

CSID 6046

SITE HAZARD ASSESSMENT
WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Gorst Gas Mart
4121 W. State Hwy 16
Bremerton, WA 98312

Section/Township/Range: S32 T24N R1E
Latitude: 47° 31' 35.81" N
Longitude: 122° 42' 1" 3.42" W
Ecology Facility Site ID No.: 42271459

*Site scored/ranked for the August 20th 2008, update
July 16, 2008*

SITE DESCRIPTION (management areas, substances of concern, and quantities):

The Gorst Gas Mart is located in unincorporated Kitsap County at the head of Sinclair Inlet in an area historically known as Gorst. Gorst is about two miles southwest of Bremerton, WA and is about three miles west of Port Orchard, WA. Gorst is at the intersection of two state highways; Hwy 16 and Hwy 3. As such, the immediate area contains mostly commercial development. Historically, there have been several gas stations in the area and on this site. Another confirmed underground storage tank (UST), at an old gas station, is located across Hwy 16, approximately 250 feet to the east.

In 2001 the owners of the property had a Phase II Environmental Site Assessment (ESA) conducted at the site. The ESA indicated that there was a 6,000 gallon UST on site. The owners hired an environmental cleanup company, the Radix Ortega Group, to conduct a UST decommissioning. During the cleanup, three additional USTs were found, each 1000 gallons. Gasoline range petroleum contaminated soil (PCS) was also found during the excavation along with distribution lines and piping.

According to the cleanup report the four tanks and over 2000 tons of PCS were removed from the site. Sampling after excavation revealed that gasoline range PCS was still in place at the north end of the excavation on or near the property line. The PCS left in place was off the property and apparently under an access ramp of the state highway. The amount of PCS left in place is unknown. See the attached Figure 1. The owner of the property with PCS contamination is the Washington State Department of Transportation.

The Gorst Gas Mart owners contacted Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP) in February of 2001 with notification of release. The property owners followed up with a tank decommissioning report in November 2001. Ecology required groundwater monitoring and a monitoring report was submitted in November of 2002.

Several documents were submitted to Ecology's VCP program. They are:

- Pleasant Valley Apartments, Inc. Commercial Property Voluntary Cleanup Kash-N-Dash Texaco Final Report, The Radix Ortega Group, November 29, 2001.
- Kash-N-Dash Texaco Amended Figures Letter, The Radix Ortega Group, June 19, 2002
- November 2002 Quarterly Groundwater Monitoring Report, Kash-N-Dash Texaco, The Radix Ortega Group, November 20, 2002

The VCP program sent a letter to the cleanup company, The Radix Ortega Group, on October 2, 2002, requesting one additional quarter of sampling. The agent for the owner responded in November 2002 with a report containing the full year of sampling as required by VCP. Ecology responded that it was not sufficient and in May 2006 the VCP status was rescinded.

The property owner was notified in September of 2007 that a Site Hazard Assessment (SHA) would be conducted of the property.

Sampling Results

The Radix Ortega Group sampled numerous locations around and in the excavations for the tank and contaminated soil. One soil sample and one groundwater sample showed contamination in excess of MTCA standards. See Table 1 below.

Table 1. SAMPLING RESULTS (Exceedances only)

| Sample No. | Matrix | Analyte Found | Sample Result (ppm) | Applicable Standard (ppm) |
|--------------|--------|--------------------------------------|---------------------|---------------------------|
| KND-EXC2-W-1 | Soil | Benzene | 0.2 ppm | 0.03 |
| | | Xylenes | 13.6 ppm | 9 |
| | | Gasoline range organics with benzene | 980 ppm | 30 |
| KND-MW2 | Water | | (ppb) | (ppb) |
| | | Benzene | 7.9 ppb | 5.0 |
| | | Gasoline range organics with benzene | 2100 ppb | 1000 |

*MTCA A refers to the Model Toxics Control Act Table 720-1 and 740-1 Method A Cleanup Levels

SHA Site Visit

On July 10, 2008, Health District staff conducted a site visit. During the site visit the figures in the Radix Ortega Reports were found to be in error. The north directional arrow, the outline of the buildings in the figures, and the relationship of the two bordering properties are incorrect. The footprint of the excavated area does not match observations from the site visit. Cuts in the asphalt were observed indicating where the excavation most likely occurred. Figure 1 is an aerial photo with

notations showing the probable area of excavation. A copy of one of the figures from the final report is attached for comparison purposes.

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):

Due to the significant contamination documented on-site being primarily subsurface, the surface water and air routes are not applicable for WARM scoring for this site. Thus, only the groundwater route will be scored.

This site is located in an area that has had numerous gas stations operating over the years. There is potential for cross contamination from another site.

