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ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Clinton-Bailey | Site No. 915126

City of Buffalo | Erie County

Date: January 1986

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233

Henry G. Williams, *Commissioner*

Division of Solid and Hazardous Waste

Norman H. Nosenchuck, P.E., *Director*

By:

ENGINEERING-SCIENCE

In Association With

DAMES & MOORE

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

CLINTON-BAILEY

NYS SITE NUMBER 915126

CITY OF BUFFALO

ERIE COUNTY

NEW YORK STATE

Prepared For

DIVISION OF SOLID AND HAZARDOUS WASTE
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK 12233-0001

Prepared By

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DATE OF SUBMITTAL: OCTOBER, 1985

CLINTON-BAILEY

TABLE OF CONTENTS

SECTION I

EXECUTIVE SUMMARY

CLINTON-BAILEY

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the preliminary results of the Phase I investigation for the Clinton-Bailey site (NYS Number 915126, no EPA number given) located in the City of Buffalo, Erie County, New York State (see Figure I-1).

SITE BACKGROUND

The Clinton-Bailey site is an open, 11-acre lot, southwest of the intersection of Clinton Street and Bailey Avenue. The site is divided by ownership into 2 parcels; Sen-wel Industries owns the western parcel and Norfolk Southern Corporation owns the eastern parcel (see Figure I-2).

The site has been used as a repository for a large quantity of fill material and 25 to 30 drums, 10 of which contain scrap metal and the rest are empty. The site has been plagued by scavenger dumping in the past. Wastes disposed on-site include miscellaneous refuse and wastes from steel fabricating processes (i.e., slag and foundary sands). Soil and groundwater analyses indicated the presence of arsenic, iron, lead, and mercury in the two media. HNu measurements indicate the levels of volatile organics at the site to be below 1 ppm.

ASSESSMENT

In an attempt to quantify the risk associated with this site, the Hazard Ranking Scoring system (HRS) was applied as currently being used by the New York State DEC to evaluate abandoned hazardous waste sites in New York State. This system takes into account the types of wastes at the site, receptors, and transport routes to apply a numerical ranking of the site. As stated in 40 CFR Subpart H Section 300.81, the HRS scoring system was developed to be used in evaluating the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems or ecological or environmental damage. It is assumed by the EPA that a uniform application of the ranking system in each state will permit EPA to identify those releases of hazardous substances that pose the greatest hazard to humans or the environment.

Under the HRS, three numerical scores are computed for each site, to express the relative risk or danger from the site, taking into account the population at risk, the potential for contamination of drinking water supplies, for direct human contact, and for destruction of sensitive ecological systems and other appropriate factors. The three scores are:

- S_M reflects the potential for harm to humans or the environment from migration of a hazardous substance away from the facility by routes involving groundwater, surface water or air. It is a composite of separate scores for each of the three routes (S_{GW} = groundwater route score, S_{SW} = surface water route score, and S_A = air route score).

- S_{FE} reflects the potential for harm from substances that can explode or cause fires.

- S_{DC} reflects the potential for harm from direct contact with hazardous substances at the facility (i.e., no migration need be involved).

The preliminary HRS score was:

S_M	=	3.23	S_A	=	0
S_{GW}	=	4.18	S_{FE}	=	0
S_{SW}	=	3.72	S_{DC}	=	62.5

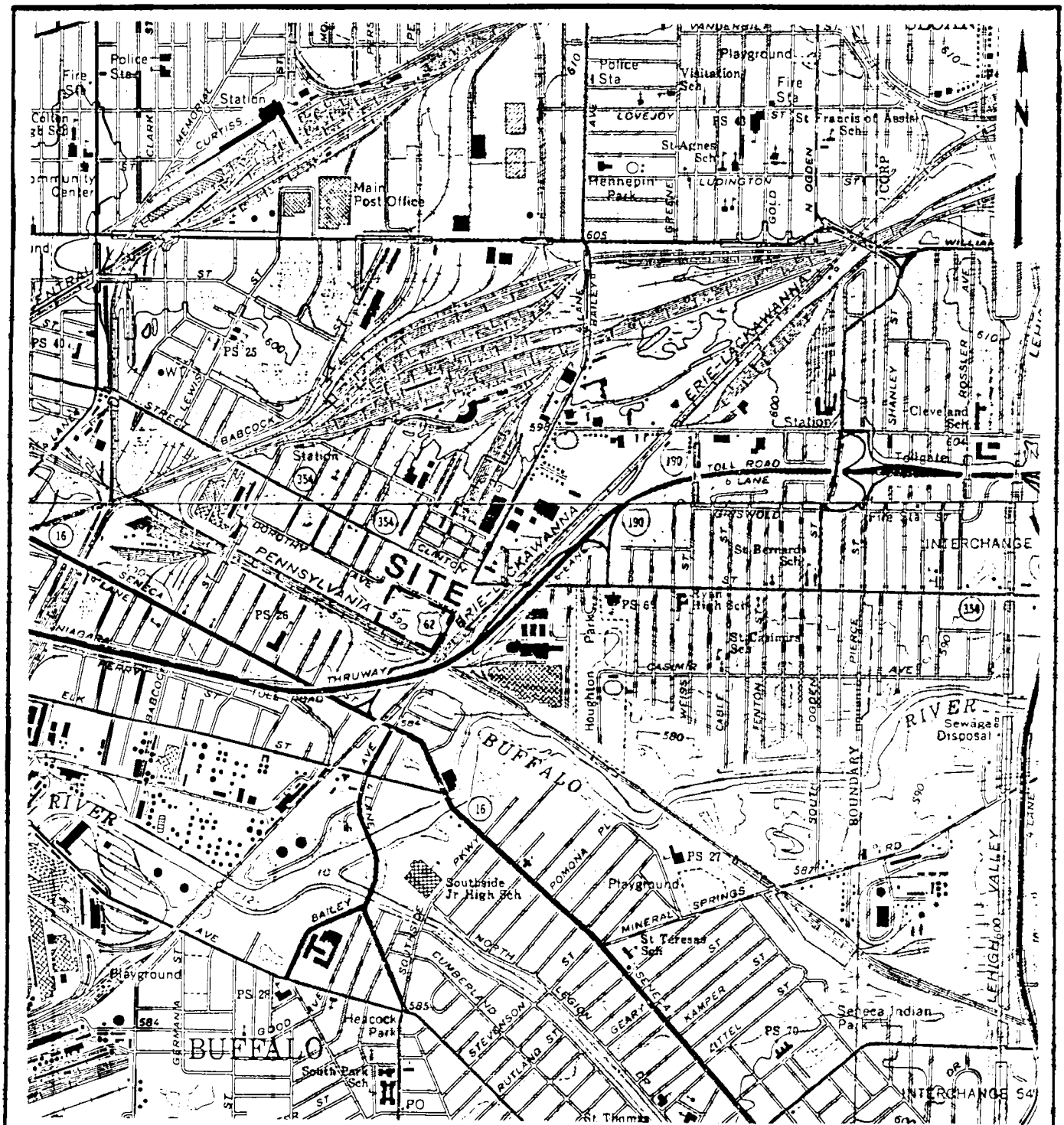
The groundwater score reflects the shallow water table in the sandy site soil. The waste types are highly toxic and persistent. The direct contact score indicates unrestricted access of the public to the waste materials.

RECOMMENDATIONS

The following recommendations are made for the completion of Phase II:

- Geophysical study consisting of electrical resistivity and magnetic surveys.
- A groundwater monitoring system consisting of two upgradient and four downgradient monitoring wells.
- A surface water and sediment monitoring system consisting of three monitoring stations.
- Sample analyses to include priority pollutants.

The estimated man-hour requirement to complete Phase II 917, while the estimated cost is $66,187.



LATITUDE: 42°52'72"
LONGITUDE: 78°49'09"

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map Buffalo SE, NY (1965) and Buffalo NE, NY (1965) Quadrangles

