Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

January 28, 2008

Mr. Stephen Tan, Esq.
Cascadia Law Group
1201 Third Avenue, Suite 320
Seattle, WA 98101

Re: Results of Direct-Push Groundwater Assessment
Support Terminals Operating Partners (STOP) LP Vancouver Terminal
5420 Fruit Valley Road, Vancouver, Washington
1126-02

Dear Stephen:

This letter summarizes the results of the direct-push groundwater assessment completed in June 2007 at the STOP Vancouver Terminal (the Terminal). Ash Creek Associates completed the direct-push groundwater assessment to determine whether Terminal-derived constituents, potentially susceptible to pumping-induced migration to the proposed Clark Public Utilities (CPU) Fruit Valley well field, are present in deep groundwater. The proposed Fruit Valley well field is located just northwest of the Terminal (Figure 1), less than 500 feet at its closest point.

Background

CPU has proposed installing and operating a domestic water supply well field on land currently owned by the Washington Department of Fish and Wildlife (WDFW). The proposed well field has conceptually been designed to consist of four extraction wells each pumping at 3,500 gallons per minute (gpm) for a total of 20 million gallons per day (MGD; Pacific Groundwater Group [PGG], 2001). The wells would be installed and screened within the Pleistocene Alluvial Aquifer (PAA), with anticipated depths of approximately 170 feet and screened intervals from 70 to 170 feet below grade.

CPU had previously described plans to conduct a three- to seven-day constant-rate aquifer test to better assess the transmissivity of the PAA. On Thursday, June 7, 2007, Ash Creek Associates was notified that CPU intended to begin this test on Tuesday, June 12, 2007. Based on this schedule, Ash Creek Associates developed and implemented the direct-push groundwater assessment.

9615 Southwest Allen Boulevard, Suite 106
Portland, Oregon 97005-4814
(503) 924-4704 Portland
(360) 567-3977 Vancouver
(503) 924-4707 Fax
www.ashcreekassociates.com

Sampling Locations, Intervals, and Methods

Two direct-push explorations (GP-1 and GP-2) were completed at the Terminal on June 11, 2007. The locations of the explorations are shown on Figure 2. The direct-push explorations were completed by ESN Northwest in Lacey, Washington, under subcontract to Ash Creek Associates.

Sampling Locations

Historical site assessment information available for the Terminal indicates petroleum hydrocarbons are present in subsurface soil and shallow groundwater in the vicinity of the truck loading rack and the vapor recovery unit. The location for GP-1 was chosen because it was directly north of the vapor recovery unit and the truck loading rack. This location was selected to assess hypothetical near-source conditions should the well field influence conditions at the Terminal. The location for GP-2, near the Terminal property boundary, was chosen because it represents the closest point on the Terminal to the proposed well field and is in the anticipated regional downgradient groundwater flow direction from the on-site source area.

Sampling Intervals

Based on a previous investigation at the Terminal (AMEC, 2002) and lithologic logs from the CPU well field (PGG, 2003), the lithology at the Terminal is reported to consist of:

- Silty, fine sand or sandy silt to a depth of approximately 10 feet, and fine- to medium-grained sand to approximately 50 to 60 feet below grade (referred to as the Recent Alluvial Aquifer [RAA]); and
- Below the RAA, sand and/or gravel layers of varying thicknesses were reported (total depth not explored). This unit is referred to as the PAA.

The depth to groundwater is approximately 25 feet below grade across most of the site.

Since the proposed CPU well field will utilize wells screened approximately from between 70 to 170 feet below grade, the top of the PAA was the targeted interval for the direct-push groundwater assessment. Groundwater samples were collected from 70 feet below grade in GP-1 and 64 feet below grade in GP-2. Please note that each exploration was completed within a containment area of the Terminal, which is approximately 10 feet below the surrounding grade (thus, actual intervals are approximately 10 feet deeper when compared to average vicinity grade).

Sampling and Analytical Methods

Depth-discrete groundwater samples were collected using direct-push equipment. The sampling device was driven to the desired depth using a truck-mounted direct-push rig, and the casing was retracted, exposing a 2-foot-long groundwater sampling attachment. Groundwater samples were collected from the sampling attachment using a combination of a check-valve and peristaltic pump. The probing conditions were very difficult at deeper depths due to apparent dense sands and gravels. GP-1 was logged in detail to a depth of 52 feet below grade, until the field geologist could conclude with reasonable certainty that the PAA was encountered. GP-2 was not logged due to time constraints resulting from difficult drilling conditions. Exploration logs are included in Attachment A.

Groundwater samples were delivered under chain-of-custody to TestAmerica in Beaverton, Oregon. All groundwater samples were submitted for analysis of:

- Gasoline-range total petroleum hydrocarbons (TPHg) using NW Method TPH-Gx;
- Diesel- and oil-range hydrocarbons (TPHd) using NW Method TPH-Dx;
- Polynuclear aromatic hydrocarbons (PAHs) using EPA 8270 SIM; and
- Select volatile organic compounds (VOCs) using EPA Method 8260.

The select VOC list included hydrocarbon VOC constituents, and oxygenates.

Results

Tables 1 and 2 summarize the chemical analytical results. Except for methyl tert-butyl ether (MTBE), detected at a concentration of 13.7 micrograms per liter (µg/L) at location GP-1, no other VOCs, TPH, or PAHs were detected in the direct-push explorations. The groundwater sample from GP-1 was collected from 70 feet below grade, north of the vapor recovery unit area.

These results support that Terminal-derived constituents are currently contained within the boundaries of the Terminal. Under static conditions, degradation and a naturally flat groundwater gradient will likely continue to prevent the extent of dissolved-phase constituents from increasing in size. Based on the results of the April 2007 migration evaluation prepared by Ash Creek Associates, there is real potential that outside stresses from the well field could mobilize water from beneath the Terminal and spread Terminal-derived constituents. As subsequent well field tests are completed, or the well field comes on-line, groundwater quality at the Terminal should continue to be assessed for possible changes induced by the well field.

Please do not hesitate to call if you have any questions or need further assistance.

