CSID 1060

NFA

WORKSHEET 1
SUMMARY SCORE SHEET

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

Tetz Oil Raymond
2711 Ocean Avenue
Raymond, Pacific county, WA 98577
Longitude: 123.00° 45.0′ 49.2″
Latitude: 46.00° 41.0′ 30.6″

Sec 19/T14N/R08E
Ecology I.D. No. S-25-6019-000

Site scored/ranked for 8/18/98 update

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

The subject site is adjacent to the Washington State Department of Transportation (DOT) right-of-way parcel (#4-02258) site, also identified by two DOT property numbers IC#4-5-04280 and IC#4-25-04281, along State Highway 101 on the southwestern outskirts of the Raymond City limits just before South Bend (see also the site hazard assessment (SHA) package for WA DOT Parcel #4-02258).

Although preliminary sampling showed no contamination near the on-site above-ground tanks (ASTs), total petroleum hydrocarbon analysis expressed for diesel (C12-C24, TPH-D), from a September 14, 1997 preliminary site investigation by DOT contractor EMCON of the WA DOT right-of-way property, showed a concentration of 5,700 mg/kg (ppm) for a soil sample from in front of the southern abutters fuel distribution island. The TPH fraction (heavier oil, or also TPH-other = TPH-O) C24-C34 concentration was 7,500 ppm. The Model Toxics Control Act (MTCA) Method A Cleanup Level for both TPH-D and TPH-O is 200 ppm. Analyses for TPH-gasoline (TPH-G) and gasoline compontents benzene/ethylbenzene/toluene/xylene (BETX) were reported as non-detects.

A follow-up detailed site investigation was carried out by EMCON of the WA DOT site in May 1998 to further delineate the extent of the TPH contamination. Five soil borings were made to 10 feet below ground surface, and soil samples taken from 1-4 feet and 7-10 feet depths, along with several groundwater samples at depth. TPH-diesel/BETX components were not detected in these deeper samples, with TPH-O concentrations of 73 and 77 mg/kg reported in only two of the soil samples. Concentrations of TPH-D and TPH-O above their MTCA Method A cleanup level of 1.0 mg/l for ground water were reported.

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):

Analytical data for diesel contamination will be used to score this site, although sampling was done primarily on the WA DOT right-of-way property, the assumption being that zone of petroleum contaminated soil extends onto the site property associated with Tetz Oil. Concentrations of all dissolved metals analyzed for were below their respective ground water cleanup levels except for arsenic. As the soil arsenic concentrations detected were below its MTCA Method A cleanup level, this metal will not be considered in the scoring of migration routes for this site.

ROUTE SCORES:

Surface Water/Human Health: 5.8 Surface Water/Environ.: 6.5
Air/Human Health: 4.4 Air/Environmental: NS
Ground Water/Human Health: 25.7

OVERALL RANK: 5

WORKSHEET 2 - ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

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

TPH-diesel, arsenic, lead.

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

Will score contaminant toxicity for this route on TPH-diesel only, as its documented concentrations are signficantly above its MTCA Method A Cleanup Level.

List those management units to be considered for scoring: Source: 1-3

Spills/discharges/contaminated soil.

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

Contaminated soil, predominantly subsurface, with no run-on/runoff controls.

2. AIR ROUTE

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

TPH-diesel, arsenic, lead.

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

Will score contaminant toxicity for this route on TPH-diesel only, as its documented concentrations are signficantly above its MTCA Method A Cleanup Level.

List those management units to be considered for scoring: Source: 1-3

Spills/discharges/contaminated soil.

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

Contaminated soil, predominantly subsurface, with no vapor collection system.

3. GROUND WATER ROUTE

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

TPH-diesel, arsenic, lead.

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

Will score contaminant toxicity for this route on TPH-diesel only, as its documented concentrations are signficantly above its MTCA Method A Cleanup Level.

List those management units to be considered for scoring: Source: 1-3

Spills/discharges/contaminated soil.

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

Will score spill/discharges/contaminated soil (containment value = 10) due to documented soil contamination by TPH-diesel.

WORKSHEET 3 (If Required)
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES
Combination 1 Combination 2 Combination 3

Unit: **Section Not Applicable.**

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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)= ( )( ) = ___

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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 (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Carcino-genicity WOE	PF	Val.
1. TPH-diesel	20	6	490(rat)	5	0.004	3	ND	ND	-

Potency Factor — Source: 1,2,5
Highest Value: 6 (Max.=10)

+2 Bonus Points? -
Final Toxicity Value: 6 (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-Diesel	2300	2		

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

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

WORKSHEET 4 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment — Source: 1,3,6 **Value:** 4 (Max.=10)
Explain basis:
Management unit scored as a spills/discharges/contaminated soil at the surface, with unmaintained or ineffectively maintained run-on/runoff control to take into account the relatively minimal threat of an overland migration route to surface water

