ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

5.28
NJD
3/28/90

MEMORANDUM

DATE: 1-4-90

TO: William Messenger, Chief Pre-Remedial Unit

FROM: Jerome D. Oskvarek, FIT Office Manager

SUBJECT: Transmittal Memorandum Identifying A Potential NFRAP Facility

CERCLIS Site Name: Morley, J.H. and Company

City: Cleveland

State: Ohio

U.S. EPA ID No.: OHD980613616

SSID No.: NONE

TDD No.: F05 8706 333

PAN: FOH0676GA

THIS DOCUMENT IS CONFIDENTIAL. Due to the predecisional nature of this memorandum, this memorandum and its attachments are not to be released without prior approval of the Untied States Environmental Protection Agency (U.S. EPA).

A work plan was tasked for the above-reference site; however, due to the HRS 1 preliminary and projected calculated scores, a work plan will not be prepared. The HRS worksheets are attached to this memorandum.

US EPA RECORDS CENTER REGION 5
548518

recycled paper

HRS 1 PRELIMINARY AND PROJECTED SCORES

PRELIMINARY HRS SCORE (this score is based on existing file information that was obtained prior to the screening site inspection):

S_M= 0 S_{FE}= 0 S_{DC}= 0

PROJECTED HRS SCORE FOR A SCREENING SITE INSPECTION (this score is based on the expected acquisition of information from the screening site inspection):

S_M= 3.88 S_{FE}= 0 S_{DC}= 62.5

PROJECTED HRS SCORE FOR A LISTING SITE INSPECTION (this score is based on the expected acquisition of information from the Listing Site Inspection):

S_M= 5.28 S_{FE}= 0 S_{DC}= 62.5

HRS 1 score worksheets are attached to this memorandum.

RECOMMENDATIONS

The HRS 1 scores are below 25.00. As a result the site should be designated as a NFRAP facility.

COMMENTS

The FIT would like to make the folloving additional comments concerning the site.

The Morley, J. H. and company site scored less than 25 points on the HRS scoring system for the following reasons.

1. The site was used during the early 1900's and is currently located underneath existing railroad tracks.

2. The city of Cleveland's drinking water is supplied from Lake Erie intakes which are located at least 2.5 miles from shore.

However, despite the high direct contact score FIT does not feel an emergency response is necessary due to the nature of the site.

PRELIMINARY AND PROJECTED
HAZARD RANKING SYSTEM
SCORE WORKSHEETS

Site Name: Morley, J.H. and Company (Cerclis Name)

(SAME) (A.K.A.)

Address: Champlain and Canal Streets

City/County/State/Zip Cleveland / Cuyahoga / Ohio / 44142

Cerclis ID # OHD980613616 SSID NONE

Prepared by Randy Earlywine E&E Date 1-4-90

Reviewed by J. Kolb E&E Date 1/16/90

TDD: F05 8706 333 PAN F0H0676GA

Type of Document

PA	
PA Reassessment	
WP-SSI	✓
WP-LSI	

PRELIMINARY HRS SCORE

S_M= 0 S_{FE}= 0 S_{DC}= 0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

S_M= 3.88 S_{FE}= 0 S_{DC}= 62.5

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

S_M= 5.28 S_{FE}= 0 S_{DC}= 62.5

PRELIMINARY HRS SCORE

(THIS SCORE IS BASED ON EXISTING FILE INFORMATION THAT WAS OBTAINED PRIOR TO THE SCREENING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	0	0
Surface Water Route Score (S_{sw}-)	0	0
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE SCREENING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	2.09	4.37
Surface Water Route Score (S_{sw}-)	6.38	40.70
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		45.07
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		6.71
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		3.88

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE LISTING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	4.47	19.98
Surface Water Route Score (S_{sw}-)	7.97	63.52
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		83.50
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		9.14
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		5.28

GROUNDWATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Description	Ref. #
1 Observed Release	0 45	x1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: 1-148' grey clay & fire sand Aquifer is grey shale	
Depth to Aquifer of concern	0 1 2 3	x2	2	150 ft.	9, 11
Net Precipitation	0 1 2 3	x1	1	Precip 34" Evap 31"	1, 11
Permeability of the Unsaturated Zone	0 1 2 3	x1	2	10^{-4} cm/sec	2, 3 9, 11
Physical State	0 1 2 3	x1	0	UNKNOWN	4
	Total Route Char. Score		5		
3 Containment	0 1 2 3	x1	0	UNKNOWN	4
4 Waste Characteristics					
Persistence	0 1 2 3				
Toxicity	0 0 0 0 0 1 3 6 9 12 2 6 9 12 15 3 9 12 15 18	x1	0	UNKNOWN	4
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1	0	UNKNOWN	4
	Total Waste Char. Score		0		
5 Targets					
Groundwater Use	0 1 2 3	x3	3	USABLE BUT NOT USED	4, 8, 11
Distance to Nearest Well	0 1 2 3 4			≤ 3500'	5, 9, 11
Population Served	0 0 0 0 0 0 1 0 4 6 8 10 2 0 8 12 16 20 3 0 12 18 24 30 4 0 16 24 32 35 5 0 20 30 35 40	x1	0	No Target population within 3 mile radius	8
	Total Targets Score		3		
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			0		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 0		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: 1-148' grey clay & fire sand Aquifer is grey shale	9
Depth to Aquifer of concern	0 (1) 2 3	x2	2	150 ft.	9, 11
Net Precipitation	0 (1) 2 3	x1	1	Precip 34 Evap 31	1, 11
Permeability of the Unsaturated Zone	0 1 (2) 3	x1	2	10^{-4} cm/sec	2,3,9,11
Physical State	0 1 (2) 3	x1	2	White Lead Dust	4
	Total Route Char. Score		7		
3 Containment	0 1 2 (3)	x1	3	Assume No lining	4
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity	0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 (3): 9 12 15 (18)	x1	18	White Lead Dust	4, 13
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Groundwater Use	0 (1) 2 3	x3	3	Usable but not used	4,8,11
Distance to Nearest Well	0 1 2 (3) 4 (0): 0 0 0 (0) 0 1: 0 4 6 8 10			≤ 3500'	5,9,11
Population Served	2: 0 8 12 16 20 3: 0 12 18 24 30 4: 0 16 24 32 35 5: 0 20 30 35 40	x1	0	No Target population within 3 mile radius	8
	Total Targets Score		3		
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			1197		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 2.09		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 (45)	x1	45	If an observed release is documented	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description:	
Depth to Aquifer of concern	0 1 2 3	x2		ft.	
Net Precipitation	0 1 2 3	x1		Precip Evap	
Permeability of the Unsaturated Zone	0 1 2 3	x1		cm/sec	
Physical State	0 1 2 3	x1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x1			
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity	0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 (3): 9 12 15 (18)	x1	18	White Lead Dust	4,13
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Groundwater Use	0 (1) 2 3	x3	3	usable but not used	4,8,11
Distance to Nearest Well	(0) 1 2 3 4			≤ 3500'	5,9,11
Population Served	0: 0 0 0 0 0 1: 0 4 6 8 10 2: 0 8 12 16 20 3: 0 12 18 24 30 4: 0 16 24 32 35 (5): (0) 20 30 35 40	x1	0	No target population within 3 mile radius	8
	Total Targets Score		3		
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			2565		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw}= 4.47		

SURFACE WATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x 1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics	Intervening Terrain Facility Slope: 0 0 0 (0) 3 / (0) 1 1 (2) 3 / 0 1 2 2 3 / 0 2 2 3 3 / 0 2 3 3 3	x 1	2	Facil ≤ 3 % Interv 20 %	5, 11 5, 11
1-yr. 24 hr Rainfall	0 1 (2) 3	x 1	2	2.25 in.	6
Distance to Nearest Surface Water	0 1 2 (3)	x 2	6	-500'	5, 11
Physical State	(0) 1 2 3	x 1	0	UNKNOWN	4
	Total Route Char. Score		10		
3 Containment	(0) 1 2 3	x 1	0	UNKNOWN	4
4 Waste Characteristics					
Persistence	(0) 1 2 3				
Toxicity	(0): (0) 0 0 0 1: 3 6 9 12 2: 6 9 12 15 3: 9 12 15 18	x 1	0	UNKNOWN	4
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x 1	0	UNKNOWN	4
	Total Waste Char. Score		0		
5 Targets					
Surface Water Use	0 1 (2) 3	x 3	6	Recreational: Cuyahoga River	5, 11, 12
Dist. to Sensitive Environment	(0) 1 2 3	x 2	0	> 1 Mile	5, 7, 11
Population Served	Distance to Water Intake Downstream (0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 (0) 20 30 35 40	x 1	0	> 1 Mile No Target Population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			0		
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} = 0				

