

August 2, 2010
File No. 18640.51



One Edgewater Drive
Norwood
Massachusetts
02062
781-278-3700
FAX 781-278-5701
<http://www.gza.com>

Mr. Victor Alvarez
United States Environmental Protection Agency – Region 1
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: Submittal of Notice of Intent (NOI)
Former MGP Site Remediation and Restoration
350 Irving Street
Framingham, Massachusetts
MCP Remediation Project
MassDEP - RTN No. 3-0589

Dear Mr. Alvarez:

On behalf of NSTAR Gas (NSTAR), GZA GeoEnvironmental, Inc. (GZA) has prepared this Notice of Intent (NOI) for application of a National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for proposed remediation activities at the above referenced location (the "Site"), which is shown on the Locus Plan on Figure 1. This NOI is being submitted for treatment and discharge of groundwater from dewatering activities as part of excavation activities under the remedial action chosen in the Phase IV–Remedy Implementation Plan (RIP) to remove soil containing coal tar and elevated levels of cyanide and hydrocarbons.

As there is a need to treat and discharge water generated from the dewatering of the areas to be excavated, the enclosed NOI form provides required information on the general site conditions, proposed treatment system, discharge location and receiving water, and analytical results for the proposed dewatering, treatment and discharge activities, which are shown in Figures 2 (Process Flow Diagram) and 3A (Interim Grading Plan – North)¹.

The excavation, dewatering, and discharge of treated water are scheduled to begin during low-flow season in summer 2010.

SITE DESCRIPTION

The Site consists of 22 acres of land bounded to the south and southwest by Irving Street, to the west by commercial property, to the north by wetlands and Beaver Dam Brook (which flows from the west, then to the north as it exits the Site), and to the east by wetlands and an unnamed tributary stream that flows north and discharges to Beaver Dam Brook (Figure 3A). NSTAR Gas owns the majority of the MCP Site, with the exception of a parcel of land to the southeast owned by the owners of Wellesley Trucking Services, Inc.

PROPOSED ACTIVITIES

¹ Numbering for Figure 3A in this document has been retained from the Phase IV – RIP.



Excavation and dredging will take place in manageable work cells as described below for. The soil and sediment in the wetland where Readily Apparent Harm (RAH) has been observed will be excavated/ dredged using a low-pressure excavator and loaded on to a water-tight truck and transported temporarily to the on-site Staging and Dewatering Area. The material will be dewatered and stabilized in preparation to be transported to a licensed off-site disposal/treatment facility. The volume of sediment estimated to require excavation is a maximum of 440 CY of LUWB (intermittent stream). There will be 1,216 LF of intermittent stream bank temporarily altered during the remediation efforts. A 6,561 SF area of BVW (480 cubic yards of material) that is part of the RAH area is also targeted for removal. Clean fill from off-Site sources will be used as backfill.

In-Stream and Wetland Work Sequence:

1. Water will be controlled just below the outlet for the siphon, and just beyond the MWRA easement.
2. A temporary sand bag headwater dam will be placed in the intermittent stream slightly downstream of the northernmost limit of the first work cell (each cell will be approximately 100'-200' in length) prior to any remediation work being conducted in the stream. The dam will mitigate in-stream sedimentation that occurs when the machinery enters the brook prior to the establishment of the dewatering cells, as described below. The headwater dam will be lined, on the upstream side, with 12-16" coir logs to additionally filter any sediment.
3. At a location downstream of the dam (manageable cell to be determined by site conditions and weather) a temporary stone check dam will be placed across the brook to allow this stretch of stream to drain and to create a cell in which to conduct excavation work (see Figure 3A).
4. Water impounded by the headwater dam will be pumped through a pipe around the working cell to the streambed below the check dam. Water that seeps into the working cell during excavation and filling activities will be pumped into a fractionation tank and then through a temporary on-site treatment system consisting of bag filters and liquid phase granular activated carbon to remove contaminants, as per the requirements of the NPDES-RGP, and discharged as shown on Figures 2 and 3A.
5. Trucks and grading equipment will then enter the intermittent stream and BVW from established access points along the western side of the unnamed perennial stream. A major access point will be located adjacent to the target BVW. Swamp mats will be used in the BVW where necessary to access the stream.
6. The soil and sediment in the wetland where RAH has been observed will be excavated/dredged and loaded on to a water-tight truck and transported temporarily to the on-site Staging and Dewatering Area. Water that seeps into this area during excavation and filling activities will also be pumped into a fractionation tank and then through the temporary on-site treatment system described above.



Please do not hesitate to contact the undersigned at (781) 278-3700 if you have any questions or require further information.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'Jessica Yeager'.

Jessica Yeager
Environmental Engineer I

A handwritten signature in blue ink, appearing to read 'Russell B. Parkman'.

Russell B. Parkman, P.E.
Consultant/Reviewer

A handwritten signature in blue ink, appearing to read 'Michele Simoneaux'.

Michele Simoneaux
Project Manager

A handwritten signature in blue ink, appearing to read 'Gregg McBride'.

Gregg McBride, LSP
Principal

Attachments:

- Attachment 1: NOI Form
- Attachment 2: Figure 1 – Site Locus Map
- Attachment 3: Figure 2 – Process Flow Diagram
- Attachment 4: Figure 3A – Interim Grading Plan – North
- Attachment 5: Laboratory Analytical Results
- Attachment 6: Supplemental Information – 7Q10 data for Lebanon Brook
- Attachment 7: Copy of a letter from US Fish and Wildlife Services
- Attachment 8: Copy of a letter from Massachusetts Historical Commission

cc: Thomas O'Rourke, NSTAR
Framingham Conservation Commission
MassDEP – Northeastern Region

ATTACHMENT 1

NOI FORM

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 : 350 Irving Street - MCP Tier 1B Site		Facility/site address: 350 Irving Street, Framingham, MA 01702	
Location of facility/site : longitude: -71.407657 latitude: 42.270550	Facility SIC code(s):	Street: Irving Street	
b) Name of facility/site owner : NSTAR Gas		Town: Framingham	
Email address of owner: thomas.orourke@nstar.com	State:	Zip:	County:
Telephone no. of facility/site owner : 781-441-3806	MA	01702	Middlesex
Fax no. of facility/site owner : N/A	Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private ☒ 4. other, if so, describe:		
Address of owner (if different from site):			
Street: One NSTAR Way, NE 250			
Town: Westwood	State: MA	Zip: 02090-9230	County: Norfolk
c) Legal name of operator : NSTAR Gas	Operator telephone no: 781-441-3806		
	Operator fax no.: N/A		Operator email: thomas.orourke@nstar.com
Operator contact name and title: Thomas O'Rourke			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:
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: 3-0589 3. state agency contact information: name, location, and telephone number: MassDEP Northeast Regional Office, 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: Army Corps of Engineers - MA General Permit, MEPA - ENF certificate, OOC Framingham CC, 401 WQC (Dredging & Fill/Excavation)
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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: During remediation activities, there will be water generated from the dewatering activities during excavation.			
b) Provide the following information about each discharge:	<table border="1"> <tr> <td style="vertical-align: top;"> 1) Number of discharge points: 1 </td> <td style="vertical-align: top;"> 2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow <u>0.223 cfs</u> Average flow <u>0.167 cfs</u> 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. </td> </tr> </table>	1) Number of discharge points: 1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow <u>0.223 cfs</u> Average flow <u>0.167 cfs</u> 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.
1) Number of discharge points: 1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow <u>0.223 cfs</u> Average flow <u>0.167 cfs</u> 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. <u>-71.406</u> lat. <u>42.273</u>; pt.2: long. _____ lat. _____; 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 <u>08/13/10</u> end <u>12/15/10</u>			
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving 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 minimum)	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		✓	2	grab	2540D	17,000	1,270,000		845,000	
2. Total Residual Chlorine	✓		2	grab	4500 CIE	10	BDL		BDL	
3. Total Petroleum Hydrocarbons	✓		2	grab	1664	4,700	BDL		BDL	
4. Cyanide		✓	2	grab	4500 CN CE	5.0	270		164	
5. Benzene		✓	2	grab	8260	1.0	86		46	
6. Toluene		✓	2	grab	8260	1.0	130		65	
7. Ethylbenzene		✓	2	grab	8260	1.0	260		132	
8. (m,p,o) Xylenes		✓	2	grab	8260	3.0	440		223	
9. Total BTEX ⁴		✓	2	grab	8260	6.0	916		466	

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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)	✓		2	grab	8011	0.015	BDL		BDL	
11. Methyl-tert-Butyl Ether (MtBE)	✓		2	grab	8260	1.0	BDL		BDL	
12. tert-Butyl Alcohol (TBA)	✓		2	grab	8260	25	BDL		BDL	
13. tert-Amyl Methyl Ether (TAME)	✓		2	grab	8260	2.0	BDL		BDL	
14. Naphthalene		✓	2	grab	8260	2.0	230		119	
15. Carbon Tetra-chloride	✓		2	grab	8260	1.0	BDL		BDL	
16. 1,4 Dichlorobenzene	✓		2	grab	8260	1.0	BDL		BDL	
17. 1,2 Dichlorobenzene	✓		2	grab	8260	1.0	BDL		BDL	
18. 1,3 Dichlorobenzene	✓		2	grab	8260	1.0	BDL		BDL	
19. 1,1 Dichloroethane	✓		2	grab	8260	1.0	BDL		BDL	
20. 1,2 Dichloroethane	✓		2	grab	8260	1.0	BDL		BDL	
21. 1,1 Dichloroethylene	✓		2	grab	8260	1.0	BDL		BDL	
22. cis-1,2 Dichloro-ethylene	✓		2	grab	8260	1.0	BDL		BDL	
23. Dichloromethane (Methylene Chloride)	✓		2	grab	8260	2.0	BDL		BDL	
24. Tetrachloroethylene	✓		2	grab	8260	1.0	BDL		BDL	

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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	✓		2	grab	8260	1.0	BDL		BDL	
26. 1,1,2 Trichloroethane	✓		2	grab	8260	1.0	BDL		BDL	
27. Trichloroethylene	✓		2	grab	8260	1.0	BDL		BDL	
28. Vinyl Chloride	✓		2	grab	8260	1.0	BDL		BDL	
29. Acetone	✓		2	grab	8260	25	BDL		BDL	
30. 1,4 Dioxane	✓		2	grab	8260	100	BDL		BDL	
31. Total Phenols	✓		2	grab	8270C	10.0	BDL		BDL	
32. Pentachlorophenol	✓		2	grab	8270C	1.00	BDL		BDL	
33. Total Phthalates ⁶ (Phthalate esthers)	✓		2	grab	8270C	10.0	BDL		BDL	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		2	grab	8270C	6.0	BDL		BDL	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene		✓	2	grab	8270C	0.05	1.23		0.62	
b. Benzo(a) Pyrene		✓	2	grab	8270C	0.05	1.21		0.61	
c. Benzo(b)Fluoranthene		✓	2	grab	8270C	0.05	0.79		0.40	
d. Benzo(k) Fluoranthene		✓	2	grab	8270C	0.05	0.79		0.40	
e. Chrysene		✓	1	grab	8270C	0.05	1.52		1.52	

