Site or Facility Name: C.M. Christiansen

Location: Phelps, Vilas Co. SE SW Sec 35 T42N R11E

DNR District: NCD

Person(s) in charge of the site or facility:

Name of Reviewer: Joan Loduha Date: September 17, 1990

General description of the site or facility:

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

C.M. Christiansen Co. operated a pole-dipping business where telephone poles were treated in wood preservative. The solution was 5% PCP in a carrier of AMOCO #2 fuel oil. The site is approximately 120 feet from stream and wetland area. This operation was from 1954 - 1978.

A spill was reported by an anonymous caller. The material appears to be some type of solvent or paint. Unknown VOCs. 31 Drums were found by WDNR. There was leaking containers. Date of incident was 8/29/89. Detects of benzene, ethylbenzene, Methlethylhetone, Toluene, xylenes, lubricating oil. Soil beneat drum S-23 may contain compounds listed below according to computer identification from gas chromatography/mass spectroscopy analysis: acetone, naptilalene, methyl naphthalenes. Phelps has a population of 1200 people. Soil consists of thin lenses of sand & gravel within ore beneath till or clay. Area is mostly rolling ground moraine but includes one area of hilly moraine.

SCORES: Sm = 23.40 (Sgw = 39.56 Ssw = 8.62 Sa = 0)

EF COVER SHEET

WORKSHEET FOR COMPUTING THE MIGRATION SCORE, Sm

	S	S^2
GROUNDWATER ROUTE SCORE (Sgw)	39.56	1564.99
SURFACE WATER ROUTE SCORE (Sgw)	8.62	74.30
AIR ROUTE SCORE (Sa)		0
$Sgw^2 + Ssw^2 + Sa^2$		1639.29
$(Sgw^2 + Ssw^2 + Sa^2)^{0.5}$		40.48814641
$(Sgw^2 + Ssw^2 + Sa^2)^{0.5} / 1.73$	Sm = 23.40	

Groundwater Route Worksheet

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 (45)	1	45	45	sub. (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					sub. (2)
Depth to Groundwater	0 1 2 3	2		6	
Infiltration Potential	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
[3] Containment	0 1 2 3	1		3	sub. (3)
[4] Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 (12) 15 18	1	12	18	
Leachate Strength	0 2 4 6 8 10	1		10	
Waste Quantity/Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			(14)	26	
[5] Potential Impacts					sub. (5)
Groundwater Use	0 1 (2) 3		6		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 (30) 32 35 40	3 1	30	9 40	
Total Potential Impacts			(36)	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]			22680 ÷	57,330	
[7] Divide line [6] by 57,330 and multiply by 100			S_{gw} = 39.56		

Figure 2
GROUNDWATER ROUTE WORKSHEET

6972V

Surface Water Route Worksheet

Rating Factor	Assigned Value (circle one)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	(0) 45	1	0	45	sub. (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					sub. (2)
Facility Slope and Intervening Terrain	0 (1) 2 3	1	1	3	
Run-off Potential	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			(11)	15	
[3] Containment	0 1 2 (3)	1	(3)	3	sub. (3)
[4] Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 9 (12) 15 18	1	12	18	
Leachate Strength	0 2 4 6	1			
Hazardous Waste Quantity/ Total Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			(14)	26	
[5] Potential Impacts					sub. (5)
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/ Distance to Water	(0) 4 6 8 10 0 12 16 18 20	1	0	40	
Intake Downstream	24 30 32 35 40				
Total Potential Impacts			(12)	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]			5544 ÷	64,350	
[7] Divide line [6] by 64,350 and multiply by 100			S_{s_w} = 8.62		

Figure 5
SURFACE WATER ROUTE WORKSHEET

6972V

Air Route Worksheet

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 45	1		45	sub. (1)
Date and Location:					
Sampling Procedures:					
If line [1] is 0, then S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					sub. (2)
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity/ Total Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Route Characteristics Score				20	
[3] Potential Impacts					sub. (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 Potential Impacts 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		

Figure 6
AIR ROUTE WORKSHEET

WISCONSIN ENVIRONMENTAL FUNDING
REFERENCE SUMMARY

Site or Facility Name: C.M. Christiansen

Location: City Phelps County Vilas DNR District NCd

Reference Identification Number	Description of Reference
#1	WDNR Spill File Rhinelander & Wausau
#2	Quadrangel TOPO map Phelps, WI
#3	Water Resources of WI Upper Wi River Basin
#4	Public Water Supply Book 1985

C.M. Christiansen Co.
SE SW Sec 35 T42N R11E Phelps Vilas Co.

