US EPA RECORDS CENTER REGION 5
546510

PRELIMINARY / POTENTIAL HRS

Facility name: Hady Groundwater Contamination

Location: NE ¼, S5, T110N, R16W

EPA Region: V

Person(s) in charge of the facility: Vernon Vangsness

Name of Reviewer: Susan Price HRS Date: 22 Dec 88

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.)

High metal levels (Pb, Ni, Zn, and Cr) were detected through Minnesota Dept. of Health laboratory analysis in August 1987. Analysis for TAL and TCL analytes and compounds during an SSI conducted in March 1988 showed no contamination of drinking water wells in the area. Iron bacteria is thought to be the contributing cause of metal leaching from well materials

Scores: S_M = .09 (S_{gw} = S_{sw} = S_a = 0)

S_{FE} =

S_{DC} =

NOTE: scored after completion of SSI

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet						observed Release
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Observed Release	0 45	1	0	45	3.1	45
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	0	6		
Net Precipitation	0 (1) 2 3	1	1	3		
Permeability of the Unsaturated Zone	0 1 (2) 3	1	2	3		
Physical State	(0) 1 2 3	1	0	3		
Total Route Characteristics Score			3	15		
3 Containment	0 1 2 3	1	0	3	3.3	
4 Waste Characteristics					3.4	
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	0	18		
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			1	26		1
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 16 18 (20) 24 30 32 35 40	1	20	40		
Total Targets Score			29	49		29
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			87	57,330		1305
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = .15				2.28

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	Observed Release
1 Observed Release	0 45	1	0	45	4.1	45
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	2	3		
Distance to Nearest Surface Water	0 (1) 2 3	2	2	6		
Physical State	(0) 1 2 3	1	0	3		
	Total Route Characteristics Score		4	15		
3 Containment	0 1 2 3	1	0	3	4.3	
4 Waste Characteristics					4.4	
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	0	18		
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8		
	Total Waste Characteristics Score		1	26		1
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	0	40		
	Total Targets Score		6	55		6
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	64,350		270
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = .04				.42

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

ROUTE CHARACTERISTICS GW + SW

	S	S^2
Groundwater Route Score (S_{gw})	.15	.0225
Surface Water Route Score (S_{sw})	.04	.0016
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		.0257
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		.1603
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		.09

OBSERVED RELEASE GW + SW

	S	S^2
Groundwater Route Score (S_{gw})	2.28	5.2
Surface Water Route Score (S_{sw})	.42	.18
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		5.38
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		2.32
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		1.34

OBSERVED RELEASE GW ONLY

	S	S^2
Groundwater Route Score (S_{gw})		
Surface Water Route Score (S_{sw})		
Air Route Score (S_a)		
$S_{gw}^2 + S_{sw}^2 + S_a^2$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		

OBSERVED RELEASE SW ONLY

	S	S^2
Groundwater Route Score (S_{gw})		
Surface Water Route Score (S_{sw})		
Air Route Score (S_a)		
$S_{gw}^2 + S_{sw}^2 + S_a^2$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		

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