WORKSHEET 1
SUMMARY SCORE SHEET

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

McIlvanie Machine Works
12 South 6th Avenue
Yakima, Washington 98902
NW1/4SE1/4 Section 24 T13N R18E (Yakima County)

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

The site is an active machine shop, which has been located at the present location since 1928. Wastes generated at the shop include metal shavings, empty paint and lacquer containers and spent Stoddard solvent. Small amounts of solvent are used at the site. Solvent is purchased to replace that lost by evaporation. Compounds of concern are nonane and trimethyl benzene, the constituents of Stoddard solvent.

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):

SCORER RECOMMENDS PLACING SITE IN A CATEGORY REQUIRING NO FURTHER ACTION BY ECOLOGY AT THIS TIME DUE TO THE ABSENCE OF DOCUMENTED ACTUAL OR POTENTIAL RELEASES THAT COULD POSE ANY THREAT TO HUMAN HEALTH AND THE ENVIRONMENT.

ROUTE SCORES:

Surface Water/Human Health: 1.0 Surface Water/Environ.: 3.3

Air/Human Health: 19.7 Air/Environmental: 20.7

Ground Water/Human Health: 5.2

OVERALL RANK: _____

Rev. 5/31/91

WORKSHEET 2
ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List substances to be considered for scoring: Source: 1

1. nonane
2. trimethyl benzene
3. Stoddard solvent

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

Stoddard solvent is used at the site. Nonane and trimethyl benzene are constituents of Stoddard solvent.

List management units to be considered in scoring: Source: 1

1. solvent storage tank
2. empty paint and lacquer containers
3. drums of metal shavings

Explain basis for choice of unit used in scoring. Source: 1

The solvent storage tank was used in scoring because it was judged to represent the greatest potential for a release.

2. AIR ROUTE

List substances to be considered for scoring: Source: 1

1. nonane
2. trimethyl benzene
3. Stoddard solvent

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

Stoddard solvent is used on site. Nonane and trimethyl benzene are constituents of Stoddard solvent.

List management units to be considered in scoring: Source: 1

1. solvent storage tank
2. empty paint and lacquer containers
3. drums containing metal shavings

Explain basis for choice of unit used in scoring.

The solvent storage tank was used in scoring because it was judged to present the greatest likelihood of a release.

WORKSHEET 2 (CONTINUED)
ROUTE DOCUMENTATION

3. GROUND WATER ROUTE

List substances to be considered for scoring: Source: 1

1. nonane
2. trimethyl benzene
3. Stoddard solvent

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

Stoddard solvent is used on site. Nonane and trimethyl benzene are constituents of Stoddard solvent.

List management units to be considered in scoring: Source: 1

1. solvent storage tank
2. empty paint and lacquer containers
3. drums containing metal shavings

Explain basis for choice of unit used in scoring.

The solvent tank was used in scoring because it was judged to pose the greatest potential of a release.

WORKSHEET 3
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES

	Combination 1	Combination 2	Combination 3
Unit:			
Substance:			

SURFACE WATER ROUTE

Human Toxicity Value:

Environ. Toxicity Value:

Containment Value:

Surface Water Human Subscore:

Surface Water Environ. Subscore:

AIR ROUTE

Human Toxicity/Mobility Value:

Environ. Toxicity/ Mobility Value:

Containment Value:

Air Human Subscore:

Air Environ. Subscore:

GROUND WATER ROUTE

Human Toxicity/ Mobility Value:

Containment Value:

Ground Water Subscore:

WORKSHEET 4
SURFACE WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Carcinogenicity WOE	PF*	Val.
1. nonane	X	--	X	--	X	--	X	--	--
2. trimethylbenzene	X	--	X	--	8970	1	X	--	--
3. Stoddard solvent	X	--	X	--	X	--	X	--	--
4.									
5.									
6.									

*Potency Factor

Source: 9
Highest Value: 1
+2 Bonus Points? 0
Final Toxicity Value 1

1.2 Environmental Toxicity

Substance	Acute Criteria (ug/l)	Non-human Mammalian Acute Toxicity (mg/kg)	Value
1. nonane	X	X	--
2. trimethylbenzene	X	8970	1
3. Stoddard solvent	X	X	--
4.			
5.			
6.			

Source: 9 **Value:** 1

1.3 Substance Quantity

Source: 1 **Value:** 1

Explain basis: The capcity of the solvent storage tank is reported as 35 gallons and as 40 gallons in Reference 1.

WORKSHEET 4 (CONTINUED)
SURFACE WATER ROUTE

2.0 MIGRATION POTENTIAL

2.1 Containment — Source: 1 Value: 5
Explain basis: C. 5 (no secondary containment) + 0 (single layer)= 5 containment value

2.2 Surface Soil Permeability: high, sand, gravel. — Source: 3 Value: 1

2.3 Total Annual Precipitation: 7.2 inches — Source: 3 Value: 1

2.4 Max. 2-Yr/24-hour Precipitation: 1.0 inches — Source: 3 Value: 1

2.5 Flood Plain: not in flood plain. — Source: 3 Value: 0

2.6 Terrain Slope: less than 2 % — Source: 3 Value: 1

3.0 TARGETS

3.1 Distance to Surface Water: 2 miles Yakima River — Source: 3,5,6 Value: 0

3.2 Population Served within 2 miles: √pop.= 0 — Source: 7,8 Value: 0

3.3 Area Irrigated within 2 miles: 0.75√no. acres= 0 — Source: 7 Value: 0

3.4 Distance to Nearest Fishery Resource: 2 miles — Source: 3 Value: 0

3.5 Distance to, and Name(s) of, Nearest Sensitive Environment(s) — Source: 3,5,6 Value: 9
.25 mile Lions Park
.8 mile Milroy Park (upgradient)
.9 mile Larson Park
1 mile Franklin Park (upgradient)

4.0 RELEASE
Explain basis for scoring a release to surface water: Documentation of release to surface water not found. — Source: Value: 0

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.	Chronic Toxicity (mg/kg/day)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Carcinogenicity WOE	PF*	Val.
1.nonane	3496.5	1	X	--	17105	3	X	--	--
2.trimethylbenzene	416.3	4	X	--	X	--	X	--	--
3.Stoddard solvent	1748.3	1	X	--	X	--	X	--	--
4.									
5.									
6.									

