CORPORATE ENVIRONMENTAL ADVISORS, INC.

Consultants | Engineers | Contractors

Sent via Priority U.S. Mail
Delivery Confirmation

September 25, 2009

US Environmental Protection Agency
Ms. Shelly Puleo
Industrial NPDES Permits (CIP)
One Congress Street
Boston, MA 02114-2023
NPDES.Generalpermits@epa.gov

RE: NOI Submittal
Seabrook Xtramart
779 Lafayette Road
Seabrook, NH 03874
NHDES Site No.: 198910013
CEA Project No.: 5744-05

Dear Ms. Puleo:

On behalf of Drake Petroleum Commpany, Inc. (Drake), Corporate Environmental Advisors, Inc. (CEA) is submitting this Notice of Intent (NOI) for the above-referenced site. The NOI is being submitted in accordance with the Provision for Contaminated Construction Dewatering under the Remediation General Permit (RGP). Construction-related dewatering is necessary at 779 Lafayette Road to facilitate underground storage tank upgrades. On-site treatment of the extracted groundwater will be performed as outlined in the attached NOI prior to the proposed discharge.

Please do not hesitate to call us at (603) 225-7400 if you have any questions, comments or concerns regarding the attached report.

Sincerely,
Corporate Environmental Advisors, Inc.

William H. Hopper
Sr. Environmental Scientist

Eric M. Johnson, CPG
Regional Manager

cc: Ms. Michele Alabiso, Drake Petroleum Company, Inc. via electronic submittal
Mr. Jeff Andrews, NHDES Water Division, Wastewater Engineering Bureau, PO Box 95, Concord, NH 03302-0095
Seabrook Town Manager, 99 Lafayette Road, Seabrook, NH 03874

ADDRESS 62-A Hall Street
Concord, NH, 03301
TEL 603.225.7400
FAX 603.225.7404
WEB www.cea-inc.com

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**: Seabrook Xtramart		**Facility/site** address:		
Location of **facility/site**: longitude: 70° 52.3' west latitude: 42° 53.9' north	Facility SIC code (s): 5500	Street: 779 Lafayette Road		
b) Name of facility/site **owner**: Drake Petroleum Company, Inc.		Town: Seabrook		
Email address of owner: malabiso@warreneq.com		State: NH	Zip: 03874-4215	County: Rockingham
Telephone no. of facility/site **owner**: (401) 781-9900				
Fax no. of facility/site **owner**: (401) 461-7160		**Owner** is (check one) 1. Federal ☐ 2. State/Tribal ☐ 3. Private ☒ 4. other, ☐ if so, describe:		
Address of **owner** (if different from site):				
Street: 221 Quinebaug Road				
Town: North Grosvenordale	State: CT	Zip: 06255	County:	
c.) Legal name of **operator**: Corporate Environmental Advisors, Inc.	**Operator** telephone no.: 603-225-7400			
	Operator fax no.: 603-225-7404	**Operator** email: ejohnson@cea-inc.com		
Operator contact name and title: Eric Johnson, Regional Manager				
Address of **operator** (if different from owner):	Street: 62A Hall Street			
Town: Concord	State: NH	Zip: 03301	County: Merrimack	

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 l22.2? 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: MassDEP 2. permit or license # assigned: 198910013 3. state agency contact information: name, location, and telephone number: NH Department of Environmental Services, 29 Hazen Drive, Concord, NH 03302. 603-271-3503	f) Is the site/facility covered by any other EPA 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: 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:

Dewatering during excavation of underground storage tanks to perform upgrades.

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 0.067 ft^3/sec Average flow 0.033 ft^3/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 100 feet: pt.1 :long. 70° 52.3' west lat. 42° 53.9'. north; 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 temporary in nature and is only related to excavation and upgrade activities.

c) Expected dates of discharge (mm/dd/yy): start 10/15/09 end 11/15/09

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.

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

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

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

PARAMETER	Believe Absent	Believe Present	#of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg/day)	concentration (ug/l)	mass (kg/day)
1. Total Suspended Solids		√	1	GRAB	SM21 2540D	4,000	147,000	24.0		
2. Total Residual Chlorine	√		1	GRAB	SM21 4500CL	50	<50			
3. Total Petroleum Hydrocarbons	√		1	GRAB	1664	410	< 410			
4. Cyanide	√		1	GRAB	335.4	10	<10			
5. Benzene		√	1	GRAB	8260	0.50	15.2	0.002		
6. Toluene	√		1	GRAB	8260	1.0	<1.0			
7. Ethylbenzene	√		1	GRAB	8260	1.0	<1.0			
8. (m,p,o) Xylenes	√		1	GRAB	8260	1.0	<1.0			
9. Total BTEX[4]		√	1	GRAB	8260	0.50	15.2	0.002		