⁶The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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		✓	2	grab	8270C	0.05	0.31		0.16	
g. Indeno(1,2,3-cd) Pyrene		✓	2	grab	8270C	0.05	0.70		0.35	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene		✓	2	grab	8270C	0.20	0.62		0.31	
i. Acenaphthylene		✓	2	grab	8270C	0.20	0.90		0.45	
j. Anthracene		✓	2	grab	8270C	0.20	0.74		0.37	
k. Benzo(ghi) Perylene		✓	2	grab	8270C	0.20	0.83		0.42	
l. Fluoranthene		✓	2	grab	8270C	0.20	1.74		0.87	
m. Fluorene		✓	2	grab	8270C	0.20	0.62		0.31	
n. Naphthalene-		✓	2	grab	8270C	0.20	79.0		40.2	
o. Phenanthrene		✓	2	grab	8270C	0.20	2.01		1.01	
p. Pyrene		✓	2	grab	8270C	0.20	2.82		1.41	
37. Total Polychlorinated Biphenyls (PCBs)		✓	2	grab	608	0.50	2.33		1.17	
38. Antimony	✓		2	grab	6010B	5.0	BDL		BDL	
39. Arsenic		✓	2	grab	6010B	2.0	5.3		4.4	
40. Cadmium	✓		2	grab	6010B	1.0	BDL		BDL	
41. Chromium III		✓	2	grab	6010B	1.0	6.2		4.6	
42. Chromium VI	✓		2	grab	3500 CrD	20	BDL		BDL	

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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		✓	2	grab	6010B	3.0	45		40	
44. Lead		✓	2	grab	6010B	2.0	56		56	
45. Mercury	✓		2	grab	7470A	0.2	BDL		BDL	
46. Nickel		✓	2	grab	6010B	2.0	5.7		5.3	
47. Selenium	✓		2	grab	6010B	5.0	BDL		BDL	
48. Silver	✓		2	grab	6010B	1.0	BDL		BDL	
49. Zinc		✓	2	grab	6010B	2.0	100		99	
50. Iron		✓	2	grab	6010B	25	61,000		50,000	
Other (describe): 2-Methylnaphthalene		✓	2	grab	8270C	10.0	16.4		8.63	

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

<i>Step 1:</i> 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 <u>✓</u> N _____	If yes, which metals? Copper (Cu), Lead (Pb), Zinc (Zn), Iron (Fe)
<i>Step 2:</i> 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: <u>Copper (Cu), Lead (Pb), Zinc (Zn), Iron (Fe)</u> DF: <u>1.02</u>	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 <u>✓</u> N _____ If “Yes,” list which metals: Cu, Pb, Zn, Fe

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper	Oil/water separator	Equalization tanks	Bag filter ☒	GAC filter ☒
	Chlorination	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 <u>75 gpm</u> Maximum flow rate of treatment system <u>100 gpm</u> Design flow rate of treatment system <u>100 gpm</u>						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): <u>None</u>						

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

a) Identify the discharge pathway:	Direct <u> </u>	Within facility <u> </u>	Storm drain <u> </u>	River/brook ☒	Wetlands <u> </u>	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: <u>Treated water discharges via temporary piping to the discharge channel. Discharged water flows via the unnamed perennial stream to Beaver Dam Brook.</u>						
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 <u>Class B (unnamed perennial stream)</u> .						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water <u>0.00348</u> 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 <u> </u> No ☒ If yes, for which pollutant(s)? Is there a TMDL? Yes <u> </u> No ☒ If yes, for which pollutant(s)?						

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 ☒	Attached is copy of letter from Fish & Wildlife Service, Consulted 2008 NHESP Priority Habitat of Rare Species - No Records of Rare, Threatened, or Endangered Species.
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 ☐	

Attached is a copy of letter from MHC.

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:	350 IRVING Street. Framingham - MCP-Tier 1B Site.
Operator signature:	Thomas J. Okawke,
Title:	Senior Environmental Engineer.
Date:	8/2/10.

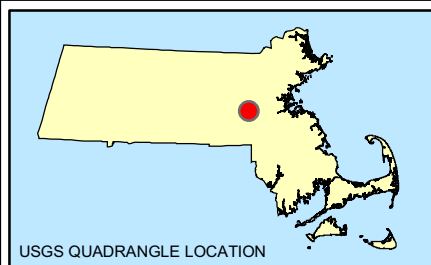
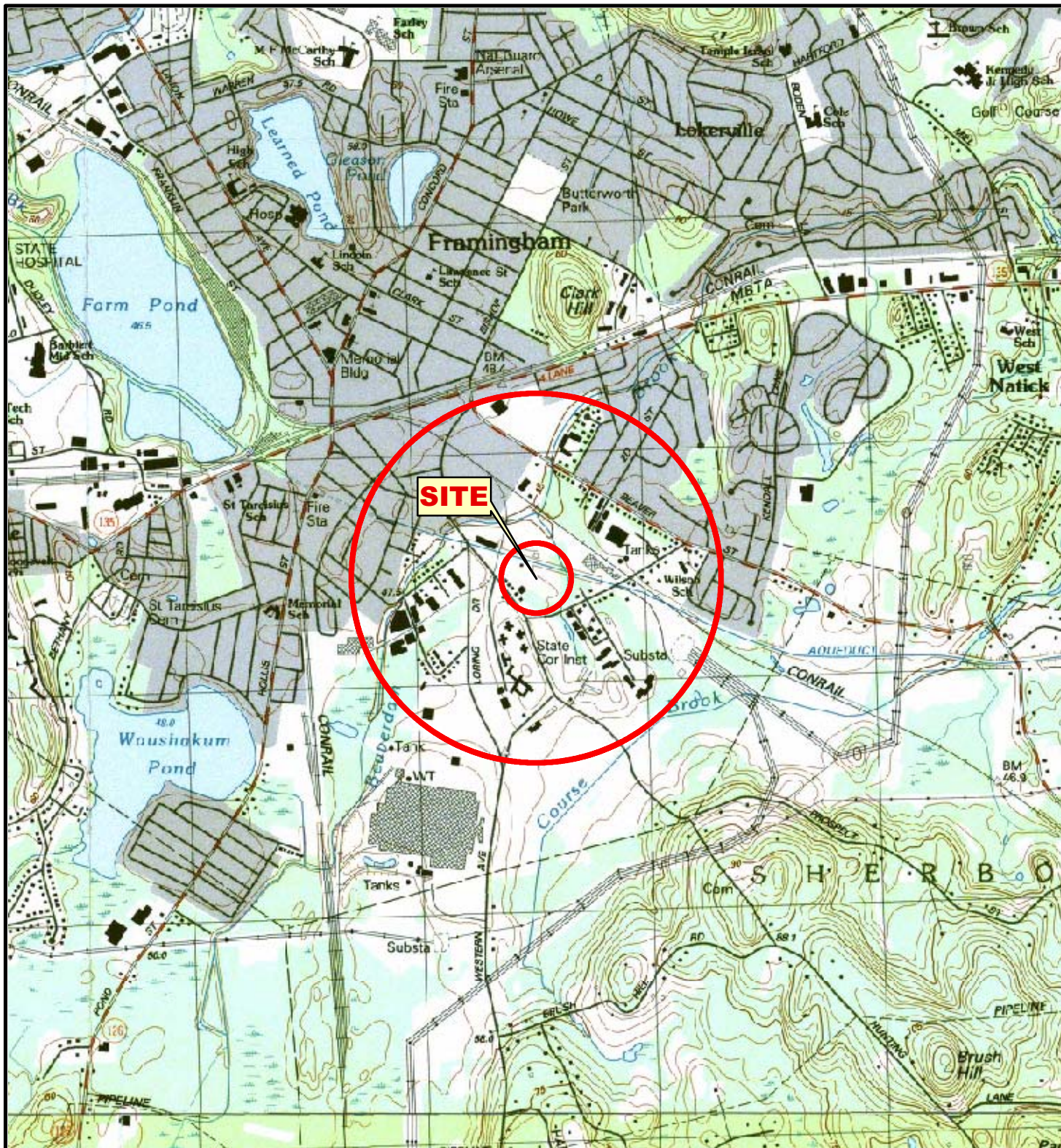
ATTACHMENT FOR 3B
 NOTICE OF INTENT FOR THE REMEDIATION GENERAL PERMIT
 350 Irving Street, Framingham, Massachusetts

File No. 18640.51
 8/2/2010

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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)
1,3,5-Trimethylbenzene		X	2	grab	8260	1.0	39		20	
1,2,4-Trimethylbenzene		X	2	grab	8260	1.0	11		5.5	
Isopropylbenzene		X	2	grab	8260	1.0	7.6		3.8	

ATTACHMENT 2

FIGURE 1 – SITE LOCUS MAP



SOURCE : SCANNED USGS TOPOGRAPHIC QUADRANGLES
SCANNED BY THE MASSACHUSETTS EXECUTIVE OFFICE OF
ENVIRONMENTAL AFFAIRS, MASSGIS. DISTRIBUTED JUNE, 2001.

Data Supplied by :



0 1,000 2,000 4,000 6,000
Feet



PROJ. MGR.: MS
DESIGNED BY: MS
REVIEWED BY: GWM
OPERATOR: EMD

DATE: 01-01-2010

SITE LOCUS
SHOWING 500 FOOT & 1/2 MILE RADII

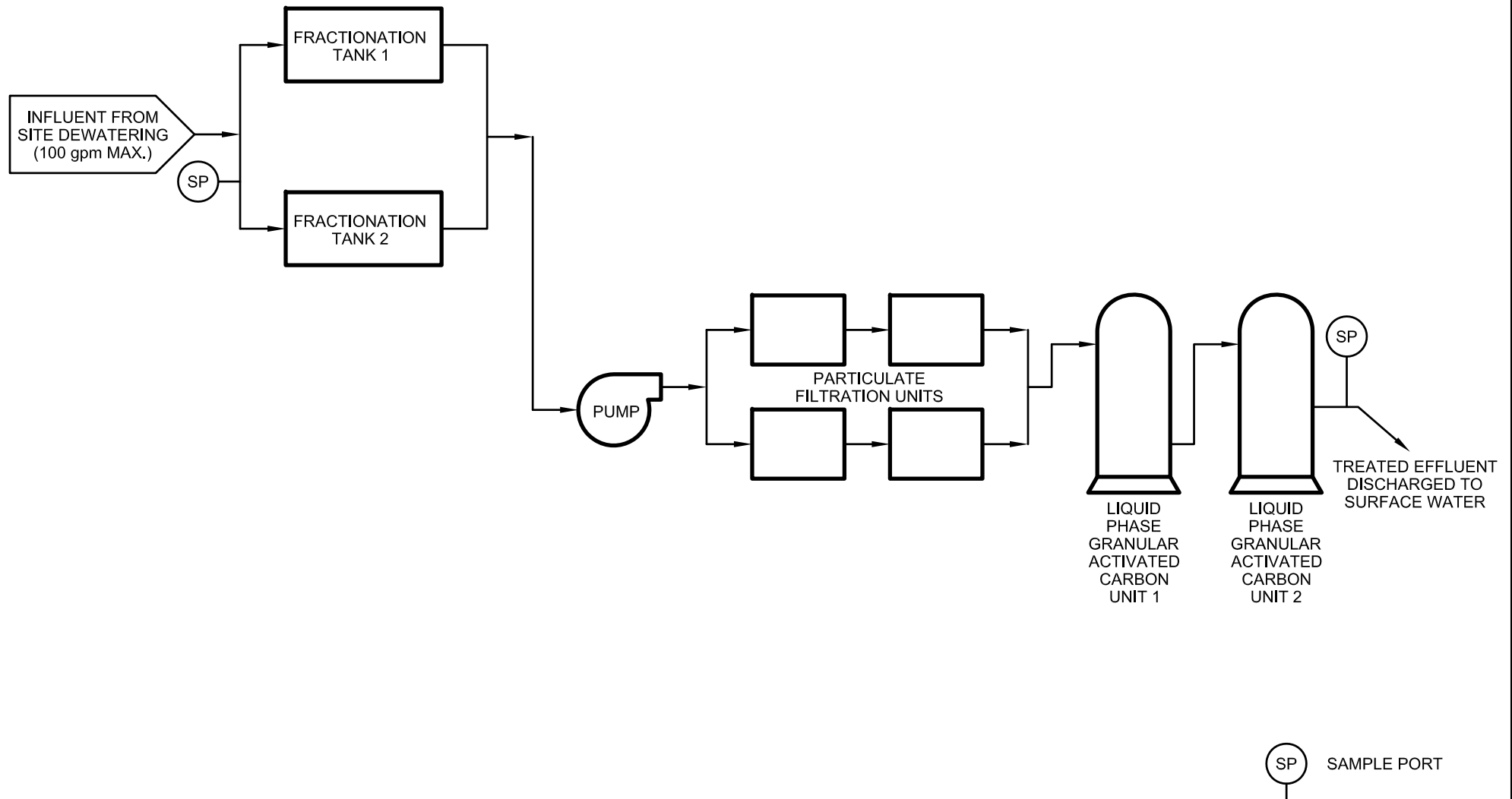
350 IRVING STREET
FRAMINGHAM, MASSACHUSETTS

