Groundwater Monitoring Report
Quarterly Monitoring 2007
Support Terminal Operating Partnership (STOP), LP
Vancouver Terminal
Vancouver, Washington

Prepared for:
Cascadia Law Group

January 28, 2008
1126-02

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

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GROUNDWATER MONITORING REPORT
QUARTERLY MONITORING 2007
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

Site Name and Address:	Support Terminal Operating Partnership (STOP), LP Vancouver Terminal	
	5420 Fruit Valley Road	
	Vancouver, WA 98660	
Owner (Contact):	NuStar Energy, LP	
	2330 North Loop 1604 West	
	San Antonio, Texas 78248	
	Joseph A. Aldridge	(210) 918-2723
Consultant (Contact):	Ash Creek Associates, Inc.	
	9615 SW Allen Boulevard, Suite 106	
	Portland, Oregon 97005	
	John Foxwell	(503) 924-4704 x 115

Quarterly Groundwater Monitoring Summary

A one-year quarterly groundwater monitoring program was initiated at the STOP, LP Vancouver Terminal (the Facility) in the second quarter of 2007. Second, third, and fourth quarter monitoring events were completed by Ash Creek Associates on May 25, August 24, and November 26, 2007, respectively. Additionally, the location and elevations of each well were surveyed by Statewide Land Surveying in October 2007. A site location map is provided as Figure 1. A site plan showing the facility details is provided as Figure 2.

Groundwater Sampling Methods

Four wells are present at the Facility (MW-1 through MW-4). Each well was purged and groundwater samples were collected using a new disposable bailer. Water quality parameters (pH, temperature, specific conductance, and dissolved oxygen) were measured after each casing volume removed and were noted on field sampling sheets. Copies of the field sampling sheets are included in Appendix A.

Groundwater Elevations

Depth to groundwater was measured to the nearest 0.01 foot using an electric interface probe (Table 1). Groundwater depths ranged from 14.92 to 28.35, 18.67 to 32.12, and 17.91 to 31.40 feet below the top of casing for the May, August, and November events, respectively. Figures 3 through 5 present the estimated groundwater gradient for the second, third, and fourth quarter measurements, respectively. The groundwater elevation data suggest a southerly groundwater flow direction.

Groundwater Analyses

Laboratory analyses were completed by TestAmerica in Beaverton, Oregon. A copy of the laboratory report is included in Appendix B. Tables 2 and 3 present the analytical results from the three sampling events, as well as historical analytical results collected by others. Figure 6 illustrates the distribution of total petroleum hydrocarbons as gasoline (TPHg) and Figure 7 illustrates the distribution of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MTBE observed in groundwater samples during the second, third, and fourth quarter 2007 events.

Total Petroleum Hydrocarbons. Groundwater samples were analyzed for TPHg by method NW-TPHgx, and diesel- and oil-range petroleum hydrocarbons (TPHd and TPHho, respectively) by method NW-TPHdx with silica gel cleanup. TPHg was detected in wells MW-2 (May and August 2007 events) and MW-3 (May 3007 event only). TPHd and TPHho were not detected (Table 2).

BTEX and Fuel Oxygenates. Groundwater samples were analyzed for BTEX and fuel oxygenates by U.S. Environmental Protection Agency (EPA) Method 8260B. BTEX compounds or fuel oxygenates were not detected in wells MW-1 and MW-4 during the three events. As can be seen on Table 3, most of the constituent concentrations are below the method reporting limits (MRLs). The only results that exceeded the Washington State Department of Ecology (DOE) Model Toxics Control Act (MTCA) Method A Cleanup level was benzene in the May 2007 groundwater sample from well MW-2 (71 micrograms per liter [µg/L]), and the methyl tert-butyl ether (MTBE) concentration in the groundwater sample from well MW-2 during the August and November 2007 events (59 and 83 µg/L, respectively). Benzene was non-detect in well MW-2 during the past two sampling events.

Quality Assurance/Quality Control (QA/QC) Results Summary:

- One trip blank and one duplicate sample (collected from well MW-2 during the May 2007 event) were collected and submitted to the laboratory.
- All samples were analyzed within holding times.
- No compounds were detected above laboratory MRLs in the trip or method blanks.
- For the duplicate sample collected from well MW-2 (May 2007 event), the relative percent difference (RPD) was less than 10 percent.

The evaluation of the field and laboratory QC results indicates that the analytical data are of sufficient quality and are considered complete.

Attachments

Tables

Figures

Appendices

Table 1
Groundwater Elevation Data: Quarterly Monitoring 2007
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

Well Number	Top of Casing Elevation (feet above MSL)[1]	Date of Measurement	Depth to Water (feet BTOC)	Groundwater Elevation (feet)
MW-1	26.66	05/25/07	14.92	11.74
MW-1	26.66	08/24/07	18.67	7.99
MW-1	26.66	11/26/07	17.91	8.75
MW-2	38.21	05/25/07	26.46	11.75
MW-2	38.21	08/24/07	30.17	8.04
MW-2	38.21	11/26/07	29.42	8.79
MW-3	39.11	05/25/07	27.17	11.94
MW-3	39.11	08/24/07	31.04	8.07
MW-3	39.11	11/06/07	30.36	8.75
MW-4	40.17	05/25/07	28.35	11.82
MW-4	40.17	08/24/07	32.12	8.05
MW-4	40.17	11/06/07	31.40	8.77

Notes:
1. Survey elevations determined by Statewide Land Surveying, October, 2007.
2. feet above MSL = Feet above mean sea level
3. feet BTOC = Feet below top of casing

Table 2
Groundwater Analytical Results: Total Petroleum Hydrocarbons
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

Well Number	Sample Date	TPHg	TPHd	TPHho
		Concentration in µg/L (ppb)		
MW-1	05/25/07	<80	<238	<476
MW-1	08/24/07	<100	<238	<476
MW-1	11/26/07	<80	<236	<472
MW-2	05/25/07	**439**	<238	<476
MW-2	08/24/07	**102**	<238	<476
MW-2	11/26/07	<80	<236	<472
MW-3	05/25/07	**361**	<238	<476
MW-3	08/24/07	<100	<238	<476
MW-3	11/26/07	<80	<236	<472
MW-4	05/25/07	<80	<238	<476
MW-4	08/24/07	<100	<238	<476
MW-4	11/26/07	<80	<236	<472
Washington DOE MTCA Method A cleanup level		800 [7.]	500	500

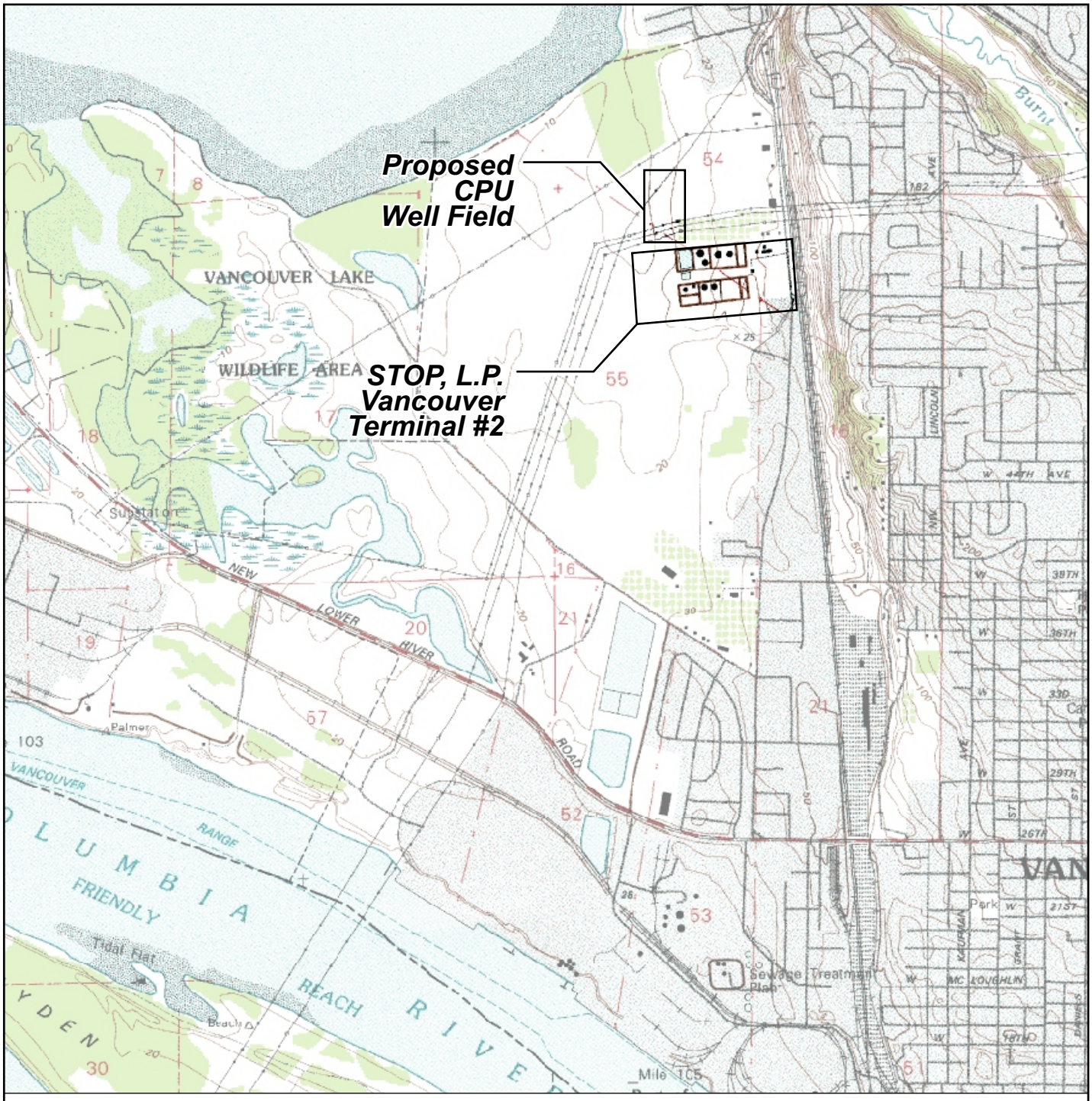
Notes:

1. TPHg = Total petroleum hydrocarbons in gasoline carbon range by NW-TPHgx method
2. TPHd = Total petroleum hydrocarbons in diesel carbon range by NW-TPHdx method with silica gel cleanup
3. TPHho = Total petroleum hydrocarbons ion heavy oil carbon range NW-TPHdx method with silica gel cleanup
4. **Boldface** values represent detected concentrations of listed analyte.
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 Method A cleanup level = Washington Department of Ecology Model Toxics Control Act Method A cleanup level

Table 3
Groundwater Analytical Results: BTEX and Fuel Oxygenates
Support Terminal Operating Partnership (STOP), LP Vancouver Terminal
Vancouver, Washington

		Concentration in µg/L (ppb)																
Well Number	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
MW-1	05/19/03	<1.0	<1.0	<1.0	<2.0	--	--	--	--	--	--	<1.0	--	<2.0	<1.0	<1.0	<2.0	<1.0
	05/25/07	<0.20	<0.50	<0.50	<1.00	<0.50	<0.50	<150	<25.0	<1.00	<1.00	<2.00	<1.00	<2.00	<1.00	<0.50	<2.00	<0.50
	08/24/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<2.0	<1.0
	11/26/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<2.0	<1.0
MW-2	05/19/03	534	9.75	194	876	--	--	--	--	--	--	77.6	--	15	160	62.4	9.9	15.8
	05/25/07	71.0	1.14	36.1	45.3	<0.50	<0.50	<150	<25.0	<1.00	<1.00	18.2	<1.00	<2.00	40.0	33.5	3.00	2.49
	08/24/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	59	<0.50	<5.0	<1.0	<1.0	3.20	<1.0
	11/26/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	83	<0.50	<5.0	<1.0	<1.0	<2.0	<1.0
MW-3	05/19/03	90.8	9.65	338	538.2	--	--	--	--	--	--	3.7	--	30.8	315	89.5	19.4	62.3
	05/25/07	<0.50	<0.50	13.2	14.5	<0.50	<0.50	<150	<25.0	<1.00	<1.00	<2.00	<1.00	<2.00	10.7	3.48	5.32	9.30
	08/24/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<2.0	<1.0
	11/26/07	1.1	<2.0	6.6	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	6.9	<0.50	<5.0	<1.0	<1.0	3.1	1.20
MW-4	05/19/03	<1.0	<1.0	<1.0	<2.0	--	--	--	--	--	--	<1.0	--	<2.0	<1.0	<1.0	<2.0	<1.0
	05/25/07	<0.20	<0.50	<0.50	<1.00	<0.50	<0.50	<150	<25.0	<1.00	<1.00	<2.00	<1.00	<2.00	<1.00	<0.50	<2.00	<0.50
	08/24/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<2.0	<1.0
	11/26/07	<1.0	<2.0	<2.0	<6.0	<0.50	<0.50	<100	<20	<0.50	<0.50	<0.50	<0.50	<5.0	<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 (ppb) = Micrograms per liter (parts per billion)
3. Boldface values represent detected concentrations of listed analyte.
4. -- = Not sampled or not analyzed
5. < = Not detected at or above the specified laboratory method reporting limit (MRL)
6. Detected concentration is estimated based on presence of analyte in blank.
7. NA = Cleanup level not available
8. Shaded values represent detected concentrations that exceed MTCA Method A cleanup level.
9. 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 2,000 4,000

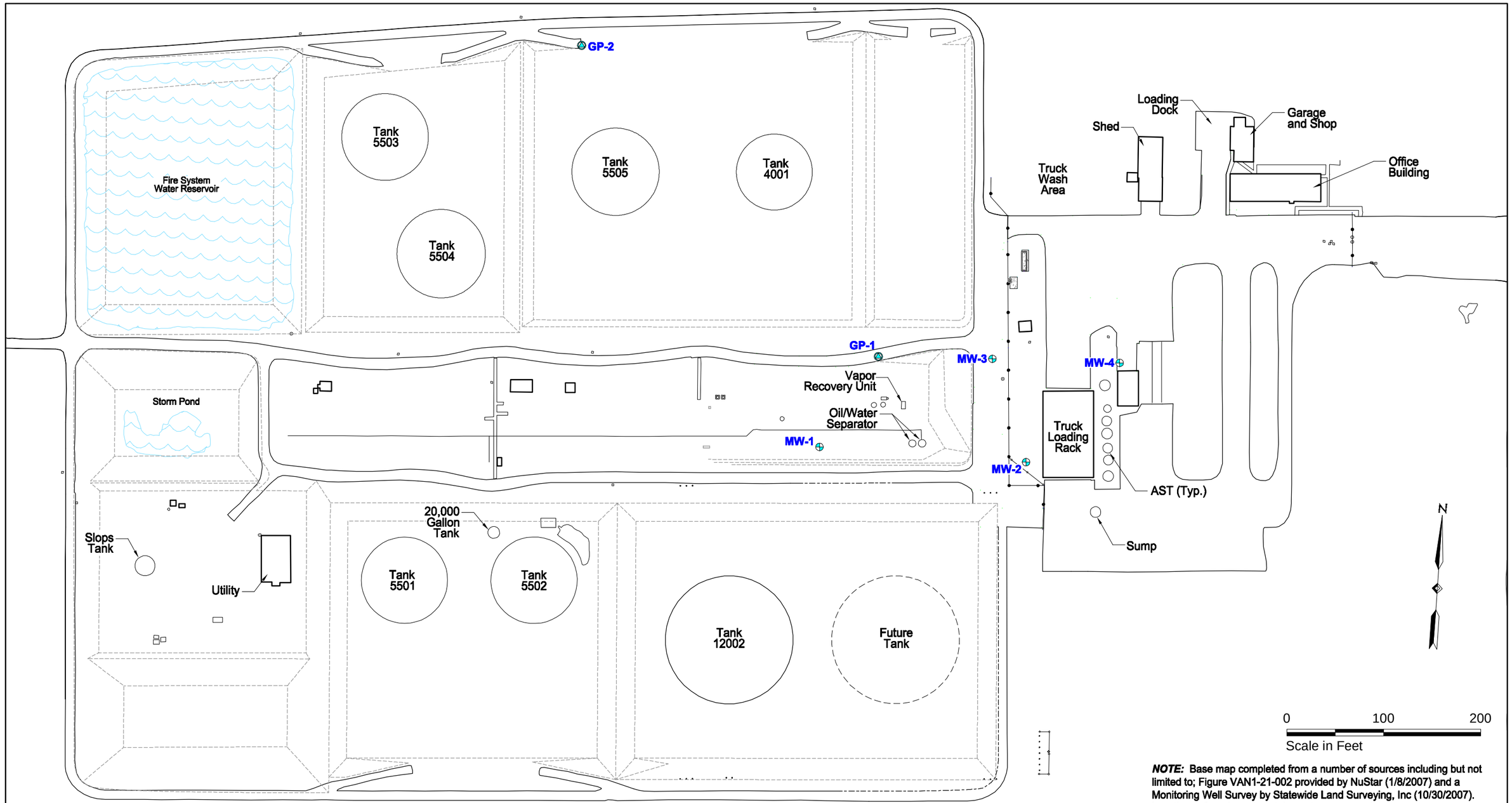
Scale in Feet

N

Site Location Map

Quarterly Groundwater Monitoring Report
Support Terminal Operating Partnership, LP Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc. Environmental and Geotechnical Consultants	Project Number 1126-02	Figure 1
	January 2008	



