CORPORATE ENVIRONMENTAL ADVISORS, INC.

Consultants | Engineers | Contractors

Via Delivery Confirmation

9/11/08 received

September 9, 2008

US-EPA Region 1
Ann Herrick
Industrial NPDES Permits (CIP)
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

RE: EPA Remediation General Permit Notice of Intent
Former Northborough Fish and Game
119 Colburn Street
Northborough, MA
RTN 2-14760

Ms. Herrick:

On behalf of the Town of Northborough, Corporate Environmental Advisors, Inc. (CEA) is submitting this Notice of Intent (NOI) for an EPA Remediation General Permit (RGP) to treat and discharge metals-impacted groundwater at the above referenced site during site remediation activities. This work is being conducted as part of Phase IV activities at the site under section 310 CMR 40.0874 of the Massachusetts Contingency Plan (MCP). **Figure 1,** Site Locus Map, shows the property location with respect to surrounding topography. **Figure 2**, Soil and Sediment Removal Areas, depicts pertinent site features as well as the proposed sediment and soil removal areas.

Groundwater will be encountered during the sediment removal at the 119 Colburn Street and 167 Bearfoot Road properties. Once groundwater is encountered during excavation activities, a groundwater recovery sump will be placed in the excavation. A submersible pump will be placed in the sump to remove groundwater from the excavation and temporarily store the water in a 10,000-gallon frac-tank. Groundwater will be pumped from the frac tank through an on-site mobile water treatment system. Recovered groundwater will be treated through two bag filters in parallel and two bag filters in series. The groundwater treatment system will be designed to treat and discharge groundwater at a maximum flow rate of 10 gallons per minute (GPM). The flow meter and flow totalizer will be located immediately prior to discharge of the treated groundwater. Flow rates will be periodically monitored throughout discharging and total discharged gallons of treated groundwater will be recorded at the end of each day.

Generated groundwater will be treated and discharged to Barefoot Brook which passes through the site. Barefoot Brook is depicted in **Figure 2**.

Treated water discharge will be monitored according to the guidelines described in the RGP. In-line sample ports for sample collection will be installed prior to the first set of bag filters and after the second set of bag filters. In addition, a totalizer and flow meter will be installed along the discharge line for proper recording of groundwater discharge volume and flow rates. The dewatering system is anticipated to be operated periodically during a period of approximately one month. A dewatering schematic is provided in **Figure 3**. The NOI forms and supporting documentation are attached.

ADDRESS Hartwell Business Park
127 Hartwell Street, West Boylston, MA 01583
TEL 508.835.8822 . 800.358.7960
FAX 508.835.8812
WEB www.cea-inc.com

A groundwater sample was collected from monitoring well MW-502 on August 20, 2008 and is considered representative of groundwater quality in the area to be dewatered. The primary contaminants of concern at the site are lead and arsenic. On site groundwater and surface water sampling has concluded that the dissolved phase metals are below method detection limits and are only present in suspended form. The pumped water shall be allowed to settle in the 10,000-gallon fract and and then shall be pumped slowly through the bag filters to remove suspended solids and metals in order to meet discharge limits.

If this Remediation General Permit Notice of Intent has been prepared to your satisfaction, please issue a Remediation General Permit for the proposed remedial activities. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (508) 835-8822.

Sincerely,
CORPORATE ENVIRONMENTAL ADVISORS, INC.

