated excavated soil will be directly loaded into tractor trailers for immediate

transport to an approved receiving facility. Alternatively, soil could be places within roll-off containers lined with 6-millimeter polyethylene sheeting for temporary storage prior to transporting impacted soil for disposal. The transport of soil from the Site to an appropriate receiving facility will be conducted by the contractor with the oversight of an LSP and under the appropriate documentation as described in 310 CMR 30.0030 and/or 310 CMR 40.0034.

Where analytical results are below the RCS-1 standards, the location of off-Site reuse will be at the discretion of the on-Site contractor. As specified in the anti-degradation provisions of the MCP presented at 310 CMR 40.0032(3) of the Massachusetts Contingency Plan, soil containing OHM at concentrations less than an otherwise applicable Reportable Concentration may be transported from a Disposal Site without notice to or approval from the DEP. This action is allowed provided that such soils are not disposed or reused at locations where the concentrations of OHM in the soil would be in excess of a release notification threshold applicable at the receiving site or where existing concentrations of OHM at the receiving site are significantly lower than the levels of those OHM present in the soil being disposed or reused.

The soil within the roll-off containers may be temporarily stored at the point of generation or at a NEP-owned property until an appropriate receiving facility is selected. Transport of soil from the excavation Site will be conducted in accordance with 310 CMR 30.0030 and/or 310 CMR 40.0460. Any documentation necessary to transport potentially contaminated soil from the Site will be prepared by an LSP prior to initiating field activities and implemented for use by a licensed hazardous waste transporter.

Soil from borings B-1B, B-12, and B-13 must be submitted to a licensed disposal facility under a Bill of Lading (BOL) under the supervision of an LSP (in accordance with 310 CMR 40.0030) and soil from remaining borings may be transported to an appropriate receiving facility under a Material Shipping Record (MSR) log form. Table 6 illustrates examples of appropriate disposal options for excess soil generated at each proposed monopole structure. This table should be used as a guideline to identify the most cost-effective disposal alternative. In general, the first alternative for disposal facility and requisite transportation documentation will be the most cost-effective; however, conditions may warrant selection of alternative options. The selected receiving facility must be approved by NEP prior to shipping any soil for disposal.

Table 6 - Soil Disposal Alternatives

Monopole ID	Acceptable Soil Disposal Facility	Transportation Documentation
1A	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
1B	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	BOL or Manifest
2	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
3	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
4	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
5	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
6	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
7	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
8	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
9	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
10	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
11	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest
12	Lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	BOL or Manifest
13	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	BOL or Manifest
14	Unlined instate landfill, lined instate landfill, asphalt batching, thermal desorption, other licensed hazardous waste disposal facility	MSR, BOL, or Manifest

8.0 GROUNDWATER MANAGEMENT PLAN

Dewatering of the excavation may be necessary during construction work due to groundwater infiltration or periodic storm water run-off. Groundwater at the Site was measured to be between approximately 2.5 and 21 feet during pre-characterization activities, as summarized in Table 5. During pre-characterization activities, 15 temporary groundwater monitoring wells were installed, sampled, and groundwater samples were submitted for laboratory analysis as detailed in Section 4.7.

Laboratory analysis identified total cyanide at a concentration greater than the applicable DEP RCGW-2 concentration in groundwater samples PZ-13 and PZ-14. No additional contaminants of concern were identified above the applicable RCGW-2 concentrations in

groundwater samples collected from the groundwater monitoring wells. However, low concentrations of various contaminants were detected at concentrations which may be above background at locations PZ1B, PZ-5, PZ-7, PZ-8, PZ-9, and PZ-10. Based on these findings, Coneco is of the opinion that groundwater at these locations would need to be managed in accordance with the following groundwater management plan. Additionally, groundwater encountered at each location should be managed in accordance with applicable state and federal regulations, and should not be discharged to the municipal stormwater system without treatment and/or sediment removal.

Under no circumstances can water from within the excavations be removed, pumped, or discharged without prior treatment in accordance with a National Pollutant Discharge Elimination Remediation General Permit (NPDES-RGP) (Permit # Pending). The NPDES-RGP details discharge criteria that must be met prior to discharging water from within the excavation to the municipal storm water drain system. The QEE will be responsible for collecting samples in accordance with the permit and complying with the analytical requirements specified in the permit.

The contractor is responsible for obtaining and utilizing all pumps and appurtenant treatment equipment with the capability of meeting or exceeding the NPDES-RGP criteria. In addition, the system must have sampling ports that would allow for the collection of influent and effluent samples.

The NPDES-RGP will be applied for prior to the initiation of construction. The application includes minimum requirements for treatment system set-up and analytical data for groundwater at sampling locations in the vicinity of the Site. The minimum system requirements as specified in the application are as follows:

- Oil/water separator;
- 20,000-gallon Frac Tank or equivalent sedimentation tank (i.e. water tight roll-off);
- Sediment bag filters;
- Two 500-pound granular activated carbon vessels - installed in series with sampling port in between;
- Flow meter at effluent;
- All necessary pumps and hoses to facilitate discharge to storm water catch basins located along the AOI.

Operation and maintenance of the treatment system will be the responsibility of the contractor. The treatment system should be trailerized or mobile so that the components can be removed from the Site at the end of each work shift. The system components can be stored temporarily at property owned by National Grid or the City of Lynn. Components must be removed from the AOI or staging location within seven days of project completion. Any spent carbon, sediment filters, liquid or other waste generated as a result of groundwater treatment must be disposed of in accordance with all state and federal requirements.

9.0 CONCLUSIONS

Results from the pre-characterization investigation consisting of the installation of 16 soil borings and 15 temporary groundwater monitoring wells between June 27 and August 8, 2008 within the AOI in Lynn, Massachusetts were evaluated in a manner consistent with guidelines as presented in 310 CMR 40.0000 and ASTM Specification D-1586. Based on the information and observations described herein, the following is a summary of findings:

- Concentrations of cadmium in excess of the applicable DEP RCS-1 RC were identified in soil samples B-1B and B-12. Laboratory analysis also identified concentrations of benzo(a)pyrene in excess of the applicable DEP RCS-1 RCs in soil samples B-1B and B-13. Additionally, laboratory analysis of the soil samples identified lead and TPH at concentrations greater than the applicable DEP RCS-1 RCs in soil sample B-12.

- Remaining soil generated as a result of proposed construction must be disposed of pursuant to the anti-degradation provisions of the Massachusetts Contingency Plan. As specified in 310 CMR 40.0032(3), soil containing OHM at concentrations less than an otherwise applicable Reportable Concentrations may be transported from a Disposal Site without notice to or approval from the DEP. This action is allowed provided that such soils are not disposed or reused at locations where the concentrations of OHM in the soil would be in excess of a release notification threshold applicable at the receiving site or where existing concentrations of OHM at the receiving site are significantly lower than the levels of those OHM present in the soil being disposed or reused. Based on soil analytical data, potential disposal alternatives and transportation/disposal documentation are presented in Table 6.

- Laboratory analysis of the groundwater samples identified total cyanide at a concentration greater than the applicable DEP RCGW-2 RC in groundwater sample PZ-13 and PZ-14.