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

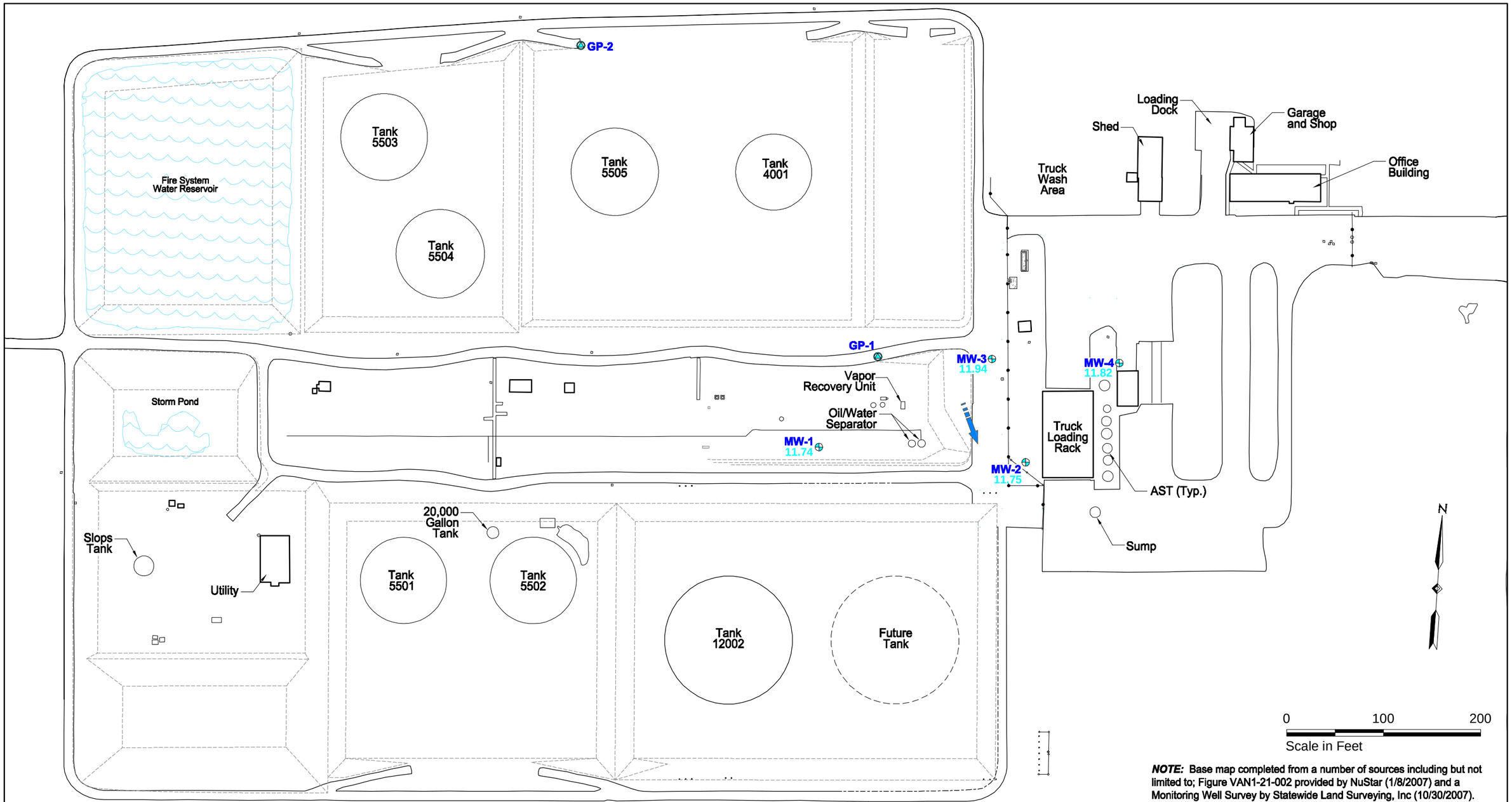
GP-1 Direct-Push Geoprobe Location

Site Plan

Quarterly Groundwater Monitoring Report
Support Terminal Operating Partnership, LP Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number	1126-02	Figure
January 2008		2



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 / 11.74 — Groundwater Monitoring Well Location and Groundwater Elevation in Feet Above Mean Sea Limit (MSL)

May 2007 Groundwater Elevation in Feet

GP-1 — Direct-Push Geoprobe Location

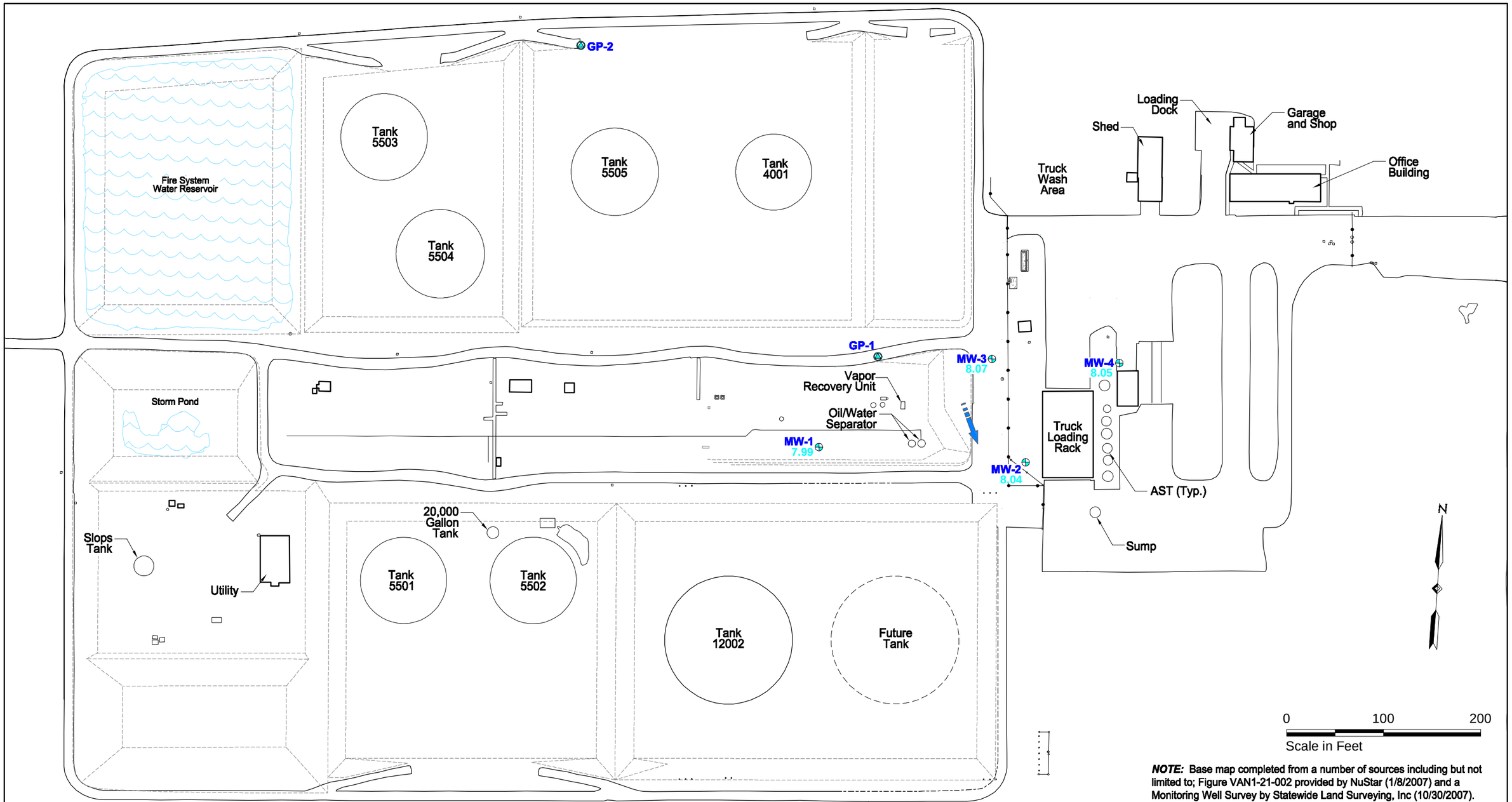
Estimated Groundwater Flow Direction

Relative Groundwater Elevations - May 2007

Quarterly Groundwater Monitoring Report
Support Terminal Operating Partnership, LP Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number	1126-02	Figure
January 2008		3



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 7.99 — Groundwater Monitoring Well Location and Groundwater Elevation in Feet Above Mean Sea Limit (MSL)

August 2007 Groundwater Elevation in Feet

GP-1 — Direct-Push Geoprobe Location

Estimated Groundwater Flow Direction

Relative Groundwater Elevations - August 2007

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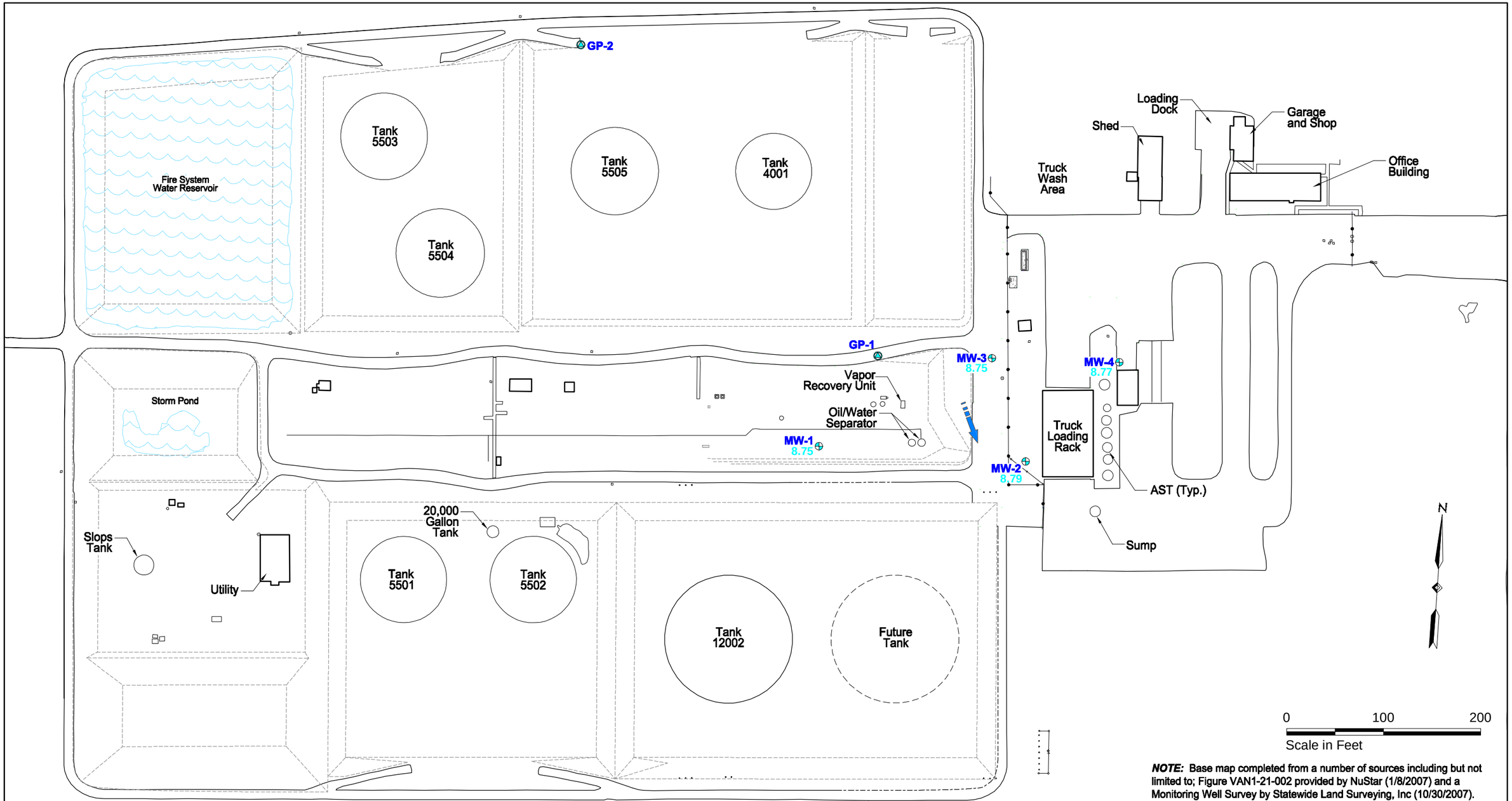
Support Terminal Operating Partnership, LP Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number	1126-02	Figure
January 2008		4



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 8.75 — Groundwater Monitoring Well Location and Groundwater Elevation in Feet Above Mean Sea Limit (MSL)

November 2007 Groundwater Elevation in Feet

GP-1 — Direct-Push Geoprobe Location

Estimated Groundwater Flow Direction

Relative Groundwater Elevations - November 2007

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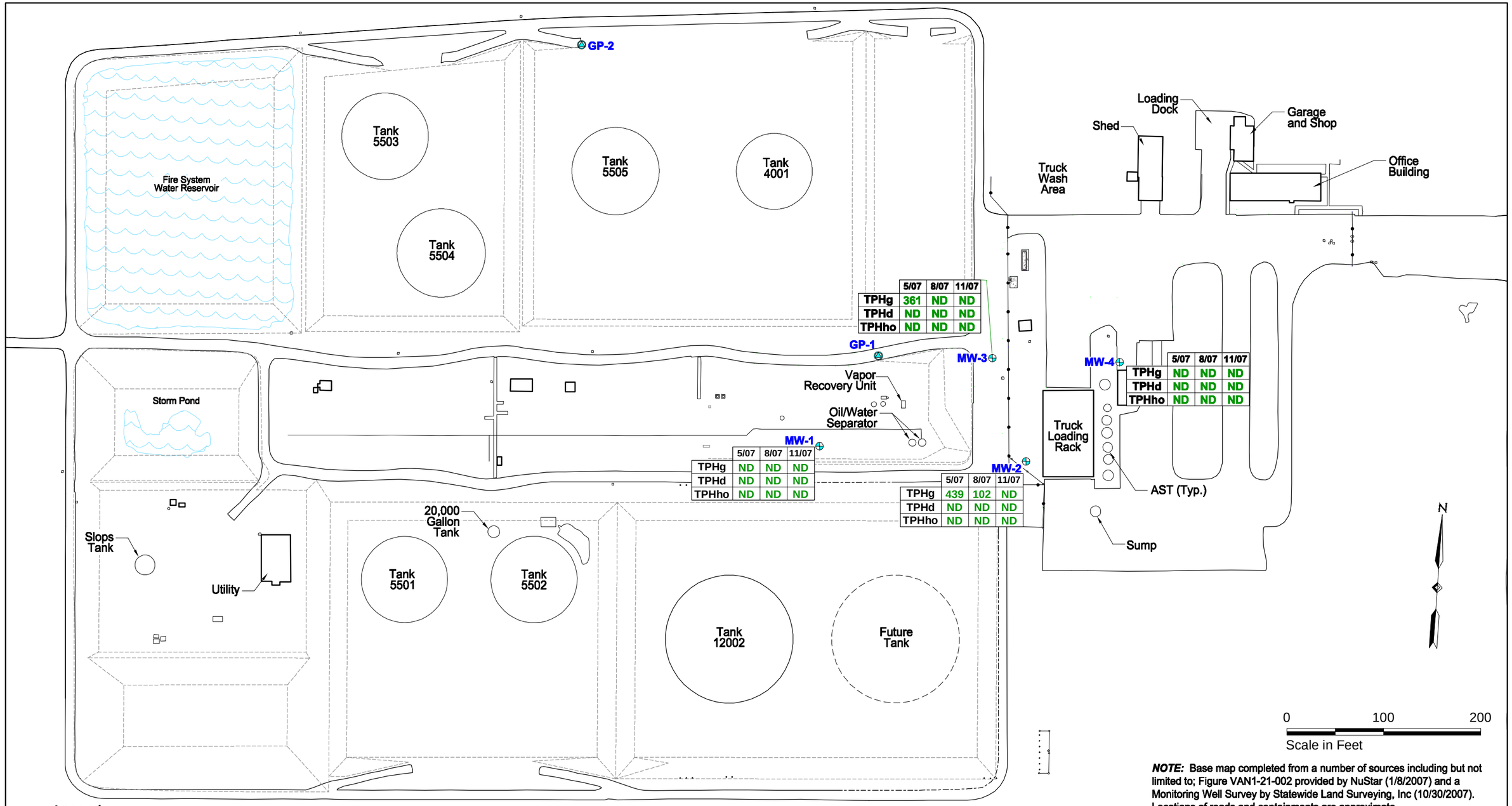
Support Terminal Operating Partnership, LP Vancouver Terminal
Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number	1126-02	Figure
January 2008		5



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-1 △ Direct-Push Geoprobe Location

	5/07	8/07	11/07
TPHg	361	ND	ND
TPHd	ND	ND	ND
TPHho	ND	ND	ND

Date Sampled

Concentraion in µg/L

Analyte Sampled

Sampling Notes:
1) ND = No analytes detected above reporting limit.
2) TPHg = Total Petroleum Hydrocarbons for Gasoline-Range.
3) TPHd = Total Petroleum Hydrocarbons for Diesel-Range.
4) TPHho = Total Petroleum Hydrocarbons for Heavy Oil-Range.