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x 1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics	Intervening Terrain Facility Slope 0 0 0 (0) 3 (0) 1 1 (0) 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x 1	2	Facil ≤ 3 % Interv 20 %	5, 11 5, 11
1-yr. 24 hr Rainfall	0 1 (2) 3	x 1	2	2.25 in.	6
Distance to Nearest Surface Water	0 1 2 (3)	x 2	6	500'	5, 11
Physical State	0 1 (2) 3	x 1	2	white Lead Dust	4
	Total Route Char. Score		12		
3 Containment	0 1 2 (3)	x 1	3	NO DIVERSION STRUCTURE	4
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity 0 1 2 (3)	0 0 0 0 3 6 9 12 6 9 12 15 9 12 15 (18)	x 1	18	white Lead Dust	4, 13
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x 1	1	UNKNOWN.	4
	Total Waste Char. Score		19		
5 Targets					
Surface Water Use	0 1 (2) 3	x 3	6	Recreational: Cuyahoga River	5, 11, 12
Dist. to Sensitive Environment	(0) 1 2 3	x 2	0	> 1 mile	5, 7, 11
Population Served	Distance to Water Intake Downstream (0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 (0) 20 30 35 40	x 1	0	> 1 mile No Target population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			4104		
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	6.38		

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 (45)	x 1	45	If an observed release is documented	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics	Intervening Terrain Facility Slope: 0 0 0 0 3; 0 1 1 2 3; 0 1 2 2 3; 0 2 2 3 3; 0 2 3 3 3	x 1		Facil %	
				Interv %	
1-yr. 24 hr Rainfall	0 1 2 3	x 1		____ in.	
Distance to Nearest Surface Water	0 1 2 3	x 2			
Physical State	0 1 2 3	x 1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x 1			
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity	0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 (3): 9 12 15 (18)	x 1	18	white lead dust	4, 13
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x 1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Surface Water Use	0 1 (2) 3	x 3	6	Recreational: Cuyahoga River	5, 12
Dist. to Sensitive Environment	(0) 1 2 3	x 2	0	> 1 mile	5, 7, 11
Population Served	Distance to Water Intake Downstream (0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 (0) 20 30 35 40	x 1	0	> 1 mile No Target Population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			5130		
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} = 7.97				

AIR ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Population within 4-mile Radius	Dist to Population Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets	Dist to Population				
Population within 4-mile Radius	Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Population within 4-mile Radius	Dist to Population Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

FIRE AND EXPLOSION

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

DIRECT CONTACT

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	Fencing does not cover site	4, 11
3 Containment	(0) 15	x1	0	UNKNOWN	4
4 Waste Characteristics					
Toxicity	(0) 1 2 3	x5	0	UNKNOWN	4
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 (5)	x4	20	population within 1 mile radius ≈ 24,000	10
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	> 1 Mile	5
	Total Targets Score		20		
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			0		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 0		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	fencing does not cover site	4, 11
3 Containment	0 (15)	x1	15	Assume inadequate containers	4
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	White Lead dust	4, 13
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 (5)	x4	20	population within 1 mile radius ≃ 24,000	10
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	> 1 mile	5
	Total Targets Score		20		
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			13,500		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC}= 62.5		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	fencing does not cover site	4,11
3 Containment	0 (15)	x1	15	Assume inadequate containers	4
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	white Lead Dust	4,13
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 (5)	x4	20	population within 1 mile radius ≈ 24,000	10
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	> 1 mile	5
	Total Targets Score		20		
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			13,500		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 62.5		

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
1	Climatic Atlas of the United States, U.S. Dept. of Commerce, National Climatic Center, Ashville N.C., 1979. Figures 4 and 5.
2	Davis S.N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media R.J.M. Dewest ed., Academic Press, New York, 1969
3	Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979
4.	U.S. Environmental Protection Agency Potential Hazardous Waste Site Preliminary Assessment for J.H. Morley and Company Cleveland, Ohio ID# OHD980613616 Prepared by Pam Wicks, 6-22-84.

recycled paper

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
5.	U.S. Geological Survey, 1984 Cleveland South Quadrangle 7.5 min. Series (Topographic) 1:24,000.
6	Rainfall Frequency Atlas of the United States, 1963, Technical Paper 40, U.S. Dept. of Commerce, Wash. D.C.
7	EPA code of Federal Regulations 40 CFR Part 230, Appendix A, 1980.
8	Jefferies, Jim. Chief of water purification, Cleveland Water Works. (216) 664-3324. "100% of cleveland's drinking water is obtained from Lake Erie." Info. obtained 2-18-86 by Steve Wisbaum

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
9	Ohio Department of Natural Resources
	Division of Water, Cuyahoga County,
	Ohio. Well log and Drilling Report
	# 698451
10	Godwin, Jean. Research Department
	of the Greater Cleveland Growth
	Association. (216) 621-3300
	"23,707 people in 1 mile radius"
	Info. obtained 2-18-86 by Steve Wisbaum.
11	Cleveland Cityhall, Survey and Platts
	Dept. (216) 664-2000. "In 1901 site
	existed at the corner of Canal and Cham-
	plan Streets ... However, Champlan Street
	no longer exists, but an 1998 map in-
	dicates intersection is currently
	buried beneath railroad tracks."
	These tracks are owned by the
	Cleveland Union Terminal Company.
	1-2-90

