CSID 12264

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

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

Hy-Lite Mirror and Glass
3815 Stoneway North
Seattle, WA 98103
King County
T-25N, R-4E, Sec-18
TCP ID N-17-5312-000

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

Hy-Lite Mirror and Glass, located in North Seattle, is a business that produces and repairs mirror and glass materials. They are one of the few businesses in King County that does re-silvering work on old mirrors. There is one building on site that holds the Hy-Lite business office and workshop. The site comprises two parcels and is 11,880 square feet in size. The surrounding area is commercial and residential with the properties to the north and south of Hy-Lite being other small businesses. The area is served by municipal water and sewer systems. There is also a storm drain in their parking area that receives most of the storm water runoff from the property.

Part of the re-silvering process for mirrors involves soaking the mirrors in a tank filled with a solution of 1-Normal Hydrochloric Acid and Salt. This solution produces a silver precipitate that falls to the bottom of the tank. The mirror glass is then placed on wooden grates and rinsed with water. The soaking tank is located under a covered area outside of the main building. The area where the wooden grates and soaking tank are placed is part of a small area that is the only non-paved section of the site. The silver precipitate is removed from the tank and sold to a metal reclaiming company, while the rinse water from the mirror glass passes through the wooden grates and drains on to the soil.

In April 1993, the Washington State Department of Ecology (DOE) received a complaint concerning the washing of the mirror glass outside of the Hy-Lite building. The METRO Response Team, acting on behalf of DOE, investigated the complaint in June 1993. Concerns about the way the mirrors were being washed led to Hy-Lite being added to Ecology's Site Information System (SIS) list.

A site hazard assessment (SHA) visit was conducted by Carsten Thomsen and Peter Isaksen of the Seattle-King County Department of Public Health (SKCDPH) on October 13, 1997. The business manager, Dave, provided commentary on the sites processing and practices through the site tour. No visible contamination of the site was noted except for red polishing rouge, which covers most of the interior of the workshop building. On November 7, 1997 Carsten Thomsen and Peter Isaksen returned to the Hy-Lite property to take two soil samples. Both samples were taken under the wooden grates where the rinse water would have landed on the soil. Sample 1 was taken two feet from the east end of the soaking tank. Sample 2 was taken approximately three feet northeast from the northeast corner of the soaking tank where it appeared that rinse water was forming a small puddle. Both samples were collected at a one to two inch depth and analyzed for metals content. Sample 1 contained 1900 ppm of lead and

32 ppm of mercury. Sample 2 contained 28000 ppm of lead and 840 ppm of mercury. All of these results are above the Model Toxics Control Act (MTCA) Method A cleanup levels.

On the basis of this SHA, completed by the SKCDPH's Environmental Health division, this site will be scored for the ground water, air and surface water routes.

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):

Not Applicable

ROUTE SCORES:

Surface Water/Human Health: 16.2

Surface Water/Environ.: 33.7

Air/Human Health: 31.2

Air/Environmental: N/A

Ground Water/Human Health: 27.8

OVERALL RANK: 4

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

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

Lead
Mercury

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

All of the above substance concentrations are above MTCA Method A clean up levels.

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

Surface soil contamination.

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

Surface soil is exposed to weather with no containment.

2. AIR ROUTE

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

Lead
Mercury

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

All of the above substance concentrations are above MTCA Method A clean up levels.

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

Surface soil contamination.

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

Surface soil is exposed to weather with no containment.

WORKSHEET 2 (CONTINUED)
ROUTE DOCUMENTATION

3. GROUND WATER ROUTE

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

Lead
Mercury

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

All of the above substance concentrations are above MTCA Method A clean up levels.

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

Surface soil contamination.

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

Surface soil is exposed to weather with no contamination.

WORKSHEET 3
SURFACE WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Carcino-genicity WOE	PF*	Val.
1.Mercury	2.0	8	ND	--	0.0003	5	ND	ND	--
2.Lead	5.0	8	ND	--	ND	--	B2	ND	--
3.									
4.									
5.									
6.									

*Potency Factor

Source:2
Highest Value:8
(Max.=10)

+2 Bonus Points?
Final Toxicity Value 10
(Max.=12)

1.2 Environmental Toxicity

(x) Freshwater
( ) Marine

Substance	Acute Water Quality Criteria (ug/l)	Value	Non-human Mammalian Acute Toxicity (mg/kg)	Value
1.Mercury	2.4	8		
2.Lead	82	8		
3.				
4.				
5.				
6.				

