

November 25, 2009
Job No. 43654.00-C



Mr. Joseph Martella
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908

Mr. John Leo
Rhode Island Department of Environmental Management
Office of Compliance and Inspection
235 Promenade Street
Providence, RI 02908-5767

530 Broadway
Providence
Rhode Island
02909
401-421-4140
FAX 401-751-8613
www.gza.net

Re: *Remedial Summary Report – Response to Stormwater Release*
Former Tidewater Facility
200 Taft Street
Pawtucket, Rhode Island

Dear Messrs. Martella and Leo:

On behalf of our Client, The Narragansett Electric Company d/b/a National Grid (National Grid), GZA GeoEnvironmental, Inc. (GZA) is providing this letter report to summarize the remedial actions taken in response to the June 2, 2009 release of stormwater accumulated in a former gas holder at the former Tidewater Facility (Site). The Site was the location of the former Tidewater Manufactured Gas Plant (MGP) and the former Pawtucket No. 1 Power Station. The majority of the Site is currently vacant with the exception of an active natural gas regulating station, and active switching and electrical substations; both owned and operated by National Grid. The Site *Locus Plan* is provided as Figure 1. National Grid is currently completing a *Site Investigation* (SI) for the Site which has been assigned Case No. 95-022. A Site Plan showing the location of the gas holders and relevant Site features is included as Figure 2.

The release was verbally reported to the Rhode Island Department of Environmental Management (RIDEM) on June 2, 2009 and written notice was subsequently provided to you by Vanasse Hangen and Brustlin, Inc (VHB) on June 17, 2009. The release originated from a 3-inch threaded pipe stub at the base of Gas Holder No. 7. As reported by VHB, Clean Harbors Environmental Services (CHES) of East Providence, Rhode Island was contracted to respond to the release. On June 2, 2009, CHES stopped the discharge from the gas holder by installing a polyethylene ball valve on the leaking pipe stub. In addition, CHES used booms on the upland portion of the Site to contain the released water from discharging to the Seekonk River. At RIDEM's request, VHB collected samples for laboratory analysis of the released water and of a "brown floating emulsion" from a ponded area located between the tanks and the Seekonk River. The sample locations are as follows:

1. Sample "Gas Holder" was a release water sample collected 20-feet down gradient of the gas holder discharge point;
2. Sample "Upstream" was a background sample collected from the Seekonk River upstream of the point of release water entry;
3. Sample "Inflow" was a release water samples collected at the point of entry into the Seekonk River and

4. The sample "Scum" was collected from floating scum that accumulated at various locations where the release water ponded between the gas holders and the Seekonk River.

The results of the laboratory analysis are summarized in the attached Table 1. In addition, the chain-link-fence surrounding the Site was inspected by VHB. Breaches in the fence were repaired by Citiworks Inc. of Providence, Rhode Island (fence contractor) on June 4, 2009. It is unclear what caused the pipe stub to fail.



In response to the surface erosion caused by the release, during the week of June 17, 2009, National Grid's contractor, TFord of Georgetown, Massachusetts was on Site and completed the following work:

1. The washout area caused by the release immediately adjacent to Gas Holder No. 7 was filled with dense graded crushed stone (DGCS).
2. Areas of erosion within the access roads and parking area around the gas holders (approximately 23,000 square feet) were covered with a 6 oz non-woven geotextile and a 3 to 6 inch layer of DGCS compacted with a vibratory roller. The work was extended east toward the Seekonk River to approximately the Coastal Resource Management Councils (CRMC) 200-foot jurisdictional limit.
3. The brush around the gas holders was cleared and stock piled to limit the potential for vandalism.
4. Two additional pipe stubs with very small leaks were discovered on the base of Gas Holder No. 7. Both of these leaks were sealed and the pipe stubs were encapsulated in concrete.
5. A steel protective grate was fabricated and installed over the valve where the release occurred.

This phase of the Site work was documented by a GZA field representative. Representative photographs of the repair work performed are included in Attachment A.

While on Site observing the repair work by TFord, GZA noted that accumulated stormwater in Gas Holder No. 8 was intermittently overtopping on the southern side of the holder. At the time of the discovery, the discharge flow from the gas holder was estimated to be limited to approximately 0.5 gallons per minute. A sample labeled "No. 8 Gas Holder" was collected in a 5-gallon bucket by GZA. Water samples were then transferred to appropriate sample containers and submitted for laboratory analysis. Samples were analyzed for VOCs by EPA Method 8260, PAHs by EPA Method 8270, TPH by 8100, and RCRA 8 metals. The results of the analysis have been summarized in Table 1 and the laboratory certificates are attached as Appendix B. All samples collected by VHB and GZA contained low level detects of VOCs, SVOCs, TPH and metals.

As the gas holders were designed to capture stormwater to maintain seals between the rings, the gas holders have slowly filled with rainwater. Based on field measurements obtained on August 26, 2009, Gas Holder No. 8 was estimated to have approximately 0.25 to 0.33 feet of freeboard and Gas Holder No. 7 was estimated to have 10 to 11 feet of freeboard. To stop the accumulated storm water from overtopping Gas Holder No. 8, an interconnecting pipe between Gas Holder Nos. 7 and 8 was installed to allow for transfer of water between the two holders for water level equalization. The line was installed by welding a 4-inch gate valve onto each gas holder, bolting a 3-inch diameter hole saw apparatus to the valves and cutting a hole through the outer wall of the gas



holders. After the hole was cut, the hole saw apparatus was removed and a 4-inch steel line was installed between the valves. Refer to photographs in Appendix A. When the valves were opened, the water elevation in the gas holders equalized. Equalization of the water levels between the two holders was measured by GZA through pressure readings. Based on the pressure readings recorded on October 19, 2009, it is estimated that there is currently 3.5 to 4 feet of freeboard in each gas holder.

In addition to these response activities, GZA has performed weekly field visits since June 17, 2009 to document Site conditions which includes inspections of the former gas holders. To date, no other stormwater releases have occurred.

At this time National Grid is making preparations for the demolition of the gas holders. It has been proposed to RIDEM that the stormwater which has accumulated in the gas holders be treated on site and released to the Seekonk River. An application for a RIPDES General Permit was submitted to RIDEM on November 13, 2009 and a request for a Finding of No Significant Impact was submitted to the Coastal Resources Management Council on November 20, 2009. We anticipate the treatment and discharge of the stormwater to begin in January 2010 and be completed by April 2010.

We trust that this information meets your needs. Should you have any questions or require additional information, please do not hesitate to contact Meg Kilpatrick at (401) 421-4140 or Michele Leone at (781) 907-3651. Thank you for your attention to this matter.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'S. Andrus', written over the typed name and title.

Stephen Andrus, P.E.
Assistant Project Manager

A handwritten signature in blue ink, appearing to read 'James J. Clark', written over the typed name and title.

James J. Clark, P.E.
Principal

A handwritten signature in blue ink, appearing to read 'Margaret S. Kilpatrick', written over the typed name and title.

Margaret S. Kilpatrick, P.E.
Reviewer

SMA/MSK:tja

Attachments: Figure 1, Locus Map
Figure 2, Site Plan
Table 1
A - Photos
B - Laboratory Data Sheets

cc: Michele Leone, National Grid

TABLE

TABLE 1
SUMMARY OF GAS HOLDER
RELEASE ANALYTICAL RESULTS

Tidewater Facility
Pawtucket, Rhode Island

VHB RESULTS SUMMARY		Gasholder	Upstream	Inflow	Trip Blank
		06/02/2009	06/02/2009	06/02/2009	06/02/2009
Constituent	UNITS				
VOCs AND SVOCS					
1,2,4-Trimethylbenzene	mg/L	0.0573	<0.0010	<0.0010	<0.0010
1,3,5-Trimethylbenzene	mg/L	0.0212	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	mg/L	0.0012	<0.0010	<0.0010	<0.0010
Benzene	mg/L	0.0089	<0.0010	<0.0010	<0.0010
Chloroform	mg/L	<0.0010	<0.0010	0.0016	<0.0010
Ethylbenzene	mg/L	0.0262	<0.0010	<0.0010	<0.0010
Isopropylbenzene	mg/L	0.0013	<0.0010	<0.0010	<0.0010
Naphthalene	mg/L	0.243	0.0134	<0.0010	<0.0010
Styrene	mg/L	0.0073	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.0776	<0.0010	<0.0010	<0.0010
Xylene O	mg/L	0.0697	<0.0010	<0.0010	<0.0010
Xylene P,M	mg/L	0.163	<0.0020	<0.0020	<0.0020
Xylenes (Total)	mg/L	0.232	<0.0030	<0.0030	ND
Naphthalene	mg/L	0.069	NR	NR	NT
2-Methylnaphthalene	mg/L	0.0151	<0.00040	<0.00040	NT
Acenaphthene	mg/L	<0.00040	0.00102	<0.00040	NT
Acenaphthylene	mg/L	0.00058	<0.00040	<0.00040	NT
Anthracene	mg/L	<0.00040	0.00048	<0.00040	NT
Benzo(a)anthracene	mg/L	<0.00010	0.00228	<0.00010	NT
Benzo(a)pyrene	mg/L	<0.00010	0.00221	<0.00010	NT
Benzo(b)fluoranthene	mg/L	<0.00010	0.00209	<0.00010	NT
Benzo(g,h,i)perylene	mg/L	<0.00040	0.00150	<0.00040	NT
Benzo(k)fluoranthene	mg/L	<0.00010	0.00152	<0.00010	NT
Chrysene	mg/L	<0.00010	0.00242	<0.00010	NT
Dibenzo(a,h)Anthracene	mg/L	<0.00010	0.00042	<0.00010	NT
Fluoranthene	mg/L	0.00048	0.00594	<0.00040	NT
Fluorene	mg/L	<0.00040	0.00058	<0.00040	NT
Indeno(1,2,3-cd)Pyrene	mg/L	<0.00010	0.00138	<0.00010	NT
Naphthalene	mg/L	NR	0.00090	<0.00040	NT
Phenanthrene	mg/L	0.00044	0.00473	<0.00040	NT
Pyrene	mg/L	<0.00040	0.00503	<0.00040	NT
Metals					
Zinc	mg/L	NT	0.030	<0.025	NT
Total Cyanide	mg/L	0.053	<0.050	<0.050	NT
TPH					
TPH	mg/L	1.48	<0.20	<0.20	NT

Analytes detected above the method detection limit appear in bold.

NT = Not Tested

ND = Not Detected

NR = Not Reported

TABLE 1
SUMMARY OF GAS HOLDER
RELEASE ANALYTICAL RESULTS

Tidewater Facility
Pawtucket, Rhode Island

VHB RESULTS SUMMARY		Scum
		06/02/2009
Constituent	UNITS	
VOCs AND SVOCS		
Total Petroleum Hydrocarbons	mg/kg	7390
1,2,4-Trimethylbenzene	mg/kg	0.771
Benzene	mg/kg	0.553
Naphthalene	mg/kg	7.99
Styrene	mg/kg	0.436
Xylene O	mg/kg	0.268
Xylene P,M	mg/kg	0.620
Xylenes (Total)	mg/kg	0.888
2,4-Dimethylphenol	mg/kg	2.29
2-Methylnaphthalene	mg/kg	3.78
2-Methylphenol	mg/kg	1.51
Acenaphthylene	mg/kg	7.14
Acetophenone	mg/kg	44.0
Anthracene	mg/kg	5.30
Benzo(a)anthracene	mg/kg	11.5
Benzo(a)pyrene	mg/kg	6.71
Benzo(b)fluoranthene	mg/kg	18.1
Benzo(g,h,i)perylene	mg/kg	3.66
Benzo(k)fluoranthene	mg/kg	15.2
Carbazole	mg/kg	1.72
Chrysene	mg/kg	14.0
Dibenzo(a,h)Anthracene	mg/kg	3.26
Fluoranthene	mg/kg	13.3
Indeno(1,2,3-cd)Pyrene	mg/kg	4.10
Naphthalene	mg/kg	7.17
Phenanthrene	mg/kg	6.75
Pyrene	mg/kg	25.5
Metals		
Total Cyanide	mg/kg	302

Analytes detected above the method detection limit appear in bold.