J Snay

Jennifer Snay
Environmental Scientist II

Michael J. Dziura, P.E.
Sr. Environmental Engineer

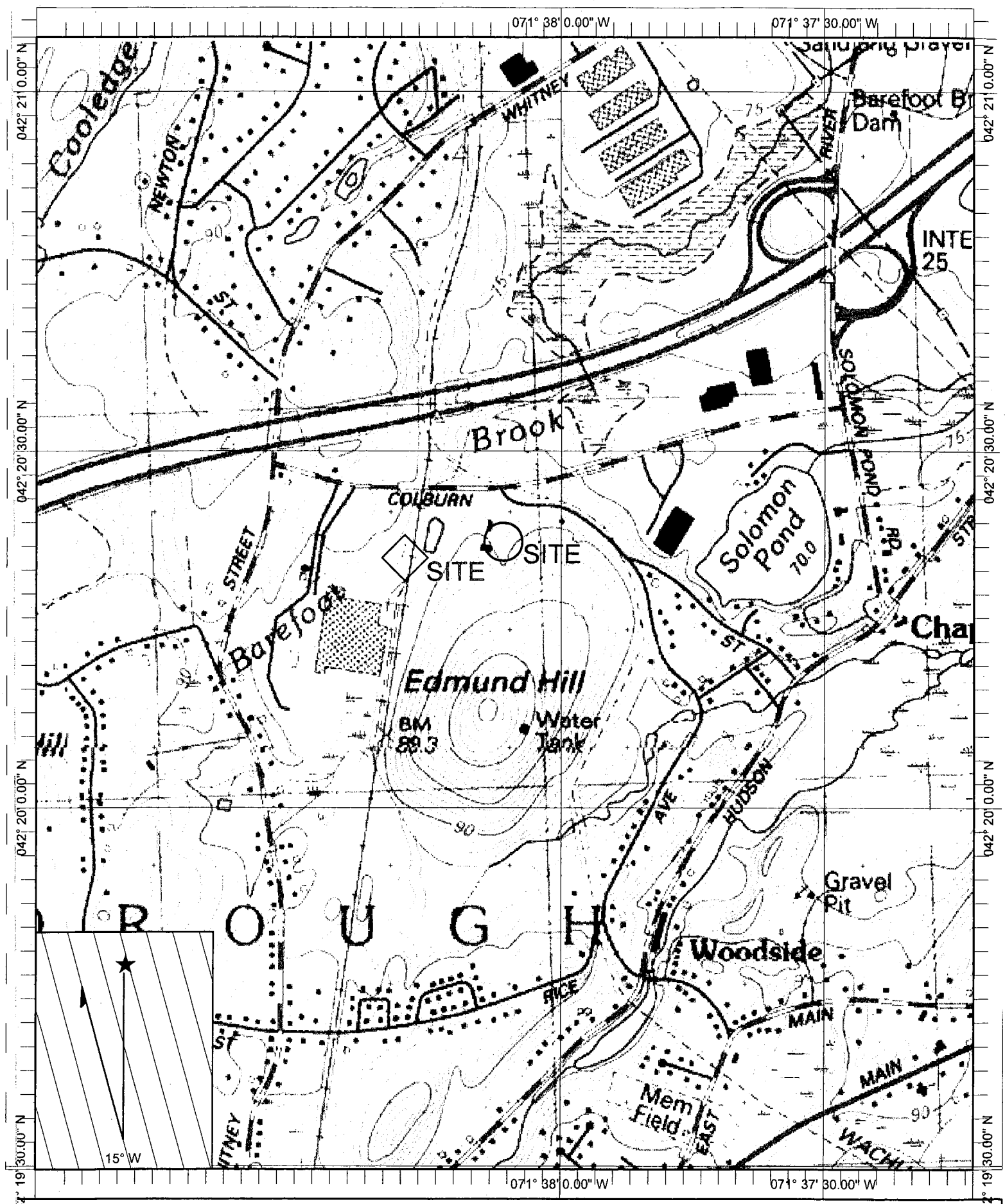
Figures

Figure 1	Site Locus
Figure 2	Soil and Sediment Removal Areas
Figure 3	Excavation Dewatering Process & Instrumentation Diagram
Figure 4	MAGIS Map
Figure 5	MA Natural Heritage Atlas

Attachments

Attachment A: Notice of Intent Form and Dilution Factor Calculations
Attachment B: Laboratory Analytical Report - Groundwater

cc: Mr. John W. Coderre, Town of Northborough
CEA File 5077-02



Name: MARLBOROUGH
Date: 6/30/2008
Scale: 1 inch equals 1000 feet

Location: 042° 20' 17.2" N 071° 38' 06.3" W
Caption: FIGURE 1: SITE LOCUS
119 COLBURN STREET
NORTHBOROUGH,MA