[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	8011	0.015	<0.015			
11. Methyl-tert-Butyl Ether (MtBE)		√	1	GRAB	8260	1.0	27.2	0.004		
12. tert-Butyl Alcohol (TBA)		√	1	GRAB	8260	20	673	0.110		
13. tert-Amyl Methyl Ether (TAME)	√ √		1	GRAB	8260	2.0	<2.0			
14. Naphthalene	√		1	GRAB	8260	5.0	<5.0			
15. Carbon Tetra-chloride	√		1	GRAB	8260	1.0	<1.0			
16. 1,4 Dichlorobenzene	√		1	GRAB	8260	1.0	<1.0			
17.1,2 Dichlorobenzene	√		1	GRAB	8260	1.0	<1.0			
18. 1,3 Dichlorobenzene	√		1	GRAB	8260	1.0	<1.0			
19. 1,1 Dichloroethane	√		1	GRAB	8260	1.0	<1.0			
20. 1,2 Dichloroethane	√		1	GRAB	8260	1.0	<1.0			
21. 1,1 Dichloroethylene	√		1	GRAB	8260	1.0	<1.0			
22. cis-l,2 Dichloro-ethylene	√		1	GRAB	8260	1.0	<1.0			
23. Dichloromethane (Methylene Chloride)	√		1	GRAB	8260	2.0	<2.0			
24. Tetrachloroethylene	√		1	GRAB	8260	1.0	<1.0			

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (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	8260	1.0	<1.0			
26. 1,1,2 Trichloroethane	√		1	GRAB	8260	1.0	<1.0			
27. Trichloroethylene	√		1	GRAB	8260	1.0	<1.0			
28. Vinyl Chloride	√		1	GRAB	8260	1.0	<1.0			
29. Acetone	√		1	GRAB	8260	5.0	<5.0			
30. 1,4 Dioxane	√		1	GRAB	8260	25	<25			
31. Total Phenols	√		1	GRAB	420.1	50	<50			
32. Pentachlorophenol	√		1	GRAB	420.1		Total phenols were <50 see lab report			
33. Total Phthalates [6] (phthalate esthers)			NA	NA	NA	NA	NA			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]			NA	NA	NA	NA	NA			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	√		1	GRAB	8270		All Group I PAHs are BDL			
a. Benzo(a) Anthracene	√		1	GRAB	8270	5.6	<5.6			
b. Benzo(a) Pyrene	√		1	GRAB	8270	5.6	<5.6			
c. Benzo(b)Fluoranthene	√		1	GRAB	8270	5.6	<5.6			
d. Benzo(k) Fluoranthene	√		1	GRAB	8270	5.6	<5.6			
e. Chrysene	√		1	GRAB	8270	5.6	<5.6			

[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	8270	5.6	<5.6			
g. Indeno(1,2,3-cd) Pyrene	√		1	GRAB	8270	5.6	<5.6			
36. Total Group II Polycyclic Aromatic Hydrocarbons (pAR)		√	1	GRAB	8270	5.6	8.1	0.001		
h. Acenaphthene	√		1	GRAB	8270	5.6	<5.6			
i. Acenaphthylene	√		1	GRAB	8270	5.6	<5.6			
j. Anthracene	√		1	GRAB	8270	5.6	<5.6			
k. Benzo(ghi) Perylene	√		1	GRAB	8270	5.6	<5.6			
I. Fluoranthene	√		1	GRAB	8270	5.6	<5.6			
m. Fluorene	√		1	GRAB	8270	5.6	<5.6			
n. Naphthalene-		√	1	GRAB	8270	5.6	8.1	0.001		
o. Phenanthrene	√		1	GRAB	8270	5.6	<5.6			
p. Pyrene	√		1	GRAB	8270	5.6	<5.6			
37. Total Polychlorinated Biphenyls (PCBs)	√		1	GRAB	SW8082	0.28	<0.28			
38. Antimony	√		1	GRAB	SW846 3010A=	6	<6			
39. Arsenic		√	1	GRAB	SW846 3010A	10	43.9	0.007		
40. Cadmium	√		1	GRAB	SW846 3010A	4	43.5			
41. Chromium III (1)		√	1	GRAB	SW846 3010A	calculated	19.9	0.003		
42. Chromium VI		√	1	GRAB	SW846 3010A	10	29.9	0.004		

NOTES: (1) Chromium III = Total Chromium – Hexavalent Chromium. Hexavalent Chromium was less than 10 ug/l.

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	SW846 3010A	25.0	25.0	0.004		
44. Lead		√	1	GRAB	SW846 3010A	5.0	22.5	0.003		
45. Mercury	√		1	GRAB	7470A	0.20	<0.20			
46. Nickel		√	1	GRAB	SW846 3010A	40	<40			
47. Selenium	√		1	GRAB	SW846 3010A	10	<10			
48. Silver	√		1	GRAB	SW846 3010A	5.0	<5.0			
49. Zinc		√	1	GRAB	SW846 3010A	20	53.4	0.008		
50. Iron		√	NA	NA	NA	NA	NA			
Other (describe):										

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, copper, lead, cadmium, chromium, & zinc.
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? 1.16.	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)? yes Y ☒ N ☐ If "Yes," list which metals: Arsenic, cadmium, copper and lead

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. 21,000-gallon frac tank, two sediment bag filters in parallel, two 1,000-lb liquid-phase activated carbon vessels in series, and flow meter. An option for metals removal media will be executed if necessary based on process samples.

b) Identify each applicable treatment unit (check all that apply): c. For discharges where **metals** are believed present, please fill out the following:						
	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☒
	Chlorination ☐	Dechlorination ☐	Other (please describe): Optional media filter to remove metals.			

