CSID 2120

WORKSHEET 1
SUMMARY SCORE SHEET

Site Name/Location (Street, City, County, Section/Township/Range, TCP ID Number): 57665495

John's Auto Wrecking
411 93rd Ave SE
Olympia, WA 98501

Thurston County, 23S/17TN/2RW
Tax Parcel #: 12723210000
Facility ID: 57665495
Date scored: January 27, 2004

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

John's Auto Wrecking has been operating as a wrecking yard supporting towing operations and related businesses for approximately 22 years. Years of vehicle crushing operations and the improper handling and storage of wrecked cars have been the source of suspected contamination. The business encompasses approximately 15 acres located south of Tumwater, Washington. The site is situated at an elevation of between 188 and 194 feet above mean sea level. The ground surface of the property is essentially flat, though it slopes slightly to the southwest. Shallow groundwater is anticipated to fluctuate seasonally between periods above the surface from November to April, to as much as eight feet below ground surface during August and September. There is a ditch (Hopkins Ditch) that runs through the south end of the property, where the areas of concern (AOC) are located. The groundwater flow is to the southwest into Salmon Creek.

On October 18, 2001 the Thurston County Environmental Health Department conducted a technical assistance visit to this facility. The county identified several waste streams associated with the auto recycling facility. The facility was out of compliance for hazardous waste storage. The owner was given a reasonable timeline to bring the facility into compliance.

On February 6, 2002, officers of the Thurston County Environmental Health Department, the Washington State Patrol and other agencies inspected the property. During this inspection the Health Department discovered other improper storage practices, located in the south end of the property, which had resulted in the release of gasoline and other petroleum products to the soil and surface water. A notice of violation - Order to Correct was issued to the owner on March 1, 2002.

A contractor was retained in May by the owner to identify the AOC's. During a preliminary site investigation by the contractor, four AOC's were located on the southern part of the property near the ditch. Area 1 was the site where a previous gasoline release had occurred. Areas 2, 3 and 4 are sites where past automobile crushers had been placed.

In June, 2002 a soil sample was obtained from area 1 for a preliminary assessment of contamination. The results showed gasoline and xylenes above MTCA method A cleanup levels. Further sampling in August of 2002 showed elevated levels of Trimethylbenzene and Naphthalene. These levels did not exceed MTCA cleanup standards. Some limited work was conducted on the site, but no report was ever filed. The owner has not paid the contractor and the contractor left the project. The site was listed on August 16, 2002.

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 site has been closed down by the Washington State Patrol. There has been no official cleanup at this site. It cannot be easily determined at the present time the lateral or vertical extent of contamination. Many vehicles are still present on site.

ROUTE SCORES:

Surface Water/Human Health: 36.3 Surface Water/Environ.: 23.8

Air/Human Health:15.5 Air/Environmental: 32.4

Ground Water/Human Health: 56.6 **OVERALL RANK: 1**

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring. Source: 1,2
Naphthalene, Xylenes, WTPH-Gas and Trimethylbenzene

Explain basis for choice of substance(s) to be used in scoring.
Analytical results show WTPH-Gas and Xylene above Method A cleanup levels and the rest of the compounds nearing Method A cleanup levels.

List those management units to be considered for scoring. Source: 1,2
Contaminated on-site surface and subsurface soils.

Explain basis for choice of unit to be used in scoring.
Chemical analyses of on-site soils.

2. AIR ROUTE

List those substances to be considered for scoring. Source: 1,2
Naphthalene, Xylenes, WTPH-Gas and Trimethylbenzene

Explain basis for choice of substance(s) to be used in scoring.
Analytical results show WTPH-Gas and Xylene above Method A cleanup levels and the rest of the compounds nearing Method A cleanup levels.

List those management units to be considered for scoring. Source: 1,2
Contaminated on-site surface and subsurface soils.

Explain basis for choice of unit to be used in scoring.
Chemical analyses of on-site soils with no vapor collection system.

3. GROUND WATER ROUTE

List those substances to be considered for scoring. Source: 1,2
Naphthalene, Xylenes, WTPH-Gas and Trimethylbenzene

Explain basis for choice of substance(s) to be used in scoring.
Analytical results show WTPH-Gas and Xylene above Method A cleanup levels and the rest of the compounds nearing Method A cleanup levels.

List those management units to be considered for scoring. Source: 1,2
Contaminated on-site surface and subsurface soils.

Explain basis for choice of unit to be used in scoring.
Analytical Results of on-site soils.

WORKSHEET 3 (If Required)
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES

Unit:

	Combination 1	Combination 2	Combination 3
1. SURFACE WATER ROUTE Substance(s):			
Human Toxicity Value:			
Environ. Toxicity Value:			
Containment Value:			
Rationale:			
Surface Water Human Subscore:	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =
Surface Water Environ. Subscore:	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =
2. AIR ROUTE Substance(s):			
Human Toxicity/Mobility Value:			
Containment Value:			
Rationale:			
Air Human Subscore:	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =
Air Environ. Subscore:	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =
3. GROUND WATER ROUTE Substance(s):			
Human Toxicity Value:			
Containment Value:			
Rationale:			
Ground Water Subscore:	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =	(+3)(+1)= ( )( ) =

Based on their respective highest scoring toxicity/containment combinations, the following management units will be used for route scoring:

Surface Water -
Air -
Ground Water -

WORKSHEET 4
SURFACE WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Drinking Water Standard		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
Substance	µg/L	Val.	mg/kg-bw	Val.	Mg/kg/day	Val.	WOE	PF*	Val.
1. WTPH-Gas	5	8	3306	3	-	-	A	1	5
2. Xylenes	10,000	2	50	10	2	3	-	-	-
3. Trimethylbenzene	-	-	8970	1	-	-	-	-	-
4. Naphthalene	20	6	490	5	0.004	5	-	-	-
5.									

PF*= Potency Factor **Source:** 1,2,3

Highest Value: 10 (Max.=10) +2 Bonus Points? _____ **Final Toxicity Value: 12**

1.2 Environmental Toxicity

Substance	(X) Freshwater ( ) Marine Acute Water Quality Criteria		Non-human Mammalian Acute Toxicity	
	(ug/1)	Value	(mg/kg)	Value
1. WTPH-Gas	5300	2	-	-
2. Xylenes	-	-	-	-
3. Trimethylbenzene	-	-	-	-
4. Naphtalene	2300	2	-	-
5.				

Source: 1,2,3 Value: 2 (Max. =10)

1.3 Substance Quantity: **Source: 1 Value: 1 (Max. =10)**

Explain basis: unknown

2.0 MIGRATION POTENTIAL

2.1 Containment : Spill, discharge **Source: 1 Value: 10 (Max. =10)**
or contamianted soil at the surface with no run-on/runoff control

2.2 Surface Soil Permeability **Source: 1,5 Value: 3 (Max. =7)**
Nisqually loamy fine sand

2.3 Total Annual Precipitation (inches) **Source: 6 Value: 4 (Max. =5)**
51 inches

2.4 Max. 2-yr/24-hr precipitation (inches) **Source: 4 Value: 3 (Max. =5)**
2.5 inches

2.5 Flood Plain **Source: 5 Value: 2 (Max. =2)**
100 year flood

2.6 Terrain Slope (%) 0 to 3% slope **Source: 5 Value: 2 (Max. =5)**

3.0 TARGETS

3.1 Distance to Surface Water **Source: 5 Value: 10 (Max. =10)**
< 1000 feet

3.2 Population Served within 2 miles **Source: 5 Value: 0 (Max. =75)**
See WARM Scoring Manual Regarding Direction
pop. = x = n None

3.3 Area Irrigated within 2 miles **Source: 5 Value: 3 (Max. =30)**
See WARM Scoring Manual Regarding Direction
0.75 # of acres = n 20 acres
0.75 x = 0.75(y) = n .75/20= 3

3.4 Distance to Nearest Fishery Resource **Source: 1,5 Value: 0 (Max. =12)**
ephermal stream not fishery resource

3.5 Distance to and Names of Nearest Sensitive Environments
200 feet to wetland **Source: 1,5 Value: 12 (Max. =12)**

4.0 RELEASE
Explain the basis for scoring a release to surface water
Photographs showing discolored plume/Sheen **Source: 7 Value: 5 (Max.=5)**

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		Acute Toxicity		Chronic Toxicity		Carcinogenicity		
	(ug/m^3)	Val.	(mg/m^3)	Val.	(mg/kg/day)	Val.	WOE	PF	Val.
1. WTPH-Gas	0.12	10	31947	3	-	-	A	.029	5
2. Xylene	1448.6	1	21714	3	0.085	1	-	-	-
3. Trimethylbenzene	416.3	4	-	-	-	-	-	-	-
4. Naphthalene	166.5	4	-	-	-	-	-	-	-
5.									

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

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

1.3.1 Gaseous Mobility
Vapor Pressures (mmHg) **Source: 3 Value: 4 (Max. =4)**
1. 9.5E+01 = 4
2. 1.0E+01 = 4
3. ------
4. 8.2E-02 = 3
5.

1.3.2 Particulate Mobility **Source:_____ Value: NS (Max. =4)**
Soil Type:
Erodibility:
Climactic Factor:

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from Table A-7)
Equals Final Matrix Value **Source: 3 Value: 20 (Max. =24)**

1.5 Environmental Toxicity/Mobility **Source: 3 Value: 6 (Max. =24)**

Non-human Mammalian Acute (Table A-7)

Substance	Inhalation Toxicity (mg/m^3)	Value	Mobility (mmHg)	Value	Matrix Value
1. WTPH-Gas	31947 rat	3	9.5E+01	4	6
2. Xylenes	21714 rat	3	1.0E+01	3	5
3.	-	-	-	-	-
4.	-	-	-	-	-
5.					

Highest Environmental Toxicity/Mobility Matrix Value (From Table A-7) equals
Final Matrix Value: 6

1.6 Substance Quantity: **Source: 1 Value: 1 (Max. =10)**

Explain basis: unknown

2.0 MIGRATION POTENTIAL

2.1 Containment: **Source: 4 Value: 10 (Max. =10)**
Cover <2 feet thick or suface spill/dischare and no vapor collection system

3.0 TARGETS

3.1 Nearest Population **Source: 5 Value: 10 (Max. =10)**
≤ 1000 feet

3.2 Distance to and Names of Nearest Sensitive Environments
Wetlands surrounding Hopkins Ditch <1000 feet **Source: 1,5 Value: 7 (Max. =7)**

3.3 Population within 0.5 miles: **Source: 5 Value: 8 (Max. =75)**
pop. = 70 = n

4.0 RELEASE
Explain basis for scoring a release to air:
No documented release **Source: 1 Value: 0 (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/m^3)	Val	(mg/kg/bw)	Val	(mg/kg/day)	Val	WOE	PF	Val
1. TPH-Gasoline	5	8	3306	3	-	-	A	.029	5
2. Trimethylbenzene	-	-	8970	1	-	-	-	-	-
3. Xylenes	10,000	2	50	10	2	3	-	-	-
4. Naphthalene	20	6	490	5	0.004	5	-	-	-
5.									

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

1.2 Mobility
(Use numbers to refer to above listed substances)
Cations/Anions **Source: __ Value:___ (Max. =12)**
1.
2.
3.
4.
5.

OR Solubility **Source: 3 Value: 3 (Max. =3)**
1. 1800 = 3
2. -
3. 200 = 2
4. 30 = 1
5.

1.3 Substance Quantity **Source: 1 Value: 1 (Max. =10)**
Unknown
Explain basis:

2.0 MIGRATION POTENTIAL

2.1 Containment **Source: 1 Value: 10 (Max. =10)**
Explain Basis: Spills

2.2 Net Precipitation (inches): **Source: 6 Value: 3 (Max. =5)**
27.06"

2.3 Subsurface Hydraulic Conductivity: **Source: 1 Value: 4 (Max. =4)**
$1.4x10^{-3}$

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

3.0 Targets

3.1 Ground Water Usage: **Source: 5 Value: 5 (Max. =10)**
Private supply, no alt. Source available

3.2 Distance to Nearest Drinking Well (ft): **Source: 1,5 Value: 3 (Max. =5)**
1,340 feet

3.3 Population Served within 2 miles: **Source: 5 Value: 62 (Max. =100)**
3,800 people
pop. = x = n

3.4 Area irrigated by Wells within 2 miles: **Source: 5 Value: 8 (Max. =50)**
100 acres
0.75 100 of acres = n
0.75 x = 0.75(y) = n

4.0 RELEASE **Source: 1 Value: 0 (Max. =5)**
Explain basis for scoring a release to ground water:
No documented release

SOURCES USED IN SCORING

1. Remedial Investigation and cleanup Workplan, John's Auto Wrecking & Towing, Olympia, Washington, July 2002.
2. Soil Sampling Summary, John's Auto Wrecking, Olympia, Washington, August 2002.
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. Thurston County Geodata Center, maps and figures 2004.
6. Thurston County Climatic Data, National Weather Service, Olympia Station, January 1983 through December 1997.
7. Numerous site visits by Patrick Soderberg, TCHD, October 2001 to present.