NT = Not Tested

ND = Not Detected

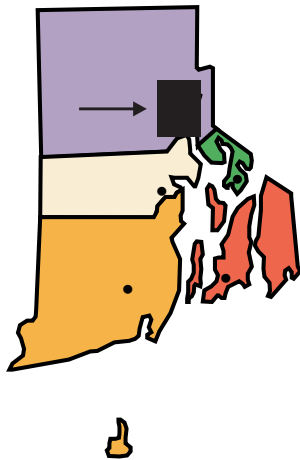
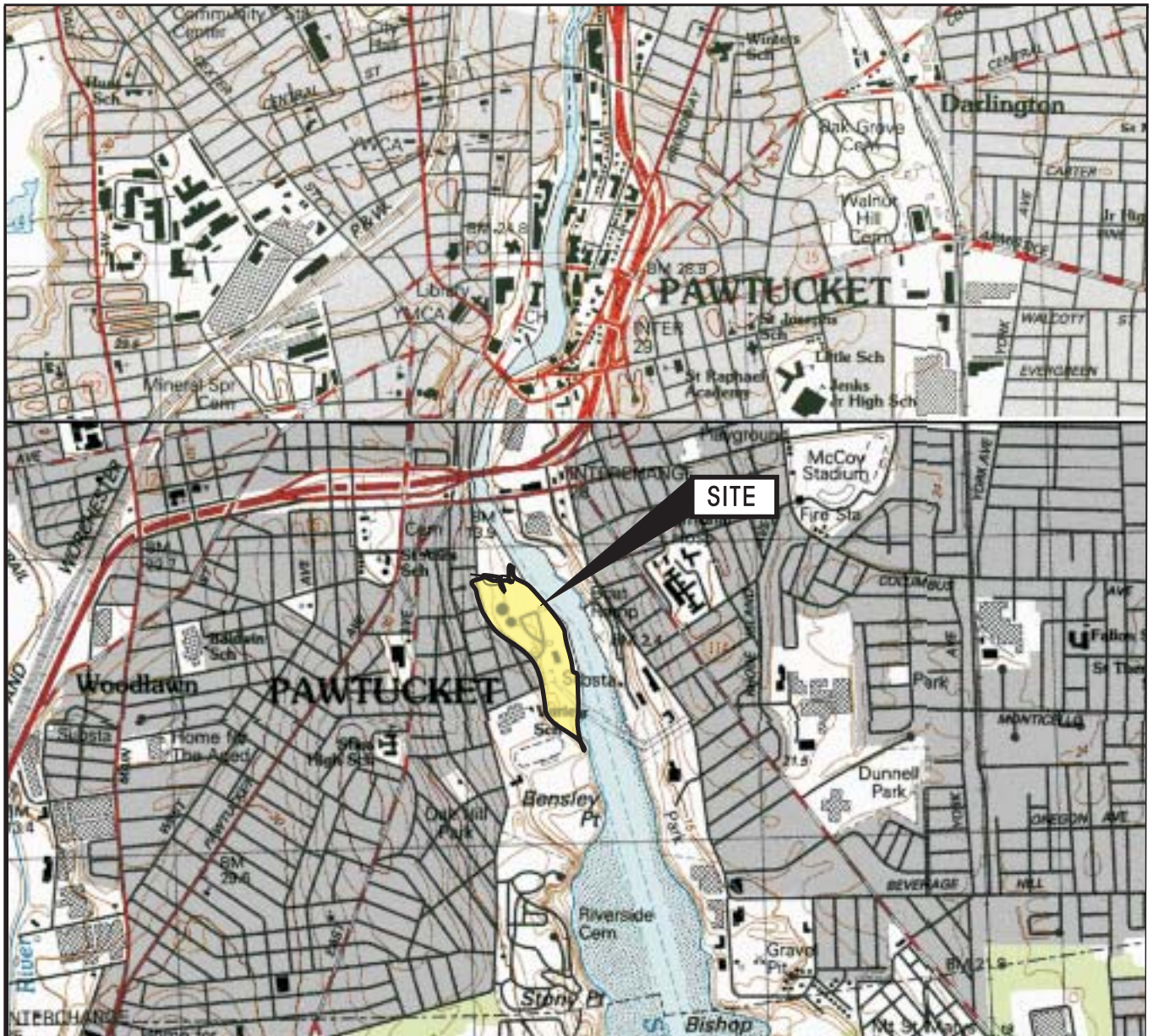
NR = Not Reported

TABLE 1
SUMMARY OF GAS HOLDER
RELEASE ANALYTICAL RESULTS

Tidewater Facility
Pawtucket, Rhode Island

GZA RESULTS SUMMARY		Units	6/17/2009 (GZA) No. 8 Gas Holder
Constituent			
VOCs AND SVOCS			
	Benzene	µg/L	29
	Ethylbenzene	µg/L	1
	Toluene	µg/L	7
	Xylenes (total)	µg/L	6
	Total BTEX	µg/L	43
Metals			
	Mercury	mg/L	0.0006
	Selenium	mg/L	0.052
TPH			
	TPH	mg/L	0.23

FIGURES



FROM USGS PROVIDENCE, RI QUADRANGLE MAP
 (DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH, INC.)
 (CONTOUR ELEVATIONS ARE IN METERS ABOVE NGVD, AT 3 METER INTERVALS)

APPROXIMATE SCALE IN FEET



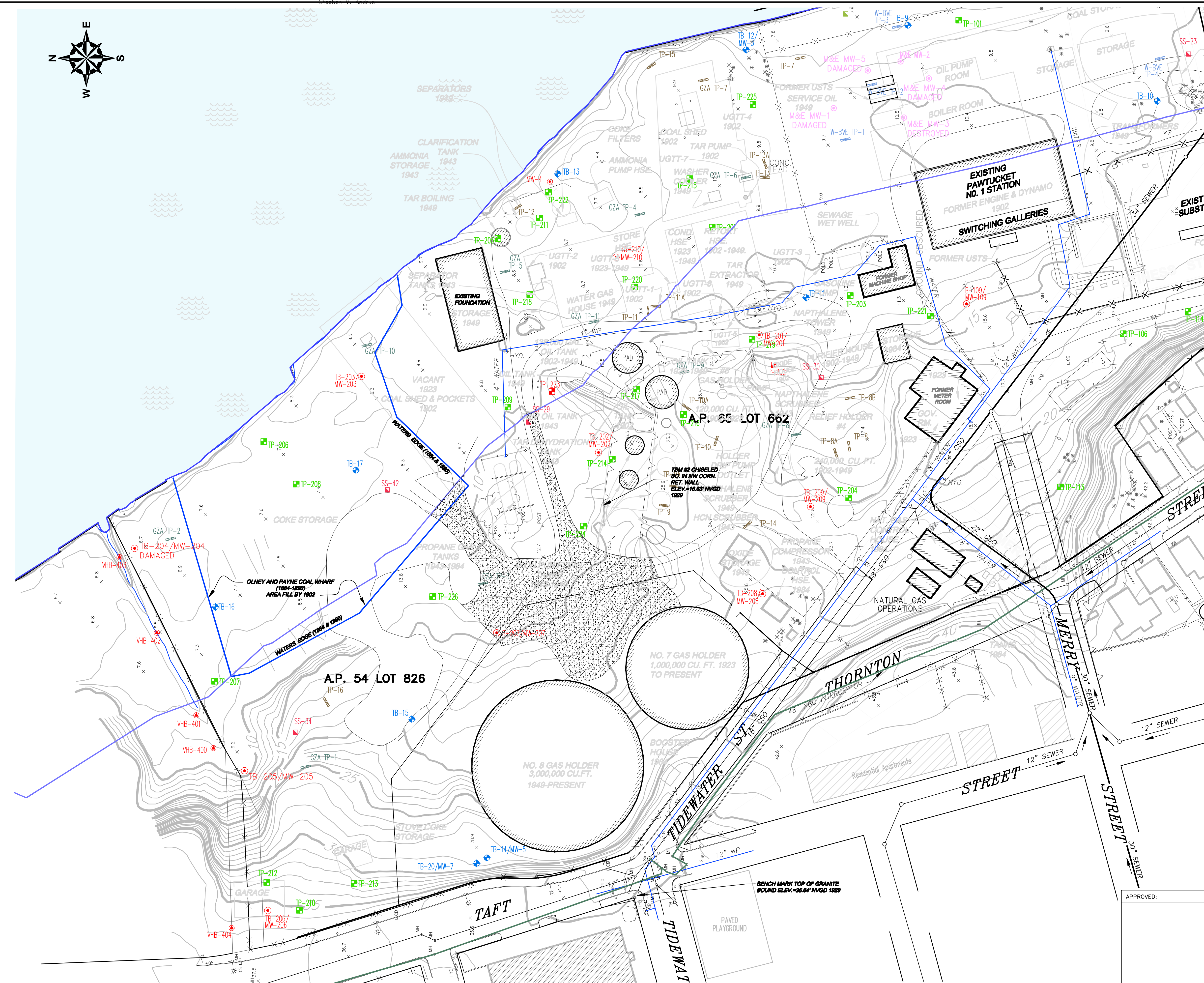
TIDEWATER FACILITY

PAWTUCKET
 RHODE ISLAND

LOCUS PLAN

NOVEMBER 2009

FIGURE NO. 1



REFERENCES:
 CERTIFIED SANBORN MAPS DATED: 1884, 1890, 1902, 1923, 1949 & 1984
 HISTORIC SITE PLAN "1923": BVG & E CO. PAWTUCKET, RHODE ISLAND FIGURE 1
 SITE CONDITIONS & PROPOSED SAMPLING LOCATIONS: ATLANTIC ENVIRONMENTAL SERVICES, INC. UNDATED, FIGURE 4-1.

- LEGEND:**
- SITE AREA BOUNDARIES
 - EXISTING BUILDINGS
 - EXISTING CONTOUR (MINOR 1 FOOT INTERVAL)
 - EXISTING CONTOUR (MAJOR 5 FOOT INTERVAL)
 - APPROXIMATE PROPERTY/LOT LINE (SEE GENERAL NOTE 2)
 - EXISTING STRUCTURE OUTLINE
 - EXISTING NBC INTERCEPTOR SANITARY SEWER
 - EXISTING CITY OF PAWTUCKET STORM DRAIN
 - EXISTING WATER LINE
 - (CSO) EXISTING STORM/COMBINED SAN. SEWER OVERFLOW
 - EXISTING MANHOLE
 - TB-204/MW-204 EXISTING MONITORING WELL
 - ATLANTIC SURFACE SOIL SAMPLE LOCATION
 - APPROXIMATE CRMC 200-FOOT JURISDICTION LINE

GENERAL NOTES:

1. BASE MAP DEVELOPED FROM ELECTRONIC FILES FROM GEI CONSULTANTS, INC. ENTITLED "HISTORIC STRUCTURES AND SAMPLE LOCATIONS", ORIGINAL SCALE 1"=80', DATED JULY 1999 AND ELECTRONIC FILES FROM VANASSE HANGEN BRUSTLIN, INC. ENTITLED "SOIL BORING, TEST PITS AND MONITOR WELL LOCATION", SCALE: 1"=60'.
2. PROPERTY LINES AND LOT INFORMATION ESTABLISHED FROM INFORMATION PROVIDED ON A DRAWING ENTITLED "PERIMETER SURVEY OF LAND AT THE TIDEWATER FORMER MGP SITE IN PAWTUCKET, RHODE ISLAND FOR ATLANTIC ENVIRONMENTAL SERVICES INC." DEVELOPED BY LOUIS FEDERICI AND ASSOCIATES AND AN AUTO CAD FILE ENTITLED "MAX REEF FIELD TRACK EXPANSION 2007" PROVIDED BY THE CITY OF PAWTUCKET.
3. HORIZONTAL DATUM IS BASED ON NAD 1983 FROM BASE MAPPING PROVIDED BY GEI CONSULTING, INC.
4. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL) FROM BASE MAPPING PROVIDED BY GEI CONSULTING, INC.
5. REFERENCE SEWER DATA FROM SCANNED IMAGE PROVIDED BY THE CITY OF PAWTUCKET, RHODE ISLAND, ENTITLED "STUDY OF SEWERAGE FACILITIES" BY WATERMAN ENGINEERING CO. & ANDERSON NICHOLS CO. DATED NOV. 1975, ORIGINAL SCALE 1"=400' & SCANNED IMAGES OF HISTORIC PLAN & PROFILE DRAWINGS PROVIDE CITY OF PAWTUCKET, RHODE ISLAND.



NO.	ISSUE/DESCRIPTION	BY	DATE
FORMER TIDEWATER FACILITY			
PAWTUCKET, RHODE ISLAND			
EXISTING CONDITION SITE PLAN NORTH FILL AREA AND GAS PLANT AREA			
APPROVED:		PREPARED BY:	PREPARED FOR:
		GZA GeoEnvironmental, Inc. Engineers and Scientists 330 BROADWAY PROVIDENCE, RHODE ISLAND 02909 (401) 421-1140	NATIONAL GRID
PROJ MGR:	MSK	REVIEWED BY:	JPH
DESIGNED BY:	SMA	CHECKED BY:	SMA
DATE:	NOV. 2009	SCALE:	1"= 100'
		PROJECT NO.:	43654.00
		REVISION NO.:	
			FIGURE 2
			SHEET NO. 2 OF 2

APPENDIX A
PHOTOGRAPHS

FORMER TIDEWATER MANUFACTURED GAS PLANT PAWTUCKET, RHODE ISLAND

Photo 1: DGCS and Filter Fabric Installation



Photo 2: Pipe Stub Encased in Concrete and Steel Grate Valve Protection



FORMER TIDEWATER MANUFACTURED GAS PLANT PAWTUCKET, RHODE ISLAND

Photo 3: Gas Holders and Restored Area



Photo 4: Gas Holder Connection Line Installed in October 2009



APPENDIX B

LABORATORY CERTIFICATES



CERTIFICATE OF ANALYSIS

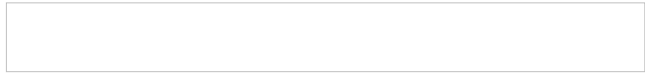
PROJECT NARRATIVE

Claude Masse
 Vanasse Hangen Brustlin, Inc.
 10 Dorrance Street, Suite 400
 Providence, RI 02903

RE: Tidewater
ESS Laboratory Work Order Number: 0906042

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 delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
 Laboratory Director



Analytical Summary

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

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

Sample Receipt

The following sample(s) were received on June 03, 2009 for the analyses specified on the enclosed Chain of Custody Record.

Laboratory ID	Matrix	Client SampleID
0906042-01	Waste Water	Gasholder
0906042-02	Surface Water	Upstream
0906042-03	Surface Water	Inflow
0906042-04	Aqueous	Trip Blank



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

PROJECT NARRATIVE

8260B Volatile Organic Compounds

BSF0042-CCV1 **Continuing Calibration recovery is below lower control limit.**
1,4-Dioxane - Screen

8270C Semi-Volatile Organic Compounds

0906042-02 **Surrogate recovery(ies) below lower control limit.**
BF90812-BS1 **Blank Spike recovery is below lower control limit.**
Benzoic Acid, Hexachlorocyclopentadiene
BF90812-BSD1 **Blank Spike recovery is below lower control limit.**
Benzoic Acid, Hexachlorocyclopentadiene
BF90812-BSD1 **Relative percent difference for duplicate is outside of criteria.**
2,4-Dinitrophenol
BSF0060-CCV1 **Calibration required quadratic regression.**
1,1-Biphenyl, 1,2-Dichlorobenzene
BSF0060-CCV1 **Continuing Calibration recovery is below lower control limit.**
4-Nitroaniline, 4-Nitrophenol

No other observations noted.

End of Project Narrative.



