CSID 1763

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment scoring route.

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

25th & Holgate S
Tacoma, WA 98402
Pierce County
T-20 R-3E Section-9
TCP ID: S-27-6252-000

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

Site Description/History:
The subject site, 25th and Holgate, is a street intersection that is located near the south side of the 'downtown' area in Tacoma, Washington. At the time of the Site Hazard Assessment (SHA), 25th and Holgate was situated in one of the larger, older areas of the city that still remained to be in the same approximate state that it was in at the time of its initial development. Many of the buildings in the area were brick structures that had been built by one of several different breweries that dominated the area just prior to the turn of the century. Near the turn of the century, the four corners of the subject intersection were primarily occupied by the "Pacific Brewing and Malting Company". However, by May of 1915, the Pacific Brewing and Malting Company was no longer in operation and the largest of its buildings, located on the southwest corner of the intersection, had become occupied by the Tacoma Ice Company, the National Coconut Butter Company and the National Coconut Soap Company. Along with the new site tenants came new facility upgrades that occurred between 1912 and 1938. These upgrades included converting the power sources at the facility to run on petroleum based fuels rather than coal / coke based fuels. In the process, several large boilers were installed in the north end of the building and a large underground storage tank was installed beneath 25th Street for oil storage. According to historical site data, the location of the oil tank was immediately adjacent to the boiler room, eight feet beneath 25th Street.

The subject site is situated on the hillside of an older portion of downtown Tacoma. The hillside consists primarily of consolidated glacial till deposits and topography that dips moderately to the east. The base of the hillside terminates in alluvial sediments, (a.k.a. the Tacoma tideflats) which are located only several blocks due east of the site. At the time of the SHA, the area immediately down gradient of the site was utilized primarily for industrial / commercial land use purposes. The release of petroleum related compounds at this site did not appear to pose an immediate threat to the groundwater in the area because there were no known public drinking water wells immediately down gradient of the site at that time. The closest surface water body to the site was the Thea Foss Waterway, which was situated approximately 1,750 feet to the northeast. The majority of the ground surface between the site and the Thea Foss Waterway was covered by relatively impervious surfaces such as asphalt, concrete or building footprints.

During early October, 1996, the City of Tacoma (the City), the Tacoma-Pierce County Health Department (TPCHD) and the Washington State Department of Ecology (Ecology) were notified that petroleum contaminated soils were encountered during excavation activities near the above referenced intersection. As a result, the City, Ecology and the TPCHD responded to the report by initiating an investigation in the area to determine the potential source(s) of the release. During the early stages of the investigation strong petroleum odors and sheens were observed in a portion of

the sanitary sewer line near the site, free product (petroleum) was observed to be oozing from a the sidewalls of utility trench (down gradient of the site) and oil was observed to be seeping from the sidewalls of an underground tunnel (which was also located immediately down gradient of the site). These observations were then followed by the discovery of the large abandoned underground vault that was located beneath South 25th Street. The vault was located on the west side of the intersection, immediately adjacent to 312 South 25th Street, and was reported to contain residual Bunker C fuel oil.

Based on the location and size of the vault discussed above, the City determined that the preferred option for decommissioning the storage unit would be for an in-place closure rather than complete removal. In this way, large scale excavation activities could be avoided near numerous utility lines and the structural integrity of the adjacent structures would not be compromised. Also at the City's request, it was determined that Ecology would take the lead in providing the necessary oversight during the closure project. As a result, on January 28, 1998, the site was also added to Ecology's Site Information System (S.I.S. database) of suspected and confirmed contaminated sites and recommended for a SHA.

In early April, 1997, Ecology initiated an interim cleanup action at the site to close the tank in place. In doing so, the environmental services of "Coastal Tank Cleaning" and "Olympus Environmental" were retained to assist with the project. During the closure activities, Coasal Tank Cleaning removed over 10,000 gallons of oil and wash water from the vault. Olympus Environmental inspected the vault after it was cleaned and also assisted in coordinating the closure activities. Based on the final Olympus report, the vault was determined to be a cast in place and made of concrete. The structure measured 25' X 10' X 10' and was estimated to have a maximum capacity of 20,000 gallons. On April 23, 1997, the vault was permanently abandoned in place with concrete fill.

The SHA was initiated by the TPCHD in early 1998 to fulfill data requirements for subsequent scoring/ranking of the site under the Washington Ranking Method. Due to the existing site specific analytical data and the additional information provided by others, the SHA Program determined that further site sampling was beyond the scope of the SHA. As a result, the ranked value for 25th and Holgate site was based on the site specific laboratory analysis data which was documented by the City of Tacoma and Ecology during late 1996 and early 1997.

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: N.S. Surface Water/Environ.: N.S.

Air/Human Health: N.S. Air/Environmental: N.S.

Ground Water/Human Health: 23.5

WARMSSH
Rev. 7/12/94

OVERALL RANK: 5

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

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

Not applicable to site / Not scored. Known contamination is reported to subsurface in nature only.

2. **AIR ROUTE**

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

Not applicable to site / not scored. Known contamination is reported to subsurface in nature only.

