COPY

Facility name: Spickler Landfill

Location: Spencer, Wisconsin

EPA Region: V

Person(s) in charge of the facility: Gary Kulibert - WDNR

Name of Reviewer: Renee Hix Mays (FIT) Date: 8/14/86

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.)

This site was formerly a municipal waste landfill which also accepted two types of special waste, asbestos dust and brine mud which contained mercury. Monitoring wells are in place around the site and a release to groundwater has been confirmed.

Scores: S_M = 44.24 (S_{gw} = 76.53 S_{sw} = 0 S_a = 0)

S_{FE} = 0

S_{DC} = 25.00

FIGURE 1
HRS COVER SHEET

QA —
R. Cunningham
14 August 1986

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[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	
Net Precipitation	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	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	7	8	
Total Waste Characteristics Score			25	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 16 18 20 / 24 (30) 32 35 40	1	30	40	
Total Targets Score			39	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]			4387.5	57,330	
[7] Divide line [6] by 57,330 and multiply by 100		S_{gw} =	76.53		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

8/14/86

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1		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		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
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				26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3		9	
Distance to a Sensitive Environment	0 1 2 3	2		6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1		40	
Total Targets Score				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				64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = (0)			

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

KCJ
8/14/86

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:					
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)			

FIGURE 9
AIR ROUTE WORK SHEET

RCA 8/12/86

	S	S^2
Groundwater Route Score (S_{gw})	76.53	5856.84
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		5856.84
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		76.53
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		44.24

FIGURE 10
WORKSHEET FOR COMPUTING S_M

8/14/86

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} =			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

8/12/86

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 (2) 3 4 5	4	8	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			8	32	
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			5400	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	25.00		

FIGURE 12
DIRECT CONTACT WORK SHEET

KA
8/14/86

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

COPY

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity - 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Spickler Landfill

LOCATION: Rt2(Eckes Rd) Spencer, WI 54479

References:

1) Brasch, John. Central Office Wisc. DNR; memo dated 10/12/79 entitled Private Well Exemption.
2) Wisconsin Bureau of Public Water Supply microfiche; Well log T26N R2E Sections in 3mi radius; T25N R2E Sections in 3mi radius of S/E
3) HRS Users Manual; 6/10/82.
4) Wisconsin DNR Correspondence to Town of Spencer; 1/4/71.
5) Wisconsin DNR; Preliminary Assessment Narrative; 12/30/83.
6) Wisconsin DNR; Preliminary Assessment; 12/28/83.
7) Correspondence to Chester Wiste; 1/5/77.
8) Wisconsin DNR; Intra Department Memorandum; 2/15/75.
9) Wisconsin DNR; Intra Department Memorandum from S. Lissack; 7/5/73.
10) Wisconsin DNR; Correspondence to Senator Bablich; 7/16/73.

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Spickler Landfill

LOCATION: Spencer, WI

QA —
R. Chauncey Johnson
14 August 1986

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum): Chromium, mercury, barium, toluene, ethylbenzene.
Mercury was detected in downgradiant well 3 (shallow) at .37 ug/l (ref 5p9, 3p5, 7p18)
Chromium was found in shallow midgradiant wells 4 & 5 (ref 5p11,12, 3p3,5, 7p 20-25).
Barium was found in mid & downgradiant shallow wells 2, 3, 4 & 5 (ref 5p. 7,8,10,11,12; ref 3p. 3,5, ref 7p11-29)
Barium was found in deep well 2A (ref 5p8; 3p3,5; 7p11)
Toluene was detected in shallow wells 2, 3, 4, & 5 (ref 4p 32,44,55,61; ref 3p3,4; ref 7p11-29) as well as ethylbenzene.
Rationale for attributing the contaminants to the facility:
Toluene & ethylbenzene were detected in deep well 2A (ref 4p. 38; ref 3p3,4, ref 7p11)
Mercury waste was deposited at the landfill (ref 6p.1) Other contaminants are of indeterminate source. None of the above contaminants were found in the deep background well 1 (ref 4p25; 5p6, 3p3,4,5). Solvents were found in wells nearest the road (ref 3p3). Potentiometric map ref 12 shows well locations and generalized surface and groundwater flow directions.