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: ML
 Prepared: 06/05/09

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	1.48	mg/L	0.20		1	06/08/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: O-Terphenyl</i>	88 %		40-140



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,1-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0005		1	06/04/09
1,1,2-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethene	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloropropene	ND	mg/L	0.0020		1	06/04/09
1,2,3-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,3-Trichloropropane	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trimethylbenzene	0.0573	mg/L	0.0010		1	06/04/09
1,2-Dibromo-3-Chloropropane	ND	mg/L	0.0050		1	06/04/09
1,2-Dibromoethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,3,5-Trimethylbenzene	0.0212	mg/L	0.0010		1	06/04/09
1,3-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,4-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,4-Dioxane - Screen	ND	mg/L	0.500		1	06/04/09
1-Chlorohexane	ND	mg/L	0.0010		1	06/04/09
2,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
2-Butanone	ND	mg/L	0.0250		1	06/04/09
2-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
2-Hexanone	ND	mg/L	0.0100		1	06/04/09
4-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
4-Isopropyltoluene	0.0012	mg/L	0.0010		1	06/04/09
4-Methyl-2-Pentanone	ND	mg/L	0.0250		1	06/04/09
Acetone	ND	mg/L	0.0250		1	06/04/09
Benzene	0.0089	mg/L	0.0010		1	06/04/09
Bromobenzene	ND	mg/L	0.0020		1	06/04/09
Bromochloromethane	ND	mg/L	0.0010		1	06/04/09
Bromodichloromethane	ND	mg/L	0.0006		1	06/04/09
Bromoform	ND	mg/L	0.0010		1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: MD

8260B Volatile Organic Compounds

Bromomethane	ND	mg/L	0.0020	1	06/04/09
Carbon Disulfide	ND	mg/L	0.0010	1	06/04/09
Carbon Tetrachloride	ND	mg/L	0.0010	1	06/04/09
Chlorobenzene	ND	mg/L	0.0010	1	06/04/09
Chloroethane	ND	mg/L	0.0020	1	06/04/09
Chloroform	ND	mg/L	0.0010	1	06/04/09
Chloromethane	ND	mg/L	0.0020	1	06/04/09
cis-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
cis-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Dibromochloromethane	ND	mg/L	0.0010	1	06/04/09
Dibromomethane	ND	mg/L	0.0010	1	06/04/09
Dichlorodifluoromethane	ND	mg/L	0.0020	1	06/04/09
Diethyl Ether	ND	mg/L	0.0010	1	06/04/09
Di-isopropyl ether	ND	mg/L	0.0010	1	06/04/09
Ethyl tertiary-butyl ether	ND	mg/L	0.0010	1	06/04/09
Ethylbenzene	0.0262	mg/L	0.0010	1	06/04/09
Hexachlorobutadiene	ND	mg/L	0.0006	1	06/04/09
Hexachloroethane	ND	mg/L	0.0010	1	06/04/09
Isopropylbenzene	0.0013	mg/L	0.0010	1	06/04/09
Methyl tert-Butyl Ether	ND	mg/L	0.0010	1	06/04/09
Methylene Chloride	ND	mg/L	0.0040	1	06/04/09
Naphthalene	0.243	mg/L	0.0100	10	06/05/09
n-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
n-Propylbenzene	ND	mg/L	0.0010	1	06/04/09
sec-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Styrene	0.0073	mg/L	0.0010	1	06/04/09
tert-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Tertiary-amyl methyl ether	ND	mg/L	0.0010	1	06/04/09
Tetrachloroethene	ND	mg/L	0.0010	1	06/04/09
Tetrahydrofuran	ND	mg/L	0.0050	1	06/04/09
Toluene	0.0776	mg/L	0.0010	1	06/04/09
trans-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
trans-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Trichloroethene	ND	mg/L	0.0010	1	06/04/09
Trichlorofluoromethane	ND	mg/L	0.0010	1	06/04/09
Vinyl Acetate	ND	mg/L	0.0050	1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: MD

8260B Volatile Organic Compounds

Vinyl Chloride	ND	mg/L	0.0010	1	06/04/09
Xylene O	0.0697	mg/L	0.0010	1	06/04/09
Xylene P,M	0.163	mg/L	0.0020	1	06/04/09
Xylenes (Total)	0.232	mg/L	0.0030	1	06/04/09
Trihalomethanes (Total)	ND	mg/L	0.0036		06/04/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	98 %		70-130
Surrogate: 4-Bromofluorobenzene	115 %		70-130
Surrogate: Dibromofluoromethane	96 %		70-130
Surrogate: Toluene-d8	105 %		70-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Gasholder
Date Sampled: 06/02/09 13:50
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 0.5
Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-01
Sample Matrix: Waste Water
Analyst: IBM
Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	mg/L	0.005		1	06/09/09
1,2,4-Trichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,2-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,3-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,4-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
2,3,4,6-Tetrachlorophenol	ND	mg/L	0.025		1	06/09/09
2,4,5-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4,6-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dimethylphenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrophenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2,6-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2-Chloronaphthalene	ND	mg/L	0.005		1	06/09/09
2-Chlorophenol	ND	mg/L	0.005		1	06/09/09
2-Methylphenol	ND	mg/L	0.005		1	06/09/09
2-Nitroaniline	ND	mg/L	0.005		1	06/09/09
2-Nitrophenol	ND	mg/L	0.005		1	06/09/09
3,3'-Dichlorobenzidine	ND	mg/L	0.005		1	06/09/09
3+4-Methylphenol	ND	mg/L	0.010		1	06/09/09
3-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4,6-Dinitro-2-Methylphenol	ND	mg/L	0.025		1	06/09/09
4-Bromophenyl-phenylether	ND	mg/L	0.005		1	06/09/09
4-Chloro-3-Methylphenol	ND	mg/L	0.005		1	06/09/09
4-Chloroaniline	ND	mg/L	0.010		1	06/09/09
4-Chloro-phenyl-phenyl ether	ND	mg/L	0.005		1	06/09/09
4-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4-Nitrophenol	ND	mg/L	0.025		1	06/09/09
Acetophenone	ND	mg/L	0.005		1	06/09/09
Aniline	ND	mg/L	0.005		1	06/09/09
Azobenzene	ND	mg/L	0.010		1	06/09/09
Benzoic Acid	ND	mg/L	0.050		1	06/09/09
Benzyl Alcohol	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethoxy)methane	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethyl)ether	ND	mg/L	0.005		1	06/09/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: IBM
 Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

bis(2-chloroisopropyl)Ether	ND	mg/L	0.005	1	06/09/09
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.003	1	06/09/09
Butylbenzylphthalate	ND	mg/L	0.005	1	06/09/09
Carbazole	ND	mg/L	0.005	1	06/09/09
Dibenzofuran	ND	mg/L	0.005	1	06/09/09
Diethylphthalate	ND	mg/L	0.005	1	06/09/09
Dimethylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-butylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-octylphthalate	ND	mg/L	0.005	1	06/09/09
Hexachlorobutadiene	ND	mg/L	0.005	1	06/09/09
Hexachlorocyclopentadiene	ND	mg/L	0.012	1	06/09/09
Hexachloroethane	ND	mg/L	0.002	1	06/09/09
Isophorone	ND	mg/L	0.005	1	06/09/09
Naphthalene	0.069	mg/L	0.005	1	06/09/09
Nitrobenzene	ND	mg/L	0.005	1	06/09/09
N-Nitrosodimethylamine	ND	mg/L	0.005	1	06/09/09
N-Nitroso-Di-n-Propylamine	ND	mg/L	0.005	1	06/09/09
N-nitrosodiphenylamine	ND	mg/L	0.005	1	06/09/09
Phenol	ND	mg/L	0.005	1	06/09/09
Pyridine	ND	mg/L	0.050	1	06/09/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	31 %		30-130
Surrogate: 2,4,6-Tribromophenol	28 %		15-110
Surrogate: 2-Chlorophenol-d4	25 %		15-110
Surrogate: 2-Fluorobiphenyl	31 %		30-130
Surrogate: 2-Fluorophenol	22 %		15-110
Surrogate: Nitrobenzene-d5	35 %		30-130
Surrogate: Phenol-d6	31 %		15-110
Surrogate: p-Terphenyl-d14	34 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water
 Analyst: IBM
 Prepared: 06/08/09

8270C(SIM) Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
2-Methylnaphthalene	0.0151	mg/L	0.00040		1	06/10/09
Acenaphthene	ND	mg/L	0.00040		1	06/10/09
Acenaphthylene	0.00058	mg/L	0.00040		1	06/10/09
Anthracene	ND	mg/L	0.00040		1	06/10/09
Benzo(a)anthracene	ND	mg/L	0.00010		1	06/10/09
Benzo(a)pyrene	ND	mg/L	0.00010		1	06/10/09
Benzo(b)fluoranthene	ND	mg/L	0.00010		1	06/10/09
Benzo(g,h,i)perylene	ND	mg/L	0.00040		1	06/10/09
Benzo(k)fluoranthene	ND	mg/L	0.00010		1	06/10/09
Chrysene	ND	mg/L	0.00010		1	06/10/09
Dibenzo(a,h)Anthracene	ND	mg/L	0.00010		1	06/10/09
Fluoranthene	0.00048	mg/L	0.00040		1	06/10/09
Fluorene	ND	mg/L	0.00040		1	06/10/09
Hexachlorobenzene	ND	mg/L	0.00040		1	06/10/09
Indeno(1,2,3-cd)Pyrene	ND	mg/L	0.00010		1	06/10/09
Pentachlorophenol	ND	mg/L	0.00200		1	06/10/09
Phenanthrene	0.00044	mg/L	0.00040		1	06/10/09
Pyrene	ND	mg/L	0.00040		1	06/10/09

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichlorobenzene-d4	57 %		30-130
Surrogate: 2,4,6-Tribromophenol	92 %		15-110
Surrogate: 2-Fluorobiphenyl	56 %		30-130
Surrogate: Nitrobenzene-d5	71 %		30-130
Surrogate: p-Terphenyl-d14	61 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Gasholder
 Date Sampled: 06/02/09 13:50
 Percent Solids: N/A

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-01
 Sample Matrix: Waste Water

Classical Chemistry

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Total Cyanide	0.053	mg/L	0.050	9014		1	EEM	06/08/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Upstream
Date Sampled: 06/02/09 16:15
Percent Solids: N/A

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-02
Sample Matrix: Surface Water

3005A/6000/7000 Dissolved Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/L	0.0025	7041		1	SVD	06/09/09	100	50
Arsenic	ND	mg/L	0.0025	7060A		1	SVD	06/09/09	100	50
Beryllium	ND	mg/L	0.0005	6010B		1	SVD	06/04/09	100	50
Cadmium	ND	mg/L	0.0025	6010B		1	SVD	06/04/09	100	50
Chromium	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Copper	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Lead	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Mercury	ND	mg/L	0.00050	7470A		1	JP	06/05/09	20	40
Nickel	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50
Selenium	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50
Silver	ND	mg/L	0.005	6010B		1	SVD	06/04/09	100	50
Thallium	ND	mg/L	0.0015	7841		1	SVD	06/09/09	100	50
Zinc	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Upstream
Date Sampled: 06/02/09 16:15
Percent Solids: N/A

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-02
Sample Matrix: Surface Water

3005A/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/L	0.0025	7041		1	SVD	06/09/09	100	50
Arsenic	ND	mg/L	0.0025	7060A		1	SVD	06/09/09	100	50
Beryllium	ND	mg/L	0.0005	6010B		1	JP	06/04/09	100	50
Cadmium	ND	mg/L	0.0025	6010B		1	JP	06/04/09	100	50
Chromium	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Copper	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Lead	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Mercury	ND	mg/L	0.00050	7470A		1	JP	06/05/09	20	40
Nickel	ND	mg/L	0.025	6010B		1	JP	06/04/09	100	50
Selenium	ND	mg/L	0.025	6010B		1	JP	06/04/09	100	50
Silver	ND	mg/L	0.005	6010B		1	JP	06/04/09	100	50
Thallium	ND	mg/L	0.0010	7841		1	SVD	06/09/09	100	50
Zinc	0.030	mg/L	0.025	6010B		1	JP	06/04/09	100	50



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water
 Analyst: ML
 Prepared: 06/05/09

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/L	0.20		1	06/08/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: O-Terphenyl</i>	76 %		40-140



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water
 Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,1-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0005		1	06/04/09
1,1,2-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethene	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloropropene	ND	mg/L	0.0020		1	06/04/09
1,2,3-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,3-Trichloropropane	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dibromo-3-Chloropropane	ND	mg/L	0.0050		1	06/04/09
1,2-Dibromoethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,3,5-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,4-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,4-Dioxane - Screen	ND	mg/L	0.500		1	06/04/09
1-Chlorohexane	ND	mg/L	0.0010		1	06/04/09
2,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
2-Butanone	ND	mg/L	0.0250		1	06/04/09
2-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
2-Hexanone	ND	mg/L	0.0100		1	06/04/09
4-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
4-Isopropyltoluene	ND	mg/L	0.0010		1	06/04/09
4-Methyl-2-Pentanone	ND	mg/L	0.0250		1	06/04/09
Acetone	ND	mg/L	0.0250		1	06/04/09
Benzene	ND	mg/L	0.0010		1	06/04/09
Bromobenzene	ND	mg/L	0.0020		1	06/04/09
Bromochloromethane	ND	mg/L	0.0010		1	06/04/09
Bromodichloromethane	ND	mg/L	0.0006		1	06/04/09
Bromoform	ND	mg/L	0.0010		1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Upstream
Date Sampled: 06/02/09 16:15
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-02
Sample Matrix: Surface Water
Analyst: MD

