MAG910323

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:**		**Facility/site** address: 282 Nash Road		
Location of **facility/site:** longitude: 41°39'58" latitude: 70°55'59"	Facility SIC code(s): 7500	Street: 282 Nash Road		
b) Name of **facility/site owner:** Nash Road Realty Corporation		Town: New Bedford		
Email address of owner: NA		State: MA	Zip: 02746	County: USA
Telephone no. of facility/site **owner:** (508) 993-5738				
Fax no. of facility/site **owner:** NA		**Owner** is (check one): 1. Federal____ 2. State/Tribal____ 3. Private X 4. other, if so, describe:		
Address of **owner** (if different from site): Site				
Street:				
Town:	State:	Zip:	County:	
c) Legal name of **operator:** Scott E. Weigel	**Operator** telephone no: (508) 993-5738			
	Operator fax no.. NA	**Operator** email: NA		
Operator contact name and title: Scott E. Weigel				
Address of **operator** (if different from owner): Same	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 X, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No X, if "yes," date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes X No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes X No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes X No___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: 4-0817 2. permit or license # assigned: Tier # 3. state agency contact information: name, location, and telephone number: Gerard Martin, Southeast Regional Office	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N X, if Y, number: 2. phase I or II construction storm water general permit? Y___ N X, if Y, number: 3. individual NPDES permit? Y___ N X, if Y, number: 4. any other water quality related permit? Y___ NX, 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:		
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, ft3/s)? Max. flow 20gpm Average flow 10gpm Is maximum flow a **design value**? Y X 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._____ lat._____; 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):		5) Is the discharge intermittent_____or seasonal_____? Is discharge ongoing Yes___ No_____?__
c) Expected dates of discharge (mm/dd/yy): start_____ end_____		
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).		

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

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

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

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids		X	1	GRAB	2540D					
2. Total Residual Chlorine	X		1	GRAB	4500CE					
3. Total Petroleum Hydrocarbons		X	1	GRAB	1664A					
4. Cyanide	X		1	GRAB	4500CN					
5. Benzene		X	1	GRAB	8260B					
6. Toluene		X	1	GRAB	8260B					
7. Ethylbenzene		X	1	GRAB	8260B					
8. (m,p,o) Xylenes		X	1	GRAB	8260B					
9. Total BTEX[4]		X	1	GRAB	8260B					

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide [5] (1,2- Dibromo-methane)		X	1	GRAB	E504					
11. Methyl-tert-Butyl Ether (MtBE)	X		1	GRAB	8260B					
12. tert-Butyl Alcohol (TBA)	X		1	GRAB	8260B					
13. tert-Amyl Methyl Ether (TAME)	X		1	GRAB	8260B					
14. Naphthalene		X	1	GRAB	8260B					
15. Carbon Tetra-chloride	X		1	GRAB	8260B					
16. 1,4 Dichlorobenzene	X		1	GRAB	8260B					
17. 1,2 Dichlorobenzene	X		1	GRAB	8260B					
18. 1,3 Dichlorobenzene	X		1	GRAB	8260B					
19. 1,1 Dichloroethane	X		1	GRAB	8260B					
20. 1,2 Dichloroethane	X		1	GRAB	8260B					
21. 1,1 Dichloroethylene	X		1	GRAB	8260B					
22. cis-1,2 Dichloro-ethylene	X		1	GRAB	8260B					
23. Dichloromethane (Methylene Chloride)	X		1	GRAB	8260B					
24. Tetrachloroethylene	X		1	GRAB	8260B					

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	X		1	GRAB	8260B					
26. 1,1,2 Trichloroethane	X		1	GRAB	8260B					
27. Trichloroethylene	X		1	GRAB	8260B					
28. Vinyl Chloride	X		1	GRAB	8260B					
29. Acetone	X		1	GRAB	8260B					
30. 1,4 Dioxane	X		1	GRAB	8260B					
31. Total Phenols		X	1	GRAB	8260B					
32. Pentachlorophenol		X	1	GRAB	8260B					
33. Total Phthalates [6] (Phthalate esthers)		X	1	GRAB	8260B					
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]		X	1	GRAB	8260B					
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	X		1	GRAB	8270C					
a. Benzo(a) Anthracene	X		1	GRAB	8270C					
b. Benzo(a) Pyrene	X		1	GRAB	8270C					
c. Benzo(b)Fluoranthene	X		1	GRAB	8270C					
d. Benzo(k) Fluoranthene	X		1	GRAB	8270C					
e. Chrysene	X		1	GRAB	8270C					

[6] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	X		1	GRAB	8270C					
g. Indeno(1,2,3-cd) Pyrene	X		1	GRAB	8270C					
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		X	1	GRAB	8270C					
h. Acenaphthene	X		1	GRAB	8270C					
i. Acenaphthylene	X		1	GRAB	8270C					
j. Anthracene	X		1	GRAB	8270C					
k. Benzo(ghi) Perylene	X		1	GRAB	8270C					
l. Fluoranthene	X		1	GRAB	8270C					
m. Fluorene	X		1	GRAB	8270C					
n. Naphthalene-	X	X	1	GRAB	8270C					
o. Phenanthrene	X		1	GRAB	8270C					
p. Pyrene	X		1	GRAB	8270C					
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony		X	1	GRAB	EPA 200.8					
39. Arsenic		X	1	GRAB	EPA 200.8					
40. Cadmium		X	1	GRAB	EPA 200.8					
41. Chromium III	X		1	GRAB	EPA 200.8					
42. Chromium VI	X		1	GRAB	EPA 200.8					

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper		X	1	GRAB	200.8					
44. Lead		X	1	GRAB	200.8					
45. Mercury		X	1	GRAB	245.1					
46. Nickel		X	1	GRAB	200.8					
47. Selenium	X	X	1	GRAB	200.8					
48. Silver		X	1	GRAB	200.8					
49. Zinc		X	1	GRAB	200.8					
50. Iron		X	1	GRAB	200.8					
Other (describe):										

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

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

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
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_____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

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

a) Identify the discharge pathway:	Direct____	Within facility__	Storm drain X	River/brook____	Wetlands_____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: ACUSHNET RIVER						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.						
d) Provide the state water quality classification of the receiving water_____,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water_____cfs Please attach any calculation sheets used to support stream flow and dilution calculations.						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes____ No X If yes, for which pollutant(s)? Is there a TMDL? Yes____ No X 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 X
Has any consultation with the federal services been completed ? Yes___ No X or is consultation underway? Yes ____ No X
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 X Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No X

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:

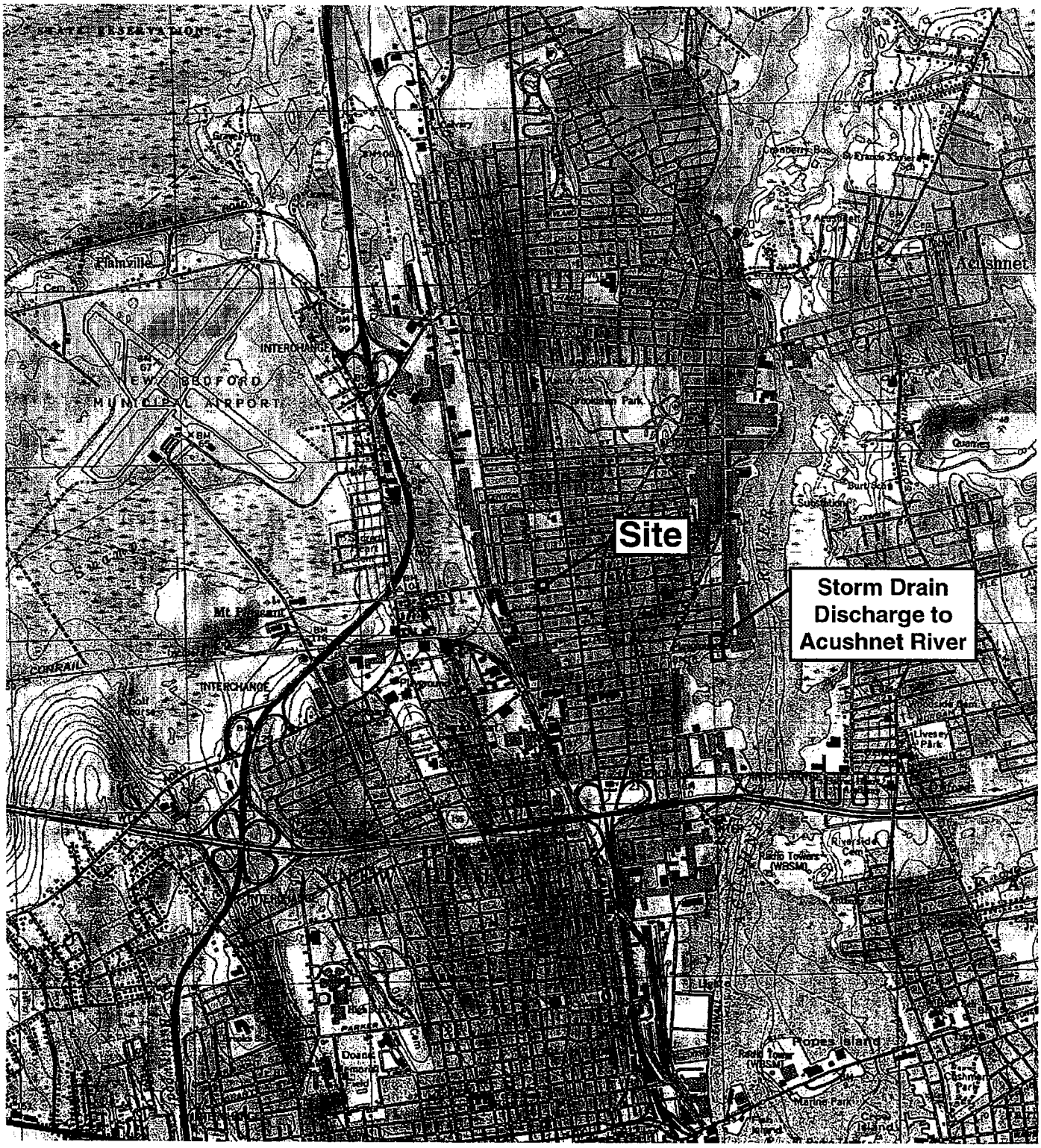
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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:

Operator signature: Scott E Weigel

Title: Owner

Date: 7-26-07



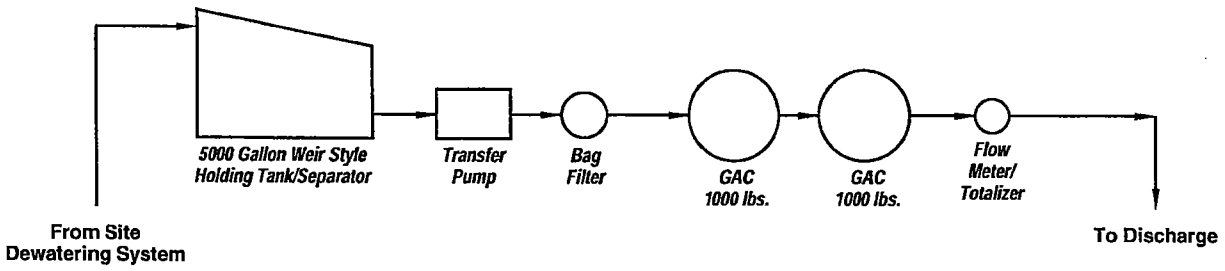
Source: U.S.G.S Quadrangles

Vanasse Hangen Brustlin, Inc.

