Reviewed 8/5
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SITE HAZARD ASSESSMENT
WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Name: Performance Corner
Address: 3025 Martin Way East
City: Olympia **County:** Thurston **State:** WA **Zip:** 98506
Section/Township/Range: S18/T18/R1W
Latitude: 47.04636 **Longitude:** 122.85561
TCP ID # 39211944
Site scored/ranked for the August 2009 update.
Date Scored: June 9, 2009

SITE DESCRIPTION:

The site is located along the 3000 Block of Martin Way, east of downtown Olympia. The property was originally developed in 1946 as a gasoline service station. Available information suggests that the gasoline station operated until 1974. From 1974 to 1986 the site was occupied by Martin Way Motors, followed by Performance Corner Enterprises from 1990 to 1998. The site presently contains a landscape supply company.

Soils at the site consist primarily of Yelm fine sandy loam and slope eastward towards Woodard Creek. Recent monitoring reports suggest that groundwater at the site ranges in depth from 15-20 feet below ground surface (bgs).

PREVIOUS SITE INVESTIGATIONS:

In August 1998, Associated Environmental Group L.L.C (AEG) conducted an environmental site assessment (ESA) to address underground storage tanks (USTs) at the site. The site contained three USTs: two 1,000-gallon gasoline USTs and one heating oil UST of unknown capacity. In 1988, the gasoline USTs were reportedly decommissioned "in place" and filled with inert material. Nineteen boreholes were advanced to a depth of 22 feet below ground surface (bgs) in areas surrounding the USTs. Subsequent soil and groundwater analysis confirmed the presence of gasoline-range hydrocarbons in excess of the Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels. AEG suggested that contaminant migration may be influenced by an onsite drinking water well. However, the AEG report did not contain well depth measurements or analytical testing results, and the site diagram did not display the well location. County staff could not locate the original well drillers report, however, the City of Olympia confirmed that municipal drinking water service was installed in February 1999.

In December 1998, Langseth Environmental Services, Inc. (Langseth) conducted a UST removal project. Following removal of the gasoline USTs, soil analysis confirmed the presence of gasoline-range hydrocarbons at concentrations exceeding MTCA Method A cleanup levels. The heating oil UST was subsequently removed and found to be free of obvious failures. Diesel-range hydrocarbons were not detected in the final excavation. Due to upcoming remedial activities, additional soil and groundwater samples were not collected.

Following removal of the USTs by Langseth, Saltbush Environmental Services, L.L.C. (Saltbush) completed a total of 10 exploratory test pits in January 1999. The purpose of the project was to confirm the lateral and vertical extent of contamination, as well as determine the most suitable remediation method. Soils from the test pits were evaluated utilizing field screening methods (e.g. photoionization detector, visual characterization). Based on field screening results, the extent of contamination was estimated to be approximately 80 feet long by 60 feet wide by 12-20 feet deep. Subsequent soil analysis confirmed the presence of gasoline-range hydrocarbons at concentrations up to 19,000 mg/kg (milligrams per kilogram). A total of 111 tons of petroleum-contaminated soils (PCS) from the test pits and previous UST removal project were removed from the site for permitted disposal.

Based on the results of the test pit project, Saltbush completed the installation of a Soil Vapor Extraction System (SVES) as well as four additional groundwater monitoring wells in January and February of 1999. The SVES included the completion of four soil vapor extraction wells, connected to activated carbon filters for treatment. The system was started March 26, 1999 and operated for approximately three years. Recent groundwater monitoring results are summarized below in Table 1.

TABLE 1: GROUNDWATER ANALYTICAL RESULTS

Sample #	Date	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-Gas	Total Lead
MW-2	12/5/01	**200**	**1,100**	**1,500**	**4,900**	**30,000**	**31.9**
MW-2	3/15/02	**7.7**	39.0	89.0	250	**2,100**	**15.8**
MW-2	6/27/02	**64.0**	360	360	**1200**	**9,700**	**17.7**
MW-2	5/23/06	**30.9**	134	157	480	**4,900**	3.0
MTCA[1]		5	1,000	700	1,000	800	15

[1] *MTCA Method A Cleanup Level.*
Bold entries indicate MTCA exceedances
All results are reported in micrograms per liter (ug/L)
nd-analyte not detected

CONCLUSION

Gasoline-range hydrocarbons, lead, and benzene, toluene, ethylbenzene, xylene (BTEX) have been consistently detected in groundwater at the site. The site was previously enrolled in Ecology's Voluntary Cleanup Program, but was removed from the program in February 2008 due to inactivity.