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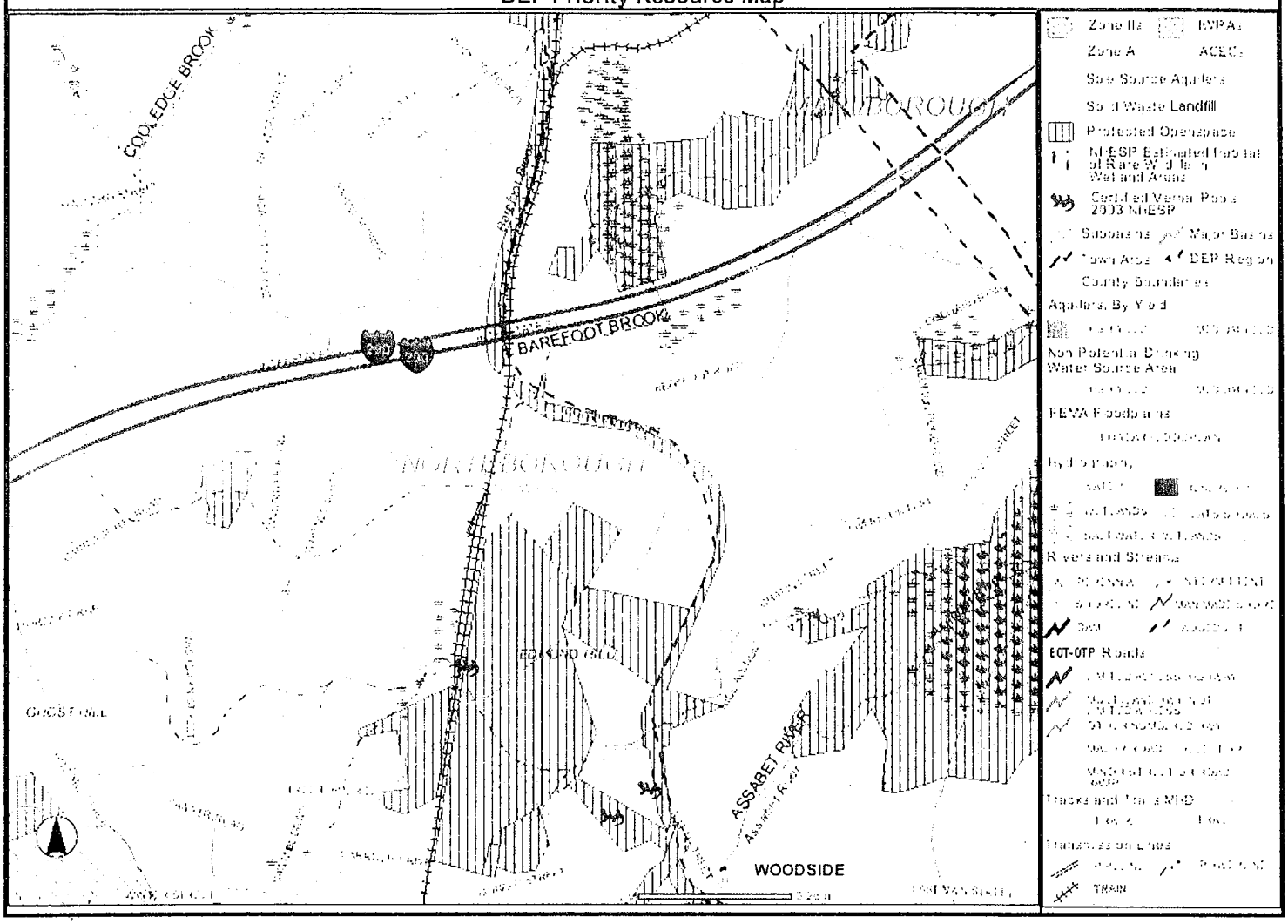
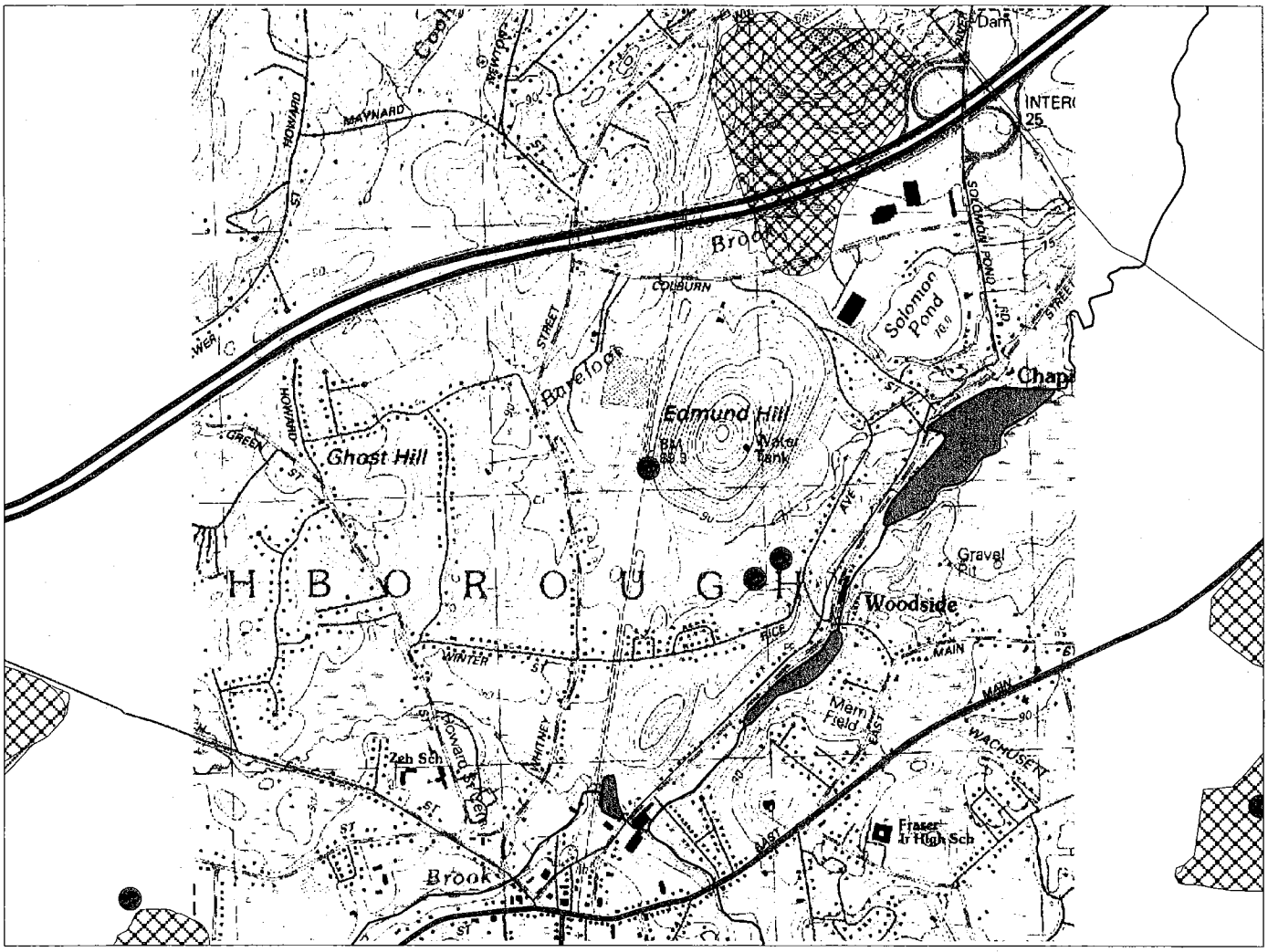
DEP Priority Resource Map