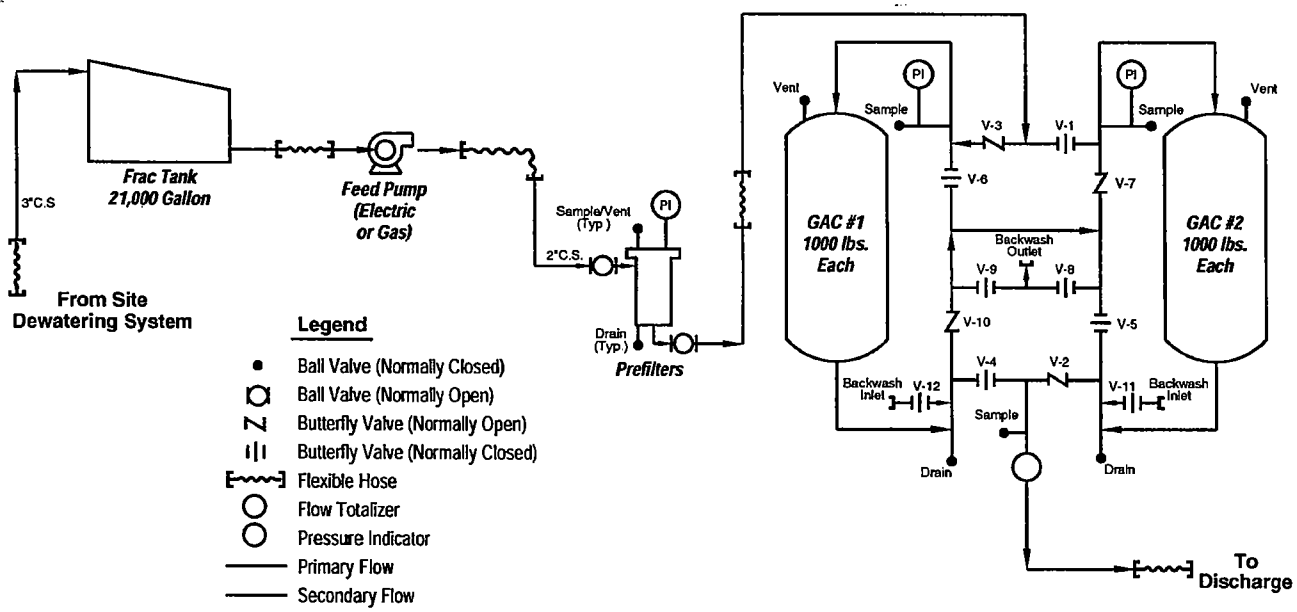
0 1000 2000
Scale is Approximate

Site Location Map
J.R. Weigel and Son
282 Nash Road
New Bedford, Massachusetts

Figure 1



Process Flow Diagram
Dewatering Treatment System (Typical)

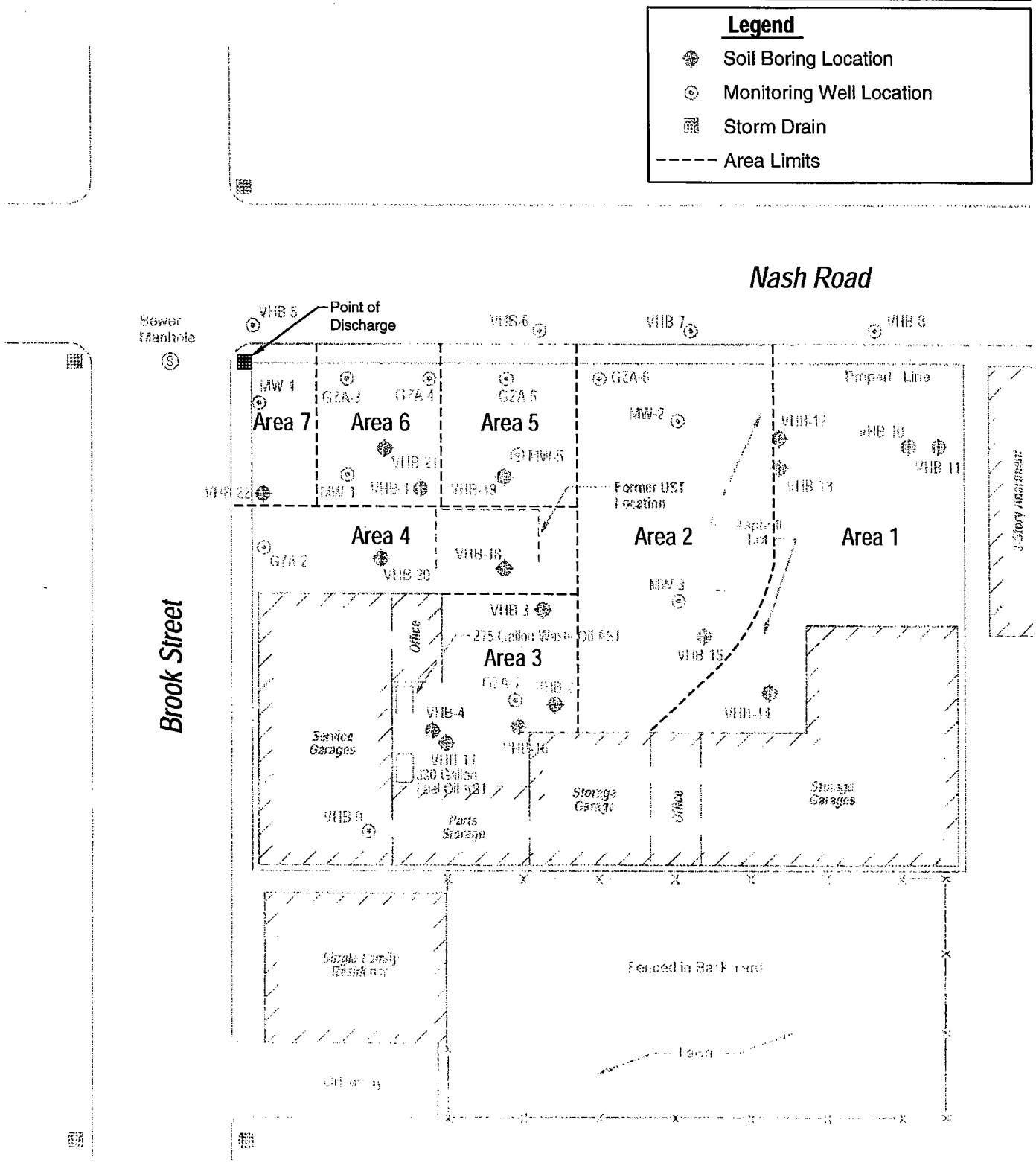


Piping & Instrumentation Diagram
Dewatering Treatment System (Typical)

Vanasse Hangen Brustlin, Inc.

Dewatering System Diagrams
J.R. Weigel & Son
282 Nash Road
New Bedford, Massachusetts

Figure 2



Vanasse Hangen Brustlin, Inc.

Site Plan w/ Location of Discharge to Storm Drain
J.R. Weigel and Son
282 Nash Road
New Bedford, Massachusetts

Figure 3

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

Anna Gower
Vanasse Hangen Brustlin, Inc.
530 Broadway
Providence, RI 02909

RE: Nash Road NPDES
ESS Laboratory Work Order Number: 0707106

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 Project Narrative, the entire report has been paginated. The ESS Laboratory Certifications sheet is the final report page. 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 mailed. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

Date: July 24, 2007

Sample Receipt
1 Ground Water sample was received on July 09, 2007 for the analyses specified on the enclosed Chain of Custody Record. Sample 0707106-01 for Total Petroleum Hydrocarbon by method 1664 was received improperly preserved. Sample was acidified and analyzed. Low Level PAH/PCP analysis was not performed due to high contamination level in the sample. Polychlorinated Biphenyls Analysis to be reported on a subsequent report.

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 may be used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC, except where noted within this project narrative.
Holding time and preservation requirements for all MCP analytes were achieved, unless otherwise noted in this Project Narrative.

Pesticides Analysis
Surrogate recovery was outside of the recommended range for sample 0707106-01 due to matrix interferences.

Volatile Organics Analysis
Total - Blank Spike was outside of the recommended range for 1,4-Dioxane – Screen. This analyte was below the lower control limit.
Continuing Calibration was outside of the recommended range for 1,4-Dioxane - Screen. This analyte was below the lower control limit.
The Relative Percent Difference for the Blank Spike/Blank Spike Duplicate was outside of the recommended range for 1,4-Dioxane - Screen and Naphthalene.
Surrogate recovery was outside of the recommended range for sample 0707106-01 due to matrix interferences.
Oxygenate – Elevated method reporting limits for sample 0707106-01 are due to sample matrix interferences.