Sincerely,

John P. Foxwell, L.H.G.
Senior Associate

Amanda L. Spencer
Principal Hydrogeologist

Attachments:

Table 1 – Direct-Push Groundwater Assessment Results: Total Petroleum Hydrocarbons
Table 2 – Direct-Push Groundwater Assessment Results: VOCs and Fuel Oxygenates

Figure 1 – Site Location Map
Figure 2 – Site Plan Showing Push-Probe Locations

Attachment A – Exploration Logs
Attachment B – Analytical Laboratory Data

cc: Mr. Joe Aldridge, NuStar Energy LP (electronic deliverable)

Table 1
Direct-Push Groundwater Assessment Results: Total Petroleum Hydrocarbons
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

		Concentration in µg/L (ppb)			
Sample Location	Sample Date	TPHg	TPHd	TPHho	All PAHs
GP-1-1	06/11/07	<80	<238	<476	ND
GP-2-1	06/11/07	<80	<238	<476	ND
Washington DOE MTCA Method A cleanup level		800 [7.]	500	500	NA

Notes:

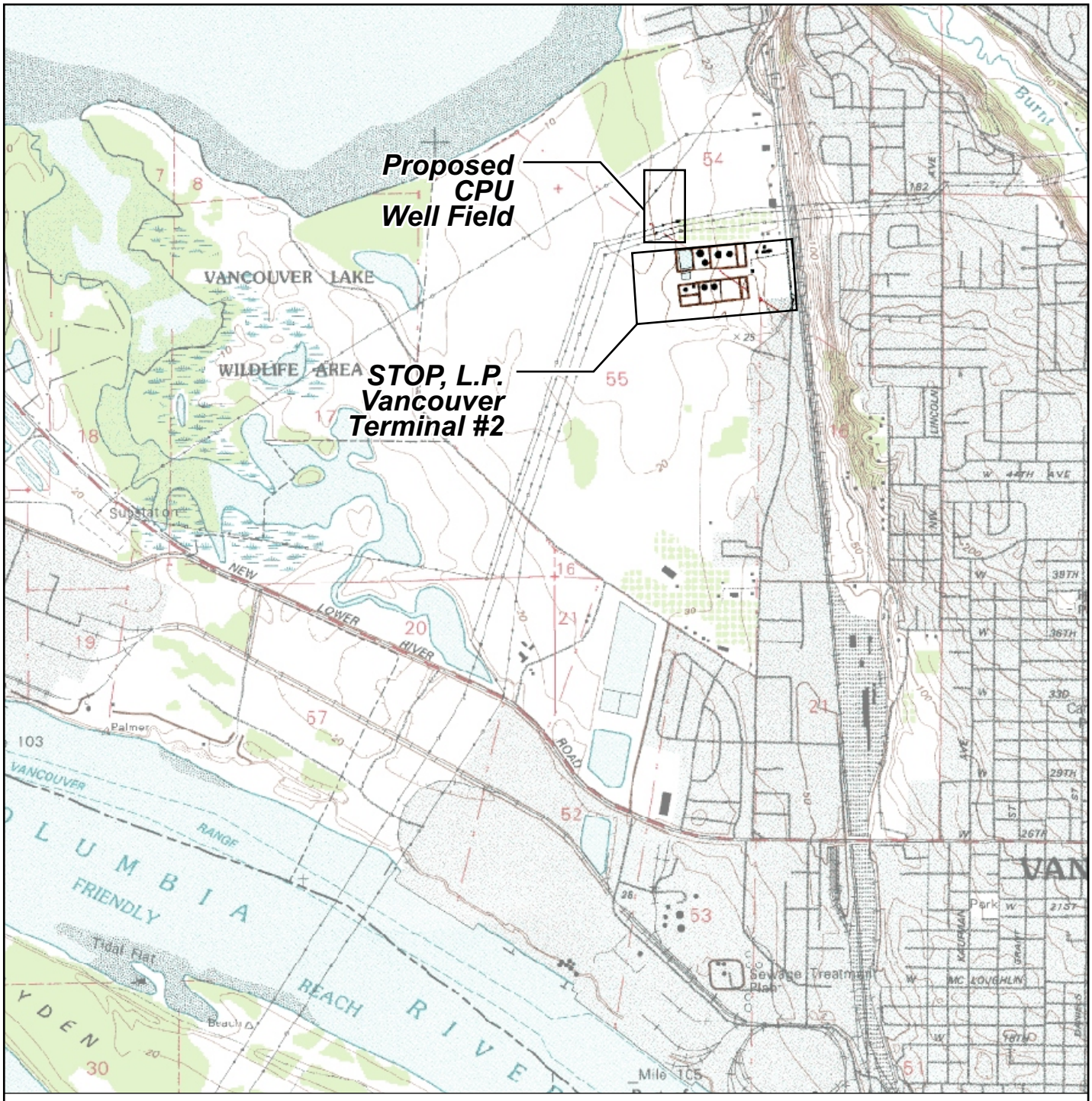
1. TPHg = Total petroleum hydrocarbons in the gasoline carbon range by NW-TPH-Gx method.
2. TPHd = Total petroleum hydrocarbons in the diesel carbon range by NW-TPH-Dx method with silica gel cleanup.
3. TPHho = Total petroleum hydrocarbons in the heavy oil carbon range by NW-TPH-Dx method with silica gel cleanup.
4. PAHs = Polynuclear Aromatic Hydrocarbons by EPA 8270 SIM.
5. < = Not detected at or above the specified laboratory method reporting limit (MRL).
6. µg/L (ppb) = micrograms per liter (parts per billion).
7. TPHg cleanup level dependent on presence of benzene in groundwater. Cleanup level = 800 µg/L if benzene is present and 1,000 µg/L if benzene is not present.
8. Washington DOE MTCA = Washington Department of Ecology Model Toxics Control Act.
9. ND = Not detected at or above the specified laboratory MRL.
10. NA = Not Applicable.

Table 2
Direct-Push Groundwater Assessment Results: VOCs and Fuel Oxygenates
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

		Concentration in µg/L (ppb)																
Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dibromoethane	1,2-Dichloroethane	Ethanol	tert-Butyl alcohol	Ethyl tert-Butyl Ether (ETBE)	Diisopropyl Ether (DIPE)	Methyl tert-butyl ether (MTBE)	Tert-Amyl Methyl Ether (TAME)	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Isopropylbenzene	n-Propylbenzene
GP-1-1	06/11/07	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<150	<25.0	<1.0	<1.0	13.7	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0
GP-2-1	06/11/07	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<150	<25.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0
Washington DOE MTCA Method A cleanup level		5.0	1,000	700	1,000	NA	5	NA	NA	NA	NA	20	NA	160	NA	NA	NA	NA

Notes:

1. BTEX (Benzene, toluene, ethylbenzene, and xylenes) and fuel oxygenates by EPA Method 8260B. Results reported in micrograms per liter.
2. µg/L = micrograms per liter.
3. **Boldface** value represents detected concentrations of listed analyte.
4. < = Not detected at or above the specified laboratory method reporting limit (MRL).
5. Detected concentration is estimated based on presence of analyte in blank.
6. NA = Cleanup level not available.
7. Washington DOE MTCA Method A cleanup level = Washington Department of Ecology Model Toxics Control Act Method A cleanup level.



