

# SITE HAZARD ASSESSMENT

## WORKSHEET 1

### Summary Score Sheet

#### **SITE INFORMATION:**

**Manito Shopping Center**  
**802 E. 29<sup>th</sup> Ave.**  
**Spokane, WA 99203**

NW ¼ of NE 1/4 of Section 32, Township 25 N., Range 43 E. W. M.  
Latitude 47° 37' 40.00" Longitude 117° 24' 4.00"

Ecology Facility site ID: 9406814

*Site scored/ranked for the February 20, 2008 update*  
February 7, 2008

#### **Site Description:**

The Manito Shopping Center site is located in Spokane County, Washington, and within the south west incorporated boundaries of the City of Spokane. The site address is 802 E. 29<sup>th</sup> Avenue. The site consists of a 121,531 square foot retail center with two buildings on a 9.1 acre lot.

A limited subsurface investigation was conducted at the site in June 2007 to evaluate the potential impact from former dry cleaning facilities that operated from approximately 1940 to 1947 and 1955 to 1969; and to evaluate the potential impact from a former gas station that operated on the southeast adjacent parcel from 1940 to 1960. Contaminants of concern were detected in shallow subsurface soils, 4-feet and 8-feet below ground surface and exceeded the Washington Department of Ecology Model Toxics Control Act (MTCA) Method A soil cleanup levels for unrestricted land use (see table 1 below):

*Limited Subsurface Investigation Report  
Manito Shopping Center,  
EBI Consulting project No. 12070114 June 25, 2007*

**Table 1**

Sample No.	Analyte Found	Sample Result (mg/kg)	Applicable Cleanup Standard	(mg/kg)
B1 - 4	Benzo(A)Pyrene	0.36	MTCA A	0.1
B3 - 8	Trichloroethene	0.11	MTCA A	0.03
B1 - 4	Tetrachloroethene	1.3	MTCA A	0.05
B2 - 4	Tetrachloroethene	0.10	MTCA A	0.05

Specifically, Polynuclear Aromatic Hydrocarbons (PAH's) as Benzo(A)Pyrene and the dry cleaning solvent compounds Trichloroethene (TCE) and Tetrachlorethene (PCE) exceeded their respective MTCA Method A cleanup levels for soil

**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.

**ROUTE SCORES:**

Surface Water/Human Health: NS      Surface Water/Environ.: NS

Air/Human Health:      NS      Air/Environmental:      NS

Ground Water/Human Health: 4.2

**OVERALL RANK: 5**

**WORKSHEET 2  
ROUTE DOCUMENTATION**

**1. SURFACE WATER ROUTE - Not Applicable/not scored**

The surface water pathway will not be scored on the basis that site contaminants are contained in subsurface soils covered with asphalt and that no surface water exists within the impact potential to this site.

**2. AIR ROUTE - Not Applicable/not scored.**

The airborne pathway will not be scored on the basis that site contaminants are contained in subsurface soils covered with asphalt.

**3. GROUND WATER ROUTE**

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

- Polynuclear Aromatic Hydrocarbons (PAH's) as Benzo(A)Pyrene.
- Trichloroethene. (TCE)
- Tetrachlorethene. (PCE)

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

The contaminants exceed MTCA Method A cleanup levels for unrestricted land use in soil samples

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

Contaminated subsurface soil.

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

Analytical results of subsurface soil boring samples revealed contaminant concentrations of PCE, TCE and PAH which exceed the Washington State Model Toxics Control Act (MTCA) Method A soil cleanup levels for unrestricted land use.

**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 PAH as Benzo(A)Pyrene	0.2	10	50 (LD50-Rat)	10	ND	ND	B2	12	7	
2 Trichloroethene	5	8	2402 (LD50-mus)	3	ND	ND	B2	0.011	4	
3 Tetrachloroethene	5	8	800 (LD50-Rat)	5	0.01	3	B2	0.051	4	

\* Potency Factor

Source: 1,2,3

**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.	1.2E -03 = <10 = VALUE 0
2.	2.	1.1E +03 =>1000 = VALUE 3
3.	3.	1.5E +02 =>100 - 1000 = VALUE 2

Source: 3

**Value: 3**

(Max = 3)

1.3 Substance Quantity: _____	
Explain basis: Quantity unknown; a default value of one is assigned	Source:3 <b>Value: 1</b> (Max=10)

**2.0 MIGRATION POTENTIAL**

		Source	Value
2.1	<b>Containment (explain basis):</b> Contaminated soils are subsurface and capped by paving and buildings, score as a landfill: i) No liner = 3; ii) cover with no ponding = 0; iii) No leachate collection system (2)	3	<u>5</u> (Max = 10)
2.2	<b>Net precipitation:</b> 14" – 6.8 = 7.2 net precipitation	4	<u>1</u> (Max = 5)
2.3	<b>Subsurface hydraulic conductivity:</b> silty clay loam, basalt. Hesseltine silt loam	5	<u>1</u> (Max = 4)
2.4	<b>Vertical depth to groundwater:</b> Area well log data indicates perched seasonal groundwater due to basalt restrictive layer. Water table difficult to determine assign default value of 1 due to site characteristics	1,6	<u>1</u> (Max = 8)

**1.0 TARGETS**

		Source	Value
3.1	<b>Groundwater usage:</b> Ground water not used, but usable	7	<u>2</u> (Max = 10)
3.2	<b>Distance to nearest drinking water well:</b> > 10,000 feet	8	<u>0</u> (Max = 5)
3.3	<b>Population served within 2 miles:</b> 0		<u>0</u> (Max = 100)
3.4	<b>Area irrigated by (groundwater) wells within 2 miles:</b> 2816 acres (0.75)*√0 acres = <u>0</u>	9	<u>0</u> (Max = 50)

**2.0 RELEASE**

		Source	Value
	<b>Explain basis for scoring a release to groundwater:</b> No analytical evidence of release	1	<u>0</u> (Max = 5)

## SOURCES USED IN SCORING

1. Limited Subsurface Investigation Report  
Manito Shopping Center,  
EBI Consulting project No. 12070114 June 25, 2007
2. Toxicology Database WARM
3. WARM Scoring Manual
4. Washington Climate, Spokane Co. WSU Dept. of Agriculture
5. Soil Survey of Spokane Co. Washington, USDA Soil Conservation Svc.
6. Washington Department of Ecology Well Logs
7. Aquifer Sensitive Area Overlay Zone Map, Spokane Co. Washington
8. Washington Dept. of Health, Drinking Water Information Network
9. WRATS Washington Department of Ecology