0.1 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 Miles

- NHESP Priority Habitats of Rare Species (2003)
- NHESP Estimated Habitats of Rare Wildlife (2003)
- NHESP Certified Vernal Pools (2003)

Maj MHD Rds by Class - most detailed

- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Hwy
- Major Road - Collector

Maj MHD Rds by Admin - most detailed

- Interstate
- U. S. Federal
- State
- Major Road - Connector
- Maj Streams
- Maj Ponds
- MA Town Boundaries

N
W E
S

Northbough Fish & Game

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**: Former Northborough Fish and Game Club		**Facility/site** address:	
Location of **facility/site**: longitude: 71°38'13.7" latitude: 42° 20' 18.8"	Facility SIC code (s): 900	Street: 119 Colburn Street	
b) Name of facility/site **owner**: Town of Northborough		Town: Northborough	
Email address of owner: jcoderre@town.northborough.ma.us		State: MA	Zip: 01532
Telephone no. of facility/site **owner**: (508) 393-5040			
Fax no. of facility/site **owner**: (508) 393-6996		**Owner** is (check one) 1. Federal ☐ 2. State/Tribal ☐ other, ☒ if so, describe: Corporation	
Address of **owner** (if different from site):			
Street: 63 Main Street			
Town: Northborough	State: MA	Zip: 01532	County: Worcester
c.) Legal name of **operator**: Corporate Environmental Advisors, Inc.	**Operator** telephone no.: 508-835-8822		
	Operator fax no.: 508-835-8812		**Operator** em mdziura@cea
Operator contact name and title: Michael J. Dziura, Senior Environmental Engineer			
Address of **operator** (if different from owner):	Street: 127 Hartwell Street		
Town: West Boylston	State: MA	Zip: 01583	County: Worcester

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:	f) Is the site/facility covered by any other EP A permit, including: 1. multi-sector storm water general permit? Yes ☐ No ☒, if Y, number: 2. phase I or II construction storm water general permit? Yes ☐ No ☒, if Y, number:
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. 1. site identification # assigned by the state of NH or MA: MA DEP 2. permit or license # assigned: Release Tracking Number 2-14760 3. state agency contact information: name, location, and telephone number: MA DEP Bureau of Waste Site Clean up, 627 Main Street, Worcester, Massachusetts	3. individual NPDES permit? Yes ☐ No ☒, if Y, number: 4. any other water quality related permit? Yes ☐ No ☒, if Y, number:

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

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

Site Remediation: Water will need to be diverted from the wetland area and Barefoot Brook during the excavation of soil and sediment removal and wetland replication at the above referenced site.

b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, W/s)? Max. flow 0.0222 ft3/sec Average flow 0.0222 ft3/sec Is maximum flow a **design value**? Yes ☒ No ☐, 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 500 feet: pt.1 :long.71 °38'13.7" lat. 42° 20'18.8" ; 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 ☒ Discharge is only during construction activities

c) Expected dates of discharge (mm/dd/yy): start Fall 2008 end Summer 2009

d) Please attach a line drawing or flow schematic showing water flow through the facility including: See attached figure 3.

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.

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 (ug/l)	Maximum daily value concentration (ug/l)	Maximum daily value mass (kg/day)	Avg. daily value concentration (ug/l)	Avg. daily value mass (kg/day)
1. Total Suspended Solids		√	1	GRAB	SM 2540D	5,000	335,000	18.26		
2. Total Residual Chlorine	√		1	GRAB	SM 18-20 4500	100	< 100	<0.005		
3. Total Petroleum Hydrocarbons	√		1	GRAB	1664	1,000	< 1,000	< 0.054		
4. Cyanide	√		1	GRAB	9012A	10	<10	<0.005		
5. Benzene	√		1	GRAB	5030	1	< 1	< 0.00005		
6. Toluene	√		1	GRAB	5030	1	< 1	< 0.00005		
7. Ethylbenzene	√		1	GRAB	5030	1	**< 1**	**< 0.00005**		
8. (m,p,o) Xylenes	√		1	GRAB	5030	1	< 3	< 0.0001		
9. Total BTEX[4]	√		1	GRAB	5030	-----	< 1	<0.00005		

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg/day)	concentration (ug/l)	mass (kg/day)
10. Ethylene Dibromide (1,2- Dibromo-methane)	√		1	GRAB	504.1	0.010	< 0.01	0.000005		
11. Methyl-tert-Butyl Ether (MtBE)	√		1	GRAB	5030	1	< 1	<0.00005		
12. tert-Butyl Alcohol (TBA)	√		1	GRAB	5030	10	<10	<0.0005		
13. tert-Amyl Methyl Ether (TAME)	√		1	GRAB	5030	1	< 1	<0.00005		
14. Naphthalene	√		1	GRAB	5030	1	< 1	<0.00005		
15. Carbon Tetra-chloride	√		1	GRAB	5030	1	< 1	<0.00005		
16. 1,4 Dichlorobenzene	√		1	GRAB	5030	1	< 1	<0.00005		
17.1,2 Dichlorobenzene	√		1	GRAB	5030	1	< 1	<0.00005		
18. 1,3 Dichlorobenzene	√		1	GRAB	5030	1	< 1	<0.00005		
19. 1,1 Dichloroethane	√		1	GRAB	5030	1	< 1	<0.00005		
20. 1,2 Dichloroethane	√		1	GRAB	5030	1	< 1	<0.00005		
21. 1,1 Dichloroethylene	√		1	GRAB	5030	1	< 1	<0.00005		
22. cis-l,2 Dichloro-ethylene	√		1	GRAB	5030	1	< 1	<0.00005		
23. Dichloromethane (Methylene Chloride)	√		1	GRAB	5030	5	< 5	<0.0002		
24. Tetrachloroethylene	√		1	GRAB	5030	1	< 1	<0.00005		

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg/day)	concentration (ug/l)	mass (kg/day)
25. 1,1,1 Trichloroethane	√		1	GRAB	5030	1	< 1	<0.00005		
26. 1,1,2 Trichloroethane	√		1	GRAB	5030	1	< 1	<0.00005		
27. Trichloroethylene	√		1	GRAB	5030	1	< 1	<0.00005		
28. Vinyl Chloride	√		1	GRAB	5030	1	< 1	<0.00005		
29. Acetone	√		1	GRAB	5030	10	< 10	<0.0005		
30. 1,4 Dioxane	√		1	GRAB	5030	20	< 20	<0.001		
31. Total Phenols	√		1	GRAB	625	5	< 5	<0.0005		
32. Pentachlorophenol	√		1	GRAB	625	5	<5	<0.0005		
33. Total Phthalates [6] (phthalate esthers)	√		1	GRAB	625	5	All phthalates are BDL see lab report	-		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	√		1	GRAB	625	5	<5	<0.0002		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	√		1	GRAB	625	35	< 35	<0.0019		
a. Benzo(a) Anthracene	√		1	GRAB	625	5	<5	<0.0002		
b. Benzo(a) Pyrene	√		1	GRAB	625	5	<5	<0.0002		
c. Benzo(b)Fluoranthene	√		1	GRAB	625	5	<5	<0.0002		
d. Benzo(k) Fluoranthene	√		1	GRAB	625	5	<5	<0.0002		
e. Chrysene	√		1	GRAB	625	5	<5	<0.0002		

