Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

November 21, 2011

Rod Schmall
Washington Department of Ecology
2108 Grand Boulevard
Vancouver, Washington 98661-4624

Re: Northwest Area Groundwater Investigation – Data Transmittal Letter
NuStar Vancouver Terminal
Vancouver, Washington
1126-09

Dear Mr. Schmall:

Ash Creek Associates, Inc. (Ash Creek) has prepared this letter on behalf of NuStar Terminals Services, Inc. (NuStar) to transmit analytical results from the Northwest Area Groundwater Investigation conducted to the northwest of the NuStar Vancouver Terminal leasehold area (the Facility), at the Port of Vancouver (POV), in Vancouver, Washington (Figure 1). At the request of the Washington State Department of Ecology (Ecology), NuStar submitted a *Northwest Area Investigation Work Plan* to Ecology on March 14, 2011, proposing the installation of one Shallow Zone monitoring well northwest of the location of historical soil boring AGP-55 to investigate the nature and extent of volatile organic compounds (VOCs) northwest of the Facility and complete the characterization of the geology and hydrogeology to the north/northwest of the NuStar leasehold boundary (Work Plan; Ash Creek, 2011a). Ecology provided NuStar with comments on the Work Plan in a letter dated May 23, 2011 as well as additional requirements to be incorporated into a revised work plan. On June 20, 2011, NuStar submitted an *Addendum to the Northwest Area Investigation Work Plan* to Ecology (Work Plan Addendum; Ash Creek, 2011b). As requested by Ecology, the Work Plan Addendum proposed the installation of four borings and up to four monitoring wells depending on the analytical results from groundwater samples collected from depth-discrete locations within the boreholes. Ecology approved the Work Plan in a letter dated June 23, 2011.

The Northwest Area Groundwater Investigation was conducted from August 8 to 11, 2011. In accordance with the Work Plan and Work Plan Addendum, four borings, boreholes A through D, were installed. The locations of boreholes A through D are shown on Figure 2. The depth-discrete groundwater analytical results are provided in Table 1. In a letter dated August 17, 2011, Ecology requested NuStar to install one Intermediate Zone well and one Shallow Zone well in the area to the northwest of the NuStar leasehold boundary. On August 18, 2011, Intermediate Zone monitoring well MW-25i was installed in borehole A with a screened interval from 50 to 60 feet below ground surface (bgs). On August 25, 2011, Shallow Zone monitoring well MW-26 was installed immediately adjacent to borehole D with a screened interval from 27 to 42 feet bgs. When NuStar received Ecology's August 27, 2011 written request to install a monitoring well at borehole D, the borehole had previously been backfilled; therefore, monitoring well MW-26 was installed 2 feet to the southwest of the former borehole.

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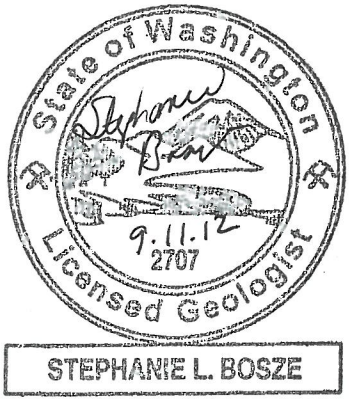
Monitoring wells MW-25i and MW-26 were sampled on September 16, 2011, during the quarterly groundwater monitoring event at the Facility. The location of monitoring wells MW-25i and MW-26 are shown on the attached Facility Plan (Figure 2). The groundwater analytical results from monitoring wells MW-25i and MW-26 are summarized in Table 1.

Monitoring wells MW-25i and MW-26 will continue to be sampled on a quarterly basis for one year; thereafter, the appropriate sampling frequency will be evaluated and discussed with Ecology. A description of the groundwater investigation and well installation activities including boring and well construction logs, a summary of available analytical results, and an evaluation of the nature and extent of VOCs in groundwater to the northwest of the NuStar Facility, will be provided in the *Remedial Investigation* report to be submitted to Ecology by February 28, 2012.

If you have any questions regarding the contents of this letter, please do not hesitate to call either of the undersigned.