JOB NO.
01.0018640.51

FIGURE NO.
1

ATTACHMENT 3

FIGURE 2 – PROCESS FLOW DIAGRAM

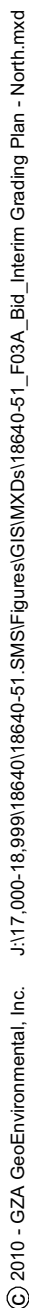


UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists ONE EDGEWATER DRIVE Norwood, Massachusetts (PH) 781-278-3700	350 IRVING STREET FRAMINGHAM, MASSACHUSETTS	PROJ MGR: MS	DATE 07-26-2010	FIGURE 2
		DESIGNED BY: SC	PROJECT NO. 18640.51	
PREPARED FOR: 	PROCESS FLOW DIAGRAM PROPOSED DEWATERING TREATMENT SYSTEM	REVIEWED BY: GWM	REVISION NO.	
		DRAWN BY: EMD/JRC CHECKED BY: MS SCALE: NOT TO SCALE		

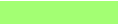
ATTACHMENT 4

FIGURE 3 – INTERIM GRADING PLAN – NORTH



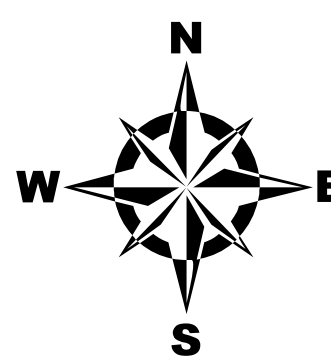
Every effort will be taken to minimize disturbance of areas not targeted for remediation; however, these access roads are in areas where existing earthen berms will be removed from the 30' No-Disturb Zone. A certain amount of regrading will be necessary to tie new berm locations into the existing berms. Contractors will discuss access strategy with the project engineer prior to commencement of project and at intervals during the project.

LEGEND

-  Wetland Boundary
-  Stream
-  River
-  Property line
-  Easement
-  Existing Contour
-  Interim Contour
-  100' Buffer Zone
-  100' Inner Riparian Zone
-  125' Buffer Zone
-  200' Riverfront Area
-  30' No Alteration Zone
-  Limit of Work
-  Limit of Work - Barrier
-  Erosion Control
-  Temporary Erosion Control
(to be moved as needed for access)
-  Monitoring Well Location
-  Proposed Survey Control Point
-  Stream Area to be Dredged (Sediment)
-  Bordering Vegetated Wetland
to be Excavated
-  Approximate Location of Staging Area
-  Approximate Location of Access Path
-  Approximate Location of Temporary
Access Road (See Figure 5A)
-  Approximate Location of Equipment
Support Mat (See Figure 5)
-  FEMA Flood Zone AE
-  Trees to be Saved



SCALE: 1 INCH = 40 FEET



NOTES

- 1) THE BASE MAP PROVIDED BY NORWOOD ENGINEERING SURVEY IS MASSACHUSETTS
NAD27 FEET AND VERTICAL DATUM IS NAVD83.
- 2) GZA PERFORMED A TOPOGRAPHICAL SURVEY ON MARCH 2, 2010 IN THE
EASTERN PORTION OF THE SITE IN THE AREA WEST OF THE BERM.
- 3) PILOT TEST PIEZOMETERS:
 - 1" PIEZOMETERS PVC, SCREENED 3' TO 14' BGS - PRB-1;
 - 1" PIEZOMETERS PVC, SCREENED 5' TO 16' BGS - PRB-2.

SOURCE

- 1) THE BASE MAP WAS DEVELOPED FROM ELECTRONIC FILES PROVIDED BY NORWOC ENGINEERING; FILENAME: 318233WS.DWG; DATED: 11-11-2009; ORIGINAL SCALE: 1"=
- 2) ADDITIONAL DATA PROVIDED BY MASSGIS THE EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS (EOEA).

350 IRVING STREET
FRAMINGHAM, MASSACHUSETTS

INTERIM GRADING PLAN NORTH

PREPARED BY:

 **GZA GeoEnvironmental, Inc.**
One Edgewater Drive
Norwood, MA 02062
Phone: (781) 278-3700 Fax: (781) 278-5700



PROJ. MGR:	MS	REVIEWED BY:	GWM	CHECKED BY:	MS	FIGURE NO.: 3A
DESIGNED BY:	MS / MMS / JAC	DRAWN BY:	GAS	SCALE:	1" = 40'	
DATE:	03-09-2010	PROJECT NO.:	01.0018640.51	REVISION NO.:	REV 3: 05-07-2010	

3A

ATTACHMENT 5

LABORATORY ANALYTICAL RESULTS



GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project No.: **01.0018640.51**
Work Order No.: **0912-00014**
Date Received: **12/01/2009**
Date Reported: **12/15/2009**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
12/01/2009	Aqueous	0912-00014 001	SW-1
12/01/2009	Aqueous	0912-00014 002	SW-2



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Project No.: **01.0018640.51**

Date Received: **12/01/2009**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 12/01/09 via __GZA courier, __EC, __FEDEX, or __x_hand delivered. The temperature of the __x_temperature blank/ __cooler air, was 4.8 degrees C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

The chain of custody indicates that the samples, when required, were chemically preserved in accordance with the method they reference.

2. Subcontracted Analyses

Analyses for SVOC, PCB, TPH, EDB, Cyanide, Hexavalent Chromium, TSS and TRC were performed by ESS Laboratory, Cranston, RI.

3. EPA Method 6010B/7470A - Metals

Attach QC 6010B 12/09/09 A - Aqueous
Attach QC 7470A 12/03/09 - Aqueous

4. EPA Method 8260 - VOCs

The elevated reporting limits for sample SW-2 (0912-00014-002) are due to initial dilution of the sample in order to get target compounds within the calibration range of the instrument. The dilutions was based upon screening data for the sample.

Attach QC 8260 12/11/09 "S" - Aqueous



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
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Norwood, MA 02062

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Date Received: **12/01/2009**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:

% R = % Recovery

DF = Dilution Factor

DFS = Dilution Factor Solids

CF = Calculation Factor

DO = Diluted Out

Method Key:

Method 8260: The current version of the method is 8260B.

Method 8270: The current version of the method is 8270D.

Method 6010: The current version of the method is 6010B.

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

Soil data is reported on a dry weight basis unless otherwise specified.

Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Date Received: **12/01/2009**

Project No.: **01.0018640.51**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-1**

Sample No.: **001**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
Appendix VI Test Package						
VOLATILE ORGANICS	EPA 8260				MQS	12/11/2009
Dichlorodifluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Chloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Vinyl Chloride	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Bromomethane	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Chloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Trichlorofluoromethane	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Diethylether	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Acetone	EPA 8260	<25	25	ug/L	MQS	12/11/2009
1,1-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Freon 113	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Carbon Disulfide	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Dichloromethane	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
tert-Butyl alcohol (TBA)	EPA 8260	<25	25	ug/L	MQS	12/11/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,1-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Di-isopropyl ether (DIPE)	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Ethyl tert-butyl ether ETBE	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
2-Butanone	EPA 8260	<25	25	ug/L	MQS	12/11/2009
2,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Chloroform	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Bromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Tetrahydrofuran	EPA 8260	<10	10	ug/L	MQS	12/11/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,1-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Carbon Tetrachloride	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,2-Dichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Benzene	EPA 8260	5.0	1.0	ug/L	MQS	12/11/2009
tert-Amyl methyl ether TAME	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Trichloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,4-Dioxane	EPA 8260	<100	100	ug/L	MQS	12/11/2009
1,2-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Project No.: **01.0018640.51**

Date Received: **12/01/2009**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-1**

Sample No.: **001**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
Bromodichloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Dibromomethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
4-Methyl-2-Pentanone	EPA 8260	<25	25	ug/L	MQS	12/11/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Toluene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
2-Hexanone	EPA 8260	<25	25	ug/L	MQS	12/11/2009
1,3-Dichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Tetrachloroethene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Dibromochloromethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Chlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Ethylbenzene	EPA 8260	3.9	1.0	ug/L	MQS	12/11/2009
m&p-Xylene	EPA 8260	2.1	2.0	ug/L	MQS	12/11/2009
o-Xylene	EPA 8260	3.0	1.0	ug/L	MQS	12/11/2009
Styrene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Bromoform	EPA 8260	<2.0	2.0	ug/L	MQS	12/11/2009
Isopropylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Bromobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
N-Propylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
2-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
4-Chlorotoluene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
tert-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
sec-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
p-Isopropyltoluene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
n-Butylbenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Date Received: **12/01/2009**

Project No.: **01.0018640.51**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-1**