[6]The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	#of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg/day)	concentration (ug/l)	mass (kg/day)
f. Dibenzo(a,h) anthracene	√		1	GRAB	625	5	<5	<0.0002		
g. Indeno(1,2,3-cd) Pyrene	√		1	GRAB	625	5	<5	<0.0002		
36. Total Group II Polycyclic Aromatic Hydrocarbons (pAR)	√		1	GRAB	625	45	< 45	<0.0024		
h. Acenaphthene	√		1	GRAB	625	5	<5	<0.0002		
i. Acenaphthylene	√		1	GRAB	625	5	<5	<0.0002		
j. Anthracene	√		1	GRAB	625	5	<5	<0.0002		
k. Benzo(ghi) Perylene	√		1	GRAB	625	5	< 5	<0.0002		
I. Fluoranthene	√		1	GRAB	625	5	< 5	<0.0002		
m. Fluorene	√		1	GRAB	625	5	<5	<0.0002		
n. Naphthalene-	√		1	GRAB	625	5	<5	<0.0002		
o. Phenanthrene	√		1	GRAB	625	5	<5	<0.0002		
p. Pyrene	√		1	GRAB	625	5	<5	<0.0002		
37. Total Polychlorinated Biphenyls (PCBs)	√		1	GRAB	608	0.585	<0.585	<0.00003		
38. Antimony	√		1	GRAB	200.7	6	< 6	<0.0003		
39. Arsenic		√	1	GRAB	200.7	4	17.6	0.0009		
40. Cadmium	√		1	GRAB	200.7	2.5	< 2.5	<0.0001		
41. Chromium III (1)	√		1	GRAB	calculated	calculated	< 50	-		
42. Chromium VI		√	1	GRAB	7196A	50	80	0.004		

NOTES: (1) Chromium III = Total Chromium – Hexavalent Chromium. According to lab personnel, the trivalent chromium is calculated to be less than the MDL for the hexavalent chromium (50 ug/l). However since the hexavalent chromium is detected at 80 ug/l, the trivalent chromium is believed to be absent.

PARAMETER	Believe Absent	Believe Present	#of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg/day)	concentration (ug/l)	mass (kg/day)
43. Copper		√	1	GRAB	200.7	5	83	0.0045		
44. Lead		√	1	GRAB	200.7	7.5	596	0.032		
45. Mercury	√		1	GRAB	7470A	0.20	<0.20	<0.00001		
46. Nickel		√	1	GRAB	200.7	5	49	0.0026		
47. Selenium	√		1	GRAB	200.7	15	< 15	<0.0008		
48. Silver	√		1	GRAB	200.7	5	< 5	<0.0002		
49. Zinc		√	1	GRAB	200.7	5	158	0.0086		
50. Iron		√	1	GRAB	200.7	15	35,800	1.95		
Other (describe):	----	----	----	----	----	----	----	----	----	----

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

Step 1: Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ☒ N ☐	If yes, which metals? Arsenic, Chromium VI, Copper, Lead, Nickel, Zinc, and Iron.
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: DF: 1.25.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV**. Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ☒ N ☐ If "Yes," list which metals: Arsenic, Chromium IV, Copper, Lead, Nickel, Zinc, and Iron.

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:
See Figure 3.

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

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

Average flow rate of discharge 10 GPM Maximum flow rate of treatment system 10 GPM Design flow rate of treatment system 10 GPM

d) A description of chemical additives being used or planned to be used (attach MSDS sheets): Not Applicable

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

a) Identify the discharge pathway:	Direct ☒	Within facility ☐	Storm drain ☐	River/brook ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Discharge directly to Barefoot Brook.

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 B .

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.00563 cfs

Please attach any calculation sheets used to support stream flow and dilution calculations. ___.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ☐ No ☒ If yes, for which pollutant(s)? NA

Is there a TMDL? Yes ☐ No ☒ If yes, for which pollutant(s)? NA

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

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☐ No ☒
Has any consultation with the federal services been completed? Yes ☐ No ☒ or is consultation underway? Yes ☐ No ☒

What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one): Not applicable

a "no jeopardy" opinion? ☐ or written concurrence☐ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?