*Potency Factor

Source: 9,10
Highest Value: 4
+2 Bonus Points? 0
Final Toxicity Value: 4

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

1.3.1 Gaseous Mobility
Vapor Pressure(s): 1= ; 2= ; 3=2 mm Source: 12
4= ; 5= ; 6= **Value:** 3

1.3.2 Particulate Mobility
Soil type: Source:
Erodibility: **Value:**
Climatic Factor:

1.4 Final Human Health Toxicity/Mobility Matrix **Value:** 6

1.5 Environmental Toxicity/Mobility

Substance	Non-human Mammalian Acute Toxicity	Value	Mobility	Value
1.nonane	17105	3	3	5
2.trimethylbenzene	X	--	3	--
3.Stoddard solvent	X	--	3	--
4.				
5.				
6.				

Environmental Toxicity/Mobility Matrix Source: 9,12 **Value:** 5

WORKSHEET 5 (CONTINUED)
AIR ROUTE

1.6 Substance Quantity: 35 to 40 gallons Source: 1 Value: 1
Explain basis: Capacity of solvent storage tank is reported as 35 gallons and as 40 gallons in Reference 1.

2.0 MIGRATION POTENTIAL

2.1 Containment: A. Aboveground tank covered by metal lid, no leakage. No mention of seal. Scorer assumed tank is uncovered some of the time because it is used for parts cleaning. Source: 1 Value: 8

3.0 TARGETS

3.1 Nearest Population: less than 100 feet. Source: 13 Value: 10

3.2 Distance to, and Name(s) of, Nearest Sensitive Environment(s) .25 mile Lions Park
.8 mile Milroy Park
.9 mile Larson Park
1 mile Franklin Park
Source: 3,5,6 Value: 6

3.3 Population within 0.5 miles: √population= 53 Source: 3 Value: 53

4.0 RELEASE

Explain basis for scoring a release to air: No documentation of a release to air was found. Source: Value: 0

WORKSHEET 6
GROUND WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Chronic Toxicity (mg/kg/day)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Carcino-genicity WOE	PF*	Val.
1. nonane	X	--	X	--	X	--	X	--	--
2. trimethylbenzene	X	--	X	--	8970	1	X	--	--
3. Stoddard solvent	X	--	X	--	X	--	X	--	--
4.									
5.									
6.									

*Potency Factor

Source: 9
Highest Value: 1
+2 Bonus Points? 0
Final Toxicity Value 1

1.2 Mobility (Use numbers to refer to above listed substances)
Cations/Anions _____ Source: 12,14 **Value:** 0

OR
Solubility(mg/l) 1. insoluble 2. insoluble 3. insoluble

1.3 Substance Quantity **Source:** 1 **Value:** 1
Explain basis: Capacity of solvent tank is reported as 35 gallons and as 40 gallons in Reference 1.

2.0 MIGRATION POTENTIAL

2.1 Containment **Source:** 1 **Value:** 3
Explain basis: 3 (no containment) + 0 (impervious base) + 0 (single layer)= 3 containment value for C. Above-ground Containers and Tanks.

2.2 Net Precipitation: 1.7 inches **Source:** 4 **Value:** 1

2.3 Subsurface Hydraulic Conductivity: >.001 cm/sec **Source:** 3 **Value:** 4

2.4 Vertical Depth to Ground Water: less than 25 feet **Source:** 13 **Value:** 8

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: public. no alternate. Source: 3,8 Value: 9

3.2 Distance to Nearest Drinking Water Well: 1000 ft Source: 6,11 Value: 4
202 S. 5th Ave.

3.3 Population Served within 2 Miles: √population= 52 Source: 7,8 Value: 52

3.4 Area Irrigated by (Groundwater) Wells
within 2 miles: 0.75√no.acres= 39 Source: 7 Value: 39

4.0 RELEASE
Explain basis for scoring a release to ground water: Documentation of a release to groundwater was not found. Source: Value: 0

SOURCES USED IN SCORING

1. Site Inspection Summary, Ecology and Environment, November 1989.

2. Data Gap Identification Report, SAIC, February 1991.

3. Site Hazard Assessment Data Collection Summary Sheets, SAIC, February 1991.

4. Washington Climate, Cooperative Extension Service, Washington State University.

5. Yakima East Quadrangle Map, USGS 7.5 Minute Topographic Series.

6. Yakima West Quadrangle Map, USGS 7.5 Minute Topographic Series.

7. Recorded Water Rights of the Department of Ecology Region 4, 6/8/90.

8. Public Water Supply System Listing, Washington Dept. of Health, 2/16/89.

9. RTECS, NIOSH, April 1987.

10. Chapter 173-460 WAC, Draft, Dept. of Ecology, August 1990.

11. Water Well Report,Yakima City Creamery, Dept. of Ecology, 5/10/82.

SOURCES USED IN SCORING (CONTINUED)

12. Pocket Guide to Chemical Hazards, NIOSH, September, 1985.

13. Site Vicinity Inpsection, Bob Swackhamer, Department of Ecology, 6/19/91.

14. The Condensed Chemical Dictionary Ninth Edition, Gessner G. Hawley, 1977.

15.