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:
An upper aquifer of 0-12' of a silty clay with sandy pockets (ref 7p3) underlying sandstone unit of medium to fine quartz arenite with pockets of red clay at ~12 ft (ref 7p. 3). The sandstone has fractures throughout (ref 7p5) and common contaminants found in both shallow and deep wells (see above) show aquifer connection. Site boring logs (ref 7p11-29) show the above
Depth(s) from the ground surface to the highest seasonal level of the discussed aquifers saturated zone [water table(s)] of the aquifer of concern:
Wells in the area are finished in the sandstone aquifer either in the sandstone or in the precambrian granite (ref 15, 16p.5)

Depth from the ground surface to the lowest point of waste disposal/ storage:
N/A

Raj
8/14/86

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

N/A

Mean annual lake or seasonal evaporation (list months for seasonal):

N/A

Net precipitation (subtract the above figures):

N/A

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

N/A

Permeability associated with soil type:

N/A

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

N/A

* * *

RCJ 8/14/80

3 · CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

N/A

Method with highest score:

N/A

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:	Tox	Per	Matrix
Barium (ref 5 p.10)	3 (ref 11 p 345)	3 47FR31229	18
Chromium (ref 5 p.11)	3 (ref 11 p 790)	3 "	18
Mercury (ref 5 p. 9)	3 (ref 11 p 1749)	3 "	18
Toluene (ref 4 p. 32)	2 (ref 11 p 2588)	1 "	9
Ethylbenzene (ref 4 p. 32)	2 (ref 11 p 1323)	1 "	9

Compound with highest score:

Barium, Chromium & Mercury all have a matrix score of 18.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

1,281 yds^3 of brine mud which contained mercury and which was deposited by BASF Wyandotte into the landfill in 1971.

Basis of estimating and/or computing waste quantity:

Ref 6 p 1, Ref 2 p 3, Ref 7 p. 2

* * *

Ref 5/14/86

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking Water with no alternate unthreatened source available. ref 13, 15, 8

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Mr. Fuller's well, located on the landfill (ref 6 p 2, ref 12, ref 15 p 1) This well is still used by Mr. Fuller who resides at the landfill (ref 2).

Distance to above well or building:

150 Ft from wells 2, 2A (contaminated) to ken Fullers residence (ref 12)

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

All private water supplies in the area draw from the sandstone aquifer whether in the sandstone itself or the precambrian granite, (ref 15, ref 16 p. 5). No municipal supplies are available within the 3mi. radius (ref 13) Marshfield is at the SE edge of the 3mi radius (ref 8)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

None per ref 15, no water well logs obtained were for irrigation purposes.

Total population served by ground water within a 3-mile radius:

Per a house count, ref 8 in the 3 mile radius.

543 x 3.8 = 2063

Ref 8/14/86

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum): None known.
This route will not be evaluated due to the low possible score. The distance to the nearest surface water, Yellow River, is over two miles and the river has no documented use (ref 8, 13). A wetland is located approximately 2600' to the northeast of the site (ref 8).
Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Name/description of nearest downslope surface water:

Average slope of terrain between facility and above-cited surface water body in percent:

Is the facility located either totally or partially in surface water?

Rod 8/14/86

Is the facility completely surrounded by areas of higher elevation?

1-Year 24-Hour Rainfall in Inches

Distance to Nearest Downslope Surface Water

Physical State of Waste

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

Rod 8/14/86

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Basis of estimating and/or computing waste quantity:

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

RWA 8/14/86

Is there tidal influence?

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

8/14/86

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

- N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

N/A

Distance to above-cited intakes, measured in stream miles.

