



Public Health
Seattle & King County

HEALTHY PEOPLE. HEALTHY COMMUNITIES.

Alonzo L. Plough, Ph.D., MPH, Director

January 24, 2000

Kate Oehler
Puget Sound Energy/ Electric
Property Tax Department
P.O. Box 90868
Bellevue, WA 98009

Dear Ms. Oehler:

The King County Health Department has completed the site hazard assessment (SHA) of the Olympic Pipeline Co.-Kent Block Valve site (74th Ave S and S 259th St, Kent), as required under the Model Toxics Control Act. This site's hazard ranking, an estimation of the potential threat to human health and/or the environment relative to all other Washington state sites assessed at this time, has been determined to be a 2 (two), where 1 represents the highest relative risk and 5 the lowest.

For your information, Ecology will be publishing the ranking of this and other recently assessed sites in the February 29, 2000, Special Issue of the Site Register. The site hazard ranking will be used in conjunction with other site-specific considerations in determining Ecology's priority for future actions.

Please contact me at (206) 296-4724 if you have any questions relating to the SHA of your site. If you have any inquiries/comments about the site scoring/ranking process, please call Michael Spencer at (360) 407-7195. For inquiries regarding any further activities at your site now that it is on Ecology's Hazardous Sites List, please call Norm Peck at (425) 649-7047.

Sincerely,



Peter Isaksen, Environmental Health Specialist
Public Health-Seattle & King County

Pl:ps

cc: Michael Spencer, Washington Department of Ecology
Norm Peck, Washington Department of Ecology
William A. Mulkey, Olympic Pipeline Company

Environmental Health

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City of Seattle
Paul Schell, Mayor



King County
Ron Sims, Executive

WORKSHEET 1
SUMMARY SCORE SHEET

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

Olympic Pipeline Co.- Kent
(AKA OPLC Kent Block Valve Release Site)
74th Avenue S & S 259th Street
Kent, WA 98032
T-22N, R-4E, Sec-12
TCP ID#: N17-5172-000
Tax Parcel #: 0006600028 (Block Valve Site)
Longitude: 122°, 13', 49.01"
Latitude: 47°, 22', 12.79"
Scored for the February 16, 2000 Update

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

The Olympic Pipeline Co.- Kent site (a.k.a. OPLC Kent Block Valve Release site), is located on a right of way owned by Puget Sound Energy in the south west section of the City of Kent, WA. The Block Valve is a part of the underground pipeline owned and operated by Olympic Pipeline Company that supplies refined petroleum products from refineries in north Washington State to bulk tank farms and other facilities for distribution in the rest of Western Washington State and beyond. The block valve itself, is about 570 feet north of the Green River. Between the Green River and the block valve site is the City of Kent-owned Foster Industrial Park. The right of way owned by Puget Sound Energy contains a former railroad route that has been converted to a public park trail, called the Interurban Trail Right of Way. An existing railroad track parallels the trail along the trails east border.

In 1989 a release was determined to have occurred at the Olympic Pipeline block valve during a Phase II Environmental study being conducted on the warehouse property immediately to the west of the block valve location. Apparently a "pin hole" sized leak was detected in one of the bolt hole connections. An undetermined amount of petroleum product was discharged to the soils surrounding the block valve. GeoEngineers, Inc., Redmond WA, was hired to characterize and monitor the site for remedial activities. Nineteen monitoring wells were installed in soils of the site, the neighboring warehouse site to the west, and the park to the south. Groundwater in the shallow zone was found to flow in a southwest direction toward the Green River. All of the contamination could not be recovered at the time of the initial remediation. Soils around the block valve were excavated to remove as much contamination as possible. A recovery well was put into place but no ground water was ever extracted from this well. The 19 monitoring wells were sampled from 1989 to 1993. Benzene, Ethylbenzene, Xylene and Toluene were found above MTCA Method A Cleanup Levels in several of these sample events.

Analytical results of the latest groundwater sampling event were listed in a report by GeoEngineers called "Results of Ground Water Monitoring and Monitoring Well Replacement, August/September 1999, 1989 Kent Block Valve Release, South 259th Street at Interurban Trail, Kent Washington, October 1, 1999". Groundwater samples were taken by GeoEngineers, from the monitoring wells which remained available and could be found on August 17, 1999. Samples were analyzed for NWTPH Gasoline/BTEX, and NWTPH-Diesel Extended. Some of the groundwater samples showed levels for gasoline constituents above MTCA Method A Cleanup Levels for Groundwater. The results showed Benzene in MW-13 at 66.5 ug/l, in MW-15 at 611 ug/l, and in MW-16 at 48.6 ug/l. Method A Cleanup Level for Benzene is currently 5.0 ug/l for groundwater. The results showed Xylene in MW-13 at 28.8 ug/l, in MW-15 at 72.7 ug/l, and in MW-16 at 30.1 ug/l. Results for the other substances sampled,

including Ethyl-benzene, Toluene, NWTPH-Gasoline and NWTPH-Diesel showed levels to be either below the various Practical Quantity Limits (PQL), or at least below MTCA Method A Cleanup Levels.