Sample No.: **001**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Hexachlorobutadiene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Naphthalene	EPA 8260	7.9	2.0	ug/L	MQS	12/11/2009
1,2,3-Trichlorobenzene	EPA 8260	<1.0	1.0	ug/L	MQS	12/11/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	107	70-130	% R	MQS	12/11/2009
***Toluene-D8	EPA 8260	105	70-130	% R	MQS	12/11/2009
***4-Bromofluorobenzene	EPA 8260	103	70-130	% R	MQS	12/11/2009
Preparation	EPA 5030B	1.0		CF	MQS	12/11/2009
METALS						
Antimony	EPA 6010B	<0.0050	0.0050	mg/L	AJY	12/09/2009
Arsenic	EPA 6010B	0.0035	0.0020	mg/L	AJY	12/09/2009
Cadmium	EPA 6010B	<0.0010	0.0010	mg/L	AJY	12/09/2009
Chromium	EPA 6010B	0.0030	0.0010	mg/L	AJY	12/09/2009
Copper	EPA 6010B	0.024	0.0030	mg/L	AJY	12/09/2009
Lead	EPA 6010B	0.055	0.0020	mg/L	AJY	12/09/2009
Mercury	EPA 7470A	<0.00020	0.00020	mg/L	GDD	12/04/2009
Nickel	EPA 6010B	0.0057	0.0020	mg/L	AJY	12/09/2009
Selenium	EPA 6010B	<0.0050	0.0050	mg/L	AJY	12/09/2009
Silver	EPA 6010B	<0.0010	0.0010	mg/L	AJY	12/09/2009
Zinc	EPA 6010B	0.098	0.0020	mg/L	AJY	12/09/2009
Iron	EPA 6010B	61	0.025	mg/L	AJY	12/10/2009
Trivalent Chromium	Calculation	0.0030		mg/L	AJY	12/10/2009
SUBCONTRACTED ANALYTES						
Total Suspended Solids	SM-2540D	1270000	16700	ug/L	XXX	12/03/2009
Residual Chlorine	SM4500-CL,E	<10	10	ug/L	XXX	12/01/2009
TPH via Method 1664	EPA 1664	<4670	4670	ug/L	XXX	12/08/2009
Total Cyanide	SM 4500 CN CE	58.5	5.0	ug/L	XXX	12/07/2009
PCB	EPA 608				XXX	12/03/2009
GC-MS SEMIVOLATILES					XXX	
Hexavalent Chromium	SM 3500CrD	<20	20	ug/L	XXX	12/01/2009
Ethylene Dibromide (EDB)	EPA 8011	<0.015	0.015	ug/L	XXX	12/04/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Project No.: **01.0018640.51**

Date Received: **12/01/2009**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-2**

Sample No.: **002**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
Appendix VI Test Package						
VOLATILE ORGANICS	EPA 8260				MQS	12/11/2009
Dichlorodifluoromethane	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Chloromethane	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Vinyl Chloride	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Bromomethane	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Chloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Trichlorofluoromethane	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Diethylether	EPA 8260	<25	25	ug/L	MQS	12/11/2009
Acetone	EPA 8260	<130	130	ug/L	MQS	12/11/2009
1,1-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Freon 113	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Carbon Disulfide	EPA 8260	<50	50	ug/L	MQS	12/11/2009
Dichloromethane	EPA 8260	<10	10	ug/L	MQS	12/11/2009
tert-Butyl alcohol (TBA)	EPA 8260	<130	130	ug/L	MQS	12/11/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
trans-1,2-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,1-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Di-isopropyl ether (DIPE)	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Ethyl tert-butyl ether ETBE	EPA 8260	<10	10	ug/L	MQS	12/11/2009
2-Butanone	EPA 8260	<130	130	ug/L	MQS	12/11/2009
2,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
cis-1,2-Dichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Chloroform	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Bromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Tetrahydrofuran	EPA 8260	<50	50	ug/L	MQS	12/11/2009
1,1,1-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,1-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Carbon Tetrachloride	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2-Dichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Benzene	EPA 8260	86	5.0	ug/L	MQS	12/11/2009
tert-Amyl methyl ether TAME	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Trichloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,4-Dioxane	EPA 8260	<500	500	ug/L	MQS	12/11/2009
1,2-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Project No.: **01.0018640.51**

Date Received: **12/01/2009**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-2**

Sample No.: **002**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
Bromodichloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Dibromomethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
4-Methyl-2-Pentanone	EPA 8260	<130	130	ug/L	MQS	12/11/2009
cis-1,3-Dichloropropene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Toluene	EPA 8260	130	5.0	ug/L	MQS	12/11/2009
trans-1,3-Dichloropropene	EPA 8260	<10	10	ug/L	MQS	12/11/2009
1,1,2-Trichloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
2-Hexanone	EPA 8260	<130	130	ug/L	MQS	12/11/2009
1,3-Dichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Tetrachloroethene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Dibromochloromethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2-Dibromoethane (EDB)	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Chlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Ethylbenzene	EPA 8260	260	5.0	ug/L	MQS	12/11/2009
m&p-Xylene	EPA 8260	260	10	ug/L	MQS	12/11/2009
o-Xylene	EPA 8260	180	5.0	ug/L	MQS	12/11/2009
Styrene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Bromoform	EPA 8260	<10	10	ug/L	MQS	12/11/2009
Isopropylbenzene	EPA 8260	7.6	5.0	ug/L	MQS	12/11/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2,3-Trichloropropane	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Bromobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
N-Propylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
2-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,3,5-Trimethylbenzene	EPA 8260	11	5.0	ug/L	MQS	12/11/2009
4-Chlorotoluene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
tert-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2,4-Trimethylbenzene	EPA 8260	39	5.0	ug/L	MQS	12/11/2009
sec-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
p-Isopropyltoluene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,3-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,4-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
n-Butylbenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
1,2-Dichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Michele Simoneaux

Project Name.: **NSTAR Electric & Gas Corp.**

Date Received: **12/01/2009**

Project No.: **01.0018640.51**

Date Reported: **12/15/2009**

Work Order No.: **0912-00014**

Sample ID: **SW-2**

Sample No.: **002**

Sample Date: **12/01/2009**

Test Performed	Method	Results	Reporting Limit	Units	Tech	Analysis Date
1,2-Dibromo-3-Chloropropane	EPA 8260	<25	25	ug/L	MQS	12/11/2009
1,2,4-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Hexachlorobutadiene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Naphthalene	EPA 8260	230	10	ug/L	MQS	12/11/2009
1,2,3-Trichlorobenzene	EPA 8260	<5.0	5.0	ug/L	MQS	12/11/2009
Surrogates:	EPA 8260					
***1,2-Dichloroethane-D4	EPA 8260	112	70-130	% R	MQS	12/11/2009
***Toluene-D8	EPA 8260	105	70-130	% R	MQS	12/11/2009
***4-Bromofluorobenzene	EPA 8260	106	70-130	% R	MQS	12/11/2009
Preparation	EPA 5030B	5.0		CF	MQS	12/11/2009
METALS						
Antimony	EPA 6010B	<0.0050	0.0050	mg/L	AJY	12/09/2009
Arsenic	EPA 6010B	0.0053	0.0020	mg/L	AJY	12/09/2009
Cadmium	EPA 6010B	<0.0010	0.0010	mg/L	AJY	12/09/2009
Chromium	EPA 6010B	0.0062	0.0010	mg/L	AJY	12/09/2009
Copper	EPA 6010B	0.045	0.0030	mg/L	AJY	12/09/2009
Lead	EPA 6010B	0.056	0.0020	mg/L	AJY	12/09/2009
Mercury	EPA 7470A	<0.00020	0.00020	mg/L	GDD	12/04/2009
Nickel	EPA 6010B	0.0048	0.0020	mg/L	AJY	12/09/2009
Selenium	EPA 6010B	<0.0050	0.0050	mg/L	AJY	12/09/2009
Silver	EPA 6010B	<0.0010	0.0010	mg/L	AJY	12/09/2009
Zinc	EPA 6010B	0.10	0.0020	mg/L	AJY	12/09/2009
Iron	EPA 6010B	38	0.0050	mg/L	AJY	12/09/2009
Trivalent Chromium	Calculation	0.0062		mg/L	AJY	12/10/2009
SUBCONTRACTED ANALYTES						
Total Suspended Solids	SM-2540D	416000	10000	ug/L	XXX	12/03/2009
Residual Chlorine	SM4500-CL,E	<10	10	ug/L	XXX	12/01/2009
TPH via Method 1664	EPA 1664	<4670	4670	ug/L	XXX	12/08/2009
Total Cyanide	SM 4500 CN CE	265	10.0	ug/L	XXX	12/07/2009
PCB	EPA 608				XXX	
GC-MS SEMIVOLATILES					XXX	
Hexavalent Chromium	SM 3500CrD	<20	20	ug/L	XXX	12/01/2009
Ethylene Dibromide (EDB)	EPA 8011	<0.015	0.015	ug/L	XXX	12/04/2009

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 6010B ANALYSIS
Metals by ICP

QUALITY CONTROL - AQUEOUS

DATE PREPARED: 12/9/2009 A

QC Sample	Method Blank	Lab Control Sample	LC Duplicate	LC/LCD Diff.
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	80-120	80-120	20%
Analyte				
Silver (Ag)	<0.0010	90.4	89.5	0.95
Aluminum (Al)	NA	NA	NA	NA
Arsenic (As)	<0.0020	97.2	95.6	1.59
Boron (B)	NA	NA	NA	NA
Barium (Ba)	NA	NA	NA	NA
Beryllium (Be)	NA	NA	NA	NA
Calcium (Ca)	NA	NA	NA	NA
Cadmium (Cd)	<0.0010	99.8	99.7	0.15
Cobalt (Co)	NA	NA	NA	NA
Chromium (Cr)	<0.0010	94.6	94.8	0.17
Copper (Cu)	<0.0030	103	103	0.47
Iron (Fe)	<0.0050	101	103	2.64
Magnesium (Mg)	NA	NA	NA	NA
Manganese (Mn)	NA	NA	NA	NA
Molybdenum (Mo)	NA	NA	NA	NA
Nickel (Ni)	<0.0020	95.6	95.4	0.16
Lead (Pb)	<0.0020	101	100	0.87
Antimony (Sb)	<0.0050	101	98.1	2.51
Selenium (Se)	<0.0050	100	98.5	1.18
Strontium (Sr)	NA	NA	NA	NA
Titanium (Ti)	NA	NA	NA	NA
Thallium (Tl)	NA	NA	NA	NA
Vanadium (V)	NA	NA	NA	NA
Zinc (Zn)	<0.00020	110	115	3.10
Zirconium (Zr)	NA	NA	NA	NA
Tin (Sn)	NA	NA	NA	NA

Matrix Spike / Duplicate Spike performed as per method and
reported if assigned on Chain of Custody.