Semivolatile Organics Analysis
Blank Spike was outside of the recommended range for 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene and Hexachloroethane. These analytes were below the lower control limit.
The Relative Percent Difference for the Blank Spike/Blank Spike Duplicate was outside of the recommended range for 3+4-Methylphenol and Hexachlorobutadiene.
Surrogate recovery was outside of the recommended range for sample 0707106-01 due to matrix interferences.
The following compounds employed quadratic regression for calibration: 1,1-Biphenyl, Pentachlorophenol and Benzo(k)fluoranthene.
Elevated method reporting limits for sample 0707106-01 are due to sample matrix interferences.

Classic Chemistry Analysis
The batch duplicate was outside of the recommended range for Total Suspended Solids due to matrix interferences.

No other observations noted.
End of Project Narrative.
mdp

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

MADEP MCP Response Action Analytical Report Certification Form

MADEP RTN*:_____

This form provides certification for the following data set:
0707106-01

Sample Matricies: (X) Ground Water ( ) Soil/Sediment ( ) Drinking Water ( ) Other:_____

MCP SW-846 Methods Used					
8260B (X)	8151A ( )	8330 ( )	6010B ( )	7470A/1A (X)
8270C (X)	8081A ( )	VPH ( )	6020 (X)	9014M** ( )
8082 ( )	8021B ( )	EPH ( )	7000 S*** ( )	7196A ( )

As specified in MADEP Compendium of Analytical Methods (Check all that apply)

* List Release Tracking Number (RTN), if known.
** M-SW-846 9014 or MADEP Physiologically Available Cyanide (PAC) Method
*** S - SW - 846 Methods 7000 Series - List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set? (Yes) No*

B Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines? (Yes) No*

C Does the data included in the report meet all the requirements for "Presumptive Certainty" as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? (Yes) No*

D ***VPH and EPH methods only:*** Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective Methods)? (Yes) No*

A response to questions E and F below required for "Presumptive Certainty" status

E Were all QC performance standards and recommendations for the specific methods achieved? Yes (No*)

F Were results for all analyte-list compounds/elements for the specified method(s) reported? Yes (No*)

All negative responses must be addressed in an attached Environmental Laboratory Case Narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: July 24, 2007

Printed Name: Laurel Stoddard Position: Laboratory Director

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water

Dioxins

Analyte	Results	Units	MRL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V
Ethylene Dibromide	See Attached								1	1

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID: 0707106-01 DL
GPL ID: 707055-001-001-1/1
Matrix: WATER
Date Collected: 07/09/2007
Date Received: 07/11/2007

Prep Method: EXT_SW8011
Prep Date: 07/12/2007
Prep Time: 00:00
Prep Batch: 99128

Analytical Method: E504
Date Analyzed: 07/19/2007
Time Analyzed: 10:43
Analysis Batch: 104104

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Ethylene DiBromide	1.5	0.20	ug/L		10

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water

200 Series Total Metals

Analyte	Results	Units	MRL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V
Antimony	See Attached								50	50
Arsenic	See Attached								50	50
Cadmium	See Attached								50	50
Chromium	See Attached								50	50
Copper	See Attached								50	50
Iron	See Attached								50	50
Lead	See Attached								50	50
Mercury	0.0013	mg/L	0 0005	245.1		1	EEM	07/12/07	20	40
Nickel	See Attached								50	50
Selenium	See Attached								50	50
Silver	See Attached								50	50
Zinc	See Attached								50	50

Environmental Chemistry
Site Assessment
Quality Assurance Services

Analytical Balance CORPORATION

Environmental Services
Site Sampling
Data Auditing

CERTIFICATE OF ANALYSIS

Jena Paola
ESS Laboratory
185 Frances Avenue
Cranston, RI 02910-2211

COLLECTED BY: J. Paola
TIME: 11:40
LOCATION: 0707106-01

REPORTED: 07/17/2007
ORDER #: G0795808
SAMPLE DATE: 7/9/2007
DATE RECEIVED: 7/11/2007
SAMPLE ID: Grab
DESCRIPTION: WATER

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	Result
Test Parameters				LAB-ID#: G0795808-01	
Antimony 200.8	EPA 200.8	07/16/2007	mg/L	0.003	0.007
Arsenic 200.8	EPA 200.8	07/16/2007	mg/L	0.005	0.013
Cadmium 200.8	EPA 200.8	07/16/2007	mg/L	0.001	0.009
Chromium 200.8	EPA 200.8	07/16/2007	mg/L	0.005	ND
Copper 200.8	EPA 200.8	07/16/2007	mg/L	0.02	0.07
Iron	SM 3111B	07/16/2007	mg/L	0.02	19.1
Lead 200.8	EPA 200.8	07/16/2007	mg/L	0.001	0.159
Nickel 200.8	EPA 200.8	07/16/2007	mg/L	0.005	0.008
Selenium 200.8	EPA 200.8	07/16/2007	mg/L	0.005	ND
Silver 200.8	EPA 200.8	07/16/2007	mg/L	0.005	0.007
Zinc 200.8	EPA 200.8	07/16/2007	mg/L	0.005	0.107

NA = Not Applicable
ND = Not Detected
'<' = Less Than
'dl' = Detection Limit

Approved By: _____ 7/17/07
Lab Manager / Date

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 800
Final Volume: 5
Extraction Method: 3510C

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: IBM
Prepared: 07/11/07

8081A Organochlorine Pesticides

Analyte	Results	Units	MRL	Limit	DF	Analyzed
Hexachlorobenzene	ND	ug/L	0.0625		1	07/12/07

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*111 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*+*	*30-150*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 5030B

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: MD

8260B Volatile Oxygenate Compounds

Analyte	Results	Units	MRL	Limit	DF	Analyzed
Di-isopropyl ether	ND	ug/L	10.0		10	07/16/07
Ethyl tertiary-butyl ether	ND	ug/L	10.0		10	07/16/07
Tertiary-amyl methyl ether	ND	ug/L	10.0		10	07/16/07
Tertiary-butyl Alcohol	ND	ug/L	250		10	07/16/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*105 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*108 %*		*70-130*
Surrogate: Toluene-d8	*107 %*		*70-130*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 5030B

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results	Units	MRL	Limit	DF	Analyzed
1,1,1,2-Tetrachloroethane	ND	ug/L	100		100	07/16/07
1,1,1-Trichloroethane	ND	ug/L	100		100	07/16/07
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0		100	07/16/07
1,1,2-Trichloroethane	ND	ug/L	100		100	07/16/07
1,1-Dichloroethane	ND	ug/L	100		100	07/16/07
1,1-Dichloroethene	ND	ug/L	100		100	07/16/07
1,1-Dichloropropene	ND	ug/L	200		100	07/16/07
1,2,3-Trichlorobenzene	ND	ug/L	100		100	07/16/07
1,2,3-Trichloropropane	ND	ug/L	100		100	07/16/07
1,2,4-Trichlorobenzene	ND	ug/L	100		100	07/16/07
1,2,4-Trimethylbenzene	**2860**	ug/L	100		100	07/16/07
1,2-Dibromo-3-Chloropropane	ND	ug/L	500		100	07/16/07
1,2-Dibromoethane	ND	ug/L	100		100	07/16/07
1,2-Dichlorobenzene	ND	ug/L	100		100	07/16/07
1,2-Dichloroethane	ND	ug/L	100		100	07/16/07
1,2-Dichloropropane	ND	ug/L	100		100	07/16/07
1,3,5-Trimethylbenzene	**349**	ug/L	100		100	07/16/07
1,3-Dichlorobenzene	ND	ug/L	100		100	07/16/07
1,3-Dichloropropane	ND	ug/L	100		100	07/16/07
1,4-Dichlorobenzene	ND	ug/L	100		100	07/16/07
1,4-Dioxane - Screen	ND	ug/L	50000		100	07/16/07
2,2-Dichloropropane	ND	ug/L	100		100	07/16/07
2-Butanone	ND	ug/L	2500		100	07/16/07
2-Chlorotoluene	ND	ug/L	100		100	07/16/07
2-Hexanone	ND	ug/L	1000		100	07/16/07
4-Chlorotoluene	ND	ug/L	100		100	07/16/07
4-Isopropyltoluene	ND	ug/L	100		100	07/16/07
4-Methyl-2-Pentanone	ND	ug/L	2500		100	07/16/07
Acetone	ND	ug/L	2500		100	07/16/07
Benzene	**13800**	ug/L	5000		5000	07/16/07
Bromobenzene	ND	ug/L	200		100	07/16/07
Bromochloromethane	ND	ug/L	100		100	07/16/07
Bromodichloromethane	ND	ug/L	100		100	07/16/07
Bromoform	ND	ug/L	100		100	07/16/07
Bromomethane	ND	ug/L	200		100	07/16/07

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 5030B

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: MD

8260B Volatile Organic Compounds

Carbon Disulfide	ND	ug/L	100	100	07/16/07
Carbon Tetrachloride	ND	ug/L	100	100	07/16/07
Chlorobenzene	ND	ug/L	100	100	07/16/07
Chloroethane	ND	ug/L	200	100	07/16/07
Chloroform	ND	ug/L	100	100	07/16/07
Chloromethane	ND	ug/L	200	100	07/16/07
cis-1,2-Dichloroethene	ND	ug/L	100	100	07/16/07
cis-1,3-Dichloropropene	ND	ug/L	50.0	100	07/16/07
Dibromochloromethane	ND	ug/L	100	100	07/16/07
Dibromomethane	ND	ug/L	100	100	07/16/07
Dichlorodifluoromethane	ND	ug/L	200	100	07/16/07
Diethyl Ether	ND	ug/L	100	100	07/16/07
Di-isopropyl ether	ND	ug/L	100	100	07/16/07
Ethyl tertiary-butyl ether	ND	ug/L	100	100	07/16/07
Ethylbenzene	**9410**	ug/L	100	100	07/16/07
Hexachlorobutadiene	ND	ug/L	60.0	100	07/16/07
Isopropylbenzene	**349**	ug/L	100	100	07/16/07
Methyl tert-Butyl Ether	ND	ug/L	100	100	07/16/07
Methylene Chloride	ND	ug/L	500	100	07/16/07
Naphthalene	**1820**	ug/L	100	100	07/16/07
n-Butylbenzene	ND	ug/L	100	100	07/16/07
n-Propylbenzene	**1350**	ug/L	100	100	07/16/07
sec-Butylbenzene	ND	ug/L	100	100	07/16/07
Styrene	ND	ug/L	100	100	07/16/07
tert-Butylbenzene	ND	ug/L	100	100	07/16/07
Tertiary-amyl methyl ether	ND	ug/L	100	100	07/16/07
Tetrachloroethene	ND	ug/L	100	100	07/16/07
Tetrahydrofuran	ND	ug/L	500	100	07/16/07
Toluene	**141000**	ug/L	5000	5000	07/16/07
trans-1,2-Dichloroethene	ND	ug/L	100	100	07/16/07
trans-1,3-Dichloropropene	ND	ug/L	50.0	100	07/16/07
Trichloroethene	ND	ug/L	100	100	07/16/07
Trichlorofluoromethane	ND	ug/L	200	100	07/16/07
Vinyl Chloride	ND	ug/L	100	100	07/16/07
Xylene O	**8800**	ug/L	5000	5000	07/16/07
Xylene P,M	**21800**	ug/L	10000	5000	07/16/07