ROUTE SCORES:

Surface Water/Human Health: NS
Air/Human Health: NS
Groundwater/Human Health: 47.1

Surface Water/Environmental: NS
Air/Environmental: NS

OVERALL RANK: 3

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE** – *Not Scored*

- a. List those substances to be considered for scoring: Source:
- b. Explain basis for choice of substance(s) to be used in scoring.
- c. List those management units to be considered for scoring: Source:
- 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:
- b. Explain basis for choice of substance(s) to be used in scoring:
- c. List those management units to be considered for scoring: Source:
- d. Explain basis for choice of unit to be used in scoring:

3. **GROUNDWATER ROUTE**

- a. List those substances to be considered for scoring: Source: 1,2
TPH-Gx (Benzene), xylenes,
- b. Explain basis for choice of substance(s) to be used in scoring:
These substances were detected in on-site subsurface soil and groundwater samples associated with the site in concentrations exceeding their respective MTCA cleanup levels.
- c. List those management units to be considered for scoring: Source: 1,2
Subsurface soils and groundwater.
- d. Explain basis for choice of unit to be used in scoring:
The contaminating substances were detected in on-site subsurface soil and groundwater samples in concentrations exceeding their respective MTCA cleanup levels.

WORKSHEET 6
 Groundwater Route

1.0 SUBSTANCE CHARACTERISTICS

| 1.2 Human Toxicity | | | | | | | | | | |
|---------------------------|------------------|--------------------------------|-------|----------------------------|-------|------------------------------|-------|-----------------|------|-------|
| | Substance | Drinking Water Standard (µg/L) | Value | Acute Toxicity (mg/ kg-bw) | Value | Chronic Toxicity (mg/kg/day) | Value | Carcinogenicity | | Value |
| | | | | | | | | WOE | PF* | |
| 1 | TPH-Gx (benzene) | 5 | 8 | 3306 | 3 | ND | - | A=1 | .029 | 5 |
| 2 | Xylenes | 10,000 | 2 | 50 | 10 | 2 | 1 | ND | ND | - |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| | | | | | | | | | | |

* Potency Factor

Source: 1,2,5
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= $1.8 \times 10^3 = 3$ |
| 2= | | 2= $1.5 \times 10^2 = 2$ |
| 3= | | 3= |
| 4= | | 4= |
| 5= | | 5= |

Source: 4,5
Value: 3
 (Max = 3)

| | |
|--|---|
| 1.3 Substance Quantity: | |
| Explain basis: Unknown, use default = 1 | Source: <u>1,2,5</u> Value: 1 (Max=10) |

2.0 MIGRATION POTENTIAL

| | | Source | Value |
|------------|---|--------|------------------------|
| 2.1 | Containment (explain basis): Contaminated area capped, scored as a landfill: i) No liner (3); ii) Low permeability cover (1); iii) No leachate collection system (2) = 6 | 4,5 | <u>6</u> (Max = 10) |
| 2.2 | Net precipitation: 29.7" - 5.1" = 24.1" | 6 | <u>3</u> (Max = 5) |
| 2.3 | Subsurface hydraulic conductivity: Poorly sorted sand, gravel | 1,2 | <u>4</u> (Max = 4) |
| 2.4 | Vertical depth to groundwater: Observed release = 0' | 1,2 | <u>8</u> (Max = 8) |

3.0 TARGETS

| | | Source | Value |
|------------|--|--------|---------------------------|
| 3.1 | Groundwater usage: Public supply, unthreatened alternatives available | 7,8 | <u>4</u> (Max = 10) |
| 3.2 | Distance to nearest drinking water well: 4,500 feet | 7,8 | <u>2</u> (Max = 5) |
| 3.3 | Population served within 2 miles: >10,000 = 100 | 7,8 | <u>100</u> (Max = 100) |
| 3.4 | Area irrigated by (groundwater) wells within 2 miles: None | 7,8 | <u>0</u> (Max = 50) |

4.0 RELEASE

| | | Source | Value |
|--|---|--------|-----------------------|
| | Explain basis for scoring a release to groundwater: Confirmed by presence of product in groundwater. | 1,2 | <u>5</u> (Max = 5) |

SOURCES USED IN SCORING

1. Pleasant Valley Apartments, Inc. Commercial Property Voluntary Cleanup Kash-N-Dash Texaco Final Report, The Radix Ortega Group, November 29, 2001.
2. November 2002 Quarterly Groundwater Monitoring Report, Kash-N-Dash Texaco, The Radix Ortega Group, November 20, 2002
3. Site hazard assessment site visit by Grant Holdcroft, Kitsap County Health District, July 10, 2008
4. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
5. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
6. Washington Climate – Net Rainfall Table
7. Washington State Department of Ecology, Water Rights Application System (WRATS) printout for two-mile radius of site.
8. Washington State Department of Health, SADIE Database printout for public water supplies

Figure 1. Gorst Gas Mart Vicinity Map



