Site Hazard Assessment
Worksheet 1
Summary Score Sheet

SITE INFORMATION

Name: BNSF S Hood St Rental Property
Address: S Hood St
City: Tacoma **County:** Pierce **State:** WA **Zip:** 98402
Section/Township/Range: 09 / 20N / 03E
Latitude: 47.23766 **Longitude:** -122.43816
Facility Site ID Number: 969

Site assessed/ranked for the February 2011 update.

October 21, 2010

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

General Site Description

The subject site is located on Burlington Northern Santa Fe Railway (BNSF) Right of Way immediately west of tax parcel 0320096003 and occupies an area of approximately 0.3 acres. The site is zoned "Warehouse/Residential" and is located in the City of Tacoma. The site lies primarily along the right of ways for both *Hood Street* and *South 25th Street* and is surrounded by offices, vacant land, and warehouses. The *Thea Foss Waterway* lies one thousand seven hundred feet (1,700') from the site. The majority of the site is paved but small portions of it are not. The nearest catch basin is CB-14834 and sheen sheet flow was witnessed entering into the catch basin. This catch basin is connected to the City of Tacoma's storm sewer system and ultimately discharges into the *Thea Foss Waterway* at Outfall – 13739, approximately two thousand eighty three feet away.

Subsurface conditions at the property likely consist mainly of gravelly silt and silty sand, to a depth of approximately thirteen feet (13'). Groundwater is likely present at approximately five feet to twenty feet below ground surface (5' – 20' bgs). These are typical subsurface characteristics for properties located in this section of Tacoma. Groundwater is assumed to flow northeasterly down gradient towards the *Thea Foss Waterway*.

Site History

On November 6, 2008 an estimated fifteen to twenty gallons of home heating oil were released when a vehicle accidentally backed into a damaged home heating oil tank and several garbage cans containing the heating oil.

On November 7, 2008 The City of Tacoma (CoT), Washington State Department of Ecology (Ecology) Spill Response responded to the incident to investigate. The responsible party, an adjacent tenant, had already contracted the services of NRC Environmental Services (NRC) to

clean up the release. NRC was onsite during the Cot and Ecology inspections. Ecology concluded their response by referring the follow-up of the incident to the Tacoma-Pierce County Health Department (the Health Department). The Health Department arrived at the site and conducted an Initial Investigation (II) explained.

On June 17, 2009 the Health Department submitted their Initial Investigation with the recommendation that the site be listed on the Integrated Site Information System database. The site was placed on the Confirmed or Suspected Contaminated Sites List with a status of "Awaiting SHA" on November 4, 2009.

On August 13, 2010, GeoEngineers, Inc. submitted a report titled "Confirmation Sampling Report Diesel Fuel Oil Release ERTS Number 609376 2500 South Hood Street Tacoma, Washington" (Report). The report stated the initial incident, NRC response, and the collection of seven subsurface soil samples for NWTPH-Dx analysis. Samples were collected at a depth between 0 – 0.5 feet below ground surface (bgs). All the samples were collected along the Hood Street right of way. The laboratory data indicates that TPH-dx and Motor Oil are **not** present at concentrations that exceed the Model Toxics Control Act Method A Cleanup Levels for Unrestricted Landuse (MTCA Method A – Soil). The report was submitted to Ecology's ISIS manager and the Health Department.

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):

The scope of this Site Hazard Assessment did not include a hydrogeologic survey of the subject site and surrounding area. The groundwater contamination documented or inferred at the subject site is therefore considered to have the potential to impact any well located within the prescribed 2-mile radius and all such wells were used in the scoring process.

ROUTE SCORES:

Surface Water/Human Health:	**15.7**	Surface Water/Environ.	**23.6**
Air/Human Health:	**NS**	Air/ Environmental:	**NS**
Ground Water/Human Health:	**33.3**		

OVERALL RANK: 4

Worksheet 2--Route Documentation

1. SURFACE WATER ROUTE:

a. List those substances to be considered for scoring: **Source: 1,2,3**

TPH-dx

b. Explain basis for choice of substances(s) to be used in scoring:

TPH-dx will be used to score this site due to available analytical data and the fact that the constituent is available to the Surface Water route due to less than perfect containment.

c. List those management units to be considered for scoring: **Source: 1,2,3**

Spills, Discharges, and Contaminated Soil

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

Spills, Discharges, and Contaminated Soil Contamination will be the management unit used for scoring due to the documented surface release.

2. AIR ROUTE: Not Scored

a. List those substances to be considered for scoring: **Source: 1,2,3**

b. Explain basis for choice of substances(s) to be used in scoring:

c. List those management units to be considered for scoring: **Source: 1,2,3**

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

3. GROUND WATER ROUTE:

a. List those substances to be considered for scoring: **Source: 1,2,3**

TPH-Dx

b. Explain basis for choice of substances(s) to be used in scoring:

TPH-dx will be used to score this site due to available analytical data and the fact that the constituent is available to the Ground Water route due to less than perfect containment.

c. List those management units to be considered for scoring: **Source: 1,2,3**

Spills, Discharges, and Contaminated Soil

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

Spills, Discharges, and Contaminated Soil Contamination will be the management unit used for scoring due to the documented surface release.