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
12	Ohio Dept. of Natural Resources
	Division of Watercraft
	Fountain Square C-2.
	Columbus Ohio 43224
	Phone (614) 265-6480
13	Sax, Irving. Dangerous Problems
	of Industrial Materials. 6th Ed.,
	1984

SOURCES AND DATES OF INFORMATION COLLECTION

SOURCE	DATE
1) State Hazardous/Solid Waste Files	
2) State Water Files	
3) State Air Files	
4) State Department of Health	
5) State Geological Survey	
6) State Department of Natural Resources	
7) State Fire Marshall	
8) County Department of Health	
9) County Engineer	
10) County Clerk/Recorder of Deeds	1-2-90
11) City Department of Health	
12) City Engineer	
13) City Fire Department/Fire Marshall	
14) City Water/Sewer Department	2-18-90
15) U.S. Soil Conservation Service	
16) Others	

STATE CONTACT(S): _____ (name) _____ (phone number)

_____ (name) _____ (phone number)

EPA ID# OHD 980 613 616

SITE NAME Morley J.H. & Co.

NORLING FACTOR _____ (>15 PTS.=HIGH MITRE POTENTIAL)

WASTE TYPE

PESTICIDES	(5)
HEAVY METALS	(5)
PCB's	(5)
ORGANICS	(4)
SOLVENTS	(4)
INORGANICS	(3)
ACIDS	(3)
BASES	(3)
MIXED MUNI-WASTES	(2)
UNKNOWN	(1)

WASTE QUANTITY
(1 ton = ½ cu.yd.=13.5 cu.ft.=4 drums = 220 gals.)

TONS	CU.YDS.	CU. FT.	DRUMS	GALLONS	PTS.
>875	>437	>11,799	>3500	>192,500	(5)
875	437	11,799	3500	192,500	
251	126	3,402	1001	55,055	(4)
250	125	3,375	1000	55,000	
163	82	2,214	651	35,805	(3)
162	81	2,187	650	35,750	
76	38	1,026	301	16,555	(2)
75	37	999	300	16,500	
21	11	297	81	4,455	(1)
<20	<10	<270	<80	<4,400	(0)

FACILITY TYPE

PILES	(5)
DRUMS BELOW GROUND	(4)
DRUMS ABOVE GROUND	(3)
SURFACE IMPOUNDMENTS	(3)
TANKS	(3)
LANDFILLS	(2)
LAND TREATMENT	(2)
UNDERGROUND INJECTION	(1)

POPULATION

10,000 or more	(5)
3,000 - 9,999	(4)
1,000 - 2,999	(3)
101 - 999	(2)
1 - 100	(1)

Cleveland (750,903)

___ NOT A HAZARDOUS WASTE SITE

✓ INFORMATION MISSING

COMMENTS: Waste Quantity and Facility Type not shown.

REVIEWER: M Elam / O.M.

EPA ID# OHD 980 613 616

SITE NAME Morley J.H. + Co.

NORLING FACTOR _____ (>15 PTS.=HIGH MITRE POTENTIAL)

WASTE TYPE

PESTICIDES	(5)
HEAVY METALS	(5)
PCB's	(5)
ORGANICS	(4)
SOLVENTS	(4)
INORGANICS	(3)
ACIDS	(3)
BASES	(3)
MIXED MUNI-WASTES	(2)
UNKNOWN	(1)

WASTE QUANTITY
(1 ton = ½ cu.yd.=13.5 cu.ft.=4 drums = 220 gals.)

TONS	CU.YDS.	CU. FT.	DRUMS	GALLONS	PTS.
>875	>437	>11,799	>3500	>192,500	(5)
875	437	11,799	3500	192,500	
251	126	3,402	1001	55,055	(4)
250	125	3,375	1000	55,000	
163	82	2,214	651	35,805	(3)
162	81	2,187	650	35,750	
76	38	1,026	301	16,555	(2)
75	37	999	300	16,500	
21	11	297	81	4,455	(1)
<20	<10	<270	<80	<4,400	(0)

FACILITY TYPE

PILES	(5)
DRUMS BELOW GROUND	(4)
DRUMS ABOVE GROUND	(3)
SURFACE IMPOUNDMENTS	(3)
TANKS	(3)
LANDFILLS	(2)
LAND TREATMENT	(2)
UNDERGROUND INJECTION	(1)

POPULATION

10,000 or more	(5)
3,000 - 9,999	(4)
1,000 - 2,999	(3)
101 - 999	(2)
1 - 100	(1)

Cleveland (750,903)

___ NOT A HAZARDOUS WASTE SITE

✓ INFORMATION MISSING

COMMENTS: Waste Quantity and Facility Type not shown.