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 15 GPM Maximum flow rate of treatment system 30 GPM Design flow rate of treatment system 30 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 to catch basin and stormwater drainage system in along Lafayette Road which discharges to a drainage swale along edge of 779 Lafayette Road. The swale feeds into Browns River. (See Figures 1-3)

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

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

e) Provide the reported or calculated seven day-ten year low flow (7QlO) of the receiving water 0.019 cfs

Please attach any calculation sheets used to support stream flow and dilution calculations. See Attachment D

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ☒ No ☐ If yes, for which pollutant(s)? PCBs, dioxin, fecal coliform, mercury.

Is there a TMDL? Yes ☒ No ☐ If yes, for which pollutant(s)? PCBs, dioxin, mercury.

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

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

What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):

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

See Attachment B

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.

Attachment A - Figures

Figure 1 – Site Locus Map

Figure 2 – Site Plan

Figure 3 – Treatment System Process & Instrumentation Diagram

Attachment B – Correspondence with National Marine Fisheries Service

Attachment C – Laboratory Analytical Reports

Note: The concentration of arsenic, cadmium, chromium, copper, lead and zinc are believed to be naturally occurring minerals present in the existing geologic formation. The contaminants of concern at this site include gasoline, not metals. Though discharge of these metals is not desirable, the fact that they are present in groundwater near a zone of discharge is indicative that they are present in the local streams already. If metals are detected in effluent samples a concentrations exceeding the maximum daily value, a media filter designed to remove metals will be added to the treatment system.

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.

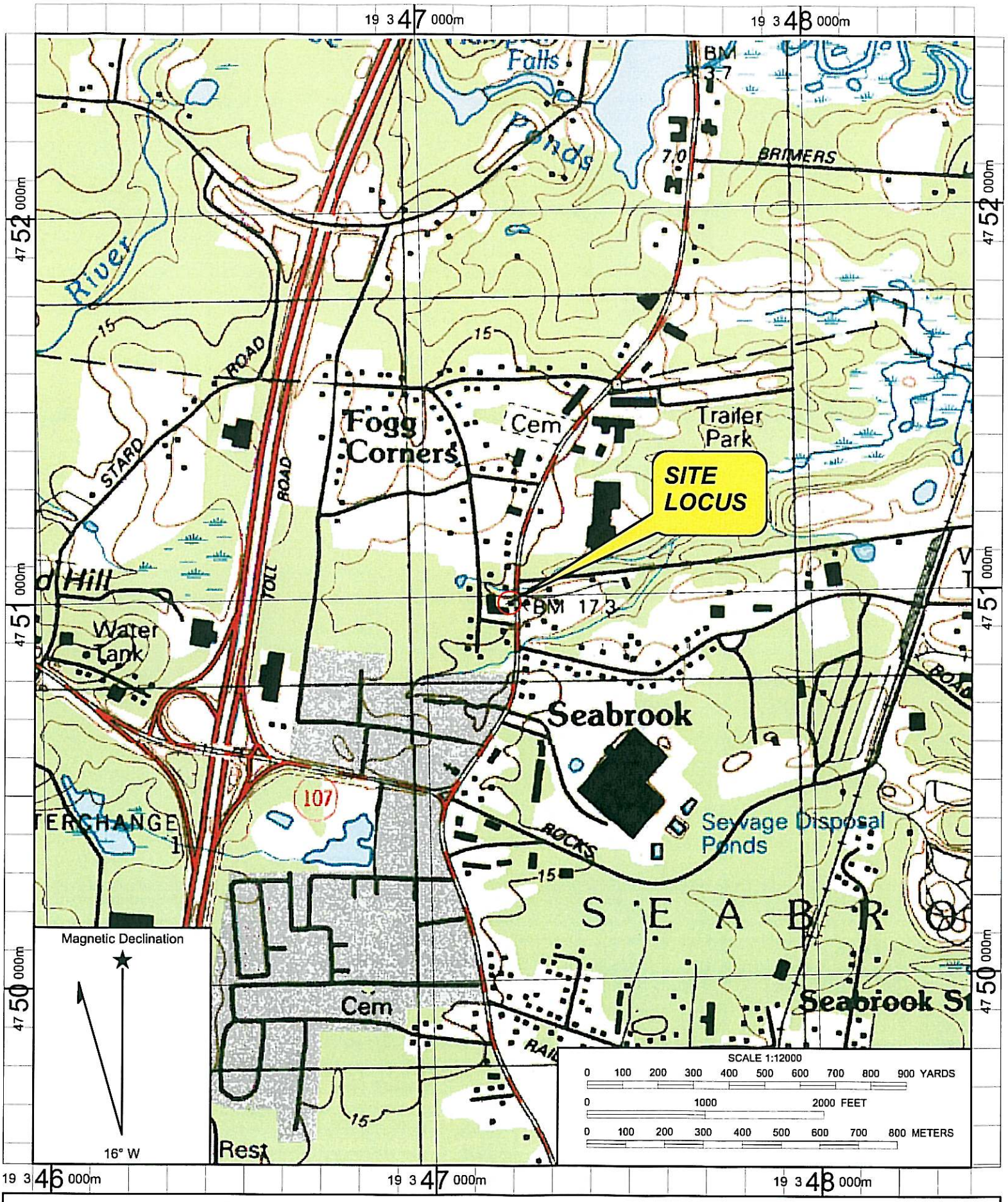
Facility/Site Name: Seabrook Xtramart, 779 Lafayette Road, Seabrook, New Hampshire