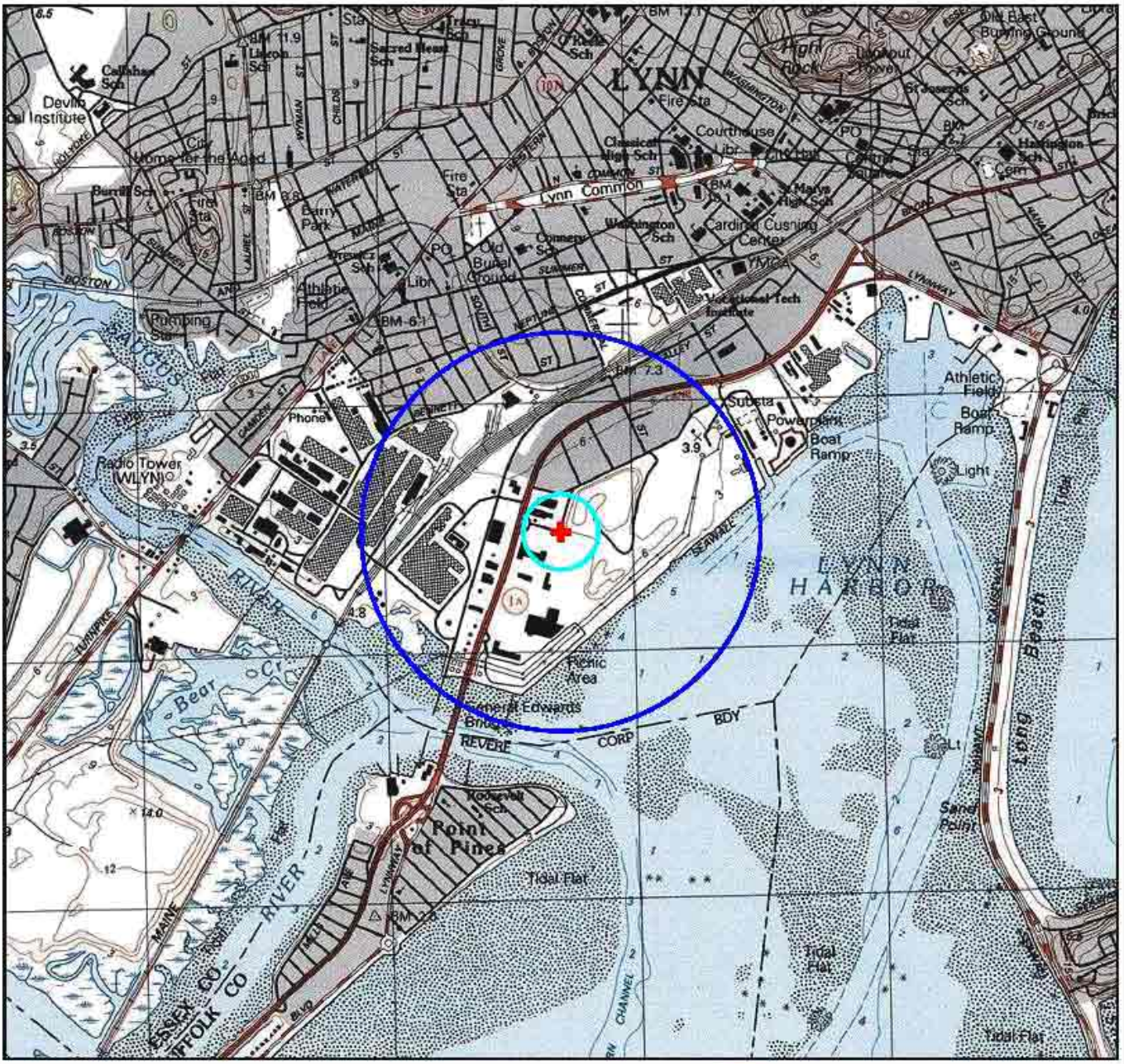
- Groundwater encountered during construction will require proper management and cannot be directly discharged to the stormwater collection system without prior approval or appropriate pre-treatment and filtration. At a minimum, a NPDES-RGP will be necessary to manage groundwater at locations PZ-13 and PZ-14 and may be required at locations PZ1B, PZ-5, PZ-7, PZ-8, PZ-9, and PZ-10.

Based on the information presented herein, it is the opinion of Coneco that concentrations of OHM were detected in soil and groundwater within the area of proposed construction activities which requires proper management under the MCP. As such, Coneco is of the opinion that the submittal of a Utility Related Abatement Measure (URAM) Plan in accordance with 310 CMR 40.0460 to the DEP is required prior to the commencement of any excavation activities in the AOI.

10.0 LIMITATIONS

The conclusions expressed by Coneco in this report are based solely on the references cited. Observations were made under the conditions stated. Information provided by subcontractors, federal, state, and local agencies contacted was relied upon as complete. This report represents Coneco's opinion relative to such evidence. The purpose of this report was to describe current Site conditions, establish general geotechnical conditions at the Site, and to delineate the presence of potential soil contamination at the Site. Unless otherwise specified in the scope of work, Coneco accepts no responsibility for client performance of recommendations as may be offered in this report. No attempt was made to investigate Site owner or operator compliance with federal, state, or local laws and regulations in connection with Site usage.

Should additional information become available concerning this Site or neighboring properties in the future, that information should be made available to Coneco for review so that the conclusions presented in this report may be modified as necessary. With specific regard to subsurface investigations, data obtained from sampling activities may not be wholly representative of the nature and extent of subsurface conditions at locations other than the actual sample locations on the date the samples were obtained. Variable conditions may only become evident upon further exploration, sampling, and analysis. If variations become apparent in the future, it may be necessary to re-evaluate the conclusions and recommendations offered in this report.



SITE LOCUS
500-FOOT RADIUS
0.5-MILE RADIUS

COORDINATES OBTAINED FROM NAD83 DATUM
LATITUDE: 42° 36' 10" N
LONGITUDE: 71° 09' 40" W
UTM: 4,718,714 N 322,643 E (Zone 19)

U.S.G.S. 1997 LYNN, MASSACHUSETTS
7.5X15 MINUTE QUADRANGLE

CONECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

SITE LOCUS MAP

LYNNWAY RELOCATION PROJECT
Q169 / A179 TRANSMISSION LINE
LYNN, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1:25,000	6071.B	FIGURE 1

LEGEND

- APPROXIMATE ROUTE OF NEW LINE
- APPROXIMATE ROUTE OF EXISTING LINE
- APPROXIMATE EDGE OF PROPOSED EASEMENT
- APPROXIMATE AREA OF EXISTING AUL
- APPROXIMATE AREA OF KNOWN CONTAMINATION
- APPROXIMATE AREA OF CLOSED DISPOSAL SITES
- APPROXIMATE AREA OF LANDFILL