Worksheet 4 - Surface Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Substance	Drinking Water Standard (ug/1)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg-bw)	Val.	Carcinogenicity WOE	Carcinogenicity PF*	Val.
1	TPH-diesel	160	4	490 (rat)	5	0.004	3	--	--	ND
2										
3										
4										
5										
6										

*Potency Factor

Source: 3

Highest Value: 5 (Max=10)

Plus 2 Bonus Points? 0

Final Toxicity Value: 5 (Max=12)

1.2 Environmental Toxicity

	Substance	☐ Freshwater ☒ Marine Acute Water Quality Criteria	Value	Non-human Mammalian Acute Toxicity (mg/kg)	Value
1	TPH-Diesel	2350	2		
2					
3					
4					
5					
6					

Source: 2

Value: 2 (Max 10)

1.3 Substance Quantity

Substance Quantity: 1 – 200 Gallons

Explain Basis: NRC estimated 15-20 Gallons.

Source: 2

Value: 1 (Max 10)

Worksheet 4 (cont'd)

2.0 MIGRATION POTENTIAL		SOURCE	VALUE
2.1	**Containment** Spills, Discharge, and Contaminated Soil **Explain Basis:** No run-on run-off control , piped to surface water	2	**10** (Max = 10)
2.2	**Surface Soil Permeability:** run-off from the site enters a storm drain that discharges to surface water.	2	**7** (Max = 7)
2.3	**Total Annual Precipitation:** 35 inches	9,11	**3** (Max = 5)
2.4	**Max. 2-Yr/24-hour Precipitation:** > 2-4	2	**3** (Max = 5)
2.5	**Flood Plain:** Not in flood plain	11	**0** (Max = 2)
2.6	**Terrain Slope:** (110/1888)100 = 5.826%	11	**3** (Max = 5)

3.0 TARGETS		SOURCE	VALUE
3.1	**Distance to Surface Water:** 2083 feet along storm sewer to the Thea Foss Waterway.	11	**7** (Max = 10)
3.2	**Population served within 2 miles (See WARM Scoring Manua regarding direction): √ pop.= √ 0 = 0**	11	**0** (Max = 75)
3.3	**Area irrigated within 2 miles: (0.75) √ no. acres =** **(Refer to note in 3.2.) : (0.75) √ 0 = 0**	11	**0** (Max = 30)
3.4	**Distance to nearest fishery resource:** > 1,000 ft – 2,500 ft	11	**9** (Max = 12)
3.5	**Distance to, and name(s) of, nearest sensitive environment(s)** >1,000 ft – 2,500 ft, Critical Salmon Habitat	11	**9** (Max = 12)

4.0 RELEASE	Source	Value
Explain basis for scoring a release to surface water: No confirmed release	1	**0** (Max = 5)

Worksheet 6 – Ground Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Substance	Drinking Water Standard (ug/1)	Val	Acute Toxicity (mg/kg-bw)	Val	Chronic Toxicity (mg/kg/day)	Val	Carcinogenicity		Val
								WOE	PF*	
1	TPH-diesel	160	4	490 (rat)	5	0.004	3	--	--	ND
2										
3										
4										
5										
6										

***Potency Factor**

Source: **2, 3**

Highest Value: **5** (Max=10)

Plus 2 Bonus Points? **0**

Final Toxicity Value: **5** (Max=12)

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

Cations/Anions:	OR	Solubility (mg/1):
1=		1= **TPH-Diesel = 30 = 1**
2=		2=
3=		3=
4=		4=
5=		5=
6=		6=

Source: **2, 3**

Value: **1** (Max=3)

1.3 Substance Quantity: 1 – 200 Gallons

Explain basis: NRC estimated 15-20 Gallons.

Source: **1, 2**

Value: **1** (Max=10)

Worksheet 6 (cont'd)

2.0 MIGRATION POTENTIAL

2.1	**Containment** Spills, Discharges, and Contaminated Soil **Explain basis:**	**Source: 1, 2**	**Value: 10** (Max = 10)
2.2	**Net precipitation:** (Nov. – Apr.) 22.9 inches (29.3'' – 6.4'')	**Source: 2, 9**	**Value: 3** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Sandy Silt	**Source: 1, 2**	**Value: 3** (Max = 4)
2.4	**Vertical depth to ground water:** 0-25 **feet**	**Source: 1,2,7**	**Value: 8** (Max = 8)

3.0 TARGETS

3.1	**Ground water usage:** EPA Sole Source Aquifer	**Source: 2, 11**	**Value: 10** (Max = 10)
3.2	**Distance to nearest drinking water well:** 278' **feet.** (Tacoma star ice)	**Source: 2,7,11**	**Value: 5** (Max = 5)
3.3	**Population served within 2 miles: √ pop. =** √ 359811 = >100	**Source: 2,8,11**	**Value: 100** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles: (0.75)** √ 345 **No. acres =** 0 = 0	**Source: 2, 6**	**Value: 0** (Max = 50)

4.0 RELEASE

Explain basis for scoring a release to ground water: No release confirmed.	**Source: 1, 2**	**Value: 0** (Max = 5)

Sources Used in Scoring

1. Tacoma-Pierce County Health Department Site Hazard Assessment File/Ecology TCP File
2. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
3. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
4. U.S. Department of Interior Geological Survey Topographical Map
5. Soil Survey of Pierce County, U.S.D.A. Soil Conservation Service
6. Water Rights Information System (WRIS), Ecology
7. Department of Ecology/Tacoma-Pierce County Health Department Well Logs
8. Washington State Department of Health Public Water Supply System
9. Washington Climate for Pierce County, National Weather Service Forecast Office
10. Department of Fish and Wildlife, Catalog of Washington Streams and Salmon
11. Pierce County Geographic Information System Countyview Database