NEW FILE
JUDD SITE
OKANOGAN

FINAL VERSION
WORKSHEET 1
SUMMARY SCORE SHEET

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

Leonard Judd Property
B&O Road & Spring Coulee Road
Okanogan, Okanogan County, WA 98840
Latitude: 48° 20′ 16.84
Longitude: 119° 37′ 37.09

Sec 24/T33N/R25E
Ecology Facility Site ID: 7873712

Site scored/ranked for 08/17/04 update

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

The subject site is owned Leonard Judd, and is located approximately 1.5 miles southwest of the town of Okanogan. The Okanogan River runs one mile east of the site. Only minimal development has occurred on the surrounding properties, including one home within 800′ of the site, a gun range, the county animal control pound, and the county landfill.

The property is undeveloped, and was utilized to operate a diesel generator during the summer of 2002. An unknown quantity of fuel spilled or leaked from the generator during its operation, contaminating the surrounding soil. Samples collected from the site showed concentrations of TPH as diesel as high as 32,400 mg/kg and TPH as motor oil as high as 2,740 mg/kg. These levels are in excess of MTCA Method A Soil Cleanup Levels for Unrestricted Land Use, which are 2,000 mg/kg for both diesel and motor oil.

The operator of the diesel generator, Steve Mitzner, made an initial attempt to clean up the site. Approximately 50 yards of contaminated soil were excavated and stockpiled on heavy vinyl sheeting. However, no further activity has occurred to encourage remediation of the soil, such as disking, fertilizing, etc. The stockpile is left open to the weather, and snow melt has been moving some sediments off the vinyl sheeting onto the surrounding area.

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): None

ROUTE SCORES:

Surface Water/Human Health:	3.1	Surface Water/Environ.:	7.2
Air/Human Health:	5.1	Air/Environmental:	NS
Ground Water/Human Health:	20.8		

FINAL VERSION

OVERALL RANK: 5

FINAL VERSION

WORKSHEET 2 - ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

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

TPH as diesel.

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

Soil sample analysis shows diesel contamination of on-site soils in excess of MTCA Method A Cleanup Levels for Unrestricted Land Use.

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

Contaminated on-site surface and subsurface soils.

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

Analytical confirmation of these contaminants in on-site soils.

2. AIR ROUTE

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

TPH as diesel.

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

Soil sample analysis shows diesel contamination of on-site soils in excess of MTCA Method A Cleanup Levels for Unrestricted Land Use.

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

Contaminated on-site surface and subsurface soils.

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

Analytical confirmation of these contaminants in on-site soils.

3. GROUND WATER ROUTE

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

TPH as diesel.

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

Soil sample analysis shows diesel contamination of on-site soils in excess of MTCA Method A Cleanup Levels for Unrestricted Land Use.

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

Contaminated on-site surface and subsurface soils.

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

Analytical confirmation of these contaminants in on-site soils.

FINAL VERSION
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 -

FINAL VERSION
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. TPH diesel	160	4	490(rat)	5	0.004	3	-	ND	-

*Potency Factor

Source: 1,2,5
Highest Value: 4 (Max.=10)

+2 Bonus Points? 0
Final Toxicity Value: 4 (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. TPH as diesel	2300	2	ND	-

Source: 1,2,5 **Value: 2** (Max.=10)

1.3 Substance Quantity

Source: 1,6 **Value: 5**

Explain basis: excavated soil ~50 cu. yds.

(Max.=10)

FINAL VERSION
WORKSHEET 4 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment — Source: 1,6 — **Value: 4** (Max.=10)
Explain basis:
Management unit scored as a spills/discharges/contaminated soil at the surface, with non-maintained run-on/runoff controls (vegetative cover)

2.2 Surface Soil Permeability: sand,gravel,sandy loam — Source: 1,3,6 — **Value: 1** (Max.=7)

2.3 Total Annual Precipitation: 11.3 inches — Source: 7 — **Value: 1** (Max.=5)

2.4 Max. 2-Yr/24-hour Precipitation: 1.00 inch — Source: 6,15 — **Value: 1** (Max.=5)

2.5 Flood Plain: Not in flood plain — Source: 8,12 — **Value: 0** (Max.=2)

2.6 Terrain Slope: 4.9% — Source: 1,6,12 — **Value: 2** (Max.=5)

3.0 TARGETS

3.1 Distance to Surface Water: ~4825' — Source: 1,12 — **Value: 4** (Max.=10)

3.2 Population Served within 2 miles (See WARM Scoring Manual Regarding Direction): $\sqrt{pop.}=\sqrt{0} = 0$ — Source: 10 — **Value: 0** (Max.=75)