CONECO Engineers & Scientists
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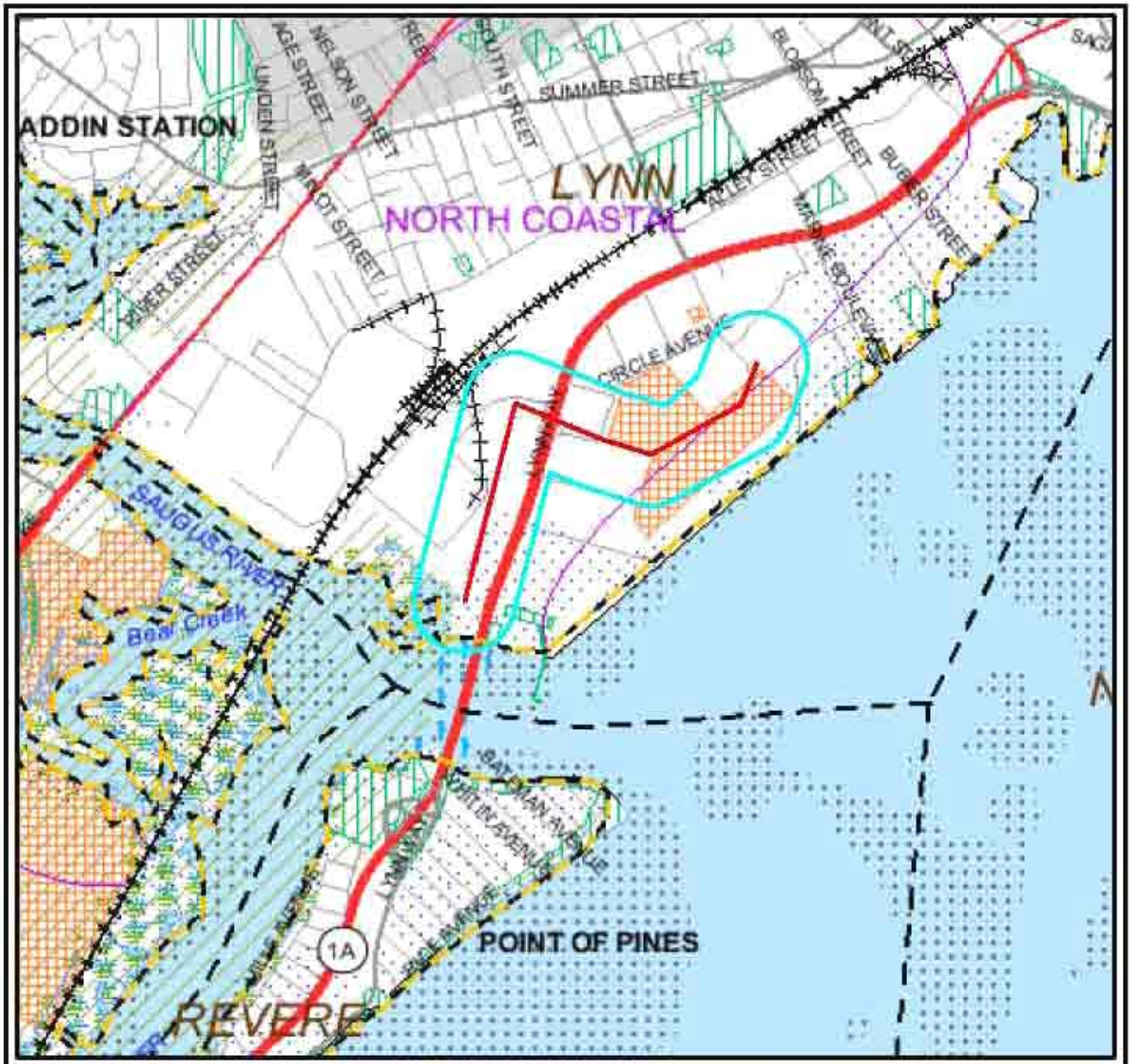
	DRAWN	CHECKED	CAD FILE NO.
BY	MMP	JDA	Z://6071.A-Figure 2.dwg
DATE	7/9/2008	7/9/2008	

SITE PLAN

Q169/A179 TRANSMISSION LINE LYNNWAY RELOCATION PROJECT LYNN, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1"=500'	6071.9	FIGURE 2



SITE LOCUS
500-FOOT RADIUS

N

Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams

Potentially Productive Aquifers: Medium,High Yield

Non-Potential Drinking Water Source Area: Medium,High Yield

EPA Sole Source Aquifer; FEMA 100-year floodplain

Public Water Supplies: Ground,Surface,Non Community

Approved Zone2; MWRA; Surface Water Supply Zone A

Hydrography: Water Features,Public Surface Water Supply

Wetlands: Fresh,Salt,NHESP Wetlands Habitat

Protected Open Space; ACEC

DEP Permitted Solid Waste Facilities; Certified Vernal Pools

CONECO
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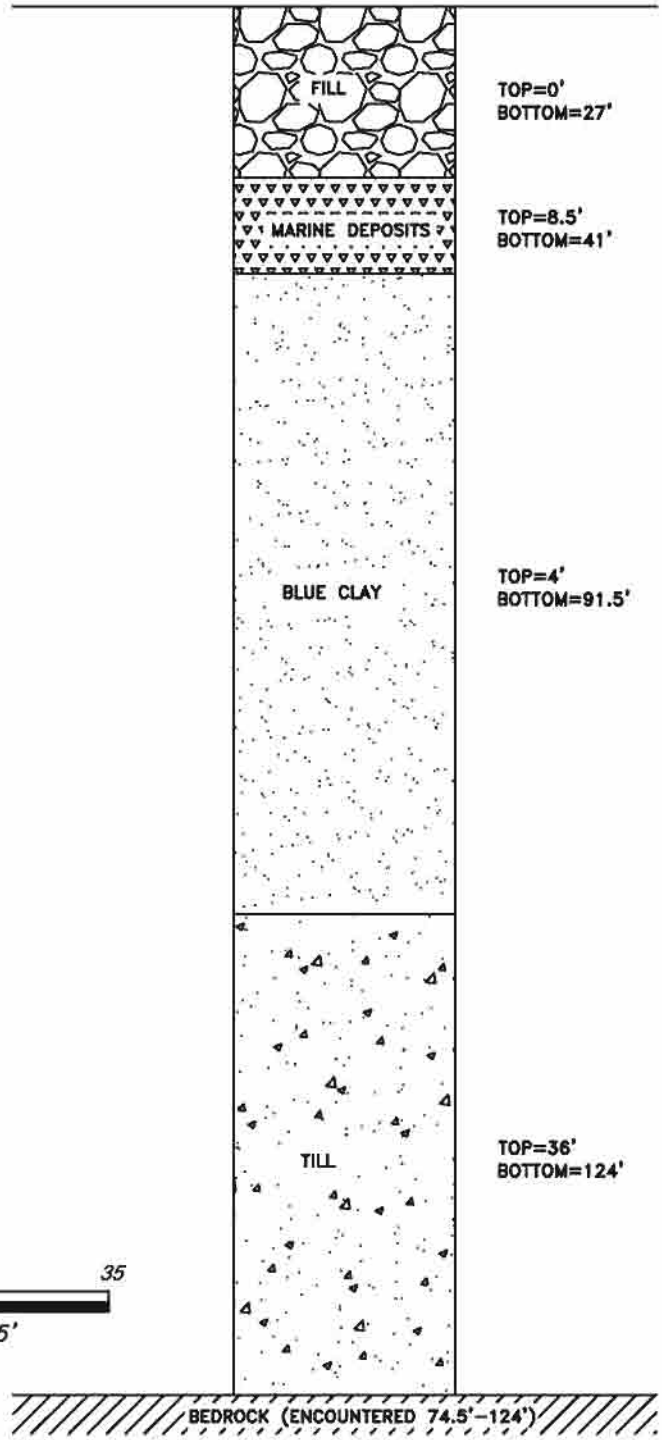
MassGIS PRIORITY RESOURCE MAP

LYNNWAY RELOCATION PROJECT
Q169 / A179 TRANSMISSION LINE
LYNN, MASSACHUSETTS

DATE	PROJECT NO.	DRAWING NUMBER
4/24/09	6071.8	FIGURE 3



NOTE: STRATA DEPTHS ARE APPROXIMATE AND BASED ON CONECO FIELD OBSERVATIONS AS NOTED ON 07/30/08.

LEGEND

TOP=HIGHEST ELEVATION STRATA ENCOUNTERED

BOTTOM=LOWEST DEPTH STRATA OBSERVED

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SUBSURFACE STRATA PLAN

SOIL PRE-CHARACTERIZATION AND GEOTECHNICAL INVESTIGATION REPORT Q169/A179 TRANSMISSION LINE LYNNWAY RELOCATION PROJECT LYNN, MASSACHUSETTS

	DRAWN	CHECKED	CAD FILE NO.
BY	DPK	JDA	Z://6071.A-Figure 4.dwg
DATE	11/12/08	11/13/08	

SCALE	PROJECT NO.	DRAWING NUMBER
AS NOTED	6071.B	FIGURE 4

SOIL BORING LOGS

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A - Lynnway Relocation	BORING NO.	1A
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	8/7/2008
EQUIPMENT:	Acker Soil Scout	DATE FINISHED:	8/8/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
7.05'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	3-1/4"	2"
SIZE ID:	3"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	3	5	5	4			Surface: Sparse Vegetation. Fill: Gravelly Silty Sand; fine to medium sand, 30% organic silt, 10% coarse to fine gravel, dark brown, damp, brick fragments interspersed, organic odor noted.	SS-1	24/24	1.1	Collapse
5.0	4-6	10	3	4	4			Fill: Silty Sand; fine to coarse sand, 10% silt, light brown, damp, 60% brick fragments.	SS-2	24/4	0.0	Collapse
10.0	9-11	1	1	2	3			Fill: Sandy Silty Clay; slightly plastic clay, 25% organic silt, 15% fine to medium sand, dark brown, moist, brick fragments interspersed, organic odor noted.	SS-3	24/4	0.0	0.0
15.0	14-16	14	24	27	24			Fill: Silty Gravelly Sand; fine to coarse sand, 20% medium to coarse gravel, 10% organic silt, gray, moist, brick and rubber fragments interspersed, organic odor noted.	SS-4	24/12	0.0	0.25
20.0	19-21	10	14	21	17				SS-5	24/16	0.0	1.75

