

WORKSHEET 1  
SUMMARY SCORE SHEET

Site Name/Location (Street, City, County, Section/Township/Range, TCP ID Number):

Circle K Station #1461  
2350 24th Ave. E.  
Seattle, WA 98112-2606

King Co.  
Sec. 21/T25N/R4E  
N-17-5101-000

Site Description (Include management areas, substances of concern, and quantities):

The former Circle K gasoline station was used as a gasoline station and convenience store from 1968 to 1990. The property is now used as a retail dry cleaning business. Based on inventory records, approx. 4000 - 6000 gallons of gasoline leaked from a 4,000 gallon underground storage tank between June 22, 1989 and August 7, 1989. Fuel vapors were observed in the basement of the Museum of History and Industry, located approx. 2000 feet to the north, subsequent to the discovery of the leak. These vapors appeared to originate from the sanitary sewer system, the main line of which passed within 40 feet of the leaky underground fuel tank.

Concentrations of the gasoline components benzene, toluene and ethylbenzene (BTEX) exceeding MTCA cleanup levels were documented in on-site subsurface soil and shallow ground water samples.

Four underground fuel storage tanks and two underground oil storage tanks have been excavated, removed and transported offsite; and 900 cubic yards of contaminated soil were removed for offsite disposal. Free product recovery from a relatively small plume of contaminated ground water is continuing.

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):

Although gasoline vapors were detected in sanitary sewer lines downgradient from the leaky tank at the former Circle K site, no evidence of free product or fuel vapors flowing directly into the sanitary sewer system was determined during site assessment and remediation activities. Only the ground water migration route is applicable to be scored for ranking of this site.

ROUTE SCORES:

Surface Water/Human Health: NS\*  
Air/Human Health: NS  
Ground Water/Human Health: 39.6

Surface Water/Environ.: NS  
Air/Environmental: NS

\*NS = Not scored.

OVERALL RANK: 3

WORKSHEET 2  
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: 1,2

Not applicable to site/not scored.

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

List those management units to be considered for scoring: Source: \_\_\_\_\_

Explain basis for choice of unit to be used in scoring. Source: \_\_\_\_\_

2. AIR ROUTE

List those substances to be considered for scoring: Source: 1,2

Not applicable to site/not scored.

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

List those management units to be considered for scoring: Source: \_\_\_\_\_

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

3. GROUND WATER ROUTE

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

Gasoline constituents: benzene, toluene, ethylbenzene, xylenes.

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

All of the above constituents were detected in subsurface soil samples at concentrations exceeding MTCA Cleanup levels.

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

Contaminated soil.

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

BTEX constituents were detected in subsurface soil samples at concentrations exceeding MTCA Cleanup levels.

**WORKSHEET 6  
GROUND WATER ROUTE**

**1.0 SUBSTANCE CHARACTERISTICS**

**1.1 Human Toxicity**

Substance	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/l)	Val.	(mg/kg-bw)	Val.	(mg/kg/day)	Val.	WOE	PF*	Val.
1. Benzene	5	8	3306	3	X	-	A	.029	5
2. Ethylbenzene	700	4	3500	3	0.1	1	D	X	-
3. Toluene	2000	2	5000	3	0.2	1	D	X	-
4. Xylene	10,000	2	50	10	2	1	D	X	-

\*Potency Factor

Source: 1,3  
 Highest Value: 10  
 (Max.=10)  
 +2 Bonus Points? 2  
 Final Toxicity Value: 12  
 (Max.=12)

**1.2 Mobility (Use numbers to refer to above listed substances)**

Cations/Anions: \_\_\_\_\_ Source: 3 Value: 3  
 (Max.=3)

OR

Solubility(mg/l): 1= 1.8E+03 = 3; 2= 1.5E+02 = 2;  
3 = 5.4E+02 = 2; 4 = 2.0E+02 = 2.

**1.3 Substance Quantity:** 4000 - 6000 gallons Source: 1 Value: 4  
 Explain basis: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2.0 MIGRATION POTENTIAL**

**2.1 Containment** Source: 1,4 Value: 10  
 Explain basis: Spills/discharges/contaminated  
soil always = 10. (Max.=10)

**2.2 Net Precipitation:** 18.7 inches Source: 5 Value: 2  
 (Max.=5)

**2.3 Subsurface Hydraulic Conductivity:** Silty sand/grav. Source: 1 Value: 3  
 (Max.=4)

**2.4 Vertical Depth to Ground Water:** < 25 feet Source: 1 Value: 8  
 (Max.=8)

WORKSHEET 6 (CONTINUED)  
GROUND WATER ROUTE

3.0 TARGETS

- 3.1 Ground Water Usage: Groundwater not used/but usable Source: 6 Value: 2  
(Max.=10)
- 3.2 Distance to Nearest Drinking Water Well: >10,000 ft Source: 6 Value: 0  
(Max.=5)
- 3.3 Population Served within 2 Miles: √pop.=√0 = 0 Source: 6 Value: 0  
(Max.=100)
- 3.4 Area Irrigated by (Groundwater) Wells  
within 2 miles: 0.75√no.acres= Source: 7 Value: 0  
0.75√0 = 0.75 (0) = 0 (Max.=50)

4.0 RELEASE

Explain basis for scoring a release to ground water: Analytical evidence - groundwater contamination documented by gasoline constituents BETX constituents exceeding their respective MTCA cleanup levels for on-site monitoring wells. Source: 1 Value: 5  
(Max.=5)

SOURCES USED IN SCORING

1. Report of Geotechnical Services, Subsurface Contamination Study and remedial Action Monitoring, Circle K Facility 1461, Seattle, WA, GeoEngineers, Inc., March 6, 1990; and Report of First Phase Activity at Former Circle K #1461, 2350 24th Ave. E., Seattle, WA, Glacier Environmental Services, Inc., June 1, 1992.
2. Drive-by site reconnaissance, June 7, 1994.
3. Washington Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.
4. Washington Department of Ecology, WARM Scoring Manual, April 1992.
5. See enclosed table identified as Reference 5.
6. DOH Public Water Supply Listing
7. Ecology Water Rights Information System (WRIS).