

Site Hazard Assessment Worksheet 1 Summary Score Sheet

SITE INFORMATION

Name: Gig Harbor Transmission
Address: 14610 Purdy Dr. NW
City: Gig Harbor **County:** Pierce **State:** WA **Zip:** 98332
Section/Township/Range: 13 / 22N / 01E
Latitude: 47.39093 **Longitude:** -122.62652
Facility Site ID Number: 11876

Site assessed/ranked for the February 2011 update.

October 26, 2010

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

General Site Description

The subject site is located approximately one and one half miles north of the City of Gig Harbor (the City) and is zoned as "Residential -10". It occupies approximately 0.35 acres and is currently an automotive repair service station specializing in transmission service. Bay City Motor, Inc. serves as the subject site's southern border. North of Gig Harbor Transmission is C&M Automotive, another auto service station. Residential property lies adjacent along the subject site's west border and *Purdy Drive NW* is the eastern border. The Burley Lagoon is less than one thousand feet (<1000') to the west. The Burley Lagoon is tidally influenced and is hydraulically connected to Henderson Bay, Puget Sound. The topography is relatively flat and the subject site rests at approximately fifty feet (50') above sea level.

The nearest drinking water well is a Group A Water System, West Wynd, located three hundred twenty seven feet (327') south. This water system serves a population of approximately one hundred (100) residents. The median depth to ground water derived from seventeen (17) wells within a two-mile radius is one hundred forty one feet below ground surface (141 ft bgs). The geology of the area is described as Fraser age Pleistocene continental glacial till. The subsurface soil characteristics are described as Harstine gravelly sandy loam with a slight erosion hazard¹.

¹ Soil Survey of Pierce County Washington, Pierce County Planning Cartography Lab, April 3, 2000.

Site History

On December 8, 2008, the Tacoma-Pierce County Health Department (the Health Department) received an anonymous complaint that the business operating on the site, Transmission Service of Gig Harbor, was pressure washing the under-surface of automobiles prior to transmission service. This practice was occurring over non-paved surfaces. The report indicated an absence of any containment or capture management practice. The Health Department notified the Washington State Department of Ecology (Ecology) and the complaint was received by the Environmental Report Tracking System (ERTS) coordinator. The incident was given an ERTS number and referred back to the Health Department for delegated regulatory oversight through the Initial Investigation (II) process, pursuant to the Model Toxics Control Act².

On January 14, 2009, Health Department staff met the business manager at the site. Dark staining and odors consistent with petroleum contaminated soil (PCS) were noted along the edges of the hydraulic lift. Impacted soil was also observed along the trench between the buildings and a section of west of the main office. A drain, located on the northwest corner of the cement pad, housing the hydraulic lift, was filled with heavily impacted silts and soils. The site manager was advised to contact an environmental professional to determine the type and extent of the contamination and facilitate the proper disposal of contaminated soils.

On March 12, 2009, Health Department staff arrived to collect samples for laboratory analysis. The property owner and business manager were present. The business manager stated that he had excavated the soil on the north side of the lift and disposed of the PCS in the municipal waste stream. Surface soil samples were collected from the north side of the cement pad housing the hydraulic lift and from the surface soil on the west side of the main office. Ultimately, the samples were analyzed for total petroleum hydrocarbons-diesel (TPH-dx) via Ecology Method NWTPH-Dx, volatile organic compounds (VOCs) via EPA Method 8260, polycyclic aromatic hydrocarbons (PAHs) via EPA Method 8270-SIM, Resource Conservation Recovery Act Metals (RCRA 8) via EPA Method 6010/7471A, and for disposal purposes, toxicity characteristic leaching procedure metals (TCLP).

Laboratory analysis concluded that heavy oil range petroleum hydrocarbons (TPH-oil), carcinogenic PAHs (cPAHs), cadmium (Cd) and lead (Pb) contamination remained in the soils west of the office building at concentrations that exceed the Model Toxics Control Act Method A Cleanup Levels for Unrestricted Landuse (MTCA Method A – Soil). Results are provided below in Table 1.