3.3 Area Irrigated within 2 miles $0.75\sqrt{no.\ acres}=$ $0.75\sqrt{79} = (.75)(8.9) = 6.7 \Rightarrow 7$ — Source: 10 — **Value: 7** (Max.=30)

3.4 Distance to Nearest Fishery Resource: ~4825' — Source: 1,11,12 — **Value: 6** (Max.=12)

3.5 Distance to, and Name(s) of, Nearest Sensitive Environment(s): upland freshwater wetlands 1690' — Source: 1,11,12 — **Value: 9** (Max.=12)

4.0 RELEASE

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

FINAL VERSION
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. TPH diesel	166.5	4	ND	-	ND	-	-	ND	-

*Potency Factor

Source: 1,2,5
Highest Value: 4 (Max.=10)

+2 Bonus Points? 0
Final Toxicity Value: 4 (Max.=12)

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

1.3.1 Gaseous Mobility
Vapor Pressure(s) (mmHg): 1) 0.082 = 3
Source: 5
Value: 3 (Max.=4)

1.3.2 Particulate Mobility
Soil type:
Erodibility:
Climatic Factor:
Source:
Value: (Max.=4)

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

FINAL VERSION
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. TPH diesel	ND	-	ND	-	-

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

1.6 Substance Quantity: ~720 sq.ft. Source: 1,6 **Value: 4** (Max.=10)
Explain basis:

2.0 MIGRATION POTENTIAL

2.1 Containment: Cover <2' deep (vapors). Source: 1,6 **Value: 10** (Max.=10)

3.0 TARGETS

3.1 Nearest Population: ~765' Source: 1,12 **Value: 10** (Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) no environmental toxicity score Source: 1,12 **Value: NA** (Max.=7)

3.3 Population within 0.5 miles: $\sqrt{pop.} = \sqrt{12} = 3.4 \Rightarrow 3$ Source: 12,13 **Value: 3** (Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: None documented. Source: 1,6 **Value: 0** (Max.=5)

FINAL VERSION
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. TPH diesel	160	4	490 (rat)	5	0.004	3	-	ND	-

*Potency Factor

Source: 1,2,5
Highest Value: 4 (Max.=10)

+2 Bonus Points? 0
Final Toxicity Value: 4 (Max.=12)

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

Or

Solubility(mg/l): 1) 30 = 1

1.3 Substance Quantity: ~80 cu. yds. Source: 1,2,6 **Value: 2** (Max.=10)
Explain basis: _____

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 1,6 **Value: 10** (Max.=10)
Explain basis: Contaminated soil, no cap

2.2 Net Precipitation: 6.8 - 2.7 = 4.1 inches Source: 7 **Value: 1** (Max.=5)

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

2.4 Vertical Depth to Ground Water: ~120 feet Source: 1,4,6 **Value: 3** (Max.=8)

FINAL VERSION
WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: public supply, no alternate Source: 9,10 **Value: 9** (Max.=10)

3.2 Dist. to Nearest Drinking Water Well: ~3,765' Source: 1,10 **Value: 2** (Max.=5)

3.3 Population Served within 2 Miles: $\sqrt{pop.} = \sqrt{2895} = 53.8 \Rightarrow 54$ Source: 10,14 **Value: 54** (Max.=100)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: $0.75\sqrt{no.acres} = 0.75\sqrt{1482} = (0.75)(38.5) = 28.9 \Rightarrow 29$ Source: 10 **Value: 29** (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. Site Hazard Assessment initial visit by Douglas Hale, April 6, 2004.
2. Soil sample analysis reports by Severn Trent Laboratories.
3. Soil log(s) on file at Okanogan County Health District.
4. Water Well Reports on file at Okanogan County Health District.
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 Information System (WRIS).
11. Washington Department of Fish & Wildlife StreamNet database.
12. GIS data layers provided by Okanogan County Planning Department, composite map is attached as Reference 12.
13. US Census 2000 data.
14. SADIE Public Water system data from Washington Department of Health.
15. NOAA Atlas II Precipitation Frequency Data Output, site specific estimate.