

WORKSHEET 1
Summary Score Sheet

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DEC 16 2009
DEPARTMENT OF ECOLOGY - CENTRAL REGIONAL OFFICE

SITE INFORMATION:

Name: Wenatchee Cemetery
Address: 1804 N. Western Avenue
City: Wenatchee County: Chelan State: WA Zip: 98801
Section 32 / Township 23N / Range: 20E
Latitude: 47 deg 26 min 59.77 sec Longitude: 120 deg 20 min 49.44 sec

F.S. ID #: 39838199

Site scored/ranked for the February, 2010 update

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

The Wenatchee Cemetery site is located in a residential area in the north end of Wenatchee. It is located about one mile west-southwest of the confluence of the Wenatchee and Columbia Rivers at an elevation of approximately 810 feet. A few wells are located within two miles of the site, but public drinking water wells are located more than five miles to the north near Rocky Reach dam.

In June, 1999 Hammond, Collier, Wade-Livingston Associates (HCW-L) removed two underground storage tanks (UST's) from the site and performed an environmental assessment of the soils surrounding the tanks. The UST's consisted of one 300-gallon diesel tank and one 300-gallon gasoline tank. A visual inspection of the tanks found them to be in good condition with no observable holes.

HCW-L collected eight soil samples during the initial tank excavation from beneath the UST's and from the stockpiled soil. The samples were sent to North Creek Analytical in Bothell, WA for analysis of Total Petroleum Hydrocarbons-Diesel (TPH-D), Total Petroleum Hydrocarbons-Gasoline (TPH-G), benzene, toluene, ethylbenzene, xylene (BTEX) and lead (Pb).

None of these sample results exceeded the MTCA (Model Toxics Control Act) Method A cleanup levels for TPH-G, BTEX or Pb. However, two of the samples taken beneath the diesel UST had concentrations of 5630 and 6920 mg/kg TPH-D, which exceeds the Method A cleanup level of 2000 mg/kg. The contaminated soil was left in place. There is no record of remediation or removal of the soil.

Special Considerations:

Because the remaining contamination is entirely subsurface, 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:	<u>NS</u>	Surface Water/Environmental.:	<u>NS</u>
Air/Human Health:	<u>NS</u>	Air/Environmental:	<u>NS</u>
Groundwater/Human Health:	<u>8.2</u>		

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 HCW-L report contained results showing that diesel was present Source: 1
in the soil at concentrations that exceeded MTCA Method 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	Default = 1

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	6 (Max = 10)
2.2	Net precipitation: 5.7 minus 3.0 = 2.7 inches	6	1 (Max = 5)
2.3	Subsurface hydraulic conductivity: silty clay	2,5	2 (Max = 4)
2.4	Vertical depth to groundwater: 50 to 100 feet	3,5	4 (Max = 8)

3.0 TARGETS

		Source	Value
3.1	Groundwater usage: public supply; no alternate unthreatened sources available with minimal hookups	5,7	9 (Max = 10)
3.2	Distance to nearest drinking water well: <u>~5000</u> feet	5,8	2 (Max = 5)
3.3	Population served within 2 miles: $\sqrt{\text{pop.}} = \sqrt{39} = 6.2$	5,7	6 (Max = 100)
3.4	Area irrigated by (groundwater) wells within 2 miles: $(0.75) * \sqrt{340}$ acres = <u>13.8</u>	5,7	14 (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. Hammond, Collier & Wade-Livingston report dated July, 1999..
2. Soil Survey of Chelan County, Washington (USDA).
3. Water well reports on file at Chelan-Douglas Health District
4. Washington Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
5. Washington Department of Ecology, WARM Scoring Manual, April 1992.
6. Washington Climate – Net Rainfall Table
7. Water Rights Application Tracking System (WRATS) printout for two-mile radius of site.
8. Washington Department of Ecology Well Log Image system
9. Site visit on September 8, 2009



Wenatchee Cemetery tank removal site September 8, 2009