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: [CALC]

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: MD

8260B Volatile Organic Compounds

Xylenes (Total)	**30600**	ug/L	15000	5000	07/16/07

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*98 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*110 %*		*70-130*
Surrogate: Dibromofluoromethane	*100 %*		*70-130*
Surrogate: Toluene-d8	*182 %*	+	*70-130*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 2
Extraction Method: 3520C

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: ML
Prepared: 07/13/07

8270C Semi-Volatile Organic Compounds

Analyte	Results	Units	MRL	Limit	DF	Analyzed
1,1-Biphenyl	ND	ug/L	200		10	07/16/07
1,2,4-Trichlorobenzene	ND	ug/L	200		10	07/16/07
1,2-Dichlorobenzene	ND	ug/L	200		10	07/16/07
1,3-Dichlorobenzene	ND	ug/L	200		10	07/16/07
1,4-Dichlorobenzene	ND	ug/L	200		10	07/16/07
2,4,5-Trichlorophenol	ND	ug/L	200		10	07/16/07
2,4,6-Trichlorophenol	ND	ug/L	200		10	07/16/07
2,4-Dichlorophenol	ND	ug/L	200		10	07/16/07
2,4-Dimethylphenol	ND	ug/L	1000		10	07/16/07
2,4-Dinitrophenol	ND	ug/L	1000		10	07/16/07
2,4-Dinitrotoluene	ND	ug/L	200		10	07/16/07
2,6-Dinitrotoluene	ND	ug/L	200		10	07/16/07
2-Chloronaphthalene	ND	ug/L	200		10	07/16/07
2-Chlorophenol	ND	ug/L	200		10	07/16/07
2-Methylnaphthalene	**5520**	ug/L	2000		100	07/16/07
2-Methylphenol	ND	ug/L	200		10	07/16/07
2-Nitrophenol	ND	ug/L	200		10	07/16/07
3,3'-Dichlorobenzidine	ND	ug/L	400		10	07/16/07
3+4-Methylphenol	ND	ug/L	400		10	07/16/07
4-Bromophenyl-phenylether	ND	ug/L	200		10	07/16/07
4-Chloroaniline	ND	ug/L	400		10	07/16/07
4-Nitrophenol	ND	ug/L	1000		10	07/16/07
Acenaphthene	ND	ug/L	200		10	07/16/07
Acenaphthylene	ND	ug/L	200		10	07/16/07
Acetophenone	ND	ug/L	200		10	07/16/07
Aniline	ND	ug/L	200		10	07/16/07
Anthracene	ND	ug/L	200		10	07/16/07
Azobenzene	ND	ug/L	400		10	07/16/07
Benzo(a)anthracene	ND	ug/L	200		10	07/16/07
Benzo(a)pyrene	ND	ug/L	200		10	07/16/07
Benzo(b)fluoranthene	ND	ug/L	200		10	07/16/07
Benzo(g,h,i)perylene	ND	ug/L	200		10	07/16/07
Benzo(k)fluoranthene	ND	ug/L	200		10	07/16/07
bis(2-Chloroethoxy)methane	ND	ug/L	200		10	07/16/07
bis(2-Chloroethyl)ether	ND	ug/L	200		10	07/16/07

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 2
Extraction Method: 3520C

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water
Analyst: ML
Prepared: 07/13/07

8270C Semi-Volatile Organic Compounds

bis(2-chloroisopropyl)Ether	ND	ug/L	200	10	07/16/07
bis(2-Ethylhexyl)phthalate	ND	ug/L	120	10	07/16/07
Butylbenzylphthalate	ND	ug/L	200	10	07/16/07
Chrysene	ND	ug/L	200	10	07/16/07
Dibenzo(a,h)Anthracene	ND	ug/L	200	10	07/16/07
Dibenzofuran	ND	ug/L	200	10	07/16/07
Diethylphthalate	ND	ug/L	200	10	07/16/07
Dimethylphthalate	ND	ug/L	200	10	07/16/07
Di-n-butylphthalate	ND	ug/L	200	10	07/16/07
Di-n-octylphthalate	ND	ug/L	200	10	07/16/07
Fluoranthene	ND	ug/L	200	10	07/16/07
Fluorene	ND	ug/L	200	10	07/16/07
Hexachlorobenzene	ND	ug/L	200	10	07/16/07
Hexachlorobutadiene	ND	ug/L	200	10	07/16/07
Hexachloroethane	ND	ug/L	100	10	07/16/07
Indeno(1,2,3-cd)Pyrene	ND	ug/L	200	10	07/16/07
Isophorone	ND	ug/L	200	10	07/16/07
Naphthalene	**8500**	ug/L	2000	100	07/16/07
Nitrobenzene	ND	ug/L	200	10	07/16/07
N-Nitrosodimethylamine	ND	ug/L	200	10	07/16/07
Pentachlorophenol	ND	ug/L	1000	10	07/16/07
Phenanthrene	ND	ug/L	200	10	07/16/07
Phenol	ND	ug/L	200	10	07/16/07
Pyrene	ND	ug/L	200	10	07/16/07

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*25 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*21 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*33 %*		*30-130*
Surrogate: 2-Fluorophenol	*33 %*		*15-110*
Surrogate: Nitrobenzene-d5	*115 %*		*30-130*
Surrogate: Phenol-d6	*34 %*		*15-110*
Surrogate: p-Terphenyl-d14	*22 %*	+	*30-130*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A

ESS Laboratory Work Order: 0707106
ESS Laboratory Sample ID: 0707106-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results	Units	MRL	Method	Limit	DF	Analyst	Analyzed
Dissolved Cyanide	ND	mg/L	0.005	4500 CN CE		1	AR	07/11/07
Hexavalent Chromium	ND	mg/L	0.05	3500Cr B		1	eem	07/09/07 17:55
Phenols	**0.40**	mg/L	0.10	420.1		1	AR	07/12/07
Total Cyanide (LL)	ND	mg/L	0.005	4500 CN CE		1	AR	07/11/07
Total Petroleum Hydrocarbon	**114**	mg/L	5	1664A		1	CAA	07/10/07
Total Residual Chlorine	ND	mg/L	0.06	4500Cl G		1	CAA	07/09/07 18:00
Total Suspended Solids	**1360**	mg/L	17	2540D		1	KJK	07/11/07

