

CSID 1869

WORKSHEET 1
SUMMARY SCORE SHEET

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

Washtucna Railroad Lease Site Sec 28/T15N/R36E
US Highway 26 and Highway 261 Ecology Facility Site I.D. No. 568
Washtucna, Adams County, WA 99371 January 16, 2003
Longitude: 118° 18' 24.91''
Latitude: 46° 45' 32.54'' Site scored/ranked for 02/24/04 update

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

In October, 1993, Huntingdon Consulting Engineers & Scientists (Huntingdon), Pasco, Washington, conducted Phase I investigations of three sites in Washtucna, Adams County, Washington, plus one in nearby Benge, at the request of the Washtucna Grange Supply (WGS) Board. These included, in Washtucna: the Washtucna Railroad Lease Property site, the Washtucna Fertilizer Plant site, and the Washtucna Gardens site; along with the Washtucna Grange Supply property in Benge. These investigations revealed areas of potential environmental concern, involving primarily petroleum hydrocarbon releases, at all sites except for the former bulk storage facility at the Washtucna Gardens site property.

The subject of this scoring sheet, the Washtucna Railroad Lease site, is an active bulk petroleum fuel storage facility of about one acre in area, located along the former S.P. & S. railroad right-of-way, southeast of the intersection of State Highway 26 and Main Street (State Highway 261), Washtucna, Washington. The initial potential contamination concerns were areas of local heavy staining visible near fuel piping, the fuel pumphouse and fill ports.

Between January 17 and April 5, 1994, a limited Phase II/Phase III site assessment, including environmental sampling, was conducted by Huntingdon at the three sites of concern. Six test pits were completed at the Railroad Lease site to evaluate surface and subsurface conditions in the following areas:

- The gasoline fuel dispenser island north of a masonry block building
- The diesel fuel pump south of a galvanized storage building
- Three test pits in the vicinity of an aboveground storage tank (AST) area and the fuel surface staining at the north fill port
- The bulk fuel dispenser area at the northeast end of the masonry block building

Subsurface soil sampling was accomplished in two phases: firstly, use of a backhoe or hand tools, followed up by auger boring (CME-75 drill rig). Headspace screening of subsurface soil was employed using a photoionization detector (PID - Microtip Model 102). Samples representing zones of apparent maximum concentration in each test pit were submitted for laboratory analysis.

The impacted areas appear to be limited to two zones: total petroleum hydrocarbons (TPH), expressed as diesel, were detected around the fuel pumphouse at concentrations up to 9000 mg/kg (ppm), compared to its Model Toxics Control Act (MTCA) Method A Cleanup Level of 2000 ppm; and gasoline fuel components benzene, toluene, ethylbenzene, and xylenes (BETX) were all documented at concentrations significantly in excess of their respective Method A Cleanup Levels.

The WGS consultant had already notified Washington Department of Ecology Eastern Regional Office (Ecology ERO) on February 23, 1994 following the backhoe work that it appeared a petroleum hydrocarbon release had occurred on-site. An initial investigation by Ecology ERO on March 8, 1994 visually documented the reported areas of petroleum stained/contaminated areas. An Early Notice Letter was sent by ERO to the WGS on March 23, 1994 notifying the addition of this site to Ecology list of sites awaiting site hazard assessment (SHA).

The site property was initially leased by Washtucna Grange Supply (WGS) from the S.P & S Railroad Company. Ownership of the site property was taken over by the Washington State Parks and Recreation Commission during the 1990's, when the rail lines were dismantled, and the lease is now held by Consolidated Grange Supply, Lind, Washington, who bought out WGS.

A site visit was made on October 16, 2003, to confirm the site characteristics per the consultant's earlier report, and met with representatives of the Washington Department Parks and Recreation Commission and Consolidated Grange Supply. Remediation of the significantly contaminated areas at the site had not yet commenced.

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):

ROUTE SCORES:

Surface Water/Human Health:	<u>14.0</u>	Surface Water/Environ.:	<u>12.4</u>
Air/Human Health:	<u>15.5</u>	Air/Environmental:	<u>13.9</u>
Ground Water/Human Health:	<u>26.5</u>		

OVERALL RANK: 4

WORKSHEET 2 - ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: 1,2

Diesel, benzene, ethylbenzene, toluene, and xylenes (BETX)

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

Analytical results from soil samples showed concentrations greater than their respective Method A MTCA cleanup levels for all of the above.

List those management units to be considered for scoring: Source: 1,2

Contaminated on-site surface and subsurface soils.

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

Chemical analyses of on-site soils indicated significant concentrations of diesel and BETX components.

2. AIR ROUTE

List those substances to be considered for scoring: Source: 1,2

Diesel, benzene, ethylbenzene, toluene, and xylenes (BETX)

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

Analytical results from soil samples showed concentrations greater than their respective Method A MTCA cleanup levels for all of the above.

List those management units to be considered for scoring: Source: 1,2

Contaminated on-site surface and subsurface soils.