Base map prepared from USGS 7.5-minute quadrangle of Vancouver, WA, dated 1990, as provided by Topozone.

0 2000 4000

Scale in Feet

N

Site Location Map

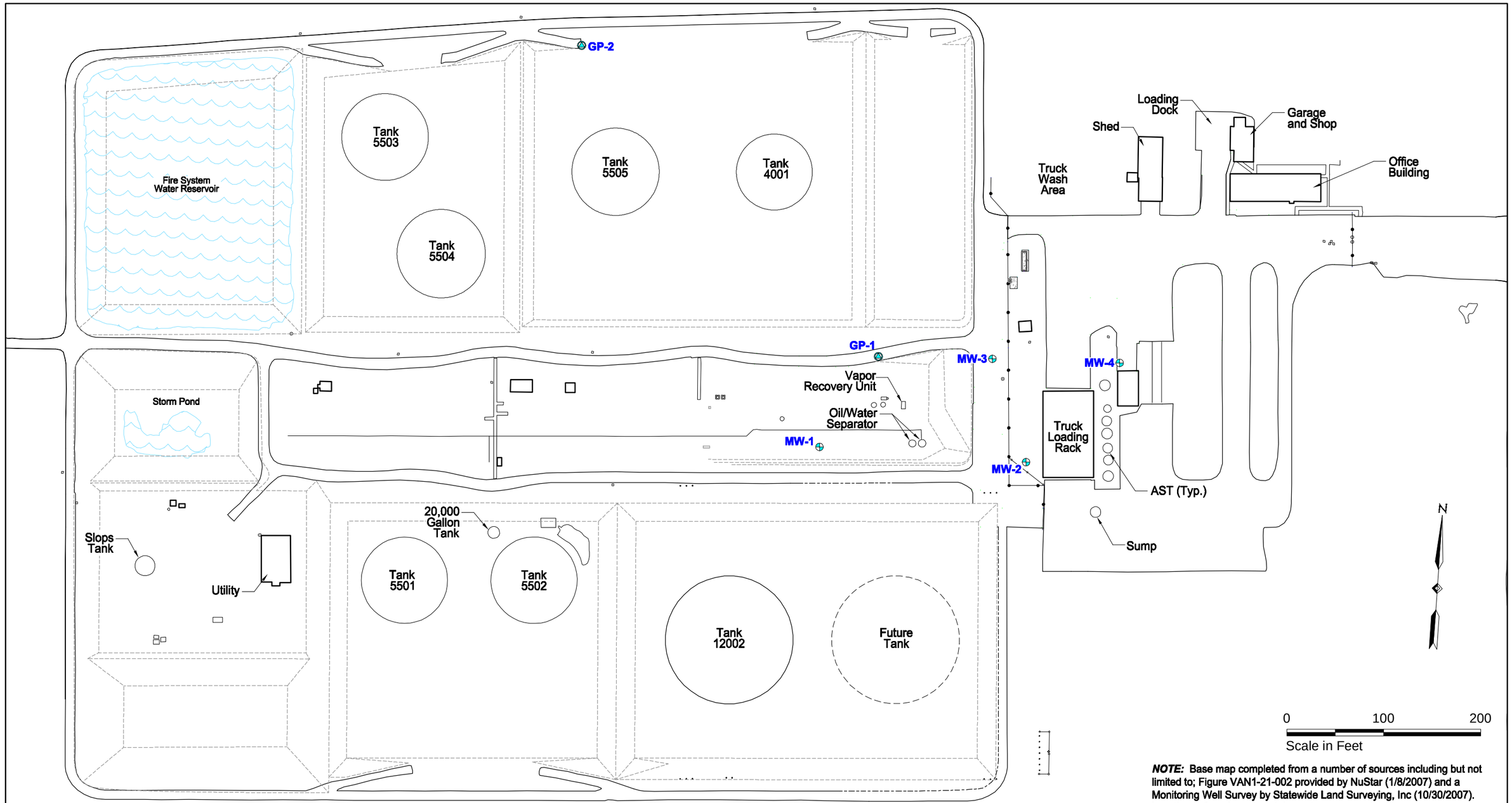
Direct-Push Groundwater Assessment
Support Terminal Operating Partners - Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1126-02

January 2008

Figure 1



NOTE: **Base map completed from a number of sources including but not limited to; Figure VAN1-21-002 provided by NuStar (1/8/2007) and a Monitoring Well Survey by Statewide Land Surveying, Inc (10/30/2007). Locations of roads and containments are approximate.**

Legend:

MW-1 Groundwater Monitoring Well Location

GP-2 Push-Probe Location

Site Plan Showing Push-Probe Locations

Direct-Push Groundwater Assessment
Support Terminal Operating Partners - Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number	1126-02	Figure
January 2008		2

Attachment A

Exploration Logs

Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, and grain size, and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT with additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits and Geoprobe® explorations is estimated based on visual observation and is presented parenthetically on test pit and Geoprobe® exploration logs.

SAND and GRAVEL Density	Standard Penetration Resistance in Blows/Foot
Very loose	0 - 4
Loose	4 - 10
Medium dense	10 - 30
Dense	30 - 50
Very dense	>50

SILT or CLAY Density	Standard Penetration Resistance in Blows/Foot	Approximate Shear Strength in TSF
Very soft	0 - 2	<0.125
Soft	2 - 4	0.125 - 0.25
Medium stiff	4 - 8	0.25 - 0.5
Stiff	8 - 15	0.5 - 1.0
Very Stiff	15 - 30	1.0 - 2.0
Hard	>30	>2.0

Moisture

Dry	Little perceptible moisture.
Damp	Some perceptible moisture, probably below optimum.
Moist	Probably near optimum moisture content.
Wet	Much perceptible moisture, probably above optimum.