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
200 Series Total Metals										
Batch BG71205 - 245.1/7470A										
Blank										
Mercury	ND	0.0005	mg/L							
LCS										
Mercury	0.0058	0.0005	mg/L	0.00600		97	85-115			
LCS Dup										
Mercury	0.0057	0.0005	mg/L	0.00600		95	85-115	2	20	
8081A Organochlorine Pesticides										
Batch BG71123 - 3510C										
Blank										
Hexachlorobenzene	ND	0.0500	ug/L							
Surrogate: Decachlorobiphenyl	*0.251*		ug/L	*0.250*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.245*		ug/L	*0.250*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.240*		ug/L	*0.250*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.228*		ug/L	*0.250*		*91*	*30-150*			
LCS										
Hexachlorobenzene	0.273	0.0500	ug/L	0.250		109	40-140			
Surrogate: Decachlorobiphenyl	*0.248*		ug/L	*0.250*		*99*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.242*		ug/L	*0.250*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.241*		ug/L	*0.250*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.231*		ug/L	*0.250*		*92*	*30-150*			
LCS Dup										
Hexachlorobenzene	0.272	0.0500	ug/L	0.250		109	40-140	0.4	30	
Surrogate: Decachlorobiphenyl	*0.250*		ug/L	*0.250*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.246*		ug/L	*0.250*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.235*		ug/L	*0.250*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.225*		ug/L	*0.250*		*90*	*30-150*			
8260B Volatile Oxygenate Compounds										
Batch BG71621 - 5030B										
Blank										
Di-Isopropyl ether	ND	1.00	ug/L							
Ethyl tertiary-butyl ether	ND	1.00	ug/L							
Tertiary-amyl methyl ether	ND	1.00	ug/L							
Tertiary-butyl Alcohol	ND	25.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*25.5*		ug/L	*25.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.5*		ug/L	*25.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*23.9*		ug/L	*25.0*		*96*	*70-130*			
Surrogate: Toluene-d8	*25.3*		ug/L	*25.0*		*101*	*70-130*			
LCS										
Di-Isopropyl ether	27.1		ug/L	25.0		108	70-130			
Ethyl tertiary-butyl ether	26.0		ug/L	25.0		104	70-130			
Tertiary-amyl methyl ether	25.5		ug/L	25.0		102	70-130			
Tertiary-butyl Alcohol	122		ug/L	125		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Oxygenate Compounds										
Batch BG71621 - 5030B										
Surrogate: 1,2-Dichloroethane-d4	*21.6*		ug/L	*25.0*		*86*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.2*		ug/L	*25.0*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*21.0*		ug/L	*25.0*		*84*	*70-130*			
Surrogate: Toluene-d8	*24.5*		ug/L	*25.0*		*98*	*70-130*			
LCS Dup										
Di-isopropyl ether	27.6		ug/L	25.0		110	70-130	2	20	
Ethyl tertiary-butyl ether	26.2		ug/L	25.0		105	70-130	0.8	20	
Tertiary-amyl methyl ether	25.9		ug/L	25.0		104	70-130	2	20	
Tertiary-butyl Alcohol	118		ug/L	125		94	70-130	3	20	
Surrogate: 1,2-Dichloroethane-d4	*22.6*		ug/L	*25.0*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.9*		ug/L	*25.0*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*21.4*		ug/L	*25.0*		*86*	*70-130*			
Surrogate: Toluene-d8	*24.7*		ug/L	*25.0*		*99*	*70-130*			
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	25.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	25.0	ug/L							
Acetone	ND	25.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	1.0	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.5	ug/L							
Dibromochloromethane	ND	1.0	ug/L							
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	5.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.5	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	2.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*24.9*		ug/L	*25.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.3*		ug/L	*25.0*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*25.7*		ug/L	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*26.9*		ug/L	*25.0*		*108*	*70-130*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
1,1,1,2-Tetrachloroethane	9.4		ug/L	10.0		94	70-130			
1,1,1-Trichloroethane	9.8		ug/L	10.0		98	70-130			
1,1,2,2-Tetrachloroethane	9.9		ug/L	10.0		99	70-130			
1,1,2-Trichloroethane	9.3		ug/L	10.0		93	70-130			
1,1-Dichloroethane	10.2		ug/L	10.0		102	70-130			
1,1-Dichloroethene	9.6		ug/L	10.0		96	70-130			
1,1-Dichloropropene	9.8		ug/L	10.0		98	70-130			
1,2,3-Trichlorobenzene	9.8		ug/L	10.0		98	70-130			
1,2,3-Trichloropropane	9.7		ug/L	10.0		97	70-130			
1,2,4-Trichlorobenzene	9.3		ug/L	10.0		93	70-130			
1,2,4-Trimethylbenzene	10.0		ug/L	10.0		100	70-130			
1,2-Dibromo-3-Chloropropane	9.8		ug/L	10.0		98	70-130			
1,2-Dibromoethane	9.3		ug/L	10.0		93	70-130			
1,2-Dichlorobenzene	9.9		ug/L	10.0		99	70-130			
1,2-Dichloroethane	10.0		ug/L	10.0		100	70-130			
1,2-Dichloropropane	9.5		ug/L	10.0		95	70-130			
1,3,5-Trimethylbenzene	9.0		ug/L	10.0		90	70-130			
1,3-Dichlorobenzene	9.5		ug/L	10.0		95	70-130			
1,3-Dichloropropane	9.9		ug/L	10.0		99	70-130			
1,4-Dichlorobenzene	9.6		ug/L	10.0		96	70-130			
1,4-Dioxane - Screen	0.0		ug/L	200			70-130			+
2,2-Dichloropropane	10.3		ug/L	10.0		103	70-130			
2-Butanone	50.9		ug/L	50.0		102	70-130			
2-Chlorotoluene	10.2		ug/L	10.0		102	70-130			
2-Hexanone	48.0		ug/L	50.0		96	70-130			
4-Chlorotoluene	10.1		ug/L	10.0		101	70-130			
4-Isopropyltoluene	9.6		ug/L	10.0		96	70-130			
4-Methyl-2-Pentanone	47.4		ug/L	50.0		95	70-130			
Acetone	57.2		ug/L	50.0		114	70-130			
Benzene	9.8		ug/L	10.0		98	70-130			
Bromobenzene	10.2		ug/L	10.0		102	70-130			
Bromochloromethane	10.2		ug/L	10.0		102	70-130			
Bromodichloromethane	9.4		ug/L	10.0		94	70-130			
Bromoform	9.5		ug/L	10.0		95	70-130			
Bromomethane	11.4		ug/L	10.0		114	70-130			
Carbon Disulfide	10.3		ug/L	10.0		103	70-130			
Carbon Tetrachloride	9.8		ug/L	10.0		98	70-130			
Chlorobenzene	9.7		ug/L	10.0		97	70-130			
Chloroethane	9.9		ug/L	10.0		99	70-130			
Chloroform	9.8		ug/L	10.0		98	70-130			
Chloromethane	9.5		ug/L	10.0		95	70-130			
cis-1,2-Dichloroethene	10.0		ug/L	10.0		100	70-130			
cis-1,3-Dichloropropene	9.5		ug/L	10.0		95	70-130			
Dibromochloromethane	8.8		ug/L	10.0		88	70-130			
Dibromomethane	9.2		ug/L	10.0		92	70-130			
Dichlorodifluoromethane	9.2		ug/L	10.0		92	70-130			
Diethyl Ether	10.0		ug/L	10.0		100	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
Di-isopropyl ether	9.6		ug/L	10.0		96	70-130			
Ethyl tertiary-butyl ether	9.6		ug/L	10.0		96	70-130			
Ethylbenzene	10.1		ug/L	10.0		101	70-130			
Hexachlorobutadiene	10.9		ug/L	10.0		109	70-130			
Isopropylbenzene	9.0		ug/L	10.0		90	70-130			
Methyl tert-Butyl Ether	9.7		ug/L	10.0		97	70-130			
Methylene Chloride	10.4		ug/L	10.0		104	70-130			
Naphthalene	9.0		ug/L	10.0		90	70-130			
n-Butylbenzene	10.3		ug/L	10.0		103	70-130			
n-Propylbenzene	9.9		ug/L	10.0		99	70-130			
sec-Butylbenzene	9.8		ug/L	10.0		98	70-130			
Styrene	9.7		ug/L	10.0		97	70-130			
tert-Butylbenzene	9.6		ug/L	10.0		96	70-130			
Tertiary-amyl methyl ether	9.9		ug/L	10.0		99	70-130			
Tetrachloroethene	9.3		ug/L	10.0		93	70-130			
Tetrahydrofuran	10.0		ug/L	10.0		100	70-130			
Toluene	10.0		ug/L	10.0		100	70-130			
trans-1,2-Dichloroethene	9.9		ug/L	10.0		99	70-130			
trans-1,3-Dichloropropene	8.7		ug/L	10.0		87	70-130			
Trichloroethene	9.8		ug/L	10.0		98	70-130			
Trichlorofluoromethane	9.0		ug/L	10.0		90	70-130			
Vinyl Chloride	10.0		ug/L	10.0		100	70-130			
Xylene O	9.6		ug/L	10.0		96	70-130			
Xylene P,M	19.2		ug/L	20.0		96	70-130			
Surrogate: 1,2-Dichloroethane-d4	*24.7*		ug/L	*25.0*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.7*		ug/L	*25.0*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*25.1*		ug/L	*25.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*26.1*		ug/L	*25.0*		*104*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	10.0		ug/L	10.0		100	70-130	6	20	
1,1,1-Trichloroethane	10.4		ug/L	10.0		104	70-130	6	20	
1,1,2,2-Tetrachloroethane	10.3		ug/L	10.0		103	70-130	4	20	
1,1,2-Trichloroethane	10.2		ug/L	10.0		102	70-130	9	20	
1,1-Dichloroethane	10.5		ug/L	10.0		105	70-130	3	20	
1,1-Dichloroethene	10.0		ug/L	10.0		100	70-130	4	20	
1,1-Dichloropropene	10.2		ug/L	10.0		102	70-130	4	20	
1,2,3-Trichlorobenzene	11.9		ug/L	10.0		119	70-130	19	20	
1,2,3-Trichloropropane	9.5		ug/L	10.0		95	70-130	2	20	
1,2,4-Trichlorobenzene	11.1		ug/L	10.0		111	70-130	18	20	
1,2,4-Trimethylbenzene	10.6		ug/L	10.0		106	70-130	6	20	
1,2-Dibromo-3-Chloropropane	11.0		ug/L	10.0		110	70-130	12	20	
1,2-Dibromoethane	10.1		ug/L	10.0		101	70-130	8	20	
1,2-Dichlorobenzene	10.4		ug/L	10.0		104	70-130	5	20	
1,2-Dichloroethane	10.1		ug/L	10.0		101	70-130	1	20	
1,2-Dichloropropane	10.4		ug/L	10.0		104	70-130	9	20	
1,3,5-Trimethylbenzene	9.2		ug/L	10.0		92	70-130	2	20	
1,3-Dichlorobenzene	10.0		ug/L	10.0		100	70-130	5	20	

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
1,3-Dichloropropane	10.2		ug/L	10.0		102	70-130	3	20	
1,4-Dichlorobenzene	10.0		ug/L	10.0		100	70-130	4	20	
1,4-Dioxane - Screen	111		ug/L	200		56	70-130		20	+
2,2-Dichloropropane	10.5		ug/L	10.0		105	70-130	2	20	
2-Butanone	52.0		ug/L	50.0		104	70-130	2	20	
2-Chlorotoluene	10.6		ug/L	10.0		106	70-130	4	20	
2-Hexanone	50.3		ug/L	50.0		101	70-130	5	20	
4-Chlorotoluene	10.3		ug/L	10.0		103	70-130	2	20	
4-Isopropyltoluene	10.2		ug/L	10.0		102	70-130	6	20	
4-Methyl-2-Pentanone	47.8		ug/L	50.0		96	70-130	0.8	20	
Acetone	54.6		ug/L	50.0		109	70-130	5	20	
Benzene	10.3		ug/L	10.0		103	70-130	5	20	
Bromobenzene	10.7		ug/L	10.0		107	70-130	5	20	
Bromochloromethane	10.4		ug/L	10.0		104	70-130	2	20	
Bromodichloromethane	9.8		ug/L	10.0		98	70-130	4	20	
Bromoform	10.2		ug/L	10.0		102	70-130	7	20	
Bromomethane	11.5		ug/L	10.0		115	70-130	0.9	20	
Carbon Disulfide	10.4		ug/L	10.0		104	70-130	1	20	
Carbon Tetrachloride	10.1		ug/L	10.0		101	70-130	3	20	
Chlorobenzene	9.9		ug/L	10.0		99	70-130	2	20	
Chloroethane	10.0		ug/L	10.0		100	70-130	1	20	
Chloroform	10.3		ug/L	10.0		103	70-130	5	20	
Chloromethane	9.7		ug/L	10.0		97	70-130	2	20	
cis-1,2-Dichloroethene	10.5		ug/L	10.0		105	70-130	5	20	
cis-1,3-Dichloropropene	9.9		ug/L	10.0		99	70-130	4	20	
Dibromochloromethane	9.8		ug/L	10.0		98	70-130	11	20	
Dibromomethane	10.1		ug/L	10.0		101	70-130	9	20	
Dichlorodifluoromethane	9.6		ug/L	10.0		96	70-130	4	20	
Diethyl Ether	10.3		ug/L	10.0		103	70-130	3	20	
Di-Isopropyl ether	10.5		ug/L	10.0		105	70-130	9	20	
Ethyl tertiary-butyl ether	10.0		ug/L	10.0		100	70-130	4	20	
Ethylbenzene	10.6		ug/L	10.0		106	70-130	5	20	
Hexachlorobutadiene	11.6		ug/L	10.0		116	70-130	6	20	
Isopropylbenzene	9.2		ug/L	10.0		92	70-130	2	20	
Methyl tert-Butyl Ether	10.4		ug/L	10.0		104	70-130	7	20	
Methylene Chloride	10.4		ug/L	10.0		104	70-130	0	20	
Naphthalene	11.1		ug/L	10.0		111	70-130	21	20	+
n-Butylbenzene	10.9		ug/L	10.0		109	70-130	6	20	
n-Propylbenzene	10.5		ug/L	10.0		105	70-130	6	20	
sec-Butylbenzene	10.3		ug/L	10.0		103	70-130	5	20	
Styrene	10.1		ug/L	10.0		101	70-130	4	20	
tert-Butylbenzene	10.2		ug/L	10.0		102	70-130	6	20	
Tertiary-amyl methyl ether	10.0		ug/L	10.0		100	70-130	1	20	
Tetrachloroethene	9.4		ug/L	10.0		94	70-130	1	20	
Tetrahydrofuran	10.1		ug/L	10.0		101	70-130	1	20	
Toluene	10.3		ug/L	10.0		103	70-130	3	20	
trans-1,2-Dichloroethene	10.5		ug/L	10.0		105	70-130	6	20	