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-1 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-4 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 1A
PAGE 2 OF 3

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	3	3	4	5		SS-6	24/0	-	-
25.0						No Recovery.				
	29-31	2	1	3	3		SS-7	24/24	0.0	0.5
30.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	34-36	WOH	1	2	2		SS-8	24/24	0.0	0.5
35.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	39-41	WOR	*	1	2		SS-9	24/24	0.0	0.25
40.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	44-46	1	2	2	2		SS-10	24/24	0.0	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOH: Weight of Hammer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 1A
PAGE 3 OF 3

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
							SS-11	24/24	0.0	0.0
	49-51	WOR	1	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
50.0										
	54-56	WOR	*	2	2		SS-12	24/24	0.0	0.0
55.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	59-61	WOR	*	*	2		SS-13	24/24	0.0	0.0
60.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	1B
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	8/7/2008
EQUIPMENT:	Acker Soil Scout	DATE FINISHED:	8/7/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
8.05'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	3-1/4"	2"
SIZE ID:	3"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	5	5	4	5			Surface: Sparse Vegetation. Fill: Gravelly Silty Sand; fine to medium sand, 30% organic silt, 10% fine to coarse gravel, brown, damp, brick and glass fragments interspersed.	SS-1	24/18	0.0	Collapse
	4-6	4	4	3	3			Fill: Gravelly Silty Sand; fine to medium sand, 30% silt, trace gravel, black, damp, glass and brick fragments interspersed, acrid odor noted.	SS-2	24/4	0.0	Collapse
5.0												
	9-11	2	1	1	2		▽	Fill: Sandy Silty Clay; slightly plastic clay, 10% organic silt,10% fine sand, dark brown, moist, brick fragments interspersed, acrid odor noted.	SS-3	24/18	0.0	0.25
10.0												
	14-16	7	11	15	22				SS-4	24/12	0.0	0.25
15.0								Fill: Silty Gravelly Sand; fine to coarse sand, 20% medium to coarse gravel, 10% organic silt, gray, moist, brick fragments interspersed, organic odor noted.				
	19-21	13	19	16	19				SS-5	24/18	0.0	0.5
20.0												

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-3 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-4 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 1B
PAGE 2 OF 3

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	3	4	5	4		SS-6	24/24	0.0	1.5
25.0						Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.				
	29-31	2	2	3	3		SS-7	24/12	0.0	1.0
30.0						Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.				
	34-36	1	1	1	1		SS-8	24/24	0.0	0.25
35.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	39-41	1	*	1	2		SS-9	24/24	0.0	0.25
40.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	44-46	WOR	*	1	2		SS-10	24/24	0.0	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod .
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 1B
PAGE 3 OF 3

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	WOR	1	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.0
50.0										
	54-56	WOR	*	1	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	0.0	0.25
55.0										
	59-61	WOR	*	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	2
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/31/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/31/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	MMP		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
4.05'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	9	7	7	6			Surface: Sparse Vegetation. Fill: Silty Gravelly Sand; fine to coarse sand, 20% gravel, 15% cobble, trace silt, brown, dry.	SS-1	24/12	0.0	Collapse
5.0	4-6	5	4	3	2		▽	Fill: Gravelly Sandy Silt, organic silt, 25% fine sand, trace gravel, brown, damp. At 4.5', switch to: Silty Sand, fine to coarse sand, 15% silt, light brown, moist.	SS-2	24/8	0.0	Collapse
10.0	9-11	1	1	1	2			Fill: Gravelly Sandy Organics; slightly plastic organic fines, 10% fine to coarse sand, 10% fine to coarse gravel, dark brown, moist.	SS-3	24/12	0.0	0.0
15.0	14-16	13	14	11	10			Native Materials: Silty Gravelly Sand; medium to coarse sand, 10% gravel, trace silt, gray, moist, organic odor.	SS-4	24/13	0.0	0.25
20.0	19-21	4	2	3	3			Native Materials: Silty Gravelly Sand; medium to coarse	SS-5	24/4	0.0	0.25

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-3 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 2
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	2	2	2	2	Native Materials: Silty Clay; plastic clay, 15% silt, gray, moist.	SS-6	24/18	0.0	1.0
25.0										
	29-31	3	2	3	2	Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-7	24/24	0.0	1.25
30.0										
	34-36	2	3	3	3	Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-8	24/24	0.0	1.25
35.0										
	39-41	2	3	4	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/24	0.0	0.75
40.0										
	44-46	2	2	3	4		SS-10	24/24	0.0	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 2
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	1	*	2	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.25
50.0										
	54-56	1	1	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	0.0	0.25
55.0										
	59-61	1	1	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.25
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	3
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/30/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/30/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
4.65'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW/MW	2' Split-Barrel
SIZE OD:	4-1/4"/3-1/4"	2"
SIZE ID:	4"/3"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0.5-1.5	39	32	-	-			Surface: Asphalt. Fill: Silty Gravelly Sand; fine to coarse sand, 20% gravel, 10% cobbles, trace silt, brown, dry.	SS-1	12/8	0.0	Collapse
	4-6	10	7	5	10		▽	Fill: Gravelly Sandy Organics; slightly plastic organic fines, 10% fine to coarse sand, 10% fine to coarse gravel, dark brown, damp. At 4.5', switch to: Silty Gravelly Sand; fine to coarse sand, 20% gravel, 10% cobbles, trace silt, brown, moist. At 5.5', switch to: Silty Sand; fine sand, 25% silt, gray, moist.	SS-2	24/6	0.0	Collapse
5.0												
	9-11	1	*	*	2			Fill: Gravelly Sandy Organics; slightly plastic organic fines, 10% fine to coarse sand, 10% fine to coarse gravel, dark brown, moist.	SS-3	24/12	0.0	0.0
10.0												
	14-16	8	18	16	13				SS-4	24/14	1.2	0.0
15.0								Fill: Silty Gravelly Sand; medium to coarse sand, 10% gravel, 10% silt, brown, moist, organic odor.				
	19-21	7	8	8	10				SS-5	24/12	0.6	0.0
20.0												

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-4 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-5 were composited and submitted for disposal criteria laboratory analyes.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 3
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	1	2	5	3	Native Materials: Silty Clay; plastic clay, 15% silt, gray, moist.	SS-6	24/24	0.0	1.0
25.0										
	29-31	1	2	2	3	Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-7	24/24	0.0	0.75
30.0										
	34-36	2	3	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist, very compact.	SS-8	24/24	0.0	0.75
35.0										
	39-41	1	1	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/24	0.0	0.5
40.0										
	44-46	1	2	3	3		SS-10	24/24	0.0	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 3
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	WOH	1	2	3	Native Materials: highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.0
50.0										
	54-56	WOR	*	1	2	Native Materials: highly plastic clay, blue-gray, moist.	SS-12	24/24	0.0	0.0
55.0										
	59-61	WOR	*	3	2	Native Materials: highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
WOH: Weight of Hammer.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	4
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/29/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/29/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
3.58'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0.5-2.5	16	20	19	29			Surface: Asphalt. Fill: Silty Gravelly Sand; fine to coarse sand, 15% cobble, 10% gravel, trace silt, brown, dry. At 1.5', switch to: Silty Gravelly Sand; fine to coarse sand, 20% gravel, 20% cobbles, trace silt, black, damp.	SS-1	24/14	0.0	Collapse
5.0	4-6	1	1	3	8			Fill; Gravelly SiltySand; 60% fine to coarse sand, 30% organic silt, 10% gravel, black, moist.	SS-2	24/12	0.0	0.0
10.0	9-11	2	5	15	15			Fill: Gravelly Sandy Organics; slightly plastic organic fines, 10% fine to coarse sand, 10% fine to coarse gravel, dark brown, moist.	SS-3	24/2	0.0	0.0
15.0	14-16	10	13	16	10			Native Materials: Silty Sand; fine sand, 25% silt, gray, moist.	SS-4	24/16	0.0	0.5
20.0	19-21	2	5	4	5			Native Materials: Boston Blue Clay; plastic clay, blue-gray,	SS-5	24/16	0.0	1.0

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
Denotes approximate groundwater elevation.