REVIEWER: M Elam / O.M.

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

Original

MEMORANDUM

DATE: 1-4-90

TO: William Messenger, Chief Pre-Remedial Un

FROM: Jerome D. Oskvarek, FIT Office Manager

SUBJECT: Transmittal Memorandum Identifying A Potential NFRAP Facility

CERCLIS Site Name: Morley, J.H. and Company

City: Cleveland

State: Ohio

U.S. EPA ID No.: OHD980613616

SSID No.: NONE

TDD No.: F05 8706 333

PAN: FOH0676GA

THIS DOCUMENT IS CONFIDENTIAL. Due to the predecisional nature of this memorandum, this memorandum and its attachments are not to be released without prior approval of the Untied States Environmental Protection Agency (U.S. EPA).

A work plan was tasked for the above-reference site; however, due to the HRS 1 preliminary and projected calculated scores, a work plan will not be prepared. The HRS worksheets are attached to this memorandum.

HRS 1 PRELIMINARY AND PROJECTED SCORES

PRELIMINARY HRS SCORE (this score is based on existing file information that was obtained prior to the screening site inspection):

S_M= 0 S_{FE}= 0 S_{DC}= 0

PROJECTED HRS SCORE FOR A SCREENING SITE INSPECTION (this score is based on the expected acquisition of information from the screening site inspection):

S_M= 3.88 S_{FE}= 0 S_{DC}= 62.5

PROJECTED HRS SCORE FOR A LISTING SITE INSPECTION (this score is based on the expected acquisition of information from the Listing Site Inspection):

S_M= 5.28 S_{FE}= 0 S_{DC}= 62.5

HRS 1 score worksheets are attached to this memorandum.

RECOMMENDATIONS

The HRS 1 scores are below 25.00. As a result the site should be designated as a NFRAP facility.

COMMENTS

The FIT would like to make the following additional comments concerning the site.

The Morley, J. H. and company site scored less than 25 points on the HRS scoring system for the following reasons.

1. The site was used during the early 1900's and is currently located underneath existing railroad tracks.

2. The city of Cleveland's drinking water is supplied from Lake Erie intakes which are located at least 2.5 miles from shore.

However, despite the high direct contact score FIT does not feel an emergency response is necessary due to the nature of the site.

PRELIMINARY AND PROJECTED HAZARD RANKING SYSTEM SCORE WORKSHEETS

Site Name: Morley, J.H. and Company (Cerclis Name)

(SAME) (A.K.A.)

Address: Champlain and Canal Streets

City/County/State/Zip Cleveland / Cuyahoga / Ohio / 44142

Cerclis ID # OHD980613616 SSID NONE

Prepared by Randy Earlywine E&E Date 1-4-90

Reviewed by J. Kolb E&E Date 1/16/90

TDD: F05 8706 333 PAN F0H0676GA

Type of Document

PA ____

PA Reassessment ____

WP-SSI ✓

WP-LSI ____

PRELIMINARY HRS SCORE

S_M= 0 S_{FE}= 0 S_{DC}= 0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

S_M= 3.88 S_{FE}= 0 S_{DC}= 62.5

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

S_M= 5.28 S_{FE}= 0 S_{DC}= 62.5

PRELIMINARY HRS SCORE

(THIS SCORE IS BASED ON EXISTING FILE INFORMATION THAT WAS OBTAINED PRIOR TO THE SCREENING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	0	0
Surface Water Route Score (S_{sw}-)	0	0
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		0

PROJECTED HRS SCORE FOR SCREENING SITE INSPECTION (SSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE SCREENING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	2.09	4.37
Surface Water Route Score (S_{sw}-)	6.38	40.70
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		45.07
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		6.71
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		3.88

PROJECTED HRS SCORE FOR LISTING SITE INSPECTION (LSI)

(THIS SCORE IS BASED ON THE EXPECTED ACQUISITION OF INFORMATION FROM THE LISTING SITE INSPECTION.)

	S	S^2
Groundwater Route Score (S_{gw}-)	4.47	19.98
Surface Water Route Score (S_{sw}-)	7.97	63.52
Air Route Score (S_A-)	0	0
$S_{gw}^2 + S_{sw}^2 + S_A^2$		83.50
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2}$		9.14
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_A^2} / 1.73$ - S_M-		5.28

GROUNDWATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: 1-148' grey clay & fine sand Aquifer is grey shale	
Depth to Aquifer of concern	0 (1) 2 3	x2	2	150 ft.	9, 11
Net Precipitation	0 (1) 2 3	x1	1	Precip 34" Evap 31"	1, 11
Permeability of the Unsaturated Zone	0 1 (2) 3	x1	2	10^{-4} cm/sec	2, 3 9, 11
Physical State	(0) 1 2 3	x1	0	UNKNOWN	4
	Total Route Char. Score		5		
3 Containment	(0) 1 2 3	x1	0	UNKNOWN	4
4 Waste Characteristics					
Persistence (0) 1 2 3 / Toxicity (0): (0) 0 0 0; 1: 3 6 9 12; 2: 6 9 12 15; 3: 9 12 15 18		x1	0	UNKNOWN	4
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x1	0	UNKNOWN	4
	Total Waste Char. Score		0		
5 Targets					
Groundwater Use	0 (1) 2 3	x3	3	USABLE BUT NOT USED	4, 8, 11
Distance to Nearest Well (0): 0 0 0 (0) 0; 1: 0 4 6 8 10; 2: 0 8 12 16 20; 3: 0 12 18 24 30; 4: 0 16 24 32 35; 5: 0 20 30 35 40		x1	0	≤ 3500'	5, 9, 11
Population Served				No Target population within 3 mile radius	8
	Total Targets Score		3		
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			0		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 0		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description: 1-148' grey clay & fire sand Aquifer is grey shale	9
Depth to Aquifer of concern	0 (1) 2 3	x2	2	150 ft.	9, 11
Net Precipitation	0 (1) 2 3	x1	1	Precip 34 Evap 31	1, 11
Permeability of the Unsaturated Zone	0 1 (2) 3	x1	2	10^{-4} cm/sec	2,3,9,11
Physical State	0 1 (2) 3	x1	2	white Lead Dust	4
	Total Route Char. Score		7		
3 Containment	0 1 2 (3)	x1	3	Assume No lining	4
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity	0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 (3): 9 12 15 (18)	x1	18	White Lead Dust	4, 13
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Groundwater Use	0 (1) 2 3	x3	3	Usable but not used	4,8,11
Distance to Nearest Well	0 1 2 (3) 4 (0): 0 0 0 (0) 0 1: 0 4 6 8 10 2: 0 8 12 16 20 3: 0 12 18 24 30 4: 0 16 24 32 35 5: 0 20 30 35 40			≤ 3500'	5,9,11
Population Served		x1	0	No Target population within 3 mile radius	8
	Total Targets Score		3		
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			1197		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 2.09		

GROUNDWATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 (45)	x1	45	If an observed release is documented	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics				Aquifer Description:	
Depth to Aquifer of concern	0 1 2 3	x2		ft.	
Net Precipitation	0 1 2 3	x1		Precip Evap	
Permeability of the Unsaturated Zone	0 1 2 3	x1		cm/sec	
Physical State	0 1 2 3	x1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x1			
4 Waste Characteristics					
Persistence	0 1 2 (3)				
Toxicity	0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 (3): 9 12 15 (18)	x1	18	White Lead Dust	4,13
Haz. Waste Quantity	0 (1) 2 3 4 5 6 7 8	x1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Groundwater Use	0 (1) 2 3	x3	3	usable but not used	4,8,11
Distance to Nearest Well	(0) 1 2 3 4			≤ 3500'	5,9,11
Population Served	0: 0 0 0 0 0 1: 0 4 6 8 10 2: 0 8 12 16 20 3: 0 12 18 24 30 4: 0 16 24 32 35 (5): (0) 20 30 35 40	x1	0	No target population within 3 mile radius	8
	Total Targets Score		3		
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			2565		
7 Divide line 6 by 57,330 and multiply by 100			S_{gw}= 4.47		

SURFACE WATER ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	(0) 45	x 1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics					
Facility Slope / Intervening Terrain	0 0 0 (0) 3 (0) 1 1 (2) 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x 1	2	Facil ≤ 3 % Interv 20 %	5, 11 5, 11
1-yr. 24 hr Rainfall	0 1 (2) 3	x 1	2	2.25 in.	6
Distance to Nearest Surface Water	0 1 2 (3)	x 2	6	~500'	5, 11
Physical State	(0) 1 2 3	x 1	0	UNKNOWN	4
	Total Route Char. Score		10		
3 Containment	(0) 1 2 3	x 1	0	UNKNOWN	4
4 Waste Characteristics					
Toxicity / Persistence	(0) 1 2 3 (0) 0 0 0 0 1 3 6 9 12 2 6 9 12 15 3 9 12 15 18	x 1	0	UNKNOWN	4
Haz. Waste Quantity	(0) 1 2 3 4 5 6 7 8	x 1	0	UNKNOWN	4
	Total Waste Char. Score		0		
5 Targets					
Surface Water Use	0 1 (2) 3	x 3	6	Recreational: Cuyahoga River	5, 11, 12
Dist. to Sensitive Environment	(0) 1 2 3	x 2	0	> 1 Mile	5, 7, 11
Population Served / Distance to Water Intake Downstream	(0) 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 (0) 20 30 35 40	x 1	0	> 1 Mile No Target Population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			0		
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} = 0				