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Sampling Symbols

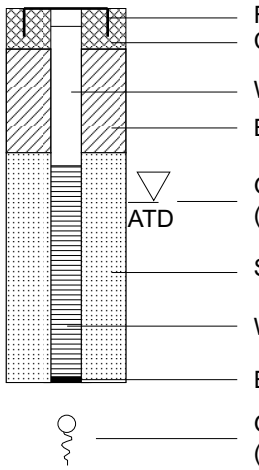
BORING AND GEOPROBE® SYMBOLS

- Split Spoon
- Tube (Shelby, Geoprobe®)
- Cuttings
- Core Run
- Temporarily Screened Interval
- N — Standard Penetration Resistance
- * — No Sample Recovery
- P — Tube Pushed, Not Driven
- PID — Photoionization Detector Reading
- W — Water Sample
- Sample Submitted for Chemical Analysis

TEST PIT SOIL SAMPLES

- Grab (Jar)
- Bag
- Shelby Tube

Groundwater Observations and Monitoring Well Construction



- Flush Mounted Monument
- Concrete Surface Seal
- Well Casing
- Bentonite Seal
- Groundwater Level on Date or (ATD) At Time of Drilling
- Sand Pack
- Well Screen
- End Cap
- Groundwater Seepage (Test Pits)

Key to Exploration Logs

Direct-Push Groundwater Assessment
Support Terminal Operating Partners - Vancouver Terminal #2
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1126-02
July 2007

Figure Key

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

ST Services - Vancouver Annex
Vancouver, Washington

Log Of Well Number **GP-1**

Project Number **1126-02**

Boring Location: See Figure 2 | Surface Elevation: Not Surveyed

Drilling Contractor: Environmental Services Network | Date Started: 6/11/07

Drilling Method: 4 Foot Push Probe (Acetate Lined) | Date Finished: 6/11/07

Drilling Equipment: Strataprobe | Logged By: A. Schmidt

Depth to Water (ATD): 26.0'

Depth, feet	Sample ID	Sample	Recovery	Sheen	PID	Material Description	Remarks:
				No	<5	GRAVEL Fill.	
				No	<5	SILT; brown, moist, trace sand, (medium stiff).	
5				No	<5	Silty SAND; brown, moist, fine-grained, poorly sorted, (loose).	
				No	<5		
				No	<5		
10				No	<5		
				No	<5	SAND; brown, moist, fine- to medium-grained, poorly sorted, (medium dense).	
15				No	<5		
				No	<5	SAND; gray to black, moist, medium-grained, poorly sorted, no grading, trace silts, (medium dense).	
20				No	<5		
				No	<5		
25				No	<5		▽
				No	<5		
				No	<5		
30				No	<5		
				No	<5		
35				No	<5		

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

ST Services - Vancouver Annex
Vancouver, Washington

Log Of Well Number **GP-1**

Project Number **1126-02**

Boring Location: See Figure 2 | Surface Elevation: Not Surveyed

Drilling Contractor: Environmental Services Network | Date Started: 6/11/07

Drilling Method: 4 Foot Push Probe (Acetate Lined) | Date Finished: 6/11/07

Drilling Equipment: Strataprobe | Logged By: A. Schmidt

Depth to Water (ATD): 26.0'

Depth, feet	Sample ID	Sample	Recovery	Sheen	PID	Material Description
						No recovery. Crushed liner.
45						No recovery.
				No	<5	
50				No	<5	
						No samples collected from 52.0 to 72.0 feet.
55						
60						
65						
70						
						Boring Terminated at 72.0' BGS.
75						

Remarks:

GP-1-1

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

ST Services - Vancouver Annex
Vancouver, Washington

Log Of Well Number **GP-2**

Project Number **1126-02**

Boring Location: See Figure 2 | Surface Elevation: Not Surveyed

Drilling Contractor: Environmental Services Network | Date Started: 6/11/07

Drilling Method: 4 Foot Push Probe (Acetate Lined) | Date Finished: 6/11/07

Drilling Equipment: Strataprobe | Logged By: A. Schmidt

Depth to Water (ATD): --

Depth, feet	Sample ID	Sample	Recovery	Sheen	PID	Material Description	Remarks:
						No soil logging. Groundwater sample only.	
5							
10							
15							
20							
25							
30							
35							

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

ST Services - Vancouver Annex
Vancouver, Washington

Log Of Well Number **GP-2**

Project Number **1126-02**

Boring Location: See Figure 2 | Surface Elevation: Not Surveyed

Drilling Contractor: Environmental Services Network | Date Started: 6/11/07

Drilling Method: 4 Foot Push Probe (Acetate Lined) | Date Finished: 6/11/07

Drilling Equipment: Strataprobe | Logged By: A. Schmidt

Depth to Water (ATD): --

Depth, feet	Sample ID	Sample	Recovery	Sheen	PID	Material Description	Remarks:
45							45
50							50
55							55
60							60
65							65 GP-2-1
						Boring Terminated at 66.0' BGS.	
70							70
75							75

Attachment B

Analytical Laboratory Data

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

June 27, 2007

John Foxwell
Ash Creek Associates, Inc.
9615 SW Allen Blvd. Suite 106
Beaverton, OR 97005

RE: Nustar Vancouver Annex

Enclosed are the results of analyses for samples received by the laboratory on 06/12/07 09:05. The following list is a summary of the Work Orders contained in this report, generated on 06/27/07 10:55.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQF0408	Nustar Vancouver Annex	1126-02

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GP-1-1	PQF0408-01	Water	06/11/07 17:50	06/12/07 09:05
GP-2-1	PQF0408-02	Water	06/11/07 02:20	06/12/07 09:05

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Gasoline Hydrocarbons per NW TPH-Gx Method

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**					**Sampled: 06/11/07 17:50**			
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7060469	06/12/07 10:52	06/12/07 23:45	
Surrogate(s): 4-BFB			*93.0%*		*50 - 150 %*	"			"	
PQF0408-02 (GP-2-1)		**Water**					**Sampled: 06/11/07 02:20**			
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7060469	06/12/07 10:52	06/13/07 00:11	
Surrogate(s): 4-BFB			*89.2%*		*50 - 150 %*	"			"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**					**Sampled: 06/11/07 17:50**			
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7060663	06/15/07 12:45	06/16/07 09:24	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*84.6%*		*50 - 150 %*	*"*			*"*	
PQF0408-02 (GP-2-1)		**Water**					**Sampled: 06/11/07 02:20**			
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7060663	06/15/07 12:45	06/16/07 09:43	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*82.2%*		*50 - 150 %*	*"*			*"*	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**			**Sampled: 06/11/07 17:50**					
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	7060607	06/15/07 10:58	06/15/07 16:15	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone (MEK)	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Chloroethane	"	ND	-----	1.00	"	"	"	"	"	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	5.00	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	4.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	2.00	"	"	"	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**			**Sampled: 06/11/07 17:50**					
4-Methyl-2-pentanone	EPA 8260B	ND	-----	5.00	ug/l	1x	7060607	06/15/07 10:58	06/15/07 16:15	
Methyl tert-butyl ether	"	**13.7**	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	ND	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	
Surrogate(s): 4-BFB		*102%*			*80 - 120 %*	"			"	
1,2-DCA-d4		*97.5%*			*80 - 120 %*	"			"	
Dibromofluoromethane		*99.0%*			*80 - 120 %*	"			"	
Toluene-d8		*100%*			*80 - 120 %*	"			"	
PQF0408-02 (GP-2-1)		**Water**			**Sampled: 06/11/07 02:20**					
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	7060607	06/15/07 10:58	06/15/07 16:42	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone (MEK)	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	10.0	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene	"	ND	-----	1.00	"	"	"	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-02 (GP-2-1)		**Water**			**Sampled: 06/11/07 02:20**					
Chloroethane	EPA 8260B	ND	-----	1.00	ug/l	1x	7060607	06/15/07 10:58	06/15/07 16:42	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	5.00	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	4.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	2.00	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	5.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

