CSID 3111

WORKSHEET 1
SUMMARY SCORE SHEET

Site Name/Location (Street, City, County, Section/Township/Range, TCP ID Number):

Terrys Salvage
1124 N Pacific Avenue
Kelso, Cowlitz County, WA 98626
Longitude: 122° 54′ 36″
Latitude: 46° 9′ 10.4

Sec 31/T37N/R37E
Ecology Facility Site ID: ~~67329718~~
FSID: 74599527
Site scored/ranked for 08/17/04 update

Site Description (Include management areas, substances of concern, and quantities):

The subject site, an automobile wrecking and salvage yard in a residential area of Kelso, has a history of complaints about the contaminating effects of its waste handling practices on surrounding properties dating back to the early 1990's. Based on a complaint from a neighbor about waste motor oil being spilled/dumped onto the ground, the Washington Department of Ecology (Ecology) Southwest Regional Office (SWRO) conducted an Initial Investigation on February 28, 1990, and collected several soil samples from the area where it appeared waste oil had been dumped/drained. Analysis indicated concentrations of waste oil petroleum hydrocarbons in on-site soils ranging up to 100,000 mg/kg (ppm), compared to the Model Toxics Control Act (MTCA) Method A cleanup level in effect at that time of 200 ppm. The site operator was given instructions on cleaning up the contaminated areas, and it was not indicated whether any follow-up at that time by Ecology was done. (Note: Documentation regarding this investigation was not present in existing Ecology SWRO files; it was obtained through contact made with the Cowlitz County Department of Building and Planning, April 15, 2004.)

Further complaints were received by Ecology in 1996, and again in 1999, regarding the impact upon neighboring properties/vegetation of waste oil runoff from the automobile wrecking/salvage operations. No environmental samples were collected during the resultant August 26, 1999, site visit by Ecology SWRO; however, further advice on dealing with the soil contamination issues/waste management practices was given, with a follow-up written notification sent on November 16, 1999. Again, there was no documentation of any follow-up by Ecology.

Ecology received further complaints from a next-door neighbor in May 2002, alleging that cars were being crushed without fluids being drained, that waste oils were draining onto their property, and that there were a lot of other non-compliance issues at the site (e.g., too many used tires on site, illegal occupancy of trailers with no septic systems, etc.). Ecology SWRO conducted another Initial Investigation activity on May 15, 2002, with collection of soil samples from apparent areas of oil contamination. Concentrations of what was expressed as "lube" oil were as high as 397,900 ppm, compared with the current MTCA Method A cleanup level of 2000 ppm.

Ecology SWRO notified the facility operator, Mr. Terry Sexton, in August 2002 that his facility, Terrys Salvage, was to be added to Ecology's Confirmed and Suspected

Contaminated Sites list as a site with confirmed contamination of soil by petroleum products, with a site status of ''Awaiting Site Hazard Assessment (SHA)''. Notification that this assessment was to be conducted was sent belatedly to the legal owner of the site property April 19, 2004, after it was ascertained that an earlier sent letter went only to the site lessee.

A site drive-by inspection on April 15, 2004, along with photo documentation of the site on April 7, 2004, by Cynthia Johnson, Cowlitz County Department of Building and Planning, noted the site to no longer be in operation. Excessive amounts of used tires and assorted by-products of automobile dismantling were easily observable without obtaining site access. The general lay-out and environmental features surrounding the site were noted.

The site will be scored and ranked under the Washington Ranking Method based on analytical results from previously collected soil samples, with analytical results documenting gross exceedances of MTCA Method A soil cleanup level for lubricating oils and their known hazardous constituents.

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):

Although the site is located in close proximity to the Cowlitz River, due to its topography, and the presence of an elevated dike along the river, the distance from the site to the nearest surface water is approximately one and a quarter miles.

ROUTE SCORES:

Surface Water/Human Health:	22.1	Surface Water/Environ.:	18.3
Air/Human Health:	21.8	Air/Environmental:	29.5
Ground Water/Human Health:	49.5		

OVERALL RANK: 2

WORKSHEET 2 - ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: 1-5

Cadmium, lead, chromium, polyaromatic hydrocarbons (PAHs, will use benzo(a)pyrene as toxicity value) - documented automotive crankcase oil constituents, heavy oil.

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

Used motor oil-stained soils, and presence of used automotive batteries.

List those management units to be considered for scoring: Source: 1-6

Contaminated on-site surface and subsurface soils.

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

Analytical results/visual observations/photo-documentation of on-site soils.

2. AIR ROUTE

List those substances to be considered for scoring: Source: 1-5

Cadmium, lead, chromium, polyaromatic hydrocarbons (PAHs, will use benzo(a)pyrene as toxicity value) - documented automotive crankcase oil constituents, heavy oil.

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

Used motor oil-stained soils, and presence of used automotive batteries.

List those management units to be considered for scoring: Source: 1-6

Contaminated on-site surface and subsurface soils.

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

Analytical results/visual observations/photo-documentation of on-site soils.