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BG71606 - 5030B										
trans-1,3-Dichloropropene	9.2		ug/L	10.0		92	70-130	6	20	
Trichloroethene	10.6		ug/L	10.0		106	70-130	8	20	
Trichlorofluoromethane	9.2		ug/L	10.0		92	70-130	2	20	
Vinyl Chloride	10.5		ug/L	10.0		105	70-130	5	20	
Xylene O	9.7		ug/L	10.0		97	70-130	1	20	
Xylene P,M	20.1		ug/L	20.0		100	70-130	5	20	
Surrogate: 1,2-Dichloroethane-d4	*24.6*		ug/L	*25.0*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.6*		ug/L	*25.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*25.6*		ug/L	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*26.1*		ug/L	*25.0*		*104*	*70-130*			
8270C Semi-Volatile Organic Compounds										
Batch BG71346 - 3520C										
Blank										
1,1-Biphenyl	ND	10.0	ug/L							
1,2,4-Trichlorobenzene	ND	10.0	ug/L							
1,2-Dichlorobenzene	ND	10.0	ug/L							
1,3-Dichlorobenzene	ND	10.0	ug/L							
1,4-Dichlorobenzene	ND	10.0	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							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylnaphthalene	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3'-Dichlorobenzidine	ND	20.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4-Bromophenyl-phenylether	ND	10.0	ug/L							
4-Chloroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acenaphthene	ND	10.0	ug/L							
Acenaphthylene	ND	10.0	ug/L							
Acetophenone	ND	10.0	ug/L							
Aniline	ND	10.0	ug/L							
Anthracene	ND	10.0	ug/L							
Azobenzene	ND	20.0	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							

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BG71346 - 3520C										
bis(2-Chloroethoxy)methane	ND	10.0	ug/L							
bis(2-Chloroethyl)ether	ND	10.0	ug/L							
bis(2-chloroisopropyl)Ether	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							
Dibenzofuran	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							
Hexachlorobenzene	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachloroethane	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	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	*97.0*		ug/L	*100*		*97*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*144*		ug/L	*150*		*96*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*131*		ug/L	*150*		*87*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*80.0*		ug/L	*100*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*145*		ug/L	*150*		*97*	*15-110*			
Surrogate: Nitrobenzene-d5	*96.6*		ug/L	*100*		*97*	*30-130*			
Surrogate: Phenol-d6	*140*		ug/L	*150*		*93*	*15-110*			
Surrogate: p-Terphenyl-d14	*91.2*		ug/L	*100*		*91*	*30-130*			
LCS										
1,1-Biphenyl	73.5	10.0	ug/L	100		74	40-140			
1,2,4-Trichlorobenzene	48.4	10.0	ug/L	100		48	40-140			
1,2-Dichlorobenzene	37.0	10.0	ug/L	100		37	40-140			+
1,3-Dichlorobenzene	32.4	10.0	ug/L	100		32	40-140			+
1,4-Dichlorobenzene	33.7	10.0	ug/L	100		34	40-140			+
2,4,5-Trichlorophenol	82.2	10.0	ug/L	100		82	30-130			
2,4,6-Trichlorophenol	74.5	10.0	ug/L	100		74	30-130			
2,4-Dichlorophenol	81.3	10.0	ug/L	100		81	30-130			
2,4-Dimethylphenol	79.7	50.0	ug/L	100		80	30-130			
2,4-Dinitrophenol	69.4	50.0	ug/L	100		69	30-130			
2,4-Dinitrotoluene	83.3	10.0	ug/L	100		83	40-140			
2,6-Dinitrotoluene	83.5	10.0	ug/L	100		84	40-140			

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BG71346 - 3520C										
2-Chloronaphthalene	62.2	10.0	ug/L	100		62	40-140			
2-Chlorophenol	58.5	10.0	ug/L	100		58	30-130			
2-Methylnaphthalene	67.9	10.0	ug/L	100		68	40-140			
2-Methylphenol	72.5	10.0	ug/L	100		72	30-130			
2-Nitrophenol	73.5	10.0	ug/L	100		74	30-130			
3,3'-Dichlorobenzidine	62.4	20.0	ug/L	100		62	40-140			
3+4-Methylphenol	119	20.0	ug/L	200		60	30-130			
4-Bromophenyl-phenylether	84.2	10.0	ug/L	100		84	40-140			
4-Chloroaniline	57.3	20.0	ug/L	100		57	40-140			
4-Nitrophenol	99.3	50.0	ug/L	100		99	30-130			
Acenaphthene	76.6	10.0	ug/L	100		77	40-140			
Acenaphthylene	77.4	10.0	ug/L	100		77	40-140			
Acetophenone	71.3	10.0	ug/L	100		71	40-140			
Aniline	43.4	10.0	ug/L	100		43	40-140			
Anthracene	84.8	10.0	ug/L	100		85	40-140			
Azobenzene	86.5	20.0	ug/L	100		86	40-140			
Benzo(a)anthracene	81.2	10.0	ug/L	100		81	40-140			
Benzo(a)pyrene	82.7	10.0	ug/L	100		83	40-140			
Benzo(b)fluoranthene	83.7	10.0	ug/L	100		84	40-140			
Benzo(g,h,i)perylene	80.6	10.0	ug/L	100		81	40-140			
Benzo(k)fluoranthene	98.7	10.0	ug/L	100		99	40-140			
bis(2-Chloroethoxy)methane	70.0	10.0	ug/L	100		70	40-140			
bis(2-Chloroethyl)ether	58.9	10.0	ug/L	100		59	40-140			
bis(2-chloroisopropyl)Ether	67.1	10.0	ug/L	100		67	40-140			
bis(2-Ethylhexyl)phthalate	87.1	6.0	ug/L	100		87	40-140			
Butylbenzylphthalate	85.7	10.0	ug/L	100		86	40-140			
Chrysene	83.6	10.0	ug/L	100		84	40-140			
Dibenzo(a,h)Anthracene	82.2	10.0	ug/L	100		82	40-140			
Dibenzofuran	74.4	10.0	ug/L	100		74	40-140			
Diethylphthalate	80.6	10.0	ug/L	100		81	40-140			
Dimethylphthalate	83.5	10.0	ug/L	100		84	40-140			
Di-n-butylphthalate	87.2	10.0	ug/L	100		87	40-140			
Di-n-octylphthalate	84.9	10.0	ug/L	100		85	40-140			
Fluoranthene	86.6	10.0	ug/L	100		87	40-140			
Fluorene	74.4	10.0	ug/L	100		74	40-140			
Hexachlorobenzene	82.2	10.0	ug/L	100		82	40-140			
Hexachlorobutadiene	41.6	10.0	ug/L	100		42	40-140			
Hexachloroethane	27.4	5.0	ug/L	100		27	40-140			+
Indeno(1,2,3-cd)Pyrene	83.5	10.0	ug/L	100		84	40-140			
Isophorone	76.8	10.0	ug/L	100		77	40-140			
Naphthalene	57.6	10.0	ug/L	100		58	40-140			
Nitrobenzene	71.4	10.0	ug/L	100		71	40-140			
N-Nitrosodimethylamine	68.9	10.0	ug/L	100		69	40-140			
Pentachlorophenol	82.6	50.0	ug/L	100		83	30-130			
Phenanthrene	80.5	10.0	ug/L	100		80	40-140			
Phenol	68.2	10.0	ug/L	100		68	30-130			
Pyrene	83.7	10.0	ug/L	100		84	40-140			