8260B Volatile Organic Compounds

Bromomethane	ND	mg/L	0.0020	1	06/04/09
Carbon Disulfide	ND	mg/L	0.0010	1	06/04/09
Carbon Tetrachloride	ND	mg/L	0.0010	1	06/04/09
Chlorobenzene	ND	mg/L	0.0010	1	06/04/09
Chloroethane	ND	mg/L	0.0020	1	06/04/09
Chloroform	ND	mg/L	0.0010	1	06/04/09
Chloromethane	ND	mg/L	0.0020	1	06/04/09
cis-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
cis-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Dibromochloromethane	ND	mg/L	0.0010	1	06/04/09
Dibromomethane	ND	mg/L	0.0010	1	06/04/09
Dichlorodifluoromethane	ND	mg/L	0.0020	1	06/04/09
Diethyl Ether	ND	mg/L	0.0010	1	06/04/09
Di-isopropyl ether	ND	mg/L	0.0010	1	06/04/09
Ethyl tertiary-butyl ether	ND	mg/L	0.0010	1	06/04/09
Ethylbenzene	ND	mg/L	0.0010	1	06/04/09
Hexachlorobutadiene	ND	mg/L	0.0006	1	06/04/09
Hexachloroethane	ND	mg/L	0.0010	1	06/04/09
Isopropylbenzene	ND	mg/L	0.0010	1	06/04/09
Methyl tert-Butyl Ether	ND	mg/L	0.0010	1	06/04/09
Methylene Chloride	ND	mg/L	0.0040	1	06/04/09
Naphthalene	0.0134	mg/L	0.0010	1	06/04/09
n-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
n-Propylbenzene	ND	mg/L	0.0010	1	06/04/09
sec-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Styrene	ND	mg/L	0.0010	1	06/04/09
tert-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Tertiary-amyl methyl ether	ND	mg/L	0.0010	1	06/04/09
Tetrachloroethene	ND	mg/L	0.0010	1	06/04/09
Tetrahydrofuran	ND	mg/L	0.0050	1	06/04/09
Toluene	ND	mg/L	0.0010	1	06/04/09
trans-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
trans-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Trichloroethene	ND	mg/L	0.0010	1	06/04/09
Trichlorofluoromethane	ND	mg/L	0.0010	1	06/04/09
Vinyl Acetate	ND	mg/L	0.0050	1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water
 Analyst: MD

8260B Volatile Organic Compounds

Vinyl Chloride	ND	mg/L	0.0010	1	06/04/09
Xylene O	ND	mg/L	0.0010	1	06/04/09
Xylene P,M	ND	mg/L	0.0020	1	06/04/09
Xylenes (Total)	ND	mg/L	0.0030	1	06/04/09
Trihalomethanes (Total)	ND	mg/L	0.0036		06/04/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	98 %		70-130
Surrogate: 4-Bromofluorobenzene	103 %		70-130
Surrogate: Dibromofluoromethane	97 %		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: Tidewater
Client Sample ID: Upstream
Date Sampled: 06/02/09 16:15
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 0.5
Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-02
Sample Matrix: Surface Water
Analyst: IBM
Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	mg/L	0.005		1	06/09/09
1,2,4-Trichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,2-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,3-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,4-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
2,3,4,6-Tetrachlorophenol	ND	mg/L	0.025		1	06/09/09
2,4,5-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4,6-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dimethylphenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrophenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2,6-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2-Chloronaphthalene	ND	mg/L	0.005		1	06/09/09
2-Chlorophenol	ND	mg/L	0.005		1	06/09/09
2-Methylphenol	ND	mg/L	0.005		1	06/09/09
2-Nitroaniline	ND	mg/L	0.005		1	06/09/09
2-Nitrophenol	ND	mg/L	0.005		1	06/09/09
3,3'-Dichlorobenzidine	ND	mg/L	0.005		1	06/09/09
3+4-Methylphenol	ND	mg/L	0.010		1	06/09/09
3-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4,6-Dinitro-2-Methylphenol	ND	mg/L	0.025		1	06/09/09
4-Bromophenyl-phenylether	ND	mg/L	0.005		1	06/09/09
4-Chloro-3-Methylphenol	ND	mg/L	0.005		1	06/09/09
4-Chloroaniline	ND	mg/L	0.010		1	06/09/09
4-Chloro-phenyl-phenyl ether	ND	mg/L	0.005		1	06/09/09
4-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4-Nitrophenol	ND	mg/L	0.025		1	06/09/09
Acetophenone	ND	mg/L	0.005		1	06/09/09
Aniline	ND	mg/L	0.005		1	06/09/09
Azobenzene	ND	mg/L	0.010		1	06/09/09
Benzoic Acid	ND	mg/L	0.050		1	06/09/09
Benzyl Alcohol	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethoxy)methane	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethyl)ether	ND	mg/L	0.005		1	06/09/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water
 Analyst: IBM
 Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

bis(2-chloroisopropyl)Ether	ND	mg/L	0.005	1	06/09/09
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.003	1	06/09/09
Butylbenzylphthalate	ND	mg/L	0.005	1	06/09/09
Carbazole	ND	mg/L	0.005	1	06/09/09
Dibenzofuran	ND	mg/L	0.005	1	06/09/09
Diethylphthalate	ND	mg/L	0.005	1	06/09/09
Dimethylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-butylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-octylphthalate	ND	mg/L	0.005	1	06/09/09
Hexachlorobutadiene	ND	mg/L	0.005	1	06/09/09
Hexachlorocyclopentadiene	ND	mg/L	0.012	1	06/09/09
Hexachloroethane	ND	mg/L	0.002	1	06/09/09
Isophorone	ND	mg/L	0.005	1	06/09/09
Nitrobenzene	ND	mg/L	0.005	1	06/09/09
N-Nitrosodimethylamine	ND	mg/L	0.005	1	06/09/09
N-Nitroso-Di-n-Propylamine	ND	mg/L	0.005	1	06/09/09
N-nitrosodiphenylamine	ND	mg/L	0.005	1	06/09/09
Phenol	ND	mg/L	0.005	1	06/09/09
Pyridine	ND	mg/L	0.050	1	06/09/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	36 %		30-130
Surrogate: 2,4,6-Tribromophenol	25 %		15-110
Surrogate: 2-Chlorophenol-d4	26 %		15-110
Surrogate: 2-Fluorobiphenyl	32 %		30-130
Surrogate: 2-Fluorophenol	22 %		15-110
Surrogate: Nitrobenzene-d5	35 %		30-130
Surrogate: Phenol-d6	32 %		15-110
Surrogate: p-Terphenyl-d14	16 %	S-	30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water
 Analyst: IBM
 Prepared: 06/08/09

8270C(SIM) Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
2-Methylnaphthalene	ND	mg/L	0.00040		1	06/10/09
Acenaphthene	0.00102	mg/L	0.00040		1	06/10/09
Acenaphthylene	ND	mg/L	0.00040		1	06/10/09
Anthracene	0.00048	mg/L	0.00040		1	06/10/09
Benzo(a)anthracene	0.00228	mg/L	0.00010		1	06/10/09
Benzo(a)pyrene	0.00221	mg/L	0.00010		1	06/10/09
Benzo(b)fluoranthene	0.00209	mg/L	0.00010		1	06/10/09
Benzo(g,h,i)perylene	0.00150	mg/L	0.00040		1	06/10/09
Benzo(k)fluoranthene	0.00152	mg/L	0.00010		1	06/10/09
Chrysene	0.00242	mg/L	0.00010		1	06/10/09
Dibenzo(a,h)Anthracene	0.00042	mg/L	0.00010		1	06/10/09
Fluoranthene	0.00594	mg/L	0.00040		1	06/10/09
Fluorene	0.00058	mg/L	0.00040		1	06/10/09
Hexachlorobenzene	ND	mg/L	0.00040		1	06/10/09
Indeno(1,2,3-cd)Pyrene	0.00138	mg/L	0.00010		1	06/10/09
Naphthalene	0.00090	mg/L	0.00040		1	06/10/09
Pentachlorophenol	ND	mg/L	0.00200		1	06/10/09
Phenanthrene	0.00473	mg/L	0.00040		1	06/10/09
Pyrene	0.00503	mg/L	0.00040		1	06/10/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	62 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	69 %		15-110
<i>Surrogate: 2-Fluorobiphenyl</i>	58 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	82 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	30 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Upstream
 Date Sampled: 06/02/09 16:15
 Percent Solids: N/A

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-02
 Sample Matrix: Surface Water

Classical Chemistry

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Total Cyanide	ND	mg/L	0.050	9014		1	EEM	06/08/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Inflow
Date Sampled: 06/02/09 16:25
Percent Solids: N/A

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-03
Sample Matrix: Surface Water

3005A/6000/7000 Dissolved Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/L	0.0025	7041		1	SVD	06/09/09	100	50
Arsenic	ND	mg/L	0.0025	7060A		1	SVD	06/09/09	100	50
Beryllium	ND	mg/L	0.0005	6010B		1	SVD	06/04/09	100	50
Cadmium	ND	mg/L	0.0025	6010B		1	SVD	06/04/09	100	50
Chromium	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Copper	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Lead	ND	mg/L	0.010	6010B		1	SVD	06/04/09	100	50
Mercury	ND	mg/L	0.00050	7470A		1	JP	06/05/09	20	40
Nickel	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50
Selenium	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50
Silver	ND	mg/L	0.005	6010B		1	SVD	06/04/09	100	50
Thallium	ND	mg/L	0.0015	7841		1	SVD	06/09/09	100	50
Zinc	ND	mg/L	0.025	6010B		1	SVD	06/04/09	100	50



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Inflow
Date Sampled: 06/02/09 16:25
Percent Solids: N/A

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-03
Sample Matrix: Surface Water

3005A/6000/7000 Total Metals

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>
Antimony	ND	mg/L	0.0025	7041		1	SVD	06/09/09	100	50
Arsenic	ND	mg/L	0.0025	7060A		1	SVD	06/09/09	100	50
Beryllium	ND	mg/L	0.0005	6010B		1	JP	06/04/09	100	50
Cadmium	ND	mg/L	0.0025	6010B		1	JP	06/04/09	100	50
Chromium	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Copper	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Lead	ND	mg/L	0.010	6010B		1	JP	06/04/09	100	50
Mercury	ND	mg/L	0.00050	7470A		1	JP	06/05/09	20	40
Nickel	ND	mg/L	0.025	6010B		1	JP	06/04/09	100	50
Selenium	ND	mg/L	0.025	6010B		1	JP	06/04/09	100	50
Silver	ND	mg/L	0.005	6010B		1	JP	06/04/09	100	50
Thallium	ND	mg/L	0.0010	7841		1	SVD	06/09/09	100	50
Zinc	ND	mg/L	0.025	6010B		1	JP	06/04/09	100	50



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: ML
 Prepared: 06/05/09

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Total Petroleum Hydrocarbons	ND	mg/L	0.20		1	06/08/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: O-Terphenyl</i>	86 %		40-140



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,1-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0005		1	06/04/09
1,1,2-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethene	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloropropene	ND	mg/L	0.0020		1	06/04/09
1,2,3-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,3-Trichloropropane	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dibromo-3-Chloropropane	ND	mg/L	0.0050		1	06/04/09
1,2-Dibromoethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,3,5-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,4-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,4-Dioxane - Screen	ND	mg/L	0.500		1	06/04/09
1-Chlorohexane	ND	mg/L	0.0010		1	06/04/09
2,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
2-Butanone	ND	mg/L	0.0250		1	06/04/09
2-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
2-Hexanone	ND	mg/L	0.0100		1	06/04/09
4-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
4-Isopropyltoluene	ND	mg/L	0.0010		1	06/04/09
4-Methyl-2-Pentanone	ND	mg/L	0.0250		1	06/04/09
Acetone	ND	mg/L	0.0250		1	06/04/09
Benzene	ND	mg/L	0.0010		1	06/04/09
Bromobenzene	ND	mg/L	0.0020		1	06/04/09
Bromochloromethane	ND	mg/L	0.0010		1	06/04/09
Bromodichloromethane	ND	mg/L	0.0006		1	06/04/09
Bromoform	ND	mg/L	0.0010		1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: MD

8260B Volatile Organic Compounds

Bromomethane	ND	mg/L	0.0020	1	06/04/09
Carbon Disulfide	ND	mg/L	0.0010	1	06/04/09
Carbon Tetrachloride	ND	mg/L	0.0010	1	06/04/09
Chlorobenzene	ND	mg/L	0.0010	1	06/04/09
Chloroethane	ND	mg/L	0.0020	1	06/04/09
Chloroform	0.0016	mg/L	0.0010	1	06/04/09
Chloromethane	ND	mg/L	0.0020	1	06/04/09
cis-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
cis-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Dibromochloromethane	ND	mg/L	0.0010	1	06/04/09
Dibromomethane	ND	mg/L	0.0010	1	06/04/09
Dichlorodifluoromethane	ND	mg/L	0.0020	1	06/04/09
Diethyl Ether	ND	mg/L	0.0010	1	06/04/09
Di-isopropyl ether	ND	mg/L	0.0010	1	06/04/09
Ethyl tertiary-butyl ether	ND	mg/L	0.0010	1	06/04/09
Ethylbenzene	ND	mg/L	0.0010	1	06/04/09
Hexachlorobutadiene	ND	mg/L	0.0006	1	06/04/09
Hexachloroethane	ND	mg/L	0.0010	1	06/04/09
Isopropylbenzene	ND	mg/L	0.0010	1	06/04/09
Methyl tert-Butyl Ether	ND	mg/L	0.0010	1	06/04/09
Methylene Chloride	ND	mg/L	0.0040	1	06/04/09
Naphthalene	ND	mg/L	0.0010	1	06/04/09
n-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
n-Propylbenzene	ND	mg/L	0.0010	1	06/04/09
sec-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Styrene	ND	mg/L	0.0010	1	06/04/09
tert-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Tertiary-amyl methyl ether	ND	mg/L	0.0010	1	06/04/09
Tetrachloroethene	ND	mg/L	0.0010	1	06/04/09
Tetrahydrofuran	ND	mg/L	0.0050	1	06/04/09
Toluene	ND	mg/L	0.0010	1	06/04/09
trans-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
trans-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Trichloroethene	ND	mg/L	0.0010	1	06/04/09
Trichlorofluoromethane	ND	mg/L	0.0010	1	06/04/09
Vinyl Acetate	ND	mg/L	0.0050	1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: MD

