238712

ATTACHMENT III

Supplemental Information Package for
Combe Fill South Landfill Site

Contents:

III-A	Directions to the Site from major transportation routes. (see above)
*III-B	Mitre Model Scoring
*III-C	Selected Portions of the Combe Fill North Remedial Action Master Plan
*III-D	Community Relations Plan
*III-E	NJDEP Monitoring Wells Specifications
III-F	Format for Machine Readable Data (see above)

* These items will be supplied at the Bidder's Conference.

Facility Name: Combe-fill South Landfill

Location: Parker Rd, Chester, Morris Co, NJ

EPA Region: II

Person(s) in Charge of the Facility: Anthony Farro
John Castner

Name of Reviewer: Richard Katz Date: 7/ /82

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.)

Inactive landfill which has been found by analysis to be releasing numerous hazardous substances to ground and surface water. Numerous residences in close proximity. NJ Dept of Environmental Protection issued several Administrative Orders culminating in closure order 9/8/81

Scores: S_M = 45.22 (S_{gw} = 73.08 S_{sw} = 27.90 S_a = 0)

S_{FE} =

S_{DC} =

Figure 1

HRS COVER SHEET

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	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 16 18 20 24 30 32 35 40	1	40	40	
	Total Targets Score		49	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			41,895	57,330	
7 Divide line 6 by 57,330 and multiply by 100	S_{gw} = 73.08				

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	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	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	9	9	
Distance to a Sensitive Environment	0 1 2 3	2	2	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	10	40	
Total Targets Score			21	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			17,955	64,350	
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} = 27.90				

AIR ROUTE WORK SHEET

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1		45	5.1
Date and Location: No data available.					
Sampling Protocol:					
If line 1 is 0, the S = 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					

	S	S^2
Groundwater Route Score (S_{gw})	73.08	5,340.69
Surface Water Route Score (S_{sw})	27.90	778.41
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		6119.10
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		78.22
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73$		S_M = 45.22

WORKSHEET FOR COMPUTING S_M

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 5 by 1,440 and multiply by 100	S FE =				

DIRECT CONTACT WORK SHEET

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

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: Combe Fill Landfill South

LOCATION: Parker Rd, Chester, Morris Co., NJ

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Carbon Tetrachloride
Tetrachloroethylene
Heptane
Trichloroethylene
2-Dichloroethane

chemical analysis done by NJ Dept of Health

Rationale for attributing the contaminants to the facility:

Contaminants detected in on-site and down-gradient wells — no other potential sources of pollution exists; same contaminants detected in leachate on site

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern: –

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

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

Net Precipitation

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

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

Net precipitation (subtract the above figures):

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Permeability associated with soil type:

Physical State

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

* * *

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Carbon Tetrachloride
Tetrachloroethylene
Trichloroethylene
Methane

} chemical analyses done by NJ Dept of Health Labs - data in DSWM, Trenton files.

Compound with highest score:

Carbon Tetrachloride (HRS User Manual)

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):

old landfill - no basis of estimating quantity directly in landfill.

Scored as a "1" (see discussion below)

Basis of estimating and/or computing waste quantity:

Evidence of groundwater contamination. Based on 2.3 of "Supplemental Instructions for the Hazard Ranking System", Steve Caldwell, July 29, 1982.

* * *

5 TARGETS

Ground Water Use

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

Potable - Precambrian Gneiss bedrock (interspersed with low recovery, illegally fractured by fracturing - see geological report attached)

Distance to Nearest Well

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

Several private wells located along Parker Road (NOEP on-site inspection)
Nearest well owned by Mr. Mr. Fredenic

Distance to above well or building:

* 50 feet

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:

* Public supply wells belonging to Chester Twp, Chester Boro, Washington Twp, several schools and various commercial enterprises

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

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

* 11,200

* Info supplied by Frank Matteo, Morris County Health Officer

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

Carbon Tetrachloride
Heptane
Benzene
Dichloromethane

(Chemical analysis done by NJ Dept of Health)

Rationale for attributing the contaminants to the facility:

Observed leachate streams entering Trout Brook
(Inspection reports filed at NJDEP Division of Water Pollution Control, Trenton)

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?

Is the facilit c pletely surrounded by area ot her 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:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

see p. 4

Compound with highest score:

Carbon Tetrachloride (See User Manual)

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):

Scored as a "1"

(see p. 4)

Basis of estimating and/or computing waste quantity:

(see p. 4)

* * *

5 TARGETS

Surface Water Use

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

Recreational - Trout Brook was trout maintenance area; adversely impacted by contaminants. Hackleburney State Park, Schooley's Mountain Park (Div. of Water Resources files)

Potable (Frank Kattes, Morris Co. Health Officer)

Is there tidal influence?

No

Distance to a Sensitive Environment

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

None

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

~ 3000' to PEM + PFO (palustrine wetlands)
(Nat'l Wetlands Inventory map, Chester quad, US Dept of the Interior)

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

None

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:

2 Intakes located along Trout Brook (one is 2000' from leachate entry point and the other is 2 miles downstream).

(Frank Mattheo, County Health Officer)

[illegible] ion (1.5 people per acre): [illegible] and

Total population served:

8 people in two families
(Frank Matteo, Co. H.O.)

Name/description of nearest of above water bodies:

Stream tributary to Trout Brook, former trout maintenance [illegible]

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

2000' and 2 miles

1 OBSERVED RELEASE

Contaminants detected: No sampling performed

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:

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:

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?