SPECIAL CONSIDERATIONS

Due to the contamination documented on-site being primarily subsurface, the surface water and air routes are not applicable for WARM scoring for this site.

ROUTE SCORES:

Surface Water/Human Health: **NS**
Air/Human Health: **NS**
Groundwater/Human Health: **76.1**
Surface Water/Environmental.: **NS**
Air/Environmental: **NS**

OVERALL RANK: 2

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: 1-4

      TPH-Gasoline, Lead, Benzene, Toluene, Ethylbenzene, Xylene

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

      TPH-Gasoline and Lead have been consistently detected at concentrations exceeding MTCA Method A cleanup levels in groundwater.

   c. List those management units to be considered for scoring: Source: 1-4

      Contaminated groundwater

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

      Documented release to groundwater.

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-Gasoline	5	8	3306 rat	3	ND	-	1.0	.029	3
2	LEAD	5	8	ND	-	<0.001 (NOAEL)	10	ND	ND	-

* *Potency Factor, ND-No Data*

Source:5, 6
Highest Value: 10
(Max = 10)
Plus 2 Bonus Points? Yes
Final Toxicity Value: 12
(Max = 12)

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

Cations/Anions [Coefficient of Aqueous Migration (K)] OR	Solubility (mg/L)
1=	1= TPH-Gasoline, 1.8+03, Value 3
2= Lead, Value 2	2=
3=	3=

Source:5, 6
Value: 3
(Max = 3)

1.3 Substance Quantity (volume):

Explain basis: Area of soil contamination measures approx. 80 feet long by 60 feet wide by avg. 10 feet deep: 80x60x10 = 48,000 cubic feet = 1778 cubic yards

Source: 3
Value: 4
(Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Discharge from USTs	1-4	**10** (Max = 10)
2.2	**Net precipitation:** Nov-Apr (inches): 38.54" total precipitation, 11.74" evapotranspiration rate, 38.54-11.74 = 26.80 net precip.	7-8	**3** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** Sandy loam, $>10^{-5}$ to 10^{-3}	9	**3** (Max = 4)
2.4	**Vertical depth to groundwater:** 15-20 feet	1-4	**8** (Max = 8)

3.0 TARGETS

		Source	Value
3.1	**Groundwater usage:** Public supply, alternate sources available	9	**4** (Max = 10)
3.2	**Distance to nearest drinking water well: est. 55 feet.** *The site was reported to contain a drinking water well, but the location could not be confirmed.*	2	**5** (Max = 5)
3.3	**Population served within 2 miles: √ pop.** = >10,000	10, 11	**100** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** 138 acres (0.75)*√138= 8.8=9	10, 11	**9** (Max = 50)

4.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: Documented release	1-4	**5** (Max = 5)

SOURCES

1. Langseth Environmental Services, Inc., *Site Characterization Report, Former Performance Corner,* December 31, 1998.
2. Associated Environmental Group, L.L.C., *UST Characterization Sampling, Former Performance Corner Building,* August 24, 1998.
3. Saltbush Environmental Services, Inc., *Interim Remedial Action Report, The 3025 Martin Way Project,* May 28, 1999.
4. Robinson, Noble, and Saltbush, Inc., *Groundwater Monitoring, 3025 Martin Way, Olympia, Washington,* August 2, 2006.
5. Washington Department of Ecology, *Toxicology Database for Use in Washington Ranking Method Scoring,* January 1992.
6. Washington Department of Ecology, *WARM Scoring Manual*, April 1992.
7. Western Regional Climate Center, Precipitation data from the Olympia, Washington Airport, June 1948 to September 2005.
8. Table 16-Estimated Evapotranspiration, E.M. 2462, p. 42, for Thurston County Airport.
9. Thurston County Geodata Center, Roads and Transportation Division, March 2009.
10. Washington State Department of Health, Drinking Water Division, Sentry Database, March 2009.
11. Washington Department of Ecology, Water Resources Program, Water Right Tracking System (WRTS), March 2009.