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 7470A ANALYSIS
Mercury by Cold Vapor Atomic Absorption

QUALITY CONTROL - AQUEOUS

Date Prepared : 12/03/09

QC Sample	Method Blank	Lab Control Sample	Lab Control Sample Duplicate	LC/LCD Difference
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	80-120	80-120	20%
Analyte				
Mercury (Hg)	<0.00020	94.5	95.2	0.74

RPD = Relative Percent Difference

EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank			Laboratory Control Sample			Laboratory Control Sample Duplicate					
Date Analyzed:	12/11/09		Date Analyzed:	12/11/09		12/11/09					
Volatile Organics	Conc. ug/L	Acceptance Limit	Spike Concentration = 20ug/L	% Recovery	Acceptance Limits	Verdict	% Recovery	Acceptance Limits	Verdict	RPD	Limit
dichlorodifluoromethane	< 1.0	< 1.0	dichlorodifluoromethane	85.0	70-130	ok	77.6	70-130	ok	9.08	<25
chloromethane	< 1.0	< 1.0	chloromethane	84.2	70-130	ok	76.4	70-130	ok	9.75	<25
vinyl chloride	< 0.5	< 0.5	vinyl chloride	88.6	80-120	ok	80.8	70-130	ok	9.12	<25
bromomethane	< 1.0	< 1.0	bromomethane	95.5	70-130	ok	86.5	70-130	ok	9.83	<25
chloroethane	< 0.5	< 0.5	chloroethane	94.4	70-130	ok	85.1	70-130	ok	10.3	<25
trichlorofluoromethane	< 1.0	< 1.0	trichlorofluoromethane	90.5	70-130	ok	81.0	70-130	ok	11.1	<25
diethyl ether	< 2.5	< 2.5	diethyl ether	106	70-130	ok	93.6	70-130	ok	12.5	<25
acetone	< 13	< 13	acetone	100.0	70-130	ok	90.6	70-130	ok	9.79	<25
1,1-dichloroethene	< 0.5	< 0.5	1,1-dichloroethene	88.0	80-120	ok	80.6	70-130	ok	8.78	<25
FREON-113	< 1.0	< 1.0	FREON-113	102	70-130	ok	91.4	70-130	ok	11.2	<25
carbon disulfide	< 5.0	< 5.0	carbon disulfide	91.3	70-130	ok	81.1	70-130	ok	11.9	<25
dichloromethane	< 1.0	< 1.0	dichloromethane	96.1	70-130	ok	87.3	70-130	ok	9.57	<25
tert-butyl alcohol (TBA)	< 13	< 13	tert-butyl alcohol (TBA)	111	70-130	ok	101	70-130	ok	9.45	<25
methyl-tert-butyl-ether	< 0.5	< 0.5	methyl-tert-butyl-ether	111	70-130	ok	101	70-130	ok	9.51	<25
trans-1,2-dichloroethene	< 0.5	< 0.5	trans-1,2-dichloroethene	110	70-130	ok	98.1	70-130	ok	11.1	<25
1,1-dichloroethane	< 0.5	< 0.5	1,1-dichloroethane	99.8	70-130	ok	89.9	70-130	ok	10.5	<25
di-isopropyl ether (DIPE)	< 1.0	< 1.0	di-isopropyl ether (DIPE)	108	70-130	ok	97.3	70-130	ok	10.2	<25
ethyl tert-butyl ether (EtBE)	< 1.0	< 1.0	ethyl tert-butyl ether (EtBE)	107	70-130	ok	97.1	70-130	ok	9.88	<25
2-butanone	< 13	< 13	2-butanone	124	70-130	ok	113	70-130	ok	9.35	<25
2,2-dichloropropane	< 0.5	< 0.5	2,2-dichloropropane	92.5	70-130	ok	83.2	70-130	ok	10.5	<25
cis-1,2-dichloroethene	< 0.5	< 0.5	cis-1,2-dichloroethene	91.9	70-130	ok	83.5	70-130	ok	9.59	<25
chloroform	< 0.5	< 0.5	chloroform	102	80-120	ok	92.2	70-130	ok	10.0	<25
bromochloromethane	< 0.5	< 0.5	bromochloromethane	106	70-130	ok	99.0	70-130	ok	7.31	<25
tetrahydrofuran	< 5.0	< 5.0	tetrahydrofuran	125	70-130	ok	106	70-130	ok	16.5	<25
1,1,1-trichloroethane	< 0.5	< 0.5	1,1,1-trichloroethane	94.5	70-130	ok	86.1	70-130	ok	9.24	<25
1,1-dichloropropene	< 0.5	< 0.5	1,1-dichloropropene	97.5	70-130	ok	87.6	70-130	ok	10.7	<25
carbon tetrachloride	< 0.5	< 0.5	carbon tetrachloride	94.7	70-130	ok	88.2	70-130	ok	7.09	<25
1,2-dichloroethane	< 0.5	< 0.5	1,2-dichloroethane	104	70-130	ok	94.4	70-130	ok	9.43	<25
benzene	< 0.5	< 0.5	benzene	103	70-130	ok	93.0	70-130	ok	10.00	<25
tert-amyl methyl ether (TAME)	< 1.0	< 1.0	tert-amyl methyl ether (TAME)	109	70-130	ok	99.7	70-130	ok	9.35	<25
trichloroethene	< 0.5	< 0.5	trichloroethene	99.2	70-130	ok	90.0	70-130	ok	9.78	<25
1,2-dichloropropane	< 0.5	< 0.5	1,2-dichloropropane	103	80-120	ok	94.2	70-130	ok	9.13	<25
bromodichloromethane	< 0.5	< 0.5	bromodichloromethane	101	70-130	ok	91.7	70-130	ok	9.85	<25
1,4-Dioxane	< 50	< 50	1,4-Dioxane	105	70-130	ok	105	70-130	ok	0.15	<25
dibromomethane	< 0.5	< 0.5	dibromomethane	113	70-130	ok	104	70-130	ok	7.93	<25
4-methyl-2-pentanone	< 13	< 13	4-methyl-2-pentanone	122	70-130	ok	111	70-130	ok	9.72	<25
cis-1,3-dichloropropene	< 0.5	< 0.5	cis-1,3-dichloropropene	104	70-130	ok	94.8	70-130	ok	9.49	<25
toluene	< 0.5	< 0.5	toluene	100	80-120	ok	92.2	70-130	ok	8.44	<25
trans-1,3-dichloropropene	< 1.0	< 1.0	trans-1,3-dichloropropene	100	70-130	ok	91.4	70-130	ok	9.33	<25
1,1,2-trichloroethane	< 0.5	< 0.5	1,1,2-trichloroethane	102	70-130	ok	96.2	70-130	ok	5.34	<25
2-hexanone	< 13	< 13	2-hexanone	119	70-130	ok	111	70-130	ok	6.87	<25
1,3-dichloropropane	< 0.5	< 0.5	1,3-dichloropropane	104	70-130	ok	97.3	70-130	ok	6.47	<25
tetrachloroethene	< 0.5	< 0.5	tetrachloroethene	98.1	70-130	ok	93.9	70-130	ok	4.39	<25
dibromochloromethane	< 0.5	< 0.5	dibromochloromethane	106	70-130	ok	101	70-130	ok	4.89	<25
1,2-dibromoethane (EDB)	< 1.0	< 1.0	1,2-dibromoethane (EDB)	106	70-130	ok	101	70-130	ok	4.39	<25
chlorobenzene	< 0.5	< 0.5	chlorobenzene	97.3	70-130	ok	91.9	70-130	ok	5.71	<25
1,1,1,2-tetrachloroethane	< 0.5	< 0.5	1,1,1,2-tetrachloroethane	99.6	70-130	ok	92.4	70-130	ok	7.49	<25
ethylbenzene	< 0.5	< 0.5	ethylbenzene	97.8	80-120	ok	90.5	70-130	ok	7.73	<25
1,1,2,2-tetrachloroethane	< 0.5	< 0.5	1,1,2,2-tetrachloroethane	115	70-130	ok	105	70-130	ok	9.28	<25
m&p-xylene	< 1.0	< 1.0	m&p-xylene	99.1	70-130	ok	93.0	70-130	ok	6.39	<25
o-xylene	< 0.5	< 0.5	o-xylene	99.7	70-130	ok	92.1	70-130	ok	7.92	<25
styrene	< 0.5	< 0.5	styrene	103	70-130	ok	95.4	70-130	ok	7.66	<25
bromoform	< 1.0	< 1.0	bromoform	111	70-130	ok	103	70-130	ok	6.88	<25
isopropylbenzene	< 0.5	< 0.5	isopropylbenzene	118	70-130	ok	108	70-130	ok	8.86	<25
1,2,3-trichloropropane	< 0.5	< 0.5	1,2,3-trichloropropane	111	70-130	ok	101	70-130	ok	9.80	<25
bromobenzene	< 0.5	< 0.5	bromobenzene	107	70-130	ok	98.3	70-130	ok	8.89	<25
n-propylbenzene	< 0.5	< 0.5	n-propylbenzene	105	70-130	ok	95.5	70-130	ok	9.01	<25
2-chlorotoluene	< 0.5	< 0.5	2-chlorotoluene	102	70-130	ok	93.0	70-130	ok	8.99	<25
1,3,5-trimethylbenzene	< 0.5	< 0.5	1,3,5-trimethylbenzene	100	70-130	ok	92.1	70-130	ok	8.44	<25
4-chlorotoluene	< 0.5	< 0.5	4-chlorotoluene	104	70-130	ok	95.2	70-130	ok	8.82	<25
tert-butyl-benzene	< 0.5	< 0.5	tert-butyl-benzene	99.4	70-130	ok	92.3	70-130	ok	7.40	<25
1,2,4-trimethylbenzene	< 0.5	< 0.5	1,2,4-trimethylbenzene	101	70-130	ok	92.9	70-130	ok	8.46	<25
sec-butyl-benzene	< 0.5	< 0.5	sec-butyl-benzene	99.9	70-130	ok	92.4	70-130	ok	7.79	<25
p-isopropyltoluene	< 0.5	< 0.5	p-isopropyltoluene	99.4	70-130	ok	92.0	70-130	ok	7.82	<25
1,3-dichlorobenzene	< 0.5	< 0.5	1,3-dichlorobenzene	107	70-130	ok	98.4	70-130	ok	8.66	<25
1,4-dichlorobenzene	< 0.5	< 0.5	1,4-dichlorobenzene	110	70-130	ok	100	70-130	ok	8.94	<25
n-butylbenzene	< 0.5	< 0.5	n-butylbenzene	98.8	70-130	ok	90.8	70-130	ok	8.42	<25
1,2-dichlorobenzene	< 0.5	< 0.5	1,2-dichlorobenzene	108	70-130	ok	100	70-130	ok	7.01	<25
1,2-dibromo-3-chloropropane	< 2.5	< 2.5	1,2-dibromo-3-chloropropane	111	70-130	ok	103	70-130	ok	7.68	<25
1,2,4-trichlorobenzene	< 0.5	< 0.5	1,2,4-trichlorobenzene	116	70-130	ok	105	70-130	ok	10.1	<25
hexachlorobutadiene	< 0.5	< 0.5	hexachlorobutadiene	102	70-130	ok	93.5	70-130	ok	9.05	<25
naphthalene	< 1.0	< 1.0	naphthalene	117	70-130	ok	106	70-130	ok	9.04	<25
1,2,3-trichlorobenzene	< 0.5	< 0.5	1,2,3-trichlorobenzene	114	70-130	ok	105	70-130	ok	8.15	<25

Surrogates:			Surrogates:								
Recovery (%)	Acceptance Limits		Recovery (%)	Acceptance Limits	Verdict	Recovery (%)	Acceptance Limits	Verdict	RPD	Acceptance Limits	Verdict
DIBROMOFLUOROMETHANE	102	70-130	DIBROMOFLUOROMETHANE	108	70-130	ok	103	70-130	ok	4.82	<25
1,2-DICHLOROETHANE-D4	112	70-130	1,2-DICHLOROETHANE-D4	108	70-130	ok	108	70-130	ok	0.24	<25
TOLUENE-D8	104	70-130	TOLUENE-D8	105	70-130	ok	105	70-130	ok	0.15	<25
4-BROMOFLUOROBENZENE	104	70-130	4-BROMOFLUOROBENZENE	107	70-130	ok	103	70-130	ok	3.02	<25
1,2-DICHLOROBENZENE-D4	106	70-130	1,2-DICHLOROBENZENE-D4	110	70-130	ok	105	70-130	ok	4.74	<25

W.O. # 0512-02014
(for lab use only)

Sample I.D.	Date/Time Sampled	Matrix A=Air S=Soil GW=Ground W. SW=Surface W. WM=Waste W. DW=Drinking W. P=Product Other (Specify)	ANALYSIS REQUIRED															Total # of Cont.	Note #																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			☐ pH ☐ Cond.	GC Methane, Ethane, Ethene	EPA 8260 B GC/MS	EPA 8260 - 8010 List (Chlor.)	EPA 8260 - 8021 list	EPA 524.2 DW VOCs	EPA 624 WW VOCs	☐ 601 ☐ 602 WW VOCs	EPA 8270 FULL SVOCs	EPA 8270 PAH ☐ A ☐ BN	EPA 625 WW SVOCs	EPA 806 PCBs	EPA 8210 PCBs	TPH-GC (Mod. 8100)	TPH-GC w/FING.			EPH (MA DEP)	VPH (MA DEP)	Metals ☐ PPM-13 ☐ R-8	MCP 14 Metals (MA)	Metals (List Below)*	TCLP - Specify Below	SPLP - Specify Below	EPA 300 ☐ CI ☐ SO4	EPA 300 ☐ NO2 ☐ NO3	Total Cyanide																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
SW-1	12/10/09 1400	SW			X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Michelle Mirenda
GZA GeoEnvironmental, Inc. (MA)
106 South Street
Hopkinton, MA 01748

RE: NSTAR Electric and Gas Corp. (01.0018640.51)
ESS Laboratory Work Order Number: 0912016

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

SAMPLE RECEIPT

The following samples were received on December 01, 2009 for the analyses specified on the enclosed Chain of Custody Record.