3. GROUND WATER ROUTE

List those substances to be considered for scoring: Source: 1-5

Cadmium, lead, chromium (documented automotive crankcase oil constituents), heavy oil. (Note, will not use PAHs due to very low solubility, depth to groundwater, and distance to wells of concern.)

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

Used motor oil-stained soils, and presence of used automotive batteries.

List those management units to be considered for scoring: Source: 1-6

Contaminated on-site surface and subsurface soils.

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

Analytical results/visual observations/photo-documentation of on-site soils.

WORKSHEET 3 (If Required)
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES

	Combination 1	Combination 2	Combination 3
Unit:	**Section Not Applicable.**		

1. SURFACE WATER ROUTE

	Combination 1	Combination 2	Combination 3
Substance(s):			
Human Toxicity Value:			
Environ. Toxicity Value:			
Containment Value:			
Rationale:			
Surface Water Human Subscore:	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) =
Surface Water Environ. Subscore:	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) =

2. AIR ROUTE

	Combination 1	Combination 2	Combination 3
Substance(s):			
Human Toxicity/Mobility Value:			
Environ. Toxicity/ Mobility Value:			
Containment Value:			
Rationale:			
Air Human Subscore:	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) =
Air Environ. Subscore:	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) =

3. GROUND WATER ROUTE

	Combination 1	Combination 2	Combination 3
Substance(s):			
Human Toxicity Value:			
Containment Value:			
Rationale:			
Ground Water Subscore:	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) = ___	(+3)(+1)= ( )( ) =

Based on their respective highest scoring toxicity/containment combinations, the following management units will be used for route scoring:

Surface Water -
Air -
Ground Water -

WORKSHEET 4
SURFACE WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Carcino-genicity WOE	PF*	Val.
1. Cadmium	5	8	ND	-	0.0005	5	0.8	ND	-
2. Lead	5	8	ND	-	ND	-	0.8	ND	-
3. Chromium (III)	100	6	ND	-	1	1	-	ND	-
4. PAHs - BAP	0.2	10	50	10	ND	-	0.8	12	7
5. Heavy oil	ND	-	ND	-	0.03	1	-	ND	-

*Potency Factor

Source: 1-5,7
Highest Value: 10 (Max.=10)

+2 Bonus Points? 2
Final Toxicity Value: 12 (Max.=12)

1.2 Environmental Toxicity

(X) Freshwater
( ) Marine

Substance	Acute Water Quality Criteria (ug/l)	Value	Non-human Mammalian Acute Toxicity (mg/kg)	Value
1. Cadmium	3.9	8	225 (rat)	5
2. Lead	82	6	ND	-
3. Chromium (III)	1700	2	ND	-
5. PAHs	ND	-	10	10

Source: 1-5,7 **Value: 10** (Max.=10)

1.3 Substance Quantity

Source: 1-3,8 **Value: 1** (Max.=10)

Explain basis: Unknown

WORKSHEET 4 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment — Source: 1-3,8 **Value:** 4 (Max.=10)
Explain basis:
Management unit scored as a spills/discharges to ground surface; no cover; ineffective run-on/runoff control

2.2 Surface Soil Permeability: silty loan — Source: 1,3,8 **Value:** 3 (Max.=7)

2.3 Total Annual Precipitation: 45.1 inches — Source: 9 **Value:** 3 (Max.=5)

2.4 Max. 2-Yr/24-hour Precipitation: 3.5 inches — Source: 8 **Value:** 3 (Max.=5)

2.5 Flood Plain: Not in flood plain — Source: 6,8 **Value:** 0 (Max.=2)

2.6 Terrain Slope: 2% — Source: 6,8 **Value:** 1 (Max.=5)

3.0 TARGETS

3.1 Distance to Surface Water: 1 to 2 miles o.f. — Source: 3,6 **Value:** 2 (Max.=10)

3.2 Population Served within 2 miles (See WARM Scoring Manual Regarding Direction): $\sqrt{}$pop.=$\sqrt{}$7073= 75 max — Source: 10,11 **Value:** 75 (Max.=75)

3.3 Area Irrigated within 2 miles 0.75$\sqrt{}$no. acres= 0.75$\sqrt{}$0 = 0 — Source: 10,11 **Value:** 0 (Max.=30)

3.4 Distance to Nearest Fishery Resource: 1 - 2 miles — Source: 6,12 **Value:** 3 (Max.=12)

3.5 Distance to, and Name(s) of, Nearest Sensitive Environment(s) Freshwater wetlands ,1000' overland flow distance — Source: 6,12 **Value:** 12 (Max.=12)

4.0 RELEASE

Explain basis for scoring a release to surface water: — Source: 1-4 **Value:** 0 (Max.=5)
None documented by analytical evidence.