Operator signature: Eric M Johnson

Title: Eric Johnson, Regional Manager

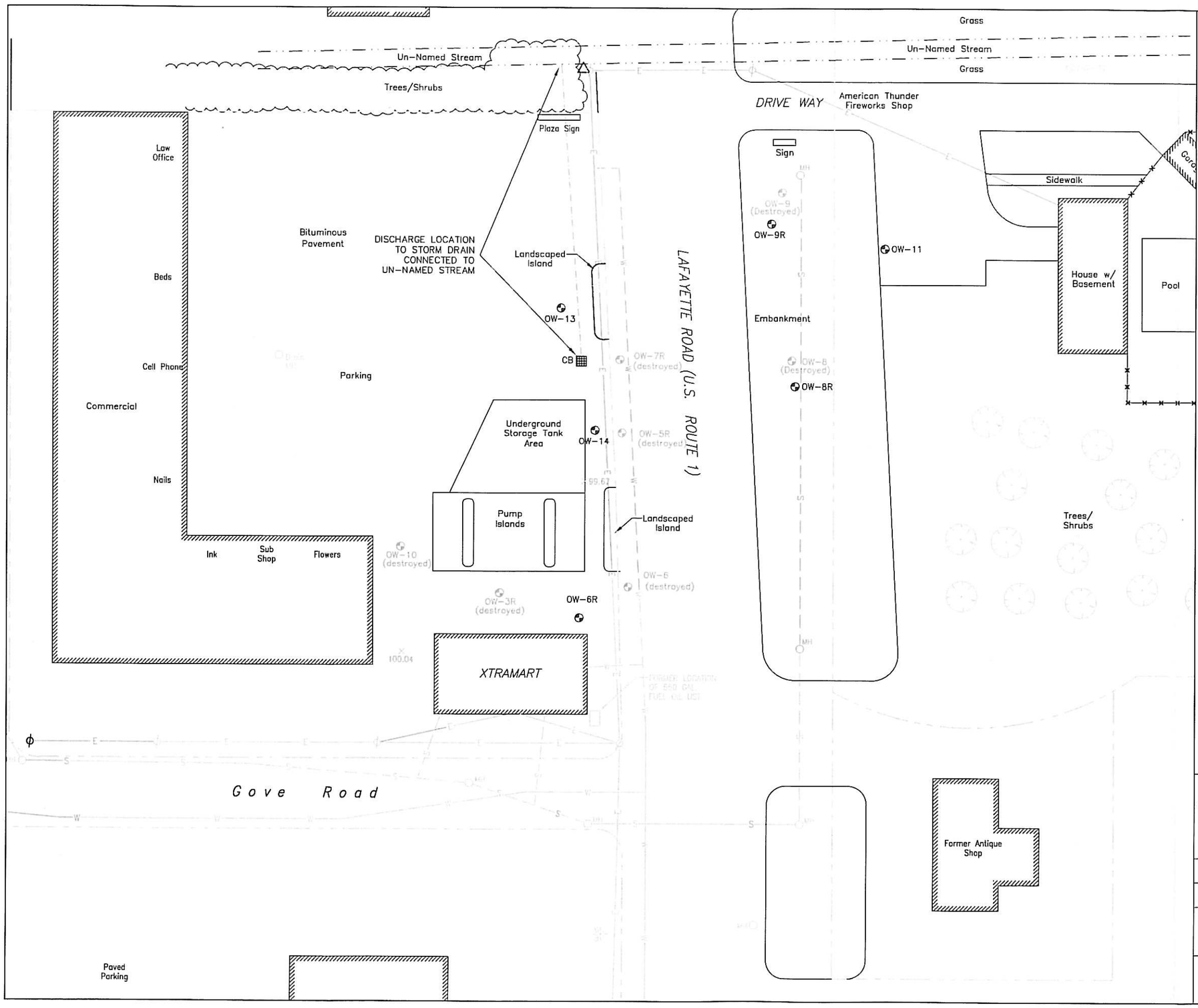
Date: 9/25/09

Attachment A
Figures



Name: EXETER
Date: 3/21/2008
Scale: 1 inch equals 1000 feet

Location: 19 0347200 E 4750987 N NAD 27
Caption: FIGURE 1 SITE LOCUS MAP
779 LAFAYETTE ROAD
SEABROOK, N.H.