Reported by anonymous caller. Spill. Material appears to be some type of solvent or paint. Unknown VOCs. 31 drums. Leaking containers. Date of incident 8/29/89

Detects of benzene, ethylbenzene, Methylethylketone Toluene, Xylenes, Lubricating oil

Soil beneath drum s-23 may contain compounds listed below according to computer identification from gas chromatography/mass spectroscopy analysis: acetone, naptthalene, methyl naphthalenes. Phelps pop = 1200

Per Water resources of Wisc. survey: Thin lenses of sand & gravel within or beneath till or clay. Area is mostly rolling ground moraine but includes one area of hilly moraine

C. M. Christiansen

C.M. Christiansen Co. operated a pole-dipping business where telephone poles were treated in a wood preservative. The solution was 5% PCP in a carrier of AMOCO #2 fuel oil. Dip tank is 10 x 48' x 4' deep. approx. 120' from stream & wetland area. Great So. of area is drying area where logs were placed after being lifted from dip tank. This operation was from 1954-1978 Results of samples taken - slight fuel oil odor in & a visable oil film observed. Levels of PCP found in soil samples are 3 x greater than toxic levels for aquatic life. This could be critical to aquatic life in creek if C.W. is discharged into creek

Anonymous complaint of leaking drums behind Sylvan bldg. DNR found 31 drums.

see next page

Department of Natural Resources

ENVIRONMENTAL REPAIR PROGRAM
CASE TRACKING FORM FOR VER. 2.1
Form 4400-150

ung
I.D. # 68

9/17/90

District: NCD County: Vilas Co.
Site Name: C.M. Christiansen #1
1/4 mile NE of Hwy 17 on Hwy E
Address: Phelps WI 54554
Legal Municipality: _____
T V C

Case No.: _____ PMN: _____
FID: _____
Proj. Mgr: ERP
Support Person: ERP
Legal Desc: SE 1/4 SW 1/4 Sec 35, T 42, R 11 (E/W)
Lat: N ___ " ___ . ___ ' Long: W ___ " ___ . ___ '

Date of Discovery: 8 / 19 / 87

Date of RP Contact: 9 / 25 / 87

PRIORITY SCREENING:
X 1 = High
___ 3 = Low
___ 4 = Unknown

PRE-SCORE
23 . 40

FUNDING SOURCE:
X 1 = RP
___ 2 = LTF
___ 3 = EF
___ 4 = SF
___ 5 = None
___ 6 = Other (Describe In Comments)
___ 7 = EPA Emergency Resp.

ENFORCEMENT AUTHORITY:
X 1 = Spill Law s. 144.76, Wis. Stats.
___ 2 = Envir Repair Law s. 144.442, Wis. Stats.
___ 3 = Hazardous Waste Rules NR 600 Series
___ 4 = Solid Waste Rules NR 500 Series
___ 5 = CERCLA
___ 6 = Abandoned Container s. 144.77, Wis. Stat.
___ 7 = Other (Describe in Comments)

PROGRAMS INVOLVED: (L - LEAD S - SUPPORT)

___ Aban Containers	___ NR 500 Solid Waste	___ Water Supply
___ Lust	S Spills	___ Water Resources Mgt
___ NR 600 Hazardous Waste	___ Superfund	L Env. Repair

RESPONSIBLE PARTY:

Business Name: C. M. Christiansen
Owner/Mgr.: P.C. Christiansen
Address: PO Box 102
Phelps WI
Phone: 715 / 545-2333
Contact Person: _____

Business Name: _____
Owner/Mgr.: _____
Address: _____
Phone: ___ / _____
Contact Person: _____

		KNOWN IMPACTS (X)	POTENTIAL IMPACTS (X)
No Threat		___	
Fire/Explosion threat	(1)	___	___
Contaminated Private Well	(2)	___	___
Contaminated Public Well	(3)	___	___
Groundwater Contamination	(4)	X	___
Soil Contamination	(5)	X	___
Direct Contact	(10)	___	___
Contaminated Surface Water	(7)	___	X
Contaminated Air	(8)	___	___
Other _____	(6)	___	___

CONSULTANT INFORMATION:

Company: White Water Assoc.
Contact Person: _____
Address: PO Box 27
Amasa, MI 49903
Phone: 906 / 822-7889
(List additional on separate sheet & attach.)