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-3 were composited and submitted for disposal criteria laboratory analyes.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 4
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	5	4	4	4	No Recovery.	SS-6	24/0	-	-
25.0										
	29-31	1	2	5	4	Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-7	24/24	0.0	1.25
30.0										
	34-36	3	3	5	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-8	24/24	0.0	0.25
35.0										
	39-41	WOR	2	3	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/24	0.0	0.25
40.0										
	44-46	2	3	3	3		SS-10	24/24	0.0	0.0
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 4
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	1	2	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.0
50.0										
	54-56	1	1	2	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	0.0	0.0
55.0										
	59-61	WOR	WOH	1	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring:61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOH: Weight of Hammer.
WOR: Weight of Rod.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	5
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/28/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/28/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
4.71'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0.5-2.5	15	18	29	19			Surface: Asphalt Fill: Silty Gravelly Sand; fine to coarse sand, 15% cobbles, 10% gravel, trace silt, brown, dry. At 1.5', switch to: Silty Gravelly Sand; fine to coarse sand, 20% gravel, 20% cobbles, trace silt, black, damp.	SS-1	24/12	0.0	0.75
5.0	4-6	8	10	12	4		▽	Fill; Gravelly Silty Sand; fine to coarse sand, 30% organic silt, 10% gravel, black, moist.	SS-2	24/10	0.0	0.0
10.0	9-11	4	9	13	14			Fill: Sand; fine to medium sand, tan, moist.	SS-3	24/12	0.4	0.0
15.0	14-16	5	8	16	21			Fill; Sand; fine to medium sand, tan, moist	SS-4	24/16	2.0	0.0
20.0	19-21	5	8	8	8			Fill: Sand; fine to medium sand, tan, moist. At 19.5' switch to:	SS-5	24/24	0.0	1.75

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-4 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-4 were composited and submitted for disposal criteria laboratory analyes.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 5
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	4	8	8	7	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-6	24/6	0.0	0.0
25.0										
	29-31	4	6	8	7	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-7	24/1	0.0	0.0
30.0										
	34-36	5	5	6	5	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-8	24/16	0.0	0.0
35.0										
	39-41	2	4	4	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/24	0.0	0.5
40.0										
	44-46	5	5	6	5		SS-10	24/24	0.0	0.0
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 5
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	10	19	6	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist. At 50', switch to:	SS-11	24/12	0.0	0.0
50.0						Gravelly Sand; fine to coarse sand, 10% gravel, 10% cobbles, gray, dry.				
	54-56	12	7	3	10		SS-12	24/20	0.0	0.0
55.0						Native Materials: Gravelly Sand; fine to coarse sand, 10% gravel, gray, dry.				
						Refusal at 58.0'.				
						Bottom of boring: 58'				
60.0										
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	6
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/25/2008
EQUIPMENT:	Mobile Drill B 57	DATE FINISHED:	7/25/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
2.46'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	38	42	37	34			Surface: Asphalt. Fill: Silty Gravelly Sand; medium to coarse sand, 25% medium gravel, 15% silt, black, damp. At 1', switch to: Silty Gravelly Sand; medium to coarse sand, 15% fine to medium gravel, 15% silt, tan, damp. At 1.5',switch to: Gravelly Silty Sand; fine to coarse sand, 25% silt, trace gravel, gray, damp.	SS-1	24/16	0.0	0.75
5.0	4-6	1	1	*	1			Fill: Silty Sandy Clay; plastic clay, 10% fine sand, 10% organic silt, brown, moist, organic odor, wood fragments.	SS-2	24/4	0.0	0.0
10.0	9-11	3	6	13	17			Native Materials: Rock Fragments. At 10.5,' switch to: Boston Blue Clay; plastic clay, blue-gray, wet, very soft.	SS-3	24/1	0.0	0.0
15.0	14-16	5	4	6	7			Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-4	24/24	0.0	1.0
20.0	19-21	2	2	3	4			No recovery on initial spoon. Pushed again to same depth.	SS-5	24/0	0.0	0.00

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 and SS-2 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 6
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	2	3	3	4	No recovery on initial spoon. Pushed again to same depth.	SS-6	24/0	0.0	0.25
25.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	29-31	2	2	3	3	No recovery on initial spoon. Pushed again to same depth.	SS-7	24/0	0.0	0.25
30.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	34-36	WOR	1	1	2		SS-8	24/24	0.0	0.25
35.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	39-41	WOR	*	2	1		SS-9	24/24	0.0	0.0
40.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	44-46	1	1	1	2		SS-10	24/18	0.0	0.0
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 6
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	6	5	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist, very soft.	SS-11	24/24	0.0	0.25
50.0										
	54-56	1	*	1	1	Native Materials: Sandy Clay; 85% soft plastic clay, 15% very fine sand, blue-gray, moist.	SS-12	24/24	0.0	0.0
55.0										
	59-61	WOH	1	1	2	Native Materials: Sandy Clay; 85% soft plastic clay, 15% very fine sand, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
65.0						Bottom of boring: 61'				
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOH: Weight of Hammer.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	7
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	4
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/14/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/18/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
4.45'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	18	26	14	10			Surface: Asphalt. Fill: Silty Gravelly Sand; fine to medium sand, 10% coarse sand, 10% fine to coarse gravel, trace silt, black, dry At 1' switch to: Silty Gravelly Sand; fine to coarse sand,10% fine to medium gravel, 10% silt, 10% cobbles, tan, dry. At 1.5' switch to: Gravelly Silty Sand; fine to coarse sand, 25% silt, trace gravel, gray, dry.	SS-1	24/10	181	0.0
5.0	4-6	1	*	1	1		▽	Fill: Gravelly Silty Clay; plastic clay, 10% organic silt, 10% gravel, brown, damp, organic odor noted.	SS-2	24/14	253	0.0
10.0	9-11	20	12	10	13			Native Materials: Gravelly Sand; fine to coarse sand, 10% gravel, gray, moist, organic odor noted.	SS-3	24/10	15.5	0.0
15.0	14-16	7	5	5	5			Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, very compact.	SS-4	24/14	176**	2.75
20.0	19-21	5	4	4	4			No recovery on initial spoon. Pushed again to same depth. Native Materials: Boston Blue Clay; highly plastic clay, blue-	SS-5	24/14	67**	0.25

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.

Sample SS-2 submitted for VOC laboratory analysis.

Strength screening with Pocket Penetrometer.

Samples SS-1 and SS-2 were composited and submitted for disposal criteria laboratory analyes.

* : Denotes that the previous hammer blow moved the sammpler 12 inches.

** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

Native Materials

Sand

2" PVC Well Riser

2" PVC Well Screen

▽ Denotes approximate groundwater elevation.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 7
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	1	1	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-6	24/6	146**	0.5
25.0										
	29-31					Geotechnical Tube sample collected.	UP-1			
30.0										
	31-32	1	*	3	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray moist.	SS-7	24/24	0.6**	1.75
	34-36	1	2	3	4		SS-8	24/24	NT	0.5
35.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	39-41	13	24	24	17		SS-9	24/10	260**	0.5
40.0						Till: Gravelly Sand; fine to coarse sand, 25% fine to coarse gravel, 10% cobbles, gray, dry.				
	44-46	44	16	33	19		SS-10	24/8	80**	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 7
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	21	13	18	19	Till: Silty Gravelly Sand; fine sand, 10% medium to coarse sand, 10% fine to coarse gravel, 10% cobbles, trace silt, gray, dry.	SS-11	24/10	1125**	1.25
50.0										
	54-56	15	8	5	13		SS-12	24/8	4.6**	0.5
55.0						Till: Gravelly Sand; fine to coarse sand, 25% fine to coarse gravel, 10% cobbles, gray, dry.				
	59-61	13	7	4	3		SS-13	24/10	3.9**	0.5
60.0						Till: Gravelly Sand; fine to coarse sand, 25% fine to coarse gravel, 10% cobbles, gray, dry.				
	64-66	22	20	17	15		SS-14	24/10	0.8**	Collapse
65.0						Till: Gravelly Sand; 65% fine to coarse sand, 25% fine to coarse gravel, 10% cobbles, gray, dry.				
	69-71	20	22	21	19		SS-15	24/12	0.5**	Collapse
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 7
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	74-74.5	123	-	-	-	Till: SIlty Gravelly Sand; 65% fine sand, 10% medium to coarse sand, 10% fine to coarse gravel, 10% cobble, trace silt, gray, dry.	SS-16	6/3	1.6**	Collapse
75.0						Bedrock encountered at 74.5 feet.				
						Bottom of Boring: 78.0'.				
80.0						.				
85.0						.				
90.0										
95.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	7B
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	1
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/21/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/24/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
5'	Not Applicable

	CASING	SAMPLER
LENGTH / TYPE:	PW/HW	2' Split-Barrel
SIZE OD:	5"/4"/3"	2"
SIZE ID:	5-1/4"/4-1/4"/3-1/4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
						Boring 7B advanced approximately 10 feet south of Boring 7 to confirm bedrock depth.				
						No samples collected from grade to 79 feet.				
	79-81	105	66	73	73		SS-1	24/18	1.1	3.0
80.0						Till: Gravelly Silty Sand; fine to medium sand, 30% silt, 10% medium to coarse gravel, 10% cobble, gray, dry.				
	84.0-84.5	109								
85.0						Bedrock encountered and no split-spoon sample collected.				
						Rock core advanced from 85.0' to 96.0'.				
90.0										
95.0										

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	8
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	6/30/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/1/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers and Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
5.65'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	8	21	32	24			Surface: Grass. Fill: Silty Sand; fine sand, 35% organic silt, trace medium gravel, dark brown, dry. At 1', switch to: Gravely Silty Sand; medium to fine sand, 20% coarse gravel, 20% silt, brown, dry.	SS-1	24/12	0.0	0.75
5.0	4-6	12	20	22	21			Fill: Sand; medium to fine sand, trace non-plastic fines, tan, damp.	SS-2	24/6	0.2	1.0
10.0	9-11	12	4	4	4			Fill: Sand; medium to fine sand, trace non-plastic fines, tan, moist.	SS-3	24/10	0.1	0.0
15.0	14-16	3	15	6	3			Fill: Silty Sand; medium to fine sand, 15% silt, dark gray, moist, acrid odor.	SS-4	24/12	82.0	0.25
20.0	19-21	9	10	15	13				SS-5	24/24	0.1	4.25

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-4 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-4 were composited and submitted for disposal criteria laboratory analyes.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 8
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	3	2	1	2	No Recovery.	SS-6	24/0	NT	NT
25.0										
	29-31	1	1	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist, compact.	SS-7	24/24	0.0	0.5
30.0										
	34-36	1	2	1	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-8	24/24	NT	0.0
35.0										
	39-41	1	*	1	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/10	0.0	0.0
40.0										
	44-46	WOR	1	1	1		SS-10	24/24	NT	0.0
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
NT: No field screening conducted.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 8
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	WOR	*	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.0
50.0										
	54-56	WOR	*	*	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	NT	0.0
55.0										
	59-61	WOR	*	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
NT: No field screening conducted.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	9
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	6/27/2008
EQUIPMENT:	CME 750	DATE FINISHED:	6/27/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers and Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
4.54'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0.5-2.5	8	12	59	41			Surface: Asphalt. Fill: Silty Gravelly Sand; fine to coarse sand, 30% cobbles, 10% silt, dark brown, dry.	SS-1	24/6	0.2	0.1
	4-6	2	2	5	6		▽	Fill: Silty Sand; fine to medium sand, 20% silt, dark gray, moist.	SS-2	24/13	0.4	0.25
5.0												
	9-11	2	1	1	*				SS-3	24/5	0.1	0.25
10.0								Fill: Silty Sand; medium to fine sand, 10% silt, dark gray, moist.				
	14-16	1	*	*	6				SS-4	24/0	0.2	0.25
15.0								No recovery on initial spoon. Pushed again to same depth. Native Materials: Silty Sandy Clay; plastic clay, 35% fine sand, 25% silt, gray, moist.				
	19-21	15	11	16	13				SS-5	24/16	0.1	1.75
20.0												

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-3 were composited and submitted for disposal criteria laboratory analyes.
* : Denotes that the previous hammer blow moved the sampler 12 inches.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 9
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	4	4	4	5	Native Materials: Clay; highly plastic clay, yellow-gray, moist, very compact.	SS-6	24/22	0.0	2.25
25.0										
	29-31	7	4	4	4	Native Materials: Clay; highly plastic clay, yellow-gray, moist, very compact.	SS-7	24/20	0.0	2.0
30.0						At 30', switch to: Sandy Clay; highly plastic clay, 25% very fine sand, yellow-gray, moist.				
	34-36	2	4	3	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-8	24/24	NT	1.25
35.0										
	39-41	1	2	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-9	24/24	0.0	0.25
40.0										
	44-46	1	*	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-10	24/24	NT	0.75
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
NT: No field screening conducted.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 9
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	1	*	1	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.0	0.25
50.0										
	54-56	1	*	1	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	NT	0.25
55.0										
	59-61	WOR	*	*	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.25
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
NT: No field screening conducted.
WOR: Weight of Rod.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	10
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	6
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	6/30/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/10/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers and Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
8.60'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	4	4	6	13			Surface: Asphalt Fill: Silty Gravelly Sand; fine to medium sand, 15% medium gravel, 5% cobbles, trace fines, gray, dry.	SS-1	24/10	0.3	0.75
	4-6	18	10	5	4		▽	Fill: Silty Gravelly Sand; fine to medium sand, 15% medium gravel, 5% cobbles, trace fines, gray, damp, brick fragments interspersed.	SS-2	24/8	1.4	0.25
5.0												
	9-11	2	5	3	4			Fill: Gravelly Silty Sand; fine to medium sand, 15% silt, trace medium gravel, black, moist, metal debris interspersed, acrid odor.	SS-3	24/8	0.6	0.1
10.0												
	14-16	3	1	1	2			Native Materials: Silty Clay; slightly plastic clay, 30% silt, gray, moist.	SS-4	24/2	0.1	0.0
15.0												
	19-21	3	4	4	4			Native Materials: Sandy Clay; slightly plastic clay, 15% fine sand, gray, moist. At 20.5', switch to:	SS-5	24/12	0.1	0.25
20.0												

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 through SS-3 were composited and submitted for disposal criteria laboratory analyes.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 10
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	2	1	2	3	Native Materials: Clayey Sand; fine to coarse sand, 15% slightly plastic fines, gray, moist, shell fragments interspersed. At 24.5', switch to: Sandy Clay; slightly plastic clay, 15% fine sand, gray, moist, shell fragments.	SS-6	24/18	0.0	0.25
25.0										
	29-31	3	2	4	4	Native Materials: Sandy Clay; slightly plastic clay, 15% fine sand, dark gray, shell fragments interspersed, moist, organic odor.	SS-7	24/6	0.0	0.5
30.0										
	34-36					Geotechnical tube sample collected.	UP-1	24/24		
35.0										
	36-38	3	4	7	12	Native Materials: Peat; plastic organic fines, 15% wood and shell fragments interspersed, trace fine sand, dark gray, moist, organic odor.	SS-8	24/24	NT	1.5
	39-41	1	1	1	2		SS-9	24/4	0.0	0.2
40.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	44-46						UP-2	24/24		
45.0						Geotechnical tube smaple collected.				