Samples were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
0912016-01	SW-1	Surface Water	1664A, 2540D, 3500Cr D, 4500 CN CE, 4500-Cl E, 608, 8011, 8270C, 8270C SIM
0912016-02	SW-2	Surface Water	1664A, 2540D, 3500Cr D, 4500 CN CE, 4500-Cl E, 608, 8011, 8270C



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

PROJECT NARRATIVE

8270C Semi-Volatile Organic Compounds

0912016-02 [Due to high target PAH compounds, this sample could not be run by the SIM Method.](#)

8270C(SIM) Semi-Volatile Organic Compounds

BSL0029-CCV1 [Calibration required quadratic regression \(Q\).](#)
Pentachlorophenol (104% @ 70-130%)

Classical Chemistry

BL90322-DUP1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)
Total Suspended Solids (24%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-1
Date Sampled: 12/01/09 14:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 5
Extraction Method: 3510C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 12/2/09 13:30

608 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1221	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1232	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1242	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1248	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1254	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1260	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1262	ND (0.50)		1	12/03/09 2:27		BL90218
Aroclor 1268	ND (0.50)		1	12/03/09 2:27		BL90218

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	58 %		30-150
Surrogate: Decachlorobiphenyl [2C]	55 %		30-150
Surrogate: Tetrachloro-m-xylene	77 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-1
Date Sampled: 12/01/09 14:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: IBM
Prepared: 12/2/09 20:00

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2,3,4,6-Tetrachlorophenol	ND (50.0)		1	12/03/09 20:21	BSL0034	BL90229
2,4,5-Trichlorophenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
2,4,6-Trichlorophenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
2,4-Dichlorophenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
2,4-Dimethylphenol	ND (50.0)		1	12/03/09 20:21	BSL0034	BL90229
2,4-Dinitrophenol	ND (50.0)		1	12/03/09 20:21	BSL0034	BL90229
2-Chlorophenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
2-Methylphenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
2-Nitrophenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
3+4-Methylphenol	ND (20.0)		1	12/03/09 20:21	BSL0034	BL90229
4,6-Dinitro-2-Methylphenol	ND (50.0)		1	12/03/09 20:21	BSL0034	BL90229
4-Chloro-3-Methylphenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
4-Nitrophenol	ND (50.0)		1	12/03/09 20:21	BSL0034	BL90229
bis(2-Ethylhexyl)phthalate	ND (6.0)		1	12/03/09 20:21	BSL0034	BL90229
Butylbenzylphthalate	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
Diethylphthalate	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
Dimethylphthalate	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
Di-n-butylphthalate	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
Di-n-octylphthalate	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229
Phenol	ND (10.0)		1	12/03/09 20:21	BSL0034	BL90229

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichlorobenzene-d4	66 %		30-130
Surrogate: 2,4,6-Tribromophenol	94 %		15-110
Surrogate: 2-Chlorophenol-d4	72 %		15-110
Surrogate: 2-Fluorobiphenyl	70 %		30-130
Surrogate: 2-Fluorophenol	68 %		15-110
Surrogate: Nitrobenzene-d5	77 %		30-130
Surrogate: Phenol-d6	73 %		15-110
Surrogate: p-Terphenyl-d14	59 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-1
Date Sampled: 12/01/09 14:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 0.25
Extraction Method: 3520C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: IBM
Prepared: 12/2/09 20:00

8270C(SIM) Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2-Methylnaphthalene	0.86 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Acenaphthene	0.62 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Acenaphthylene	0.90 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Anthracene	0.74 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Benzo(a)anthracene	1.23 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Benzo(a)pyrene	1.21 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Benzo(b)fluoranthene	0.79 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Benzo(g,h,i)perylene	0.83 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Benzo(k)fluoranthene	0.79 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Chrysene	1.52 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Dibenzo(a,h)Anthracene	0.31 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Fluoranthene	1.74 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Fluorene	0.62 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Indeno(1,2,3-cd)Pyrene	0.70 (0.05)		1	12/03/09 17:48	BSL0029	BL90229
Naphthalene	1.44 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Pentachlorophenol	ND (1.00)		1	12/03/09 17:48	BSL0029	BL90229
Phenanthrene	2.01 (0.20)		1	12/03/09 17:48	BSL0029	BL90229
Pyrene	2.82 (0.20)		1	12/03/09 17:48	BSL0029	BL90229

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichlorobenzene-d4	51 %		30-130
Surrogate: 2-Fluorobiphenyl	41 %		30-130
Surrogate: Nitrobenzene-d5	79 %		30-130
Surrogate: p-Terphenyl-d14	38 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-1
Date Sampled: 12/01/09 14:00
Percent Solids: N/A

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-01
Sample Matrix: Surface Water

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Units</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Hexavalent Chromium	ND (20)	ug/L	3500Cr D		1	KAB	12/01/09 19:40	BL90121
Total Cyanide (LL)	58.5 (5.0)	ug/L	4500 CN CE		1	EEM	12/07/09 15:40	BL90703
Total Petroleum Hydrocarbon	ND (4670)	ug/L	1664A		1	JP	12/08/09 9:30	BL90805
Total Residual Chlorine	ND (10)	ug/L	4500-Cl E		1	KJK	12/01/09 18:20	BL90124
Total Suspended Solids	1270000 (16700)	ug/L	2540D		1	KJK	12/03/09 17:55	BL90322



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-1
Date Sampled: 12/01/09 14:00
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: SEP
Prepared: 12/4/09 5:00

8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2-Dibromoethane	ND (0.015)	8011		1	SEP	12/04/09 9:36		BL90401
	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					
<i>Surrogate: Pentachloroethane</i>	<i>110 %</i>		<i>30-150</i>					



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-2
Date Sampled: 12/01/09 10:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 5
Extraction Method: 3510C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 12/2/09 13:30

608 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1221	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1232	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1242	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1248	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1254	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1260	2.33 (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1262	ND (0.50)		1	12/03/09 2:46		BL90218
Aroclor 1268	ND (0.50)		1	12/03/09 2:46		BL90218

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	44 %		30-150
Surrogate: Decachlorobiphenyl [2C]	42 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	83 %		30-150



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-2
Date Sampled: 12/01/09 10:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: IBM
Prepared: 12/2/09 20:00

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2,3,4,6-Tetrachlorophenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
2,4,5-Trichlorophenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2,4,6-Trichlorophenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2,4-Dichlorophenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2,4-Dimethylphenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
2,4-Dinitrophenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
2-Chlorophenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2-Methylnaphthalene	16.4 (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2-Methylphenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
2-Nitrophenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
3+4-Methylphenol	ND (20.0)		1	12/03/09 20:51	BSL0034	BL90229
4,6-Dinitro-2-Methylphenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
4-Chloro-3-Methylphenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
4-Nitrophenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
Acenaphthene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Acenaphthylene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Anthracene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Benzo(a)anthracene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Benzo(a)pyrene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Benzo(b)fluoranthene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Benzo(g,h,i)perylene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Benzo(k)fluoranthene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
bis(2-Ethylhexyl)phthalate	ND (6.0)		1	12/03/09 20:51	BSL0034	BL90229
Butylbenzylphthalate	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Dibenzo(a,h)Anthracene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Diethylphthalate	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Dimethylphthalate	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Di-n-butylphthalate	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Di-n-octylphthalate	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Fluoranthene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Fluorene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Indeno(1,2,3-cd)Pyrene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Naphthalene	79.0 (10.0)		1	12/03/09 20:51	BSL0034	BL90229



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-2
Date Sampled: 12/01/09 10:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: IBM
Prepared: 12/2/09 20:00

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Pentachlorophenol	ND (50.0)		1	12/03/09 20:51	BSL0034	BL90229
Phenanthrene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Phenol	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229
Pyrene	ND (10.0)		1	12/03/09 20:51	BSL0034	BL90229

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichlorobenzene-d4	46 %		30-130
Surrogate: 2,4,6-Tribromophenol	80 %		15-110
Surrogate: 2-Chlorophenol-d4	58 %		15-110
Surrogate: 2-Fluorobiphenyl	51 %		30-130
Surrogate: 2-Fluorophenol	52 %		15-110
Surrogate: Nitrobenzene-d5	61 %		30-130
Surrogate: Phenol-d6	58 %		15-110
Surrogate: p-Terphenyl-d14	54 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-2
Date Sampled: 12/01/09 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-02
Sample Matrix: Surface Water

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Units</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Hexavalent Chromium	ND (20)	ug/L	3500Cr D		1	KAB	12/01/09 19:40	BL90121
Total Cyanide (LL)	265 (10.0)	ug/L	4500 CN CE		2	EEM	12/07/09 15:40	BL90703
Total Petroleum Hydrocarbon	ND (4670)	ug/L	1664A		1	JP	12/08/09 9:30	BL90805
Total Residual Chlorine	ND (10)	ug/L	4500-Cl E		1	KJK	12/01/09 18:20	BL90124
Total Suspended Solids	416000 (10000)	ug/L	2540D		1	KJK	12/03/09 17:55	BL90322



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.
Client Sample ID: SW-2
Date Sampled: 12/01/09 10:00
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 0912016
ESS Laboratory Sample ID: 0912016-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: SEP
Prepared: 12/4/09 5:00

8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2-Dibromoethane	ND (0.015)	8011		1	SEP	12/04/09 10:05		BL90401
	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					
<i>Surrogate: Pentachloroethane</i>	<i>107 %</i>		<i>30-150</i>					



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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608 Polychlorinated Biphenyls (PCB)

Batch BL90218 - 3510C

Blank

Aroclor 1016	ND	0.50	ug/L							
Aroclor 1221	ND	0.50	ug/L							
Aroclor 1232	ND	0.50	ug/L							
Aroclor 1242	ND	0.50	ug/L							
Aroclor 1248	ND	0.50	ug/L							
Aroclor 1254	ND	0.50	ug/L							
Aroclor 1260	ND	0.50	ug/L							
Aroclor 1262	ND	0.50	ug/L							
Aroclor 1268	ND	0.50	ug/L							

