

SITE HAZARD ASSESSMENT

WORKSHEET 1

Summary Score Sheet

SITE INFORMATION:

Name: Midway Metals

Address: 258 010 HWY 101

City: Port Angeles

County: Clallam

State: WA

Zip: 98362

Section/Township/Range: S18/ T30N/ R04W

Latitude: 48° 05' 23" N

Longitude: 123° 14' 27" W

TCP ID #: 1671323

Site scored/ranked for the August 20, 2008 update.

May 14, 2008

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

Midway Metals is a metal recycling operation located between Port Angeles and Sequim along Highway 101. Midway Metals has been used as a scrap metal recycler for over twenty years. The site is 2.67 acres and slopes downward to the north. The site is zoned Rural Low (R5) which is described as having a low density rural setting free from commercial, industrial, and moderate density residential developments. In a review of Ecology's well log database, there is a well on site. The well was drilled in 1988 to a depth of 40 feet. A notation on the well log states, "...the well is only used to rinse off log trucks."

On Tuesday, October 10, 2006, Clallam County Environmental Health conducted a site investigation and took three soil samples. With the exception of the driveway and dirt road through the property, the entire site has metal on the ground. There are lawnmowers, vehicles, appliances, metal siding, and other scrap. There are no legal structures on the site; there is a large wooden shed that is used as an office.

The site is sloped with three levels; three soil samples were taken. On the north along the roadside, lawnmowers, propane tanks, and tires are stored; one sample was taken near the lawnmowers. A second soil sample was taken in an area called "Tier 2 West". The third soil sample was taken near a structure called the battery shed in the inner circle 2 where auto batteries are stored. All three were analyzed for metals and total petroleum hydrocarbons. The lawnmower sample was also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). The BTEX were all non detect. The sample results are described in the table below with the exceedances of the Model Toxic Control Act (MTCA) Method A cleanup levels noted in bold text.

Table 1. SOIL SAMPLING RESULTS

Sample	Analyte Found	Sample Result (ppm)	Applicable Standard	(ppm)
Lawn Mower	Cadmium	4.1	MTCA A ULU*	2.0
	Lead	172	"	250
	TPH-Diesel	120	"	2,000
Teir 2 West	TPH-Heavy Oil	530	"	2,000
	Cadmium	3.5	"	2.0
	Lead	136	"	250
	TPH-Diesel	280	"	2,000
Batteries	TPH-Heavy Oil	1,300	"	2,000
	Cadmium	7.1	"	2.0
	Lead	3,000	"	250
	TPH-Diesel	1,800	"	2,000
	TPH-Heavy Oil	10,000	"	2,000

*MTCA A ULU refers to the Model Toxics Control Act Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Use

Sampling results at Midway Metals indicate that contaminant levels in soil exceed the MTCA Method A cleanup levels for cadmium, lead, and heavy oil. Based on the soil sampling results conducted during the initial investigation, the site will be scored and ranked using the Washington Ranking Method (WARM) as described in Ecology's Publication 90-14.

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):

No special considerations for the site.

ROUTE SCORES:

Surface Water/Human Health:	<u>30.9</u>	Surface Water/Environmental.:	<u>53.7</u>
Air/Human Health:	<u>9.9</u>	Air/Environmental:	<u>NS</u>
Groundwater/Human Health:	<u>44.1</u>		

OVERALL RANK: 1

WORKSHEET 2
Route Documentation

1. SURFACE WATER ROUTE

- a. List those substances to be considered for scoring: Source: 1
Cadmium, lead, TPH-diesel and TPH-heavy oil
- b. Explain basis for choice of substance(s) to be used in scoring.
Analytical results from soil sampling indicate the presence of these substances at concentrations which exceed Method A cleanup levels, or are significantly high.
- c. List those management units to be considered for scoring: Source 1
Surface and subsurface soils
- d. Explain basis for choice of unit to be used in scoring:
Spills/discharges caused soil contamination

2. AIR ROUTE

- a. List those substances to be considered for scoring: Source: 1
Cadmium, lead, TPH-diesel and TPH-heavy oil
- b. Explain basis for choice of substance(s) to be used in scoring:
Analytical results from soil sampling indicate the presence of these substances at concentrations which exceed Method A cleanup levels, or are significantly high.
- c. List those management units to be considered for scoring: Source: 1
Surface and subsurface soils
- d. Explain basis for choice of unit to be used in scoring:
Spills/discharges caused soil contamination

