

SITE HAZARD ASSESSMENT

WORKSHEET 1

Summary Score Sheet

SITE INFORMATION:

Andersons Grocery

711 South Clark Avenue

Republic, Ferry County, WA 99166

Section/Township/Range: S1/T36N/R32E

Latitude: 48.64661 Longitude: -118.73841

Ecology Facility Site ID No.: 78351263

Cleanup Site ID No.: 10518

Site scored/ranked for the February 2012 update

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

Andersons Grocery is an active grocery store in the town of Republic, Washington. Records indicate that the store has been in existence since 1900. In 1986, the owners expanded operations by installing five (5) underground storage tanks (UST's) for gasoline sales. Three (3) 4,000 gallon tanks, one (1) 2,500 gallon tank and one (1) 1,000 gallon tank and a pump island were installed approximately 1,000 feet east of Granite Creek and .83 miles north/northwest of wells which provide drinking water for the town. Wells in the area identify a confined aquifer at a depth of 690 feet below ground surface (bgs) with an approximate static level of 336 ft. bgs. In 1993, Washington State Department of Ecology (Ecology) responded to reports of gasoline odors in a home near the store. Results from a soil gas survey indicated that the odor may have been the result of gasoline migrating from the UST's.

BACKGROUND/ENVIRONMENTAL SAMPLING

On December 9, 1997, Appleland Pump began removing tanks from the site and excavating contaminated soil from the excavations. White Shield Inc. was also on site to provide environmental assessment services. All of the UST's appeared to be in good condition, with no holes or corrosion noted. Grey colored soil with strong petroleum odor was encountered beneath the 2,500 gallon tank and all three (3) of the 4,000 gallon tanks. Field screening samples collected at the time of excavation indicated Total Petroleum Hydrocarbon (TPH) levels near or above Model Toxics Control Act (MTCA) cleanup levels. The site was excavated to bedrock at approximately 8.5 feet, resulting in approximately 400 cubic yards of soil being transported off site for remediation. The excavation was backfilled with clean fill dirt and covered with asphalt. Lab sample results received after cleanup activities had been completed confirmed that TPH levels exceeded MTCA cleanup levels. Contaminated soil remained in the excavations after all remedial actions were complete. Petroleum concentrations in samples from the bottom of the excavation ranged from 510-4000 mg/kg. Contaminated soil was also present at 16,000 mg/kg beneath the former location of the pump island.

An SHA site visit was conducted on August 9, 2011, by Bryan Hunt (NETCHD). The property owner, Mr. Gary Anderson was also present at the time of inspection. Mr. Anderson provided additional details pertaining to the cleanup and identified the locations where the UST's had been installed.

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 scoring and ranking of this site is based on the February 9, 1989 "Leaking Underground Storage Tank Closure Report" completed by White Shield Environmental which identified petroleum contamination above MTCA Method A cleanup levels in soil. No new sampling data was generated during the SHA process. The ranking represents the overall relative threat to human health and the environment based on Washington Ranking Method (WARM) scoring elements.

ROUTE SCORES:

Surface Water/Human Health: 0

Surface Water/Environmental: 0

Air/Human Health: 0

Air/Environmental: 0

Groundwater/Human Health: 24.3

OVERALL RANK: 5

WORKSHEET 2
Route Documentation

1. **GROUNDWATER ROUTE**

- a. List those substances to be considered for scoring: Source: 1-7
TPH as Gasoline
- b. Explain basis for choice of substance(s) to be used in scoring:
TPH levels detected in subsurface soils and excavated soil stockpiles which exceed acceptable regulatory levels.
- c. List those management units to be considered for scoring: Source: 1-8
Contaminated subsurface soils.
- d. Explain basis for choice of unit to be used in scoring:
The contaminating substance was detected in sub-surface soils and excavated soil stockpiles at the site in significant concentrations compared to the acceptable regulatory levels.

WORKSHEET 6
Groundwater 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 TPH (gasoline)	5	8	3306 (rat)	3		X	1.0	.029	1	

* Potency Factor

Source: 1-8

Highest Value: 8

(Max = 10)

Plus 2 Bonus Points?

Final Toxicity Value: 8

(Max = 12)

1.2 Mobility (use numbers to refer to above listed substances)	
Cations/Anions	OR Solubility (mg/L)
1=	1= TPH (gasoline) 1800
2=	2=

Source: 8

Value: 3

(Max = 3)

1.3 Substance Quantity:	
Explain basis: Approximately 400 cu. yds. of excavated soil removed	Source: <u>1-8</u> Value: 6 (Max=10)

3.0 MIGRATION POTENTIAL

		Source	Value
2.1 Containment (explain basis):			
For all spills, discharges and contaminated soil, assign a containment value of 10		1-8	<u>10</u> (Max = 10)
2.2 Net precipitation: 16.5"		9	<u>2</u> (Max = 5)
2.3 Subsurface hydraulic conductivity: Granite		8,14	<u>2</u> (Max = 4)
2.4 Vertical depth to groundwater: 336 feet to static water level		1-8	<u>1</u> (Max = 8)

4.0 TARGETS

		Source	Value
3.1	Groundwater usage: Public supply, unthreatened alts. available	11,15	<u>4</u> (Max = 10)
3.2	Distance to nearest drinking water well: ½ mile	11,15	<u>2</u> (Max = 5)
3.3	Population served within 2 miles: $\sqrt{2200} = 46.9 = 47$	12,15	<u>47</u> (Max = 100)
3.4	Area irrigated by (groundwater) wells within 2 miles: $(0.75) * \sqrt{20} \text{ acres} = 3.35 = 3$	10	<u>11</u> (Max = 50)

5.0 RELEASE

		Source	Value
	Explain basis for scoring a release to groundwater: No confirmed release, confined aquifer at 336 feet, with granite confining layer beginning at 8.5 feet.	1-8	<u>0</u> (Max = 5)

SOURCES USED IN SCORING

1. UST Inspection Form, Andersons Grocery, Republic, WA, Ecology, September 29, 1993.
2. Initial Investigation Data Sheet, Andersons Grocery, Republic, WA, Ecology, November 4, 1993.
3. Initial LUST Report, Andersons Grocery, Republic, WA, Ecology, December 9, 1997.
4. Initial Investigation Report, Andersons Grocery, Republic, WA, Ecology, December 9, 1997.
5. Leaking Underground Storage Tank Closure Report, White Shield Environmental, February 18, 1998.
6. SHA site visit by Bryan Hunt, Northeast Tri-County Health District, August 9, 2011.
7. Washington Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
8. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
9. PRISM Data Explorer – Net Rainfall.
10. Washington Department of Ecology, Water Rights Application System (WRATS) printout for two-mile radius of site.
11. Washington Department of Ecology, Washington State Well Log Images Map printout for two-mile radius of site.
12. Washington Department of Health, Sentry Internet Database printout for public water supplies..
13. USGS Topographic map for site area.
14. USDA NRCS, Web Soil Survey
15. Ferry County GIS Maps