(SID 4722

6/8/98

WORKSHEET 1 SUMMARY SCORE SHEET

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

Olympia Cleaners (a.k.a. Howard's Cleaners) 606 E. Union Ave Olympia, WA 98506

S - 23, T-18N, R-2W TCP ID# -5-34-6203-000

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

The Olympia Dry Cleaner has been operated as a dry cleaners for approximately twenty-five years and is owned by Frank Burleson. The facility is now leased to Howard McCullough and named Howard's Cleaners. The previous owner, Gaylor Bolton, operated the Cleaners for approximately 13 years.

The initial investigation was at the request of Mr. Bolton in May of 1995. At that time, the consultant noted staining on and around a raised concrete walkway at the back of the building. Based on the observed staining, two boreholes were augered to a depth of one foot, approximately one foot from the staining (A), and six feet topographically down-gradient in the direction of suspected groundwater flow (B). Groundwater was encountered at 12 inches below ground surface. A viscous material with an oily sheen was observed on the water surface at location B. The lab analyses revealed the presence of Heavy Oils in both water and soil, and concentrations exceeding respective MTCA cleanup standards for 1,2 Dichloroethene, Trichloroethene, Tetrachloroethene and 1,1,1 Trichloroethane in ground water.

Further field work under the initial investigation included additional eight exploratory boreholes and six groundwater samples. Elevated levels of Tetrachloroethene (41,300 ppb), 1,2 Dichloroethene (4340 ppb) and Trichloroethene (3680 ppb) were found in groundwater on the northwest and northeast of the property. An artesian well is located on the west site of the building. This well has been used for drinking water and other purposes. The well was tested for the same contamination as the rest of the site and no contamination was detected.

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):

Since significant contamination at this site is subsurface, therefore, only the groundwater route is applicable for scoring under Washington Ranking Method (WARM).

1

ROUTE SCORES:

Surface Water/Human Health: NS

Surface Water/Environ.: NS

Air/Human Health: NS Air/Environmental: NS

Ground Water/Human Health: 67.3

OVERALL RANK: 2

WORKSHEET 2 ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be <u>considered</u> for scoring:

Source: NA

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

List those management units to be <u>considered</u> for scoring: Source:

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

2. AIR ROUTE

List those substances to be <u>considered</u> for scoring: Source: <u>NA</u>

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

List those management units to be <u>considered</u> for scoring: Source:

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

WORKSHEET 2 (CONTINUED) ROUTE DOCUMENTATION

3. GROUND WATER ROUTE

List those substances to be <u>considered</u> for scoring:

Source: <u>3</u>

Tetrachloroethene 1,2 Dichloroethene Trichloroethene

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

The above substances were detected at elevated concentrations in ground water in excess of MTCA clean up levels.

1,1,1 Trichloroethane

List those management units to be <u>considered</u> for scoring: Source: <u>3</u>

Ground Water

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

Analytical Results

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WORKSHEET 6 GROUND WATER ROUTE

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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.
Tetrachloroethene (PCE)	5	8	800	5	0.01	3	B2	.0088	3
1,2 Dichloroethene	70	6			0.01	3	D		
Trichloroethene (TCE)	5	8	2402	3			B2	.0408	5
1,1,1 Trichloroethane (TCA)	200	4	10300	3	0.09	3	D		

Potency Factor

Source: 1

Highest Value: 8 (Max=10)

+2 Bonus Points? 2

Final Toxicity Value_10 (Max-12)

1.2 Mobility (Use numbers	to refer to above listed substances)		
Cations/Anions 1= ; 2=	; Source: 3= ; 4= ; 5= ; 6=	Source: 1	Value: 3 (Max.=3)
OR Solubility(mg/l): 1= 1.5E	+02 ; 2= 3.5E+03 ; 3= 1.1E+03 ; 4= 1.5E+03		
1.3 Substance Quantity:	3yd ³	Source: 3	Value: 1 (Max.= 10)
Explain basis:	$5x5x3 = 75 \text{ ft}^3 \times 0.3704$ - Estimated area of contamination		
			· · ·
2.0 MIGRATION POTEN	TIAL		
2.1 Containment		Source: 3	Value: 10 (Max.= 10)
Explain basis: spills and discl	harge, WARM assigns a value of 10		