N/A

Rcf
8/14/86

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

No air releases have been documented.

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

RC 8/14/86

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

RCA 8/21/86

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

1 CONTAINMENT

Hazardous substances present:

Fire marshall has not declared the site a fire/explosion risk

Type of containment, if applicable:

* * *

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Ignitability

Compound used:

Reactivity

Most reactive compound:

Incompatibility

Most incompatible pair of compounds:

* * *

RLB 8/14/86

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Distance to Nearest Population

Distance to Nearest Building

Distance to Sensitive Environment

Distance to wetlands:

Distance to critical habitat:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Rolf 9/14/86

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

Population Within 2-Mile Radius

Buildings Within 2-Mile Radius

Rod 8/24/06

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

none known

* * *

2 ACCESSIBILITY

Describe type of barrier(s):

Site is not fenced. (ref 2 p. 4)

HRS value = 3

* * *

3 CONTAINMENT

Type of containment, if applicable:

Leachate seeps have been observed. Cover inadequate (ref 2 p. 6)

HRS value = 15

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

mercury, barium, chromium, toluene, ethylbenzene

see gw route for discussion

Compound with highest score:

mercury, barium & chromium.

HRS value = 3

RGA 8/14/86

5 TARGETS

Population within one-mile radius

72 house x 3.8 = 274 (ref 8)

HRS value = 2

Distance to critical habitat (of endangered species)

none (ref 14, 17)

HRS value = 0

Ref 8/6/86

HRS DOCUMENTATION LOG SHEET

SITE NAME Spickler Landfill
CITY Spencer STATE WI
IDENTIFICATION NUMBER WID980902969

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
1.	Federal Register, July 16, 1982.
2.	Potential Hazardous Waste Site, Site Inspection Report, Cover memo; completed by Anne Sause, FIT, Tom Koch, FIT; 6/26/84. 15 pp
3.	Memo to file from Anne Sause, FIT; sample result summary, site map; 3/29/85, 5pp.
4	Organic Low Water Sample Results; Case 4048; EA 314, 315, 316 - EB913 to EB918; 3/27/85 sampling date, 75pp.
5	Metals low Water Sample Results; case 4048; MEB638, 689, 690, MEC952-957; 3/27/85 sampling date; 15pp.
6.	John G Brasch, WDNR Central Office - Madison, Private Water Well Exemption; 10/12/79, 5pp
7	Hydrogeologic Evaluation of Spickler Landfill, G.S. Smith, Ecology & Environment FIT, 3/85; 29pp
8	Topographic Maps, 7.5 minutes, Spencer South Marshfield Quads, 1979
9.	1985 Public Water Supply Data Book, WDNR, Eric P. Syftestad, 16pp
10	1980 Census of Population; Wisconsin; U.S. Dept of Commerce; 5pp

RCT 8/14/86

HRS DOCUMENTATION LOG SHEET

SITE NAME Spickler Landfill
CITY Jefferson STATE WI
IDENTIFICATION NUMBER WID980962969

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
11	Dangerous Properties of Industrial Materials, N. Irving Sax, 6th Edition, 1984
12	Potentiometric Surface Map, Site Plan and Well Locations, G.S.S. 12/84. 1pp
13	Telephone conversation between R. Hix Mapp, FIT and Bob Derksen, WDNR, 9:00 am, 715-423-5670; 2/12/86 1pp.
14	Endangered Species; U.S Dept of Interior, Fish and Wildlife Service, Great Lakes Region.
15	State of Wisconsin, Geological Survey well logs within 3mi radius, 172 pp in office of FIT, 10pp represented here.
16	Trends in Groundwater Levels in Wisconsin through 1981; U.S. Geological Survey, 5pp
17	Telephone conversation log between R. Hix Mapp, FIT and Ron Spry, U.S. Fish and Wildlife Service - 10:00 am, 414-465-2162, 2/13/86, 1pp

R. Hix 8/14/86