

Washington Ranking Method

SUMMARY SCORE SHEET

Site Name: Longview Fibre Co.

ID No:

Site Location: (City, County, or Section/Township/Range)

Seattle, WA/King County/T24N/R4E/Section 19

Site Description: (Attach a sketch/map)

Three underground storage tanks removed, two excavations showed hydrocarbon staining, one is fifty feet from Duwamish River. Hydrocarbons were visible in ground water seeps in two excavations nearest river. Shallow ground water (7-15') in dredged fill on tideflat silt - silty sands. Tanks contained gasoline, diesel, Bunker C, and heating oil. Excavation have been backfilled with clean fill.

Special Considerations:

Tanks have been removed. Monitoring wells are in place and is collecting visible oil in these wells.

Site Rank: 5

Region: Northwest Regional Office
4350 - 150th Ave. NE
Redmond, WA 98052-5301

Contact: Mike Gallagher
(206) 867-7054

BT, DC

WASHINGTON RANKING METHOD

ROUTE SCORES SUMMARY AND RANKING CALCULATION SHEET

Site name: Longview Fibre-King Co Region: NW RO

City, county: Seattle, King

Pathway	Route Score(s)	Quintile Group number(s)	
GW-HH	<u>24.1</u>	<u>1</u>	$\frac{1 + 2 + 1}{8} = \frac{4}{8} = 0.5 = 1$
SW-HH	<u>2.0</u>	<u>1</u>	
Air-HH	<u>3.6</u>	<u>1</u>	
SW-En	<u>3.2</u>	<u>1</u>	$\frac{1 + 2}{7} = \frac{3}{7} = 0.42 = 1$
Air-En	<u>0</u>	<u>1</u>	

Matrix Ranking: 5

✓
mjd
8/14/90

WORKSHEET 1

SUMMARY SCORE SHEET							
Site Name: Longview Fibre Co.	ID No:						
Site Location: (City, County, or Section/Township/Range) <p style="text-align: center;">Seattle, WA/King County/T24N/R4E/Section 19</p>							
Site Description: (Attach a sketch/map) <p>Three underground storage tanks removed, two excavations showed hydrocarbon staining, one is fifty feet from Duwamish River. Hydrocarbons were visible in ground water seeps in two excavations nearest river. Shallow ground water (7-15') in dredged fill on tideflat silt - silty sands. Tanks contained gasoline, diesel, Bunker C, and heating oil. Excavation have been backfilled with clean fill.</p>							
Special Considerations: <p>Tanks have been removed. Monitoring wells are in place and is collecting visible oil in these wells.</p>							
ROUTE SCORES: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Ground Water/Human: <u>24.1</u></td> <td style="width: 50%;">Surface Water/Environmental: <u>3.2</u></td> </tr> <tr> <td>Surface Water/Human: <u>2.0</u></td> <td>Air/Environmental: <u>0</u></td> </tr> <tr> <td>Air/Human: <u>3.6</u></td> <td></td> </tr> </table>		Ground Water/Human: <u>24.1</u>	Surface Water/Environmental: <u>3.2</u>	Surface Water/Human: <u>2.0</u>	Air/Environmental: <u>0</u>	Air/Human: <u>3.6</u>	
Ground Water/Human: <u>24.1</u>	Surface Water/Environmental: <u>3.2</u>						
Surface Water/Human: <u>2.0</u>	Air/Environmental: <u>0</u>						
Air/Human: <u>3.6</u>							

SITE WORKSHEET

Site Name: LONGVIEW FIBRE

1. What waste management areas/spills are present at the site?

TWO UNDERGROUND STORAGE TANK EXCAVATIONS / PETROLEUM SPILLS

1a. How big are they? (Use measure most applicable to type of waste and container, ie., drums = gallons, landfill volume = cubic yds, tanks = gallons, impoundments = gallons)

~~20' x 20' x 15'~~ MOST SOIL HAS BEEN SENT TO CORAL CREEK LANDFILL ^{CEDAR HILLS}
~~110 yd³~~ WATER HAS BEEN PUMPED / SKIMMED.
 Contamination is largely within ~~the~~ 20 ft of MW-3
 SO quantity judges at 314 sq ft x 3 ft depth = 35 cy yds³ contam. soil