3. GROUNDWATER ROUTE

- a. List those substances to be considered for scoring: Source: 1
Cadmium, lead, TPH-diesel and TPH-heavy oil
- b. Explain basis for choice of substance(s) to be used in scoring:
Analytical results from soil sampling indicate the presence of these substances at concentrations which exceed Method A cleanup levels, or are significantly high.
- c. List those management units to be considered for scoring: Source: 1
Surface and subsurface soils
- d. Explain basis for choice of unit to be used in scoring:
Spills/discharges caused soil contamination

WORKSHEET 4
Surface Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 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	Cadmium	5	8	225 (rat)	5	0.0005	5	B1=8	ND	-
2	Lead	5	8	ND	-	<0.001 (NOAEL)	10	ND	ND	-
3	TPH-Diesel	160	4	490 (rat)	5	0.003	3	NED	ND	-
4	TPH-Heavy Oil	ND	-	ND	-	2.0	1	ND	ND	-

**Potency Factor*

Source: 1, 2, 3
Highest Value: 10
 (Max = 10)
Plus 2 Bonus Points? 2
Final Toxicity Value: 12
 (Max = 12)

1.2 Environmental Toxicity (X) Freshwater () Marine					
Substance	Acute Water Quality Criteria		Non-Human Mammalian Acute Toxicity		
	(µg/L)	Value	(mg/kg)	Value	
1	Cadmium	3.9	8		
2	Lead	82	6		
3	TPH-diesel	2,300	2		

Source: 1, 2, 3
Highest Value: 8
 (Max = 10)

1.3 Substance Quantity (aerial extent)	
Explain Basis: Unknown; use default value =1	Source: <u>1</u> Value: 1 (Max = 10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	Containment: Management unit scored as a spills/discharges/contaminated soil at the surface, with no maintained run-on/runoff controls. Explain basis: Contaminated soil with no run-on/run-off control	1	10 (Max = 10)
2.2	Surface Soil Permeability: gravelly sandy loam	1,10	1 (Max = 7)
2.3	Total Annual Precipitation: between 16-35"	4	2 (Max = 5)
2.4	Max 2yr/24hr Precipitation: 1.5-2.0"	4	2 (Max = 5)
2.5	Flood Plain: not in a flood plain	8	0 (Max = 2)
2.6	Terrain Slope: $(350' - 320') / 320' = 9.4\%$	1,8	5 (Max = 5)

3.0 TARGETS

		Source	Value
3.1	Distance to Surface Water: 750 feet	1, 8	10 (Max = 10)
3.2	Population Served within 2 miles (see WARM Scoring Manual Regarding Direction): $\sqrt{9} = 3$	6	3 (Max = 75)
3.3	Area Irrigated by surface water within 2 miles: $(0.75) * \sqrt{\# \text{ acres}} = 0.75 * \sqrt{875} = 22$	6	22 (Max = 30)
3.4	Distance to Nearest Fishery Resource: 1,000 feet, McDonald Creek	1, 8	12 (Max = 12)
3.5	Distance to, and Name(s) of, Nearest Sensitive Environment(s): 750 feet, wetland	1, 8	12 (Max = 12)

4.0 RELEASE

Explain Basis: Not documented	Source: <u>1, 3</u> Value: <u>0</u> (Max = 5)
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WORKSHEET 5

Air Route

1.0 SUBSTANCE CHARACTERISTICS

1.1. Introduction

1.2 Human Toxicity										
	Substance	Air Standard (µg/m ³)	Value	Acute Toxicity (mg/m ³)	Value	Chronic Toxicity (mg/kg/day)	Value	Carcinogenicity		Value
								WOE	PF*	
1	Cadmium	0.00056	10	25 (rat)	10	ND	--	B1	7	6
2	Lead	0.5	10	ND	--	0.001	10	B2	ND	-
3	TPH-diesel	166.5	4	ND	--	ND	--	Nd	ND	-

* Potency Factor

Source: 1, 2, 3

Highest Value: 10

(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 12

(Max = 12)

1.3 Mobility (Use numbers to refer to above listed substances)				
1.3.1 Gaseous Mobility		1.3.2 Particulate Mobility		
Vapor Pressure(s) (mmHg)		Soil Type	Erodibility	Climatic Factor
1	0.0E+0	Sandy loam	86	< 1
2	0.0E+0	Sandy loam	86	< 1
3	8.2E-02 = 3			

Source: 2

Value: 3

(Max = 4)

