WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:
Name: Chief Joseph Dam
Address: Pearl Hill Road
City: Bridgeport County: Douglas State: WA Zip: 98813
Section/Township/Range: T29N R25E S24
Latitude: 47.99503° Longitude: 119.64839°
Facility Site ID #: 22348824

Site scored/ranked for the February, 2011 update

Site Description and Historical Background

The Chief Joseph Dam is located on the Columbia River slightly east of the City of Bridgeport, Washington. In 1991 two underground storage tanks (USTs) were removed which were located on the north side of a warehouse on the dam property. Soil beneath one of the tanks appeared to be visibly contaminated at a depth of approximately twelve feet below ground surface (bgs). The tanks were approximately 200 feet south of the Columbia River. The closest public water supply is near Bridgeport, approximately 0.8 miles west.

Soil Sampling and Analytical Results

Mountain Laboratories, Inc. of Missoula, Montana was commissioned to perform an environmental assessment**.** Soil samples were obtained from the bottom of each tank excavation as well as both ends of each excavation. The samples were sent to the U. S. Army Corps of Engineers North Pacific Division Materials Laboratory in Troutdale, Oregon where they were analyzed for Total Petroleum Hydrocarbons-Diesel (TPH-D). Levels of TPH-D up to 15,500 mg/kg were found in the soil at twelve feet bgs beneath the pump island adjacent to the gasoline UST. These results exceeded the Model Toxics Control Act (MTCA) Method A cleanup level of 2000 mg/kg TPH-D for Unrestricted Land Use.

The excavated soil was placed on plastic sheeting pending results of chemical analysis. Following testing it was to be disposed of at a sanitary landfill. No record exists confirming that the disposal took place.

Special Considerations:

Because the remaining contamination is entirely subsurface and the property is covered with pavement and buildings, the surface water and air routes are not applicable for WARM scoring. Thus, only the groundwater route will be scored.

ROUTE SCORES:

Surface Water/Human Health:	**NS**	Surface Water/Environmental.:	**NS**
Air/Human Health:	**NS**	Air/Environmental:	**NS**
Groundwater/Human Health:	**13.4**		

Overall Rank: 5

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE –** *Not Scored*

2. **AIR ROUTE –** *Not Scored*

3. **GROUNDWATER ROUTE**

   a. List those substances to be considered for scoring: Source: 1

      Diesel

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

      The MCS, Inc. report contained results showing that diesel was present in the soil at concentrations that exceeded MTCA Level A cleanup levels.

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

      Contaminated soil

   d. Explain basis for choice of unit to be used in scoring: Source: 1

      Diesel contamination was confirmed by laboratory testing.

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	0.004	3	ND	ND	
2										
3										
4										
5										
6										

** Potency Factor*

Source: 1,4,5

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=	1=	30 (=1)
2=	2=	
3=	3=	
4=	4=	

Source: 1,4,5

Value: 1
(Max = 3)

1.3 Substance Quantity:

Explain basis: **unknown**	Source: 5 **Value: 1** (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Contaminated area of the site is capped, score as landfill Low permeability cover = 1, no liner = 3 , no leachate collection = 2	1,5,9	**6** (Max = 10)
2.2	**Net precipitation:** 7.1 minus 2.3 = 4.8 inches	6	**1** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** sandy silt	1,5	**3** (Max = 4)
2.4	**Vertical depth to groundwater:** 50 to 100 feet	1,5	**4** (Max = 8)

3.0 TARGETS

		Source	Value
3.1	**Public supply, but alternate sources available**	5,7	**4** (Max = 10)
3.2	**Distance to nearest drinking water well:** ~1700 **feet**	5,8	**3** (Max = 5)
3.3	**Population served within 2 miles: √ pop. = √2077 = 45.6**	5,7	**46** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles: (0.75)*√1231 acres = 26.3**	5,7	**26** (Max = 50)

4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: Release not confirmed.	1,5	**0** (Max = 5)

SOURCES USED IN SCORING

1. MCS Mountain Laboratories Inc. report dated March 21, 2001.
2. Soil logs on file at Chelan-Douglas Health District.
3. Washington Department of Ecology well log website (http://apps.ecy.wa.gov/wellog)
5. Washington Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
6. Washington Department of Ecology, WARM Scoring Manual, April 1992.
7. Washington Climate – Net Rainfall (Table 27)
8. Water Rights Application Tracking System (WRATS) printout for two-mile radius of site.
9. Washington State Department of Health, SENTRY Database printout for public water supplies
10. Site visit on March 9, 2010

Excavation site north side of warehouse March 9, 2010