3. GROUND WATER ROUTE

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

Lead (up to 500 ppm, MTCA = 250 ppm), **TPH (Diesel)** (reported free product), **TPH (Other)**(reported free product). TPH reported at 454,000 ppm (45%) in soil.

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

TPH (Diesel) was used in scoring the ground water route as it's measured concentration exceeded its respective MTCA Method "A" Cleanup Level. Diesel was available to the ground water route through less than perfect containment.

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

Contaminated Soil.

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

Contaminated soil was the management unit scored for the ground water route. Contaminated soil was scored on the basis of diesel and lead being detected at concentrations that exceeded their respective MTCA Cleanup Level.

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 WOE	PF*	Val.
1. TPH (Diesel)	20	6	490 (rat)	5	0.004	3	--	---	ND

*Potency Factor

Source: 1-3
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: 1-3 **Value:** 1 (Max.=3)

OR
Solubility(mg/l): 1.) = 3.0E+01 = 1

1.3 Substance Quantity: Unknown Source: 3 **Value:** 1 (Max.=10)
Explain basis: All contamination appeared to be subsurface in nature. Therefore, the default value of "1" was used in the scoring.

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 2-4 **Value:** 9 (Max.=10)
Explain basis: Contaminated area was scored as having a cover (asphalt and buildings) but no liner or collection system.

2.2 Net Precipitation: 19.1" (Tacoma) Source: 5 **Value:** 2 (Max.=5)

2.3 Subsurface Hydraulic Conductivity: mod. Perm. till Source: 6 **Value:** 2 (Max.=4)

2.4 Vertical Depth to Ground Water: 220 ft. Source: 10,11 **Value:** 2 (Max.=8)
For aquifer of concern.

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: Sole Source Aquifer — Source: 10-12 — **Value: 10** (Max.=10)

3.2 Distance to Nearest Drinking Water Well: >5000 ft. — Source: 10-12 — **Value: 1** (Max.=5)

3.3 Population Served within 2 Miles: √pop.= >10,000 — Source: 10,12 — **Value: 100** (Max.=100)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: 0.75√acres — Source: 12 — **Value: 0** (Max.=50)

0.75√ = 0.75 (0) = 0

4.0 RELEASE

Explain basis for scoring a release to ground water: No documentation was made of contaminants being released to the groundwater. — Source: 3 — **Value: 0** (Max.=5)

SOURCES USED IN SCORING

1. Washington Department of Ecology, WARM Scoring Manual, April 1992.

2. Washington Department of Ecology, Toxicology Database for use in Washington Ranking Method Scoring, January 1992.

3. Tacoma-Pierce County Health Department 1998 SHA, on-site observations, file review, laboratory analysis data.

4. Sanborn Map data from Tacoma Public Library. Maps 1912, Volume Two & 1912-1930, Volume Two (pages 180 and 187).

5. Washington Climate for Pierce County, National Weather Service Forecast Office.

6. Soil Survey of Pierce County Washington, United States of Agriculture Soil Conservation Service.

7. U.S.G.S. Topo Map, 7.5 Min. Series, Photorev. 1981.

8. The Thomas Guide, Pierce County Street Guide and Directory, 1994 Edition.

9. Washington Atlas and Gazetteer.

10. DOH Public Water Supply System (DWAIN).

11. DOE/TPCHD Well Logs.

12. DOE Water Rights Information System (WRIS).

WASHINGTON RANKING METHOD SCORING PACKAGE		
Input values from worksheets 4, 5, and 6 to these three spreadsheets. Press F9 or right mouse button to calculate scores. **25th & Holgate, Tacoma**		
WORKSHEET 6		
GROUND WATER ROUTE		
	Site 1	Site 2
SUBSTANCE CHARACTERISTICS		
Toxicity	6	6
Mobility	1	1
Substance Quantity	1	1
Containment	9	9
MIGRATION		
Net Precipitation	2	2
Hydraulic Conductivity	2	2
Depth to Ground Water	2	2
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TARGETS		
Aquifer Usage	10	10
Nearest Well Distance	1	1
Population Served	100	100
Area Irrigated	0	0

RELEASE	0	0
	========	========
GW ROUTE SCORE	23.5	23.5
	========	========
	========	========

WASHINGTON RANKING METHOD SCORING PACKAGE

Input values from worksheets 4, 5, and 6 to these three spreadsheets.
Press F9 or right mouse button to calculate scores.

25th & Holgate, Tacoma

SCORE SUMMARY	Site 1	2
Surface Water Human Health	0.0	0.0
Air Human Health	0.0	0.0
Ground Water Human Health	23.5	23.5
Surface Water Environment	0.0	0.0
Air Environment	0.0	0.0
HUMAN HEALTH PRIORITY:		

Select the high, middle, and low score from the three route scores for human health.

	1	2
High:	0.0	0.0
Medium:	0.0	0.0
Low:	0.0	0.0
Human Health Priority:	0.0	0.0

ENVIRONMENTAL PRIORITY:

Select the high and low score from the air and surface water routes for environment.

	1	2
High:	0.0	0.0
Low:	0.0	0.0
Environmental Priority:	0.0	0.0