2. For each waste management area listed above, what hazardous substances are present/ important for that area? Why?

PETROLEUM HYDROCARBONS - FUEL OIL - XYLENE + HEAVIER (NAPHTHALENE / ANTHRACENE)
 scored on xylene (representing diesel fuel) + naphthalene (anthracene)
 (representing Bunker C) -

3. Which areas/substances are to be used to score the ground water route?

WEST EXCAVATION / XYLENE + (NAPHTHALENE / ANTHRACENE)

3a. Have releases to ground water occurred?

YES floating product in MW-3

3b. How are these documented? CA₂M HILL REMEDIAL ACTION REPORT +

4. Which areas/substances are to be used to score the air route?

see 1+2 above

4a. Have releases to air occurred? NO

4b. How are these documented? None

5. Which areas/substances are to be used to score the surface water route?

see 1+2 above

5a. Have releases to surface water occurred? NO

5b. How are these documented?

WORKSHEET 3

ENVIRONMENTAL AND TARGET DATA

Site Name: LONGVIEW FIBRE
 Section/Township/Range: T24N/R4E/S19
 USGS Quadrangle Name: SEATTLE - SOUTH
 Name of Soil Conservation Service Soil Survey: (KING CO.?)

Nearest Drinking Water Well (Describe by name section/township/range), include distance:

~~BREWER AIRPARK CO. T24N/R4E/S33 2 miles SE~~
 None w/in 2 miles - only comm./industrial

Total Population Served by Drinking Water Wells: 0

Nearest Surface Water (Drinking) Intake (Describe by name, section/township/range), include distance:

~~BREWER AIRPARK CO. T24N/R4E/S33 2 miles SE~~
 None

Total Population Served by Surface Water Intakes: 0

Acreage Irrigated by Wells: 0 none - all comm/indust.

Acreage Irrigated by Surface Water Intakes: ~~0~~ None within 2 miles

Sensitive Environments (List by name, distance/direction from site):

1. PUGET TOWER PARK, 1/4 mile NW None downgradient for SW
2. ? PARK, 2 1/2 miles SW
3. ? PARK, 2 miles SSE
4. Site is adjacent to Duwamish Waterway - fish migration

AIR ROUTE TOXICITY MATRIX

Compound	Air Standard Value	Chronic Toxicity Value	Acute Toxicity Value	Carcinogenicity Value	Highest Value
1. NAPHTHALENE	6.8	9	—	x	9
2. ANTHRACENE	—	x	—	x	—
3. Xylene	—	x	—	x	—
4. Benzene	4.1E+1	7	15,400 ppm	x	7
5.					
6.					

+Bonus Value (2 pts) = 9+2=11

Env. Tox - Benzene
 Tox = 5
 mob = 4
 Matrix = 10

WK-3

Naphthalene ^{mobility} 0.252 = 3
 Benzene 9.5 = 4

Matrix Hbb = Tox = 11, Mob = 4

(23)

SURFACE WATER ROUTE TOXICITY MATRIX

Compound	Drinking H ₂ O Standard	Chronic Toxicity Value	Acute Toxicity Value	Carcinogenicity Value	Highest Value				
1. NAPHTHALENE	—	X	4E-3	3	(RSD) 1/490	5	—	X	5
2. ANTHRACENE	—	X	—	X	—	—	—	X	—
3. Benzene	5 (MCL)	8	—	X	3306	3	(A) 2.9E-2	5	8
4.									
5.									
6.									

+Bonus Value (2 pts) = 8

Benzene 5,100 µg/l

Environmental Toxicity Acute Standard: 5,100 Value = 2

GROUND WATER ROUTE TOXICITY MATRIX

Compound	Drinking H ₂ O Standard	Chronic Toxicity Value	Acute Toxicity Value	Carcinogenicity Value	Highest Value				
1. NAPHTHALENE	—	X	4E-3	3	74/490	5	—	X	5
2. ANTHRACENE	—	X	—	X	—	—	—	X	—
3.		see above							
4.									
5.									
6.									

+Bonus Value (2 pts) = 8

Attach the following to this worksheet:

1. Copy of USGS Quadrangle map with site marked
2. Copy of map showing sensitive environments
3. Copy of site-specific soil descriptions, or SCS Soil Survey pages showing site location, and text describing soil types
4. Copy of Washington State Water Rights Information System printouts showing acreage irrigated by wells and surface water intakes.
5. Copy of Washington Public Supply System Listing showing drinking water sources within 2 miles.

WORKSHEET 4

SUBSTANCE CHARACTERISTIC WORKSHEET FOR MULTIPLE UNIT/SUBSTANCE SITES			
	Combination 1	Combination 2	Combination 3
Unit: Substance: <u>AIR ROUTE</u> Human Toxicity/Mobility Value: Environmental Toxicity/Mobility Value : Containment Value: ----- Air Human Subscore : (Toxicity/Mobility + 5) • (Containment + 1) Air Environmental Score: (Toxicity/Mobility + 5) • (Containment + 1) ===== <u>SURFACE WATER ROUTE</u> Human Toxicity Value: Environmental Toxicity Value: Containment Value: ----- Surface Water Human Subscore: (Toxicity + 3) • (Containment + 1) Surface Water Environmental Subscore: (Toxicity + 3) • (Containment + 1) ===== <u>GROUND WATER ROUTE</u> Human Toxicity Value: Containment Value: ----- Ground Water Subscore: (Toxicity + 5) • (Containment + 1)			

SURFACE WATER ROUTE

1. SUBSTANCE CHARACTERISTICS

Human Toxicity	1 2 3 4 <u>5</u> 6 7 <u>8</u> 9 10 11 12	<input type="text" value="8"/>
Environmental Toxicity	1 2 3 4 5 6 7 8 9 10	<input type="text" value="2"/>
Quantity (315 sq. ft)	1 2 3 4 <u>5</u> 6 7 8 9 10	<input type="text" value="5"/>

2. MIGRATION POTENTIAL

Containment	<u>0</u> 2 4 5 6 7 8 <u>10</u>	<input type="text" value="0"/>
Surface Soil Permeability	1 <u>3</u> 5 7	<input type="text" value="3"/>
Total Annual Precipitation	1 2 <u>3</u> 4 5 33.8	<input type="text" value="3"/>
2-Year, 24-Hour Rainfall 20-25	1 2 <u>3</u> 4 5	<input type="text" value="3"/>
Flood Plain	<u>0</u> 1 2	<input type="text" value="0"/>
Terrain Slope	<u>1</u> 2 3 5	<input type="text" value="1"/>

3. TARGETS

Distance to Surface Water <i>adjacent</i>	0 2 4 7 <u>10</u>	<input type="text" value="10"/>
Population Square Root ($\sqrt{\text{Popu.}}$ -write in nearest whole no.) 600000000		<input type="text" value="0"/>
Area Irrigated (0.75 $\sqrt{\text{Area}}$ -write in nearest whole no.) 0		<input type="text" value="0"/>
Distance to Fishery Resource	0 3 6 9 <u>12</u> Duwamish	<input type="text" value="12"/>
Distance to Sensitive Environment	<u>0</u> 3 6 9 12 None downgradient	<input type="text" value="0"/>

4. RELEASE

<u>0</u> 5	<input type="text" value="0"/>
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- Substance/containment combination used to score this task: WEST TANK / FUEL OIL (WASTEWATER/ASTORAGE)
- Waste management areas used to score quantity:

NOTES:

Containment - scored as 0 - because of excavation + backfill with clean soil, no surface contamination
 Surface Soil Permeability - based on silty sands (11/87-C42 Report)

WORKSHEET 6

AIR ROUTE

1. SUBSTANCE CHARACTERISTICS

Human Health Toxicity/ Mobility Scalar

1 2 3 4 5 6 7 8 9 10 11
12 ~~13~~ 15 16 17 18 20 22 24

22

Environmental Toxicity
Quantity ~ 300 sq. ft

1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7 8 9 10

10
2

2. MIGRATION POTENTIAL

Containment

0 3 4 5 6 8 ~~10~~

0

3. TARGETS

Nearest Population

0 2 4 6 ~~8~~ 10

10

Nearest Sensitive Environment

0 1 3 5 6 7

0

Population Sq. Rt. ($\sqrt{\text{Pop. in } \frac{1}{2} \text{ mile}}$ -write in nearest whole no.) $\sqrt{901}$

30

4. RELEASE

0 5

0

- Substance/containment combination used to score this task: FUEL OIL (NAPHTHALENE/ANTHRACENE)
- Waste management areas used to score quantity: WEST TANK EXCAVATION

NOTES:

Containment - ~~tanks~~ tanks have been excavated + area backfilled
scored a contain soil cover > 2ft thick + 1m subsurface only

Nearest population - adjacent facilities

No sensitive environments within 1 mile

WORKSHEET 7

GROUND WATER ROUTE

1. SUBSTANCE CHARACTERISTICS

Toxicity 1 2 3 4 5 6 7 8 9 10 11 12
 Mobility 0 1 2 3 4 5 6 7 8 9 10
 Quantity (35 yds³ - contam soil) 1 2 3 4 5 6 7 8 9 10

8
3
3

2. MIGRATION POTENTIAL

Containment 0 1 2 3 4 5 6 7 8 9 10
 Net Precipitation (Nov-April - 19.2 ins) 0 1 2 3 4 5
 Subsurface Hydr. Cond. 1 2 3 4
 Depth to Aquifer (floating product) 1 2 3 4 5 6 7 8 9 10

10
2
3
8

3. TARGETS

Aquifer Usage 1 2 3 4 5 9 10
 Nearest Well 0 1 2 3 4 5
 Population Square Root ($\sqrt{\text{Pop.}}$ - write in nearest whole no.)
 Area Irrigated ($0.75 \sqrt{\text{Area}}$ - write in nearest whole no.)

1
0
0
0

4. RELEASE

0 5

5

1. Substance/containment combination used to score this task: FUEL OIL (NAPHTHALENE, ANTHRALENE)

2. Waste management areas used to score quantity: WEST TANK

NOTES:

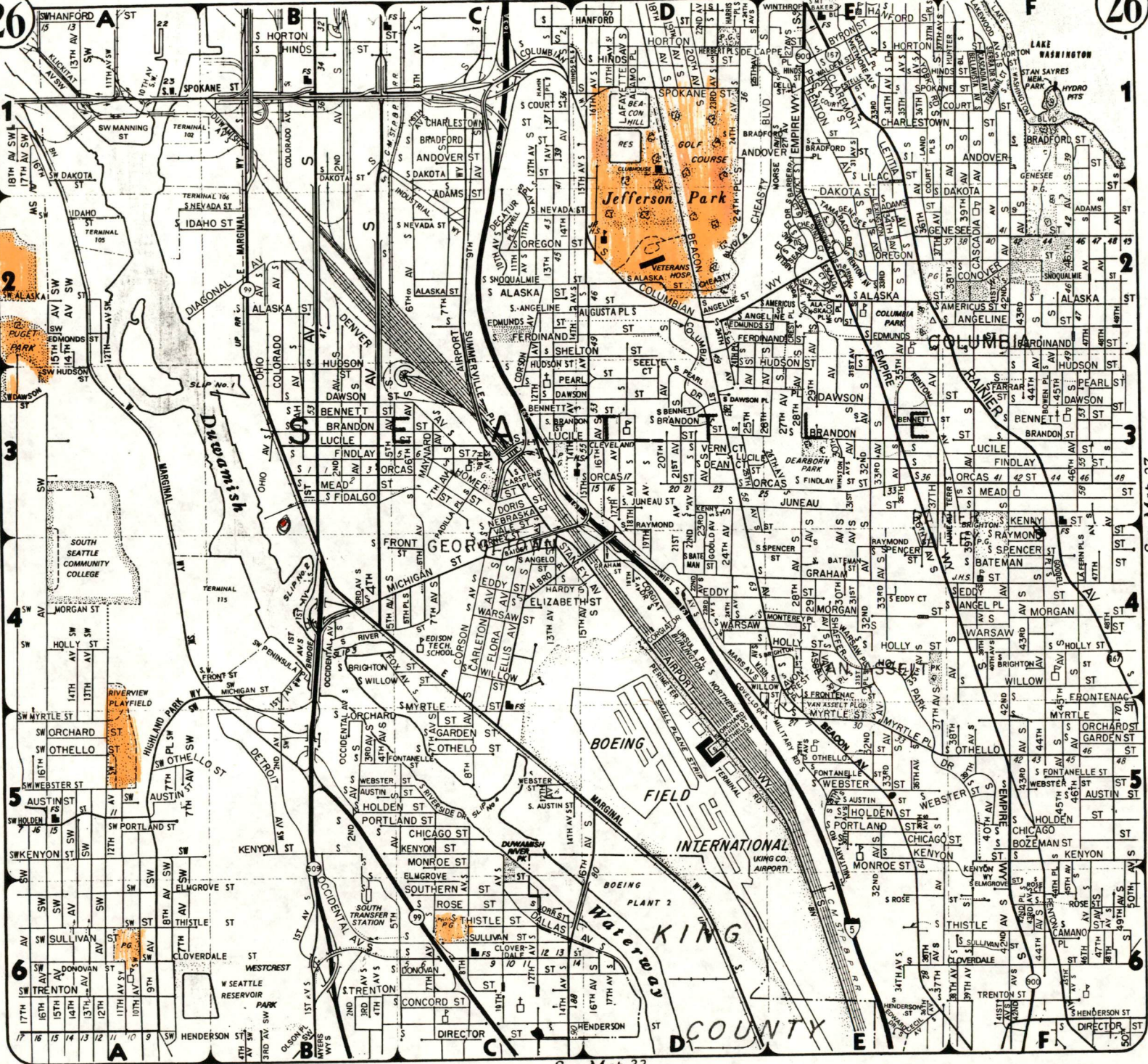
Mobility based on benzene solubility = 1780 mg/l = 3
 Hydraulic conductivity based on silty sands (1987 CH2M report)
 Aquifer use scored as a 1 - shallow groundwater assumed to be not useable - probably brackish -

TABLE 26 - ESTIMATED EVAPOTRANSPIRATION
(Inches of Water)

	J	F	M	A	M	J	J	A	S	O	N	D	ANNUAL
KING COUNTY													
	<u>Bothell 2N</u>												
Precip	5.4	4.2	3.8	2.5	2.4	2.1	.9	1.0	2.0	3.8	5.3	6.1	39.5
PET	.4	.6	1.1	1.9	2.9	3.6	4.3	3.9	2.8	1.8	.8	.6	24.7
Ea(6)	.4	.6	1.1	1.9	2.9	3.4	2.6	2.0	2.2	1.8	.8	.6	20.3
	<u>Cedar Lake</u>												
Precip	13.2	10.7	11.2	7.6	6.2	5.6	2.4	2.5	5.3	10.4	13.6	15.7	104.4
PET	.2	.4	.9	1.7	2.7	3.5	4.2	3.8	2.8	1.8	.8	.4	23.2
Ea(6)	.2	.4	.9	1.7	2.7	3.5	4.0	3.4	2.8	1.8	.8	.4	22.6
	<u>Landsburg</u>												
Precip	6.8	5.7	5.8	4.0	3.3	3.4	1.5	1.6	3.4	5.7	7.0	8.2	56.4
PET	.4	.6	1.2	2.0	3.0	3.6	4.1	3.7	2.8	1.8	.8	.5	24.5
Ea(6)	.4	.6	1.2	2.0	3.0	3.6	3.5	2.7	2.8	1.8	.8	.5	22.9
	<u>Monroe</u>												
Precip	5.7	4.8	4.5	3.2	3.0	2.6	1.1	1.2	2.4	4.6	6.2	6.7	46.0
PET	.4	.5	1.2	2.0	3.1	3.8	4.5	4.1	2.9	1.8	.9	.5	25.7
Ea(6)	.4	.5	1.2	2.0	3.1	3.7	3.2	2.3	2.5	1.8	.9	.5	22.1
	<u>Palmer 3SE</u>												
Precip	11.1	9.5	10.2	7.3	5.9	5.3	2.4	2.4	4.9	9.1	11.6	13.7	93.4
PET	.3	.5	1.0	1.9	2.9	3.6	4.4	4.0	3.0	1.8	.8	.5	24.7
Ea(6)	.3	.5	1.0	1.9	2.9	3.6	4.1	3.4	3.0	1.8	.8	.5	23.8
	<u>Seattle-Tacoma AP</u>												
Precip	4.7	4.0	3.4	2.1	1.6	1.3	.6	.9	1.7	3.3	4.5	5.7	33.8
PET	.3	.6	1.2	1.8	3.1	3.8	4.5	4.1	2.8	1.8	.8	.5	25.3
Ea(6)	.3	.6	1.2	1.8	3.0	2.9	2.0	1.6	1.9	1.8	.8	.5	18.4
	<u>Seattle U of W</u>												
Precip	4.7	3.9	3.2	2.1	1.9	1.5	.8	.7	1.8	3.5	5.1	5.6	34.8
PET	.5	.7	1.2	2.0	3.1	3.8	4.6	4.2	3.0	2.0	.9	.6	26.6
Ea(6)	.5	.7	1.2	2.0	3.0	3.1	2.4	1.4	2.0	2.0	.9	.6	19.8
	<u>Snoqualmie Falls</u>												
Precip	7.7	6.6	6.1	4.0	3.3	3.3	1.4	1.4	3.1	6.0	8.2	9.2	60.3
PET	.4	.6	1.1	2.0	3.3	3.7	4.4	4.0	2.9	1.7	.8	.5	25.4
Ea(6)	.4	.6	1.1	2.0	3.3	3.7	3.6	2.6	2.9	1.7	.8	.5	23.2
	<u>Stampede Pass</u>												
Precip	13.0	11.1	10.6	5.5	4.7	4.0	1.3	2.1	4.0	9.3	13.3	14.7	93.6
PET				.9	2.2	3.1	4.1	3.7	2.5	1.2			17.7
Ea(6)				.9	2.2	3.1	3.6	3.0	2.5	1.2			16.5
	<u>Startup 1E</u>												
Precip	7.4	6.1	6.3	4.6	4.3	3.9	1.8	1.7	3.6	6.5	8.2	8.9	63.3
PET	.4	.6	1.2	2.1	3.1	3.7	4.4	4.0	2.9	1.8	.9	.5	25.6
Ea(6)	.4	.6	1.2	2.1	3.1	3.7	3.9	2.9	2.9	1.8	.9	.5	24.0
	<u>Vashon</u>												
Precip	6.7	5.6	4.6	2.8	1.9	1.7	.8	.9	2.2	4.5	6.6	8.2	46.5
PET	.5	.6	1.1	2.0	3.1	3.8	4.4	4.0	2.9	1.9	.9	.6	25.8
Ea(6)	.5	.6	1.1	2.0	3.0	3.0	2.5	1.7	2.3	1.9	.9	.6	20.1

See Map 25

See Map 27



Sound

Puget

1/2 mile RADIUS POP.
901 EST.

71

80

81

82

74

75

79

85

86

87

88

92

91

90

89

96

99

97

98

Seattle

94

95

SEATTLE

93

100

1/2 mile RADIUS POP.
901 EST.

105

106

107

2886

108

1303

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104

110

116

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114

113

112

120

121

266

265

264

WHITE CENTER
SHOREWOOD

267

268

269

BOULEVARD PARK

270

271

276

275

274

273

RIVERTON

SW 146TH ST

SW 146TH ST

S 146TH ST

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SW 128TH ST

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