Surrogate: Decachlorobiphenyl	0.273		ug/L	0.2500		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.275		ug/L	0.2500		110	30-150			
Surrogate: Tetrachloro-m-xylene	0.240		ug/L	0.2500		96	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.275		ug/L	0.2500		110	30-150			

LCS

Aroclor 1016	5.46	0.50	ug/L	5.000		109	40-140			
Aroclor 1260	5.23	0.50	ug/L	5.000		105	40-140			

Surrogate: Decachlorobiphenyl	0.283		ug/L	0.2500		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.274		ug/L	0.2500		110	30-150			
Surrogate: Tetrachloro-m-xylene	0.249		ug/L	0.2500		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.275		ug/L	0.2500		110	30-150			

LCS Dup

Aroclor 1016	5.71	0.50	ug/L	5.000		114	40-140	4	50	
Aroclor 1260	5.44	0.50	ug/L	5.000		109	40-140	4	50	

Surrogate: Decachlorobiphenyl	0.286		ug/L	0.2500		114	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.278		ug/L	0.2500		111	30-150			
Surrogate: Tetrachloro-m-xylene	0.250		ug/L	0.2500		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.274		ug/L	0.2500		110	30-150			

8270C Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

Blank

2,3,4,6-Tetrachlorophenol	ND	50.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	50.0	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4,6-Dinitro-2-Methylphenol	ND	50.0	ug/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

4-Chloro-3-Methylphenol	ND	10.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acenaphthene	ND	10.0	ug/L							
Acenaphthylene	ND	10.0	ug/L							
Anthracene	ND	10.0	ug/L							
Benzo(a)anthracene	ND	10.0	ug/L							
Benzo(a)pyrene	ND	10.0	ug/L							
Benzo(b)fluoranthene	ND	10.0	ug/L							
Benzo(g,h,i)perylene	ND	10.0	ug/L							
Benzo(k)fluoranthene	ND	10.0	ug/L							
bis(2-Ethylhexyl)phthalate	ND	6.0	ug/L							
Butylbenzylphthalate	ND	10.0	ug/L							
Chrysene	ND	10.0	ug/L							
Dibenzo(a,h)Anthracene	ND	10.0	ug/L							
Diethylphthalate	ND	10.0	ug/L							
Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	10.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Pentachlorophenol	ND	50.0	ug/L							
Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	61.7		ug/L	100.0		62	30-130			
Surrogate: 2,4,6-Tribromophenol	124		ug/L	150.0		83	15-110			
Surrogate: 2-Chlorophenol-d4	107		ug/L	150.0		71	15-110			
Surrogate: 2-Fluorobiphenyl	66.7		ug/L	100.0		67	30-130			
Surrogate: 2-Fluorophenol	98.0		ug/L	150.0		65	15-110			
Surrogate: Nitrobenzene-d5	71.9		ug/L	100.0		72	30-130			
Surrogate: Phenol-d6	109		ug/L	150.0		73	15-110			
Surrogate: p-Terphenyl-d14	90.7		ug/L	100.0		91	30-130			

LCS

2,3,4,6-Tetrachlorophenol	91.7	50.0	ug/L	100.0		92	40-140			
2,4,5-Trichlorophenol	87.2	10.0	ug/L	100.0		87	30-130			
2,4,6-Trichlorophenol	81.2	10.0	ug/L	100.0		81	30-130			
2,4-Dichlorophenol	78.4	10.0	ug/L	100.0		78	30-130			
2,4-Dimethylphenol	72.0	50.0	ug/L	100.0		72	30-130			
2,4-Dinitrophenol	66.5	50.0	ug/L	100.0		67	30-130			
2-Chlorophenol	73.4	10.0	ug/L	100.0		73	30-130			
2-Methylnaphthalene	74.5	10.0	ug/L	100.0		75	40-140			
2-Methylphenol	73.2	10.0	ug/L	100.0		73	30-130			
2-Nitrophenol	74.9	10.0	ug/L	100.0		75	30-130			
3+4-Methylphenol	135	20.0	ug/L	200.0		67	30-130			



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

4,6-Dinitro-2-Methylphenol	83.4	50.0	ug/L	100.0		83	30-130			
4-Chloro-3-Methylphenol	77.4	10.0	ug/L	100.0		77	30-130			
4-Nitrophenol	76.6	50.0	ug/L	100.0		77	30-130			
Acenaphthene	92.3	10.0	ug/L	100.0		92	40-140			
Acenaphthylene	73.0	10.0	ug/L	100.0		73	40-140			
Anthracene	100	10.0	ug/L	100.0		100	40-140			
Benzo(a)anthracene	104	10.0	ug/L	100.0		104	40-140			
Benzo(a)pyrene	99.3	10.0	ug/L	100.0		99	40-140			
Benzo(b)fluoranthene	93.0	10.0	ug/L	100.0		93	40-140			
Benzo(g,h,i)perylene	91.8	10.0	ug/L	100.0		92	40-140			
Benzo(k)fluoranthene	91.4	10.0	ug/L	100.0		91	40-140			
bis(2-Ethylhexyl)phthalate	98.7	6.0	ug/L	100.0		99	40-140			
Butylbenzylphthalate	96.1	10.0	ug/L	100.0		96	40-140			
Chrysene	102	10.0	ug/L	100.0		102	40-140			
Dibenzo(a,h)Anthracene	94.8	10.0	ug/L	100.0		95	40-140			
Diethylphthalate	88.2	10.0	ug/L	100.0		88	40-140			
Dimethylphthalate	87.7	10.0	ug/L	100.0		88	40-140			
Di-n-butylphthalate	88.9	10.0	ug/L	100.0		89	40-140			
Di-n-octylphthalate	96.9	10.0	ug/L	100.0		97	40-140			
Fluoranthene	92.2	10.0	ug/L	100.0		92	40-140			
Fluorene	100	10.0	ug/L	100.0		100	40-140			
Indeno(1,2,3-cd)Pyrene	91.5	10.0	ug/L	100.0		91	40-140			
Naphthalene	73.4	10.0	ug/L	100.0		73	40-140			
Pentachlorophenol	93.0	50.0	ug/L	100.0		93	30-130			
Phenanthrene	94.4	10.0	ug/L	100.0		94	40-140			
Phenol	82.0	10.0	ug/L	100.0		82	30-130			
Pyrene	102	10.0	ug/L	100.0		102	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	64.3		ug/L	100.0		64	30-130			
Surrogate: 2,4,6-Tribromophenol	142		ug/L	150.0		95	15-110			
Surrogate: 2-Chlorophenol-d4	109		ug/L	150.0		73	15-110			
Surrogate: 2-Fluorobiphenyl	74.7		ug/L	100.0		75	30-130			
Surrogate: 2-Fluorophenol	104		ug/L	150.0		70	15-110			
Surrogate: Nitrobenzene-d5	76.4		ug/L	100.0		76	30-130			
Surrogate: Phenol-d6	113		ug/L	150.0		75	15-110			
Surrogate: p-Terphenyl-d14	94.6		ug/L	100.0		95	30-130			

LCS Dup

2,3,4,6-Tetrachlorophenol	92.8	50.0	ug/L	100.0		93	40-140	1	20	
2,4,5-Trichlorophenol	87.0	10.0	ug/L	100.0		87	30-130	0.3	20	
2,4,6-Trichlorophenol	85.5	10.0	ug/L	100.0		85	30-130	5	20	
2,4-Dichlorophenol	80.7	10.0	ug/L	100.0		81	30-130	3	20	
2,4-Dimethylphenol	76.4	50.0	ug/L	100.0		76	30-130	6	20	
2,4-Dinitrophenol	68.1	50.0	ug/L	100.0		68	30-130	2	20	
2-Chlorophenol	73.6	10.0	ug/L	100.0		74	30-130	0.2	20	
2-Methylnaphthalene	77.4	10.0	ug/L	100.0		77	40-140	4	20	
2-Methylphenol	75.8	10.0	ug/L	100.0		76	30-130	3	20	
2-Nitrophenol	79.8	10.0	ug/L	100.0		80	30-130	6	20	



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

3+4-Methylphenol	153	20.0	ug/L	200.0		76	30-130	12	20	
4,6-Dinitro-2-Methylphenol	82.8	50.0	ug/L	100.0		83	30-130	0.7	20	
4-Chloro-3-Methylphenol	82.2	10.0	ug/L	100.0		82	30-130	6	20	
4-Nitrophenol	77.3	50.0	ug/L	100.0		77	30-130	1	20	
Acenaphthene	96.5	10.0	ug/L	100.0		97	40-140	4	20	
Acenaphthylene	78.4	10.0	ug/L	100.0		78	40-140	7	20	
Anthracene	97.8	10.0	ug/L	100.0		98	40-140	2	20	
Benzo(a)anthracene	101	10.0	ug/L	100.0		101	40-140	2	20	
Benzo(a)pyrene	95.6	10.0	ug/L	100.0		96	40-140	4	20	
Benzo(b)fluoranthene	98.9	10.0	ug/L	100.0		99	40-140	6	20	
Benzo(g,h,i)perylene	89.8	10.0	ug/L	100.0		90	40-140	2	20	
Benzo(k)fluoranthene	95.8	10.0	ug/L	100.0		96	40-140	5	20	
bis(2-Ethylhexyl)phthalate	94.2	6.0	ug/L	100.0		94	40-140	5	20	
Butylbenzylphthalate	92.1	10.0	ug/L	100.0		92	40-140	4	20	
Chrysene	99.6	10.0	ug/L	100.0		100	40-140	3	20	
Dibenzo(a,h)Anthracene	93.7	10.0	ug/L	100.0		94	40-140	1	20	
Diethylphthalate	89.2	10.0	ug/L	100.0		89	40-140	1	20	
Dimethylphthalate	88.2	10.0	ug/L	100.0		88	40-140	0.6	20	
Di-n-butylphthalate	87.0	10.0	ug/L	100.0		87	40-140	2	20	
Di-n-octylphthalate	93.4	10.0	ug/L	100.0		93	40-140	4	20	
Fluoranthene	90.4	10.0	ug/L	100.0		90	40-140	2	20	
Fluorene	106	10.0	ug/L	100.0		106	40-140	5	20	
Indeno(1,2,3-cd)Pyrene	91.0	10.0	ug/L	100.0		91	40-140	0.6	20	
Naphthalene	75.7	10.0	ug/L	100.0		76	40-140	3	20	
Pentachlorophenol	87.4	50.0	ug/L	100.0		87	30-130	6	20	
Phenanthrene	92.0	10.0	ug/L	100.0		92	40-140	3	20	
Phenol	75.0	10.0	ug/L	100.0		75	30-130	9	20	
Pyrene	100	10.0	ug/L	100.0		100	40-140	2	20	
Surrogate: 1,2-Dichlorobenzene-d4	66.9		ug/L	100.0		67	30-130			
Surrogate: 2,4,6-Tribromophenol	131		ug/L	150.0		87	15-110			
Surrogate: 2-Chlorophenol-d4	112		ug/L	150.0		75	15-110			
Surrogate: 2-Fluorobiphenyl	76.7		ug/L	100.0		77	30-130			
Surrogate: 2-Fluorophenol	101		ug/L	150.0		67	15-110			
Surrogate: Nitrobenzene-d5	77.8		ug/L	100.0		78	30-130			
Surrogate: Phenol-d6	117		ug/L	150.0		78	15-110			
Surrogate: p-Terphenyl-d14	89.2		ug/L	100.0		89	30-130			