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
NT: No field screening conducted.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 10
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	46-48	1	3	3	4	Native materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-10	24/24	3.6**	0.25
	49-51	1	2	4	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	0.4**	0.75
50.0										
	54-56						UP-3	24/16		
55.0						Geotechnical tube smaple collected.				
	56-58	1	1	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	157**	0.5
	59-61	1	1	2	4		SS-13	24/24	120**	0.5
60.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	64-65						UP-4	24/24		
65.0						Geotechnical tube smaple collected.				
	66-68	1	2	3	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-14	24/24	2296**	0.25
	69-71	WOR	-	1	2		SS-15	24/24	64**	0.0
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
NT: No field screening conducted.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 10
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	74-76					Geotechnical tube smaple collected.	UP-5	24/22		
75.0										
	76-78	WOR	*	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-16	24/24	79**	0.0
	79-81	WOR	*	*	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-17	24/24	5898**	0.0
80.0										
	84-86	WOR	*	*	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-18	24/24	136**	0.0
85.0										
	89-91	1	2	4	5	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-19	24/24	2787**	0.5
90.0										
	94-96	75	60	68	89	No Recovery.	SS-20	24/0	-	-
95.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
** : Denoted elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 10
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	99-101	57	53	75	75	Till: Silty Gravelly Sand; fine to coarse sand,10% coarse gravel, trace silt, gray, dry.	SS-21	24/16	123**	>5
100.0										
	104-106	38	45	56	71	Till: Sand; fine sand, gray, dry.	SS-22	24/18	2239**	0.0
105.0										
	109-11	26	50	55	63	Till: Silty Gravelly Sand; fine to coarse sand,10% coarse gravel, trace silt, gray, dry.	SS-23	24/18	516**	4.0
110.0										
	114-116	22	19	22	17	Till: Silty Gravelly Sand; fine to coarse sand, 10% coarse gravel, trace silt, gray, dry.	SS-24	24/10	108**	2.75
115.0										
	119-121	49	58	63	69		SS-25	24/12	1803**	>5
120.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS						SOIL BORING & MONITORING WELL REPORT				
PROJECT: 6071.A						BORING NO. 10				
LOCATION: Lynn, Massachusetts						PAGE 6 OF 6				
SAMPLE DATA										
DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	124-125	101	128/4"				SS-26	10/8	35**	>5
125.0						Bedrock Bottom of boring: 125'				
130.0										
135.0						.				
140.0										
145.0										

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
128/4": Denotes 128 hammer blows to move the sampling rod 4 inches.
** : Denotes elevated headspace readings encountered in native material and till were attributed to equipment error.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	11
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	8/1/2008
EQUIPMENT:	CME 750	DATE FINISHED:	8/1/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
18.20'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	NW	2' Split-Barrel
SIZE OD:	3-1/4"	2"
SIZE ID:	3"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	1	2	2	2			Surface: Sparse Vegetation. Fill: Gravelly Silty Sand; fine to medium sand, 25% organic silt, 15% fine to coarse gravel, dark brown, dry organic odor.	SS-1	24/4	0.0	Collapse
5.0	4-6	15	16	15	16			Fill: Gravelly Silty Sand; fine to medium sand, 25% organic silt, 15% fine to coarse gravel, dark brown, dry, organic odor. At 5', switch to: Silty Sand; fine to coarse sand, 20% silt, tan, damp.	SS-2	24/18	1.1	0.75
10.0	9-11	14	12	10	14			Fill: Gravelly Silty Sand; fine to medium sand, 30% silt, 10% fine to coarse gravel, 5% cobbles, black, glass and metal fragments interpersed, damp, acrid odor.	SS-3	24/6	0.8	1.0
15.0	14-16	5	3	5	4			Fill: Gravelly Silty Sand; fine to medium sand, 30% silt, 10% fine to coarse gravel, 5% cobbles, black, glass and metal fragments interspersed, odor. At 15.5', switch to: Silty Clay; plastic clay, 40% silt, black, damp, acrid odor.	SS-4	24/4	0.0	0.25
20.0	19-21	29	17	10	9			Fill: Silty Sandy Gravel; fine to coarse sub angular gravel, 15% cobbles, 10% fine to coarse sand, trace fines, gray,	SS-5	24/8	0.4	0.0

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen
Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-6 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 and SS-6 were composited and submitted for disposal criteria laboratory analyes.

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PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 11
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	7	8	10	11		SS-6	24/8	4.8	0.0
25.0						Fill: Silty Sand; fine to medium sand, 15% silt, gray, moist, acrid odor.				
	29-31	2	1	1	2		SS-7	24/24	0.0	0.5
30.0						Native Materials: Sandy Clay; slightly plastic clay, 15% fine sand, gray, moist.				
	34-36	2	1	1	3		SS-8	24/24	0.0	0.25
35.0						Native Materials: Silty Clay; slightly plastic clay, 20% organic silt, dark gray, moist, organic odor.				
	39-41	8	12	13	24		SS-9	24/18	0.0	0.25
40.0						Native Materials: Silty Sand; fine to medium sand, trace silt, gray, moist, organic odor.				
	44-46	6	5	7	7		SS-10	24/24	0.0	1.5
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 11
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	3	4	5	4	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist, very compact.	SS-11	24/24	0.0	1.0
50.0										
	54-56	1	1	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	0.0	0.25
55.0										
	59-61	WOR	WOH	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
WOH: Weight of Hammer.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	B-12
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/1/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/2/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers and Scott Friedman		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
20.8'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	4	12	20	26			Fill: Gravely Silty Sand; fine to coarse sand, 20% fine to coarse gravel, 20% silt, brown, dry, organic odor.	SS-1	24/18	1.1	1.5
	4-6	14	9	19	27			Fill: Silty Gravely Sand; fine to coarse sand, 25% coarse gravel, 20% cobbles, trace silt, brown, dry. At 4.5', switch to: Silty Sand; plastic fines, 10-15% fine to coarse sand, 10% wood fragments interspersed, brown, dry.	SS-2	24/12	0.3	3.0
5.0												
	9-11	3	5	4	4			Fill: Silty Gravely Sand; fine to coarse sand, 15% gravel, 15% cobbles, 10% silt, black, damp, acrid odor, wood and brick fragments interspersed.	SS-3	24/12	0.3	0.3
10.0												
	14-16	3	4	5	4			Fill: Silty Gravely Sand; fine to coarse sand, 15% gravel, 15% cobbles, 10% silt, wood and brick fragments interspersed, black, damp, acrid odor.	SS-4	24/8	0.3	0.0
15.0												
	19-21	11	4	4	4			Fill: Silty Gravely Sand; fine to coarse sand, 15% gravel, 15% cobbles, 10% silt, black, moist, acrid odor, wood and brick	SS-5	24/14	0.5	0.0
20.0												

Native Materials
Sand
2" PVC Well Riser
2" PVC Well Screen

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-2 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 and SS-2 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 12
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	13	6	9	8	Fill: Silty Gravely Sand; fine to coarse sand, 15% gravel, 15% cobbles, 10% silt, black, moist, acrid odor, wood and brick fragments interspersed.	SS-6	24/8	11.7	0.0
25.0										
	29-31	5	4	3	5		SS-7	24/24	0.2	0.25
30.0						Native Materials: Sandy Clay; highly plastic clay, 15% medium to fine sand, gray, moist.				
	34-36	16	20	12	10		SS-8	24/12	1.0	0.0
35.0						Native Materials: Sandy Clay; highly plastic clay, 40% fine to very fine sand, gray, moist.				
	39-41	3	5	6	7		SS-9	24/7	NT	0.25
40.0						Native Materials: Sandy Clay; highly plastic clay, trace very fine sand, dark gray, moist.				
	44-46	5	5	7	7		SS-10	24/24	0.8	1.6
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
NT: No field screening conducted.