2.2 Surface Soil Permeability: Sandy silts, gravels — Source: 1-3,6 **Value:** 1 (Max.=7)

2.3 Total Annual Precipitation: 86 inches — Source: 7 **Value:** 5 (Max.=5)

2.4 Max. 2-Yr/24-hour Precipitation: 3.5 - 4 inches — Source: 6 **Value:** 3 (Max.=5)

2.5 Flood Plain: 500 year — Source: 8 **Value:** 1 (Max.=2)

2.6 Terrain Slope: <2% — Source: 1-3,6 **Value:** 1 (Max.=5)

3.0 TARGETS

3.1 Distance to Surface Water: 1000-2500' (overland) — Source: 1-4 **Value:** 7 (Max.=10)

3.2 Population Served within 2 miles (See WARM Scoring Manual Regarding Direction): $\sqrt{}$pop.=$\sqrt{}$0 = 0 — Source: 9,10 **Value:** 0 (Max.=75)

3.3 Area Irrigated within 2 miles 0.75$\sqrt{}$no. acres= 0.75$\sqrt{}$0 = (.75)(0) = 0 — Source: 10 **Value:** 0 (Max.=30)

3.4 Distance to Nearest Fishery Resource: 5000-10,000' — Source: 1-4,11 **Value:** 3 (Max.=12)

3.5 Distance to, and Name(s) of, Nearest Sensitive Environment(s) Fishery 5000-10,000 feet (overland) — Source: 1-4,11 **Value:** 3 (Max.=12)

4.0 RELEASE

Explain basis for scoring a release to surface water: — Source: 1-3,6 **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.TPH-diesel	166.5	4	ND	-	ND	-	ND	ND	-

*Potency Factor

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

+2 Bonus Points? -
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)8.2E-02
Source: 1,2,5
Value: 3 (Max.=4)

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

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

1.5 Environmental Toxicity/Mobility
Source: 1,2,5

Substance	Non-human Mammalian Acute Inhal. Toxicity (mg/m^3)	Value	Mobility (mmHg)	Value	(Table A-7) Matrix Value
1. No data, pathway not scored = **NS**.					

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

WORKSHEET 5 (CONTINUED)
AIR ROUTE

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

2.0 MIGRATION POTENTIAL

2.1 Containment: Significant vapor pathway potential currently from predominantly subsurface contaminated soil with no vapor collection system Source: 1-3,6 **Value: 5** (Max.=10)

3.0 TARGETS

3.1 Nearest Population: 1000 - 2000 feet Source: 1-4,6 **Value: 8** (Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) N/A Source: 1-4 **Value: N/A** (Max.=7)

3.3 Population within 0.5 miles: $\sqrt{pop.} = \sqrt{(.25)\,641} = 12.6 = 13$ Source: 1-4,9 **Value: 13** (Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: None documented. Source: 1-3 **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. TPH-diesel	20	6	490(rat)	5	0.004	3	ND	ND	-

*Potency Factor

Source: 1,2,5
Highest Value: 6 (Max.=10)

+2 Bonus Points? -
Final Toxicity Value: 6 (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) 3.0E+01 = 1

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

2.0 MIGRATION POTENTIAL

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

2.2 Net Precipitation: 58.1 inches Source: 7 **Value: 5** (Max.=5)

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

2.4 Vertical Depth to Ground Water: Obs. Rel. = 0 feet Source: 1,2,6 **Value: 8** (Max.=8)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: Unused/usable — Source: 9,10 **Value:** 2 (Max.=10)

3.2 Dist. to Nearest Drinking Water Well: >10,000' — Source: 1-3,9 **Value:** 0 (Max.=5)

3.3 Population Served within 2 Miles: $\sqrt{}$pop.=$\sqrt{}$0=0 — Source: 9,10 **Value:** 0 (Max.=100)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: 0.75$\sqrt{}$no.acres= 0.75$\sqrt{}$0=0 — Source: 9,10 **Value:** 0 (Max.=50)

4.0 RELEASE

Explain basis for scoring a release to ground water: Documented by analytical data, contaminated groundwater. — Source: 1,2,6 **Value:** 5 (Max.=5)

SOURCES USED IN SCORING

1. Limited Initial Site Assessment and Preliminary Site Investigation for Parcel No. 4-02258, 2711 Ocean Avenue, Raymond, Washington, EMCON, December 8, 1997.
2. Detailed Site Investigation for Parcel No. 4-02258, 2711 Ocean Avenue, Raymond, Washington, EMCON, August 25, 1998.
3. Site Hazard Assessment Drive-by/Visit by Michael Spencer, July 23, 1998.
4. U.S.G.S. Topographic Quad. Map, Raymond, WA 7.5 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, A ril 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. A Catalog of Washington Streams and Salmon Utilization, Vol. 2, Coastal, Washington Dept. of Fisheries, November 1975.