8270C(SIM) Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

Blank										
2-Methylnaphthalene	ND	0.20	ug/L							
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							
Benzo(a)anthracene	ND	0.05	ug/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C(SIM) Semi-Volatile Organic Compounds

Batch BL90229 - 3520C

Benzo(a)pyrene	ND	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	1.00	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	53.3		ug/L	100.0		53	30-130			
Surrogate: 2-Fluorobiphenyl	45.2		ug/L	100.0		45	30-130			
Surrogate: Nitrobenzene-d5	76.7		ug/L	100.0		77	30-130			
Surrogate: p-Terphenyl-d14	58.7		ug/L	100.0		59	30-130			

Classical Chemistry

Batch BL90121 - Metals No Prep

Blank										
Hexavalent Chromium	ND	20	ug/L							
LCS										
Hexavalent Chromium	492	20	ug/L	499.8		98	90-110			
LCS Dup										
Hexavalent Chromium	499	20	ug/L	499.8		100	90-110	1	20	
Duplicate Source: 0912016-02										
Hexavalent Chromium	ND	20	ug/L		ND				20	
Matrix Spike Source: 0912016-02										
Hexavalent Chromium	482	20	ug/L	499.8	ND	96	85-115			

Batch BL90124 - General Preparation

Blank										
Total Residual Chlorine	ND	10	ug/L							
LCS										
Total Residual Chlorine	2		mg/L	1.700		99	85-115			

Batch BL90322 - General Preparation

Blank										
Total Suspended Solids	ND	5000	ug/L							
LCS										
Total Suspended Solids	50		mg/L	49.90		100	80-120			
Duplicate Source: 0912016-01										
Total Suspended Solids	1610000	16700	ug/L		1270000			24	20	D+



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Classical Chemistry

Batch BL90703 - TCN Prep

Blank

Total Cyanide (LL)	ND	5.0	ug/L							
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LCS

Total Cyanide (LL)	21.1	5.0	ug/L	20.06		105	90-110			
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LCS

Total Cyanide (LL)	148	5.0	ug/L	150.4		98	90-110			
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LCS Dup

Total Cyanide (LL)	149	5.0	ug/L	150.4		99	90-110	0.8	20	
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Duplicate Source: 0912016-02

Total Cyanide (LL)	266	10.0	ug/L		265			0.2	20	
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Matrix Spike Source: 0912016-02

Total Cyanide (LL)	370	10.0	ug/L	100.3	265	104	75-125			
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Batch BL90805 - General Preparation

Blank

Total Petroleum Hydrocarbon	ND	5000	ug/L							
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LCS

Total Petroleum Hydrocarbon	17000	5000	ug/L	19220		88	66-114			
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8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

Batch BL90401 - 504/8011

Blank

1,2-Dibromoethane	ND	0.015	ug/L							
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Surrogate: Pentachloroethane	0.211		ug/L	0.2000		105	30-150			
------------------------------	-------	--	------	--------	--	-----	--------	--	--	--

LCS

1,2-Dibromoethane	0.247	0.015	ug/L	0.2000		124	60-140			
-------------------	-------	-------	------	--------	--	-----	--------	--	--	--

Surrogate: Pentachloroethane	0.218		ug/L	0.2000		109	30-150			
------------------------------	-------	--	------	--------	--	-----	--------	--	--	--

LCS Dup

1,2-Dibromoethane	0.246	0.015	ug/L	0.2000		123	60-140	0.4	20	
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Surrogate: Pentachloroethane	0.226		ug/L	0.2000		113	30-150			
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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
4	Due to high target PAH compounds, this sample could not be run by the SIM Method.
ND	Analyte NOT DETECTED above the detection limit (LOD for DoD Reports)
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
LOD	Limit of Detection
[CALC]	Calculated Analyte



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: NSTAR Electric and Gas Corp.

ESS Laboratory Work Order: 0912016

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: A-179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 242405

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental Inc
 Client Project ID: _____
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 09120016
 Date Project Due: 12/8/09
 Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☐ * No

10. Are the samples properly preserved?

☐ Yes

Air No.:

11. Proper sample containers used?

☐ Yes

2. Were Custody Seals Present?

☐ No

12. Any air bubbles in the VOA vials?

☐ No

3. Were Custody Seals Intact?

☐ N/A

13. Holding times exceeded?

☐ No

4. Is Radiation count < 100 CPM?

☐ Yes

14. Sufficient sample volumes?

☐ Yes

5. Is a cooler present?

☐ Yes

15. Any Subcontracting needed?

☐ NoCooler Temp: 2.0

16. Are ESS labels on correct containers?

☒ Yes/NoIced With: Ice

17. Were samples received intact?

☒ Yes/No

6. Was COC included with samples?

☐ Yes

ESS Sample IDs: _____

7. Was COC signed and dated by client?

☐ Yes

Sub Lab: _____

8. Does the COC match the sample

☐ Yes

Analysis: _____

9. Is COC complete and correct?

☐ Yes

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	1 L Glass	2	CAS 12/1/09 H2SO4 HCL
1	Yes	1 L Glass	2	NP
1	Yes	1 L Plastic	1	NP
1	Yes	250 ml Plastic	1	CAS 12/1/09 HNO3 NaOH
1	Yes	250 ml Plastic	2	NP
1	Yes	40 ml - VOA	3	HCL
2	Yes	1 L Glass	2	CAS 12/1/09 H2SO4 HCL
2	Yes	1 L Glass	2	NP
2	Yes	1 L Plastic	1	NP
2	Yes	250 ml Plastic	1	CAS 12/1/09 HNO3 NaOH
2	Yes	250 ml Plastic	2	NP
2	Yes	40 ml - VOA	2	HCL

Completed By: _____

Date/Time: 12/1/09Reviewed By: CASDate/Time: 12/1/09

ESS Lab 09/20/16

W.O. #1

09/2-0014

(for lab use on/v)

[illegible]

PROJECT MANAGER: Michelle Miranda EXT: 4710

GZA GEOENVIRONMENTAL, INC.

Laboratory Division

106 South Street
Hopkinton, MA 01748
(781) 278-4700
FAX (508) 435-9912

GZA FILE NO: 01-00 86 40, 51 TASK NO: P.O. NO: 8-33157

PROJECT USTAR Electric and Gas Corp.

LOCATION 380 Talbots St., Framingham, MA

COLLECTOR(S) J.M. / P.D.

TURNAROUND TIME: (Standard) Rush
Days, Approved by
LAB USE: Temp Blank
TEMP OF COOLER 2.0°C Cooler Air

SHEET _____ OF _____

ATTACHMENT 6

SUPPLEMENTAL INFORMATION – 7Q10 DATA FOR UNNAMED TRIBUTARY



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Mon Jul 19 2010 14:02:47 Mountain Daylight Time

Site Location: Massachusetts

NAD27 Latitude: 42.2727 (42 16 22)

NAD27 Longitude: -71.4058 (-71 24 21)

NAD83 Latitude: 42.2728 (42 16 22)

NAD83 Longitude: -71.4053 (-71 24 19)

ReachCode: 01070005005037

Measure: 39.01

Drainage Area: 0.14 mi2

Low Flows Basin Characteristics			
100 % Statewide Low Flow (0.14 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.14 (below min value 1.61)	1.61	149
Mean Basin Slope from 250K DEM (percent)	1.82	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.28	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Probability of Perennial Flow Basin Characteristics			
100 % Perennial Flow Probability (0.14 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.14	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	74.30	0	100
Percent Forest (percent)	23.92	0	100
Massachusetts Region (dimensionless)	0	0	1

Low Flows Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	0.13				
D60	0.086				
D70	0.0524				
D75	0.0401				
D80	0.0362				
D85	0.0247				
D90	0.0192				
D95	0.00946				
D98	0.00594				
D99	0.00392				
M7D2Y	0.00962				
AUGD50	0.027				
M7D10Y	0.00348				

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	Value	Standard Error (percent)
PROBPEN	0.76	0.4

DILUTION FACTOR CALCULATIONS
NOTICE OF INTENT FOR THE REMEDIATION GENERAL PERMIT
350 Irving Street, Framingham, Massachusetts

$$DF = \frac{Q_d + Q_s}{Q_d}$$

Where,

DF = Dilution Factor

Q_d = Maximum Flow Rate of the Discharge in cubic feet per second (cfs) (1.0 gpm = 0.00223 cfs)

Q_s = Receiving Water 7Q10 Flow (cfs) where,

7Q10 = Minimum Flow (cfs) for 7 Consecutive Days with a Recurrence Interval of 10 Years.

Q_d = 100 gpm = 0.223 cfs

Q_s = 0.00348 cfs (M7D10Y on attached USGS Streamstats Ungaged Site Report)

$$\therefore DF = \frac{Q_d + Q_s}{Q_d} = \frac{0.223 + 0.00348}{0.223} = 1.02$$

ATTACHMENT 7

COPY OF A LETTER FROM US FISH AND WILDLIFE SERVICES



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
<http://www.fws.gov/northeast/newenglandfieldoffice>

January 2, 2009

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

ATTACHMENT 8

COPY OF A LETTER FROM MASSACHUSETTS HISTORICAL COMMISSION



January 20, 2010

The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

Michele Simoneaux
GZA Environmental, Inc.
One Edgewater Drive
Norwood, MA 02062

RE: Wetland and Stream Mediation, 300-350 Irving Street, Framingham, MA.
MHC# RC.47416

Dear Ms. Simoneaux:

Thank you for submitting additional information to the Massachusetts Historical Commission, received January 6, 2010, for the project referenced above. Staff at the MHC have reviewed our files and the information submitted. The project consists of remediation of hazardous materials in a wetland located at 350 Irving Street in Framingham.

MHC understands that the project requires a Programmatic General Permit from the US Army Corps of Engineers and review by the Massachusetts Environmental Protection Act Office (MEPA). MHC will review the project under Section 106 of the National Historic Preservation Act (36 CFR 800) and looks forward to consultation and a determination of effect by the Corps. Please submit a copy of the Environmental Notification Form to MHC when the ENF is submitted to MEPA.

Review of the Inventory of Historical and Archaeological Assets of the Commonwealth indicates that the project is located near the Sudbury Aqueduct Linear District (MHC# FRM.T), which is listed in the State and National Register of Historic Places. After review of project plans, all remediation activities will occur in wetland and areas subject to previous disturbance north of the Sudbury Aqueduct Linear District. In MHC's opinion, the project, as proposed, is unlikely to affect significant historic or archaeological resources.

These comments are provided to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), Massachusetts General Laws, Chapter 9, Section 26-27C (950 CMR 71), and MEPA (301 CMR 11). Please contact Tim Hollis at this office you have additional questions.

Sincerely,


Jonathan K. Patton
Archaeologist/Preservation Planner
Massachusetts Historic Commission

xc: Karen-Kirk Adams, USACOE-NED Regulatory
Kate Atwood, USACOE-NED
Marianne Connolly, MWRA
DEP-NERO
Framingham Historical Commission