Sincerely,



Stephanie Bosze, L.G.
Project Geologist

Amanda Spencer
Principal Hydrogeologist

ATTACHMENTS

Table 1 — Northwest Area Investigation – Groundwater Analytical Results

Figure 1 — Facility Location Map
Figure 2 — Facility Plan with Boring and Well Locations

REFERENCES

Ash Creek Associates, 2011a. *Northwest Area Investigation Work Plan*, NuStar Vancouver Facility Vancouver, Washington. March 14, 2011.

Ash Creek Associates, 2011b. *Addendum to Northwest Area Investigation Work Plan*, NuStar Vancouver Facility Vancouver, Washington. June 20, 2011.

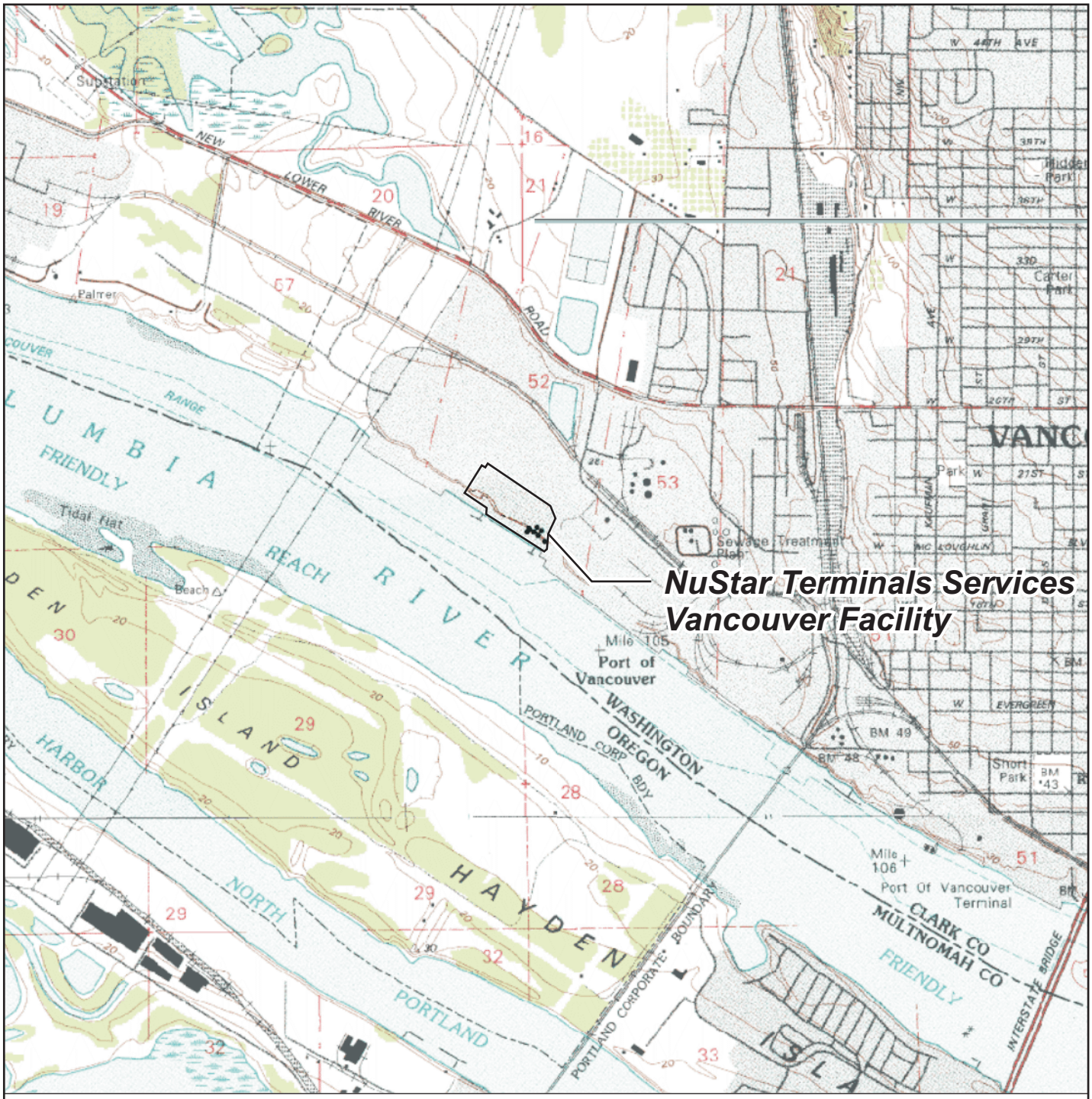
cc: Mr. Joe Aldridge, NuStar Energy L.P. (electronic deliverable)
Ms. Renee Robinson, NuStar Energy L.P. (electronic deliverable)
Ms. Patty Boyden, Port of Vancouver (electronic deliverable)
Mr. Richard Roché, Parametrix (electronic deliverable)
Mr. Stephen Tan, Cascadia Law Group
Mr. Mike Poirier, NuStar Energy L.P.