LEGEND

- Property Boundary
- Hydrant
- Chain Link Fence
- OW-11 Monitoring Well
- # Drainage Catch Basin
- Chain Link Fence
- Stockade Fence
- Utility Pole
- E Overhead Electric Line
- T Overhead Telephone Line
- W Underground Water Line
- Vent Pipes
- SMH Sewer Manhole

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER ELEVATIONS ARE FROM APRIL 20, 2009 GAUGING EVENT.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 feet

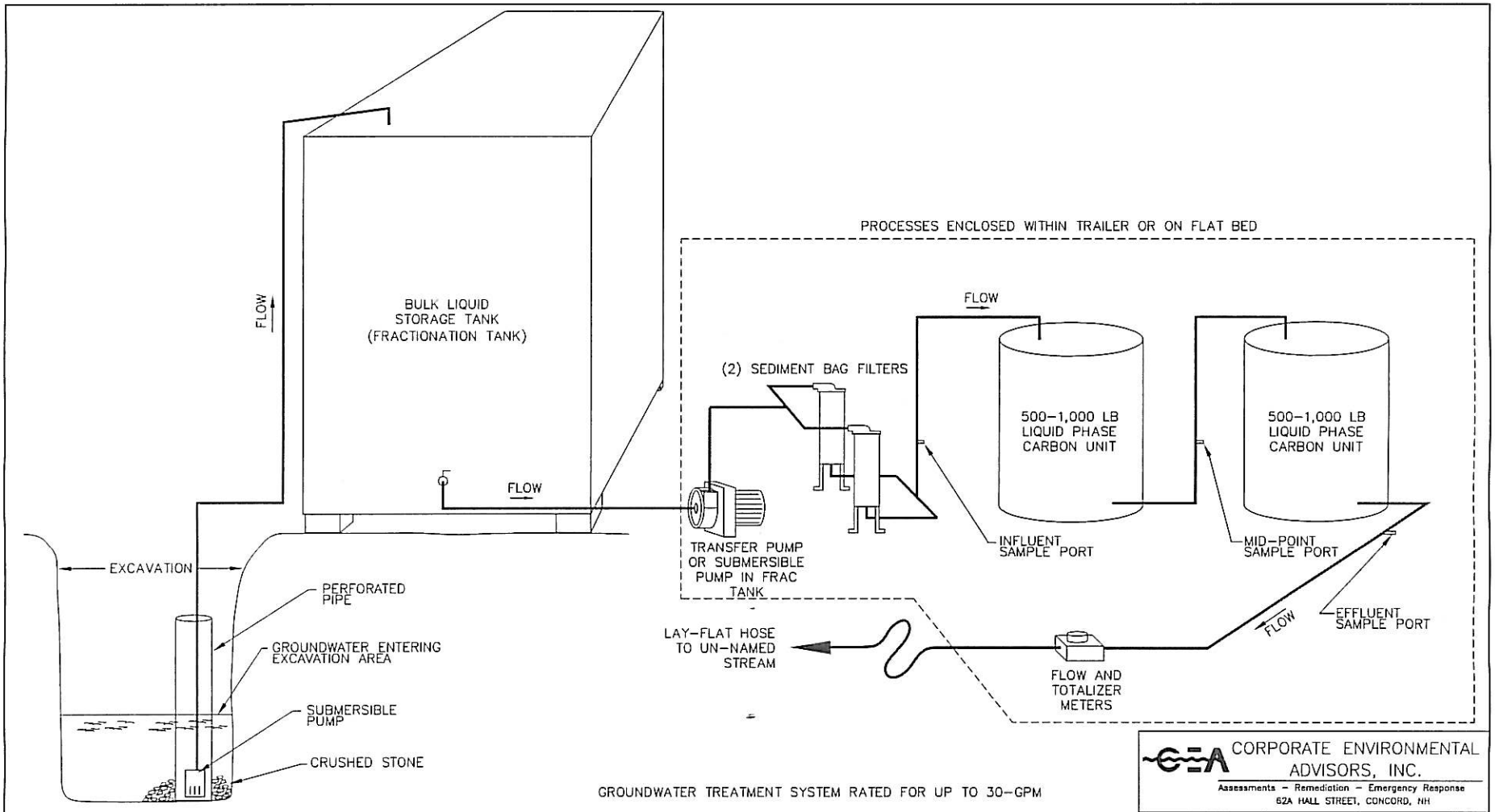
CORPORATE ENVIRONMENTAL ADVISORS, INC.
Assessments – Remediation – Emergency Response
62B HALL STREET, CONCORD, NH

SCALE: 1" = 40'		DR. BY: W. HOPPER
DATE: 11/17/08	APP. BY: EMJ	JOB NO.: 5744-05

SITE LAYOUT

Seabrook Xtramart
779 Lafayette Road
Seabrook, New Hampshire

FIGURE 2



GROUNDWATER TREATMENT SYSTEM RATED FOR UP TO 30–GPM

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Assessments – Remediation – Emergency Response
62A HALL STREET, CONCORD, NH

SCALE: NOT TO SCALE		DR. BY: W. HOPPER
DATE: 9/16/09	APP. BY: EMJ	JOB NO.: 5744–05

TREATMENT SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM

Drake Petroleum Company, Inc.
779 Lafayette Road
Seabrook, New Hampshire

FIGURE 3

Attachment B
Correspondence with National Marine Fisheries Servie

William Hopper

From: Julie Crocker [Julie.Crocker@Noaa.Gov]
Sent: Thursday, September 17, 2009 10:49 AM
To: William Hopper
Subject: Re: Determination of potential discharge to Browns River, Seabrook, NH
Attachments: Julie_Crocker.vcf

Mr. Hopper ,

There are no NMFS listed threatened or endangered species or designated critical habitat in the Browns River; therefore, you do not need to complete any further coordination with NMFS on these issues and we offer no objection to your coverage under EPA's RGP.