Company: _____
Contact Person: _____
Address: _____
Phone: ___ / _____

EPA HAZARDOUS SUBSTANCES

(Please indicate if quantities are product or contaminated soil in pounds, gallons or cubic yards.)

TYPE (Enter Code)	DISCHARGED	RECOVERED	TREATED	STORED	DISPOSED	DISPOSAL LOCATION CITY	STATE

ERP CASE STATUS

(x as appropriate)

		DATE INITATED (MM YY)	DATE COMPLETED (MM YY)	COMMENTS
	NO ACTION TAKEN			
	EMERGENCY	/	/	
	WORK PLAN APP	/	/	
X	FIELD INVEST I	12 / 87	/	
	II	/	/	
	III	/	/	
	REM DESIGN	/	/	
	REM ACTION I	/	/	
	O & M I	/	/	
	REM ACTION II	/	/	
	O & M II	/	/	
	LONG TERM MONT	/	/	
	ENFORCEMENT	/	/	

EF STATE LEAD CONSULTANT COST (OPTIONAL)

CONSULTANT	CONTRACT/PURCHASE ORDER NUMBER	CONTRACT AMOUNT	AMOUNT PAID TO DATE	LAST INVOICE APPROVED DATE
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /
		$	$	/ /

Groundwater Route Worksheet

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 (45)	1	(45)	45	sub. (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					sub. (2)
Depth to Groundwater	0 1 2 3	2		6	
Infiltration Potential	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
[3] Containment	0 1 2 3	1		3	sub. (3)
[4] Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 (12) 15 18	1	· 12	18	
Leachate Strength	0 2 4 6 8 10	1		10	
Waste Quantity/Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			(14)	26	
[5] Potential Impacts					sub. (5)
Groundwater Use	0 1 (2) 3		6		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 (30) 32 35 40	3 1	30	9 40	
Total Potential Impacts			(36)	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] 2268 0 ÷ 57,330

[7] Divide line [6] by 57,330 and multiply by 100 S_{gw} = 39.56

Figure 2
GROUNDWATER ROUTE WORKSHEET

6972V

Surface Water Route Worksheet

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	(0) 45	1	0	45	sub. (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					sub. (2)
Facility Slope and Intervening Terrain	0 (1) 2 3	1	1	3	
Run-off Potential	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			(11)	15	
[3] Containment	0 1 2 (3)	1	(3)	3	sub. (3)
[4] Waste Characteristics					sub. (4)
Toxicity/Persistence	0 3 6 9 (12) 15 18	1	12	18	
Leachate Strength	0 2 4 6	1			
Hazardous Waste Quantity/ Total Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			(14)	26	
[5] Potential Impacts					sub. (5)
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/ Distance to Water	(0) 4 6 8 10 0 12 16 18 20	1	0	40	
Intake Downstream	24 30 32 35 40				
Total Potential Impacts			(12)	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]			5544 ÷	64,350	
[7] Divide line [6] by 64,350 and multiply by 100			S_{sw} = 8.62		

Figure 5
SURFACE WATER ROUTE WORKSHEET

6972V

Air Route Worksheet

Rating Factor	Assigned Value (circle one)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 45	1		45	sub. (1)
Date and Location:					
Sampling Procedures:					
If line [1] is 0, then S_e = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					sub. (2)
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity/ Total Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Route Characteristics Score				20	
[3] Potential Impacts					sub. (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 Potential Impacts Score				39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100			S_e = ○		

Figure 6
AIR ROUTE WORKSHEET

WORKSHEET FOR COMPUTING THE MIGRATION SCORE, Sm

	S	S^2
GROUNDWATER ROUTE SCORE (Sgw)	39.56	1564.99
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$(Sgw^2 + Ssw^2 + Sa^2)^{0.5}$		40.48814641
$(Sgw^2 + Ssw^2 + Sa^2)^{0.5} / 1.73$	Sm = 23.40	

47

Site or Facility Name: C.M. Christiansen #1

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EF COVER SHEET

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