Table 1
NW Area Investigation
NuStar Vancouver Facility
Vancouver, Washington

Sample ID	Sample Date	Sample Interval (fbgs)	1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Methylene Chloride	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride
			Concentrations in µg/L (ppb)																												
Depth Discreet Groundwater Samples																															
A-(32-35)	08/10/2011	32 - 35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
A-(51-54)	08/10/2011	51 - 54	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
B-(32-35)	08/09/2011	32 - 35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
B-(52-55)	08/09/2011	52 - 55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
C-(32-35)	08/08/2011	32 - 35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
C-(41-44)	08/08/2011	41 - 44	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 8.0	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
C-(52-55)	08/10/2011	52 - 55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
D - (42-45)	08/11/11	42 - 45	4	< 0.90	< 0.90	12	1.8	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 20	< 0.90	< 0.90	< 0.90	< 0.90	< 2.0	40	< 0.90	< 0.90	< 5.0	39	< 0.90	< 0.90	180	< 0.90	< 0.90
Monitoring Well Groundwater Samples																															
MW-25i	09/16/11	Note 4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
MW-26	09/16/11	Note 4	5.7	< 2.0	< 2.0	7	2.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	120	< 2.0	< 2.0	< 5.0	250	2.6	< 2.0	490	< 2.0	< 2.0

Notes:

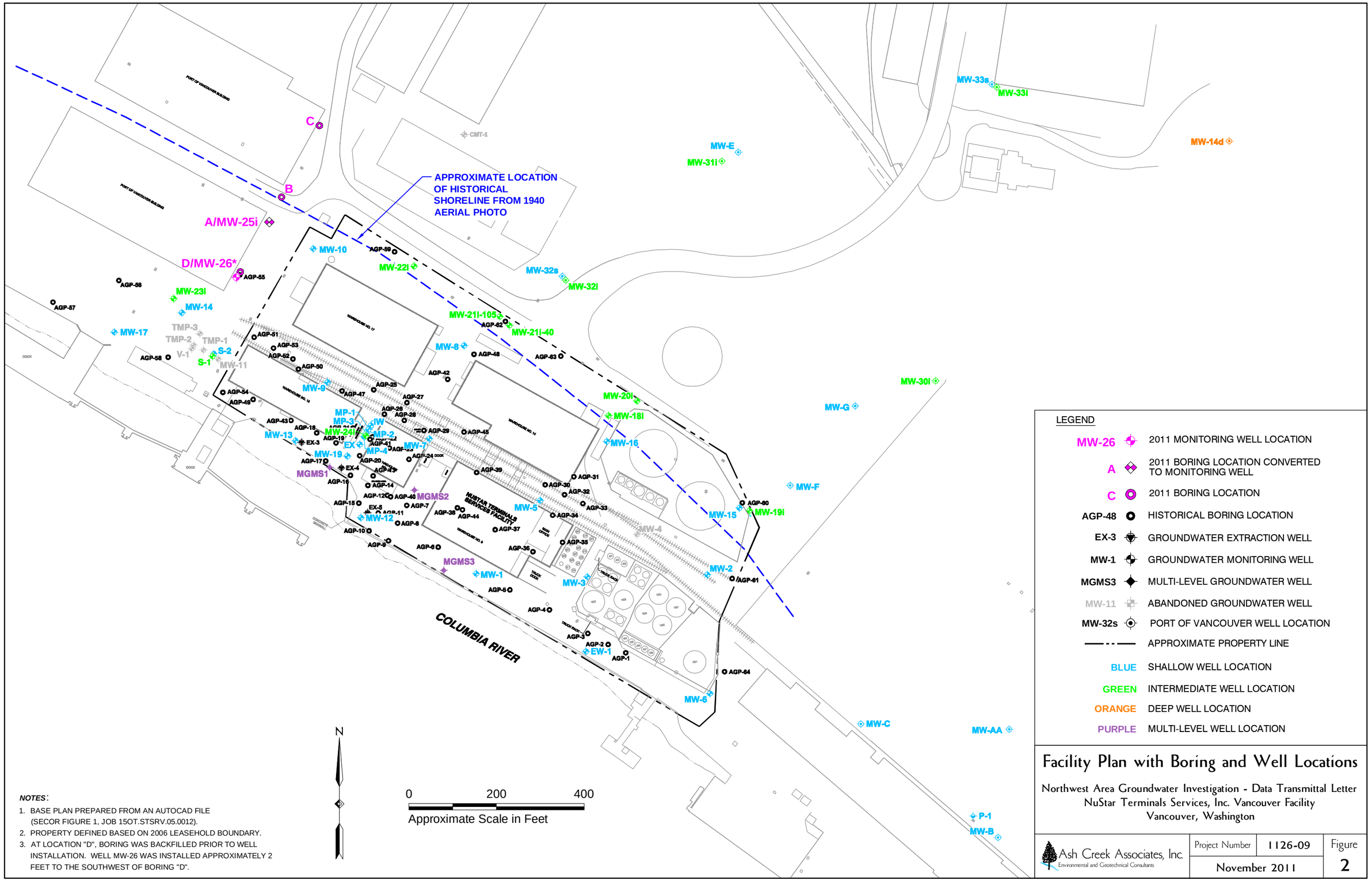
1. NA= not applicable
2. µg/L = micrograms per liter.
3. fbgs = feet below ground surface.
4. Screened interval for MW-26 is 27 to 42 fbgs; screened interval for MW-25i is 50 to 60 fbgs.



Facility Location Map

Northwest Area Groundwater Investigation - Data Transmittal Letter
NuStar Terminals Services, Inc. Vancouver Facility
Vancouver, Washington

Ash Creek Associates, Inc. Environmental and Geotechnical Consultants	Project Number 1126-09	Figure 1
	November 2011	



LEGEND

MW-26	2011 MONITORING WELL LOCATION
A	2011 BORING LOCATION CONVERTED TO MONITORING WELL
C	2011 BORING LOCATION
AGP-48	HISTORICAL BORING LOCATION
EX-3	GROUNDWATER EXTRACTION WELL
MW-1	GROUNDWATER MONITORING WELL
MGMS3	MULTI-LEVEL GROUNDWATER WELL
MW-11	ABANDONED GROUNDWATER WELL
MW-32s	PORT OF VANCOUVER WELL LOCATION
	APPROXIMATE PROPERTY LINE
BLUE	SHALLOW WELL LOCATION
GREEN	INTERMEDIATE WELL LOCATION
ORANGE	DEEP WELL LOCATION
PURPLE	MULTI-LEVEL WELL LOCATION

Facility Plan with Boring and Well Locations

Northwest Area Groundwater Investigation - Data Transmittal Letter
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Vancouver, Washington

NOTES:

1. BASE PLAN PREPARED FROM AN AUTOCAD FILE (SECOR FIGURE 1, JOB 15OT.STSRV.05.0012).
2. PROPERTY DEFINED BASED ON 2006 LEASEHOLD BOUNDARY.
3. AT LOCATION "D", BORING WAS BACKFILLED PRIOR TO WELL INSTALLATION. WELL MW-26 WAS INSTALLED APPROXIMATELY 2 FEET TO THE SOUTHWEST OF BORING "D".

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