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BG71346 - 3520C										
Surrogate: 1,2-Dichlorobenzene-d4	*58.8*		ug/L	*100*		*59*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*128*		ug/L	*150*		*85*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*89.8*		ug/L	*150*		*60*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*73.0*		ug/L	*100*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*82.3*		ug/L	*150*		*55*	*15-110*			
Surrogate: Nitrobenzene-d5	*75.2*		ug/L	*100*		*75*	*30-130*			
Surrogate: Phenol-d6	*101*		ug/L	*150*		*67*	*15-110*			
Surrogate: p-Terphenyl-d14	*84.2*		ug/L	*100*		*84*	*30-130*			
LCS Dup										
1,1-Biphenyl	70.1	10.0	ug/L	100		70	40-140	5	20	
1,2,4-Trichlorobenzene	56.4	10.0	ug/L	100		56	40-140	15	20	
1,2-Dichlorobenzene	40.4	10.0	ug/L	100		40	40-140	9	20	
1,3-Dichlorobenzene	36.3	10.0	ug/L	100		36	40-140	11	20	+
1,4-Dichlorobenzene	39.7	10.0	ug/L	100		40	40-140	16	20	
2,4,5-Trichlorophenol	79.8	10.0	ug/L	100		80	30-130	3	20	
2,4,6-Trichlorophenol	74.1	10.0	ug/L	100		74	30-130	0.5	20	
2,4-Dichlorophenol	75.3	10.0	ug/L	100		75	30-130	8	20	
2,4-Dimethylphenol	73.6	50.0	ug/L	100		74	30-130	8	20	
2,4-Dinitrophenol	73.2	50.0	ug/L	100		73	30-130	5	20	
2,4-Dinitrotoluene	88.0	10.0	ug/L	100		88	40-140	5	20	
2,6-Dinitrotoluene	83.5	10.0	ug/L	100		84	40-140	0	20	
2-Chloronaphthalene	58.3	10.0	ug/L	100		58	40-140	6	20	
2-Chlorophenol	54.5	10.0	ug/L	100		54	30-130	7	20	
2-Methylnaphthalene	72.1	10.0	ug/L	100		72	40-140	6	20	
2-Methylphenol	66.7	10.0	ug/L	100		67	30-130	8	20	
2-Nitrophenol	68.2	10.0	ug/L	100		68	30-130	7	20	
3,3'-Dichlorobenzidine	60.3	20.0	ug/L	100		60	40-140	3	20	
3+4-Methylphenol	66.2	20.0	ug/L	200		33	30-130	57	20	+
4-Bromophenyl-phenylether	89.6	10.0	ug/L	100		90	40-140	6	20	
4-Chloroaniline	58.0	20.0	ug/L	100		58	40-140	1	20	
4-Nitrophenol	106	50.0	ug/L	100		106	30-130	7	20	
Acenaphthene	79.2	10.0	ug/L	100		79	40-140	3	20	
Acenaphthylene	76.0	10.0	ug/L	100		76	40-140	2	20	
Acetophenone	69.0	10.0	ug/L	100		69	40-140	3	20	
Aniline	45.4	10.0	ug/L	100		45	40-140	5	20	
Anthracene	90.2	10.0	ug/L	100		90	40-140	6	20	
Azobenzene	85.5	20.0	ug/L	100		86	40-140	1	20	
Benzo(a)anthracene	85.2	10.0	ug/L	100		85	40-140	5	20	
Benzo(a)pyrene	89.1	10.0	ug/L	100		89	40-140	7	20	
Benzo(b)fluoranthene	85.1	10.0	ug/L	100		85	40-140	2	20	
Benzo(g,h,i)perylene	83.2	10.0	ug/L	100		83	40-140	3	20	
Benzo(k)fluoranthene	84.7	10.0	ug/L	100		85	40-140	15	20	
bis(2-Chloroethoxy)methane	67.8	10.0	ug/L	100		68	40-140	3	20	
bis(2-Chloroethyl)ether	67.3	10.0	ug/L	100		67	40-140	13	20	
bis(2-chloroisopropyl)Ether	63.1	10.0	ug/L	100		63	40-140	6	20	
bis(2-Ethylhexyl)phthalate	87.9	6.0	ug/L	100		88	40-140	0.9	20	

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BG71346 - 3520C										
Butylbenzylphthalate	86.0	10.0	ug/L	100		86	40-140	0.3	20	
Chrysene	89.8	10.0	ug/L	100		90	40-140	7	20	
Dibenzo(a,h)Anthracene	85.9	10.0	ug/L	100		86	40-140	4	20	
Dibenzofuran	77.0	10.0	ug/L	100		77	40-140	3	20	
Diethylphthalate	83.4	10.0	ug/L	100		83	40-140	3	20	
Dimethylphthalate	86.0	10.0	ug/L	100		86	40-140	3	20	
Di-n-butylphthalate	89.4	10.0	ug/L	100		89	40-140	2	20	
Di-n-octylphthalate	88.9	10.0	ug/L	100		89	40-140	5	20	
Fluoranthene	92.4	10.0	ug/L	100		92	40-140	6	20	
Fluorene	74.1	10.0	ug/L	100		74	40-140	0.4	20	
Hexachlorobenzene	86.0	10.0	ug/L	100		86	40-140	5	20	
Hexachlorobutadiene	55.8	10.0	ug/L	100		56	40-140	29	20	+
Hexachloroethane	33.0	5.0	ug/L	100		33	40-140	19	20	+
Indeno(1,2,3-cd)Pyrene	85.6	10.0	ug/L	100		86	40-140	2	20	
Isophorone	73.0	10.0	ug/L	100		73	40-140	5	20	
Naphthalene	59.7	10.0	ug/L	100		60	40-140	4	20	
Nitrobenzene	65.3	10.0	ug/L	100		65	40-140	9	20	
N-Nitrosodimethylamine	65.7	10.0	ug/L	100		66	40-140	5	20	
Pentachlorophenol	88.9	50.0	ug/L	100		89	30-130	7	20	
Phenanthrene	86.1	10.0	ug/L	100		86	40-140	7	20	
Phenol	66.6	10.0	ug/L	100		67	30-130	2	20	
Pyrene	85.7	10.0	ug/L	100		86	40-140	2	20	
Surrogate: 1,2-Dichlorobenzene-d4	*54.8*		ug/L	*100*		*55*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*134*		ug/L	*150*		*89*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*81.1*		ug/L	*150*		*54*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*72.6*		ug/L	*100*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*71.4*		ug/L	*150*		*48*	*15-110*			
Surrogate: Nitrobenzene-d5	*72.4*		ug/L	*100*		*72*	*30-130*			
Surrogate: Phenol-d6	*90.2*		ug/L	*150*		*60*	*15-110*			
Surrogate: p-Terphenyl-d14	*86.8*		ug/L	*100*		*87*	*30-130*			
Classical Chemistry										
Batch BG70932 - Metals No Prep										
Blank										
Hexavalent Chromium	ND	0.05	mg/L							
LCS										
Hexavalent Chromium	0.50	0.05	mg/L	0.500		100	90-110			
LCS Dup										
Hexavalent Chromium	0.49	0.05	mg/L	0.500		98	90-110	2	20	
Duplicate **Source: 0707106-01**										
Hexavalent Chromium	ND	0.05	mg/L		ND				20	
Matrix Spike **Source: 0707106-01**										
Hexavalent Chromium	0.46	0.05	mg/L	0.500	ND	92	85-115			
Batch BG70935 - General Preparation										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch BG70935 - General Preparation										
Total Residual Chlorine	ND	0.06	mg/L							
LCS										
Total Residual Chlorine	0.38		mg/L	0.400		95	80-120			
Batch BG71024 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	18	5	mg/L	20.0		90	66-114			
Batch BG71127 - General Preparation										
Blank										
Total Cyanide (LL)	ND	0.005	mg/L							
LCS										
Total Cyanide (LL)	0.019	0.005	mg/L	0.0201		95	90-110			
LCS										
Total Cyanide (LL)	0.157	0.005	mg/L	0.150		105	90-110			
LCS Dup										
Total Cyanide (LL)	0.151	0.005	mg/L	0.150		101	90-110	4	20	
Duplicate **Source: 0707106-01**										
Total Cyanide (LL)	ND	0.005	mg/L		ND				20	
Matrix Spike **Source: 0707106-01**										
Total Cyanide (LL)	0.104	0.005	mg/L	0.100	ND	104	75-125			
Batch BG71128 - General Preparation										
Blank										
Dissolved Cyanide	ND	0.005	mg/L							
LCS										
Dissolved Cyanide	0.019	0.005	mg/L	0.0201		95	90-110			
LCS										
Dissolved Cyanide	0.157	0.005	mg/L	0.150		105	90-110			
LCS Dup										
Dissolved Cyanide	0.151	0.005	mg/L	0.150		101	90-110	4	20	
Duplicate **Source: 0707106-01**										
Dissolved Cyanide	ND	0.005	mg/L		ND				20	
Matrix Spike **Source: 0707106-01**										
Dissolved Cyanide	0.083	0.005	mg/L	0.100	ND	83	75-125			
Batch BG71135 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	78		mg/L	94.9		82	80-120			
Duplicate **Source: 0707106-01**										
Total Suspended Solids	2170	17	mg/L		1360			46	20	+

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch BG71231 - General Preparation										
Blank										
Phenols	ND	0.10	mg/L							
LCS										
Phenols	0.99	0.10	mg/L	1.00		99	80-120			
Duplicate **Source: 0707106-01**										
Phenols	0.49	0.10	mg/L		0.40			20	20	
Matrix Spike **Source: 0707106-01**										
Phenols	1.18	0.10	mg/L	1.00	0.40	78	75-125			

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES ESS Laboratory Work Order: 0707106

Notes and Definitions

Z-08	See Attached
U	Analyte included in the analysis, but not detected
DL	Diluted out of sample.
D+	Relative percent difference for duplicate is outside of criteria.
D	Diluted.
+	Outside QC Limits.
ND	Analyte NOT DETECTED above the detection limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
mg/kg	Results reported as wet weight
TCLP	Toxicity Characteristic Leachate Procedure
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
TIC	A forward library search of the NBS Mass Spectral Library was performed on this sample using the McLafferty Probability Base Matching (PBM) Algorithm. An estimated concentration of non-TCL compounds tentatively identified is quantified by the internal standard method. The nearest internal standard free of interferences was used to quantify. A response factor of one was assumed. This search was inclusive of the ten largest peaks greater than ten percent of the nearest internal standard.
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
¶	The state of RI does not grant certification for this method for non-potables.

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707106

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Navy Installation Restoration QA Program
Soil and Water

Rhode Island: A-179

Connecticut: PH-0750

Maine: RI002

Massachusetts: M-RI002

New Hampshire (NELAP accredited): 242405
Potable Water
Non Potable Water

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

United States Department of Agriculture
Soil Permit: S-54210

New Jersey (NELAP accredited): RI002
Potable Water
Non Potable Water
Soil and Hazardous Waste

Maryland: 301
Potable Water

Jena E Paola

From: Paul, Michele [MPaul@VHB.com]
Sent: Tuesday, July 10, 2007 8:45 AM
To: Jena E Paola
Cc: Gower, Anna; Kevin P. Braga
Subject: RE: more info from the permit requirements

App III Effluent list please – Thank you

Michele S.W. Paul, LSP

From: Jena E Paola [mailto:JPaola@thielsch.com]
Sent: Tuesday, July 10, 2007 8:39 AM
To: Paul, Michele
Cc: Gower, Anna; Kevin P. Braga
Subject: RE: more info from the permit requirements

Hi Anna/Michele,

On the Chain of Custody, you indicated you wanted MCP-Metlas (13). This is not the same list of metals that is on the Appendix III- Effluent Limitations list that you provided to Kevin Braga. Please let us know if you would like us to go by the Chain of Custody, or the Appendix III- Effluent Limitations list.

