

WORKSHEET 1
Summary Score Sheet

SITE INFORMATION:

Name: CBC – WSU Nurse Training Facility
Address: 1011 Northgate Dr.
City: **Richland** County: **Benton** State: **WA** Zip: **99352**
Section/Township/Range: **S11/ T09N/ R28E**
Latitude: **46° 16' 44.9" N** Longitude: **119° 16' 45.7" W**

TCP ID #: **999978**

Site scored/ranked for the August 22, 2007 update.

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

In December of 2003, Shannon & Wilson, Inc. performed a geotechnical investigation for the planned construction of a nurse training facility at the Columbia Basin College (CBC) campus in Richland, Washington. Four exploratory borings were located at the property; contamination was detected in the boring in the northwest corner of the property at the groundwater interface approximately 14 ½ feet below ground surface. Soil samples were collected and submitted for analysis. Soil sample results indicated elevated levels of gasoline, benzene, and xylenes above their respective Model Toxic Control Act (MTCA) Method A cleanup levels.

In 1973, CBC built two classroom buildings in the east portion of the property. A third classroom building was constructed in 1976 and a fourth building in 1980 at the west portion of the subject property. In 1992, an additional classroom building was constructed between the two northern most buildings. A review of the City of Richland building permit records did not reveal any previous building or structures permit on the subject property prior to the CBC campus construction in 1973. There are no records from this site indicating any activity that may have caused the contamination found in the northwest corner of the site.

Three sides of the property is bounded by City streets: Northgate Drive to the east, Mansfield Street to the south, and Goethals Drive to the west. To the north of the property is the Richland Library. Groundwater at the site flows in a southeasterly direction towards the Columbia River.

The site is currently covered almost entirely by asphalt and buildings except a small court yard area at the center of the property. The site is a satellite facility for CBC's main campus located in Pasco. The nurse training facility was not constructed at this site, but was built at another site just across the road to the south.

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:	<u>NS*</u>	Surface Water/Environmental.:	<u>NS</u>
Air/Human Health:	<u>NS</u>	Air/Environmental:	<u>NS</u>
Groundwater/Human Health:	<u>45.6</u>		

OVERALL RANK: 3

*NS = Not Scored

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
Benzene and xylenes
- 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 MTCA Method A cleanup levels.
- c. List those management units to be considered for scoring: Source: 1
Subsurface soils
- d. Explain basis for choice of unit to be used in scoring:
Spills/discharges caused soil contamination

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 Benzene	5	8	3,306(rat)	3	-	ND	A	1.0	5	
2 Xylene	10,000	2	50	10	2	1	-	-	ND	

* 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 [Coefficient of Aqueous Migration (K)]	OR Solubility (mg/L)
1=	1= $1.8 \times 10^3 = 3$
2=	2= $2.0 \times 10^2 = 2$

Source:2,3

Value: 3
(Max = 3)

1.3 Substance Quantity (volume):	
Explain basis: Unknown, use default = 1	Source:1,3 Value: <u>1</u> (Max=10)

2.0 MIGRATION POTENTIAL

		Source	Value
2.1	Containment (explain basis): Site is almost completely covered with impervious material (asphalt) score as landfill: no liner (3), cover, unknown maintenance (1) and no leachate collection (2)	10	6 (Max = 10)
2.2	Net precipitation: 5" – 3.4" = 1.6"	4	1 (Max = 5)
2.3	Subsurface hydraulic conductivity: gravelly sand	2,5	3 (Max = 4)
2.4	Vertical depth to groundwater: water well reports nearby indicate groundwater in the area is at a depth of 14 feet, soil sample taken at 14.5 feet	5	8 (Max = 8)

3.0 TARGETS

		Source	Value
3.1	Groundwater usage: Public supply, but alternate sources available with minimum hookup requirements	7	4 (Max = 10)
3.2	Distance to nearest drinking water well: <u><5000</u> feet	9	2 (Max = 5)
3.3	Population served within 2 miles: $\sqrt{\text{pop.}} = >10,000$, City of Richland wells within 2 miles	7	100 (Max = 100)
3.4	Area irrigated by (groundwater) wells within 2 miles: $(0.75) * \sqrt{\# \text{ acres}} = \underline{0.75 * \sqrt{429.52} = 15.54}$	6	16 (Max = 50)

4.0 RELEASE

		Source	Value
	Explain basis for scoring a release to groundwater: Soil sample taken below static water level	1,5	5 (Max = 5)

SOURCES USED IN SCORING

1. Contaminated Soils Report by Shannon & Wilson, Inc. to Department of Ecology on April 8, 2004.
2. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992
3. Washington State Department of Ecology, WARM Scoring Manual, April 1992.
4. Washington Climate for Benton, Franklin Counties, Cooperative Extension Services, College of Agriculture, Washington State University.
5. Washington Department of Ecology Well Log Viewer, available at <http://apps.ecy.wa.gov/welllog/>.
6. Washington State Department of Ecology, Water Rights Application System (WRATS) printouts
7. Washington State Department of Health, Division of Environmental Health, Office of Drinking Water, Water System Search, Available at <http://www4.doh.wa.gov/SentryInternet/FindWaterSystem.aspx>
8. Facility Site/Atlas, Department of Ecology, Geographic Information System, available at <http://apps.ecy.wa.gov/website/facsite/viewer.htm>
9. Benton County Geographic Information System.
10. Site Hazard Assessment Site Drive by performed by Kay Rottell, May 30, 2007.
11. City of Richland Building Permit and Inspection Files.

WASHINGTON RANKING METHOD

ROUTE SCORES SUMMARY AND RANKING CALCULATION SHEET

Site Name: CBC - WSU Nurse Training Facility Region: Central

Street, City, County: 1011 Northgate Dr., Richland, Benton County

Facility ID: 999978

This site was (X) ranked, () re-ranked, on August 22, 2007 based on the August 23, 2006 quintile values from a total of 912 assessed/scored sites.

Pathway	Route Scores	Quintile Group number(s)	Priority scores:
SW-HH	<u>NS</u>	<u> </u>	$H^2 + 2M + L = 2$
Air - HH	<u>NS</u>	<u> </u>	$\frac{4^2}{8} = 2$
GW-HH	<u>45.6</u>	<u>4</u>	
SW-En	<u>NS</u>	<u> </u>	$\frac{H^2 + 2L}{7} = N/A$
Air-En	<u>NS</u>	<u> </u>	

Use the matrix presented to the right, along with the two priority scores, to determine the site ranking. N/A refers to where there is no applicable pathway (e.g. typically with ground water route-only sites).

	Human Health	Environment					
		5	4	3	2	1	N/A
5	1	1	1	1	1	1	1
4	1	2	2	2	3	2	
3	1	2	3	4	4	3	
2	2	3	4	4	5	3	
1	2	3	4	5	5	5	
N/A	3	4	5	5	5	NFA	

DRAFT / **FINAL**

Matrix ("bin") Ranking: 3 , No Further Action

CONFIDENCE LEVEL: The relative position of this site within this bin is:
 almost into the next higher bin.
 right in the middle, unlikely to ever change.
 X almost into the next lower bin.