8260B Volatile Organic Compounds

Vinyl Chloride	ND	mg/L	0.0010	1	06/04/09
Xylene O	ND	mg/L	0.0010	1	06/04/09
Xylene P,M	ND	mg/L	0.0020	1	06/04/09
Xylenes (Total)	ND	mg/L	0.0030	1	06/04/09
Trihalomethanes (Total)	ND	mg/L	0.0036		06/04/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	99 %		70-130
Surrogate: 4-Bromofluorobenzene	102 %		70-130
Surrogate: Dibromofluoromethane	97 %		70-130
Surrogate: Toluene-d8	105 %		70-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: IBM
 Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1-Biphenyl	ND	mg/L	0.005		1	06/09/09
1,2,4-Trichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,2-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,3-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
1,4-Dichlorobenzene	ND	mg/L	0.005		1	06/09/09
2,3,4,6-Tetrachlorophenol	ND	mg/L	0.025		1	06/09/09
2,4,5-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4,6-Trichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dichlorophenol	ND	mg/L	0.005		1	06/09/09
2,4-Dimethylphenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrophenol	ND	mg/L	0.025		1	06/09/09
2,4-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2,6-Dinitrotoluene	ND	mg/L	0.005		1	06/09/09
2-Chloronaphthalene	ND	mg/L	0.005		1	06/09/09
2-Chlorophenol	ND	mg/L	0.005		1	06/09/09
2-Methylphenol	ND	mg/L	0.005		1	06/09/09
2-Nitroaniline	ND	mg/L	0.005		1	06/09/09
2-Nitrophenol	ND	mg/L	0.005		1	06/09/09
3,3'-Dichlorobenzidine	ND	mg/L	0.005		1	06/09/09
3+4-Methylphenol	ND	mg/L	0.010		1	06/09/09
3-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4,6-Dinitro-2-Methylphenol	ND	mg/L	0.025		1	06/09/09
4-Bromophenyl-phenylether	ND	mg/L	0.005		1	06/09/09
4-Chloro-3-Methylphenol	ND	mg/L	0.005		1	06/09/09
4-Chloroaniline	ND	mg/L	0.010		1	06/09/09
4-Chloro-phenyl-phenyl ether	ND	mg/L	0.005		1	06/09/09
4-Nitroaniline	ND	mg/L	0.005		1	06/09/09
4-Nitrophenol	ND	mg/L	0.025		1	06/09/09
Acetophenone	ND	mg/L	0.005		1	06/09/09
Aniline	ND	mg/L	0.005		1	06/09/09
Azobenzene	ND	mg/L	0.010		1	06/09/09
Benzoic Acid	ND	mg/L	0.050		1	06/09/09
Benzyl Alcohol	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethoxy)methane	ND	mg/L	0.005		1	06/09/09
bis(2-Chloroethyl)ether	ND	mg/L	0.005		1	06/09/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: IBM
 Prepared: 06/08/09

8270C Semi-Volatile Organic Compounds

bis(2-chloroisopropyl)Ether	ND	mg/L	0.005	1	06/09/09
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.003	1	06/09/09
Butylbenzylphthalate	ND	mg/L	0.005	1	06/09/09
Carbazole	ND	mg/L	0.005	1	06/09/09
Dibenzofuran	ND	mg/L	0.005	1	06/09/09
Diethylphthalate	ND	mg/L	0.005	1	06/09/09
Dimethylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-butylphthalate	ND	mg/L	0.005	1	06/09/09
Di-n-octylphthalate	ND	mg/L	0.005	1	06/09/09
Hexachlorobutadiene	ND	mg/L	0.005	1	06/09/09
Hexachlorocyclopentadiene	ND	mg/L	0.012	1	06/09/09
Hexachloroethane	ND	mg/L	0.002	1	06/09/09
Isophorone	ND	mg/L	0.005	1	06/09/09
Nitrobenzene	ND	mg/L	0.005	1	06/09/09
N-Nitrosodimethylamine	ND	mg/L	0.005	1	06/09/09
N-Nitroso-Di-n-Propylamine	ND	mg/L	0.005	1	06/09/09
N-nitrosodiphenylamine	ND	mg/L	0.005	1	06/09/09
Phenol	ND	mg/L	0.005	1	06/09/09
Pyridine	ND	mg/L	0.050	1	06/09/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	35 %		30-130
Surrogate: 2,4,6-Tribromophenol	32 %		15-110
Surrogate: 2-Chlorophenol-d4	25 %		15-110
Surrogate: 2-Fluorobiphenyl	31 %		30-130
Surrogate: 2-Fluorophenol	19 %		15-110
Surrogate: Nitrobenzene-d5	31 %		30-130
Surrogate: Phenol-d6	31 %		15-110
Surrogate: p-Terphenyl-d14	35 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 0.5
 Extraction Method: 3520C

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water
 Analyst: IBM
 Prepared: 06/08/09

8270C(SIM) Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
2-Methylnaphthalene	ND	mg/L	0.00040		1	06/10/09
Acenaphthene	ND	mg/L	0.00040		1	06/10/09
Acenaphthylene	ND	mg/L	0.00040		1	06/10/09
Anthracene	ND	mg/L	0.00040		1	06/10/09
Benzo(a)anthracene	ND	mg/L	0.00010		1	06/10/09
Benzo(a)pyrene	ND	mg/L	0.00010		1	06/10/09
Benzo(b)fluoranthene	ND	mg/L	0.00010		1	06/10/09
Benzo(g,h,i)perylene	ND	mg/L	0.00040		1	06/10/09
Benzo(k)fluoranthene	ND	mg/L	0.00010		1	06/10/09
Chrysene	ND	mg/L	0.00010		1	06/10/09
Dibenzo(a,h)Anthracene	ND	mg/L	0.00010		1	06/10/09
Fluoranthene	ND	mg/L	0.00040		1	06/10/09
Fluorene	ND	mg/L	0.00040		1	06/10/09
Hexachlorobenzene	ND	mg/L	0.00040		1	06/10/09
Indeno(1,2,3-cd)Pyrene	ND	mg/L	0.00010		1	06/10/09
Naphthalene	ND	mg/L	0.00040		1	06/10/09
Pentachlorophenol	ND	mg/L	0.00200		1	06/10/09
Phenanthrene	ND	mg/L	0.00040		1	06/10/09
Pyrene	ND	mg/L	0.00040		1	06/10/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	58 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	82 %		15-110
<i>Surrogate: 2-Fluorobiphenyl</i>	55 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	76 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	62 %		30-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Inflow
 Date Sampled: 06/02/09 16:25
 Percent Solids: N/A

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-03
 Sample Matrix: Surface Water

Classical Chemistry

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Total Cyanide	ND	mg/L	0.050	9014		1	EEM	06/08/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater
Client Sample ID: Trip Blank
Date Sampled: 06/02/09 00:00
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
ESS Laboratory Sample ID: 0906042-04
Sample Matrix: Aqueous
Analyst: MD

8260B Volatile Organic Compounds

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,1-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0005		1	06/04/09
1,1,2-Trichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloroethene	ND	mg/L	0.0010		1	06/04/09
1,1-Dichloropropene	ND	mg/L	0.0020		1	06/04/09
1,2,3-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,3-Trichloropropane	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2,4-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dibromo-3-Chloropropane	ND	mg/L	0.0050		1	06/04/09
1,2-Dibromoethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloroethane	ND	mg/L	0.0010		1	06/04/09
1,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,3,5-Trimethylbenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,3-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
1,4-Dichlorobenzene	ND	mg/L	0.0010		1	06/04/09
1,4-Dioxane - Screen	ND	mg/L	0.500		1	06/04/09
1-Chlorohexane	ND	mg/L	0.0010		1	06/04/09
2,2-Dichloropropane	ND	mg/L	0.0010		1	06/04/09
2-Butanone	ND	mg/L	0.0250		1	06/04/09
2-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
2-Hexanone	ND	mg/L	0.0100		1	06/04/09
4-Chlorotoluene	ND	mg/L	0.0010		1	06/04/09
4-Isopropyltoluene	ND	mg/L	0.0010		1	06/04/09
4-Methyl-2-Pentanone	ND	mg/L	0.0250		1	06/04/09
Acetone	ND	mg/L	0.0250		1	06/04/09
Benzene	ND	mg/L	0.0010		1	06/04/09
Bromobenzene	ND	mg/L	0.0020		1	06/04/09
Bromochloromethane	ND	mg/L	0.0010		1	06/04/09
Bromodichloromethane	ND	mg/L	0.0006		1	06/04/09
Bromoform	ND	mg/L	0.0010		1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Trip Blank
 Date Sampled: 06/02/09 00:00
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-04
 Sample Matrix: Aqueous
 Analyst: MD

8260B Volatile Organic Compounds

Bromomethane	ND	mg/L	0.0020	1	06/04/09
Carbon Disulfide	ND	mg/L	0.0010	1	06/04/09
Carbon Tetrachloride	ND	mg/L	0.0010	1	06/04/09
Chlorobenzene	ND	mg/L	0.0010	1	06/04/09
Chloroethane	ND	mg/L	0.0020	1	06/04/09
Chloroform	ND	mg/L	0.0010	1	06/04/09
Chloromethane	ND	mg/L	0.0020	1	06/04/09
cis-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
cis-1,3-Dichloropropene	ND	mg/L	0.0004	1	06/04/09
Dibromochloromethane	ND	mg/L	0.0010	1	06/04/09
Dibromomethane	ND	mg/L	0.0010	1	06/04/09
Dichlorodifluoromethane	ND	mg/L	0.0020	1	06/04/09
Diethyl Ether	ND	mg/L	0.0010	1	06/04/09
Di-isopropyl ether	ND	mg/L	0.0010	1	06/04/09
Ethyl tertiary-butyl ether	ND	mg/L	0.0010	1	06/04/09
Ethylbenzene	ND	mg/L	0.0010	1	06/04/09
Hexachlorobutadiene	ND	mg/L	0.0006	1	06/04/09
Hexachloroethane	ND	mg/L	0.0010	1	06/04/09
Isopropylbenzene	ND	mg/L	0.0010	1	06/04/09
Methyl tert-Butyl Ether	ND	mg/L	0.0010	1	06/04/09
Methylene Chloride	ND	mg/L	0.0040	1	06/04/09
Naphthalene	ND	mg/L	0.0010	1	06/04/09
n-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
n-Propylbenzene	ND	mg/L	0.0010	1	06/04/09
sec-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Styrene	ND	mg/L	0.0010	1	06/04/09
tert-Butylbenzene	ND	mg/L	0.0010	1	06/04/09
Tertiary-amyl methyl ether	ND	mg/L	0.0010	1	06/04/09
Tetrachloroethene	ND	mg/L	0.0010	1	06/04/09
Tetrahydrofuran	ND	mg/L	0.0050	1	06/04/09
Toluene	ND	mg/L	0.0010	1	06/04/09
trans-1,2-Dichloroethene	ND	mg/L	0.0010	1	06/04/09
trans-1,3-Dichloropropene	ND	mg/L	0.0005	1	06/04/09
Trichloroethene	ND	mg/L	0.0010	1	06/04/09
Trichlorofluoromethane	ND	mg/L	0.0010	1	06/04/09
Vinyl Acetate	ND	mg/L	0.0050	1	06/04/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater
 Client Sample ID: Trip Blank
 Date Sampled: 06/02/09 00:00
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 5030B

ESS Laboratory Work Order: 0906042
 ESS Laboratory Sample ID: 0906042-04
 Sample Matrix: Aqueous
 Analyst: MD

8260B Volatile Organic Compounds

Vinyl Chloride	ND	mg/L	0.0010	1	06/04/09
Xylene O	ND	mg/L	0.0010	1	06/04/09
Xylene P,M	ND	mg/L	0.0020	1	06/04/09

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	99 %		70-130
Surrogate: 4-Bromofluorobenzene	102 %		70-130
Surrogate: Dibromofluoromethane	97 %		70-130
Surrogate: Toluene-d8	106 %		70-130



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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3005A/6000/7000 Dissolved Metals

Batch BF90329 - 3005A

Blank

Antimony	ND	0.0025	mg/L							
Arsenic	ND	0.0025	mg/L							
Beryllium	ND	0.0005	mg/L							
Cadmium	ND	0.0025	mg/L							
Chromium	ND	0.010	mg/L							
Copper	ND	0.010	mg/L							
Lead	ND	0.010	mg/L							
Nickel	ND	0.025	mg/L							
Selenium	ND	0.025	mg/L							
Silver	ND	0.005	mg/L							
Thallium	ND	0.0015	mg/L							
Zinc	ND	0.025	mg/L							

LCS

Beryllium	0.0246	0.0005	mg/L	0.02500		98	80-120			
Cadmium	0.117	0.0025	mg/L	0.1250		94	80-120			
Chromium	0.244	0.010	mg/L	0.2500		98	80-120			
Copper	0.246	0.010	mg/L	0.2500		98	80-120			
Lead	0.244	0.010	mg/L	0.2500		98	80-120			
Nickel	0.244	0.025	mg/L	0.2500		98	80-120			
Selenium	0.486	0.025	mg/L	0.5000		97	80-120			
Silver	0.122	0.005	mg/L	0.1250		98	80-120			
Zinc	0.244	0.025	mg/L	0.2500		98	80-120			

LCS

Antimony	0.0089	0.0025	mg/L	0.01000		89	80-120			
Arsenic	0.0096	0.0025	mg/L	0.01000		96	80-120			
Thallium	0.0102	0.0015	mg/L	0.01000		102	80-120			

LCS Dup

Beryllium	0.0252	0.0005	mg/L	0.02500		101	80-120	3	20	
Cadmium	0.120	0.0025	mg/L	0.1250		96	80-120	2	20	
Chromium	0.250	0.010	mg/L	0.2500		100	80-120	3	20	
Copper	0.251	0.010	mg/L	0.2500		100	80-120	2	20	
Lead	0.250	0.010	mg/L	0.2500		100	80-120	2	20	
Nickel	0.250	0.025	mg/L	0.2500		100	80-120	2	20	
Selenium	0.496	0.025	mg/L	0.5000		99	80-120	2	20	
Silver	0.125	0.005	mg/L	0.1250		100	80-120	2	20	
Zinc	0.250	0.025	mg/L	0.2500		100	80-120	3	20	

LCS Dup

Antimony	0.0085	0.0025	mg/L	0.01000		85	80-120	4	20	
Arsenic	0.0092	0.0025	mg/L	0.01000		92	80-120	4	20	
Thallium	0.0103	0.0015	mg/L	0.01000		103	80-120	1	20	