Julie Crocker

William Hopper wrote:
Dear Julie,

Corporate Environmental Advisors (CEA) is looking to determine whether or not we can discharge treated groundwater to a drainage swale which feeds into the Browns River in Seabrook, New Hampshire. This would be done under a US EPA Remediation General Permit (RGP). Attached is a site locus showing the location of our site and Browns River (east/northeast of the site) and a figure of the site at 779 Lafayette Road showing where the treated groundwater will be discharged to a drainage swale which feeds into Browns River.

This is a New Hampshire Department of Environmental Services listed site, (#198910013). There is shallow groundwater at the site and we need to dewater the excavation as part of underground storage tank upgrades. The groundwater will be pumped into a 20,000-gallon frac tank where sediment will settle out. Then the water will be treated by pumping it through activated carbon and particulate filters. See Figure 5.

We probably will pump at 20 gpm. It is difficult to determine how much water will be generated depending on how large of an excavation we dig and how tight the soil is. But probably not more than a couple of frac tanks (40,000 gallons). That would take about 3 days to discharge.

Could you provide a determination if the proposed discharge would result in no jeopardy to any endangered species or critical habitat.

Let me know if you need any additional information. Thanks.
Bill

William Hopper
CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ph: (603) 225-7400
Fax: (603) 225-7404
Mobile: (603) 755-1149
Email: Whopper@cea-inc.com
Web: cea-inc.com
62A Hall Street
Concord, NH 03301
Offices in MA, NH, CT, & RI

Attachment C
Laboratory Analytical Reports

New England ACCUTEST.

05/06/09

Technical Report for

Drake Petroleum Co., Inc.

CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH

PC# 007142

Accutest Job Number: M82259

Sampling Date: 04/20/09

Report to:

Corporate Environmental Advisors

KDuprey@cea-inc.com

ATTN: Kimberly Duprey

Total number of pages in report: **30**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Pand
Lab Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136) CT (PH-0109) NH (2502) RI (00071) ME (MA0136) FL (E87579) NY (11791) NJ (MA926) PA (68-01121) NC (653) IL (200018) NAVY USACE

Test results relate only to samples analyzed.

Note: This report is password protected to disallow document modification or assembly.
A password to unlock this report is available from your client service representative.

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Sections: 1 2 3

-1-

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-14		
Lab Sample ID:	M82259-5	**Date Sampled:**	04/20/09
Matrix:	AQ - Ground Water	**Date Received:**	04/23/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E36484.D	1	04/30/09	SC	n/a	n/a	MSE1641
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA NH Full List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	15.2	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-14		
Lab Sample ID:	M82259-5	**Date Sampled:**	04/20/09
Matrix:	AQ - Ground Water	**Date Received:**	04/23/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

VOA NH Full List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
542-75-6	1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	
60-29-7	Ethyl Ether	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	27.2	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
75-65-0	Tert Butyl Alcohol	673	20	ug/l	
637-92-3	tert-Butyl Ethyl Ether	2.8	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-14		
Lab Sample ID:	M82259-5	**Date Sampled:**	04/20/09
Matrix:	AQ - Ground Water	**Date Received:**	04/23/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

VOA NH Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		78-129%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-14		
Lab Sample ID:	M82259-5	**Date Sampled:**	04/20/09
Matrix:	AQ - Ground Water	**Date Received:**	04/23/09
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ52516.D	1	05/01/09	CZ	04/30/09	OP18392	GYZ2234
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.015	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	127%		36-173%
460-00-4	Bromofluorobenzene (S)	127%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

09/23/09

Technical Report for

Drake Petroleum Co., Inc.

CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH

PC# 007142

Accutest Job Number: M85928

Sampling Date: 09/17/09

Report to:

Corporate Environmental Advisors

whopper@cea-inc.com

ATTN: William Hopper

Total number of pages in report: **10**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136) CT (PH-0109) NH (2502) RI (00071) ME (MA0136) FL (E87579) NY (11791) NJ (MA926) NC (653) IL (200018) NAVY USACE

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Sections: 1 2 3

Sample Summary

Drake Petroleum Co., Inc.

Job No: M85928

CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH
Project No: PC# 007142

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
M85928-1	09/17/09	16:15	BH	09/18/09	AQ	Ground Water	MW-14