Total Petroleum Hydrocarbons - Quarterly Monitoring 2007

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Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1126-02

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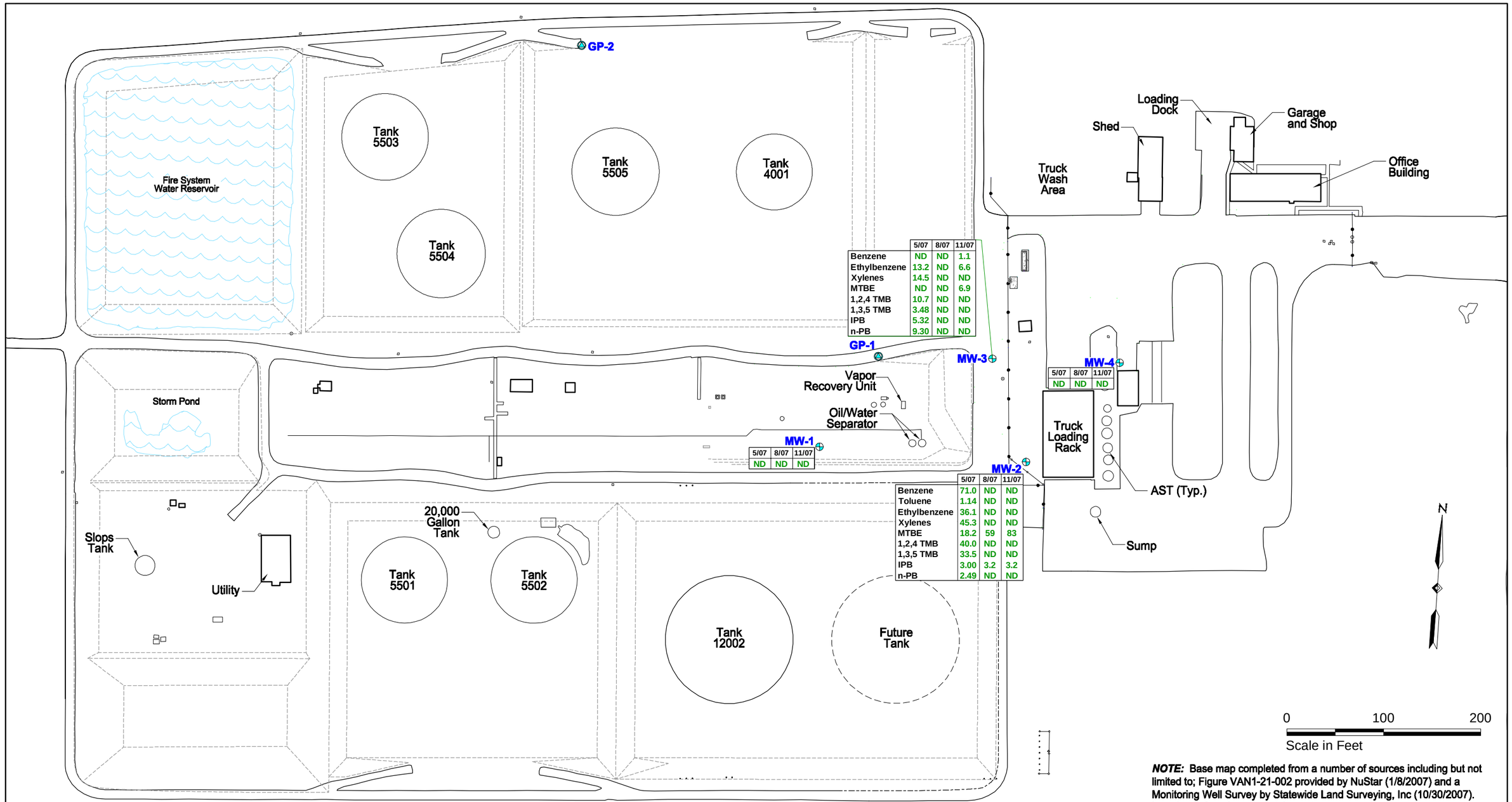
Figure 6



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-1 Direct-Push Geoprobe Location

Sampling Notes:
1) Only BTEX and Oxygenates detected are shown.
2) ND = No analytes detected above reporting limit.
3) BTEX = Benzene, toluene, ethylbenzene, and xylene
4) MTBE = Methyl Tert-Butyl Ether
5) 1,2,4-TMB = 1,2,4,Trimethylbenzene
6) 1,3,5-TMB = 1,3,5,Trimethylbenzene
7) IPB = Isopropylbenzene

	5/07	8/07	11/07
Benzene	71.0	ND	ND
Toluene	1.14	ND	ND
Ethylbenzene	36.1	ND	ND
Xylenes	45.3	ND	ND
MTBE	18.2	59	83
1,2,4 TMB	40.0	ND	ND
1,3,5 TMB	33.5	ND	ND
IPB	3.00	3.2	ND
n-PB	2.49	ND	ND

Date Sampled

Concentraion in µg/L

Analyte Sampled

BTEX and Fuel Oxygenates - Quarterly Monitoring 2007

Quarterly Groundwater Monitoring Report
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Vancouver, Washington

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1126-02

January 2008

Figure 7

Appendix A

Field Sampling Sheets

WELL GAGING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Client:	NuStar	Job Number:	1126-02
Project:	Vancouver Annex	Date:	5/25/07
Weather:		Sampler:	K. Boris
		Time In/Out:	

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-1	926	N/A	14.92	24.50	N/A		
MW-3	930	↓	27.17	34.60	↓		
MW-2	935		26.46	34.63			
MW-4	937		28.35	34.96			

* Well caps popped prior to gauging

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-1	Job Number:	1126-02
Client:	Nustar	Date:	5/25/07
Project:	Vancouver Annex	Sampler:	K. Boris
Weather:		Time In/Out:	

WELL DATA

Well Depth:	24.50	Well Diameter:	2"	Water Height	9.58
Depth to Water:	14.92	Screened Interval:		x Multiplier	0.162
Water Column Length:	9.58	Depth to Free Product:		x Casing Volumes	3
Purge Volume:	4.65 gallons	Free Product Thickness:		= Purge Volume	4.65 gallons
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:	N/A	Comments	
Sampling Method:	same	Tubing Type:	N/A		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.2 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1250	1.6 gallons – 1 casing volume				7.02	14.38	633	6.31	88.8		
1257	3.2 gallons – 2 casing volumes				6.94	14.28	625	6.40	101.9		
1307	4.8 gallons – 3 casing volumes				6.72	14.30	606	6.24	110.4		

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-1	Sampling Flow Rate	N/A	Analytical Laboratory:	TA
Sample Time:	1315	Final Depth to Water:	14.94	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6 VOAs	HCl	NWTPHg, 8260 BTEX & EDC	yes (no)			
1 L Amber	HCl	NWTPHdx w/ silica gel	yes (no)			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	~~MW-3~~ MW-2	Job Number:	1126-05
Client:	NuStar	Date:	
Project:	Vancouver Annex	Sampler:	KKB
Weather:		Time In/Out:	

WELL DATA

Well Depth:	34.63	Well Diameter:	2"	Water Height	8.19
Depth to Water:	~~26.3~~ 26.44	Screened Interval:		x Multiplier	0.163
Water Column Length:		Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	4 gall
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments	
Sampling Method:	same	Tubing Type:	N/A		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.2 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1042	1.3 gallons - 1 casing volume				6.70	14.36	561	1.81	-70.1		SC
1050	2.6 gallons 2 casing volumes				6.69	14.27	556	1.74	-77.7		↓
1105	4.0 gallons 3 casing volumes				6.72	14.19	547	1.71	-79.5		↓

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-2	Sampling Flow Rate		Analytical Laboratory:	TA
Sample Time:	1115	Final Depth to Water:	26.48	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6 VOAs	HCl	NWTPHg/8260 BTEX & RBCA	yes (no)			
1 L Amber	HCl	NWTPHdx w/silica gel	yes (no)			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1126-02
Client:	Nustar	Date:	5/25/07
Project:	Vancouver Annex	Sampler:	K. Boris
Weather:		Time In/Out:	

WELL DATA

Well Depth:	34.60	Well Diameter:	2"	Water Height	7.46
Depth to Water:	27.14	Screened Interval:		x Multiplier	0.162
Water Column Length:	7.46	Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	3.63
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments	
Sampling Method:	same	Tubing Type:			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.2 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1200	1.25 gallons- 1 casing volume				7.07	14.37	275	1.76	4.3		
1207	2.5 gallons- 2 casing volumes				7.01	14.10	270	2.02	2.7		
1215	3.75 gallons 3 casing volumes				6.93	13.98	294	1.28	-8.8		

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3/MW-3DUP	Sampling Flow Rate		Analytical Laboratory:	TA	
Sample Time:	1225	Final Depth to Water:	27.20	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
12 VOAs	HCl	NW TPHg / 8260 oxys & RBCA	yes (no)			MW-3 DUP
2 L Ambers	HCl	NWTPHdx w/ silica gel	yes (no)			MW-3 DUP
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-4	Job Number:	1126-02
Client:	NuStar	Date:	5/25/07
Project:	Vancouver Annex	Sampler:	K. Boris
Weather:		Time In/Out:	

WELL DATA

Well Depth:	34.96	Well Diameter:	2"	Water Height	6.61
Depth to Water:	28.35	Screened Interval:		x Multiplier	0.162
Water Column Length:	6.61	Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	3.21
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:	N/A	Comments	
Sampling Method:	same	Tubing Type:	N/A		

Time	Volume Purged ~~(liters)~~	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.2 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
955	1 gallon - 1 casing volume				6.85	14.67	399	2.72	197.5		CL
1001	2 gallons				6.52	14.51	397	2.22	179.1		CL
1008	3 gallons				6.27	14.69	396	1.79	158.9		CL

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate		Analytical Laboratory:	TA
Sample Time:	1010	Final Depth to Water:	23.38	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6 VOAs	HCl	NW TPHg/8260 oxys & DBCA	yes	(no)			
1L Amber	HCl	NWTPHdx w/ silica gel	yes	(no)			
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

WELL GAGING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Client:	~~Port of Portland~~ NuStar	Job Number:	~~4185-01~~ 1126-01
Project:	~~UAL Former Fuel Farm~~ STOP ANNEX	Date:	8/24/07
Weather:	Clear 90°	Sampler:	AKF
		Time In/Out:	1146 / 1204

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-4	1148		32.12	35.0			Cap not sealed
MW-2	1153		30.17	32.6			
MW-3	1157		31.04	34.6			
MW-1	1200		18.67	24.5			South of E-W running pipes
* All MW's had a non-ACA Key.							

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-1	Job Number:	1126-02
Client:	NuStar	Date:	8/24/07
Project:	STOP Annex	Sampler:	AKF
Weather:	Clear mid-90's°	Time In/Out:	1503 / 1550

WELL DATA

Well Depth:	24.5	Well Diameter:	2"	Water Height	5.81'
Depth to Water:	18.69'	Screened Interval:		x Multiplier	0.162
Water Column Length:		Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	2.82gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	10.69L

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments
Sampling Method:	same	Tubing Type:		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1523					9.46	15.19	484	2.92	194.9		C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-1	Sampling Flow Rate		Analytical Laboratory:		
Sample Time:	1538	Final Depth to Water:	18.69'	Did Well Dewater?	NO	

# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6 x VOA's	HCL	EPA 8260B BTEX & Oxygenates NWTPH-Gx	yes	no			
2 x 1L Amber	HCL	NWTPH-Dx	yes	no			
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-2	Job Number:	1126-02
Client:	NuStar	Date:	8/24/07
Project:	STOP Annex	Sampler:	AKF
Weather:	Clear Mid-90's	Time In/Out:	1319 / 1406

WELL DATA

Well Depth:	32.6'	Well Diameter:	2"	Water Height	2.41 gal
Depth to Water:	30.19'	Screened Interval:		x Multiplier	0.162
Water Column Length:		Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	1.17 gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	4.43 L

PURGING DATA

				Comments
Purge Method:	disposable bailer	Pump Intake Depth:		
Sampling Method:	same	Tubing Type:		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1340					8.17	16.12	423	2.35	-66.3		C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-2	Sampling Flow Rate		Analytical Laboratory:	
Sample Time:	1349	Final Depth to Water:	30.20'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6x VOA's	HCL	EPA 8260B RBCA & Oxygenates NWTPH-Gx	yes	no			
2x 1L Amber	HCL	NWTPH-Dx	yes	no			
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1126-02
Client:	NuStar	Date:	8/24/07
Project:	STOP Annex	Sampler:	AKF
Weather:	Clear mid-90's°	Time In/Out:	1409 / 1501

WELL DATA

Well Depth:	34.6'	Well Diameter:	2"	Water Height	3.52
Depth to Water:	31.08'	Screened Interval:		x Multiplier	0.162
Water Column Length:		Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	1.71 gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	6.48 L

PURGING DATA

Purge Method:		Pump Intake Depth:	Comments
Sampling Method:		Tubing Type:	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1438					8.28	15.15	372	2.95	46.1		AC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3	Sampling Flow Rate		Analytical Laboratory:	
Sample Time:	1419	Final Depth to Water:	31.10'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6 x VOA's	HCL	EPA 8260B BTEX & Oxygenates NWTPH-GX	yes	no			
2 x 1L Amber	HCL	NWTPH-Dx	yes	no			
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-4	Job Number:	1126-02
Client:	NuStar	Date:	8/24/07
Project:	STOP Annex	Sampler:	AKF
Weather:	Clear 92°	Time In/Out:	1206 / 1316

WELL DATA

Well Depth:	35.0	Well Diameter:	2"	Water Height	~~35~~ 32.12 2.88
Depth to Water:	32.12	Screened Interval:		x Multiplier	0.162
Water Column Length:		Depth to Free Product:		x Casing Volumes	3
Purge Volume:	5.30 L	Free Product Thickness:		= Purge Volume	1.39 gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	5.30 L

PURGING DATA

Purge Method:	Disposable Bailer	Pump Intake Depth:		Comments	
Sampling Method:	Same	Tubing Type:			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1235					7.25	14.86	452	2.86	155.2		C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate		Analytical Laboratory:		
Sample Time:	1247	Final Depth to Water:	32.09	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6x VOA's	HCL	EPA 8260B RSK 175 Oxygenates NWTPH-Gx	yes (no)			
2x 1L Amber	HCL	NWTPH-Dx	yes (no)			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

