STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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October 1, 2015

Ms. Elise Gronewald
Port of Everett
PO Box 538
Everett, WA 98206

Re: No Further Action at the following Site:

- **Site Name:** North Marina Bayside ABW
- **Site Address:** 1332 West Marine View Drive, Everett, WA 98201
- **Facility/Site No.:** 9286485
- **VCP Project No.:** NW2842

Dear Ms. Gronewald:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the North Marina Bayside ABW facility (the Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

However, this opinion is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Arsenic, lead, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH-gas, TPH-diesel, TPH-oil) into the Soil.
- Arsenic, zinc, and TPH-oil into the Groundwater.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Landau Associates, Inc, *Environmental Investigation and Cleanup Documentation, American Boiler Works-Bayside Marine Site, Everett, Washington,* April 27, 2015

1. Landau Associates, Inc, *Ecology Review Draft Report, Environmental Investigation and Cleanup Activities, American Boiler Works-Bayside Marine Site, Everett, Washington,* April 25, 2014.

2. Pinnacle GeoSciences, *Remedial Excavation, Former ABW Technologies Facility, 1332 West Marine View Drive, Everett, Washington*, March 27, 2006.

3. Pinnacle GeoSciences, *Limited Soil Investigation, Former ABW Technologies Facility, 1332 West Marine View Drive, Everett, Washington*, February 2, 2006.

4. A-1 Pump Service, Letter to Port of Everett, Everett, Washington re: *Site Assessment, Port of Everett, 1001 14th Street, Boat House / Yacht Sales, Everett, WA. 98021* from Bud Ebeling, A-1 Pump Service, August 23, 1991.

5. Kaldveer Associates Geoscience Consultants, Letter to Bud Ebeling, re: *Tank Removal and Soil Sampling, 1001 14th Street, Everett Boat House, Port of Everett, Everett, WA. 98021* from Kaldveer Associates Geoscience Consultants, March 19, 1991.

Those documents are kept in the Central Files of the Headquarters Office of Ecology (HQ) for review by appointment only. You can make an appointment by calling the HQ resource contact

at (360) 407-6000.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

Soil
Subsurface soil investigations and compliance sampling have determined the lateral and vertical extent of the releases.

Groundwater
A total of six groundwater monitoring wells (P-8, P-26, P-27 and HWA-MW1 through HWA-MW3) have been installed at the Site and define the lateral and vertical extent of groundwater contamination. Monitoring well P-8 was decommissioned.

2. Establishment of cleanup standards.

a. Substance-specific standards

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Soil Cleanup Levels
A terrestrial ecological evaluation (TEE) has been completed and is excluded because all contaminated soil, is or will be covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife. Therefore, soil cleanup levels protective of terrestrial species are not required.

The Site does not meet the MTCA definition of an industrial property; therefore, soil cleanup levels suitable for unrestricted land use are appropriate. Soil cleanup levels based on leaching (protection of surface water protective of human health and aquatic organisms) and protection of direct contact are appropriate. MTCA

cleanup levels of 2,000 mg/kg for TPH-diesel and TPH-oil, 100 mg/kg for TPH-gasoline, 0.14 mg/kg for cPAHs, and 20 mg/kg for arsenic were selected for soils at the Site.

Groundwater Cleanup Levels
Since groundwater is not potable per WAC 173-340-720(2), groundwater cleanup levels for protection of drinking water are not applicable. As a result, groundwater water cleanup levels protective of marine surface water were developed in accordance with WAC 173-340-730(3). MTCA cleanup levels of 1,000 ug/l for TPH-gasoline, 500 ug/l for TPH-diesel and TPH-oil, 5 ug/l for arsenic, and 81 ug/l for zinc were selected for groundwater at the Site.

b. Points of Compliance

Soil
The point of compliance based on both direct contact from 0ft to 15ft below ground surface and leaching for the protection of marine surface water is Site-wide throughout the soil profile and may extend below the water table in accordance with WAC 173-340-740(6)(b).

Groundwater
Groundwater at the Site in is considered nonpotable per WAC 173-340-720(2)(d); therefore, groundwater cleanup levels are based on protection of marine surface water . A conditional point of compliance was established at the southwest corner of the property (monitoring well P-27) boundary, which is the closest monitoring well to the point of discharge to marine surface water in accordance with WAC 173-340-720(8)(c).

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

Cleanup actions at the Site included multiple soil excavations from 2006 to 2015. Soil characterization indicates that soil contamination has been removed. Groundwater investigations indicate that groundwater impacts (arsenic) are likely the result of natural reducing conditions, are not migrating beyond the property boundary, and not impacting surface water or sediments.

4. Cleanup.

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site. This determination is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

Between 2006 and 2007 approximately 3,795 tons of impacted soil was excavated and removed from the Site. During 2015 an additional 1,095 tons of impacted soil was removed from a previously inaccessible area of the Site. Based on the results of conformational sampling, impacted soil at the Site has been remediated based on the selected MTCA cleanup levels.

Grab groundwater samples collected between 2004 and 2005 indicated the presence of TPH-oil (B-4 920 ug/l), arsenic (L-FA-1 54 ug/l), and zinc (L-FA-1 158 ug/l) at concentrations greater than the MTCA Method A cleanup levels. Groundwater samples collected from five groundwater monitoring wells (P-26, P-27, and HW-MW1 through HW-MW3) indicate that groundwater is below the MTCA Method A cleanup levels for four consecutive quarters for all analytes sampled, with exception of arsenic in monitoring wells P-26, HW-MW1, and HW-MW2. Based on soil removal activities and Site groundwater data, it appears that arsenic is present in Site groundwater as the result of natural reducing conditions and not as the result of a Site release.

Comparisons with the selected cleanup levels indicate that soil and groundwater at the Site meets the MTCA cleanup levels with the exception of arsenic in monitoring wells P-26, HW-MW1, and HW-MW2.

Because residual groundwater impacts above the MTCA Method A cleanup levels are present on-Site for arsenic in monitoring wells P-26, HW-MW1, and HW-MW2, an environmental covenant for this Site restricting land use has been recorded with Snohomish County. Additional information regarding the covenant is provided below.

Post-Cleanup Controls and Monitoring

Post-cleanup controls and monitoring are remedial actions performed after the cleanup to maintain compliance with cleanup standards. This opinion is dependent on the continued performance and effectiveness of the following:

1. **Compliance with institutional controls.**

   Institutional controls prohibit or limit activities that may interfere with the integrity of engineered controls or result in exposure to hazardous substances. The following institutional control is necessary at the Site:

   - Restriction on land use due to residual groundwater impacts at the Site.
   - Containment of impacted groundwater.
   - Monitoring of groundwater.

   To implement that control, an Environmental Covenant has been recorded on the following parcel of real property in Snohomish County:

   - 29051800401100

   Ecology approved the recorded Covenant. A copy of the Covenant is included in **Enclosure B**.

2. **Performance of confirmational monitoring.**

   Confirmational monitoring is necessary at the Site to confirm the long-term effectiveness of the cleanup. The monitoring data will be used by Ecology during periodic reviews of post-cleanup conditions. Ecology has approved the monitoring plan you submitted that requires Quarterly monitoring for the first year and annual monitoring for the subsequent 4 years. A copy of the plan is included in **Enclosure C**.

Periodic Review of Post-Cleanup Conditions

Ecology will conduct periodic reviews of post-cleanup conditions at the Site to ensure that they remain protective of human health and the environment. If Ecology determines, based on a periodic review, that further remedial action is necessary at the Site, then Ecology will withdraw this opinion.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#NW2842).

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (360)407-6913 or e-mail at nack461@ecy.wa.gov.

Sincerely,

Sandra L Caldwell
HQ Toxics Cleanup Program

NMA:JLH

Enclosures (3): A – Description and Diagrams of the Site
B – Environmental Covenants for Institutional Controls
C – Conformational Monitoring Plan

cc: Erik Gerking, Port of Everett
Kathryn Hartley, Landau Associates, Inc.
Lawrence Beard, Landau Associates, Inc.
Dolores Mitchell, Ecology - VCP Financial Manager (without enclosures)
Andy Kallus, Ecology – Port Gardner Baywide Coordinator (pdf only)

Enclosure A

Description and Diagrams of the Site

Site Description

Introduction

Site Definition
The Site is located at 1332 West Marine View Drive, Everett, WA 98201. Contamination at the Site consists of TPH-gas, TPH-diesel, TPH-oil, cPAHs, arsenic, and zinc to soil and/or groundwater.

Area Description
The property consists of an open gravel lot and is currently owned by the Port of Everett (Port). The eastern two-thirds of the property [former American Boiler Works (ABW) leasehold] are mostly paved with some areas of gravel. The western one-third of the property (eastern portion of former Bayside Marine leasehold) is covered with gravel and was formely used for boat and mast storage. The former boat wash (removed in 2015) was located to the south of the boat and mast storage area.

Property History
There have been a variety of leaseholds by the Port to various tenants around the North Marina Area. The tenants utilized the leaseholds for a variety of business ventures, primarily related to marine repair and other marine support services. Former leaseholds within the Site include ABW and Bayside Marine.

The ABW Plant I leasehold was located at the southwest corner of the intersection of West Marine View Drive and 13th Street. Based on review of aerial photographs, the eastern portion of the manufacturing building was constructed between 1965 and 1969. The western portion of the manufacturing building was constructed between 1974 and 1976. The facility was historically used for metal manufacturing and machining operations. Milling machines that used cutting oil were commonly used within the building. A smaller office building was located near the southeast corner of the leasehold and appears to have been present since approximately 1953. No known underground storage tanks (USTs) were documented in association with the ABW facility. The manufacturing building was vacated and demolished in 2005, leaving the footings and original concrete pad in place and the office building was demolished in 2009.

The Bayside Marine former leasehold was located west of the ABW Plant I leasehold. Bayside Marine leased the property from 1992 to 2007. The leasehold was previously leased by others for marine-related business ventures similar to Bayside Marine. The leasehold included a gravel boatyard, a dry stack building that was used for covered storage of boats, and a combination maintenance shop and office building. The dry stack building was constructed between 1961 and 1965 and the office/shop building was built between 1970 and 1971; both were demolished in early 2008. The buildings were located on the western portion of the leasehold, which was included in the Phase I VCP Site and is not part of the ABW/Bayside Marine Site. Two former gasoline USTs (one 500-gallon and one 2,000-gallon) were located immediately south of the dry stack building on the Bayside Marine boatyard property and removed in 1991. Following the

UST removal, eight soil samples were collected and analyzed for TPH and BTEX. TPH and xylenes were detected above the cleanup levels from one sample (T-4) and free product was observed on groundwater within the excavation. The area was over-excavated and groundwater pumped out of the excavation. Confirmation soil and groundwater analysis came back below cleanup levels. The amount of soil removed was not discussed. All removed soil was placed in a berm yard and aerated over 30 days, and then placed in the north section of the Port property.

Contaminate Sources and History of Release
A specific release or releases have not been identified or reported at the Site. It is inferred based upon the contaminate concentrations, distribution, and visual observations, the source may have been the result of overfills, spills, and leaks from the former ABW cutting activities and boat maintenance activities.

Physiographic Setting
The ground surface of the entire North Marina area is generally flat ranging from about 13 ft to 18 ft above mean lower low water (MLLW). Site geologic conditions encountered within the depth range of environmental explorations consisted primarily of a pavement section or a granular fill trafficking layer overlying hydraulic fill. Hydraulic fill is typically a loose to medium dense, poorly graded fine to medium sand with silt, or silty fine to medium sand. Native marine sediment consisting of soft, loose silt to silty sand directly underlies the hydraulic fill. Across the North Marina Site, the hydraulic fill thickens from east to west, and is about 15 ft thick near West Marine View Drive and about 70 ft thick at the west of the North Marina Site adjacent to the Snohomish River. Glacial soil, consisting of dense soil of variable composition, underlies the marine sediment and slopes steeply downward from east to west, resulting in a thickening layer of marine sediment to the west.

Surface/Storm Water
The majority of the property is covered by gravel and concrete pads. Two storm water catch basins drain a majority of the storm water from the former ABW leasehold area. Where the storm water does not drain to the catch basins, it is infiltrated into the Site through permeable surfaces.

Ecological Setting
The area surrounding the property is primarily commercial development. Port Gardner Bay is located approximately 100 feet southwest.

Geology
The uppermost hydrostratigraphic unit at the North Marina Site consists of the fill unit that overlies the finer-grained marine sediment unit. The local Site geology is defined by the soil borings that have been advanced at the Site. The ground surface is generally overlain by gravel or concrete. Fill material immediately underlying the asphalt is typically comprised of fine to fine medium sand with silt to trace silt, and silty fine sand to fine sandy silt with areas of wood, concrete, and metal debris to approximately 15 feet below ground surface (bgs). Marine sediment deposits underlying the fill consist of fine sand with silt to silty fine sand, and fine sandy silt to clayey silt. This layer grades downward into a fine to medium sand with silt to trace

silt and clayey silt. The sand/silt layer corresponds with glacial drift deposits that are prevalent throughout the region.

Groundwater
The marine sediment unit forms the uppermost aquitard throughout the Site. In the North Marina Area, the depth to groundwater ranges from about 3.0 to 7.5 ft bgs, depending on the season and proximity to the shoreline. The depth to water is generally deep toward the center of the North Marina Area and shallower in the vicinity of the shoreline, which is consistent with groundwater flow toward marine surface water. Depth to water was measured in two monitoring wells at the ABW/Bayside Marine Site and ranged from about 4.0 to 5.5 ft bgs.

Surface Water
Port Gardner Bay is the most proximal surface water feature to the Site, located immediately to the southwest of the Site.

Water Use
The City of Everett requires that all residences and businesses within the city limits connect to city water, which comes from Spada Lake Reservoir, located about 30 miles east of Everett at the headwaters of the Sultan River.

Release and Extent of Contamination – Soil
Soil contamination includes TPH-gas, TPH-diesel, TPH-oil, arsenic, lead, and cPAHs.

Release and Extent of Contamination – Groundwater
Groundwater contamination includes TPH-oil, arsenic, and zinc.

Interim Actions
During 2006 and 2007, a total of 2,597 tons of contaminated soil was excavated and disposed of from Cleanup Action Area B-1. Cleanup Action Area B-1 consisted of cPAHs and arsenic contaminated soil. Sidewall samples, B1-S6 and B1-S7, located on the south side of Area B-1 exceeded the cleanup level for arsenic (34 mg/kg and 28 mg/kg, respectively). No additional excavation occurred here because the boat wash facility was obstructing further excavation. The remaining arsenic-impacted soil was excavated and removed during 2015 as part of Action Area B-1b after the boat wash was decommissioned.

During 2007, a total of 449 tons of contaminated soil were excavated and disposed of from Cleanup Action Area B-1a. Cleanup Action Area B-1a consisted of a localized area of petroleum hydrocarbon-impacted soil in the southwestern portion of Cleanup Action Area B-1.

During 2006, a total of 455 tons of contaminated soil were excavated and disposed of from Cleanup Action Area L-1. Area L-1 consisted of shallow arsenic soil contamination encountered during soil characterization. The approximate upper 1.5 ft of soil was excavated across the affected area. Sidewall samples, L1-S1 and L1-S4, and base sample L1-B4 exceeded the cleanup level for arsenic (23 mg/kg, 24 mg/kg, and 30 mg/kg, respectively).

The area around bottom sample L1-B4 and sidewall sample L1-S1 were over-excavated, and confirmation samples L1-B4a and L1-S1a were collected and did not exceed the soil cleanup level. The area around sidewall sample L1-S4 was over-excavated, and confirmation samples L1-S4a and L1-S5 were collected. Confirmation samples L1-S4a and L1-S5 exceed the soil cleanup level. The excavation was expanded to the northwest of compliance sample L1-S6 and west to the concrete footing of the former ABW building. Detected concentrations of arsenic in compliance sample L1-S6 and bottom sample L1-B5 did not exceed the soil cleanup level. During 2006, a total of 30 tons of contaminated soil were excavated and disposed of from Cleanup Action Area L-2. Area L-2 consisted of shallow arsenic soil contamination encountered during soil characterization. The approximate upper 1 ft of soil was excavated across the affected area. Sidewall sample L2-S1 exceeded the soil cleanup level for arsenic. The excavation was expanded to the east of Area L-2 and sidewall sample L2-S2 was collected. This sample also exceeded the soil cleanup level for arsenic. The excavation was expanded east to the location of characterization sample L-GC-4.1E. Compliance monitoring samples were not collected from the south sidewall of the L-2 excavation because soil was excavated to the concrete footing of the former ABW building. Compliance monitoring samples were also not collected from the west sidewall of the L-2 excavation because it was continuous with the L-3 excavation.

During 2006, a total of 60 tons of contaminated soil were excavated and disposed of from Cleanup Action Area L-3. Area L-3 consisted of shallow arsenic soil contamination encountered during soil characterization. The approximate upper 2.5 ft of soil was excavated across the affected area.

During 2006, a total of 234 tons of contaminated soil were excavated and disposed of from Cleanup Action ABW-P1. Area ABW-P1 consisted of TPH-impacted soil identified following demolition of the ABW building. The depth of the excavation ranged from 3 to 5 ft.

During 2015, a total of 1,095 tons of contaminated soil were excavated and disposed of from Cleanup Action Area B-1b. Area B-1b consisted of shallow arsenic soil contamination encountered during soil characterization and residual contamination from the south side of Area B-1. Soil excavation activities were completed concurrent with removal of the boat wash facility. The depth of the excavation was approximately 3 ft. The western half of the north sidewall was extended approximately 4 ft north of the planned excavation boundary and the southern end of the east sidewall was extended approximately 1 ft east of the planned boundary due to the presence of apparent sandblast grit.

A total of 10 sidewall (B1b-S1 through B1b-S10) and 15 bottom compliance monitoring soil samples (B-1b-B1 through B1b-B15) were collected from the Cleanup Action Area B-1b excavation and tested for arsenic. Sandblast grit was encountered along the north and east sidewalls of the excavation. Compliance monitoring samples from the areas where the sandblast grit was encountered and removed (B1b-S4, -S7, and –S8) were also analyzed for antimony and lead. Arsenic was detected in one sidewall sample (B1b-S5) at a concentration greater the cleanup level. An additional 1 ft of soil was removed from the sidewall at this location and an

additional confirmation sample was collected (B1b-S5a). Arsenic, antimony, and lead were not detected in the final confirmation samples at concentrations exceeding soil cleanup levels.

Compliance with MTCA Cleanup Levels

Between 2006 and 2015, soil contaminated with TPH-gas, TPH-diesel, TPH-oil, arsenic, lead, and cPAHs was excavated and removed from the Site. Soil samples collected from the excavation extents confirmed that concentrations exceeding the cleanup levels were remediated.

With the exception of TPH-oil, zinc, and arsenic contaminants of concern have not been identified in groundwater at concentrations greater than the cleanup levels. TPH-oil and zinc were each detected once above the cleanup levels from temporary wells B-4 and L-FA-2, respectively. TPH-oil and zinc were not detected above the cleanup levels in follow-up sampling from Site monitoring wells. Arsenic is the only constituent that has been detected at concentrations greater than the cleanup level during multiple rounds of sampling. Based on soil removal activities and groundwater monitoring, Site data indicate that arsenic is present in groundwater as the result of natural reducing conditions and not as the result of a Site release. Groundwater data indicate that conditions are naturally reduced at the Site.

Summary of MTCA Cleanup Levels for the Site

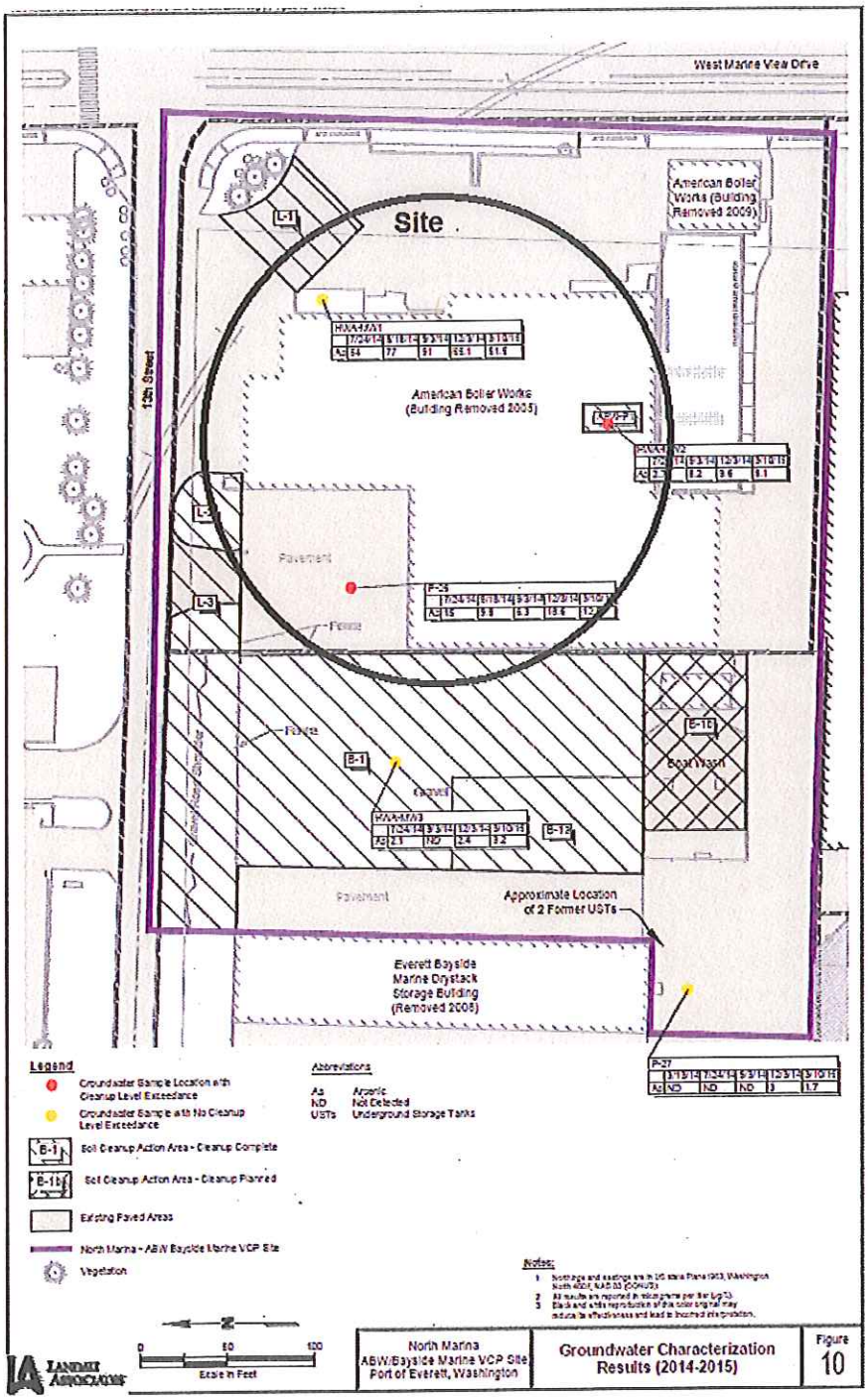
Soil (mg/kg)

Analyte	MTCA Method B Direct Contact (a)	MTCA Protection of Groundwater as Marine Surface Water (b)	Background (c)	Practical Quantitation Limit (d)	Preliminary Cleanup Level (e)	
TOTAL PETROLEUM HYDROCARBONS (mg/kg)						
Gasoline range	30/100 (f,g)	--	--	5.00	30/100	(g)
Diesel range	2,000 (f)	--	--	10.00	2,000	
Oil range	2,000 (f)	--	--	10.00	2,000	
METALS (mg/kg)						
Arsenic	20 (h)	20 (h)	7	5.00	20	
Cadmium	80 (i)	1.2	1	0.20	80	(j)
Chromium III	120,000 (i)	1,000,000 (k)	48	0.50	120,000	(j)
Copper	3,200 (i)	1.4	36	0.20	3,200	(j)
Lead	250 (l)	1,600	24	2.00	250	(l)
Mercury	24 (i)	0.1	0.07	0.05	24	(j)
Zinc	24,000 (i)	100	85	0.60	24,000	(j)
cPAHs (mg/kg)						
Benzo(a)anthracene	TEQ (m)	0.72	--	0.02		(m)
Chrysene	TEQ (m)	0.80	--	0.02		(m)
Benzo(b)fluoranthene	TEQ (m)	2.5	--	0.02		(m)
Benzo(k)fluoranthene	TEQ (m)	2.5	--	0.02		(m)
Benzo(a)pyrene	0.14 (n)	1.9	--	0.02	0.14	
Indeno(1,2,3-cd)pyrene	TEQ (m)	6.9	--	0.02		(m)
Dibenz(a,h)anthracene	TEQ (m)	3.6	--	0.02		(m)
cPAH TEQ	0.14	--		--	0.14	
VOCs (mg/kg)						
Xylenes (total)	16,000 (i)	15,000		1.0	15,000	
Carbon Disulfide	8,000 (i)	--		1.0	8,000	
Methyl ethyl ketone	48,000 (i)	--		1.0	48,000	
TRIBUTYL TIN (mg/kg)						
Tributyl Tin Ion	24 0.00	7.4	--	0.04	7.4	

Groundwater (ug/l)

Analyte	Federal Standards (a)			State Standards			Practical Quantitation Limit (d)	Cleanup Level (e)	
	Acute	Chronic	Human Health (Consumption of organisms only)	Acute (b)	Chronic (b)	MTCA Method B Surface Water Equation for Human Health (c)			
TOTAL PETROLEUM HYDROCARBONS (mg/L)									
Gasoline-range	--	--	--	--	--	--	0.1	0.8	(f)
Diesel-range	--	--	--	--	--	--	0.1	0.5	(f)
Oil-range	--	--	--	--	--	--	0.25	0.5	(f)
METALS (µg/L)									
Arsenic	69	36	0.14	69 (g)	36 (g)	5 (i)	0.2	5	(f)
Chromium (III)	--	--	--	--	-- (g)	240,000 (i)	1	240,000	
Copper	2.4	2.4	--	4.8 (g)	3.1 (g)	2,900 (h)	1	2.4	
Zinc	90	81	26,000	90 (g)	81 (g)	17,000 (h)	1	81	

Site Diagrams



Enclosure B

Environmental Covenants for Institutional Controls

Enclosure C

Conformational Monitoring Plan

SITE-SPECIFIC COVENANT PROVISIONS

a. Groundwater Use.

The groundwater beneath **the Property** remains contaminated and shall not be extracted for any purpose other than temporary construction dewatering, investigation, monitoring or remediation. Drilling of a well for any water supply purpose is strictly prohibited. Groundwater extracted **from the Property** for any purpose shall be considered potentially contaminated and any discharge of this water shall be done in accordance with state and federal law.

b. Monitoring.

Several **groundwater monitoring wells** are located on the Property to monitor the performance of the remedial action. The Grantor shall maintain clear access to these devices and protect them from damage. The Grantor shall report to Ecology within forty-eight (48) hours of the discovery of any damage to any monitoring device. Unless Ecology approves of an alternative plan in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

The property is planned for redevelopment. Once a final redevelopment plan is in place, the number and locations of monitoring wells may change, subject to approval from Ecology, to facilitate redevelopment and ongoing operation at the Property.
Compliance groundwater monitoring will be conducted quarterly for the first year followed by annual monitoring for four years at monitoring wells HWA-MW1, HWA-MW2, P-26, and P-27. Samples will be analyzed for dissolved arsenic, nitrate, sulfate, and methane. A technical memorandum will be prepared and submitted to Ecology following each quarterly monitoring event for the first year, and annual monitoring reports will be prepared and submitted for the following 4 years.

Following five years of monitoring, groundwater conditions will be evaluated to determine if additional monitoring is warranted. The Grantor may petition Ecology for reduced frequency or cessation of monitoring if groundwater concentrations are below cleanup levels, or are consistent with current conditions; i.e. concentrations of arsenic in groundwater are above the MTCA Method A cleanup level (5 µg/L) only where reducing conditions are occurring, and groundwater meets the arsenic MTCA Method A cleanup level at the conditional point of compliance, downgradient monitoring well P-27. If groundwater concentrations exceed the arsenic MTCA Method A cleanup level at the conditional point of compliance, or if groundwater conditions change (indication that reducing conditions are no longer occurring, significant changes to groundwater concentrations observed, etc.) groundwater monitoring frequency will be re-evaluated and additional cleanup action may be required.