Source: 2 **Value: 8**

1.3 Substance Quantity: 200 square feet Source: 3 **Value: 5**

Explain basis: visual inspection of the soil 20'x10' area (Max.=10)

WORKSHEET 3 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment — Source: 3 **Value:** 10 (Max.=10)
Explain basis: spill/discharge with no containment

2.2 Surface Soil Permeability: silt/sand — Source: 3 **Value:** 3 (Max.=7)

2.3 Total Annual Precipitation: 34.8 inches — Source: 5 **Value:** 3 (Max.=5)

2.4 Max. 2-Yr/24-hour Precipitation: 1-2 inches — Source: 5 **Value:** 2 (Max.=5)

2.5 Flood Plain: not in flood plain — Source: 3 **Value:** 0 (Max.=2)

2.6 Terrain Slope: >2 % — Source: 3 **Value:** 2 (Max.=5)

3.0 TARGETS

3.1 Distance to Surface Water: >2500-5000 — Source: 3 **Value:** 4 (Max.=10)

3.2 Population Served within 2 miles (See WARM Scoring Manual Regarding Direction): pop.= = 0 — Source: 8 **Value:** 0 (Max.=75)

3.3 Area Irrigated within 2 miles 0.75 no. acres= (Refer to note in 3.2.): 0.75 =0.75( )= 0 — Source: 8 **Value:** 0 (Max.=30)

3.4 Distance to Nearest Fishery Resource: >2500-5000 — Source: 3 **Value:** 6 (Max.=12)

3.5 Distance to, and Name(s) of, Nearest Sensitive Environment(s) site is ~3600 ft. north of Lake Union — Source: 3 **Value:** 6 (Max.=12)

4.0 RELEASE

Explain basis for scoring a release to surface water: none confirmed — Source: 3 **Value:** 0 (Max.=5)

WORKSHEET 4
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.Mercury	0.3	10	ND	--	8.5e-05	8	ND	ND	--
2.Lead	0.05	10	ND	--	ND	--	B2	ND	--
3.									
4.									
5.									

*Potency Factor

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

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

1.3.1 Gaseous Mobility
Vapor Pressure(s) (mmHg): 1=2.0e-03 2=0e+0; 3= ; 4= ; 5= ; 6=
Source: 1
Value: 3
(Max.=4)

1.3.2 Particulate Mobility
Soil type: sand/loam
Erodibility: 86
Climatic Factor: 1-10
Source: 3
Value: 1
(Max.=4)

1.4 Highest Human Health Toxicity/Mobility Matrix Value (from Table A-7) equals **Final Matrix Value:** 18
(Max.=24)

1.5 Environmental Toxicity/Mobility
Source: 1

Substance	Non-human Mammalian Acute Inhal. Toxicity (mg/m^3)	Value	Mobility (mmHg)	Value	(Table A-7) Matrix Value
1.					
2.NO DATA					
3.					
4.					
5.					

Highest Environmental Toxicity/Mobility Matrix Value (From Table A-7) equals **Final Matrix Value:** 0
(Max.=24)

WORKSHEET 4 (CONTINUED)
AIR ROUTE

1.6 Substance Quantity: 200 sq ft. Source: 3 **Value:** 2 (Max.=10)
Explain basis: area 20'x10'

2.0 MIGRATION POTENTIAL

2.1 Containment: no cover, discharges/spills to ground Source: 3 **Value:** 10 (Max.=10)

3.0 TARGETS

3.1 Nearest Population: <1000 ft Source: 3 **Value:** 10 (Max.=10)

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) 3600 ft/school park Source: 3 **Value:** 3 (Max.=7)

3.3 Population within 0.5 miles: pop.=5000=71 Source: 3 **Value:** 71 (Max.=75)

4.0 RELEASE

Explain basis for scoring a release to air: Source: 3 **Value:** 0 (Max.=5)
No confirmed release

WORKSHEET 5
GROUND WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	WOE	Carcino-genicity PF*	Val.
1.Mercury	2.0	8	ND	--	0.0003	5	ND	ND	--
2.Lead	5.0	8	ND	--	ND	--	B2	ND	--
3.									
4.									
5.									
6.									

*Potency Factor

Source: 2
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= 3; 2=2 ; 3= ; 4= ; 5= ; 6= . Source: 1 **Value: 3** (Max.=3)

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

1.3 Substance Quantity: 22 cu yds Source: 3 **Value: 2** (Max.=10)
Explain basis: 20'x10'x3'=600 cu ft

2.0 MIGRATION POTENTIAL

2.1 Containment Source: 3 **Value: 10** (Max.=10)
Explain basis: no containment

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

2.3 Subsurface Hydraulic Conductivity: sandy silt Source: 3 **Value: 3** (Max.=4)

2.4 Vertical Depth to Ground Water: 0-25 feet Source: 3 **Value: 8** (Max.=8)

WORKSHEET 5 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: not used but usable Source: 8 **Value: 2** (Max.=10)

3.2 Distance to Nearest Drinking Water Well: >10,000 ft Source: 7 **Value: 0** (Max.=5)

3.3 Population Served within 2 Miles: pop.= = 0 Source: 8 **Value: 0** (Max.=50)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: 0.75 no.acres= 0 Source: 8 **Value: 0** (Max.=100)
0.75 =0.75 ( ) =

4.0 RELEASE

Explain basis for scoring a release to ground water: none confirmed Source: 3 **Value: 0** (Max.=5)

SOURCES USED IN SCORING

1. WA. Ranking Method Toxicological Data-Base.
2. Analytical Results for Hy-Lite Mirror, On-Site Environmental Inc.,1997.
3. Site hazard assessment, King County Health Department, October, 1997.
4. National Weather Service Data.
5. Isopluvials of 2-yr., 24hr. precipitation, NOAA atlas 2, vol. IX.
6. Model Toxics Control Act cleanup regulation chapter 173-340 WAC.
7. WA. State Department of Health Public Water Supply listing.
8. WA. State water use data.