1ft = .163 gal 231 in³ 8ft H₂O
96 in ft·1·1
231 = 1.3 gal

WELL GAGING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

		Job Number:	
Client:		Date:	
Project:		Sampler:	
Weather:		Time In/Out:	953/1011

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-4	954		31.40				
MW-2	957		29.42				
MW-3	1004		30.36				
MW-1	1010		17.91				

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-1	Job Number:	1126-02
Client:	Nustar	Date:	11/26/07
Project:	STOP Annex	Sampler:	A. Fines
Weather:	Cloudy 42°	Time In/Out:	1012 / 1053

WELL DATA

Well Depth:	24.50'	Well Diameter:	2"	Water Height	6.59'
Depth to Water:	17.91'	Screened Interval:		x Multiplier	0.162
Water Column Length:	6.59'	Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	3.20 gal
Water Height Multipliers (gal):	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	12.12 L

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments	
Sampling Method:	same	Tubing Type:			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1023	4.2	4.2			7.21	13.61	585	4.86	140.2		VC
1030	4.3	8.5			6.76	13.65	597	4.43	169.4		VC
1039	3.7	12.2			6.41	13.66	587	3.99	160.0		VC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-1	Sampling Flow Rate	—	Analytical Laboratory:	TA
Sample Time:	1045	Final Depth to Water:	17.91'	Did Well Dewater?	No

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6 x VOAs	HCL	NWTPHg, 8260 OXY & RBCA	yes (no)			
1 x 1L Amber	HCL	NWTPHdx w/ SGT	yes (no)			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-2	Job Number:	1126-02
Client:	NuStar	Date:	11/26/07
Project:	1126-02	Sampler:	A. Fines
Weather:	Cloudy 45°	Time In/Out:	1209 / 1310

WELL DATA

Well Depth:	34.63'	Well Diameter:	2"	Water Height	5.21'
Depth to Water:	29.42'	Screened Interval:		x Multiplier	0.162
Water Column Length:	5.21'	Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	2.53 gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	9.58 L

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments
Sampling Method:	same	Tubing Type:		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
			/		+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1228	3.9	3.9			6.94	12.96	429	4.13	82.4		SC
1234	3.0	6.9			6.98	13.53	411	4.37	42.7		SC
1242	3.0	9.9			6.90	13.12	411	2.91	5.0		SC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-2	Sampling Flow Rate	—	Analytical Laboratory:	TA	
Sample Time:	1245	Final Depth to Water:	29.42'	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6xVOAs	HCL	NW TPHg / 8260 OXY RBCA	yes (no)			
1x1L Amber	HCL	NWTPHdx w/ silica gel	yes (no)			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-3	Job Number:	1126-02
Client:	NuStar	Date:	11/26/07
Project:	STOP Annex	Sampler:	A. Fines
Weather:	Cloudy 42°	Time In/Out:	1054/1133

WELL DATA

Well Depth:	34.60'	Well Diameter:	2"	Water Height	4.24'
Depth to Water:	30.36'	Screened Interval:	/	x Multiplier	0.162
Water Column Length:	4.24'	Depth to Free Product:	/	x Casing Volumes	3
Purge Volume:		Free Product Thickness:	/	= Purge Volume	2.06 gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	7.80 L

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments	
Sampling Method:	same	Tubing Type:			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1107	2.3	2.3			6.93	12.55	668	5.83	139.0		SC
1112	2.8	5.1			6.97	13.03	679	3.80	101.1		SC
1119	2.9	8.0			6.97	12.58	680	3.42	78.5		SC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-3	Sampling Flow Rate	—	Analytical Laboratory:	TA	
Sample Time:	1124	Final Depth to Water:	30.35'	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6 x VOAs	HCL	NWTPHg, 8260 Oxy RBCA	yes (no)	—		
1 x 1L Amber	HCL	NWTPH-dx w/ silica gel	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Well I.D.	MW-4	Job Number:	1126-02
Client:	Nustar	Date:	11/26/07
Project:	STOP Annex	Sampler:	A. Fines
Weather:	Cloudy 42°	Time In/Out:	1134 / 1208

WELL DATA

Well Depth:	34.96'	Well Diameter:	2"	Water Height	3.56
Depth to Water:	31.40'	Screened Interval:		x Multiplier	0.162
Water Column Length:	3.56'	Depth to Free Product:		x Casing Volumes	3
Purge Volume:		Free Product Thickness:		= Purge Volume	1.73gal
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	6.55 L

PURGING DATA

Purge Method:	disposable bailer	Pump Intake Depth:		Comments	
Sampling Method:	same	Tubing Type:			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-10%	+/-3%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1145	2.9	2.9			7.13	12.67	522	5.98	78.7		Cl
1148	2.0	4.9			6.83	13.28	517	4.56	92.4		VC
1156	1.7	6.6			6.63	12.91	513	3.75	95.3		VC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	—	Analytical Laboratory:	TA
Sample Time:	1201	Final Depth to Water:	31.40'	Did Well Dewater?	NO

# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
6xVOAs	HCL	NWTPHg, 8260 Oxy RBCA	yes (no)	—		
1x1L Amber	HCL	NW-TPHdx w/ Silica gel	yes (no)	—		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Appendix B

Laboratory Analytical Reports

TestAmerica
ANALYTICAL TESTING CORPORATION

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

June 11, 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 05/25/07 17:12. The following list is a summary of the Work Orders contained in this report, generated on 06/11/07 16:21.

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

Work Order	Project	ProjectNumber
PQE1043	Nustar Vancouver Annex	1126-06

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:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	PQE1043-01	Water	05/25/07 13:15	05/25/07 17:12
MW-2	PQE1043-02	Water	05/25/07 11:15	05/25/07 17:12
MW-2 DUP	PQE1043-03	Water	05/25/07 11:15	05/25/07 17:12
MW-3	PQE1043-04	Water	05/25/07 12:25	05/25/07 17:12
MW-4	PQE1043-05	Water	05/25/07 10:10	05/25/07 17:12
Trip Blank	PQE1043-06	Water	05/25/07 00:00	05/25/07 17:12

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Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Gasoline Hydrocarbons per NW TPH-Gx Method

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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQE1043-01RE1 (MW-1)		**Water**			**Sampled: 05/25/07 13:15**					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7051496	05/31/07 10:53	05/31/07 23:39	
Surrogate(s): 4-BFB			*86.8%*		*50 - 150 %*	"			"	
PQE1043-02RE1 (MW-2)		**Water**			**Sampled: 05/25/07 11:15**					
Gasoline Range Hydrocarbons	NW TPH-Gx	**439**	-----	80.0	ug/l	1x	7051496	05/31/07 10:53	06/01/07 00:07	
Surrogate(s): 4-BFB			*103%*		*50 - 150 %*	"			"	
PQE1043-03RE1 (MW-2 DUP)		**Water**			**Sampled: 05/25/07 11:15**					
Gasoline Range Hydrocarbons	NW TPH-Gx	**427**	-----	80.0	ug/l	1x	7051496	05/31/07 10:53	06/01/07 00:34	
Surrogate(s): 4-BFB			*99.2%*		*50 - 150 %*	"			"	
PQE1043-04RE1 (MW-3)		**Water**			**Sampled: 05/25/07 12:25**					
Gasoline Range Hydrocarbons	NW TPH-Gx	**361**	-----	80.0	ug/l	1x	7051496	05/31/07 10:53	06/01/07 01:02	
Surrogate(s): 4-BFB			*105%*		*50 - 150 %*	"			"	
PQE1043-05RE1 (MW-4)		**Water**			**Sampled: 05/25/07 10:10**					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7051496	05/31/07 10:53	06/01/07 01:29	
Surrogate(s): 4-BFB			*87.4%*		*50 - 150 %*	"			"	

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9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

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
PQE1043-01 (MW-1)		**Water**				**Sampled: 05/25/07 13:15**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7051509	05/31/07 17:00	06/01/07 13:24	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*84.7%*		*50 - 150 %*	"			"	
PQE1043-02 (MW-2)		**Water**				**Sampled: 05/25/07 11:15**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7051509	05/31/07 17:00	06/01/07 13:43	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*84.2%*		*50 - 150 %*	"			"	
PQE1043-03 (MW-2 DUP)		**Water**				**Sampled: 05/25/07 11:15**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7051509	05/31/07 17:00	06/01/07 14:03	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*85.1%*		*50 - 150 %*	"			"	
PQE1043-04 (MW-3)		**Water**				**Sampled: 05/25/07 12:25**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7051509	05/31/07 17:00	06/01/07 14:22	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*86.4%*		*50 - 150 %*	"			"	
PQE1043-05 (MW-4)		**Water**				**Sampled: 05/25/07 10:10**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7051509	05/31/07 17:00	06/01/07 14:41	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*84.2%*		*50 - 150 %*	"			"	

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

BTEX Compounds per EPA Method 8260B

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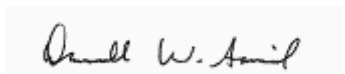
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQE1043-06 (Trip Blank)		**Water**			**Sampled: 05/25/07 00:00**					
Benzene	EPA 8260B	ND	-----	0.500	ug/l	1x	7051407	05/30/07 08:16	05/30/07 11:22	
Toluene	"	ND	-----	0.500	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.500	"	"	"	"	"	
Xylenes (total)	"	ND	-----	1.00	"	"	"	"	"	
Surrogate(s): *4-BFB*			*96.5%*		*80 - 120 %*	"			"	
1,2-DCA-d4			*99.5%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*102%*		*80 - 120 %*	"			"	
Toluene-d8			*98.0%*		*80 - 120 %*	"			"	



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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQE1043-01 (MW-1)		**Water**			**Sampled: 05/25/07 13:15**					
1,2-Dibromoethane	SW846 8260B	ND	-----	0.500	ug/L	1x	7060045	06/01/07 15:37	06/01/07 18:25	
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		*100%*			*80 - 120 %*	"			"	
Dibromofluoromethane		*102%*			*80 - 120 %*	"			"	
Toluene-d8		*100%*			*80 - 120 %*	"			"	
4-BFB		*104%*			*80 - 120 %*	"			"	
PQE1043-02 (MW-2)		**Water**			**Sampled: 05/25/07 11:15**					
1,2-Dibromoethane	SW846 8260B	ND	-----	0.500	ug/L	1x	7060045	06/01/07 15:37	06/01/07 20:04	
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	"	**18.2**	-----	2.00	"	"	"	"	"	
Tert-Amyl Methyl Ether	"	ND	-----	1.00	"	"	"	"	"	
Benzene	"	**71.0**	-----	0.200	"	"	"	"	"	
Toluene	"	**1.14**	-----	0.500	"	"	"	"	"	
Ethylbenzene	"	**36.1**	-----	0.500	"	"	"	"	"	
Xylenes (total)	"	**45.3**	-----	1.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	**40.0**	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	**33.5**	-----	0.500	"	"	"	"	"	
Isopropylbenzene	"	**3.00**	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	**2.49**	-----	0.500	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4		*99%*			*80 - 120 %*	"			"	

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Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQE1043-02 (MW-2)		**Water**			**Sampled: 05/25/07 11:15**					
Dibromofluoromethane		*102%*		*80 - 120 %*	*1x*				*06/01/07 20:04*	
Toluene-d8		*100%*		*80 - 120 %*	"				"	
4-BFB		*104%*		*80 - 120 %*	"				"	
PQE1043-03 (MW-2 DUP)		**Water**			**Sampled: 05/25/07 11:15**					
1,2-Dibromoethane	SW846 8260B	ND	-----	0.500	ug/L	1x	7060045	06/01/07 15:37	06/01/07 20:29	
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	"	**18.5**	-----	2.00	"	"	"	"	"	
Tert-Amyl Methyl Ether	"	ND	-----	1.00	"	"	"	"	"	
Benzene	"	**73.4**	-----	0.200	"	"	"	"	"	
Toluene	"	**1.05**	-----	0.500	"	"	"	"	"	
Ethylbenzene	"	**35.0**	-----	0.500	"	"	"	"	"	
Xylenes (total)	"	**46.3**	-----	1.00	"	"	"	"	"	
Naphthalene	"	**2.00**	-----	2.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	**38.9**	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	**32.6**	-----	0.500	"	"	"	"	"	
Isopropylbenzene	"	**2.98**	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	**2.40**	-----	0.500	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4		*100%*		*80 - 120 %*	"				"	
Dibromofluoromethane		*102%*		*80 - 120 %*	"				"	
Toluene-d8		*100%*		*80 - 120 %*	"				"	
4-BFB		*102%*		*80 - 120 %*	"				"	
PQE1043-04 (MW-3)		**Water**			**Sampled: 05/25/07 12:25**					
1,2-Dibromoethane	SW846 8260B	ND	-----	0.500	ug/L	1x	7060045	06/01/07 15:37	06/01/07 19:39	
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	-----	0.500	"	"	"	"	"	**RL1**
Toluene	"	ND	-----	0.500	"	"	"	"	"	
Ethylbenzene	"	**13.2**	-----	0.500	"	"	"	"	"	
Xylenes (total)	"	**14.5**	-----	1.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	

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9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQE1043-04 (MW-3)		**Water**			**Sampled: 05/25/07 12:25**					
1,2,4-Trimethylbenzene	SW846 8260B	**10.7**	-----	1.00	ug/L	1x	7060045	06/01/07 15:37	06/01/07 19:39	
1,3,5-Trimethylbenzene	"	**3.48**	-----	0.500	"	"	"	"	"	
Isopropylbenzene	"	**5.32**	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	**9.30**	-----	0.500	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*98%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*101%*		*80 - 120 %*	"			"	
Toluene-d8			*99%*		*80 - 120 %*	"			"	
4-BFB			*102%*		*80 - 120 %*	"			"	
PQE1043-05 (MW-4)		**Water**			**Sampled: 05/25/07 10:10**					
1,2-Dibromoethane	SW846 8260B	ND	-----	0.500	ug/L	1x	7060045	06/01/07 15:37	06/01/07 19:15	
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			*102%*		*80 - 120 %*	"			"	
Dibromofluoromethane			*102%*		*80 - 120 %*	"			"	
Toluene-d8			*100%*		*80 - 120 %*	"			"	
4-BFB			*102%*		*80 - 120 %*	"			"	

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9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

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

TestAmerica - Portland, OR

QC Batch: 7051496 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7051496-BLK1)								**Extracted: 05/31/07 10:53**						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	--	--	--	--	--	--	05/31/07 14:02	
Surrogate(s): 4-BFB		*Recovery: 94.4%*			*Limits: 50-150%*	*"*							*05/31/07 14:02*	
LCS (7051496-BS1)								**Extracted: 05/31/07 10:53**						
Gasoline Range Hydrocarbons	NW TPH-Gx	410	---	80.0	ug/l	1x	--	500	82.0%	(70-130)	--	--	05/31/07 13:06	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 50-150%*	*"*							*05/31/07 13:06*	
LCS Dup (7051496-BSD1)								**Extracted: 05/31/07 10:53**						
Gasoline Range Hydrocarbons	NW TPH-Gx	365	---	80.0	ug/l	1x	--	500	73.0%	(70-130)	11.6%	(35)	05/31/07 13:34	
Surrogate(s): 4-BFB		*Recovery: 99.4%*			*Limits: 50-150%*	*"*							*05/31/07 13:34*	
Duplicate (7051496-DUP1)							**QC Source: PQE1013-04RE1**		**Extracted: 05/31/07 10:53**					
Gasoline Range Hydrocarbons	NW TPH-Gx	13900	---	800	ug/l	10x	14000	--	--	--	0.717%	(35)	05/31/07 16:46	
Surrogate(s): 4-BFB		*Recovery: 113%*			*Limits: 50-150%*	*1x*							*05/31/07 16:46*	
Duplicate (7051496-DUP2)							**QC Source: PQE1014-01RE1**		**Extracted: 05/31/07 10:53**					
Gasoline Range Hydrocarbons	NW TPH-Gx	11400	---	800	ug/l	10x	11400	--	--	--	0.00%	(35)	05/31/07 19:04	
Surrogate(s): 4-BFB		*Recovery: 98.4%*			*Limits: 50-150%*	*1x*							*05/31/07 19:04*	