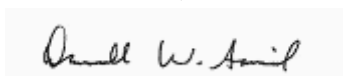
Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-02 (GP-2-1)		**Water**				**Sampled: 06/11/07 02:20**				
Trichloroethene	EPA 8260B	ND	-----	1.00	ug/l	1x	7060607	06/15/07 10:58	06/15/07 16:42	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	1.00	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	
Surrogate(s): *4-BFB*			*99.5%*		*80 - 120 %*	"			"	
1,2-DCA-d4			*98.5%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*98.0%*		*80 - 120 %*	"			"	
Toluene-d8			*98.0%*		*80 - 120 %*	"			"	

TestAmerica - Portland, OR



Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Oxygenates by EPA 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**			**Sampled: 06/11/07 17:50**					
Ethanol	SW846 8260B	ND	-----	150	ug/L	1x	7060525	06/13/07 10:04	06/13/07 18:09	
tert-Butyl alcohol	"	ND	-----	25.0	"	"	"	"	"	
Ethyl tert-Butyl Ether (ETBE)	"	ND	-----	1.00	"	"	"	"	"	
Diisopropyl Ether (DIPE)	"	ND	-----	1.00	"	"	"	"	"	
Methyl tert-butyl ether	"	**12.2**	-----	2.00	"	"	"	"	"	
Tert-Amyl Methyl Ether	"	ND	-----	1.00	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*92%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*103%*		*80 - 120 %*	"			"	
Toluene-d8			*99%*		*80 - 120 %*	"			"	
4-BFB			*106%*		*80 - 120 %*	"			"	
PQF0408-02 (GP-2-1)		**Water**			**Sampled: 06/11/07 02:20**					
Ethanol	SW846 8260B	ND	-----	150	ug/L	1x	7060525	06/13/07 10:04	06/13/07 18:34	
tert-Butyl alcohol	"	ND	-----	25.0	"	"	"	"	"	
Ethyl tert-Butyl Ether (ETBE)	"	ND	-----	1.00	"	"	"	"	"	
Diisopropyl Ether (DIPE)	"	ND	-----	1.00	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	2.00	"	"	"	"	"	
Tert-Amyl Methyl Ether	"	ND	-----	1.00	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*94%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*101%*		*80 - 120 %*	"			"	
Toluene-d8			*100%*		*80 - 120 %*	"			"	
4-BFB			*110%*		*80 - 120 %*	"			"	

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQF0408-01 (GP-1-1)		**Water**			**Sampled: 06/11/07 17:50**					
Acenaphthene	EPA 8270m	ND	-----	0.0962	ug/l	1x	7060591	06/14/07 17:15	06/22/07 05:19	
Acenaphthylene	"	ND	-----	0.0962	"	"	"	"	"	
Anthracene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Chrysene	"	ND	-----	0.0962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.192	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Fluorene	"	ND	-----	0.0962	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Naphthalene	"	ND	-----	0.0962	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.0962	"	"	"	"	"	
Pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Surrogate(s): *Fluorene-d10*			*67.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*51.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*26.7%*		*10 - 125 %*	"			"	
PQF0408-02 (GP-2-1)		**Water**			**Sampled: 06/11/07 02:20**					
Acenaphthene	EPA 8270m	ND	-----	0.0962	ug/l	1x	7060591	06/14/07 17:15	06/23/07 00:12	
Acenaphthylene	"	ND	-----	0.0962	"	"	"	"	"	
Anthracene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Chrysene	"	ND	-----	0.0962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.192	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Fluorene	"	ND	-----	0.0962	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Naphthalene	"	ND	-----	0.0962	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.0962	"	"	"	"	"	
Pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Surrogate(s): *Fluorene-d10*			*70.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*54.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*24.5%*		*10 - 125 %*	"			"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

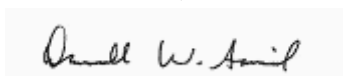
Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060469 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060469-BLK1)								**Extracted: 06/12/07 10:52**						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	--	--	--	--	--	--	06/12/07 13:39	
Surrogate(s): 4-BFB		*Recovery: 96.4%*			*Limits: 50-150%*	*"*							*06/12/07 13:39*	
LCS (7060469-BS2)								**Extracted: 06/12/07 10:52**						
Gasoline Range Hydrocarbons	NW TPH-Gx	412	---	80.0	ug/l	1x	--	500	82.4%	(70-130)	--	--	06/12/07 12:21	
Surrogate(s): 4-BFB		*Recovery: 100%*			*Limits: 50-150%*	*"*							*06/12/07 12:21*	
LCS Dup (7060469-BSD2)								**Extracted: 06/12/07 10:52**						
Gasoline Range Hydrocarbons	NW TPH-Gx	433	---	80.0	ug/l	1x	--	500	86.6%	(70-130)	4.97%	(35)	06/12/07 12:47	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 50-150%*	*"*							*06/12/07 12:47*	
Duplicate (7060469-DUP1)							**QC Source: PQF0346-06RE1**	**Extracted: 06/12/07 10:52**						
Gasoline Range Hydrocarbons	NW TPH-Gx	18700	---	800	ug/l	10x	3290	--	--	--	140%	(35)	06/12/07 15:08	R3
Surrogate(s): 4-BFB		*Recovery: 164%*			*Limits: 50-150%*	*1x*							*06/12/07 15:08*	*ZX*
Duplicate (7060469-DUP2)							**QC Source: PQF0379-05RE1**	**Extracted: 06/12/07 10:52**						
Gasoline Range Hydrocarbons	NW TPH-Gx	9340	---	1600	ug/l	20x	8540	--	--	--	8.95%	(35)	06/12/07 19:51	
Surrogate(s): 4-BFB		*Recovery: 91.2%*			*Limits: 50-150%*	*1x*							*06/12/07 19:51*	