Batch BF90427 - 245.1/7470A

LCS

Mercury	0.00573	0.00050	mg/L	0.006000		95	80-120			
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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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3005A/6000/7000 Dissolved Metals

Batch BF90427 - 245.1/7470A

LCS Dup

Mercury	0.00569	0.00050	mg/L	0.006000		95	80-120	0.5	20	
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3005A/6000/7000 Total Metals

Batch BF90329 - 3005A

Blank

Antimony	ND	0.0025	mg/L							
Arsenic	ND	0.0025	mg/L							
Beryllium	ND	0.0005	mg/L							
Cadmium	ND	0.0025	mg/L							
Chromium	ND	0.010	mg/L							
Copper	ND	0.010	mg/L							
Lead	ND	0.010	mg/L							
Nickel	ND	0.025	mg/L							
Selenium	ND	0.025	mg/L							
Silver	ND	0.005	mg/L							
Thallium	ND	0.0010	mg/L							
Zinc	ND	0.025	mg/L							

LCS

Beryllium	0.0246	0.0005	mg/L	0.02500		98	80-120			
Cadmium	0.117	0.0025	mg/L	0.1250		94	80-120			
Chromium	0.244	0.010	mg/L	0.2500		98	80-120			
Copper	0.246	0.010	mg/L	0.2500		98	80-120			
Lead	0.244	0.010	mg/L	0.2500		98	80-120			
Nickel	0.244	0.025	mg/L	0.2500		98	80-120			
Selenium	0.486	0.025	mg/L	0.5000		97	80-120			
Silver	0.122	0.005	mg/L	0.1250		98	80-120			
Zinc	0.244	0.025	mg/L	0.2500		98	80-120			

LCS

Antimony	0.0089	0.0025	mg/L	0.01000		89	80-120			
Arsenic	0.0096	0.0025	mg/L	0.01000		96	80-120			
Thallium	0.0102	0.0010	mg/L	0.01000		102	80-120			

LCS Dup

Beryllium	0.0252	0.0005	mg/L	0.02500		101	80-120	3	20	
Cadmium	0.120	0.0025	mg/L	0.1250		96	80-120	2	20	
Chromium	0.250	0.010	mg/L	0.2500		100	80-120	3	20	
Copper	0.251	0.010	mg/L	0.2500		100	80-120	2	20	
Lead	0.250	0.010	mg/L	0.2500		100	80-120	2	20	
Nickel	0.250	0.025	mg/L	0.2500		100	80-120	2	20	
Selenium	0.496	0.025	mg/L	0.5000		99	80-120	2	20	
Silver	0.125	0.005	mg/L	0.1250		100	80-120	2	20	
Zinc	0.250	0.025	mg/L	0.2500		100	80-120	3	20	

LCS Dup

Antimony	0.0085	0.0025	mg/L	0.01000		85	80-120	4	20	
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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
3005A/6000/7000 Total Metals										
Batch BF90329 - 3005A										
Arsenic	0.0092	0.0025	mg/L	0.01000		92	80-120	4	20	
Thallium	0.0103	0.0010	mg/L	0.01000		103	80-120	1	20	
Batch BF90427 - 245.1/7470A										
Blank										
Mercury	ND	0.00050	mg/L							
LCS										
Mercury	0.00573	0.00050	mg/L	0.006000		95	80-120			
LCS Dup										
Mercury	0.00569	0.00050	mg/L	0.006000		95	80-120	0.5	20	

8100M Total Petroleum Hydrocarbons

Batch BF90506 - 3510C										
Blank										
Decane (C10)	ND	0.005	mg/L							
Docosane (C22)	ND	0.005	mg/L							
Dodecane (C12)	ND	0.005	mg/L							
Eicosane (C20)	ND	0.005	mg/L							
Hexacosane (C26)	ND	0.005	mg/L							
Hexadecane (C16)	ND	0.005	mg/L							
Nonadecane (C19)	ND	0.005	mg/L							
Nonane (C9)	ND	0.005	mg/L							
Octacosane (C28)	ND	0.005	mg/L							
Octadecane (C18)	ND	0.005	mg/L							
Tetracosane (C24)	ND	0.005	mg/L							
Tetradecane (C14)	ND	0.005	mg/L							
Total Petroleum Hydrocarbons	ND	0.20	mg/L							
Triacotane (C30)	ND	0.005	mg/L							
<i>Surrogate: O-Terphenyl</i>	<i>0.0747</i>		mg/L	<i>0.1000</i>		<i>75</i>	<i>40-140</i>			
LCS										
Decane (C10)	0.030	0.005	mg/L	0.05000		60	40-140			
Docosane (C22)	0.035	0.005	mg/L	0.05000		70	40-140			
Dodecane (C12)	0.036	0.005	mg/L	0.05000		72	40-140			
Eicosane (C20)	0.036	0.005	mg/L	0.05000		71	40-140			
Hexacosane (C26)	0.034	0.005	mg/L	0.05000		68	40-140			
Hexadecane (C16)	0.035	0.005	mg/L	0.05000		71	40-140			
Nonadecane (C19)	0.036	0.005	mg/L	0.05000		72	40-140			
Nonane (C9)	0.026	0.005	mg/L	0.05000		52	30-140			
Octacosane (C28)	0.033	0.005	mg/L	0.05000		67	40-140			
Octadecane (C18)	0.036	0.005	mg/L	0.05000		71	40-140			
Tetracosane (C24)	0.036	0.005	mg/L	0.05000		71	40-140			
Tetradecane (C14)	0.035	0.005	mg/L	0.05000		70	40-140			
Triacotane (C30)	0.033	0.005	mg/L	0.05000		66	40-140			
<i>Surrogate: O-Terphenyl</i>	<i>0.0706</i>		mg/L	<i>0.1000</i>		<i>71</i>	<i>40-140</i>			



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch BF90506 - 3510C										
LCS Dup										
Decane (C10)	0.038	0.005	mg/L	0.05000		75	40-140	22	25	
Docosane (C22)	0.043	0.005	mg/L	0.05000		86	40-140	20	25	
Dodecane (C12)	0.045	0.005	mg/L	0.05000		90	40-140	23	25	
Eicosane (C20)	0.043	0.005	mg/L	0.05000		87	40-140	20	25	
Hexacosane (C26)	0.042	0.005	mg/L	0.05000		83	40-140	20	25	
Hexadecane (C16)	0.044	0.005	mg/L	0.05000		88	40-140	22	25	
Nonadecane (C19)	0.043	0.005	mg/L	0.05000		86	40-140	18	25	
Nonane (C9)	0.032	0.005	mg/L	0.05000		64	30-140	21	25	
Octacosane (C28)	0.041	0.005	mg/L	0.05000		82	40-140	20	25	
Octadecane (C18)	0.044	0.005	mg/L	0.05000		88	40-140	21	25	
Tetracosane (C24)	0.043	0.005	mg/L	0.05000		87	40-140	20	25	
Tetradecane (C14)	0.044	0.005	mg/L	0.05000		88	40-140	22	25	
Triacontane (C30)	0.040	0.005	mg/L	0.05000		81	40-140	20	25	
Surrogate: O-Terphenyl	0.0886		mg/L	0.1000		89	40-140			

8260B Volatile Organic Compounds

Batch BF90408 - 5030B

Blank										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0250	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch BF90408 - 5030B

2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0250	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							
Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0040	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch BF90408 - 5030B

Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0248		mg/L	0.02500		99	70-130			
Surrogate: 4-Bromofluorobenzene	0.0253		mg/L	0.02500		101	70-130			
Surrogate: Dibromofluoromethane	0.0245		mg/L	0.02500		98	70-130			
Surrogate: Toluene-d8	0.0264		mg/L	0.02500		106	70-130			

LCS

1,1,1,2-Tetrachloroethane	9.16		ug/L	10.00		92	70-130			
1,1,1-Trichloroethane	9.50		ug/L	10.00		95	70-130			
1,1,2,2-Tetrachloroethane	9.12		ug/L	10.00		91	70-130			
1,1,2-Trichloroethane	9.50		ug/L	10.00		95	70-130			
1,1-Dichloroethane	9.61		ug/L	10.00		96	70-130			
1,1-Dichloroethene	9.46		ug/L	10.00		95	70-130			
1,1-Dichloropropene	9.30		ug/L	10.00		93	70-130			
1,2,3-Trichlorobenzene	10.8		ug/L	10.00		108	70-130			
1,2,3-Trichloropropane	9.42		ug/L	10.00		94	70-130			
1,2,4-Trichlorobenzene	9.71		ug/L	10.00		97	70-130			
1,2,4-Trimethylbenzene	9.44		ug/L	10.00		94	70-130			
1,2-Dibromo-3-Chloropropane	8.74		ug/L	10.00		87	70-130			
1,2-Dibromoethane	9.19		ug/L	10.00		92	70-130			
1,2-Dichlorobenzene	9.21		ug/L	10.00		92	70-130			
1,2-Dichloroethane	9.34		ug/L	10.00		93	70-130			
1,2-Dichloropropane	9.40		ug/L	10.00		94	70-130			
1,3,5-Trimethylbenzene	9.40		ug/L	10.00		94	70-130			
1,3-Dichlorobenzene	9.32		ug/L	10.00		93	70-130			
1,3-Dichloropropane	9.74		ug/L	10.00		97	70-130			
1,4-Dichlorobenzene	9.20		ug/L	10.00		92	70-130			
1,4-Dioxane - Screen	607		ug/L	200.0		304	0-332			
1-Chlorohexane	9.07		ug/L	10.00		91	70-130			
2,2-Dichloropropane	9.57		ug/L	10.00		96	70-130			
2-Butanone	45.2		ug/L	50.00		90	70-130			
2-Chlorotoluene	9.63		ug/L	10.00		96	70-130			
2-Hexanone	46.7		ug/L	50.00		93	70-130			
4-Chlorotoluene	9.41		ug/L	10.00		94	70-130			
4-Isopropyltoluene	9.07		ug/L	10.00		91	70-130			
4-Methyl-2-Pentanone	47.1		ug/L	50.00		94	70-130			
Acetone	61.2		ug/L	50.00		122	70-130			
Benzene	9.51		ug/L	10.00		95	70-130			
Bromobenzene	9.24		ug/L	10.00		92	70-130			
Bromochloromethane	9.50		ug/L	10.00		95	70-130			
Bromodichloromethane	10.0		ug/L	10.00		100	70-130			
Bromoform	8.85		ug/L	10.00		88	70-130			
Bromomethane	8.71		ug/L	10.00		87	70-130			
Carbon Disulfide	10.2		ug/L	10.00		102	70-130			
Carbon Tetrachloride	9.42		ug/L	10.00		94	70-130			



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch BF90408 - 5030B										
Chlorobenzene	9.32		ug/L	10.00		93	70-130			
Chloroethane	10.1		ug/L	10.00		101	70-130			
Chloroform	9.34		ug/L	10.00		93	70-130			
Chloromethane	8.45		ug/L	10.00		84	70-130			
cis-1,2-Dichloroethene	9.53		ug/L	10.00		95	70-130			
cis-1,3-Dichloropropene	9.37		ug/L	10.00		94	70-130			
Dibromochloromethane	9.71		ug/L	10.00		97	70-130			
Dibromomethane	9.25		ug/L	10.00		92	70-130			
Dichlorodifluoromethane	8.23		ug/L	10.00		82	70-130			
Diethyl Ether	9.60		ug/L	10.00		96	70-130			
Di-isopropyl ether	9.47		ug/L	10.00		95	70-130			
Ethyl tertiary-butyl ether	9.19		ug/L	10.00		92	70-130			
Ethylbenzene	9.27		ug/L	10.00		93	70-130			
Hexachlorobutadiene	10.1		ug/L	10.00		101	70-130			
Hexachloroethane	9.71		ug/L	10.00		97	70-130			
Isopropylbenzene	7.72		ug/L	10.00		77	70-130			
Methyl tert-Butyl Ether	9.51		ug/L	10.00		95	70-130			
Methylene Chloride	10.2		ug/L	10.00		102	70-130			
Naphthalene	9.20		ug/L	10.00		92	70-130			
n-Butylbenzene	9.97		ug/L	10.00		100	70-130			
n-Propylbenzene	9.17		ug/L	10.00		92	70-130			
sec-Butylbenzene	9.69		ug/L	10.00		97	70-130			
Styrene	8.80		ug/L	10.00		88	70-130			
tert-Butylbenzene	9.09		ug/L	10.00		91	70-130			
Tertiary-amyl methyl ether	9.10		ug/L	10.00		91	70-130			
Tetrachloroethene	8.76		ug/L	10.00		88	70-130			
Tetrahydrofuran	9.65		ug/L	10.00		96	70-130			
Toluene	9.55		ug/L	10.00		96	70-130			
trans-1,2-Dichloroethene	9.98		ug/L	10.00		100	70-130			
trans-1,3-Dichloropropene	8.18		ug/L	10.00		82	70-130			
Trichloroethene	9.22		ug/L	10.00		92	70-130			
Trichlorofluoromethane	8.47		ug/L	10.00		85	70-130			
Vinyl Acetate	9.89		ug/L	10.00		99	70-130			
Vinyl Chloride	9.51		ug/L	10.00		95	70-130			
Xylene O	9.43		ug/L	10.00		94	70-130			
Xylene P,M	19.2		ug/L	20.00		96	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0255		mg/L	0.02500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0258		mg/L	0.02500		103	70-130			
Surrogate: Dibromofluoromethane	0.0250		mg/L	0.02500		100	70-130			
Surrogate: Toluene-d8	0.0264		mg/L	0.02500		105	70-130			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.23		ug/L	10.00		92	70-130	0.8	25	
1,1,1-Trichloroethane	9.38		ug/L	10.00		94	70-130	1	25	
1,1,2,2-Tetrachloroethane	9.28		ug/L	10.00		93	70-130	2	25	
1,1,2-Trichloroethane	9.43		ug/L	10.00		94	70-130	0.7	25	
1,1-Dichloroethane	9.47		ug/L	10.00		95	70-130	1	25	