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

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

TestAmerica - Portland, OR

QC Batch: 7051509 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7051509-BLK1)								**Extracted: 05/31/07 17:00**						
Diesel Range Organics	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	06/01/07 12:45	
Heavy Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 87.9%*			*Limits: 50-150%*	"							*06/01/07 12:45*	
LCS (7051509-BS1)								**Extracted: 05/31/07 17:00**						
Diesel Range Organics	NWTPH-Dx	2.51	---	0.250	mg/l	1x	--	2.58	97.3%	(50-150)	--	--	06/01/07 12:26	
Heavy Oil Range Hydrocarbons	"	1.81	---	0.500	"	"	--	1.56	116%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 85.8%*			*Limits: 50-150%*	"							*06/01/07 12:26*	
LCS Dup (7051509-BSD1)								**Extracted: 05/31/07 17:00**						
Diesel Range Organics	NWTPH-Dx	2.40	---	0.250	mg/l	1x	--	2.58	93.0%	(50-150)	4.48%	(50)	06/01/07 13:04	
Heavy Oil Range Hydrocarbons	"	1.73	---	0.500	"	"	--	1.56	111%	"	4.52%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 89.7%*			*Limits: 50-150%*	"							*06/01/07 13:04*	

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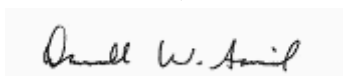

Darrell Auvil, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

BTEX Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7051407 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7051407-BLK1)								**Extracted: 05/30/07 08:16**						
Benzene	EPA 8260B	ND	---	0.500	ug/l	1x	--	--	--	--	--	--	05/30/07 10:28	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 98.0%*			*Limits: 80-120%*	"							*05/30/07 10:28*	
1,2-DCA-d4		*102%*			*80-120%*	"							"	
Dibromofluoromethane		*104%*			*80-120%*	"							"	
Toluene-d8		*100%*			*80-120%*	"							"	
LCS (7051407-BS1)								**Extracted: 05/30/07 08:16**						
Benzene	EPA 8260B	20.2	---	0.500	ug/l	1x	--	20.0	101%	(80-120)	--	--	05/30/07 08:40	
Toluene	"	20.4	---	0.500	"	"	--	"	102%	(80-125)	--	--	"	
Ethylbenzene	"	21.2	---	0.500	"	"	--	"	106%	(80-130)	--	--	"	
Xylenes (total)	"	65.2	---	1.00	"	"	--	60.0	109%	"	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 98.5%*			*Limits: 80-120%*	"							*05/30/07 08:40*	
1,2-DCA-d4		*98.5%*			*80-120%*	"							"	
Dibromofluoromethane		*102%*			*80-120%*	"							"	
Toluene-d8		*97.0%*			*80-120%*	"							"	
Matrix Spike (7051407-MS1)							**QC Source: PQE0971-01**		**Extracted: 05/30/07 08:16**					
Benzene	EPA 8260B	20.1	---	0.500	ug/l	1x	ND	20.0	100%	(80-125)	--	--	05/30/07 09:07	
Toluene	"	20.0	---	0.500	"	"	ND	"	100%	(65-135)	--	--	"	
Ethylbenzene	"	21.1	---	0.500	"	"	ND	"	106%	(80-125)	--	--	"	
Xylenes (total)	"	65.6	---	1.00	"	"	ND	60.0	109%	(70-130)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 104%*			*Limits: 80-120%*	"							*05/30/07 09:07*	
1,2-DCA-d4		*103%*			*80-120%*	"							"	
Dibromofluoromethane		*106%*			*80-120%*	"							"	
Toluene-d8		*102%*			*80-120%*	"							"	
Matrix Spike Dup (7051407-MSD1)							**QC Source: PQE0971-01**		**Extracted: 05/30/07 08:16**					
Benzene	EPA 8260B	19.9	---	0.500	ug/l	1x	ND	20.0	99.5%	(80-125)	1.00%	(25)	05/30/07 09:34	
Toluene	"	20.0	---	0.500	"	"	ND	"	100%	(65-135)	0.00%	"	"	
Ethylbenzene	"	21.0	---	0.500	"	"	ND	"	105%	(80-125)	0.475%	"	"	
Xylenes (total)	"	64.5	---	1.00	"	"	ND	60.0	108%	(70-130)	1.69%	"	"	
Surrogate(s): 4-BFB		*Recovery: 106%*			*Limits: 80-120%*	"							*05/30/07 09:34*	
1,2-DCA-d4		*106%*			*80-120%*	"							"	
Dibromofluoromethane		*108%*			*80-120%*	"							"	
Toluene-d8		*104%*			*80-120%*	"							"	

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Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060045 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7060045-BLK1)									**Extracted: 06/01/07 15:37**					
1,2-Dibromoethane	SW846 8260B	ND	---	0.500	ug/L	1x	--	--	--	--	--	--	06/01/07 18:50	
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: 98%*			*Limits: 80-120%*	"							*06/01/07 18:50*	
Dibromofluoromethane		*101%*			*80-120%*	"							*"*	
Toluene-d8		*100%*			*80-120%*	"							*"*	
4-BFB		*103%*			*80-120%*	"							*"*	
LCS (7060045-BS1)									**Extracted: 06/01/07 15:37**					
1,2-Dibromoethane	SW846 8260B	20.6	---	0.500	ug/L	1x	--	20.0	103%	(80-140)	--	--	06/01/07 16:19	
1,2-Dichloroethane	"	20.2	---	0.500	"	"	--	"	101%	(80-130)	--	--	"	
Ethanol	"	200	---	150	"	"	--	200	100%	(70-130)	--	--	"	
tert-Butyl alcohol	"	237	---	25.0	"	"	--	"	118%	"	--	--	"	
Ethyl tert-Butyl Ether (ETBE)	"	19.5	---	1.00	"	"	--	20.0	98%	"	--	--	"	
Diisopropyl Ether (DIPE)	"	20.2	---	1.00	"	"	--	"	101%	"	--	--	"	
Methyl tert-butyl ether	"	37.9	---	2.00	"	"	--	40.0	95%	(85-135)	--	--	"	
Tert-Amyl Methyl Ether	"	21.3	---	1.00	"	"	--	20.0	106%	(70-130)	--	--	"	
Benzene	"	20.5	---	0.200	"	"	--	"	102%	(80-125)	--	--	"	
Toluene	"	20.1	---	0.500	"	"	--	"	100%	(80-120)	--	--	"	
Ethylbenzene	"	20.7	---	0.500	"	"	--	"	104%	(80-130)	--	--	"	
Xylenes (total)	"	63.8	---	1.00	"	"	--	60.0	106%	"	--	--	"	
Naphthalene	"	22.8	---	2.00	"	"	--	20.0	114%	(70-150)	--	--	"	
1,2,4-Trimethylbenzene	"	21.0	---	1.00	"	"	--	"	105%	(75-125)	--	--	"	
1,3,5-Trimethylbenzene	"	22.4	---	0.500	"	"	--	"	112%	(70-140)	--	--	"	
Isopropylbenzene	"	20.9	---	2.00	"	"	--	"	104%	(80-130)	--	--	"	

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Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name: **Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060045 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7060045-BS1)								**Extracted: 06/01/07 15:37**						
n-Propylbenzene	SW846 8260B	21.0	---	0.500	ug/L	1x	--	20.0	105%	(80-130)	--	--	06/01/07 16:19	
Surrogate(s): 1,2-DCA-d4		*Recovery: 100%*			*Limits: 80-120%*	"							*06/01/07 16:19*	
Dibromofluoromethane		*100%*			*80-120%*	"							*"*	
Toluene-d8		*100%*			*80-120%*	"							*"*	
4-BFB		*100%*			*80-120%*	"							*"*	
Matrix Spike (7060045-MS1)							**QC Source: PQE1043-01**						**Extracted: 06/01/07 15:37**	
1,2-Dibromoethane	SW846 8260B	18.6	---	0.500	ug/L	1x	ND	20.0	93%	(80-125)	--	--	06/01/07 16:46	
1,2-Dichloroethane	"	18.5	---	0.500	"	"	ND	"	92%	(75-120)	--	--	"	
Ethanol	"	193	---	150	"	"	ND	200	96%	(70-130)	--	--	"	
tert-Butyl alcohol	"	190	---	25.0	"	"	ND	"	95%	"	--	--	"	
Ethyl tert-Butyl Ether (ETBE)	"	18.6	---	1.00	"	"	ND	20.0	93%	"	--	--	"	
Diisopropyl Ether (DIPE)	"	19.4	---	1.00	"	"	ND	"	97%	"	--	--	"	
Methyl tert-butyl ether	"	34.3	---	2.00	"	"	ND	40.0	86%	(75-130)	--	--	"	
Tert-Amyl Methyl Ether	"	20.0	---	1.00	"	"	ND	20.0	100%	(70-130)	--	--	"	
Benzene	"	19.9	---	0.200	"	"	ND	"	100%	(75-125)	--	--	"	
Toluene	"	19.6	---	0.500	"	"	ND	"	98%	(80-120)	--	--	"	
Ethylbenzene	"	20.9	---	0.500	"	"	ND	"	104%	(75-125)	--	--	"	
Xylenes (total)	"	64.5	---	1.00	"	"	ND	60.0	108%	(70-130)	--	--	"	
Naphthalene	"	20.1	---	2.00	"	"	0.840	20.0	96%	(65-150)	--	--	"	
1,2,4-Trimethylbenzene	"	20.8	---	1.00	"	"	ND	"	104%	(85-135)	--	--	"	
1,3,5-Trimethylbenzene	"	22.0	---	0.500	"	"	ND	"	110%	(70-140)	--	--	"	
Isopropylbenzene	"	20.8	---	2.00	"	"	ND	"	104%	(80-130)	--	--	"	
n-Propylbenzene	"	21.2	---	0.500	"	"	ND	"	106%	"	--	--	"	
Surrogate(s): 1,2-DCA-d4		*Recovery: 94%*			*Limits: 80-120%*	"							*06/01/07 16:46*	
Dibromofluoromethane		*99%*			*80-120%*	"							*"*	
Toluene-d8		*98%*			*80-120%*	"							*"*	
4-BFB		*102%*			*80-120%*	"							*"*	
Matrix Spike Dup (7060045-MSD1)							**QC Source: PQE1043-01**						**Extracted: 06/01/07 15:37**	
1,2-Dibromoethane	SW846 8260B	20.3	---	0.500	ug/L	1x	ND	20.0	102%	(80-125)	9%	(25)	06/01/07 17:10	
1,2-Dichloroethane	"	19.7	---	0.500	"	"	ND	"	98%	(75-120)	6%	"	"	
Ethanol	"	208	---	150	"	"	ND	200	104%	(70-130)	7%	"	"	
tert-Butyl alcohol	"	226	---	25.0	"	"	ND	"	113%	"	17%	"	"	
Ethyl tert-Butyl Ether (ETBE)	"	19.3	---	1.00	"	"	ND	20.0	96%	"	4%	"	"	
Diisopropyl Ether (DIPE)	"	19.7	---	1.00	"	"	ND	"	98%	"	2%	"	"	
Methyl tert-butyl ether	"	37.2	---	2.00	"	"	ND	40.0	93%	(75-130)	8%	"	"	
Tert-Amyl Methyl Ether	"	21.0	---	1.00	"	"	ND	20.0	105%	(70-130)	5%	"	"	
Benzene	"	19.9	---	0.200	"	"	ND	"	100%	(75-125)	0%	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Oxygenates by EPA 8260B - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7060045 **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 (7060045-MSD1)					**QC Source: PQE1043-01**				**Extracted: 06/01/07 15:37**					
Toluene	SW846 8260B	19.8	---	0.500	ug/L	1x	ND	20.0	99%	(80-120)	1%	(25)	06/01/07 17:10	
Ethylbenzene	"	20.3	---	0.500	"	"	ND	"	102%	(75-125)	3%	"	"	
Xylenes (total)	"	62.2	---	1.00	"	"	ND	60.0	104%	(70-130)	4%	"	"	
Naphthalene	"	22.1	---	2.00	"	"	0.840	20.0	106%	(65-150)	9%	"	"	
1,2,4-Trimethylbenzene	"	19.7	---	1.00	"	"	ND	"	98%	(85-135)	5%	"	"	
1,3,5-Trimethylbenzene	"	21.3	---	0.500	"	"	ND	"	106%	(70-140)	3%	"	"	
Isopropylbenzene	"	20.4	---	2.00	"	"	ND	"	102%	(80-130)	2%	"	"	
n-Propylbenzene	"	20.6	---	0.500	"	"	ND	"	103%	"	3%	"	"	

Surrogate(s):	*1,2-DCA-d4*	*Recovery:*	*100%*	*Limits: 80-120%*	*"*	*06/01/07 17:10*
	Dibromofluoromethane		*102%*	*80-120%*	*"*	*"*
	Toluene-d8		*100%*	*80-120%*	*"*	*"*
	4-BFB		*100%*	*80-120%*	*"*	*"*

TestAmerica - Portland, OR

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Ash Creek Associates, Inc.	Project Name:	**Nustar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	06/11/07 16:21

Notes and Definitions

Report Specific Notes:

RL1 - Reporting limit raised due to sample matrix effects.

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.

Darrell Auvil, Project Manager

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ANALYTICAL TESTING CORPORATION

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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 #: PQE1043

CLIENT: [redacted] Ash Creek

INVOICE TO: Same

REPORT TO: John Foxwell
ADDRESS: 9615 SW Allen Blvd. Ste. 106
Beaverton, OR 97005
PHONE: 503-924-4704 FAX: 503-924-4707

P.O. NUMBER:

PROJECT NAME: Nustar Vancouver Annex
PROJECT NUMBER: 1126-06
SAMPLED BY: KKB

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

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: NWTPH-Dx w/ silica gel cleanup	NWTPH-GX	8260 Oxygenates & RBCA	BTEX 8260	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1	MW-1	5/25/07 1315		X	X	X		W	7		
2	MW-2	5/25/07 1115		X	X	X		W	7		
3	MW-2 DUP	5/25/07 1115		X	X	X		W	7		
4	MW-3	5/25/07 1225		X	X	X		W	7		
5	MW-4	5/25/07 1010		X	X	X		W	7		
6	Trip Blank					[redacted]	X	W	1		
7											
8											
9											
10											

RELEASED BY: Kirsten Bais — DATE: 5/25/07
PRINT NAME: Kirsten Bais — FIRM: Ash Creek — TIME: 1700
RECEIVED BY: [signature] — DATE: 5/25/07
PRINT NAME: MIKE STEVENS — FIRM: ACA — TIME: 1700

RELEASED BY: [signature] — DATE: 5/25/07
PRINT NAME: MIKE STEVENS — FIRM: ACA — TIME: 1712
RECEIVED BY: [signature] — DATE: 5/25/07
PRINT NAME: [signature] — FIRM: TAL — TIME: 17:19

ADDITIONAL REMARKS:

TEMP: 2.3

COC REV 09 2004

PAGE OF

TestAmerica Sample Receipt Checklist

Cooler ID(s): 280

Received by: (section A)
Date: 5/25/07
Time: 1712
Initials: JM

Unpacked by: (section B)
Date: 5-24
Initials: [illegible]

Logged-in by:
Date: 5-24
Initials: [illegible]

Work Order No. PQE1043
Client: Ashcreek Associates
Project: Nostan Vancouver Annex

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

***ESI Clients (see Section C)

Cooler Temperature (IR): 2.3 °C plastic (glass) NA (oil/air samples, ESI client)

A

Custody Seals: (#____)

Signature: Y N Dated:________
X None

Received from:
____TA Courier
X Senvoy (1158)
____UPS
____Fed Ex
X Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:________

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

Coolant Type:
X Gel Ice
____Loose Ice
____None

Packing Material:
X Bubble Bags
____Styrofoam Cubbies
____None (____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)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

September 20, 2007

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

RE: NuStar STOP Vancouver

Enclosed are the results of analyses for samples received by the laboratory on 08/27/07 12:01. The following list is a summary of the Work Orders contained in this report, generated on 09/20/07 09:19.