TestAmerica - Portland, OR



Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

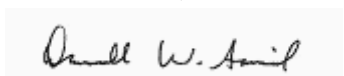
Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method with Acid/Silica Gel Cleanup - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060663 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060663-BLK1)								**Extracted: 06/15/07 12:45**						
Diesel Range Organics	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	06/15/07 18:42	
Heavy Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 81.4%*			*Limits: 50-150%*	"							*06/15/07 18:42*	
LCS (7060663-BS1)								**Extracted: 06/15/07 12:45**						
Diesel Range Organics	NWTPH-Dx	2.57	---	0.250	mg/l	1x	--	2.58	99.6%	(50-150)	--	--	06/15/07 19:00	
Heavy Oil Range Hydrocarbons	"	1.71	---	0.500	"	"	--	1.56	110%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 69.3%*			*Limits: 50-150%*	"							*06/15/07 19:00*	
LCS Dup (7060663-BSD1)								**Extracted: 06/15/07 12:45**						
Diesel Range Organics	NWTPH-Dx	2.57	---	0.250	mg/l	1x	--	2.58	99.6%	(50-150)	0.00%	(50)	06/15/07 19:34	
Heavy Oil Range Hydrocarbons	"	1.69	---	0.500	"	"	--	1.56	108%	"	1.18%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 68.6%*			*Limits: 50-150%*	"							*06/15/07 19:34*	

TestAmerica - Portland, OR



Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060607 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060607-BLK1)								**Extracted: 06/15/07 09:58**						
Acetone	EPA 8260B	ND	---	25.0	ug/l	1x	--	--	--	--	--	--	06/15/07 13:06	
Benzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Butanone (MEK)	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060607 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060607-BLK1)							**Extracted: 06/15/07 09:58**							
Hexachlorobutadiene	EPA 8260B	ND	---	4.00	ug/l	1x	--	--	--	--	--	--	06/15/07 13:06	
2-Hexanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
p-Isopropyltoluene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	

Surrogate(s):	*4-BFB*	*Recovery:*	*96.5%*	*Limits:*	*80-120%*	*" 06/15/07 13:06*
	1,2-DCA-d4		*96.0%*		*80-120%*	*" "*
	Dibromofluoromethane		*95.0%*		*80-120%*	*" "*
	Toluene-d8		*98.5%*		*80-120%*	*" "*

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name: **Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-02	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	06/27/07 10:55

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060607 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7060607-BS1)								**Extracted: 06/15/07 09:58**						
Benzene	EPA 8260B	22.0	---	1.00	ug/l	1x	--	20.0	110%	(80-120)	--	--	06/15/07 10:48	
Chlorobenzene	"	21.5	---	1.00	"	"	--	"	108%	(80-124)	--	--	"	
1,1-Dichloroethene	"	20.2	---	1.00	"	"	--	"	101%	(78-120)	--	--	"	
Toluene	"	21.2	---	1.00	"	"	--	"	106%	(80-124)	--	--	"	
Trichloroethene	"	20.4	---	1.00	"	"	--	"	102%	(80-132)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 100%*			*Limits: 80-120%*	"							*06/15/07 10:48*	
1,2-DCA-d4		*96.5%*			*80-120%*	"							"	
Dibromofluoromethane		*100%*			*80-120%*	"							"	
Toluene-d8		*97.0%*			*80-120%*	"							"	
Matrix Spike (7060607-MS1)					**QC Source: PQF0490-01**			**Extracted: 06/15/07 09:58**						
Benzene	EPA 8260B	20.8	---	1.00	ug/l	1x	0.100	20.0	104%	(80-124)	--	--	06/15/07 11:18	
Chlorobenzene	"	20.6	---	1.00	"	"	ND	"	103%	(72.9-134)	--	--	"	
1,1-Dichloroethene	"	18.7	---	1.00	"	"	ND	"	93.5%	(79.3-127)	--	--	"	
Toluene	"	20.7	---	1.00	"	"	0.170	"	103%	(79.7-131)	--	--	"	
Trichloroethene	"	18.4	---	1.00	"	"	ND	"	92.0%	(68.4-130)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 100%*			*Limits: 80-120%*	"							*06/15/07 11:18*	
1,2-DCA-d4		*95.5%*			*80-120%*	"							"	
Dibromofluoromethane		*98.5%*			*80-120%*	"							"	
Toluene-d8		*100%*			*80-120%*	"							"	
Matrix Spike Dup (7060607-MSD1)					**QC Source: PQF0490-01**			**Extracted: 06/15/07 09:58**						
Benzene	EPA 8260B	20.3	---	1.00	ug/l	1x	0.100	20.0	101%	(80-124)	2.43%	(25)	06/15/07 11:45	
Chlorobenzene	"	19.9	---	1.00	"	"	ND	"	99.5%	(72.9-134)	3.46%	"	"	
1,1-Dichloroethene	"	18.6	---	1.00	"	"	ND	"	93.0%	(79.3-127)	0.536%	"	"	
Toluene	"	19.8	---	1.00	"	"	0.170	"	98.2%	(79.7-131)	4.44%	"	"	
Trichloroethene	"	18.1	---	1.00	"	"	ND	"	90.5%	(68.4-130)	1.64%	"	"	
Surrogate(s): 4-BFB		*Recovery: 96.0%*			*Limits: 80-120%*	"							*06/15/07 11:45*	
1,2-DCA-d4		*93.5%*			*80-120%*	"							"	
Dibromofluoromethane		*95.0%*			*80-120%*	"							"	
Toluene-d8		*93.5%*			*80-120%*	"							"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060525 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060525-BLK1)									**Extracted: 06/13/07 10:04**					
1,2-Dibromoethane	SW846 8260B	ND	---	0.500	ug/L	1x	--	--	--	--	--	--	06/13/07 13:38	
1,2-Dichloroethane	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethanol	"	ND	---	150	"	"	--	--	--	--	--	--	"	
tert-Butyl alcohol	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Ethyl tert-Butyl Ether (ETBE)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diisopropyl Ether (DIPE)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
Tert-Amyl Methyl Ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Benzene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1,2-DCA-d4		*Recovery: 92%*			*Limits: 80-120%*	"							*06/13/07 13:38*	
Dibromofluoromethane		*97%*			*80-120%*	"							*"*	
Toluene-d8		*98%*			*80-120%*	"							*"*	
4-BFB		*112%*			*80-120%*	"							*"*	
LCS (7060525-BS1)									**Extracted: 06/13/07 10:04**					
1,2-Dibromoethane	SW846 8260B	18.8	---	0.500	ug/L	1x	--	20.0	94%	(80-140)	--	--	06/13/07 11:34	
1,2-Dichloroethane	"	17.4	---	0.500	"	"	--	"	87%	(80-130)	--	--	"	
Ethanol	"	162	---	150	"	"	--	200	81%	(70-130)	--	--	"	
tert-Butyl alcohol	"	176	---	25.0	"	"	--	"	88%	"	--	--	"	
Ethyl tert-Butyl Ether (ETBE)	"	16.4	---	1.00	"	"	--	20.0	82%	"	--	--	"	
Diisopropyl Ether (DIPE)	"	16.3	---	1.00	"	"	--	"	82%	"	--	--	"	
Methyl tert-butyl ether	"	31.8	---	2.00	"	"	--	40.0	80%	(80-135)	--	--	"	
Tert-Amyl Methyl Ether	"	18.5	---	1.00	"	"	--	20.0	92%	(70-130)	--	--	"	
Benzene	"	19.1	---	0.200	"	"	--	"	96%	(80-125)	--	--	"	
Toluene	"	19.5	---	0.500	"	"	--	"	98%	(80-120)	--	--	"	
Ethylbenzene	"	21.4	---	0.500	"	"	--	"	107%	(80-130)	--	--	"	
Xylenes (total)	"	66.8	---	1.00	"	"	--	60.0	111%	"	--	--	"	
Naphthalene	"	20.3	---	2.00	"	"	--	20.0	102%	(70-150)	--	--	"	
1,2,4-Trimethylbenzene	"	22.0	---	1.00	"	"	--	"	110%	(75-125)	--	--	"	
1,3,5-Trimethylbenzene	"	22.8	---	0.500	"	"	--	"	114%	(70-140)	--	--	"	
Isopropylbenzene	"	22.0	---	2.00	"	"	--	"	110%	(80-130)	--	--	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name: **Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-02	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	06/27/07 10:55