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	M85928-1	Date Sampled:	09/17/09
Matrix:	AQ - Ground Water	Date Received:	09/18/09
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	S10582.D	1	09/23/09	PN	09/21/09	OP19533	MSS379
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.6	ug/l	
208-96-8	Acenaphthylene	ND	5.6	ug/l	
120-12-7	Anthracene	ND	5.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.6	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.6	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.6	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.6	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.6	ug/l	
218-01-9	Chrysene	ND	5.6	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.6	ug/l	
206-44-0	Fluoranthene	ND	5.6	ug/l	
86-73-7	Fluorene	ND	5.6	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.6	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.6	ug/l	
91-20-3	Naphthalene	8.1	5.6	ug/l	
85-01-8	Phenanthrene	ND	5.6	ug/l	
129-00-0	Pyrene	ND	5.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	56%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	M85928-1	Date Sampled:	09/17/09
Matrix:	AQ - Ground Water	Date Received:	09/18/09
Method:	SW846 8082 SW846 3510C	Percent Solids:	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB27489.D	1	09/22/09	CZ	09/22/09	OP19538	GBB1132
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	5.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.28	ug/l	
11104-28-2	Aroclor 1221	ND	0.28	ug/l	
11141-16-5	Aroclor 1232	ND	0.28	ug/l	
53469-21-9	Aroclor 1242	ND	0.28	ug/l	
12672-29-6	Aroclor 1248	ND	0.28	ug/l	
11097-69-1	Aroclor 1254	ND	0.28	ug/l	
11096-82-5	Aroclor 1260	ND	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		30-150%
877-09-8	Tetrachloro-m-xylene	86%		30-150%
2051-24-3	Decachlorobiphenyl	69%		30-150%
2051-24-3	Decachlorobiphenyl	65%		30-150%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	M85928-1	Date Sampled:	09/17/09
Matrix:	AQ - Ground Water	Date Received:	09/18/09
		Percent Solids:	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Arsenic	43.9	10	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Cadmium	43.5	4.0	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Chromium	29.9	10	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Copper	25.0	25	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Lead	22.5	5.0	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	09/22/09	09/22/09	MA	SW846 7470A [1]	SW846 7470A [4]
Nickel	< 40	40	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Silver	< 5.0	5.0	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Thallium	< 10	10	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]
Zinc	53.4	20	ug/l	1	09/18/09	09/21/09	EAL	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA10975
(2) Instrument QC Batch: MA10986
(3) Prep QC Batch: MP14124
(4) Prep QC Batch: MP14132

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	M85928-1	Date Sampled:	09/17/09
Matrix:	AQ - Ground Water	Date Received:	09/18/09
		Percent Solids:	n/a
Project:	CEA:Seabrook Xtramart RT-779 Lafayette Road, Seabrook NH		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	<0.010	0.010	mg/l	1	09/18/09 15:40	CF	SW846 7196A
Cyanide	<0.010	0.010	mg/l	1	09/21/09 11:29	MA	EPA 335.4
HEM Petroleum Hydrocarbons	<4.1	4.1	mg/l	1	09/22/09	BF	EPA 1664
Phenols	<0.050	0.050	mg/l	1	09/21/09	BF	EPA 420.1
Solids, Total Suspended	147	4.0	mg/l	1	09/22/09	BF	SM21 2540D
Total Residual Chlorine	<0.050	0.050	mg/l	1	09/18/09 16:00	CF	SM21 4500CL F

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (NH)
- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

495 TECHNOLOGY CENTER WEST • BUILDING ONE
MARLBOROUGH, MA 01752
TEL: 508-481-6200 • FAX: 508-481-7753

ACCUTEST JOB #: M85928
ACCUTEST QUOTE #:

CLIENT INFORMATION
NAME: CEA
ADDRESS: 62A Hall ST
CITY, STATE, ZIP: Concord, NH 03301
SEND REPORT TO: khoppa@cea-inc.com
PHONE #:

FACILITY INFORMATION
PROJECT NAME: Seabrook Xtramart
LOCATION: 779 Lafayette Rd
Seabrook, NH
PROJECT NO.:
FAX #:

ANALYTICAL INFORMATION
TSS, TRC, Flex Cl2 | TPH | Cyanide | Tot. Phenols | PAH 8270 | PCB | RP 13 Metals

MATRIX CODES
DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

LAB USE ONLY

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE
1	MW-14	9/17/09	16:15	BH	GW	10	✓	✓		✓	

DATA TURNAROUND INFORMATION
- ☐ 14 DAYS STANDARD
- ☐ 7 DAYS *RUSH*
- ☐ 48 HOUR EMERGENCY
- ☒ OTHER 3 DAY

APPROVED BY: Frank 9/17/09 3:30pm
PUSH!
14 DAY TURNAROUND HARDCOPY/EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION
- ☑ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☐ OTHER (SPECIFY)

COMMENTS/REMARKS
CC
17°C, 5°C, 11B 4B
Metals Bottle prep at LAB
2mL HNO3 (Sm 229) 9/18/09 mr

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1.	9/17/09 1625	1.	2.	9/18/09 1515	2.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
3.		3.	4.		4.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☑ TEMPERATURE 2.0 °C
5.		5.			

M85928: Chain of Custody
Page 1 of 1

Attachment D
Calculations

Proposed Seabrook, NH RGP September 24, 2009

7Q10 Calculations

$7Q10^{1} = 10^{x}$ where $x = 1.25\log_{10}A + 0.0004Y + 1.49D - 2.22$

and:
7Q10 = Annual 7Q10 low flow, in cubic feet per second (cfs)
A = Drainage area, in square miles (mi^2) just upstream of the outfall
Y = Mean basin elevation, in feet (ft) just upstream of the outfall
D = Ratio of stratified drift area[2] to total drainage area, in decimal percent (%)

Mean Basin Elevation (Y) = 59.8985 feet
Drainage Area (A) = 0.155171 sq. mi.
Ratio of stratified drift area = 1

Dingman 7Q10 = **0.0191634 cfs**

---

[1] Regression equation number 12 found in *Estimating Low-Flow Quantiles from Drainage-Basin Characteristics in New Hampshire and Vermont, Journal of the American Water Resources Association, Vol. 32, No. 2, April 1995* by S. Lawrence Dingman & Stephen C. Lawlor is used to estimate the annual 7Q10 low flow of streams in New Hampshire. (Equation 12 in the original journal article was corrected by S. Lawrence Dingman in a letter dated June 19, 2000, to Dr. Christopher Lant, Editor, Journal of the American Water Resources Association. The correction changed the minus to a plus sign in the equation just prior to the stratified drift (D) term.