Yes ☐ No ☒ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☐ No ☒

7. Supplemental information. :

Please provide any supplemental information. **Attach any analytical data used to support the application**. Attach any certification(s) required by the general permit.

See cover letter.

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: Former Northborough Fish and Game Facility.

Operator signature: Michael J. Dziura

Title: Michael J. Dziura, Sr. Environmental Engineer

Date: 9-9-08

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW 502 SA83402-01	5077-02	Ground Water	20-Aug-08 13:45	20-Aug-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0	1	SW 846 8260B	22-Aug-08	22-Aug-08	8081769	
67-64-1	Acetone	BRL		µg/l	10.0	1	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/l	0.5	1	"	"	"	"	
71-43-2	Benzene	BRL		µg/l	1.0	1	"	"	"	"	
108-86-1	Bromobenzene	BRL		µg/l	1.0	1	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/l	1.0	1	"	"	"	"	
75-27-4	Bromodichloromethane	BRL		µg/l	0.5	1	"	"	"	"	
75-25-2	Bromoform	BRL		µg/l	1.0	1	"	"	"	"	
74-83-9	Bromomethane	BRL		µg/l	2.0	1	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL		µg/l	10.0	1	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/l	5.0	1	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/l	1.0	1	"	"	"	"	
108-90-7	Chlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-00-3	Chloroethane	BRL		µg/l	2.0	1	"	"	"	"	
67-66-3	Chloroform	BRL		µg/l	1.0	1	"	"	"	"	
74-87-3	Chloromethane	BRL		µg/l	2.0	1	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/l	1.0	1	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0	1	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/l	0.5	1	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.5	1	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/l	1.0	1	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0	1	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL		µg/l	1.0	1	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL		µg/l	1.0	1	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL		µg/l	1.0	1	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL		µg/l	1.0	1	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/l	0.5	1	"	"	"	"	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/l	0.5	1	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL		µg/l	10.0	1	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0	1	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/l	5.0	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	
103-65-1	n-Propylbenzene	BRL		µg/l	1.0	1	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW 502 SA83402-01	5077-02	Ground Water	20-Aug-08 13:45	20-Aug-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
100-42-5	Styrene	BRL		µg/l	1.0	1	SW 846 8260B	22-Aug-08	22-Aug-08	8081769	
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0	1	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5	1	"	"	"	"	
127-18-4	Tetrachloroethene	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/l	1.0	1	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL		µg/l	1.0	1	"	"	"	"	
79-01-6	Trichloroethene	BRL		µg/l	1.0	1	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0	1	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL		µg/l	1.0	1	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
75-01-4	Vinyl chloride	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
109-99-9	Tetrahydrofuran	BRL		µg/l	10.0	1	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
123-91-1	1,4-Dioxane	BRL		µg/l	20.0	1	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0	1	"	"	"	"	
64-17-5	Ethanol	BRL		µg/l	400	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*91*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*117*		*70-130 %*			"	"	"	"	
Microextractable Organic Compounds											
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.0100	1	EPA 504.1	22-Aug-08	22-Aug-08	8081705	
Semivolatile Organic Compounds by GCMS											
Semivolatile Organic Compounds by EPA 625											
Prepared by method SW846 3510C											
83-32-9	Acenaphthene	BRL		µg/l	5.00	1	EPA 625	26-Aug-08	28-Aug-08	8081946	
208-96-8	Acenaphthylene	BRL		µg/l	5.00	1	"	"	"	"	