Thank you,

Jena Paola
ESS Laboratory
401-461-7181

From: Paul, Michele [mailto:MPaul@VHB.com]
Sent: Monday, July 09, 2007 5:37 PM
To: Jena E Paola
Cc: Gower, Anna; Kevin P. Braga
Subject: RE: more info from the permit requirements

As this sample is a pretreated sample to determine treatment design requirements, please prepare another preserved voa vial from one of the non-preserved sample containers. Also – the sample date on all of the samples was today, July 9, 2007.

Please call with any additional questions. Thanks

Michele S.W. Paul, LSP

From: Jena E Paola [mailto:JPaola@thielsch.com]
Sent: Monday, July 09, 2007 5:18 PM
To: Paul, Michele; Gower, Anna
Cc: Kevin P. Braga
Subject: FW: more info from the permit requirements

Hi Michele/Anna,

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required #____
State where samples were collected from: (MA) RI CT NH NJ NY ME Other ____
Is this project for any of the following: (MA-MCP) Navy USACE Other ____

Reporting Limits: GW-1
ESS LAB PROJECT ID: 0707106
Electronic Deliverable: X Yes ___ No
Format: Excel X Access ___ PDF ___ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
VHB	714461	NASH ROAD
Contact Person	**Address**	
ANNA GOWER	530 BROADWAY	
City	**State**	**Zip** / **PO#**
PROVIDENCE	RHODE ISLAND	02909 / 714461
Telephone #	**Fax #**	**Email Address**
401-272-8100	401-273-9694	AGOWER@VHB.COM

Circle and/or Write Required Analysis

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	* 8260 VOA	624	524.2	8021 MTBE/BTEX	VPH w/targets	8015 GRO	* (8015 DRO) (8100M) TPH	EPH w/o PAHs	EPH w/PAHs	8081 Pesticides	8082 PCB	8270 SVOA	625	PAH 8270	RCRA5	RCRA8	PP13	TAL23	TCLP-RCRA8	NBC7	MCP-METALS (13)	MCP-METALS (13) w/Hg	Total Dissolved Cyanide	TRC by SM 4500 - Cl G	EDB by 504	Total Phenols by 420.1	TSS by SM 2540-D
1	11/9/2007	1140		X	GW	GZA-6	1,6, 4	13	V, P, G	X						X				X	X										X	X	X	X	X

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: ✓ Yes ___ No — Internal Use Only
Seals Intact: ___ Yes ___ No NA: ✓ — [✓] Pickup
Cooler Temp: 5.0° ✓ — [ ] Technicians ____

Preservation Code: 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: AGOWER

Comments: * TPH BY 1664; 8260 PLUS OXYGENATES, MCP METALS BY 6020 EXCEPT Hg (BY 7471) * HEXCr BY SM 3500-Cr

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
A Gower / VHB	7/9/07 1530		7/9/07 16:00		7/9/07 16:25		7/9/07 1625
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

Anna Gower
Vanasse Hangen Brustlin, Inc.
530 Broadway
Providence, RI 02909

RE: Nash Road NPDES
ESS Laboratory Work Order Number: 0707346

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 Project Narrative, the entire report has been paginated. The ESS Laboratory Certifications sheet is the final report page. 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 mailed. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

Date: July 25, 2007

Sample Receipt
1 Ground Water sample, which was originally received on July 09, 2007 as ESS Laboratory work order 0707106 was relogged on July 24, 2007 as ESS Laboratory work order 0707346 for the analyses specified on the enclosed Chain of Custody Record. Analysis for Polychlorinated Biphenyls for sample 0707346-01 was requested outside of the EPA recommended holding time.

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 may be used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC, except where noted within this project narrative.
Holding time and preservation requirements for all MCP analytes were achieved, unless otherwise noted in this Project Narrative.

Polychlorinated Biphenyls Analysis
The Method Blank for Aroclor 1260 was present at a level of 0.25 ug/L, however, sample was non detect for this analyte.
Elevated method reporting limits for sample 0707346-01 are due to limited sample volume.

No other observations noted.

End of Project Narrative.

mdp

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES
Client Sample ID: GZA-6
Date Sampled: 07/09/07 11:40
Percent Solids: N/A
Initial Volume: 170
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 0707346
ESS Laboratory Sample ID: 0707346-01
Sample Matrix: Ground Water
Analyst: SEP
Prepared: 07/24/07

608 Polychlorinated Biphenyls (PCB)

Analyte		Results	Units	MRL	MA - GW1 Limit	DF	Analyzed
Aroclor 1016	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1221	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1232	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1242	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1248	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1254	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1260	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1262	H	ND	ug/L	0.12		1	07/25/07
Aroclor 1268	H	ND	ug/L	0.12		1	07/25/07

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*56 %*	*H*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*58 %*	*H*	*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*	*H*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*	*H*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707346

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
608 Polychlorinated Biphenyls (PCB)										
Batch BG72429 - 3510C										
Blank										
Aroclor 1016	ND	0.02	ug/L							
Aroclor 1221	ND	0.02	ug/L							
Aroclor 1232	ND	0.02	ug/L							
Aroclor 1242	ND	0.02	ug/L							
Aroclor 1248	ND	0.02	ug/L							
Aroclor 1254	ND	0.02	ug/L							
Aroclor 1260	0.25	0.02	ug/L							
Aroclor 1262	ND	0.02	ug/L							
Aroclor 1268	ND	0.02	ug/L							
Surrogate: Decachlorobiphenyl	*0.0388*		ug/L	*0.0500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0413*		ug/L	*0.0500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0360*		ug/L	*0.0500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0385*		ug/L	*0.0500*		*77*	*30-150*			
LCS										
Aroclor 1016	0.86	0.02	ug/L	1.00		86	40-140			
Aroclor 1260	0.86	0.02	ug/L	1.00		86	40-140			B
Surrogate: Decachlorobiphenyl	*0.0438*		ug/L	*0.0500*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0465*		ug/L	*0.0500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0395*		ug/L	*0.0500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0415*		ug/L	*0.0500*		*83*	*30-150*			
LCS Dup										
Aroclor 1016	0.90	0.02	ug/L	1.00		90	40-140	5	50	
Aroclor 1260	0.90	0.02	ug/L	1.00		90	40-140	5	50	B
Surrogate: Decachlorobiphenyl	*0.0391*		ug/L	*0.0500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0415*		ug/L	*0.0500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0359*		ug/L	*0.0500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0377*		ug/L	*0.0500*		*75*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707346

Notes and Definitions

U	Analyte included in the analysis, but not detected
H	Estimated value. Sample hold times were exceeded.
B	Present in Blank.
ND	Analyte NOT DETECTED above the detection limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
mg/kg	Results reported as wet weight
TCLP	Toxicity Characteristic Leachate Procedure
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
TIC	A forward library search of the NBS Mass Spectral Library was performed on this sample using the McLafferty Probability Base Matching (PBM) Algorithm. An estimated concentration of non-TCL compounds tentatively identified is quantified by the internal standard method. The nearest internal standard free of interferences was used to quantify. A response factor of one was assumed. This search was inclusive of the ten largest peaks greater than ten percent of the nearest internal standard.
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
¶	The state of RI does not grant certification for this method for non-potables.

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Nash Road NPDES

ESS Laboratory Work Order: 0707346

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Navy Installation Restoration QA Program
Soil and Water

Rhode Island: A-179

Connecticut: PH-0750

Maine: RI002

Massachusetts: M-RI002

New Hampshire (NELAP accredited): 242405
Potable Water
Non Potable Water

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

United States Department of Agriculture
Soil Permit: S-54210

New Jersey (NELAP accredited): RI002
Potable Water
Non Potable Water
Soil and Hazardous Waste

Maryland: 301
Potable Water

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

070,7846

Page 1 of 1

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____
State where samples were collected from: MA RI CT NH NJ NY ME Other ____
Is this project for any of the following: MA-MCP Navy USACE Other ____

Reporting Limits: GW-1

ESS LAB PROJECT ID: ~~070706~~ KD 11/21/07

Electronic Deliverable: X Yes ___ No
Format: Excel X Access ___ PDF ___ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
VHB	714461	NASH ROAD

Contact Person	Address
ANNA GOWER	530 BROADWAY

City	State	Zip	PO#
PROVIDENCE	RHODE ISLAND	02909	714461

Telephone #	Fax #	Email Address
401-272-8100	401-273-9694	AGOWER@VHB.COM

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	* 8260 VOA 624	8021 MTBE/BTEX	VPH w/targets	* 8015 GRO	8015 DRO	EPH 4 Diesel	EPH w/PAHs	608 Pesticides	608 PCB	8081 Pesticides	8082 PCB	8270 SVOA 625	PAH 8270	PP13 TAL23	RCRA8 RCRA5	TCLP-RCRA8	NBC7	MCP-METALS (13) w/Hg	MCP-METALS (13)	TOTAL DISSOLVED CHROMIUM	TRC BY SM 4500-Cl G	EDB BY 504	TOTAL PHENOLS BY 420.1	TSS BY SM 2540-D
1	11/9/2007	1140		X	GW	GZA-6	1,6, 4	13	V, P, G	X			X				X				X	X							X	X	X	X	X

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: X Yes ___ No | Internal Use Only
Seals Intact: ___ Yes ___ No NA: X | [X] Pickup
Cooler Temp: 5.0° | [ ] Technicians ____

Preservation Code: 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: AGOWER

Comments: * TPH BY 1664; 8260 PLUS OXYGENATES, MCP METALS BY 6020 EXCEPT Hg BY 7471 & HEXCr BY SM 3500-Cr

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
AGower/VHB	7/9/07 1520		7/9/07 16:00		7/9/07 16:25		7/9/07 1625
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt