SITE HAZARD ASSESSMENT
WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Ace Paving Bremerton
4795 Wilkinson Rd
Bremerton, WA 98312

Section/Township/Range: 3/23N/1W
Latitude: 47.52179
Longitude: -122.78244
Ecology Facility Site ID No: 64624549
Cleanup Site ID: 10018
Site scored/ranked for the August 2015 update

May 7, 2015

SITE DESCRIPTION (management areas, substances of concern, and quantities):

The Ace Paving Bremerton site is a gravel mine operation located in unincorporated Kitsap County and situated along the Union River, which drains to Lower Hood Canal. The site is approximately one mile south of the Casad Dam on the Union River Reservoir, which is the primary drinking water source for the City of Bremerton and the surrounding area. "Bremerton supplies 3.3 billion gallons of water each year to 55,000 people, representing 36% of all the water supplied in Kitsap County."[9] Land use in the area is predominately residential with the exception of this facility. The site topography is generally flat with some wooded and wetland areas. The Union River runs along the western edge of the property and includes an unnamed pond along the western border of the property. See **Figure 1** for a vicinity map.

The 39.56 acre site is currently zoned Rural Residential and the property class is designated as Mining and Related Services. The site includes four buildings and two fuel islands. Traffic areas of the site have paved or gravel surfaces. The property is served by a 2-party well that is shared with neighboring parcel # 342401-4-002-1009, a private residence. The property is also served by an onsite sewage system. There is a catch basin at the entrance of the property, in the paved parking area for the office.

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BACKGROUND AND HISTORY OF CONTAMINATION

March 1993 Site Assessment: In 1993, Northwest Testing Company conducted a site assessment after the removal of a 2,000 gallon diesel tank and a 4,000 gallon regular gas tank from the site on June 25, 1992. The preliminary report states "The tank locations were excavated with a backhoe, and soil samples were taken for petroleum hydrocarbon analysis. No water was noted in the excavations. Subsequent test results indicate contamination in the diesel tank location only." And further stated that "All sampling was done in accordance with the Field Sampling Procedures found in the February 1991 issue of the Department of Ecology Guidance for Site Checks and Site Assessments of Underground Storage Tanks." There are currently two fuel tank islands with cover within approximately 100 feet of the location of the removed diesel tank. Laboratory analysis detected an exceedance of the Model Toxics Control Act (MTCA) Method A Cleanup levels for TPH-Dx in sample 7 from the south side of the diesel tank at a depth of 6.5 feet below ground surface (bgs). The analytical result for that sample was 5040ppm. See **Figure 2** for a site map showing sampling locations.

No cleanup activities have been reported to Ecology since the preliminary report and no cleanup activities have been reported to Kitsap Public Health District (KPHD) during any contact regarding this Site Hazard Assessment (SHA).

SHA Site Visit

In preparation for conducting a SHA for the Ace Paving Bremerton site, a site visit was conducted by Kitsap Public Health District staff on January 8, 2015. The site visit was conducted to observe current conditions at the property and give KPHD staff a familiarity with the site and the surrounding area, including nearby drinking water well locations and surface water flow directions. The area of concern on the property is covered with asphalt, which limits the surface infiltration of water into soil in the area where the diesel UST was previously located.

PATHWAY SCORING

Groundwater Pathway

The groundwater contaminant route was scored as a spill or discharge from contaminated soils. Vertical depth to groundwater is approximately 14 feet below ground surface (bgs). The pathway was scored as contamination confirmed by analytical evidence.

SPECIAL CONSIDERATIONS (include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

1. Due to the analytical documentation of contamination on site being primarily subsurface, the surface water and air routes are not applicable for WARM scoring for this site. Thus, only the groundwater route will be scored.

2. The Ace Paving Bremerton site is approximately ¾ mi. from the Mason County border, which does not have easily accessible water system data, though the site is approximately one mile

from the Union River Reservoir, which is the municipal water source for the City of Bremerton and surrounding area.

ROUTE SCORES:

Surface Water/Human Health:	**NS**	Surface Water/Environmental:	**NS**
Air/Human Health:	**NS**	Air/Environmental:	**NS**
Groundwater/Human Health:	**22.9**		

OVERALL RANK: 5

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE –** *Not Scored*
   a. List those substances to be considered for scoring: Source:

   b. Explain basis for choice of substance(s) to be used in scoring.

   c. List those management units to be considered for scoring: Source:

   d. Explain basis for choice of unit to be used in scoring:

2. **AIR ROUTE –** *Not Scored*
   a. List those substances to be considered for scoring: Source:

   b. Explain basis for choice of substance(s) to be used in scoring:

   c. List those management units to be considered for scoring: Source:

   d. Explain basis for choice of unit to be used in scoring:

3. **GROUNDWATER ROUTE**
   a. List those substances to be considered for scoring: Source: 1

      TPH-Dx

   b. Explain basis for choice of substance(s) to be used in scoring:

      The substance was detected in an on-site subsurface soil sample associated with the site in a concentration exceeding the MTCA cleanup level.

   c. List those management units to be considered for scoring: Source: 1,5,6

      Subsurface soils

   d. Explain basis for choice of unit to be used in scoring:

      The contaminating substance was detected in an on-site subsurface soil sample in a concentration exceeding the MTCA cleanup level.

WORKSHEET 6
Groundwater Route

1.0 SUBSTANCE CHARACTERISTICS

1.2 Human Toxicity											
	Substance	Drinking Water Standard (µg/L)	Value	Acute Toxicity (mg/ kg-bw)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	TPH-Diesel	160	4	490	5	.004	3	-	-	ND

* *Potency Factor*

Source: 1,6
Highest Value: 5
(Max = 10)
Plus 2 Bonus Points? 0
Final Toxicity Value: 5
(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)		
Cations/Anions	OR	Solubility (mg/L)
1		3.0×10^{1} is 1

Source: 6,7
Value: 1
(Max = 3)

1.3 Substance Quantity:	
Explain basis: Unknown, use default = 1	Source: 1,6 **Value: 1** (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Contaminated area capped, scored as a landfill with no liner or leachate collection system. No free liquids	6,7	**6** (Max = 10)
2.2	**Net precipitation:** 29.7"- 5.1"= 24.1"	7	**5** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Former gravel pit, sand and gravel	1,3	**4** (Max = 4)
2.4	**Vertical depth to groundwater:** 14' based on neighboring well log	1	**8** (Max = 8)

3.0 TARGETS

		Source	Value
3.1	**Groundwater usage:** Public with alternates available	8	**4** (Max = 10)
3.2	**Distance to nearest drinking water well:** 560'	8	**5** (Max = 5)
3.3	**Population served within 2 miles:** pop. greater than 10,000	8	**100**

			(Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** None	8	**0** (Max = 50)

4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: No confirmed release	1,6	**0** (Max = 5)

SOURCES

1. Preliminary Site Assessment Report and Sampling Data, WA, Northwest Testing Company, March 17, 1993.
2. Ecology NWRO, Underground Storage Tank Notice of File Review, D Wells, October 29, 2001.
3. Soil Survey of Kitsap County Area, WA, United States Department of Agriculture, Soil Conservation Service, September 1980.
4. Kitsap Public Health District site visit, Daydra Denson and Richard Bazzell, January 8, 2015.
5. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
6. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
7. Washington Climate – Net Rainfall Table
8. Kitsap Public Health District, Drinking Water Database, January 2014.
9. City of Bremerton Website, www.cityofbremerton.com, accessed January 14, 2015.

Figure 1. Ace Paving Bremerton Vicinity Map

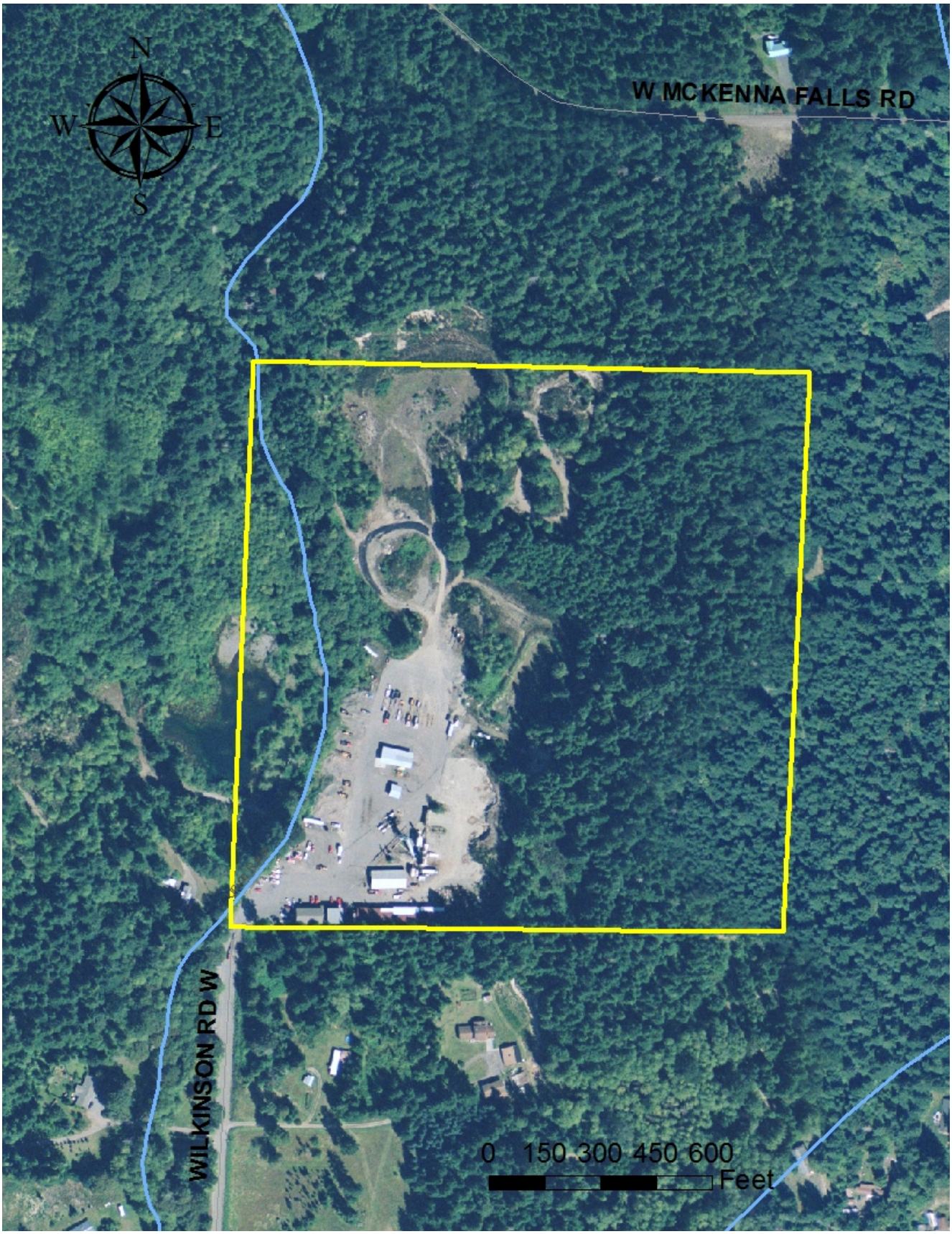

Figure 2. Site Plan Map with approximate 2000 gallon diesel UST and sampling locations