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

Chemical analyses of on-site surface soils indicated significant concentrations of diesel and BETX components, with no vapor collection system.

3. GROUND WATER ROUTE

List those substances to be considered for scoring: Source:1,2

Diesel, benzene, ethylbenzene, toluene, and xylenes (BETX)

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

Analytical results from soil samples showed concentrations greater than their respective Method A MTCA cleanup levels for all of the above.

List those management units to be considered for scoring: Source:1,2

Contaminated on-site surface and subsurface soils.

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

Chemical analyses of on-site surface soils indicated significant concentrations of diesel and BETX components.

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

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

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

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		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/l)	Val.	(mg/kg-bw)	Val.	(mg/kg/day)	Val.	WOE	PF*	Val.
1. Benzene	5	8	3306	3	X	-	A	.029	5
2. Ethylbenzene	700	4	3500	3	0.1	1	D	ND	-
3. Toluene	2000	2	5000	3	0.2	1	D	ND	-
4. Xylenes	10,000	2	50	10	2.0	1	D	ND	-
5. Diesel	160	4	490	5	0.004	3	-	ND	1

*Potency Factor

Source: 1, 2, 5
 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		Non-human Mammalian Acute Toxicity		Source: <u>1, 2, 5</u>	Value: <u>2</u> <small>(Max. = 10)</small>
	(ug/l)	Value	(mg/kg)	Value		
1. Benzene	5300	2				
2. Ethylbenzene	32000	2				
3. Toluene	17500	2				
4. Xylenes	ND	-				
5. TPH-Diesel	2300	2				

1.3 Substance Quantity: Unknown, use default value = 1 Source: 1, 2, 6 Value: 1
 Explain basis: _____
(Max. = 10)

WORKSHEET 4 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

- 2.1 Containment Source: 2,3,6 Value: 10
Explain basis: (Max.=10)
Management unit scored as a spills/discharges/contaminated soil
at the surface/subsurface, with no run-on/runoff controls.
- 2.2 Surface Soil Permeability: Sandy silt/fine sands Source: 1-3,6 Value: 3
(Max.=7)
- 2.3 Total Annual Precipitation: 10.3 inches Source: 7 Value: 1
(Max.=5)
- 2.4 Max. 2-Yr/24-hour Precipitation: < 1 inch Source: 6 Value: 1
(Max.=5)
- 2.5 Flood Plain: Not in Source: 8 Value: 0
(Max.=2)
- 2.6 Terrain Slope: <2% Source: 2,3,6 Value: 1
(Max.=5)

3.0 TARGETS

- 3.1 Dist. to Surface Water: <1000' (Watson Canal/Staley Coulee) Source: 1-4 Value: 10
(Max.=10)
- 3.2 Population Served within 2 miles (See WARM Scoring
Manual Regarding Direction): $\sqrt{\text{pop.}} = \sqrt{0} = 0$ Source: 9,10 Value: 0
(Max.=75)
- 3.3 Area Irrigated within 2 miles $0.75\sqrt{\text{no. acres}} =$
 $0.75\sqrt{0} = (.75)(0) = 0$ Source: 10 Value: 0
(Max.=30)
- 3.4 Distance to Nearest Fishery Resource: >10,000' Source: 1-4 Value: 0
(Max.=12)
- 3.5 Distance to, and Name(s) of, Nearest Sensitive
Environment(s) Freshwater wetlands: 0.5-1.0 mile Source: 1-4 Value: 6
(Max.=12)

4.0 RELEASE

- Explain basis for scoring a release to surface
water: Source: 1,2 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		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/m ³)	Val.	(mg/m ³)	Val.	(mg/kg/day)	Val.	WOE	PF*	Val.
1. Benzene	0.12	10	31947 (rat)	3	ND	-	A=1	.029	5
2. Ethylbenzene	1448	1	ND	-	ND	-	-	ND	-
3. Toluene	1248	1	ND	-	0.57	1	-	ND	-
4. Xylenes	1448	1	21714 (rat)	3	0.85	1	-	ND	-
5. Diesel	166	4	ND	-	ND	-	-	ND	-

*Potency Factor

Source: 2,5
 Highest Value: 10
 (Max.=10)
 +2 Bonus Points? -
 Final Toxicity Value: 10
 (Max.=12)

1.3 Mobility (Use numbers to refer to above listed substances)

1.3.1 Gaseous Mobility

Vapor Pressure (s) (mmHg): 1) 9.5E+01 = 4; Source: 2,5
2) 7.0E+00 = 3; 3) 2.8E+01 = 4; 4) 1.0E+01 = 4; Value: 4
5) 8.2E-02 = 3
 (Max.=4)

1.3.2 Particulate Mobility N/A

Soil type: _____ Source: _____
 Erodibility: _____ Value: _____
 Climatic Factor: _____ (Max.=4)

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from

Table A-7) equals **Final Matrix Value: 20**
 (Max.=24)