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1	0	Alleged but not documented data	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics	Intervening Terrain Facility Slope: 0 0 0 0 3; 0 1 1 2 3; 0 1 2 2 3; 0 2 2 3 3; 0 2 3 3 3	x1	2	Facil ≤ 3 % Interv 20 %	5, 11 5, 11
1-yr. 24 hr Rainfall	0 1 2 3	x1	2	2.25 in.	6
Distance to Nearest Surface Water	0 1 2 3	x2	6	500'	5, 11
Physical State	0 1 2 3	x1	2	White Lead Dust	4
	Total Route Char. Score		12		
3 Containment	0 1 2 3	x1	3	NO DIVERSION STRUCTURE	4
4 Waste Characteristics					
Persistence	0 1 2 3				
Toxicity	0: 0 0 0 0; 1: 3 6 9 12; 2: 6 9 12 15; 3: 9 12 15 18	x1	18	White Lead Dust	4, 13
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Surface Water Use	0 1 2 3	x3	6	Recreational: Cuyahoga River	5, 11, 12
Dist. to Sensitive Environment	0 1 2 3	x2	0	> 1 mile	5, 7, 11
Population Served	Distance to Water Intake Downstream: 0 0 0 0 0; 0 4 6 8 10; 0 8 12 16 20; 0 12 18 24 30; 0 16 24 32 35; 0 20 30 35 40	x1	0	> 1 mile No Target population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			4104		
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 6.38		

SURFACE WATER ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x 1	45	If an observed release is documented	4
If Observed Release scores 45 proceed to line 4 If Observed Release scores 0 proceed to line 2					
2 Route Characteristics					
Intervening Terrain / Facility Slope	0 0 0 0 3 0 1 1 2 3 0 1 2 2 3 0 2 2 3 3 0 2 3 3 3	x 1		Facil % / Interv %	
1-yr. 24 hr Rainfall	0 1 2 3	x 1		____in.	
Distance to Nearest Surface Water	0 1 2 3	x 2			
Physical State	0 1 2 3	x 1			
	Total Route Char. Score				
3 Containment	0 1 2 3	x 1			
4 Waste Characteristics					
Persistence / Toxicity	0 1 2 3 0: 0 0 0 0 1: 3 6 9 12 2: 6 9 12 15 3: 9 12 15 18	x 1	18	white lead dust	4, 13
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x 1	1	UNKNOWN	4
	Total Waste Char. Score		19		
5 Targets					
Surface Water Use	0 1 2 3	x 3	6	Recreational: Cuyahoga River	5, 12
Dist. to Sensitive Environment	0 1 2 3	x 2	0	> 1 mile	5, 7, 11
Population Served / Distance to Water Intake Downstream	0 0 0 0 0 0 4 6 8 10 0 8 12 16 20 0 12 18 24 30 0 16 24 32 35 0 20 30 35 40	x 1	0	> 1 mile No Target Population within 3 mile radius	5, 9, 11 8
	Total Targets Score		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			5130		
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} = 7.97				

AIR ROUTE

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Population within 4-mile Radius	Dist to Population Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x 1			
Toxicity	0 1 2 3	x 3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x 1			
	Total Waste Char. Score				
3 Targets	Dist to Population				
Population within 4-mile Radius	Pop. 0 0 0 0 9 12 15 18 12 15 18 21 15 18 21 24 18 21 24 27 21 24 27 30	x 1			
Distance to Sensitive Environment	0 1 2 3	x 2			
Land Use	0 1 2 3	x 1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

AIR ROUTE

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Release	0 45	x1			
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					
Reactivity & Incompatability	0 1 2 3	x1			
Toxicity	0 1 2 3	x3			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Population within 4-mile Radius	Dist to Population Pop. 0: 0 0 0 0 9: 12 15 18 12: 15 18 21 15: 18 21 24 18: 21 24 27 21: 24 27 30	x1			
Distance to Sensitive Environment	0 1 2 3	x2			
Land Use	0 1 2 3	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 35,100 and multiply by 100			S_a = 0		

Alleged waste site is currently buried under Cleveland Union Terminal's Railroad Tracks (see reference 11). Therefore, FIT feels that the possibility of an Air-Route is unlikely.