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch BF90408 - 5030B

1,1-Dichloroethene	9.45		ug/L	10.00		94	70-130	0.1	25	
1,1-Dichloropropene	9.12		ug/L	10.00		91	70-130	2	25	
1,2,3-Trichlorobenzene	9.83		ug/L	10.00		98	70-130	9	25	
1,2,3-Trichloropropane	9.42		ug/L	10.00		94	70-130	0	25	
1,2,4-Trichlorobenzene	9.24		ug/L	10.00		92	70-130	5	25	
1,2,4-Trimethylbenzene	9.32		ug/L	10.00		93	70-130	1	25	
1,2-Dibromo-3-Chloropropane	8.69		ug/L	10.00		87	70-130	0.6	25	
1,2-Dibromoethane	9.22		ug/L	10.00		92	70-130	0.3	25	
1,2-Dichlorobenzene	8.94		ug/L	10.00		89	70-130	3	25	
1,2-Dichloroethane	9.34		ug/L	10.00		93	70-130	0	25	
1,2-Dichloropropane	9.32		ug/L	10.00		93	70-130	0.9	25	
1,3,5-Trimethylbenzene	9.29		ug/L	10.00		93	70-130	1	25	
1,3-Dichlorobenzene	9.19		ug/L	10.00		92	70-130	1	25	
1,3-Dichloropropane	9.83		ug/L	10.00		98	70-130	0.9	25	
1,4-Dichlorobenzene	9.01		ug/L	10.00		90	70-130	2	25	
1,4-Dioxane - Screen	364		ug/L	200.0		182	0-332	50	200	
1-Chlorohexane	8.96		ug/L	10.00		90	70-130	1	25	
2,2-Dichloropropane	9.53		ug/L	10.00		95	70-130	0.4	25	
2-Butanone	46.1		ug/L	50.00		92	70-130	2	25	
2-Chlorotoluene	9.57		ug/L	10.00		96	70-130	0.6	25	
2-Hexanone	47.7		ug/L	50.00		95	70-130	2	25	
4-Chlorotoluene	9.22		ug/L	10.00		92	70-130	2	25	
4-Isopropyltoluene	8.80		ug/L	10.00		88	70-130	3	25	
4-Methyl-2-Pentanone	46.4		ug/L	50.00		93	70-130	1	25	
Acetone	64.5		ug/L	50.00		129	70-130	5	25	
Benzene	9.43		ug/L	10.00		94	70-130	0.8	25	
Bromobenzene	9.05		ug/L	10.00		90	70-130	2	25	
Bromochloromethane	9.49		ug/L	10.00		95	70-130	0.1	25	
Bromodichloromethane	9.77		ug/L	10.00		98	70-130	3	25	
Bromoform	8.74		ug/L	10.00		87	70-130	1	25	
Bromomethane	8.48		ug/L	10.00		85	70-130	3	25	
Carbon Disulfide	10.1		ug/L	10.00		101	70-130	1	25	
Carbon Tetrachloride	9.21		ug/L	10.00		92	70-130	2	25	
Chlorobenzene	9.26		ug/L	10.00		93	70-130	0.6	25	
Chloroethane	10.1		ug/L	10.00		101	70-130	0.2	25	
Chloroform	9.21		ug/L	10.00		92	70-130	1	25	
Chloromethane	8.04		ug/L	10.00		80	70-130	5	25	
cis-1,2-Dichloroethene	9.43		ug/L	10.00		94	70-130	1	25	
cis-1,3-Dichloropropene	9.40		ug/L	10.00		94	70-130	0.3	25	
Dibromochloromethane	9.72		ug/L	10.00		97	70-130	0.1	25	
Dibromomethane	9.29		ug/L	10.00		93	70-130	0.4	25	
Dichlorodifluoromethane	8.18		ug/L	10.00		82	70-130	0.6	25	
Diethyl Ether	9.44		ug/L	10.00		94	70-130	2	25	
Di-isopropyl ether	9.38		ug/L	10.00		94	70-130	1	25	
Ethyl tertiary-butyl ether	9.25		ug/L	10.00		92	70-130	0.7	25	
Ethylbenzene	9.29		ug/L	10.00		93	70-130	0.2	25	



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

Batch BF90408 - 5030B

Hexachlorobutadiene	10.1		ug/L	10.00		101	70-130	0.1	25	
Hexachloroethane	9.40		ug/L	10.00		94	70-130	3	25	
Isopropylbenzene	7.59		ug/L	10.00		76	70-130	2	25	
Methyl tert-Butyl Ether	9.43		ug/L	10.00		94	70-130	0.8	25	
Methylene Chloride	10.0		ug/L	10.00		100	70-130	1	25	
Naphthalene	8.53		ug/L	10.00		85	70-130	8	25	
n-Butylbenzene	9.52		ug/L	10.00		95	70-130	5	25	
n-Propylbenzene	9.06		ug/L	10.00		91	70-130	1	25	
sec-Butylbenzene	9.54		ug/L	10.00		95	70-130	2	25	
Styrene	8.79		ug/L	10.00		88	70-130	0.1	25	
tert-Butylbenzene	8.97		ug/L	10.00		90	70-130	1	25	
Tertiary-amyl methyl ether	9.08		ug/L	10.00		91	70-130	0.2	25	
Tetrachloroethene	8.48		ug/L	10.00		85	70-130	3	25	
Tetrahydrofuran	9.39		ug/L	10.00		94	70-130	3	25	
Toluene	9.38		ug/L	10.00		94	70-130	2	25	
trans-1,2-Dichloroethene	9.90		ug/L	10.00		99	70-130	0.8	25	
trans-1,3-Dichloropropene	8.09		ug/L	10.00		81	70-130	1	25	
Trichloroethene	9.31		ug/L	10.00		93	70-130	1	25	
Trichlorofluoromethane	8.53		ug/L	10.00		85	70-130	0.7	25	
Vinyl Acetate	9.89		ug/L	10.00		99	70-130	0	25	
Vinyl Chloride	9.31		ug/L	10.00		93	70-130	2	25	
Xylene O	9.55		ug/L	10.00		96	70-130	1	25	
Xylene P,M	19.0		ug/L	20.00		95	70-130	1	25	
Surrogate: 1,2-Dichloroethane-d4	0.0254		mg/L	0.02500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0255		mg/L	0.02500		102	70-130			
Surrogate: Dibromofluoromethane	0.0250		mg/L	0.02500		100	70-130			
Surrogate: Toluene-d8	0.0262		mg/L	0.02500		105	70-130			

8270C Semi-Volatile Organic Compounds

Batch BF90812 - 3520C

Blank										
1,1-Biphenyl	ND	0.010	mg/L							
1,2,4-Trichlorobenzene	ND	0.010	mg/L							
1,2-Dichlorobenzene	ND	0.010	mg/L							
1,3-Dichlorobenzene	ND	0.010	mg/L							
1,4-Dichlorobenzene	ND	0.010	mg/L							
2,3,4,6-Tetrachlorophenol	ND	0.050	mg/L							
2,4,5-Trichlorophenol	ND	0.010	mg/L							
2,4,6-Trichlorophenol	ND	0.010	mg/L							
2,4-Dichlorophenol	ND	0.010	mg/L							
2,4-Dimethylphenol	ND	0.050	mg/L							
2,4-Dinitrophenol	ND	0.050	mg/L							
2,4-Dinitrotoluene	ND	0.010	mg/L							
2,6-Dinitrotoluene	ND	0.010	mg/L							
2-Chloronaphthalene	ND	0.010	mg/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

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

Batch BF90812 - 3520C

2-Chlorophenol	ND	0.010	mg/L							
2-Methylphenol	ND	0.010	mg/L							
2-Nitroaniline	ND	0.010	mg/L							
2-Nitrophenol	ND	0.010	mg/L							
3,3'-Dichlorobenzidine	ND	0.010	mg/L							
3+4-Methylphenol	ND	0.020	mg/L							
3-Nitroaniline	ND	0.010	mg/L							
4,6-Dinitro-2-Methylphenol	ND	0.050	mg/L							
4-Bromophenyl-phenylether	ND	0.010	mg/L							
4-Chloro-3-Methylphenol	ND	0.010	mg/L							
4-Chloroaniline	ND	0.020	mg/L							
4-Chloro-phenyl-phenyl ether	ND	0.010	mg/L							
4-Nitroaniline	ND	0.010	mg/L							
4-Nitrophenol	ND	0.050	mg/L							
Acetophenone	ND	0.010	mg/L							
Aniline	ND	0.010	mg/L							
Azobenzene	ND	0.020	mg/L							
Benzoic Acid	ND	0.100	mg/L							
Benzyl Alcohol	ND	0.010	mg/L							
bis(2-Chloroethoxy)methane	ND	0.010	mg/L							
bis(2-Chloroethyl)ether	ND	0.010	mg/L							
bis(2-chloroisopropyl)Ether	ND	0.010	mg/L							
bis(2-Ethylhexyl)phthalate	ND	0.006	mg/L							
Butylbenzylphthalate	ND	0.010	mg/L							
Carbazole	ND	0.010	mg/L							
Dibenzofuran	ND	0.010	mg/L							
Diethylphthalate	ND	0.010	mg/L							
Dimethylphthalate	ND	0.010	mg/L							
Di-n-butylphthalate	ND	0.010	mg/L							
Di-n-octylphthalate	ND	0.010	mg/L							
Hexachlorobutadiene	ND	0.010	mg/L							
Hexachlorocyclopentadiene	ND	0.025	mg/L							
Hexachloroethane	ND	0.005	mg/L							
Isophorone	ND	0.010	mg/L							
Nitrobenzene	ND	0.010	mg/L							
N-Nitrosodimethylamine	ND	0.010	mg/L							
N-Nitroso-Di-n-Propylamine	ND	0.010	mg/L							
N-nitrosodiphenylamine	ND	0.010	mg/L							
Phenol	ND	0.010	mg/L							
Pyridine	ND	0.100	mg/L							
Surrogate: 1,2-Dichlorobenzene-d4	0.0870		mg/L	0.1000		87	30-130			
Surrogate: 2,4,6-Tribromophenol	0.101		mg/L	0.1500		67	15-110			
Surrogate: 2-Chlorophenol-d4	0.0940		mg/L	0.1500		63	15-110			
Surrogate: 2-Fluorobiphenyl	0.0782		mg/L	0.1000		78	30-130			
Surrogate: 2-Fluorophenol	0.0747		mg/L	0.1500		50	15-110			
Surrogate: Nitrobenzene-d5	0.0843		mg/L	0.1000		84	30-130			



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

Batch BF90812 - 3520C

Surrogate: Phenol-d6	0.117		mg/L	0.1500		78	15-110			
Surrogate: p-Terphenyl-d14	0.0876		mg/L	0.1000		88	30-130			

LCS

1,1-Biphenyl	0.054	0.010	mg/L	0.1000		54	40-140			
1,2,4-Trichlorobenzene	0.054	0.010	mg/L	0.1000		54	40-140			
1,2-Dichlorobenzene	0.044	0.010	mg/L	0.1000		44	40-140			
1,3-Dichlorobenzene	0.043	0.010	mg/L	0.1000		43	40-140			
1,4-Dichlorobenzene	0.046	0.010	mg/L	0.1000		46	40-140			
2,3,4,6-Tetrachlorophenol	0.057	0.050	mg/L	0.1000		57	40-140			
2,4,5-Trichlorophenol	0.053	0.010	mg/L	0.1000		53	30-130			
2,4,6-Trichlorophenol	0.058	0.010	mg/L	0.1000		58	30-130			
2,4-Dichlorophenol	0.061	0.010	mg/L	0.1000		61	30-130			
2,4-Dimethylphenol	0.052	0.050	mg/L	0.1000		52	30-130			
2,4-Dinitrophenol	0.040	0.050	mg/L	0.1000		40	30-130			
2,4-Dinitrotoluene	0.063	0.010	mg/L	0.1000		63	40-140			
2,6-Dinitrotoluene	0.062	0.010	mg/L	0.1000		62	40-140			
2-Chloronaphthalene	0.043	0.010	mg/L	0.1000		43	40-140			
2-Chlorophenol	0.046	0.010	mg/L	0.1000		46	30-130			
2-Methylphenol	0.053	0.010	mg/L	0.1000		53	30-130			
2-Nitroaniline	0.063	0.010	mg/L	0.1000		63	40-140			
2-Nitrophenol	0.056	0.010	mg/L	0.1000		56	30-130			
3,3'-Dichlorobenzidine	0.065	0.010	mg/L	0.1000		65	40-140			
3+4-Methylphenol	0.100	0.020	mg/L	0.2000		50	30-130			
3-Nitroaniline	0.062	0.010	mg/L	0.1000		62	40-140			
4,6-Dinitro-2-Methylphenol	0.065	0.050	mg/L	0.1000		65	30-130			
4-Bromophenyl-phenylether	0.056	0.010	mg/L	0.1000		56	40-140			
4-Chloro-3-Methylphenol	0.059	0.010	mg/L	0.1000		59	30-130			
4-Chloroaniline	0.053	0.020	mg/L	0.1000		53	40-140			
4-Chloro-phenyl-phenyl ether	0.059	0.010	mg/L	0.1000		59	40-140			
4-Nitroaniline	0.063	0.010	mg/L	0.1000		63	40-140			
4-Nitrophenol	0.042	0.050	mg/L	0.1000		42	30-130			
Acetophenone	0.054	0.010	mg/L	0.1000		54	40-140			
Aniline	0.048	0.010	mg/L	0.1000		48	40-140			
Azobenzene	0.059	0.020	mg/L	0.1000		59	40-140			
Benzoic Acid	0.023	0.100	mg/L	0.1000		23	40-140			B-
Benzyl Alcohol	0.056	0.010	mg/L	0.1000		56	40-140			
bis(2-Chloroethoxy)methane	0.059	0.010	mg/L	0.1000		59	40-140			
bis(2-Chloroethyl)ether	0.056	0.010	mg/L	0.1000		56	40-140			
bis(2-chloroisopropyl)Ether	0.059	0.010	mg/L	0.1000		59	40-140			
bis(2-Ethylhexyl)phthalate	0.070	0.006	mg/L	0.1000		70	40-140			
Butylbenzylphthalate	0.068	0.010	mg/L	0.1000		68	40-140			
Carbazole	0.063	0.010	mg/L	0.1000		63	40-140			
Dibenzofuran	0.058	0.010	mg/L	0.1000		58	40-140			
Diethylphthalate	0.069	0.010	mg/L	0.1000		69	40-140			
Dimethylphthalate	0.060	0.010	mg/L	0.1000		60	40-140			