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2.2 Net Precipitation: 27.06 inches	Source: 6	Value: 3 (Max.= 5)
2.3 Subsurface Hydraulic Conductivity: 1.4x10 ⁻³	Source: 4	Value: 4 (Max.= 4)
2.4 Vertical Depth to Ground Water: 3 feet	Source: 3	Value: 8 (Max.= 8)
3.0 TARGETS		
3.1 Ground Water Usage: public supply alternative sources	Source: 8	Value: 4 (Max.= 10)
3.2 Distance to Nearest Drinking Water Well: 3,000 ft	Source: 8	Value: 2 (Max.= 5)
3.3 Population Served within 2 Miles: $\sqrt{pop} = \sqrt{26,500} =$	Source: 8	Value: 100 (Max.= 100)
3.4 Area Irrigated by (Groundwater) Wells within 2 miles: $0.75\sqrt{\text{no.acres}} = 5.6$ $0.75\sqrt{56} = 0.75$ (7.5)=	Source: 5	Value: 6 (Max.= 50)
4.0 RELEASE		
Explain basis for scoring a release to ground water: Visual by consultant and analytical data with values exceeding MTCA	Source:3	Value: 5 (Max.= 5)

SOURCES USED IN SCORING

1. Washington Department of Ecology, Toxicology Database for use in WARM scoring, January 1992.

2. Washington Department of Ecology, WARM Scoring Manual, April 1992.

3. Phase II Environmental Site Assessment, Olympia Dry Cleaners, June 13, 1995.

4. Soil Survey of Thurston County, Washington, USDOA, June 1990.

5. Recorded water rights of the Department of Ecology, March 7, 1996.

6. Thurston County Climatic Data, National Weather Service, Olympia Station, Jan. 1983 - Dec. 1997.

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7. USGS 7.5 minute Topographic Quadrangles, printed from TOPO 1997, wildflower Productions.

8. Thurston Geodata Center - maps and figures, 1998.

9. Http://www.hwp.arizona.edu/globe/Hydro/G3/Potential_Evapotranspiration_worksheet.html

Olympic Cleaners and Surrounding Area







0:10 mi. Printed from TOPO! ©1997 Wildflower Productions (www.topo.com)

0 3.0* 0 mi 0.013 mi, 16

0.20 r Gain: +3' -3' = +0' <u>@</u>

DEPARTMENT OF ECOLOGY TOXICS CLEANUP PROGRAM

SITE HAZARD ASSESSMENT DATA COLLECTION SUMMARY SHEETS FOR WASHINGTON RANKING METHOD

SURFACE WATER, AIR AND GROUND WATER ROUTES ONLY

Site Name <u>Olympia Cleaners</u> (aka Howard's Cleaners)

Location: 606 E. Union Ave.

Site owner/operator: <u>Mr. Frank Burleson - owner</u>

Address: 1115 Bigelow Ave. NE, Olympia, WA 98506

Any other known PLP(s): <u>Mr. Gaylor Bolton</u> - former operator

Address: PO Box 242, Olympia, WA 98507

Date(s) of field site hazard assessment: _____5/13/98

Samples or field measurements: <u>X</u> soil ______surface water <u>X</u> ground water air

(Attach copies of pertinent sampling and analytical data, as well as all other supporting documentation.) See attached consultant report dated June 13, 1995.

Photographs: <u>No</u>

Weather: ___Overcast. cool. 50 F

Lead inspect	or: <u>Gerald L. Tousley</u>		
Other inspec	tors: <u>NA</u>	<u>.</u> .	
Signature:	Herddl. Touslay	·. ·	
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PART I: Hazardous Substances

NOTE: Page numbers shown by "route" (e.g. SW-2, A-13) in parentheses refer to the WARM Scoring Manual. WK-numbers refer to page numbers of the worksheets at the end of the scoring manual.

A. Hazardous substances

List specific hazardous substances, known or suspected (check k or s), currently, or that have been previously (check c or p), at the site property (WK-2, WK-3). Give an estimate, if available, of the quantity (not concentration):

Hazardous Substance	KSCP	Quantity	Units
1. Tetrachloroethene (PCE)		unk	•
2. 1.2 Dichloroethene		unk	
3. Trichloroethene		unk	
4. 1,1,1 Trichloroethane		unk	

By which routes are these available? (WK-2, WK-3)

Number(from above)		Surface Water	Air	Groundwater
1.	1			x
2.	2			X
3.	3		x	x
4.	4			X

B. SOURCES

Chec	k those known or observed (WK-2, WK-3):
	drums or other containers
	electrical transformers
	above ground tanks
-	below ground tanks
	ponds, pits, or other impoundments
	pipelines (other than water, sewer, or gas)
	floor drains
	exterior drains for rainwater, surface waters, spills, etc.
x	other? Identify: staining on and around a raised concrete walkway, with possible discharge to soil.
	Additional information/references
	Phase II Environmental Site Assessment dated June 13, 1995 by Conrex, Inc.

C. INDICATORS Check those known or observed (SW-5; A-8, A-9; GW-6):

\mathbf{X}^{\cdot}	discolored soils
	disturbed soils
	discolored standing water
· · ·	unusual or noxious odors
÷.	sick or dead vegetation
	groundwater monitoring wells
X	other? Identify: staining on concrete. and was maked and and provide the

If any are checked in B or C, explain details including exact locations (identify location on a map or drawing).

See attached map.

PART II: Releases

A. KNOWN OR SUSPECTED RELEASES

List those hazardous substances identified (by number) in I.A. which are known, or suspected, to have been released (WK-2, WK-3):

Substance (#)	Quant.Released	Units	Medium Released to
1	unk	4	soil, ground water
2	unk		soil, ground water
3	unk		soil, ground water
4	unk		soil, ground water

B. SOURCES AND IMPACTS (SW-5, SW-6; A-9, A-10; GW-6, GW-7)

List those hazardous substances identified (by number) in Π .A. and identify the source and impact:

Substance No.	Source	Impacts/Affects to	Area
1 ·	*	ground water	North corner of property
2	na na tanan k ang manang	ground water	North corner of property
3	• • • • • • • • • • • • •	ground water	North corner of property
4	*	ground water	North corner of property

Additional information/references:

*The source is the Conrex report dated June 13, 1995.



III. Migration Potential

A. CONTAINMENT--LANDFILLS (SW-7; A-11; GW-8, GW-9)

Present? _____ How many?______

Chec	k those that apply:
	1. An engineered, maintained run-on/run-off control system
• • •	2. An engineered/maintained cover without ponding
	3. Unmaintained run-on/runoff control system or cover
	4. No run-on/runoff control or no cover
	5. Uncontaminated soil cover greater than 6" thick
	6. Uncontaminated soil cover less than 6" thick
	7. Contaminated soil used as cover
	8. A functioning vapor collection system
	9. Mixing or agitation used
	10. No liner
	11. Single clay or compacted soil liner (permeability cm/sec)
	12. Single synthetic liner (permeabilitycm/sec)
	13. Double liner system (permeability cm/sec)
•	14. Leachate collection system, maintained and functioning
	15. Leachate collection system, unknown condition or not functioning
	16. Liquid wastes may have been disposed of
-	17. Liquid wastes were disposed of in landfill
	18. Reliable evidence no liquid wastes were disposed

Additional comments/references:

B. CONTAINMENT--SURFACE IMPOUNDMENTS (SW-8; A-12; GW-9)

Present <u>No</u> How many?_____

Check those that apply:	
1. The dike is apparently sound	_
2. The dike is regularly inspected and maintained	
3. There is evidence of failure, erosion, slumping, or release of contents	
4. Two feet of freeboard maintained automatically	
5. The freeboard is manually controlled so that there is at least 2 feet of freeboa	rd
6. Evidence of insufficient freeboard (<2 ft.)	
7. A maintained cover	
8. Unmaintained cover, no cover	
9. No liner	
10. Single synthetic liner	
11. Single clay or compacted soil liner	
12. Double liner	
13. Working leak detection system	
14. Evidence of loss of fluid (other than by evaporation)	
15. Mixing/agitation processes used	

Additional comments/references:

<u>C. CONTAINMENT--DRUMS AND SMALL CONTAINERS</u> (SW-9; A-10; GW-10)

Present _____ How many?___

Checl	k those that apply:
	1. No functional containment
	2. There is secondary containment capacity for the total volume of containers
	3. There is secondary containment with capacity for at least 110% of the volume of the largest container
	4. The secondary containment is less than 110% of the volume of the largest container
	5. The containers are stored in single, or double layers on pallets, or in racks
	6. The containers are stored in an unstable manner
	7. Some containers are open or have visible liquid
	8. Some containers are leaking
	9. Containers are protected from weather
	10. Containers showing deterioration
•	11. Containment surface is impervious
•	12. Containment surface has cracks or semi-permeable
	13. No base material/permeable base such as gravel/base materials unknown
	14. Containment is regularly inspected and maintained
	15. Evidence of containment failure

Additional comments/references:

D. CONTAINMENT--STORAGE TANKS (SW-9; A-10; GW-10)

Present? <u>No</u> How many?

Check those that apply:			
1. Secondary containment with a capacity of 110% of the volume of the tanks			
2. Secondary containment at least 50% of the volume of all tanks			
3. Containment system with capacity for at least 10% of volume of containers or tanks			
4. No containment, or less than 10% capacity			
5. Tank volumes maintained			
6. Automatic controls used for volume maintenance			
7. Tanks are covered			
8. Uncovered tanks have aeration, mixing, or heating of tank contents			
9. Containers sealed, protected			
10. Containers sealed, not protected			
11. Containers deteriorated			
12 Containers leaking			
13. Record the #s of above which apply <u>only</u> to above ground tank			
14. Record the #s of above which apply <u>only</u> to below ground tanks			
15. Record the #s of above which apply to <u>both</u> above and below ground tanks:			

Additional comments/references:

E. CONTAINMENT--WASTE PILES (SW-10; A-11; GW-11)

Present? <u>No</u> How many?_____

Chec	k those that apply:
	1. Waste pile is outside, no protecting structure
	2. Waste pile is outside, in open structure with roof
	3. Waste pile is outside, with partial or unmaintained cover
	4. Waste pile is outdoors, with maintained cover
	5. No cover is present
	6. Waste pile is fully enclosed, intact building
	7. There is an engineered run-on/run-off control
	8. The run-on/run-off is maintained
	9. Run-on/runoff control present, unknown condition
	10. No run-on/runoff control system present, or unknown if present
	11. Liner or base present;Not present.
	12. Single clay or compacted soil liner
•	13. Single synthetic liner
. 1	14. Double liner
	15. Maintained, functioning leachate collection system
	16. Leachate collection system; Unknown condition; or Not functioning.

Additional comments/references:

F. CONTAINMENT--SPILLS, DISCHARGES, AND CONTAMINATED SOIL (SW-10; A-12; GW-12)

Check	those that apply:
X	1. Spill, discharge, or contaminated soil <u>only</u> in the subsurface at the siteincluding dry wells, drainfields, leaking underground storage tanks
	2. Soil contamination that has been covered partially excavated and filled with at least 6 inches of clean soil
	3. Soil contamination that has been covered or partially excavated and filled with less than 6 inches of clean soil
	4. Uncontaminated soil cover >2 feet thick
	5. No cover; orCover <2 feet, but > 6" thick
•	6. Spill, discharge, or contaminated soil present at the surface in an area with <u>maintained</u> run-on/run-off control
	7. Spill, discharge, or contaminated soil present at the surface in an area with <u>unmaintained</u> run-on/run-off controls?
	8. Spill, discharge, or contaminated soil present at the surface with <u>no</u> run-on/run-off control or <u>unknown</u> controls?
	9. Contaminated soil has been disturbed or excavated and stored above grade
	10. A functioning vapor recovery system
	11. No vapor recovery system

Additional comments/references: Phase II Environmental Site Assessment dated June 13, 1995.

G. CONTAINMENT--SITE CHARACTERISTICS (SW-11, SW-12, SW-13, SW-14, GW-12, GW-13; WK-5-9)

1. How would you evaluate the site soils? Circle predominant textural class.

Sand, gravel, sandy gravel, well-graded sand, well-graded gravel, gravelly sand, gravelly sand loam, silty sandy loam?