Table 1

Gig Harbor Transmission Soil Samples (mg/kg)					
Sample ID	Date	TPH-Oil	cPAH (TEF)	Cadmium	Lead
1	3.12.09	180	ND	ND	120
2	3.12.09	29000	0.19	8.8	400
MTCA Method A CULs		2,000	0.1	2	250

² Washington Administrative Code 173-340-310

On April 7, 2009, the Health Department issued a letter to the property owners detailing the sample results. The Health Department suggested that an environment professional be consulted to discuss an appropriate remedial action.

On July 8, 2009 the Health department submitted the Initial Investigation Field Report (Report) to Ecology. The Health Department recommended that the subject site be listed on Ecology's database of Confirmed or Suspected Contaminated Sites (CSCSL).

On December 9, 2009, Ecology issued an Early Notice Letter to the property owners explaining that the subject property has been added to the CSCSL with a status of "Awaiting SHA".

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: **NS**

Surface Water/Environ. **NS**

Air/Human Health: **NS**

Air/ Environmental: **NS**

Ground Water/Human Health: **51.5**

OVERALL RANK:

3

Worksheet 2--Route Documentation

1. SURFACE WATER 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:

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-oil, cPAHs, Cd, Pb

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

TPH-oil, cPAHs, Cd, and Pb will be used to score this site due to laboratory confirmation of contamination and the fact that they are available to the groundwater 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 soil release verified through sampling and analysis.

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	Carcinogenicity		Val	
							WOE	PF*		
1	TPH-oil	--	ND	--	ND	--	ND	--	--	ND
2	(benzo[a]pyrene)	0.2	10	50(rat)	10	--	ND	B2	12	7
3	Cadmium	5	8	225(rat)	5	0.0005	5	B1	--	ND
4	Lead	15	6	--	ND	0.001	10	--	--	ND
5										
6										

*Potency Factor

Source: 2,3

Highest Value: 10
(Max=10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 12
(Max=12)

1.2 Mobility (Use numbers to refer to above listed substances)	
Cations/Anions:	OR Solubility (mg/l):
1=	1= TPH-Oil = 0
2=	2= benzo[a]pyrene = 0
3= Cadmium = 3	3=
4= Lead = 2	4=
5=	5=
6=	6=
Source: <u>2,3</u> Value: <u>3</u> (Max=3)	
1.3 Substance Quantity: 40.5 cubic yards	
Explain basis: Estimated areal extent of contamination and default of three feet depth.	Source: <u>1,2</u> Value: <u>2</u> (Max=10)

2.0 MIGRATION POTENTIAL

2.1	Containment Spills, Discharges, and Contaminated Soil Explain basis: Scored as a landfill with a no cover (5), no liner (3), and no leachate collection system (2).	Source: <u>1,2</u>	Value: 10 (Max = 10)
2.2	Net precipitation: Nov – April precipitation (averaged) = 40.3 inches for nearest weather station at Wauna; averaged PET of Pierce Co used 5.1 inches as no area data available; $40.3 - 5.1 =$ inches	Source: <u>2,9</u>	Value: 4 (Max = 5)
2.3	Subsurface hydraulic conductivity: Permeable till	Source: <u>1,2</u>	Value: 3 (Max = 4)
2.4	Vertical depth to ground water: <u>$\geq 100-200$ feet</u>	Source: <u>1,2,7</u>	Value: 3 (Max = 8)

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3.0 TARGETS

3.1	Ground water usage: Public supply; no alternate unthreatened sources available with minimal hookups	Source: <u>2,11</u>	Value: 9 (Max = 10)
3.2	Distance to nearest drinking water well: <u>327' feet.</u> (West Wynd, Group A)	Source: <u>2,7,11</u>	Value: 5 (Max = 5)
3.3	Population served within 2 miles: $\sqrt{\text{pop.}} = \sqrt{4487} = \underline{66.98}$	Source: <u>2,8,11</u>	Value: 67 (Max = 100)
3.4	Area irrigated by (groundwater) wells within 2 miles: $(0.75) \sqrt{400 \text{ No. acres}} = \underline{20} = 15$	Source: <u>2,6</u>	Value: 15 (Max = 50)

4.0 RELEASE

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