WORKSHEET 5
AIR ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Introduction (WARM Scoring Manual) - Please review before scoring

1.2 Human Toxicity

Substance	Air Standard (ug/m^3)	Val.	Acute Toxicity (mg/m^3)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Carcino-genicity WOE	PF*	Val.
1. Cadmium	0.00056	10	25	10	ND	-	0.8	7	5
2. Lead	0.5	10	ND	-	ND	-	0.8	ND	-
3. Chromium (III)	1.7	9	ND	-	5.7E-07	10	ND	ND	-
4. PAHs - BAP	0.0006	10	ND	-	ND	-	ND	-	-

*Potency Factor

Source: 1-5,7
Highest Value: 10 (Max.=10)
+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
Vapor Pressure(s)(mmHg): _____ Source: _____
Value: _____ (Max.=4)

1.3.2 Particulate Mobility
Soil type: silty loam Source: 1-4,7
Erodibility: 47 Value: 1 (Max.=4)
Climatic Factor: 1 - 10

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from Table A-7) equals **Final Matrix Value:** 6 (Max.=24)

WORKSHEET 5 (CONTINUED)
AIR ROUTE

1.5 Environmental Toxicity/Mobility Source: 1,5

Substance	Non-human Mammalian Acute Inhal. Toxicity (mg/m^3)	Value	Mobility (mmHg)	Value	(Table A-7) Matrix Value
1. Cadmium	25 (rat)	10		1	5
2. Lead	ND	-			-
3. Chromium (III)	ND	-			-
4. PAHs - BAP	ND	-			-

Highest Environmental Toxicity/Mobility Matrix Value (From Table A-7) equals **Final Matrix Value:** 5 (Max.=24)

1.6 Substance Quantity: Unknown Source: 1-3,8 **Value:** 1 (Max.=10)
Explain basis:

2.0 MIGRATION POTENTIAL

2.1 Containment: No cover, discharge directly onto ground surface. Source: 1-3,8 **Value:** 10 (Max.=10)

3.0 TARGETS

3.1 Nearest Population: Adjacent Source: 6,12 **Value:** 10 (Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) <100 feet to wetland area Source: 6,12 **Value:** 7 (Max.=7)

3.3 Population within 0.5 miles: $\sqrt{pop.} = \sqrt{(0.25)8909} = 47$ Source: 12 **Value:** 47 (Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: None documented. Source: 1-5 **Value:** 0 (Max.=5)

WORKSHEET 6
GROUND WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Carcino-genicity WOE	PF*	Val.
1. Cadmium	5	8	225	5	0.0005	5	0.8	7	5
2. Lead	5	8	ND	-	ND	-	0.8	ND	-
3. Chromium (III)	100	6	ND	-	1	1	ND	ND	-
5. Heavy oil	ND	-	ND	-	0.03	1	-	ND	-

*Potency Factor

Source: 1-5,7
Highest Value: 8 (Max.=10)

+2 Bonus Points? 2
Final Toxicity Value: 10 (Max.=12)

1.2 Mobility (Use numbers to refer to above listed substances)
Cations/Anions: 1) 3; 2) 2; 3) 1: Source: 3-5,8 **Value:** 3 (Max.=3)

Or

Solubility(mg/l): 4) Very low = 1

1.3 Substance Quantity: Unknown Source: 3,6,8 **Value:** 1 (Max.=10)
Explain basis:

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 6,8 **Value:** 10 (Max.=10)
Explain basis: Spills, discharge to soil = 10

2.2 Net Precipitation: 32.3 - 5.9 = 26.4 inches Source: 7 **Value:** 3 (Max.=5)

2.3 Subsurf.Hydraul.Conduct.: Silt/loams Source: 3-6,8 **Value:** 3 (Max.=4)

2.4 Vertical Depth to Ground Water: >50-100 feet Source: 10-12 **Value:** 4 (Max.=8)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: Pub/priv supply, alternates Source: 10,11 **Value: 4** (Max.=10)

3.2 Dist. to Nearest Drinking Water Well: 3600' Source: 10,11 **Value: 2** (Max.=5)

3.3 Population Served within 2 Miles: $\sqrt{pop.} = \sqrt{10000} = 100$ Source: 10,11 **Value: 100** (Max.=100)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: $0.75\sqrt{no.acres} = 0.75\sqrt{42} = (0.75)(6.48) = 4.86 \Rightarrow 5$ Source: 10,11 **Value: 5** (Max.=50)

4.0 RELEASE

Explain basis for scoring a release to ground water: No documentation Source: 1-6 **Value: 0** (Max.=5)

SOURCES USED IN SCORING

1. Initial Investigation Report, Rusty Post, Washington Department of Ecology Southwest Regional Office, May 31, 1990.
2. Complaint Investigation, Robert W. Warren, Washington Department of Ecology Southwest Regional Office, August 26, 1999.
3. Initial Investigation Field Report, Fern Svendsen, Washington Department of Ecology Southwest Regional Office, June 19, 2002.
4. Analytical Reports, Manchester Environmental Laboratory, May 17, and june 3, 2002.
5. Used oil contaminants - referenced 5.
6. SHA site visit, April 15, 2004.
7. Washington Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
8. Washington Department of Ecology, WARM Scoring Manual, April 1992.
9. See attached table identified as Reference 9.
10. Washington Dept. of Health S.A.D.I.E. data printout for Kelso and Longview Water Depts.
11. Water Rights Application System (WRATS) printout for two-mile radius of site.
12. U.S. EPA SITEINFO GIS Query for lat./long. of site.