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060525 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7060525-BS1)								**Extracted: 06/13/07 10:04**						
n-Propylbenzene	SW846 8260B	21.9	---	0.500	ug/L	1x	--	20.0	110%	(80-130)	--	--	06/13/07 11:34	
Surrogate(s): 1,2-DCA-d4		*Recovery: 90%*			*Limits: 80-120%*	"							*06/13/07 11:34*	
Dibromofluoromethane		*97%*			*80-120%*	"							"	
Toluene-d8		*100%*			*80-120%*	"							"	
4-BFB		*108%*			*80-120%*	"							"	
Matrix Spike (7060525-MS1)							**QC Source: PQF0310-04**						**Extracted: 06/13/07 10:04**	
1,2-Dibromoethane	SW846 8260B	19.2	---	0.500	ug/L	1x	ND	20.0	96%	(80-125)	--	--	06/13/07 11:59	
1,2-Dichloroethane	"	17.6	---	0.500	"	"	ND	"	88%	(75-120)	--	--	"	
Ethanol	"	165	---	150	"	"	ND	200	82%	(70-130)	--	--	"	
tert-Butyl alcohol	"	173	---	25.0	"	"	ND	"	86%	"	--	--	"	
Ethyl tert-Butyl Ether (ETBE)	"	16.9	---	1.00	"	"	ND	20.0	84%	"	--	--	"	
Diisopropyl Ether (DIPE)	"	17.0	---	1.00	"	"	ND	"	85%	"	--	--	"	
Methyl tert-butyl ether	"	32.6	---	2.00	"	"	ND	40.0	82%	(75-130)	--	--	"	
Tert-Amyl Methyl Ether	"	19.0	---	1.00	"	"	ND	20.0	95%	(70-130)	--	--	"	
Benzene	"	22.0	---	0.200	"	"	2.42	"	98%	(75-125)	--	--	"	
Toluene	"	19.9	---	0.500	"	"	ND	"	100%	(80-120)	--	--	"	
Ethylbenzene	"	22.8	---	0.500	"	"	0.200	"	113%	(75-125)	--	--	"	
Xylenes (total)	"	71.1	---	1.00	"	"	ND	60.0	118%	(70-130)	--	--	"	
Naphthalene	"	20.7	---	2.00	"	"	ND	20.0	104%	(65-150)	--	--	"	
1,2,4-Trimethylbenzene	"	23.3	---	1.00	"	"	ND	"	116%	(85-135)	--	--	"	
1,3,5-Trimethylbenzene	"	24.2	---	0.500	"	"	ND	"	121%	(70-140)	--	--	"	
Isopropylbenzene	"	24.2	---	2.00	"	"	0.640	"	118%	(80-130)	--	--	"	
n-Propylbenzene	"	24.2	---	0.500	"	"	1.03	"	116%	"	--	--	"	
Surrogate(s): 1,2-DCA-d4		*Recovery: 90%*			*Limits: 80-120%*	"							*06/13/07 11:59*	
Dibromofluoromethane		*100%*			*80-120%*	"							"	
Toluene-d8		*100%*			*80-120%*	"							"	
4-BFB		*110%*			*80-120%*	"							"	
Matrix Spike Dup (7060525-MSD1)							**QC Source: PQF0310-04**						**Extracted: 06/13/07 10:04**	
1,2-Dibromoethane	SW846 8260B	20.1	---	0.500	ug/L	1x	ND	20.0	100%	(80-125)	5%	(25)	06/13/07 12:24	
1,2-Dichloroethane	"	18.4	---	0.500	"	"	ND	"	92%	(75-120)	4%	"	"	
Ethanol	"	169	---	150	"	"	ND	200	84%	(70-130)	2%	"	"	
tert-Butyl alcohol	"	200	---	25.0	"	"	ND	"	100%	"	14%	"	"	
Ethyl tert-Butyl Ether (ETBE)	"	17.4	---	1.00	"	"	ND	20.0	87%	"	3%	"	"	
Diisopropyl Ether (DIPE)	"	17.5	---	1.00	"	"	ND	"	88%	"	3%	"	"	
Methyl tert-butyl ether	"	34.4	---	2.00	"	"	ND	40.0	86%	(75-130)	5%	"	"	
Tert-Amyl Methyl Ether	"	19.8	---	1.00	"	"	ND	20.0	99%	(70-130)	4%	"	"	
Benzene	"	22.3	---	0.200	"	"	2.42	"	99%	(75-125)	1%	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060525 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (7060525-MSD1)					**QC Source: PQF0310-04**				**Extracted: 06/13/07 10:04**					
Toluene	SW846 8260B	19.9	---	0.500	ug/L	1x	ND	20.0	100%	(80-120)	0%	(25)	06/13/07 12:24	
Ethylbenzene	"	22.8	---	0.500	"	"	0.200	"	113%	(75-125)	0%	"	"	
Xylenes (total)	"	70.3	---	1.00	"	"	ND	60.0	117%	(70-130)	1%	"	"	
Naphthalene	"	21.6	---	2.00	"	"	ND	20.0	108%	(65-150)	4%	"	"	
1,2,4-Trimethylbenzene	"	22.7	---	1.00	"	"	ND	"	114%	(85-135)	3%	"	"	
1,3,5-Trimethylbenzene	"	24.0	---	0.500	"	"	ND	"	120%	(70-140)	0.8%	"	"	
Isopropylbenzene	"	23.8	---	2.00	"	"	0.640	"	116%	(80-130)	2%	"	"	
n-Propylbenzene	"	24.0	---	0.500	"	"	1.03	"	115%	"	0.8%	"	"	
Surrogate(s): 1,2-DCA-d4		*Recovery: 95%*			*Limits: 80-120%*	"							*06/13/07 12:24*	
Dibromofluoromethane		*99%*			*80-120%*	"							*"*	
Toluene-d8		*100%*			*80-120%*	"							*"*	
4-BFB		*112%*			*80-120%*	"							*"*	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060591 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060591-BLK1)							**Extracted: 06/14/07 17:15**							
Acenaphthene	EPA 8270m	ND	---	0.100	ug/l	1x	--	--	--	--	--	--	06/22/07 19:03	
Acenaphthylene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 71.6%*			*Limits: 25-125%*	"							*06/22/07 19:03*	
Pyrene-d10		*80.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*76.8%*			*10-125%*	"							"	
LCS (7060591-BS1)							**Extracted: 06/14/07 17:15**							
Acenaphthene	EPA 8270m	1.81	---	0.100	ug/l	1x	--	2.50	72.4%	(26-135)	--	--	06/22/07 19:38	
Benzo (a) pyrene	"	2.06	---	0.100	"	"	--	"	82.4%	(38-137)	--	--	"	
Pyrene	"	1.92	---	0.100	"	"	--	"	76.8%	(33-133)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 72.4%*			*Limits: 25-125%*	"							*06/22/07 19:38*	
Pyrene-d10		*78.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*72.8%*			*10-125%*	"							"	
LCS Dup (7060591-BSD1)							**Extracted: 06/14/07 17:15**							
Acenaphthene	EPA 8270m	1.87	---	0.100	ug/l	1x	--	2.50	74.8%	(26-135)	3.26%	(60)	06/22/07 20:14	
Benzo (a) pyrene	"	2.04	---	0.100	"	"	--	"	81.6%	(38-137)	0.976%	"	"	
Pyrene	"	1.98	---	0.100	"	"	--	"	79.2%	(33-133)	3.08%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 72.8%*			*Limits: 25-125%*	"							*06/22/07 20:14*	
Pyrene-d10		*78.8%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*78.4%*			*10-125%*	"							"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/27/07 10:55