62-53-3	Aniline	BRL		µg/l	5.00	1	"	"	"	"	
120-12-7	Anthracene	BRL		µg/l	5.00	1	"	"	"	"	
103-33-3	Azobenzene/Diphenyldiazine	BRL		µg/l	5.00	1	"	"	"	"	
92-87-5	Benzidine	BRL		µg/l	5.00	1	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.00	1	"	"	"	"	
50-32-8	Benzo (a) pyrene	BRL		µg/l	5.00	1	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.00	1	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.00	1	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.00	1	"	"	"	"	
65-85-0	Benzoic acid	BRL		µg/l	5.00	1	"	"	"	"	
100-51-6	Benzyl alcohol	BRL		µg/l	5.00	1	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW 502 SA83402-01	5077-02	Ground Water	20-Aug-08 13:45	20-Aug-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Semivolatile Organic Compounds by GCMS											
Semivolatile Organic Compounds by EPA 625											
Prepared by method SW846 3510C											
87-86-5	Pentachlorophenol	BRL		µg/l	5.00	1	EPA 625	26-Aug-08	28-Aug-08	8081946	
85-01-8	Phenanthrene	BRL		µg/l	5.00	1	"	"	"	"	
108-95-2	Phenol	BRL		µg/l	5.00	1	"	"	"	"	
129-00-0	Pyrene	BRL		µg/l	5.00	1	"	"	"	"	
110-86-1	Pyridine	BRL		µg/l	5.00	1	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/l	5.00	1	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	BRL		µg/l	5.00	1	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	BRL		µg/l	5.00	1	"	"	"	"	
Surrogate recoveries:											
321-60-8	*2-Fluorobiphenyl*	*61*		*30-130 %*			"	"	"	"	
367-12-4	*2-Fluorophenol*	*37*		*15-110 %*			"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*64*		*30-130 %*			"	"	"	"	
4165-62-2	*Phenol-d5*	*30*		*15-110 %*			"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*51*		*30-130 %*			"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*86*		*15-110 %*			"	"	"	"	
Semivolatile Organic Compounds by GC											
Polychlorinated Biphenyls by EPA 608											
Prepared by method SW846 3510C											
12674-11-2	Aroclor-1016	BRL		µg/l	0.0650	1	EPA 608	21-Aug-08	25-Aug-08	8081616	X
11104-28-2	Aroclor-1221	BRL		µg/l	0.0650	1	"	"	"	"	X
11141-16-5	Aroclor-1232	BRL		µg/l	0.0650	1	"	"	"	"	X
53469-21-9	Aroclor-1242	BRL		µg/l	0.0650	1	"	"	"	"	X
12672-29-6	Aroclor-1248	BRL		µg/l	0.0650	1	"	"	"	"	X
11097-69-1	Aroclor-1254	BRL		µg/l	0.0650	1	"	"	"	"	X
11096-82-5	Aroclor-1260	BRL		µg/l	0.0650	1	"	"	"	"	X
37324-23-5	Aroclor-1262	BRL		µg/l	0.0650	1	"	"	"	"	X
11100-14-4	Aroclor-1268	BRL		µg/l	0.0650	1	"	"	"	"	X
Surrogate recoveries:											
2051-24-3	*Decachlorobiphenyl (Sr)*	*50*		*30-150 %*			"	"	"	"	X
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*56*		*30-150 %*			"	"	"	"	X
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Aug-08	27-Aug-08	8081833	
Total Metals by EPA 200 Series Methods											
7440-22-4	Silver	BRL		mg/l	0.0050	1	EPA 200.7	25-Aug-08	25-Aug-08	8081788	X
7440-38-2	Arsenic	0.0176		mg/l	0.0040	1	"	"	"	"	X
7440-43-9	Cadmium	BRL		mg/l	0.0025	1	"	"	"	"	X
7440-47-3	Chromium	0.0683		mg/l	0.0050	1	"	"	"	"	X
7440-50-8	Copper	0.0830		mg/l	0.0050	1	"	"	"	"	X
7439-89-6	Iron	35.8		mg/l	0.0150	1	"	"	"	"	X
7439-97-6	Mercury	BRL		mg/l	0.00020	1	EPA 245.1/7470A	27-Aug-08	27-Aug-08	8081790	X
7440-02-0	Nickel	0.0490		mg/l	0.0050	1	EPA 200.7	25-Aug-08	25-Aug-08	8081788	X
7439-92-1	Lead	0.596		mg/l	0.0075	1	"	"	"	"	X
7440-36-0	Antimony	BRL		mg/l	0.0060	1	"	"	"	"	X
7782-49-2	Selenium	BRL		mg/l	0.0150	1	"	"	"	"	
7440-66-6	Zinc	0.158		mg/l	0.0050	1	"	"	"	"	X
General Chemistry Parameters											
1854-029-9	Hexavalent Chromium	0.080		mg/l	0.050	10	SW846 7196A/SM3500CrD	20-Aug-08 17:30	21-Aug-08 12:36	8081667	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW 502 SA83402-01	5077-02	Ground Water	20-Aug-08 13:45	20-Aug-08

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
General Chemistry Parameters											
57-12-5	Cyanide (total)	BRL		mg/l	0.0100	1	10-204-00-1-A / SW846 9012A / EPA 335.4	22-Aug-08	22-Aug-08	8081801	X
7782-50-5	Total Residual Chlorine	BRL	CIHT, R01	mg/l	1.00	50	SM 18-20 4500 -Cl G (00)	20-Aug-08 18:33	20-Aug-08 19:22	8081575	X
	Total Suspended Solids	335		mg/l	5.00	1	SM2540D	21-Aug-08	21-Aug-08	8081701	X

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