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

Work Order	Project	ProjectNumber
PQH1138	NuStar STOP Vancouver	1126-02

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	PQH1138-01	Water	08/24/07 00:00	08/27/07 12:01
MW-2	PQH1138-02	Water	08/24/07 00:00	08/27/07 12:01
MW-3	PQH1138-03	Water	08/24/07 00:00	08/27/07 12:01
MW-4	PQH1138-04	Water	08/24/07 00:00	08/27/07 12:01

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

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
PQH1138-01 (MW-1)		**Water**				**Sampled: 08/24/07 00:00**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7081409	08/29/07 11:00	08/31/07 07:07	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*79.8%*		*50 - 150 %*	"			"	
PQH1138-02 (MW-2)		**Water**				**Sampled: 08/24/07 00:00**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7081409	08/29/07 11:00	08/31/07 07:43	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*85.0%*		*50 - 150 %*	"			"	
PQH1138-03 (MW-3)		**Water**				**Sampled: 08/24/07 00:00**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7081409	08/29/07 11:00	08/31/07 09:22	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*86.5%*		*50 - 150 %*	"			"	
PQH1138-04 (MW-4)		**Water**				**Sampled: 08/24/07 00:00**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.238	mg/l	1x	7081409	08/29/07 11:00	08/31/07 09:58	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*88.1%*		*50 - 150 %*	"			"	

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Volatile Organic Compounds by EPA Method 8260B

TestAmerica - Morgan Hill, CA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1138-01 (MW-1)		**Water**			**Sampled: 08/24/07 00:00**					
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7I06030	09/06/07 15:14	09/07/07 05:27	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane			*95%*		*75 - 120 %*	"			"	
1,2-Dichloroethane-d4			*90%*		*60 - 125 %*	"			"	
Toluene-d8			*92%*		*80 - 120 %*	"			"	
4-Bromofluorobenzene			*89%*		*60 - 135 %*	"			"	
PQH1138-02 (MW-2)		**Water**			**Sampled: 08/24/07 00:00**					
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7I06030	09/06/07 15:14	09/07/07 06:00	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
Isopropylbenzene	"	**3.2**	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	**59**	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane			*89%*		*75 - 120 %*	"			"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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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 STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Volatile Organic Compounds by EPA Method 8260B

TestAmerica - Morgan Hill, CA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1138-02 (MW-2)		**Water**				**Sampled: 08/24/07 00:00**				
1,2-Dichloroethane-d4			*82%*		*60 - 125 %*	*1x*			*09/07/07 06:00*	
Toluene-d8			*95%*		*80 - 120 %*	"			"	
4-Bromofluorobenzene			*90%*		*60 - 135 %*	"			"	
PQH1138-03 (MW-3)		**Water**				**Sampled: 08/24/07 00:00**				
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7I06030	09/06/07 15:14	09/07/07 06:37	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane			*94%*		*75 - 120 %*	"			"	
1,2-Dichloroethane-d4			*95%*		*60 - 125 %*	"			"	
Toluene-d8			*85%*		*80 - 120 %*	"			"	
4-Bromofluorobenzene			*86%*		*60 - 135 %*	"			"	
PQH1138-04 (MW-4)		**Water**				**Sampled: 08/24/07 00:00**				
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7I06030	09/06/07 15:14	09/07/07 07:10	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Volatile Organic Compounds by EPA Method 8260B

TestAmerica - Morgan Hill, CA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1138-04 (MW-4)		**Water**			**Sampled: 08/24/07 00:00**					
n-Propylbenzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7I06030	09/06/07 15:14	09/07/07 07:10	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane			*98%*		*75 - 120 %*	"			"	
1,2-Dichloroethane-d4			*92%*		*60 - 125 %*	"			"	
Toluene-d8			*96%*		*80 - 120 %*	"			"	
4-Bromofluorobenzene			*86%*		*60 - 135 %*	"			"	

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1138-01 (MW-1)		**Water**			**Sampled: 08/24/07 00:00**					
Gasoline Range Hydrocarbons	NWTPH-G/8021 B	ND	-----	100	ug/l	1x	7090020	09/05/07 09:55	09/05/07 13:32	
Surrogate(s): 4-BFB (FID)			*79.0%*		*50 - 150 %*	"			"	
PQH1138-02 (MW-2)		**Water**			**Sampled: 08/24/07 00:00**					
Gasoline Range Hydrocarbons	NWTPH-G/8021 B	**102**	-----	100	ug/l	1x	7090020	09/05/07 09:55	09/05/07 13:56	
Surrogate(s): 4-BFB (FID)			*103%*		*50 - 150 %*	"			"	
PQH1138-03 (MW-3)		**Water**			**Sampled: 08/24/07 00:00**					
Gasoline Range Hydrocarbons	NWTPH-G/8021 B	ND	-----	100	ug/l	1x	7090020	09/05/07 09:55	09/05/07 14:21	
Surrogate(s): 4-BFB (FID)			*74.5%*		*50 - 150 %*	"			"	
PQH1138-04 (MW-4)		**Water**			**Sampled: 08/24/07 00:00**					
Gasoline Range Hydrocarbons	NWTPH-G/8021 B	ND	-----	100	ug/l	1x	7090020	09/05/07 09:55	09/05/07 14:45	
Surrogate(s): 4-BFB (FID)			*72.9%*		*50 - 150 %*	"			"	

TestAmerica - Portland, OR

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

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

TestAmerica - Portland, OR

QC Batch: 7081409 **Water Preparation Method: EPA 3520/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081409-BLK1)								**Extracted: 08/29/07 11:00**						
Diesel Range Organics	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	08/31/07 03:32	
Heavy Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 89.7%*			*Limits: 50-150%*	"							*08/31/07 03:32*	
LCS (7081409-BS1)								**Extracted: 08/29/07 11:00**						
Diesel Range Organics	NWTPH-Dx	2.59	---	0.250	mg/l	1x	--	2.50	103%	(50-150)	--	--	08/31/07 02:20	
Heavy Oil Range Hydrocarbons	"	1.76	---	0.500	"	"	--	1.51	117%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 103%*			*Limits: 50-150%*	"							*08/31/07 02:20*	
LCS Dup (7081409-BSD1)								**Extracted: 08/29/07 11:00**						
Diesel Range Organics	NWTPH-Dx	2.32	---	0.250	mg/l	1x	--	2.50	92.8%	(50-150)	10.8%	(50)	08/31/07 02:56	
Heavy Oil Range Hydrocarbons	"	1.63	---	0.500	"	"	--	1.51	108%	"	7.99%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 94.8%*			*Limits: 50-150%*	"							*08/31/07 02:56*	

TestAmerica - Portland, OR

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

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

TestAmerica - Morgan Hill, CA

QC Batch: 7I06030 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7I06030-BLK1)							**Extracted: 09/06/07 00:00**							
Benzene	EPA 8260B	ND	---	1.0	ug/l	1x	--	--	--	--	--	--	09/07/07 02:00	
Toluene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	6.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
tert-Amyl methyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
tert-Butyl alcohol	"	ND	---	20	"	"	--	--	--	--	--	--	"	
Di-isopropyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane (EDB)	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Ethanol	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Ethyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 93%*			*Limits: 75-120%*	"							*09/07/07 02:00*	
1,2-Dichloroethane-d4			*91%*		*60-125%*	"							"	
Toluene-d8			*96%*		*80-120%*	"							"	
4-Bromofluorobenzene			*91%*		*60-135%*	"							"	
LCS (7I06030-BS1)							**Extracted: 09/06/07 00:00**							
Benzene	EPA 8260B	7.62	---	1.0	ug/l	1x	--	10.0	76%	(75-120)	--	--	09/07/07 00:21	
Toluene	"	9.25	---	2.0	"	"	--	"	92%	"	--	--	"	
Ethylbenzene	"	9.32	---	2.0	"	"	--	"	93%	"	--	--	"	
Xylenes (total)	"	27.2	---	6.0	"	"	--	30.0	91%	(75-130)	--	--	"	
Isopropylbenzene	"	8.66	---	2.0	"	"	--	10.0	87%	(60-120)	--	--	"	
tert-Amyl methyl ether	"	8.67	---	0.50	"	"	--	"	87%	(65-135)	--	--	"	
Naphthalene	"	8.52	---	5.0	"	"	--	"	85%	"	--	--	"	
tert-Butyl alcohol	"	196	---	20	"	"	--	200	98%	(60-135)	--	--	"	
Di-isopropyl ether	"	8.43	---	0.50	"	"	--	10.0	84%	(70-130)	--	--	"	
1,2-Dibromoethane (EDB)	"	8.94	---	0.50	"	"	--	"	89%	(70-135)	--	--	"	
1,2-Dichloroethane	"	8.61	---	0.50	"	"	--	"	86%	(70-125)	--	--	"	
Ethanol	"	186	---	100	"	"	--	200	93%	(15-150)	--	--	"	
Ethyl tert-butyl ether	"	8.96	---	0.50	"	"	--	10.0	90%	(65-130)	--	--	"	
Methyl tert-butyl ether	"	8.46	---	0.50	"	"	--	"	85%	(50-140)	--	--	"	
n-Propylbenzene	"	8.83	---	1.0	"	"	--	"	88%	(70-120)	--	--	"	
1,2,4-Trimethylbenzene	"	9.32	---	1.0	"	"	--	"	93%	(75-120)	--	--	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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 STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

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

TestAmerica - Morgan Hill, CA

QC Batch: 7I06030 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7I06030-BS1)							**Extracted: 09/06/07 00:00**							
1,3,5-Trimethylbenzene	EPA 8260B	10.1	---	1.0	ug/l	1x	--	10.0	101%	(70-120)	--	--	09/07/07 00:21	
Surrogate(s): Dibromofluoromethane		*Recovery: 90%*			*Limits: 75-120%*	"							*09/07/07 00:21*	
1,2-Dichloroethane-d4		*89%*			*60-125%*	"							"	
Toluene-d8		*96%*			*80-120%*	"							"	
4-Bromofluorobenzene		*97%*			*60-135%*	"							"	
Matrix Spike (7I06030-MS1)					**QC Source: MQI0084-04**		**Extracted: 09/06/07 00:00**							
Benzene	EPA 8260B	9.23	---	1.0	ug/l	1x	ND	10.0	92%	(75-120)	--	--	09/07/07 02:42	
Toluene	"	10.2	---	2.0	"	"	ND	"	102%	"	--	--	"	
Ethylbenzene	"	8.79	---	2.0	"	"	ND	"	88%	"	--	--	"	
Xylenes (total)	"	26.8	---	6.0	"	"	ND	30.0	89%	(75-130)	--	--	"	
Isopropylbenzene	"	7.53	---	2.0	"	"	ND	10.0	75%	(60-120)	--	--	"	
Naphthalene	"	11.6	---	5.0	"	"	ND	"	116%	(65-135)	--	--	"	
tert-Amyl methyl ether	"	10.4	---	0.50	"	"	ND	"	104%	"	--	--	"	
tert-Butyl alcohol	"	194	---	20	"	"	5.63	200	94%	(60-135)	--	--	"	
Di-isopropyl ether	"	9.86	---	0.50	"	"	ND	10.0	99%	(70-130)	--	--	"	
1,2-Dibromoethane (EDB)	"	11.2	---	0.50	"	"	ND	"	112%	(70-135)	--	--	"	
1,2-Dichloroethane	"	9.97	---	0.50	"	"	ND	"	100%	(70-125)	--	--	"	
Ethanol	"	169	---	100	"	"	ND	200	85%	(15-150)	--	--	"	
Ethyl tert-butyl ether	"	10.4	---	0.50	"	"	ND	10.0	104%	(65-130)	--	--	"	
Methyl tert-butyl ether	"	11.2	---	0.50	"	"	ND	"	112%	(50-140)	--	--	"	
n-Propylbenzene	"	9.58	---	1.0	"	"	ND	"	96%	(70-120)	--	--	"	
1,2,4-Trimethylbenzene	"	10.6	---	1.0	"	"	ND	"	106%	(75-120)	--	--	"	
1,3,5-Trimethylbenzene	"	10.4	---	1.0	"	"	ND	"	104%	(70-120)	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 104%*			*Limits: 75-120%*	"							*09/07/07 02:42*	
1,2-Dichloroethane-d4		*105%*			*60-125%*	"							"	
Toluene-d8		*101%*			*80-120%*	"							"	
4-Bromofluorobenzene		*85%*			*60-135%*	"							"	
Matrix Spike Dup (7I06030-MSD1)					**QC Source: MQI0084-04**		**Extracted: 09/06/07 00:00**							
Benzene	EPA 8260B	8.39	---	1.0	ug/l	1x	ND	10.0	84%	(75-120)	10%	(20)	09/07/07 03:15	
Toluene	"	9.30	---	2.0	"	"	ND	"	93%	"	9%	(25)	"	
Ethylbenzene	"	8.37	---	2.0	"	"	ND	"	84%	"	5%	(20)	"	
Xylenes (total)	"	26.0	---	6.0	"	"	ND	30.0	87%	(75-130)	3%	"	"	
Isopropylbenzene	"	7.85	---	2.0	"	"	ND	10.0	78%	(60-120)	4%	"	"	
Naphthalene	"	9.16	---	5.0	"	"	ND	"	92%	(65-135)	24%	(25)	"	
tert-Amyl methyl ether	"	9.33	---	0.50	"	"	ND	"	93%	"	11%	"	"	
tert-Butyl alcohol	"	203	---	20	"	"	5.63	200	98%	(60-135)	4%	"	"	
Di-isopropyl ether	"	9.29	---	0.50	"	"	ND	10.0	93%	(70-130)	6%	"	"	
1,2-Dibromoethane (EDB)	"	9.30	---	0.50	"	"	ND	"	93%	(70-135)	19%	(30)	"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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

Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

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

TestAmerica - Morgan Hill, CA

QC Batch: 7I06030 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (7I06030-MSD1)					**QC Source: MQI0084-04**				**Extracted: 09/06/07 00:00**					
1,2-Dichloroethane	EPA 8260B	9.82	---	0.50	ug/l	1x	ND	10.0	98%	(70-125)	2%	(25)	09/07/07 03:15	
Ethanol	"	196	---	100	"	"	ND	200	98%	(15-150)	15%	"	"	
Ethyl tert-butyl ether	"	8.90	---	0.50	"	"	ND	10.0	89%	(65-130)	16%	"	"	
Methyl tert-butyl ether	"	9.54	---	0.50	"	"	ND	"	95%	(50-140)	16%	"	"	
n-Propylbenzene	"	9.28	---	1.0	"	"	ND	"	93%	(70-120)	3%	"	"	
1,2,4-Trimethylbenzene	"	10.3	---	1.0	"	"	ND	"	103%	(75-120)	3%	(35)	"	
1,3,5-Trimethylbenzene	"	9.94	---	1.0	"	"	ND	"	99%	(70-120)	5%	(25)	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 92%*			*Limits: 75-120%*	"							*09/07/07 03:15*	
1,2-Dichloroethane-d4			*93%*		*60-125%*	"							"	
Toluene-d8			*91%*		*80-120%*	"							"	
4-Bromofluorobenzene			*88%*		*60-135%*	"							"	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 7090020 **Water Preparation Method: GC Volatiles**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7090020-BLK1)								**Extracted: 09/05/07 09:55**						
Gasoline Range Hydrocarbons	NWTPH-G/8021B	ND	---	100	ug/l	1x	--	--	--	--	--	--	09/05/07 10:52	
Surrogate(s): 4-BFB (FID)		*Recovery: 81.0%*			*Limits: 50-150%*	"							*09/05/07 10:52*	
LCS (7090020-BS1)								**Extracted: 09/05/07 09:55**						
Gasoline Range Hydrocarbons	NWTPH-G/8021B	987	---	100	ug/l	1x	--	1000	98.7%	(80-120)	--	--	09/05/07 16:00	
Surrogate(s): 4-BFB (FID)		*Recovery: 112%*			*Limits: 50-150%*	"							*09/05/07 16:00*	
Duplicate (7090020-DUP1)							**QC Source: SQH0197-04**			**Extracted: 09/05/07 09:55**				
Gasoline Range Hydrocarbons	NWTPH-G/8021B	176	---	100	ug/l	1x	219	--	--	--	21.5%	(20)	09/05/07 15:10	R9
Surrogate(s): 4-BFB (FID)		*Recovery: 87.4%*			*Limits: 50-150%*	"							*09/05/07 15:10*	
Matrix Spike (7090020-MS1)							**QC Source: SQH0197-04**			**Extracted: 09/05/07 09:55**				
Gasoline Range Hydrocarbons	NWTPH-G/8021B	1110	---	100	ug/l	1x	219	1000	89.0%	(70-130)	--	--	09/05/07 15:35	
Surrogate(s): 4-BFB (FID)		*Recovery: 120%*			*Limits: 50-150%*	"							*09/05/07 15:35*	

TestAmerica - Portland, OR

Darrell Auvil, Project Manager

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ph: (503) 906.9200 fax: (503) 906.9210

Ash Creek Associates, Inc.	Project Name:	**NuStar STOP Vancouver**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-02	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	09/20/07 09:19

Notes and Definitions

Report Specific Notes:

R9 - Sample RPD exceeded the laboratory control limit.