Notes and Definitions

Report Specific Notes:

R3	-	The RPD exceeded the acceptance limit due to sample matrix effects.
ZX	-	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave. Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave. Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQF0408

CLIENT: Ash Creek

REPORT TO: John Foxwell
ADDRESS: 9615 SW Allen Blvd, Suite 106
Beaverton, OR 97005
PHONE: 503.924.4704 FAX: 503.924.4707

INVOICE TO: Same

P.O. NUMBER: 1126-02

PROJECT NAME: Vancouver Ammo (Mustang)
PROJECT NUMBER: 1126
SAMPLED BY: A. Schmidt

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: (10) STD. 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: (5) STD. 4 3 2 1 <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: HCL | HCL | HCL | HCL

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME		VOCs 8260B	Oxygenates 8260B	TPH NWTPH-Gx	TPH NWTPH-Dx w/silica gel cleanup		PAHs 8270 SIM							MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1	GP-1-1	6/11/07	1750	x	x	x	x		x							W	8	TPH-D w/silica gel cleanup	
2	GP-2-1	6/11/07	2020	x	x	x	x		x							W	8		
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

RELEASED BY: A. Schmidt DATE: 6/12/07
PRINT NAME: A. Schmidt FIRM: Ash Creek TIME: 905
RECEIVED BY: [signature] DATE: 6/12/07
PRINT NAME: Jessica [illegible] FIRM: TA P TIME: 905

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

TEMP: 3.1

PAGE OF

COC REV 09/2004

TestAmerica Sample Receipt Checklist

Cooler ID(s): _____

Received by: *(section A)* Date: 6-12 Time: 9:00 Initials: AFF

Unpacked by: *(section B)* Date: 6-12 Initials: MP

Logged-in by: Date: 6-12 Initials: MP

Work Order No. PQFC408

Client: Ash Creek

Project: NuStar-Vancouver annex

Temperature out of range:
____No Ice
____Ice Melted
____W/in 4 Hours
____Other: _____

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 3-1 °C plastic (glass) NA *(oil/air samples, ESI client)*

A

Custody Seals: (#____)

Signature: Y N Dated: _____

X None

Container Type:
____#Cooler(s)
____#Box(s)
____None (___#Other: _____)

Coolant Type:
____Gel Ice
____Loose Ice
X None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
X None (____Other: _____)

Received from:
____TA Courier
____Senvoy
____UPS
X ~~Fed Ex~~ MP
X Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other: _____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? (Y) N
Containers Match COC? (Y) N none given
IDs Match COC? (Y) N

For Analyses Requested:
Correct Type & Preservation? (Y) N
Adequate Volume? (Y) N
Within Hold Time? (Y) N

Volatiles:
VOAs Free of Headspace? (Y) N NA
TB on COC? (not provided) Y N (NA)

Metals:
HNO3 Preserved? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

Army Corp: Geiger (ticks/min): ____ ____ ____ ____

Temperatures (IR): _____ °C _____ °C _____ °C _____ °C
(left) (middle) (right) (air)

Project Managers:

Comments: _____

PM Reviewed: _____ *(Initial/Date)*