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

FIRE AND EXPLOSION

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

FIRE AND EXPLOSION

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Containment	1 3	x1			
2 Waste Characteristics					
Direct Evidence	0 3	x1			
Ignitability	0 1 2 3	x1			
Reactivity	0 1 2 3	x1			
Incompatability	0 1 2 3	x1			
Haz. Waste Quantity	0 1 2 3 4 5 6 7 8	x1			
	Total Waste Char. Score				
3 Targets					
Dist. to Nearest Pop.	0 1 2 3 4 5	x1			
Dist. to Nearest Bldg.	0 1 2 3	x1			
Dist. to Sensitive Env.	0 1 2 3	x1			
Land Use	0 1 2 3	x1			
Pop. Within 2 miles	0 1 2 3 4 5	x1			
Bldgs. Within 2 miles	0 1 2 3 4 5	x1			
	Total Targets Score				
4 Multiply 1 x 2 x 3					
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = 0		

Alleged waste site is currently buried under existing railroad tracks (see reference 11). Therefore, FIT does not foresee any potential for a fire or explosion.

DIRECT CONTACT

PRELIMINARY HRS SCORE WORKSHEET

(This score is based on existing file information that was obtained prior to the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	0 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	x1	3	Fencing does not cover site	4, 11
3 Containment	0 15	x1	0	UNKNOWN	4
4 Waste Characteristics					
Toxicity	0 1 2 3	x5	0	UNKNOWN	4
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 5	x4	20	population within 1 mile radius ≈ 21,000	10
Dist. to Crit. Habitat	0 1 2 3	x4	0	> 1 Mile	5
	Total Targets Score		20		
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			0		
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	0		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR SCREENING SITE INSPECTION (SSI)

(This score is based on the expected acquisition of information from the Screening Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	fencing does not cover site	4, 11
3 Containment	0 (15)	x1	15	Assume inadequate containers	4
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	White Lead dust	4, 13
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 (5)	x4	20	population within 1 mile radius ≃ 24,000	10
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	> 1 mile	5
	Total Targets Score		20		
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			13,500		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 62.5		

DIRECT CONTACT

PROJECTED HRS SCORE WORKSHEET FOR LISTING SITE INSPECTION (LSI)

(This score is based on the expected acquisition of information from the Listing Site Inspection.)

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Description	Ref. #
1 Observed Incident	(0) 45	x1	0	Alleged but not documented data	4
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	x1	3	fencing does not cover site	4,11
3 Containment	0 (15)	x1	15	Assume inadequate containers	4
4 Waste Characteristics					
Toxicity	0 1 2 (3)	x5	15	white Lead Dust	4,13
5 Targets					
Pop. Within 1 mile	0 1 2 3 4 (5)	x4	20	population within 1 mile radius ≈ 24,000	10
Dist. to Crit. Habitat	(0) 1 2 3	x4	0	> 1 mile	5
	Total Targets Score		20		
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			13,500		
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 62.5		

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
1	Climatic Atlas of the United States, U.S. Dept. of Commerce, National Climatic Center, Ashville N.C., 1979. Figures 4 and 5.
2	Davis S.N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media R.J.M. Dewest ed., Academic Press, New York, 1969
3	Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979
4.	U.S. Environmental Protection Agency Potential Hazardous Waste Site Preliminary Assessment for J.H. Morley and Company Cleveland, Ohio ID# OHD980613616 Prepared by Pam Wicks, 6-22-84.

recycled paper

REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
5.	U.S. Geological Survey, 1984 Cleveland South Quadrangle 7.5 min. Series (Topographic) 1:24,000.
6	Rainfall Frequency Atlas of the United States, 1963, Technical Paper 40, U.S. Dept. of Commerce, Wash. D.C.
7	EPA code of Federal Regulations 40 CFR Part 230, Appendix A, 1980.
8	Jefferies, Jim. Chief of water purification, Cleveland Water Works. (216) 664-3324. "100% of cleveland's drinking water is obtained from Lake Erie." Info. obtained 2-18-86 by Steve Wisbaum

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
9	Ohio Department of Natural Resources Division of Water, Cuyahoga County, Ohio. Well log and Drilling Report # 698451
10	Godwin, Jean. Research Department of the Greater Cleveland Growth Association. (216) 621-3300 "23,707 people in 1 mile radius" Info. obtained 2-18-86 by Steve Wisbaum.
11	Cleveland Cityhall, Survey and Platts Dept. (216) 664-2000. "In 1901 site existed at the corner of Canal and Champlan Streets ... However, Champlan Street no longer exists, but an 1998 map indicates intersection is currently buried beneath railroad tracks." These tracks are owned by the Cleveland Union Terminal Company. 1-2-90

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
12	Ohio Dept. of Natural Resources
	Division of watercraft
	Fountain Square C-2.
	Columbus Ohio 43224
	Phone (614) 265-6480
13	Sax, Irving. Dangerous Problems
	of Industrial Materials. 6th Ed.,
	1984