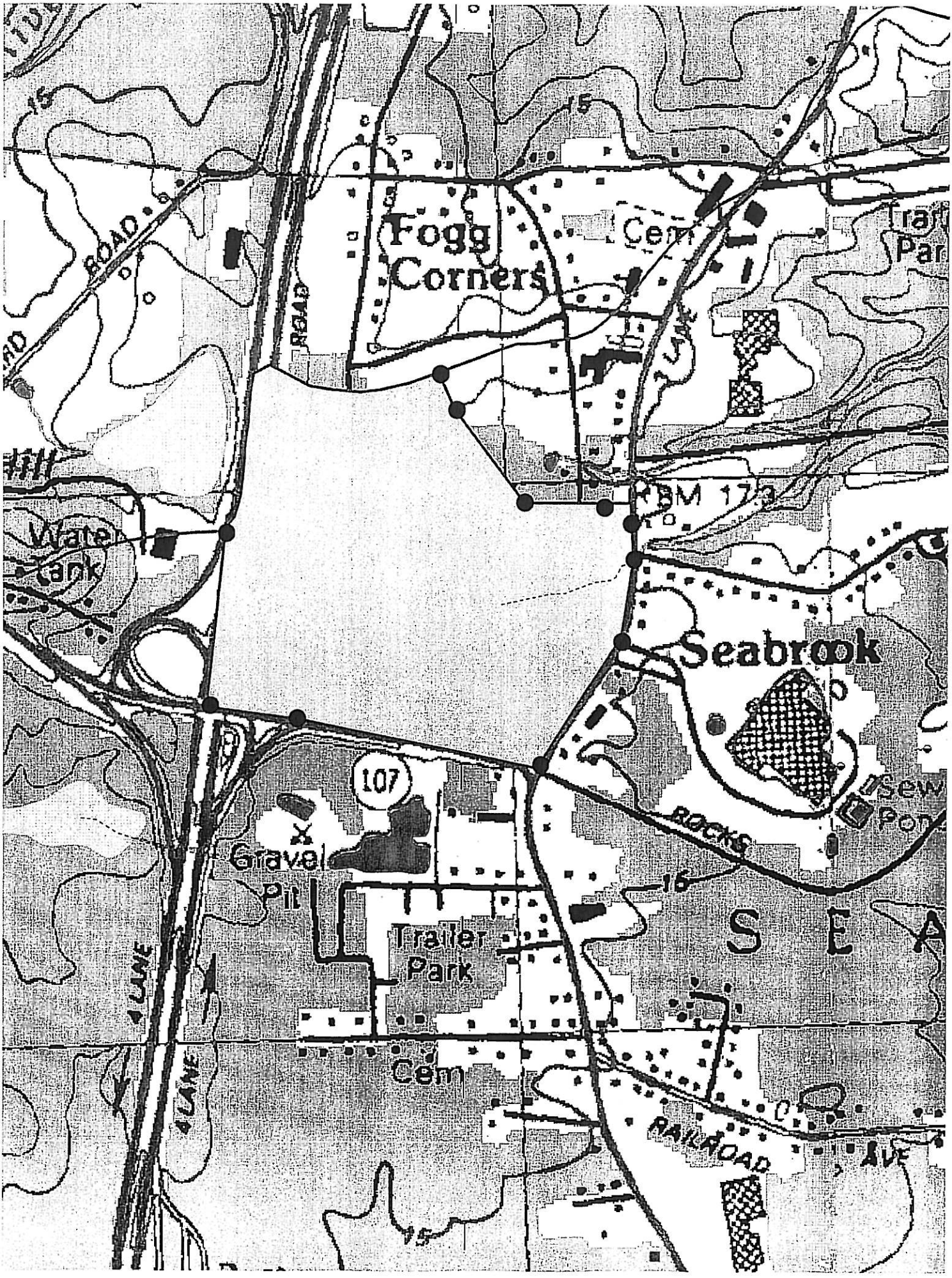
[2] Stratified drift areas taken from Ground-Water Availability Maps published at a scale of 1:125,000 by U.S. Geological Survey in 1975, 1976 and 1977 for New Hampshire.

Dilution Factor Calculation (From NOI page 6 - Step 2: Calculation of Dilution Factor)

DF = [(Qd + Qs)/Qd] X 0.9

Where: DF	= Dilution Factor
Qd	= Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)
Qs	= Receiving water 7Q10 flow, in cfs, where,
7Q10	= The annual minimum flow for 7 consecutive days with a recurrence Interval of 10 years
0.9	= Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Ws 1700, Surface Water Quality Regulations

Qd	= 30 gpm, or 0.0668 cfs
7Q10	= 0.0191634 cfs
DF	= [0.0668 cfs +0.0191634 cfs/0.0668 cfs] x 0.9 = **1.16**


Fogg
Corners
Cem
ROAD
ROAD
BM 17.3
Water
Tank
Seabrook
107
Gravel
Pit
Trailer
Park
Cem
ROCKS
RAILROAD
LANE
LANE
AVE
S E A