WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Name: **Penny Saver Mart**
Address: **2140 East Sims Way**
City: **Port Townsend** County: **Jefferson** State: **WA** Zip: **98368**
Section/Township/Range: **S11/ T30N/ R1W**
Latitude: **48.110027** Longitude: **-122.77027**
FS ID #: **89236919**

Site scored/ranked for the August 2011 update.

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

The Penny Saver Grocery and Deli (Site) is located at the corner of East Sims Way (Highway 20) and Kearney Street in Port Townsend, Washington. The site is generally flat (<2%) and is located approximately 10 feet above Mean Sea Level (MSL). Port Townsend Bay is located approximately 500 feet to the south and KahTai Lagoon is located approximately 750 feet to the northwest. The Site was once a service station dating back to at least 1929. In 1989, four gasoline underground storage tanks (USTs) were removed.

AGI Technologies conducted an environmental investigation in 1995. Six groundwater monitoring wells (MW-1 through MW-6) were drilled to depths of 15 feet below ground surface (bgs). Soil samples were collected at 2-1/2-foot intervals from the ground surface to 7-1/2-feet bgs. Gasoline-range total petroleum hydrocarbons (TPH) exceeding the Model Toxics Control Act (MTCA) clean up levels were found in soil samples collected from MW-1, MW-2, MW-3, and MW-4. Benzene exceeding the MTCA cleanup level was present in soil samples from MW-1, MW-3 and MW-4, and total xylenes exceeding MTCA cleanup level was present in samples from MW-3 and MW-4. Gasoline-range TPH and BETX compounds exceeding the MTCA cleanup levels were found in groundwater samples from MW-1, MW-2, MW-3, MW-4 and MW-5, with the exception of toluene in the sample for MW-5. No detectable hydrocarbons were present in the groundwater sample from MW-6. The investigation concluded that a release of gasoline had occurred on or near the property resulting in concentrations of gasoline-range TPH and BETX exceeding MTCA cleanup levels in soil and groundwater over the western half of the property.

Aspect Consulting conducted an environmental assessment between October and December 2006. Fluid level measurement indicated the presence of free-phase petroleum hydrocarbons in five of the six on-site monitoring wells that were installed during August 1995 (AGI Technologies, 1995). On October 10, 2006, fluid levels were measured in the six wells (MW-1 through MW-6) and October 27, 2006, additional fluid level measurement were made to verify product thickness and to evaluate the presence of tidal influence in the vicinity of the monitoring wells. It was determined that two types of free product were present. A mix of gasoline- and oil-range TPH were detected in four of the wells (MW-1, MW-2, MW-3, and MW-4). Product from MW-6 contained detections of diesel- and oil-range total petroleum hydrocarbons. No product was noted in well MW-5 (Aspect Consulting, 2007).

Lab results indicated that concentrations of gasoline- and oil-range petroleum hydrocarbons exceed cleanup levels established under MTCA and that further activity was warranted. Aspect Consulting recommended an off-property evaluation of groundwater quality, replacement of selected monitoring wells, and registering with Ecology's Voluntary Cleanup Program (VCP).

In December 2007, the property was entered into the Washington State Department of Ecology's VCP (VCP Project No. SW0917). Ecology sent a letter requesting an update of the status of the cleanup and plan for completing the cleanup on November 4, 2009. Mr. Ramey (an owner of the site), responded by phone on April 1, 2010, indicating that he could not afford to continue with the cleanup at this time and requested to be withdrawn from the VCP. Ecology terminated the VCP Agreement effective April 1, 2010.

On February 11, 2011, Lori Clark of Jefferson County Public Health (JCPH), conducted a site visit as a part of a Site Hazard Assessment (SHA). The site was inspected and photos obtained. No additional water or soil sampling was performed. The scoring and ranking of this site was based on site-specific results from previous reports and sampling events.

ROUTE SCORES:

Surface Water/Human Health:	**35.82**	Surface Water/Environmental.:	**55.63**
Air/Human Health:	**NS**	Air/Environmental:	**NS**
Groundwater/Human Health:	**37.91**		

OVERALL RANK: 1

WORKSHEET 2
Route Documentation

1. **SURFACE WATER ROUTE**
   a. List those substances to be considered for scoring: Source: 1

      Gasoline-, diesel-, and oil-range petroleum hydrocarbons (TPH-G & TPH-D), toluene, ethylbenzene, and xylene (BTEX).

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

      Substances documented present either in surface soil historically or in groundwater with potential to drain to surface water

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

      Surface and subsurface soils and groundwater that may drain to surface water.

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

      Spills/discharges caused soil contamination with potential to drain to surface water

2. **AIR ROUTE**
   a. List those substances to be considered for scoring: Source: 1

      Not scored

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

      Not scored

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

      Not scored

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

      Not scored

3. **GROUNDWATER ROUTE**
   a. List those substances to be considered for scoring: Source: 1

      Gasoline-, diesel-, and oil-range petroleum hydrocarbons (TPH-G & TPH-D), toluene, ethylbenzene, and xylene (BTEX).

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

      Analytical results from soil sampling indicate the presence of these hazardous substances at levels which exceed current Method A cleanup levels.

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

      Surface and subsurface soils and contaminated groundwater.

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

Documented groundwater contamination with these substances exceeding MTCA Method A Clean Up Levels.