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BF90812 - 3520C										
Di-n-butylphthalate	0.059	0.010	mg/L	0.1000		59	40-140			
Di-n-octylphthalate	0.073	0.010	mg/L	0.1000		73	40-140			
Hexachlorobutadiene	0.050	0.010	mg/L	0.1000		50	40-140			
Hexachlorocyclopentadiene	0.029	0.025	mg/L	0.1000		29	40-140			B-
Hexachloroethane	0.041	0.005	mg/L	0.1000		41	40-140			
Isophorone	0.046	0.010	mg/L	0.1000		46	40-140			
Nitrobenzene	0.055	0.010	mg/L	0.1000		55	40-140			
N-Nitrosodimethylamine	0.050	0.010	mg/L	0.1000		50	40-140			
N-Nitroso-Di-n-Propylamine	0.049	0.010	mg/L	0.1000		49	40-140			
N-nitrosodiphenylamine	0.064	0.010	mg/L	0.1000		64	40-140			
Phenol	0.051	0.010	mg/L	0.1000		51	30-130			
Pyridine	0.043	0.100	mg/L	0.1000		43	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	0.0820		mg/L	0.1000		82	30-130			
Surrogate: 2,4,6-Tribromophenol	0.112		mg/L	0.1500		75	15-110			
Surrogate: 2-Chlorophenol-d4	0.100		mg/L	0.1500		67	15-110			
Surrogate: 2-Fluorobiphenyl	0.0753		mg/L	0.1000		75	30-130			
Surrogate: 2-Fluorophenol	0.0888		mg/L	0.1500		59	15-110			
Surrogate: Nitrobenzene-d5	0.0858		mg/L	0.1000		86	30-130			
Surrogate: Phenol-d6	0.120		mg/L	0.1500		80	15-110			
Surrogate: p-Terphenyl-d14	0.0929		mg/L	0.1000		93	30-130			
LCS Dup										
1,1-Biphenyl	0.056	0.010	mg/L	0.1000		56	40-140	4	20	
1,2,4-Trichlorobenzene	0.056	0.010	mg/L	0.1000		56	40-140	5	20	
1,2-Dichlorobenzene	0.046	0.010	mg/L	0.1000		46	40-140	4	20	
1,3-Dichlorobenzene	0.045	0.010	mg/L	0.1000		45	40-140	5	20	
1,4-Dichlorobenzene	0.052	0.010	mg/L	0.1000		52	40-140	11	20	
2,3,4,6-Tetrachlorophenol	0.063	0.050	mg/L	0.1000		63	40-140	11	20	
2,4,5-Trichlorophenol	0.059	0.010	mg/L	0.1000		59	30-130	12	20	
2,4,6-Trichlorophenol	0.065	0.010	mg/L	0.1000		65	30-130	11	20	
2,4-Dichlorophenol	0.065	0.010	mg/L	0.1000		65	30-130	6	20	
2,4-Dimethylphenol	0.054	0.050	mg/L	0.1000		54	30-130	3	20	
2,4-Dinitrophenol	0.055	0.050	mg/L	0.1000		55	30-130	31	20	D+
2,4-Dinitrotoluene	0.071	0.010	mg/L	0.1000		71	40-140	11	20	
2,6-Dinitrotoluene	0.071	0.010	mg/L	0.1000		71	40-140	13	20	
2-Chloronaphthalene	0.043	0.010	mg/L	0.1000		43	40-140	0.9	20	
2-Chlorophenol	0.049	0.010	mg/L	0.1000		49	30-130	6	20	
2-Methylphenol	0.058	0.010	mg/L	0.1000		58	30-130	10	20	
2-Nitroaniline	0.072	0.010	mg/L	0.1000		72	40-140	14	20	
2-Nitrophenol	0.058	0.010	mg/L	0.1000		58	30-130	3	20	
3,3'-Dichlorobenzidine	0.072	0.010	mg/L	0.1000		72	40-140	11	20	
3+4-Methylphenol	0.101	0.020	mg/L	0.2000		51	30-130	2	20	
3-Nitroaniline	0.073	0.010	mg/L	0.1000		73	40-140	16	20	
4,6-Dinitro-2-Methylphenol	0.071	0.050	mg/L	0.1000		71	30-130	9	20	
4-Bromophenyl-phenylether	0.065	0.010	mg/L	0.1000		65	40-140	15	20	
4-Chloro-3-Methylphenol	0.063	0.010	mg/L	0.1000		63	30-130	7	20	
4-Chloroaniline	0.057	0.020	mg/L	0.1000		57	40-140	8	20	



ESS Laboratory

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CERTIFICATE OF ANALYSIS

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Client Project ID: Tidewater

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch BF90812 - 3520C										
4-Chloro-phenyl-phenyl ether	0.066	0.010	mg/L	0.1000		66	40-140	11	20	
4-Nitroaniline	0.072	0.010	mg/L	0.1000		72	40-140	13	20	
4-Nitrophenol	0.050	0.050	mg/L	0.1000		50	30-130	17	20	
Acetophenone	0.056	0.010	mg/L	0.1000		56	40-140	3	20	
Aniline	0.057	0.010	mg/L	0.1000		57	40-140	17	20	
Azobenzene	0.066	0.020	mg/L	0.1000		66	40-140	11	20	
Benzoic Acid	0.024	0.100	mg/L	0.1000		24	40-140	6	20	B-
Benzyl Alcohol	0.059	0.010	mg/L	0.1000		59	40-140	7	20	
bis(2-Chloroethoxy)methane	0.058	0.010	mg/L	0.1000		58	40-140	3	20	
bis(2-Chloroethyl)ether	0.060	0.010	mg/L	0.1000		60	40-140	8	20	
bis(2-chloroisopropyl)Ether	0.064	0.010	mg/L	0.1000		64	40-140	8	20	
bis(2-Ethylhexyl)phthalate	0.078	0.006	mg/L	0.1000		78	40-140	10	20	
Butylbenzylphthalate	0.076	0.010	mg/L	0.1000		76	40-140	10	20	
Carbazole	0.075	0.010	mg/L	0.1000		75	40-140	17	20	
Dibenzofuran	0.065	0.010	mg/L	0.1000		65	40-140	11	20	
Diethylphthalate	0.075	0.010	mg/L	0.1000		75	40-140	8	20	
Dimethylphthalate	0.067	0.010	mg/L	0.1000		67	40-140	11	20	
Di-n-butylphthalate	0.068	0.010	mg/L	0.1000		68	40-140	13	20	
Di-n-octylphthalate	0.079	0.010	mg/L	0.1000		79	40-140	9	20	
Hexachlorobutadiene	0.053	0.010	mg/L	0.1000		53	40-140	5	20	
Hexachlorocyclopentadiene	0.032	0.025	mg/L	0.1000		32	40-140	10	20	B-
Hexachloroethane	0.042	0.005	mg/L	0.1000		42	40-140	2	20	
Isophorone	0.047	0.010	mg/L	0.1000		47	40-140	2	20	
Nitrobenzene	0.060	0.010	mg/L	0.1000		60	40-140	8	20	
N-Nitrosodimethylamine	0.054	0.010	mg/L	0.1000		54	40-140	9	20	
N-Nitroso-Di-n-Propylamine	0.048	0.010	mg/L	0.1000		48	40-140	1	20	
N-nitrosodiphenylamine	0.068	0.010	mg/L	0.1000		68	40-140	6	20	
Phenol	0.056	0.010	mg/L	0.1000		56	30-130	11	20	
Pyridine	0.046	0.100	mg/L	0.1000		46	40-140	6	20	
Surrogate: 1,2-Dichlorobenzene-d4	0.0660		mg/L	0.1000		66	30-130			
Surrogate: 2,4,6-Tribromophenol	0.0976		mg/L	0.1500		65	15-110			
Surrogate: 2-Chlorophenol-d4	0.0828		mg/L	0.1500		55	15-110			
Surrogate: 2-Fluorobiphenyl	0.0624		mg/L	0.1000		62	30-130			
Surrogate: 2-Fluorophenol	0.0745		mg/L	0.1500		50	15-110			
Surrogate: Nitrobenzene-d5	0.0708		mg/L	0.1000		71	30-130			
Surrogate: Phenol-d6	0.103		mg/L	0.1500		68	15-110			
Surrogate: p-Terphenyl-d14	0.0820		mg/L	0.1000		82	30-130			
8270C(SIM) Semi-Volatile Organic Compounds										
Batch BF90812 - 3520C										
Blank										
2-Methylnaphthalene	ND	0.00040	mg/L							
Acenaphthene	ND	0.00040	mg/L							
Acenaphthylene	ND	0.00040	mg/L							
Anthracene	ND	0.00040	mg/L							



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.
 Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Quality Control Data

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

Batch BF90812 - 3520C

Benzo(a)anthracene	ND	0.00010	mg/L							
Benzo(a)pyrene	ND	0.00010	mg/L							
Benzo(b)fluoranthene	ND	0.00010	mg/L							
Benzo(g,h,i)perylene	ND	0.00040	mg/L							
Benzo(k)fluoranthene	ND	0.00010	mg/L							
Chrysene	ND	0.00010	mg/L							
Dibenzo(a,h)Anthracene	ND	0.00010	mg/L							
Fluoranthene	ND	0.00040	mg/L							
Fluorene	ND	0.00040	mg/L							
Hexachlorobenzene	ND	0.00040	mg/L							
Indeno(1,2,3-cd)Pyrene	ND	0.00010	mg/L							
Naphthalene	ND	0.00040	mg/L							
Pentachlorophenol	ND	0.00200	mg/L							
Phenanthrene	ND	0.00040	mg/L							
Pyrene	ND	0.00040	mg/L							
Surrogate: 1,2-Dichlorobenzene-d4	0.0749		mg/L	0.1000		75	30-130			
Surrogate: 2,4,6-Tribromophenol	0.157		mg/L	0.1500		104	15-110			
Surrogate: 2-Fluorobiphenyl	0.0705		mg/L	0.1000		71	30-130			
Surrogate: Nitrobenzene-d5	0.0951		mg/L	0.1000		95	30-130			
Surrogate: p-Terphenyl-d14	0.0797		mg/L	0.1000		80	30-130			

Classical Chemistry

Batch BF90803 - TCN Prep

Blank										
Total Cyanide	ND	0.050	mg/L							
LCS										
Total Cyanide	0.099	0.050	mg/L	0.1003		99	90-110			
LCS										
Total Cyanide	0.386	0.050	mg/L	0.4012		96	90-110			
LCS Dup										
Total Cyanide	0.382	0.050	mg/L	0.4012		95	90-110	1	20	



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: Vanasse Hangen Brustlin, Inc.

Client Project ID: Tidewater

ESS Laboratory Work Order: 0906042

Notes and Definitions

U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit.
Q	Calibration required quadratic regression.
D+	Relative percent difference for duplicate is outside of criteria.
D	Diluted.
C-	Continuing Calibration recovery is below lower control limit.
B-	Blank Spike recovery is below lower control limit.
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
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.



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ESS Laboratory Work Order: 0906042

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Rhode Island: A-179
Potable and Non Potable Water

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

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

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

Maine: RI002
Potable and Non Potable Water

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

Massachusetts: M-RI002
Potable and Non Potable Water

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

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

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

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

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

United States Department of Agriculture
Soil Permit: S-54210

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

<http://www.nj.gov/dep/oqa/certlabs.htm>

Maryland: 301
Potable Water

http://www.mde.state.md.us/assets/document/wsp_labs

South Carolina: 78003
Volatile Organic Compounds in Potable Water

Elizabeth Ouk

From: Masse, Claude [CMasse@VHB.com]
Sent: Thursday, June 04, 2009 7:58 AM
To: Elizabeth Ouk
Subject: Project Name & Detection Limits
Follow Up Flag: Follow up
Flag Status: Completed

Liz,

The project name is "Tidewater". Please use the lowest detection limits possible.

Thanks,

Claude

Claude M. Masse

Senior Environmental Scientist

VHB | Vanasse Hangen Brustlin, Inc.

Transportation | Land Development | Environmental Services

10 Dorrance Street, Suite 400

Providence, RI 02903

Phone: 401.272.8100 x2046 | FAX: 401.273.9694

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 www.esslaboratory.com

CHAIN OF CUSTODY

0900042
 Page 1 of 1

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

ESS LAB PROJECT ID: 0900042
 Reporting Limits: NEC/Surface Water
 Electronic Deliverable: Yes No
 Format: Excel Access PDF Other

Co. Name	Project #	Project Name (20 Char. or less)	Number of Containers	Type of Containers	Pres Code	Sample Identification (20 Char. or less)	COMP	GRAB	MATRIX	Collection Time	Date	ESS LAB Sample #
VHB	71522.00	10 Dorrance St. Site 400	8	9/4	1/2/5	Gasholder	X	WW		1350	6/2/09	01
		Zip 02903	3	9/4	1/6	SCUM	X	S		1545		02
		Email Address CM@esse.vhb.com	8	9/4	1/2/5	UPSTREAM	X	SW		1615		03
			8	9/4	1/2/5	INFLOW	X	SW		1625		04
			1	V	2	Tryp Blank					6/2/09	05

Container Type: P-Poly G-Glass S-Sterile V-VOA	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: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Internal Use Only: <input type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	NA: <input type="checkbox"/> Yes <input type="checkbox"/> No	Cooler Temp: 4.7
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Relinquished by: (Signature) <u>[Signature]</u>	Date/Time: 6/2/09 1720	Received by: (Signature) <u>[Signature]</u>	Date/Time: 6/2/09 1720
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time: 6/3/09 0925	Received by: (Signature) <u>[Signature]</u>	Date/Time: 6/3/09 0849