Source: 2

Value: 1

(Max = 4)

1.4 Highest Human Health Toxicity/ Mobility Matrix Value (from Table A-7)

Final Matrix Value: 6

(Max = 24)

1.5 Environmental Toxicity/Mobility					
Substance	Non-human Mammalian Inhalation Toxicity (mg/m ³)	Acute Value	Mobility (mmHg)	Value	Matrix Value
1	No Data				
2					

Highest Environmental Toxicity/Mobility Matrix Value (from Table A-7) = **Final Matrix Value: NS**
(Max = 24)

1.6 Substance Quantity (aerial extent)	
Explain Basis: Unknown; use default value = 1	Source: <u>1</u> Value: <u>1</u> (Max = 10)

2.0 MIGRATION POTENTIAL

	Source	Value
2.1 Containment: Uncontaminated soil cover <2 feet thick	1	5 (Max = 10)

3.0 TARGETS

	Source	Value
3.1 Nearest Population: <1000 feet to residences	8	10 (Max = 10)
3.2 Distance to [and name(s) of] nearest sensitive environment(s) [fisheries excluded]: NA since not scoring environmental route		NA (Max = 7)
3.3 Population served within 0.5 miles: $\sqrt{\text{pop.}} = \sqrt{1344} = 37$	9	37 (Max = 75)

4.0 RELEASE

Explain Basis for scoring a release to air: Not documented	Source: <u>1</u> Value: <u>0</u> (Max = 5)
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WORKSHEET 6
Groundwater Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 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 Cadmium	5	8	225 (rat)	5	0.0005	5	B1	ND	-	
2 Lead	5	8	ND	-	<0.001 (NOAEL)	10	ND	ND	-	
3 TPH-diesel	160	4	ND	-	0.003	3	ND	ND	-	
4 TPH-Heavy Oil	ND	1	ND	-	2.0	1	ND	ND	-	

* Potency Factor

Source: 1, 2, 3

Highest Value: 10

(Max = 10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 12

(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)	
Cations/Anions [Coefficient of Aqueous Migration (K)]	OR Solubility (mg/L)
1= $K > 1.0 = 3$	1=
2= $K \text{ is } 0.1 \text{ to } 1.0 = 2$	2=
3=	3 = 30 = 1
4=	4 = 6.6E-03 = 0

Source: 2,3

Value: 3

(Max = 3)

1.3 Substance Quantity (volume):	
Explain basis: Unknown quantity; use default = 1	Source: <u>1</u> Value: <u>1</u> (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	Containment (explain basis): soil contamination	1	10 (Max = 10)
2.2	Net precipitation: 18.1" – 6" = 12.1"	4	2 (Max = 5)
2.3	Subsurface hydraulic conductivity: the site consists of gravelly sandy loam	1, 10	3 (Max = 4)
2.4	Vertical depth to groundwater: water well report from the site indicates groundwater in the area is at a depth of 40 feet.	5	6 (Max = 8)

3.0 TARGETS

		Source	Value
3.1	Groundwater usage: Public supply, but alternate sources available	8	4 (Max = 10)
3.2	Distance to nearest drinking water well: <600 feet	5, 8	5 (Max = 5)
3.3	Population served within 2 miles: $\sqrt{\text{pop.}} = \sqrt{(1672)} = 40.9$	6	41 (Max = 100)
3.4	Area irrigated by (groundwater) wells within 2 miles: $(0.75) * \sqrt{\# \text{ acres}} = 0.75 * \sqrt{(316)} = 13.3$	6	13 (Max = 50)

4.0 RELEASE

		Source	Value
	Explain basis for scoring a release to groundwater: Not documented	1	0 (Max = 5)

SOURCES USED IN SCORING

1. Site visit and analytical results of soil sampling conducted on October 10, 2006 by Jennifer Garcelon and Janine Reed with Clallam County Environmental Health
2. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
3. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
4. Washington Climate – Net Rainfall Table
5. Washington State Department of Ecology, Water Well Reports
6. Washington State Department of Ecology, Water Rights Application System (WRATS) printouts
7. Washington State Department of Health, Office of Drinking Water Sentry website printout for public water supplies
8. Clallam County Department of Community Development Maps
9. U.S. Census Bureau, <http://factfinder.census.gov>, Census 2000 summary file accessed May 13, 2008
10. Soil Survey of Clallam County Area, Washington, U.S. Department of Agriculture, February 1987