Of the three monitoring wells nearest to the shoreline of the Green River across Foster Industrial Park, only two could be found for the August 17, 1999 sampling event. Neither of these wells, MW-18 and MW-19, showed a level of contaminant above the PQLs for each above stated analysis. Since MW-17 could not be found, an additional monitoring well called MW-17A was drilled into place and sampled on September 10, 1999. All parameters tested were found to be below the stated PQLs except for NWTPH Diesel which showed a level barely above the PQL of 250 ug/l with a result for Diesel range hydrocarbons found at 269 ug/l. The Method A Cleanup Level for TPH-Diesel is currently set at 1,000 ug/l.

On the basis of this Site Hazard Assessment, completed by SKCDPH's Environmental Health Division, this site will be scored for the air and groundwater routes only.

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 surface water route was not scored due to the documented subsurface nature of the contamination. Also the most recent round of sampling showed the contamination is apparently no longer moving toward the Cedar River as evidenced by the lack of gasoline type contaminants above detection limits in the three monitoring wells nearest the river (Monitoring wells MW-17A, MW-18, and MW-19).

PATHWAY SCORES:

Surface Water/Human Health:	<u>NS</u>	Surface Water/Environ.:	<u>NS</u>
Air/Human Health:	<u>20.8</u>	Air/Environmental:	<u>17.8</u>
Ground Water/Human Health:	<u>72.0</u>		

OVERALL RANK: 2

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: 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: 2,3

Explain basis for choice of unit to be used in scoring. Source: 3

2. AIR ROUTE

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

Benzene
Xylene

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

The above substance concentrations are above MTCA Method A cleanup standards.

List those management units to be considered for scoring: Source: 2,3

Known soil contamination.

Explain basis for choice of unit to be used in scoring. Source: 3

Surface soil is exposed to weather with no containment.

3. GROUND WATER ROUTE

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

Benzene
Xylene

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

The above substance concentrations are above MTCA Method A cleanup standards.

List those management units to be considered for scoring: Source: 2,3

Groundwater contamination is present.

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

Monitoring well sample analysis indicates continued contamination from historical block valve site spill.

WORKSHEET 5
AIR ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Introduction (WARM Scoring Manual) - Please review before scoring

1.2 Human Toxicity

Substance	Air Standard (ug/m ³) Val.		Acute Toxicity (mg/m ³) Val.		Chronic Toxicity (mg/kg/day) Val.		Carcino- genicity		
							WOE	PF*	Val.
1. Benzene	0.12	10	31947	3	ND	-	A	0.029	5
2. Xylenes (mixed)	1448.6	1	21714	3	0.085	1	-	ND	-
3.									
4.									
5.									

*Potency Factor

Source: 1
Highest Value: 10
(Max.=10)
+2 Bonus Points? No
Final Toxicity Value: 10
(Max.=12)

1.3 Mobility (Use numbers to refer to above listed substances)

1.3.1 Gaseous Mobility

Vapor Pressure(s) (mmHg): 1= 9.5E+1; 2= 8.3E+0; Source: 1
3= ; 4= ; 5= ; 6= Value: 4
(Max.=4)

1.3.2 Particulate Mobility

Soil type: sandy loam Source: 3
Erodibility: 86 Value: 1
Climatic Factor: 1-10 (Max.=4)

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from
Table A-7) equals **Final Matrix Value: 20**
(Max.=24)

1.5 Environmental Toxicity/Mobility Source: 1

Substance	Non-human Mammalian Acute Inhal. Toxicity (mg/m ³) Value		Mobility (mmHg) Value		Matrix Value
1. Benzene	31947 (rat)	3	>10	4	6
2. Xylenes (mixed)	21714 (rat)	3	>10E-03 to 10	3	5
3.					
4.					
5.					