Native Materials
Sand
2" PVC Well Screen
Denotes approximate groundwater elevation.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 12
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	8	8	11	12	Native Materials: Peat; organic material, dark brown, red wood fragments interspersed, moist, organic odor.	SS-11	24/24	NT	0.25
50.0										
	54-56	2	2	2	3	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	NT	0.25
55.0										
	59-61	WOR	2	3	5	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.25
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
NT: No field screening conducted.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	13
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/3/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/3/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
6.45'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	5	5	5	5			Fill: Organic topsoil. At 0.5', switch to: Sandy Silty Clay; highly plastic clay, 15% fine sand, gray, damp. At 1.5', switch to: Gravely Silty Sand; fine to coarse sand, 20% coarse gravel, 20% silt, black, damp.	SS-1	24/12	1.1	0.75
5.0	4-6	4	6	13	10			Fill: Gravelly Silty Sand; fine to coarse sand, 20% coarse gravel, 20% silt, black, damp, brick fragments interspersed. At 5', switch to: Silty Sand; fine sand, 30% non-plastic fines, trace gravel, tan, moist.	SS-2	24/12	0.0	0.25
10.0	9-11	2	2	2	2		▽	Fill: Silty Sand; fine to coarse sand, 10% silt, trace gravel, gray, moist.	SS-3	24/2	0.0	0.0
15.0	14-16	2	2	3	9			Fill: Sandy Silt; silt, 15% fine sand, black, moist. At 15.5', switch to: Silty Sand, fine to medium sand, 30% silt, brown, moist.	SS-4	24/24	5.6	0.75
20.0	19-21	11	14	20	19				SS-5	24/17	2.9	0.0

Native Materials
Sand
Grout
2" PVC Well Screen
2" PVC Well Riser
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-4 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 and SS-4 were composited and submitted for disposal criteria laboratory analyes.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 13
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	8	11	16	21	Native Materials: Sand; fine to coarse sand, trace fines, gray, moist.	SS-6	24/18	4.2	0.0
25.0										
	29-31	13	17	16	20		SS-7	24/18	1.2	0.5
30.0						Native Materials: Silty Sand; fine to coarse sand, 10% silt, trace gravel, gray, moist. At 30.5', switch to: Sandy Clay; plastic clay, 20% fine sand, gray, moist.				
	34-36	5	2	2	1		SS-8	24/20	NT	0.75
35.0						Native Materials: Sandy Clay; plastic fines, 20% fine sand, gray, moist. At 34.5', switch to: Boston Blue Clay, plastic clay, blue-gray, moist, compact.				
	39-41	WOR	*	*	*		SS-9	24/24	NT	0.25
40.0						Native Materials: Boston Blue Clay; plastic clay, blue-gray, moist, compact.				
	44-46	WOR	1	2	2		SS-10	24/24	0.1	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
NT: No field screening conducted.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT: 6071.A
LOCATION: Lynn, Massachusetts
BORING NO. 13
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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	WOR	*	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-11	24/24	NT	0.1
50.0										
	54-56	WOR	*	2	2	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-12	24/24	NT	0.1
55.0										
	59-61	WOR	*	*	1	Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.	SS-13	24/24	0.0	0.0
60.0										
						Bottom of boring: 61'				
65.0										
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
NT: No field screening conducted.

CONECO ENGINEERS & SCIENTISTS — SOIL BORING & MONITORING WELL REPORT

PROJECT:	6071.A	BORING NO.	14
LOCATION:	Lynn, Massachusetts	PAGE 1 OF	3
DRILLING CO:	Geologic, Incorporated	DATE STARTED:	7/7/2008
EQUIPMENT:	CME 750	DATE FINISHED:	7/7/2008
DRILLED BY:	Charlie O'Donnel	SURFACE ELEVATION:	Not Determined
INSPECTED BY:	Meaghan Powers		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
6.95'	24 Hours

	CASING	SAMPLER
LENGTH / TYPE:	HW	2' Split-Barrel
SIZE OD:	4-1/4"	2"
SIZE ID:	4"	1-3/8"
HAMMER WT:	300 lb	140 lb
HAMMER FALL:	24"	30"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	WELL DATA	WATER TABLE	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	0-2	3	8	30	27			Fill: Gravely Silty Sand; medium sand, 25% organic silt, 15% fine to medium gravel, brown, dry. At 1', switch to: Sandy Silty Clay; highly plastic clay, 15% fine sand, gray, dry. At 1.5': Geofabric layer. At 1.5', switch to: Gravely Silty Sand; fine to coarse sand, 20% coarse gravel, 20% silt, brick fragments interspersed, brown, damp.	SS-1	24/20	5.2	0.25
5.0	4-6	24	32	30	19			Fill: Silty Gravelly Sand; fine to coarse sand, 25% medium to coarse gravel, 15% silt, brick fragments interspersed, dark brown, moist.	SS-2	24/6	0.2	1.0
10.0	9-11	10	5	4	5		▽	Fill: Silty Sand; coarse to fine sand, 10% silt, trace gravel, black, moist.	SS-3	24/10	1.0	0.25
15.0	14-16	6	8	12	11			Fill: Silty Gravely Sand; medium to coarse sand, 10% fine to coarse gravel, trace fines, brown, moist, acrid odor.	SS-4	24/12	12.6	0.25
20.0	19-21	8	14	18	18				SS-5	24/8	4.9	1.25

Native Materials
Sand
Grout
2" PVC Well Screen
2" PVC Well Riser
▽ Denotes approximate groundwater elevation.

GENERAL REMARKS:

Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Sample SS-4 submitted for VOC laboratory analysis.
Strength screening with Pocket Penetrometer.
Samples SS-1 and SS-4 were composited and submitted for disposal criteria laboratory analyes.

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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	24-26	9	9	10	11		SS-6	24/18	1.8	1.0
25.0						Native Materials: Silty Sand; fine to medium sand, 20% silt, gray, moist, organic odor.				
	29-31	6	7	9	12		SS-7	24/18	2.9	0.0
30.0						Native Materials: Silty Sand; fine to medium sand, 30% silt, trace gravel, gray, moist, organic odor.				
	34-36	4	4	8	17		SS-8	24/20	1.4	0.0
35.0						Native Materials: Silty Sand; fine to medium sand, 30% silt, trace gravel, gray, moist, organic odor.				
	39-41	6	6	5	8		SS-9	24/24	0.2	0.0
40.0						Native Materials: Silty Sand; fine to medium sand, 30% silt, gray, moist, organic odor. At 39.5', switch to: Gravel; coarse sub angular gravel, damp. At 40.0', switch to: Silty Sand; fine to medium sand, 30% silt, gray, moist, organic odor.				
	44-46	WOR	*	1	2		SS-10	24/24	0.1	0.25
45.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.

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SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	HAMMER BLOWS ON SAMPLER (inches) 0-6	6-12	12-18	18-24	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)	STRENGTH (tons/ft^2)
	49-51	WOR	*	2	3		SS-11	24/24	NT	0.1
50.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	54-56	WOR	*	1	2		SS-12	24/24	NT	0.1
55.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
	59-61	WOR	*	1	2		SS-13	24/24	0.0	0.1
60.0						Native Materials: Boston Blue Clay; highly plastic clay, blue-gray, moist.				
65.0						Bottom of boring: 61'				
70.0										

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
Strength screening with Pocket Penetrometer.
WOR: Weight of Rod.
* : Denotes that the previous hammer blow moved the sammpler 12 inches.
NT: No field screening conducted.