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

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

PETH 1133

Client Name: Ash Creek Associates
Address: 9615 SW Allen Blvd #106
City/State/Zip: Beaverton, OR 97005

Telephone Number: 503.924.4704
Fax No.: 503.924.4707

Project Manager: John Foxwell
Project Name: 8655 SW Canyon Road
Project Number: 1370
Sampler Name: John Foxwell

Analytical Lab: Test America
Report To: John Foxwell
Page: 1 of 1

							Preservative								Matrix						Analyze	Analyze For:																
Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Ice	HNO_3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass(Yellow Label)	None (Black Label)	Other (Specify)	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):		NW TPH-Gx	NW TPHdx w/ Silica gel	RBCA/Oxygenates-8260												**RUSH TAT (Pre-Schedule**	Standard TAT	Fax Results	Send QC with report
MW-1	8/24/07		8				x		x							x						x	x	x													x		
MW-2	8/24/07		8				x		x							x						x	x	x													x		
MW-3	8/24/07		8				x		x							x						x	x	x													x		
MW-4	8/24/07		8				x		x							x						x	x	x													x		

Special Instructions:

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Method of Shipment:

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
	8/27	1201		8/27	1201
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
	8/27/07	1201	Helga TAP	8/27	1201
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

2.2

TestAmerica Sample Receipt Checklist

Cooler ID(s): 003

Received by: (section C) Date: 8/27 Time: 1201 Initials: HSD

Unpacked by: (section B) Date: 8/28/07 Initials: [illegible]

Logged-in by: Date: 8/27/07 Initials: HSD

Work Order No: RTH138

Client: Oak Creek

Project: 3655 So Canyon Rd.

Temperature out of range:
- ___ No Ice
- ___ Ice Melted
- ___ Min 4 Hours
- ___ Other ___

***ESI Clients (see Section C)

Cooler Temperature (IR): 2.2 °C plastic (glass) NA (oil/air samples, ESI client)

A

Custody Seals: (#____)

Signature: Y N Dated:_____

(Y) None

Container Type:
- ( ) #Cooler(s)
- ____ #Box(s)
- ____ None (___ #Other:_____)

Coolant Type:
- (Y) Gel Ice
- ____ Loose Ice
- ____ None

Packing Material:
- ____ Bubble Bags
- ____ Styrofoam Cubbies
- (Y) None (___ Other:_____)

Received from:
- (Y) TA Courier
- ____ Senvoy
- ____ UPS
- ____ Fed Ex
- ____ 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:

TestAmerica
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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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Amended Report

December 12, 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 11/26/07 17:05. The following list is a summary of the Work Orders contained in this report, generated on 12/12/07 13:46.

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

Work Order	Project	ProjectNumber
PQK0883	NuStar Vancouver Annex	1126-06

Darrell Auvil, Project Manager

Amended Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	PQK0883-01	Water	11/26/07 10:45	11/26/07 17:05
MW-2	PQK0883-02	Water	11/26/07 12:45	11/26/07 17:05
MW-3	PQK0883-03	Water	11/26/07 11:24	11/26/07 17:05
MW-4	PQK0883-04	Water	11/26/07 12:01	11/26/07 17:05

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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

Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

Gasoline Hydrocarbons per NW TPH-Gx Method

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0883-01 (MW-1)		**Water**				**Sampled: 11/26/07 10:45**				
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7110982	11/27/07 12:56	11/27/07 21:00	
Surrogate(s): 4-BFB			*90.3%*		*50 - 150 %*	"			"	
PQK0883-02 (MW-2)		**Water**				**Sampled: 11/26/07 12:45**				
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7110982	11/27/07 12:56	11/27/07 21:27	
Surrogate(s): 4-BFB			*91.5%*		*50 - 150 %*	"			"	
PQK0883-03 (MW-3)		**Water**				**Sampled: 11/26/07 11:24**				
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7110982	11/27/07 12:56	11/27/07 21:54	
Surrogate(s): 4-BFB			*99.9%*		*50 - 150 %*	"			"	
PQK0883-04 (MW-4)		**Water**				**Sampled: 11/26/07 12:01**				
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	-----	80.0	ug/l	1x	7110982	11/27/07 12:56	11/27/07 22:21	
Surrogate(s): 4-BFB			*90.7%*		*50 - 150 %*	"			"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

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

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0883-01 (MW-1)		**Water**				**Sampled: 11/26/07 10:45**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.236	mg/l	1x	7111160	11/30/07 14:15	11/30/07 16:40	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.472	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*84.8%*		*50 - 150 %*	"			"	
PQK0883-02 (MW-2)		**Water**				**Sampled: 11/26/07 12:45**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.236	mg/l	1x	7111160	11/30/07 14:15	11/30/07 16:59	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.472	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*85.7%*		*50 - 150 %*	"			"	
PQK0883-03 (MW-3)		**Water**				**Sampled: 11/26/07 11:24**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.236	mg/l	1x	7111160	11/30/07 14:15	11/30/07 17:19	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.472	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*94.4%*		*50 - 150 %*	"			"	
PQK0883-04 (MW-4)		**Water**				**Sampled: 11/26/07 12:01**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.236	mg/l	1x	7111160	11/30/07 14:15	11/30/07 17:38	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.472	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*86.0%*		*50 - 150 %*	"			"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Amended Report

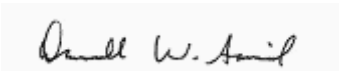
Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

Volatile Organic Compounds by EPA Method 8260B

TestAmerica Morgan Hill

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0883-01 (MW-1)		**Water**			**Sampled: 11/26/07 10:45**					
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7L01004	12/01/07 00:00	12/01/07 17:35	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	2.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane			*95%*		*75 - 130 %*	"			"	
1,2-Dichloroethane-d4			*100%*		*60 - 150 %*	"			"	
Toluene-d8			*100%*		*75 - 120 %*	"			"	
4-Bromofluorobenzene			*93%*		*55 - 130 %*	"			"	
PQK0883-02 (MW-2)		**Water**			**Sampled: 11/26/07 12:45**					
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7L04004	12/04/07 08:53	12/04/07 12:23	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	2.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	**83**	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	

TestAmerica Portland



Darrell Auvil, Project Manager

Amended Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

Volatile Organic Compounds by EPA Method 8260B

TestAmerica Morgan Hill

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0883-02 (MW-2)		**Water**				**Sampled: 11/26/07 12:45**				
Surrogate(s): Dibromofluoromethane		*90%*			*75 - 130 %*	*1x*			*12/04/07 12:23*	
1,2-Dichloroethane-d4		*92%*			*60 - 150 %*	*"*			*"*	
Toluene-d8		*92%*			*75 - 120 %*	*"*			*"*	
4-Bromofluorobenzene		*90%*			*55 - 130 %*	*"*			*"*	
PQK0883-03 (MW-3)		**Water**				**Sampled: 11/26/07 11:24**				
Benzene	EPA 8260B	**1.1**	-----	1.0	ug/l	1x	7L01004	12/01/07 00:00	12/01/07 18:37	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	**6.6**	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	2.0	"	"	"	"	"	
Isopropylbenzene	"	**3.1**	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	0.50	"	"	"	"	"	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	**6.9**	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	**1.2**	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane		*99%*			*75 - 130 %*	*"*			*"*	
1,2-Dichloroethane-d4		*102%*			*60 - 150 %*	*"*			*"*	
Toluene-d8		*101%*			*75 - 120 %*	*"*			*"*	
4-Bromofluorobenzene		*100%*			*55 - 130 %*	*"*			*"*	
PQK0883-04 (MW-4)		**Water**				**Sampled: 11/26/07 12:01**				
Benzene	EPA 8260B	ND	-----	1.0	ug/l	1x	7L01004	12/01/07 00:00	12/01/07 19:08	
Toluene	"	ND	-----	2.0	"	"	"	"	"	
Ethylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Xylenes (total)	"	ND	-----	6.0	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	2.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	2.0	"	"	"	"	"	
Naphthalene	"	ND	-----	5.0	"	"	"	"	"	
tert-Amyl methyl ether	"	ND	-----	0.50	"	"	"	"	"	
tert-Butyl alcohol	"	ND	-----	20	"	"	"	"	"	
Di-isopropyl ether	"	ND	-----	0.50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	0.50	"	"	"	"	"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

Volatile Organic Compounds by EPA Method 8260B

TestAmerica Morgan Hill

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0883-04 (MW-4)		**Water**			**Sampled: 11/26/07 12:01**					
1,2-Dichloroethane	EPA 8260B	ND	-----	0.50	ug/l	1x	7L01004	12/01/07 00:00	12/01/07 19:08	
Ethanol	"	ND	-----	100	"	"	"	"	"	
Ethyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.50	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	
Surrogate(s): *Dibromofluoromethane*			*103%*		*75 - 130 %*	"			"	
1,2-Dichloroethane-d4			*104%*		*60 - 150 %*	"			"	
Toluene-d8			*100%*		*75 - 120 %*	"			"	
4-Bromofluorobenzene			*96%*		*55 - 130 %*	"			"	

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

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

TestAmerica Portland

QC Batch: 7110982 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7110982-BLK1)								**Extracted: 11/27/07 12:56**						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	--	--	--	--	--	--	11/27/07 15:56	
Surrogate(s): 4-BFB		*Recovery: 90.8%*			*Limits: 50-150%*	"							*11/27/07 15:56*	
LCS (7110982-BS1)								**Extracted: 11/27/07 12:56**						
Gasoline Range Hydrocarbons	NW TPH-Gx	409	---	80.0	ug/l	1x	--	500	81.8%	(70-130)	--	--	11/27/07 15:01	
Surrogate(s): 4-BFB		*Recovery: 97.1%*			*Limits: 50-150%*	"							*11/27/07 15:01*	
LCS Dup (7110982-BSD1)								**Extracted: 11/27/07 12:56**						
Gasoline Range Hydrocarbons	NW TPH-Gx	445	---	80.0	ug/l	1x	--	500	89.1%	(70-130)	8.47%	(35)	11/27/07 15:29	
Surrogate(s): 4-BFB		*Recovery: 99.5%*			*Limits: 50-150%*	"							*11/27/07 15:29*	
Duplicate (7110982-DUP1)							**QC Source: PQK0862-03**	**Extracted: 11/27/07 12:56**						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	ND	--	--	--	NR	(35)	11/27/07 18:17	
Surrogate(s): 4-BFB		*Recovery: 91.7%*			*Limits: 50-150%*	"							*11/27/07 18:17*	
Duplicate (7110982-DUP2)							**QC Source: PQK0852-04**	**Extracted: 11/27/07 12:56**						
Gasoline Range Hydrocarbons	NW TPH-Gx	526	---	80.0	ug/l	1x	544	--	--	--	3.39%	(35)	11/27/07 23:43	
Surrogate(s): 4-BFB		*Recovery: 159%*			*Limits: 50-150%*	"							*11/27/07 23:43*	*ZX*

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

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

TestAmerica Portland

QC Batch: 7111160 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7111160-BLK1)								**Extracted: 11/30/07 14:15**						
Diesel Range Organics	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	11/30/07 16:20	
Heavy Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 104%*			*Limits: 50-150%*	"							*11/30/07 16:20*	
LCS (7111160-BS1)								**Extracted: 11/30/07 14:15**						
Diesel Range Organics	NWTPH-Dx	2.78	---	0.250	mg/l	1x	--	2.50	111%	(50-150)	--	--	11/30/07 15:41	
Heavy Oil Range Hydrocarbons	"	1.94	---	0.500	"	"	--	1.50	129%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 107%*			*Limits: 50-150%*	"							*11/30/07 15:41*	
LCS Dup (7111160-BSD1)								**Extracted: 11/30/07 14:15**						
Diesel Range Organics	NWTPH-Dx	2.77	---	0.250	mg/l	1x	--	2.50	111%	(50-150)	0.0851%	(50)	11/30/07 16:00	
Heavy Oil Range Hydrocarbons	"	1.86	---	0.500	"	"	--	1.50	124%	"	4.12%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 105%*			*Limits: 50-150%*	"							*11/30/07 16:00*	

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Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

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

TestAmerica Morgan Hill

QC Batch: 7L01004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7L01004-BLK1)									**Extracted: 12/01/07 00:00**					
Benzene	EPA 8260B	ND	---	1.0	ug/l	1x	--	--	--	--	--	--	12/01/07 11:56	
Toluene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	6.0	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
tert-Amyl methyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
tert-Butyl alcohol	"	ND	---	20	"	"	--	--	--	--	--	--	"	
Di-isopropyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane (EDB)	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Ethanol	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Ethyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
	Dibromofluoromethane		*101%*		*75-130%*	"							*"*	
Surrogate(s):	*1,2-Dichloroethane-d4*	*Recovery:*	*101%*		*Limits:*	*60-150%*	"						*12/01/07 11:56*	
	Toluene-d8		*102%*			*75-120%*	"						*"*	
	4-Bromofluorobenzene		*96%*			*55-130%*	"						*"*	
LCS (7L01004-BS1)									**Extracted: 12/01/07 00:00**					
Benzene	EPA 8260B	10.4	---	1.0	ug/l	1x	--	10.0	104%	(75-120)	--	--	12/01/07 10:23	
Toluene	"	11.1	---	2.0	"	"	--	"	111%	(80-120)	--	--	"	
Ethylbenzene	"	11.7	---	2.0	"	"	--	"	117%	(80-125)	--	--	"	
Xylenes (total)	"	35.4	---	6.0	"	"	--	30.0	118%	"	--	--	"	
1,2-Dichloroethane	"	11.2	---	2.0	"	"	--	10.0	112%	(65-130)	--	--	"	
Isopropylbenzene	"	11.1	---	2.0	"	"	--	"	111%	(75-120)	--	--	"	
Naphthalene	"	9.80	---	5.0	"	"	--	"	98%	(65-125)	--	--	"	
tert-Amyl methyl ether	"	10.9	---	0.50	"	"	--	"	109%	(75-125)	--	--	"	
tert-Butyl alcohol	"	236	---	20	"	"	--	200	118%	(80-120)	--	--	"	
Di-isopropyl ether	"	10.2	---	0.50	"	"	--	10.0	102%	(70-130)	--	--	"	
1,2-Dibromoethane (EDB)	"	11.2	---	0.50	"	"	--	"	112%	(75-130)	--	--	"	
1,2-Dichloroethane	"	11.2	---	0.50	"	"	--	"	112%	(65-130)	--	--	"	
Ethanol	"	265	---	100	"	"	--	200	133%	(50-150)	--	--	"	
Ethyl tert-butyl ether	"	10.8	---	0.50	"	"	--	10.0	108%	(75-130)	--	--	"	
Methyl tert-butyl ether	"	10.8	---	0.50	"	"	--	"	108%	(80-130)	--	--	"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