Highest Environmental Toxicity/Mobility Matrix Value
(From Table A-7) equals **Final Matrix Value: 6**
(Max.=24)

1.6 Substance Quantity: Unknown amount. Source: 2 Value: 1
Explain basis: Unknown amount of contaminated soils remain. (Max.=10)

WORKSHEET 5 (CONTINUED)
AIR ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment: Cover > 2 feet, no vapor collection Source: 3 Value: 5
(Max.=10)

3.0 TARGETS

3.1 Nearest Population: less than or equal to 1,000 feet Source: 3 Value: 10
(Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) 0 feet- Interurban Trail Park Source: 7 Value: 7
(Max.=7)

3.3 Population within 0.5 miles: $\sqrt{\text{pop.}} = \sqrt{1,126} = 33.56$ Source: 8 Value: 34
(Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: _____ Source: - Value: 0
No confirmed release. (Max.=5)

**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	5.0	8	3306	3	-	-	A	0.029	5
2. Xylene (mixed)	10,000	2	50	10	2.0	1	-	ND	-
3.									
4.									

*Potency Factor

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

(Max.=12)

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

Cations/Anions: _____ Source: 1 Value: 3
(Max.=3)

OR

Solubility(mg/l): 1= 3; 2= 2; 3= ; 4= ; 5= ;
6= .

1.3 Substance Quantity: about 1,600 cubic yards Source: 2 Value: 4
 Explain basis: estimated amount of contaminated soils
from report. (Max.=10)

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 2 Value: 10
 Explain basis: Confirmed release to groundwater. (Max.=10)

2.2 Net Precipitation: 19.2 inches Source: 4 Value: 2
(Max.=5)

2.3 Subsurface Hydraulic Conductivity: silty sand Source: 2 Value: 3
(Max.=4)

2.4 Vertical Depth to Ground Water: about 20 feet Source: 2 Value: 8
(Max.=8)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

- 3.1 Ground Water Usage: public supply, alt. sources avail. Source: 5 Value: 4
(Max.=10)
- 3.2 Distance to Nearest Drinking Water Well: 6,525 feet Source: 2 Value: 1
(Max.=5)
- 3.3 Population Served within 2 Miles: Munic. Well>10,000 Source: 2,5 Value: 100
(Max.=100)
- 3.4 Area Irrigated by (Groundwater) Wells
within 2 miles: 0.75 $\sqrt{\text{no. acres}}$ Source: 6 Value: 7
0.75 $\sqrt{77} = 0.75(8.775) = 6.58$ (Max.=50)

4.0 RELEASE

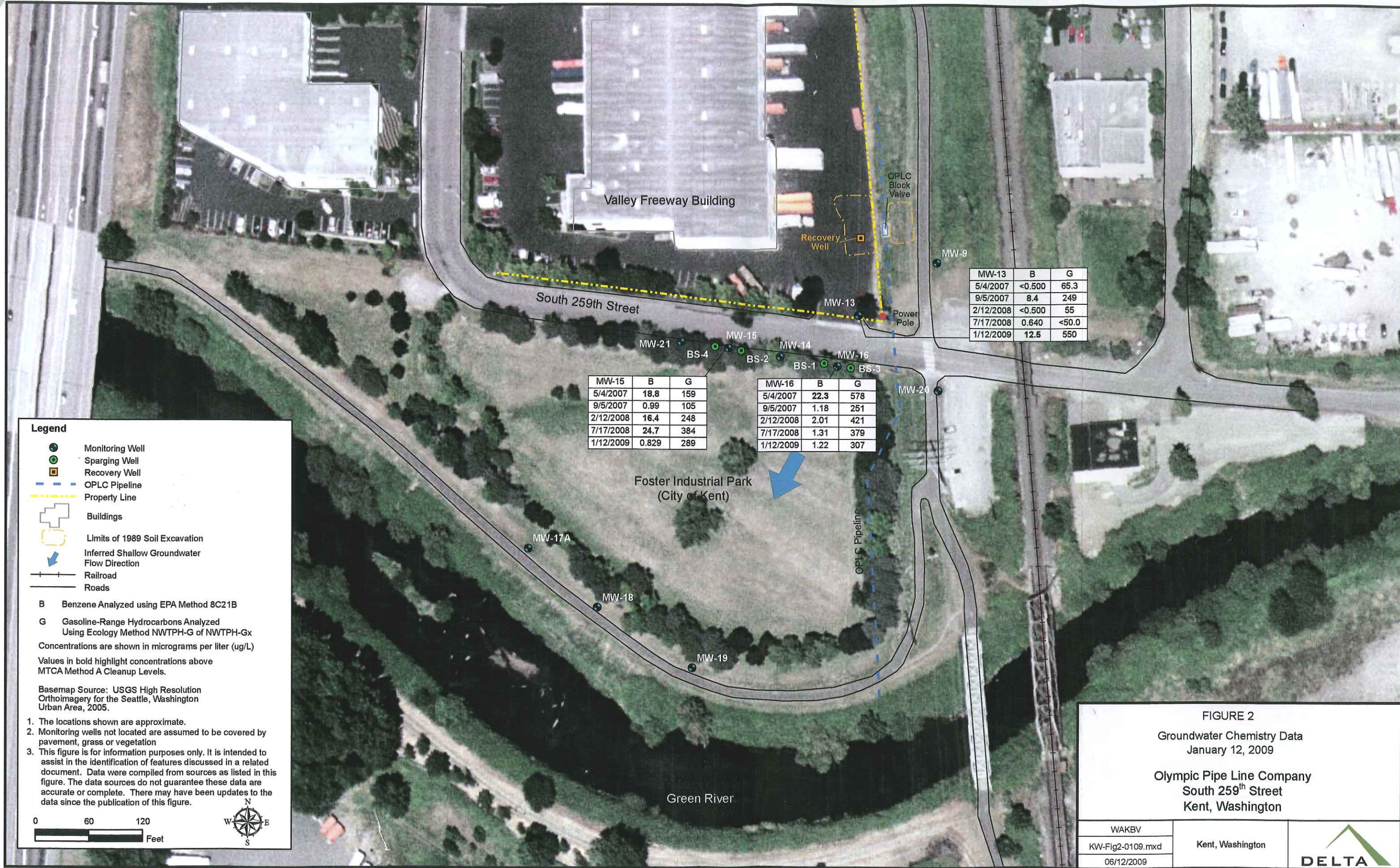
Explain basis for scoring a release to ground water: Confirmed contamination of groundwater. Source: 2 Value: 5
(Max.=5)

