~~I~~ X 44
I 2

Facility name: Magnum Salvage / Horizon Vehicles

Location: Albany, Oregon

EPA Region: X

Person(s) in charge of the facility: Floyd Zimwalt

Name of Reviewer: K. Morgenstern (E&E) Date: 2/17/89

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Scores: S_M = ~~3720~~ 35.48

S_{FE} =

S_{DC} =

HRS COVER SHEET

USEPA SF
1636733

Ground Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. Section
1 Observed Release	0 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2	6	6	
Net Precipitation	0 1 2 3	1	3	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	1	3	
Physical State	0 1 2 3	1	3	3	
Total Route Characteristics Score			13	15	
3 Containment	0 1 2 3	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 14 16 18 / 24 30 32 35 40	1	35	40	
Total Targets Score			44	49	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			32604	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 56.87		

GROUND WATER ROUTE WORK SHEET

10-22'

24"

Clay-sands

liquid (PCBoil)

Dumped on ground

PCBs

Unknown

wells outside of city limits

Nearest well is ≈ 300'

GW population for 3 mile radius = Approx.

Drinking 2,200

Irrigation 999

3199

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 2 3	1	1	3	
Distance to Nearest Surface Water	0 1 2 3	2	6	6	
Physical State	0 1 2 3	1	3	3	
Total Route Characteristics Score			10	15	
3 Containment	0 1 2 3	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 3	2	4	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	12	40	
Total Targets Score			22	55	
6 If line 1 is 45, multiply 2 x 3 x 4 / If line 1 is 0, multiply 2 x 3 x 4 x 5			12,936	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	23.07		

Fault, 0-1%

1.75"

800'

PCB Oil (liquid)

Dump go Ground

PCBs

Un Known

Irrigation

wetlands ¼ mile

100 x 1.5 = 150

Intake ≈ 2 mile

SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	5.1
Date and Location:	N/A				
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a =	0		

AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	56.87	3234.28
Surface Water Route Score (S_{sw})	23.07	532.35
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		3766.63
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		61.37
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		35.48

WORKSHEET FOR COMPUTING S_M

2) Facility slope + Intervening Terrain = <3%
1 yr 24 ppt = 2-3 in
Amazon Creek is less than 1 mile South of site
physical state - Liquid.

3) Based on past disposal practice and chrome in soil (12,000 ppm).

4) Same as G.W

5) S.W. used for Irrigation
No known Sensitive Environ.
Pop. Served ~172,500
Distance to uptake DS

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Sectio
1 Observed Release	0 45	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1	1	3	
1-yr. 24-hr. Rainfall	0 1 2 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 3	2	6	6	
Physical State	0 1 2 3	1	3	3	
Total Route Characteristics Score			12	15	
3 Containment	0 1 2 3	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	6	8	
Total Waste Characteristics Score			24	26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	12	40	
Total Targets Score			18	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			15552	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 24.0		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

AA Plating

(2)
Seasonal GW. rises to w/in 1' of G.S. well logs from area wells indicate G.W at 20'
Net PPt = 20 in
permeability = silty loams, sandy
Physical state = Liquids
(3) chrome, nickel + copper found in onsite soils

Barium chrome found IN soil samples (12,000 ppm)
Haz Quantity

(5) GW. used for drinking w/in 3 miles of site other sources available
Dist to Nearest well ~ 1 mile
Pop served including IRR Acreage = ~~1442.48~~ 1500.00

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref (Secti
1 Observed Release	0 45	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2	6	6	
Net Precipitation	0 1 2 3	1	3	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	2	3	
Physical State	0 1 2 3	1	3	3	
Total Route Characteristics Score			14	15	
3 Containment	0 1 2 3	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score			24	26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	18	40	
Total Targets Score			24	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			24,192	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	42.00		

4500

FIGURE 2
GROUND WATER ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	B 45.00 A 42.00	2025.00 1764
Surface Water Route Score (S_{sw})	A 24.0	584.0
Air Route Score (S_a)	Ø	
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2609.00 B 2348.00 A
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		51.08 B 48.46 A
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		29.53 B 28.01 A

FIGURE 10
WORKSHEET FOR COMPUTING S_M

A = No Observed Release

B = Observed Release to Gwd.

20.44