WORKSHEET 4
Surface Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 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	Toluene	2000	2	5000	3	0.2	1	-	-	-
2	TPH-G	5	8	3306	3	-	-	A	0.029	3
3	Ethylbenzene	700	4	3500	3	0.1	1	-	-	-
4	Xylene (BTEX)	1000	2	50	10	2	1	-	-	-
5	TPH-D	20	6	490	3	0.0004	3	-	-	-

Potency Factor

Source: 1, 2

Highest Value: 10
(Max = 10)

Plus 2 Bonus Points? .

Final Toxicity Value: 10
(Max = 12)

1.2 Environmental Toxicity ( ) Freshwater (x) Marine

	Substance	Acute Water Quality Criteria		Non-Human Mammalian Acute Toxicity	
		(µg/L)	Value	(mg/kg)	Value
1	Toluene	6300	2	5000	4
2	TPH-G	5100	2	3306	4
3	Ethylbenzene	430	4	3500	4
4	Xylene (BTEX)	-	-	50	6
5	TPH-D	2350	2	490	6

Highest Value: 6
(Max = 10)

1.3 Substance Quantity

Explain Basis: 4 – 1000 gallon UST were in place. An unknown quantity leaked.

Source:1, 11

Value:4
(Max = 10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment** **Explain basis:** Documented spill with no run-on/run-off controls in place.	1, 11	**10** (Max = 10)
2.2	**Surface Soil Permeability:** The site consists of sandy loam.	11	**1** (Max = 7)
2.3	**Total Annual Precipitation: 50** in/yr	5	**5** (Max = 5)
2.4	**Max 2yr/24hr Precipitation:** 20	4	**5** (Max = 5)
2.5	**Flood Plain:** In 100-year flood plain.	2	**2** (Max = 2)
2.6	**Terrain Slope**: <2%	9	**1** (Max = 5)

3.0 TARGETS

		Source	Value
3.1	**Distance to Surface Water:** approx 900 ft	9	**10** (Max= 10)
3.2	**Population Served within 2 miles (see WARM Scoring Manual Regarding Direction):** √72= 8.48	6,9	**8** (Max = 75)
3.3	**Area Irrigated by surface water within 2 miles : (0.75)*√ 42.01 =** 4.86	7,8	**5** (Max = 30)
3.4	**Distance to Nearest Fishery Resource**	9	**12** (Max = 12)
3.5	**Distance to, and Name(s) of, Nearest Sensitive Environment(s): Port Townsend Bay**	9	**12** (Max = 12)

4.0 RELEASE

Explain Basis: Documented release to groundwater. Also, stockpiled soil left on property had documented contamination.	Source: 1, 11 **Value: 5** (Max = 5)

WORKSHEET 6
Groundwater Route

2.0 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	Toluene	2000	2	5000	3	0.2	1	-	-	-
2	TPH-G	5	8	3306	3	-	-	A	0.029	3
3	Ethylbenzene	700	4	3500	3	0.1	1	-	-	-
4	Xylene (BTEX)	1000	2	50	10	2	1	-	-	-
5	TPH-D	20	6	490	3	0.0004	3	-	-	-

Potency Factor

Source: 1, 2, 3

Highest Value: 10
(Max = 10)

Plus 2 Bonus Points? __

Final Toxicity Value: 10
(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=	5.4E+02
2=	1.8E+03
3=	1.5E+02
4=	2.0E+02
5=	3.00E+01

Source:1,3

Value: 3
(Max = 3)

1.3 Substance Quantity (volume):

Explain basis: Four 1,000 UST's containing leaded and unleaded gasoline leaked and unknown quantity.	Source: 1,11 **Value: 4** (Max=10)

1.0 MIGRATION POTENTIAL

		Source	Value
2.1	**Containment (explain basis):** Documented soil contamination.	1, 11	**10** (Max = 10)
2.2	**Net precipitation:** 6.25" – 0.87" = 5.38"	5	**1** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** The site consists of sandy loam.	11	**3** (Max = 4)
2.4	**Vertical depth to groundwater:** Groundwater is approximately 7 feet below ground surface.	2	**8** (Max = 8)

2.0 TARGETS

		Source	Value
3.1	**Groundwater usage:** Private supply, but alternate sources available with minimum hookup requirements.	6,7,8	**4** (Max = 10)
3.2	**Distance to nearest drinking water well:** ~2137 **feet**	6,7,9	**3** (Max = 5)
3.3	**Population served within 2 miles:** √ **pop.** = √72=8.48	6,7,9	**8** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** **(0.75)*√42=** 4.86	6,7,9	**5** (Max = 50)

3.0 RELEASE

	Source	Value
Explain basis for scoring a release to groundwater: Confirmed release to aquifer.	1,2	**5** (Max = 5)

SOURCES USED IN SCORING

1. Analytical results of soil sampling conducted on October 6, 1995, by AGI Technologies
2. Washington State Department of Ecology Site Summary, August 8, 2007.
3. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
4. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
5. Washington Climate – Net Rainfall Table.
6. Washington State Department of Ecology, Water Well Reports
7. Washington State Department of Ecology, Water Rights Information System (WRIS), 1997.
8. Washington State Department of Health, Public Water Supply Data, Sentry Database, February 2011.
9. Jefferson County GIS System (ArcView 10).
10. Site visit conducted on February 11, 2011 (Jefferson County Public Health).
11. Groundwater Sampling and Product Monitoring report, Aspect Consulting, March 23, 2007.