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

TestAmerica Morgan Hill

QC Batch: 7L01004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7L01004-BS1)							**Extracted: 12/01/07 00:00**							
n-Propylbenzene	EPA 8260B	11.2	---	1.0	ug/l	1x	--	10.0	112%	(70-130)	--	--	12/01/07 10:23	
1,2,4-Trimethylbenzene	"	11.9	---	1.0	"	"	--	"	119%	(80-130)	--	--	"	
1,3,5-Trimethylbenzene	"	11.8	---	1.0	"	"	--	"	118%	"	--	--	"	
Dibromofluoromethane			*102%*		*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery:*	*99%*		*Limits: 60-150%*	"							*12/01/07 10:23*	
Toluene-d8			*104%*		*75-120%*	"							"	
4-Bromofluorobenzene			*104%*		*55-130%*	"							"	
Matrix Spike (7L01004-MS1)					**QC Source: MQK0821-01**		**Extracted: 12/01/07 00:00**							
Benzene	EPA 8260B	23.4	---	1.0	ug/l	1x	12.2	10.0	112%	(80-120)	--	--	12/01/07 13:29	
Toluene	"	12.9	---	2.0	"	"	1.03	"	119%	(80-125)	--	--	"	
Ethylbenzene	"	13.1	---	2.0	"	"	1.05	"	121%	(75-130)	--	--	"	
Xylenes (total)	"	38.2	---	6.0	"	"	1.53	30.0	122%	(75-125)	--	--	"	
1,2-Dichloroethane	"	11.6	---	2.0	"	"	ND	10.0	116%	(65-145)	--	--	"	
Isopropylbenzene	"	36.1	---	2.0	"	"	26.3	"	98%	(55-130)	--	--	"	
Naphthalene	"	11.4	---	5.0	"	"	0.680	"	107%	(50-140)	--	--	"	
tert-Amyl methyl ether	"	13.1	---	0.50	"	"	ND	"	131%	(75-140)	--	--	"	
tert-Butyl alcohol	"	391	---	20	"	"	133	200	129%	(80-125)	--	--	"	M7
Di-isopropyl ether	"	11.6	---	0.50	"	"	ND	10.0	116%	(75-135)	--	--	"	
1,2-Dibromoethane (EDB)	"	12.0	---	0.50	"	"	ND	"	120%	(80-135)	--	--	"	
1,2-Dichloroethane	"	11.6	---	0.50	"	"	ND	"	116%	(65-145)	--	--	"	
Ethanol	"	313	---	100	"	"	ND	200	156%	(50-150)	--	--	"	M7
Ethyl tert-butyl ether	"	12.3	---	0.50	"	"	ND	10.0	123%	(80-135)	--	--	"	
Methyl tert-butyl ether	"	46.6	---	0.50	"	"	33.9	"	126%	(75-145)	--	--	"	
n-Propylbenzene	"	50.6	---	1.0	"	"	43.4	"	72%	(65-135)	--	--	"	
1,2,4-Trimethylbenzene	"	13.4	---	1.0	"	"	0.650	"	127%	(55-150)	--	--	"	
1,3,5-Trimethylbenzene	"	12.6	---	1.0	"	"	0.200	"	124%	(60-140)	--	--	"	
Dibromofluoromethane			*104%*		*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery:*	*94%*		*Limits: 60-150%*	"							*12/01/07 13:29*	
Toluene-d8			*106%*		*75-120%*	"							"	
4-Bromofluorobenzene			*104%*		*55-130%*	"							"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

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

TestAmerica Morgan Hill

QC Batch: 7L01004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (7L01004-MSD1)					**QC Source: MQK0821-01**				**Extracted: 12/01/07 00:00**					
Benzene	EPA 8260B	23.8	---	1.0	ug/l	1x	12.2	10.0	116%	(80-120)	2%	(20)	12/01/07 13:59	
Toluene	"	13.2	---	2.0	"	"	1.03	"	121%	(80-125)	2%	(25)	"	
Ethylbenzene	"	13.9	---	2.0	"	"	1.05	"	128%	(75-130)	6%	(20)	"	
Xylenes (total)	"	40.0	---	6.0	"	"	1.53	30.0	128%	(75-125)	4%	"	"	M7
1,2-Dichloroethane	"	12.1	---	2.0	"	"	ND	10.0	121%	(65-145)	4%	(25)	"	
Isopropylbenzene	"	36.8	---	2.0	"	"	26.3	"	105%	(55-130)	2%	(20)	"	
Naphthalene	"	12.1	---	5.0	"	"	0.680	"	114%	(50-140)	6%	(25)	"	
tert-Amyl methyl ether	"	13.8	---	0.50	"	"	ND	"	138%	(75-140)	5%	"	"	
tert-Butyl alcohol	"	403	---	20	"	"	133	200	135%	(80-125)	3%	"	"	M7
Di-isopropyl ether	"	12.2	---	0.50	"	"	ND	10.0	122%	(75-135)	4%	"	"	
1,2-Dibromoethane (EDB)	"	12.7	---	0.50	"	"	ND	"	127%	(80-135)	6%	(30)	"	
1,2-Dichloroethane	"	12.1	---	0.50	"	"	ND	"	121%	(65-145)	4%	(25)	"	
Ethanol	"	314	---	100	"	"	ND	200	157%	(50-150)	0.5%	"	"	M7
Ethyl tert-butyl ether	"	13.1	---	0.50	"	"	ND	10.0	131%	(80-135)	6%	"	"	
Methyl tert-butyl ether	"	47.7	---	0.50	"	"	33.9	"	138%	(75-145)	2%	"	"	
n-Propylbenzene	"	51.7	---	1.0	"	"	43.4	"	82%	(65-135)	2%	"	"	
1,2,4-Trimethylbenzene	"	13.8	---	1.0	"	"	0.650	"	132%	(55-150)	3%	(35)	"	
1,3,5-Trimethylbenzene	"	13.3	---	1.0	"	"	0.200	"	131%	(60-140)	6%	(25)	"	
Dibromofluoromethane		*100%*			*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery: 97%*			*Limits: 60-150%*	"							*12/01/07 13:59*	
Toluene-d8		*106%*			*75-120%*	"							"	
4-Bromofluorobenzene		*112%*			*55-130%*	"							"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

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

TestAmerica Morgan Hill

QC Batch: 7L04004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7L04004-BLK1)									**Extracted: 12/04/07 08:53**					
Benzene	EPA 8260B	ND	---	1.0	ug/l	1x	--	--	--	--	--	--	12/04/07 10:50	
Toluene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	6.0	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
tert-Amyl methyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
tert-Butyl alcohol	"	ND	---	20	"	"	--	--	--	--	--	--	"	
Di-isopropyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane (EDB)	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Ethanol	"	ND	---	100	"	"	--	--	--	--	--	--	"	
Ethyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	0.50	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
	Dibromofluoromethane		*90%*		*75-130%*	"							*"*	
Surrogate(s):	*1,2-Dichloroethane-d4*	*Recovery:*	*96%*	*Limits:*	*60-150%*	"							*12/04/07 10:50*	
	Toluene-d8		*92%*		*75-120%*	"							*"*	
	4-Bromofluorobenzene		*88%*		*55-130%*	"							*"*	
LCS (7L04004-BS1)									**Extracted: 12/04/07 08:53**					
Benzene	EPA 8260B	9.67	---	1.0	ug/l	1x	--	10.0	97%	(75-120)	--	--	12/04/07 09:17	
Toluene	"	9.61	---	2.0	"	"	--	"	96%	(80-120)	--	--	"	
Ethylbenzene	"	10.2	---	2.0	"	"	--	"	102%	(80-125)	--	--	"	
Xylenes (total)	"	30.8	---	6.0	"	"	--	30.0	103%	"	--	--	"	
1,2-Dichloroethane	"	9.34	---	2.0	"	"	--	10.0	93%	(65-130)	--	--	"	
Isopropylbenzene	"	9.36	---	2.0	"	"	--	"	94%	(75-120)	--	--	"	
tert-Amyl methyl ether	"	9.50	---	0.50	"	"	--	"	95%	(75-125)	--	--	"	
Naphthalene	"	9.50	---	5.0	"	"	--	"	95%	(65-125)	--	--	"	
tert-Butyl alcohol	"	197	---	20	"	"	--	200	98%	(80-120)	--	--	"	
Di-isopropyl ether	"	9.53	---	0.50	"	"	--	10.0	95%	(70-130)	--	--	"	
1,2-Dibromoethane (EDB)	"	9.88	---	0.50	"	"	--	"	99%	(75-130)	--	--	"	
1,2-Dichloroethane	"	9.34	---	0.50	"	"	--	"	93%	(65-130)	--	--	"	
Ethanol	"	232	---	100	"	"	--	200	116%	(50-150)	--	--	"	
Ethyl tert-butyl ether	"	9.74	---	0.50	"	"	--	10.0	97%	(75-130)	--	--	"	
Methyl tert-butyl ether	"	9.29	---	0.50	"	"	--	"	93%	(80-130)	--	--	"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

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

TestAmerica Morgan Hill

QC Batch: 7L04004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7L04004-BS1)								**Extracted: 12/04/07 08:53**						
n-Propylbenzene	EPA 8260B	10.0	---	1.0	ug/l	1x	--	10.0	100%	(70-130)	--	--	12/04/07 09:17	
1,2,4-Trimethylbenzene	"	10.6	---	1.0	"	"	--	"	106%	(80-130)	--	--	"	
1,3,5-Trimethylbenzene	"	10.4	---	1.0	"	"	--	"	104%	"	--	--	"	
Dibromofluoromethane			*94%*		*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery:*	*87%*		*Limits: 60-150%*	"							*12/04/07 09:17*	
Toluene-d8			*92%*		*75-120%*	"							"	
4-Bromofluorobenzene			*97%*		*55-130%*	"							"	
Matrix Spike (7L04004-MS1)					**QC Source: PQK0883-02**			**Extracted: 12/04/07 08:53**						
Benzene	EPA 8260B	10.1	---	1.0	ug/l	1x	0.140	10.0	99%	(80-120)	--	--	12/04/07 11:21	
Toluene	"	9.85	---	2.0	"	"	ND	"	98%	(80-125)	--	--	"	
Ethylbenzene	"	10.4	---	2.0	"	"	ND	"	104%	(75-130)	--	--	"	
Xylenes (total)	"	30.9	---	6.0	"	"	0.230	30.0	102%	(75-125)	--	--	"	
1,2-Dichloroethane	"	9.53	---	2.0	"	"	ND	10.0	95%	(65-145)	--	--	"	
Isopropylbenzene	"	9.45	---	2.0	"	"	ND	"	94%	(55-130)	--	--	"	
tert-Amyl methyl ether	"	10.6	---	0.50	"	"	ND	"	106%	(75-140)	--	--	"	
Naphthalene	"	9.61	---	5.0	"	"	0.110	"	95%	(50-140)	--	--	"	
tert-Butyl alcohol	"	199	---	20	"	"	2.17	200	98%	(80-125)	--	--	"	
Di-isopropyl ether	"	9.85	---	0.50	"	"	ND	10.0	98%	(75-135)	--	--	"	
1,2-Dibromoethane (EDB)	"	9.95	---	0.50	"	"	ND	"	100%	(80-135)	--	--	"	
1,2-Dichloroethane	"	9.53	---	0.50	"	"	ND	"	95%	(65-145)	--	--	"	
Ethanol	"	197	---	100	"	"	ND	200	98%	(50-150)	--	--	"	
Ethyl tert-butyl ether	"	10.2	---	0.50	"	"	ND	10.0	102%	(80-135)	--	--	"	
Methyl tert-butyl ether	"	93.3	---	0.50	"	"	83.4	"	99%	(75-145)	--	--	"	
n-Propylbenzene	"	9.88	---	1.0	"	"	ND	"	99%	(65-135)	--	--	"	
1,2,4-Trimethylbenzene	"	10.6	---	1.0	"	"	ND	"	106%	(55-150)	--	--	"	
1,3,5-Trimethylbenzene	"	10.3	---	1.0	"	"	ND	"	103%	(60-140)	--	--	"	
Dibromofluoromethane			*92%*		*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery:*	*93%*		*Limits: 60-150%*	"							*12/04/07 11:21*	
Toluene-d8			*93%*		*75-120%*	"							"	
4-Bromofluorobenzene			*96%*		*55-130%*	"							"	

TestAmerica Portland

Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name: **NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number: 1126-06	Report Created:
Beaverton, OR 97005	Project Manager: John Foxwell	12/12/07 13:46

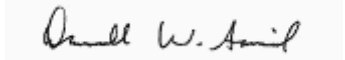
Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Morgan Hill

QC Batch: 7L04004 **Water Preparation Method: EPA 5030B P/T**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (7L04004-MSD1)					**QC Source: PQK0883-02**				**Extracted: 12/04/07 08:53**					
Benzene	EPA 8260B	10.0	---	1.0	ug/l	1x	0.140	10.0	99%	(80-120)	0.6%	(20)	12/04/07 11:52	
Toluene	"	9.78	---	2.0	"	"	ND	"	98%	(80-125)	0.7%	(25)	"	
Ethylbenzene	"	10.3	---	2.0	"	"	ND	"	103%	(75-130)	1%	(20)	"	
Xylenes (total)	"	30.6	---	6.0	"	"	0.230	30.0	101%	(75-125)	1%	"	"	
1,2-Dichloroethane	"	9.48	---	2.0	"	"	ND	10.0	95%	(65-145)	0.5%	(25)	"	
Isopropylbenzene	"	9.37	---	2.0	"	"	ND	"	94%	(55-130)	0.9%	(20)	"	
tert-Amyl methyl ether	"	10.6	---	0.50	"	"	ND	"	106%	(75-140)	0.3%	(25)	"	
Naphthalene	"	9.94	---	5.0	"	"	0.110	"	98%	(50-140)	3%	"	"	
tert-Butyl alcohol	"	196	---	20	"	"	2.17	200	97%	(80-125)	1%	"	"	
Di-isopropyl ether	"	9.70	---	0.50	"	"	ND	10.0	97%	(75-135)	2%	"	"	
1,2-Dibromoethane (EDB)	"	10.0	---	0.50	"	"	ND	"	100%	(80-135)	0.9%	(30)	"	
1,2-Dichloroethane	"	9.48	---	0.50	"	"	ND	"	95%	(65-145)	0.5%	(25)	"	
Ethanol	"	218	---	100	"	"	ND	200	109%	(50-150)	10%	"	"	
Ethyl tert-butyl ether	"	10.1	---	0.50	"	"	ND	10.0	101%	(80-135)	1%	"	"	
Methyl tert-butyl ether	"	93.1	---	0.50	"	"	83.4	"	97%	(75-145)	0.2%	"	"	
n-Propylbenzene	"	10.0	---	1.0	"	"	ND	"	100%	(65-135)	2%	"	"	
1,2,4-Trimethylbenzene	"	10.6	---	1.0	"	"	ND	"	106%	(55-150)	0.3%	(35)	"	
1,3,5-Trimethylbenzene	"	10.4	---	1.0	"	"	ND	"	104%	(60-140)	1%	(25)	"	
Dibromofluoromethane			*93%*		*75-130%*	"							"	
Surrogate(s): 1,2-Dichloroethane-d4		*Recovery:*	*90%*		*Limits: 60-150%*	"							*12/04/07 11:52*	
Toluene-d8			*94%*		*75-120%*	"							"	
4-Bromofluorobenzene			*97%*		*55-130%*	"							"	

TestAmerica Portland



Darrell Auvil, Project Manager

Amended Report

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Amended Report

Ash Creek Associates, Inc.	Project Name:	**NuStar Vancouver Annex**	
9615 SW Allen Blvd. Suite 106	Project Number:	1126-06	Report Created:
Beaverton, OR 97005	Project Manager:	John Foxwell	12/12/07 13:46

Notes and Definitions

Report Specific Notes:

M7	-	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
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

Darrell Auvil, Project Manager

Amended Report

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

CHAIN OF CUSTODY RECORD

PQK0883

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Telephone Number: 503.924.4704
Fax No.: 503.924.4707

Project Manager: John Foxwell
Project Name: NuStar Vancouver Annex (S.T.O.P.)
Project Number: 1126-02
Sampler Name: Ashleigh Fines

Analytical Lab: Test America
Report To: John Foxwell
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: NWTPH-Dx w/silica gel cleanup	Analyze For: NWTPH-Gx	Analyze For: 8260 Oxygenates & RBCA	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MW-1	11/26/07	1045	7						X						X						X	X	X		X		
MW-2	11/26/07	1245	7						X						X						X	X	X		X		
MW-3	11/26/07	1124	7						X						X						X	X	X		X		
MW-4	11/26/07	1201	7						X						X						X	X	X		X		

Special Instructions:

Method of Shipment:

Laboratory Comments:
Temperature Upon Receipt: 4.6°C
VOCs Free of Headspace? Y N

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Ashleigh Fines, Ash Creek Associates	11/26/2007	1700		11/26/07	1705
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

TestAmerica Sample Receipt Checklist

Cooler ID(s):

Received by: *(section A)* Date: 11/24/07 Time: 1705 Initials: RD

Unpacked by: *(section B)* Date: 11/26/07 Initials: JI

Logged-in by: Date: 11/26/07 Initials: JI

Work Order No: PQK0883

Client: Fish Creek

Project: NuStar Vancouver Annex

Temperature out of range:

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*

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

Cooler Temperature (IR): 4 6 °C plastic (glass) NA *(oil/air samples, ESI client)* Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

X Gel Ice

____Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other:_____)

Received from:

____TA Courier
____Senvoy
____UPS
____Fed Ex
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/ Oil Quality:

VOAs/ Syringes free of Headspace?	(Y)	N	NA
TB on COC?	(not provided)	Y	N	NA

Metals:

HNO3 Preserved?	Y	N	(NA)
Dissolved Metals Filtered?	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)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments _____

PM Reviewed _____ *(Initial/Date)*