1.5 Environmental Toxicity/Mobility

Source: 2,5

Substance	Non-human Mammalian Acute		(Table A-7)	
	Inhal. Toxicity (mg/m ³)	Value	Mobility (mmHg)	Value
1. Benzene	31947 (rat)	3	9.5E+01	4
2. Xylene	21714 (rat)	3	1.0E+01	4

Highest Environmental Toxicity/Mobility Matrix Value

(From Table A-7) equals **Final Matrix Value: 6**
 (Max.=24)

WORKSHEET 5 (CONTINUED)
AIR ROUTE

1.6 Substance Quantity: Unknown, use default value = 1 Source: 1,2,6 Value: 1
Explain basis: _____ (Max.=10)

2.0 MIGRATION POTENTIAL

2.1 Containment: Significant vapor pathway potential Source: 1-3,6 Value: 10
from surface spill/discharge, contaminated soil (Max.=10)
with no vapor collection system

3.0 TARGETS

3.1 Nearest Population: < 1000 feet Source: 1,4 Value: 10
(Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive
Environment(s) Freshwater wetlands: 0.7 miles Source: 1-4 Value: 3
(Max.=7)

3.3 Population within 0.5 miles: $\sqrt{\text{pop.}} = \sqrt{250(0.25)} = 8$ Source: 1-4,9 Value: 8
(Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: None Source: 1-3 Value: 0
documented. (Max.=5)

**WORKSHEET 6
GROUND WATER ROUTE**

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/l)	Val.	(mg/kg-bw)	Val.	(mg/kg/day)	Val.	WOE	PF*	Val. 1.
1. Benzene	5	8	3306	3	X	-	A	.029	5
2. Ethylbenzene	700	4	3500	3	0.1	1	D	ND	-
3. Toluene	2000	2	5000	3	0.2	1	D	ND	-
4. Xylenes	10,000	2	50	10	2.0	1	D	ND	-
5. Diesel	160	4	490	5	0.004	3	-	ND	1

*Potency Factor Source: 1-3
Highest Value: 10
(Max.=10)

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

1.2 Mobility (Use numbers to refer to above listed substances)

Cations/Anions: _____ Source: 2,5 Value: 3
(Max.=3)

Or

Solubility(mg/l): 1) 1.8E+03 = 3; 2) 1.5E+02 = 2;
3) 5.4E+02 = 2; 4) 2.0E+02 = 2; 5) 3.0E+01 = 1

1.3 Substance Quantity: Unknown, use default = 1 Source: 1,2,6 Value: 1
Explain basis: _____ (Max.=10)

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 1-3,6 Value: 10
Explain basis: Spills, discharge to soil = 10 (Max.=10)

2.2 Net Precipitation: 4.4 inches Source: 7 Value: 1
(Max.=5)

2.3 Subsurf. Hydraul. Conduct.: Sands/silts/gravels Source: 1,2,6 Value: 3
(Max.=4)

2.4 Vertical Depth to Ground Water: 235 feet Source: 1,2,6 Value: 2
(Max.=8)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

- 3.1 Ground Water Usage: No unthr. alts available Source: 9,10 Value: 5
(Max.=10)
- 3.2 Dist. to Nearest Drinking Water Well: 600 - 1300' Source: 1-3,9 Value: 4
(Max.=5)
- 3.3 Population Served within 2 Miles: $\sqrt{\text{pop.}} = \sqrt{304} = 17$ Source: 9,10 Value: 17
(Max.=100)
- 3.4 Area Irrigated by (Groundwater) Wells
within 2 miles: $0.75\sqrt{\text{no.acres}} =$ Source: 9,10 Value: 17
 $0.75\sqrt{541} = 17$ (Max.=50)
- 4.0 RELEASE**
- Explain basis for scoring a release to ground Source: 1,2,6 Value: 0
water: None documented by analytical data (Max.=5)

SOURCES USED IN SCORING

1. Release Report/Initial Investigation, Dave George, Washington Department of Ecology Toxics Cleanup Program, Eastern Regional Office, Feb./March 1994.
2. Report of Environmental Assessment. Phase II/III Environmental Assessment for the following sites: #1 Washtucna Fertilizer Plant, #2 Washtucna Railroad Lease Property, #3 Washtucna Gardens in Washtucna, Washington and #4 Original Benge Property in Benge, Washington. Prepared for Washtucna Grange & Supply, HCR 1, Box 333, Washtucna, WA, by Huntingdon Consulting Engineers & Scientists, Pasco, Washington, June 1994.
3. Site Hazard Assessment Drive-by/Visit by Michael Spencer, Washington Department of Ecology Toxics Cleanup Program, Headquarters, October 16, 2003.
4. U.S.G.S. Topographic Quad. Map, Washtucna North, Wash, 15 Min. series.
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. See attached table identified as Reference 7.
8. Flood Insurance Rate Maps (FIRM).
9. U.S. EPA SITEINFO GIS Query for lat./long. of site.
10. Ecology Water Rights Application Tracking System (WRATS).