Poorly-graded sands with fines, silt-sand mixtures, loam, silt loam, sandy silt loam, clayey sand, clay sand loam?

X Clayey sands, sand-clay mixtures, clayey gravels, clay-sand-gravel mixtures, inorganic silts, clayey silt loam, silty clay loam, porous rock outcrop, sandy silty clay, sandy clay loam?

Clay (organic and inorganic), clay loam, rock outcrop, peat, peaty clay?

Is the above based on <u>personal observation</u>, lab analysis, or professional judgement by a soil expert? (circle)

2. Total annual precipitation= <u>42.38</u> in./yr (SW-11; WK-6) Nov. - Apr.

3. Max. 2-yr/24-hr precip.= <u>2.5</u> inches (SW-12; WK-6)

4. Net precipitation (see 2.2, GW-12)= 27.06 in. (WK-9) TP-Evap. = NP

5. Is the site <u>not</u> in a flood plain? ____X (SW-12; WK-6) Is the site in a 500 year flood plain? _____ Is the site in a 100 year flood plain?

6. What is the terrain slope to the nearest surface water? <u>2.2</u> % (SW-14; WK-6) 20'/900' * 100

7. What is the subsurface hydraulic conductivity? 1.4×10^{-3} cm/sec (GW-13; WK-9)

8. What is the vertical depth from the deepest point of known contamination to ground water? <u>3</u> feet (GW-13; WK-9)

Additional comments/references:

Phase II Environmental Site Assessment, Olympia Dry Cleaners, June 13, 1995, prepared by Conrex, Inc.

IV. Targets

A. DISTANCE TO SURFACE WATER (SW-15; WK-6)

1. What surface water(s) (lake, stream, river, pond, bay, etc.) is/are within 10,000 feet (downgradient) of the site?

None?

Name	Distft.	Obs.	Meas.	
Budd Inlet	2,600		x x	
Moxlie Creek	1,200	•		
-				
			•	

Comments/references: Thurston County, Geodata Center

2. What drinking water intakes are within 2 miles of the site? (all lake intakes, river intakes downstream only) (SW-15; WK-6)

None? X

Source	Location	Pop. Served	
_			
	i i i i i i i i i i i i i i i i i i i	te gestada en la fina da sera sera a sera se	

3. How much acreage (anywhere) is irrigated by surface water intakes (downstream only) or wells(anywhere) within 2 miles of the site? (SW-15; GW-15; WK-6, WK-10)

100 2 10

None?

SURFACE WATER: Acres 103.5 (1600 acres max.)

Source(s)

GROUNDWATER: Acres <u>56</u> (4500 acres max.)

Reference(s): WRIS

4. What is the distance to the nearest fishery resource (overland flow distance to nearest surface water which is a fishery resource)? (SW-16, SW-17, SW-18; WK-6)

Over 10,000 feet? Distance if less than 10,000 feet? <u>1,200</u> ft.

5. What are the names of, and the distances to, the nearest sensitive environments (total of overland distances plus downgradient distances, count only overland flow distance if nearest sensitive environment is a fishery)? (SW-18; A-15; WK-6)

Over 10,000 feet? ____ Names and distances if less than 10,000 feet: <u>Moxlie Creek, 1,200 feet</u> <u>Estuarine Zone of Budd Inlet - 2,600 feet</u>

6. Is the aquifer a federally-designated sole source aquifer? <u>No</u> (GW-14; WK-9)

7. Is the ground water used for: (GW-14; WK-10)

<u>X</u> private supply

_____ public supply

_____ irrigation of human food crops or livestock

<u>X</u> non-food (human) vegetation

not used due to <u>natural</u> contaminants

_____ ground water not used, but usable

8. Distance to nearest drinking water well? <u>3,000 feet</u> (GW-15; WK-10)

9. Is there an alternate source available to groundwater for private or public water supply? (GW-14, WK-10) <u>Yes</u>

10. Population served by drinking water wells within 2 miles? <u>26,500</u> (GW-115; WK-10)

11. Distance to the nearest population? 500 feet (A-13,; WK-8)

12. Population within one-half mile radius? <u>1,600</u> (A-15; WK-8)

Additional comments (e.g. potential for natural resource damage, or other ecological concerns, references):