SOURCES USED IN SCORING

1. Washington Ranking Method Toxicological Data-base.
2. Analytical Results Sampled by GeoEngineers, Redmond WA, as published on October 1, 1999 in document - Results of Ground Water Monitoring and Monitoring Well Replacement August/September 1999, 1989 Kent Block Valve Release, South 259th Street at Interurban Trail, Kent, Washington, For Olympic Pipeline Company.
3. Site Hazard Assessment, Seattle-King County Department of Public Health, on August 20, 1999.
4. National Weather Service Data.
5. Washington State Department of Health Public Water Supply Listing.
6. Washington State Water Use Data.
7. Sensitive Areas Coverage, King County Geographic Information System Data, as of November 1999.
8. Census Data, 1990 Census, from King County Geographic Information System Data, November 1999.



FIGURE 1
Groundwater Elevations
January 12, 2009
Olympic Pipe Line Company
South 259th Street
Kent, Washington



MW-13	B	G
5/4/2007	<0.500	65.3
9/5/2007	8.4	249
2/12/2008	<0.500	55
7/17/2008	0.640	<50.0
1/12/2009	12.5	550

MW-15	B	G
5/4/2007	18.8	159
9/5/2007	0.99	105
2/12/2008	16.4	248
7/17/2008	24.7	384
1/12/2009	0.829	289

MW-16	B	G
5/4/2007	22.3	578
9/5/2007	1.18	251
2/12/2008	2.01	421
7/17/2008	1.31	379
1/12/2009	1.22	307

Legend

- Monitoring Well
- Sparging Well
- Recovery Well
- OPLC Pipeline
- Property Line
- Buildings
- Limits of 1989 Soil Excavation
- Inferred Shallow Groundwater Flow Direction
- Railroad
- Roads

B Benzene Analyzed using EPA Method 8C21B
G Gasoline-Range Hydrocarbons Analyzed Using Ecology Method NWTPH-G of NWTPH-Gx
 Concentrations are shown in micrograms per liter (ug/L)
 Values in bold highlight concentrations above MTCA Method A Cleanup Levels.

Basemap Source: USGS High Resolution Orthoimagery for the Seattle, Washington Urban Area, 2005.

- The locations shown are approximate.
- Monitoring wells not located are assumed to be covered by pavement, grass or vegetation
- This figure is for information purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

0 60 120 Feet

FIGURE 2
 Groundwater Chemistry Data
 January 12, 2009

Olympic Pipe Line Company
 South 259th Street
 Kent, Washington

WAKBV	Kent, Washington	
KW-Fig2-0109.mxd		
06/12/2009		