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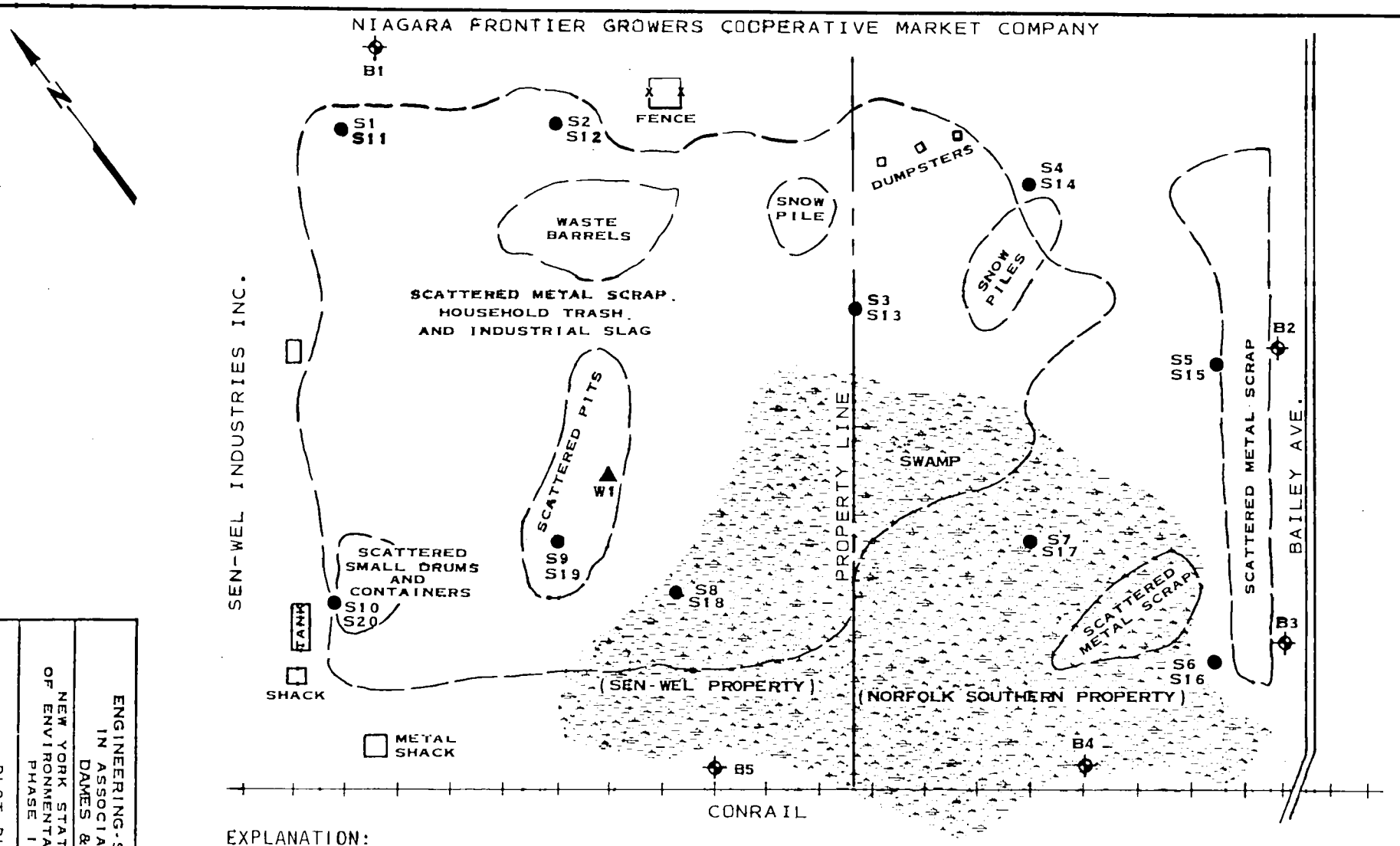
SITE LOCATION MAP
CLINTON BAILEY

FIGURE I-1



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PHASE I REPORT

PLOT PLAN
CLINTON-BAILEY

FIGURE I-2

DEC - 847-4585

Documents Sign-Out Form

The following documents are being given to you for purposes of reproduction:

Phase I Investigation
Clinton - Bailey (915126)

Please return the documents to this office by March 18, 1988.
If there are any problems, please contact this office at 847-4585.

DEC Representative John Tygert Date 3/8/88

I have received the above documents, and I agree to return them promptly.

Signature Peter S. Morton

Firm NUS Corp.

Telephone No. (201) 225-6160

Attn: John Tygert
600 Delaware Ave
Buffalo 14202

Return of Documents

Material Returned:

Date Returned _____

DEC Representative _____

SECTION II

PURPOSE

The purpose of the Phase I investigation at the Clinton-Bailey site was to assess the hazard to the environment caused by the present condition of the site. This assessment is based on the Hazard Ranking System, which involves the compilation and rating of numerous geological, toxicological, environmental, chemical, and demographic factors and the calculation of an HRS score. Details of HRS implementation are included in Section V. During the initial portion of the investigation, all available data and records, combined with information collected from a site inspection, were reviewed and evaluated. The investigation at this site focused on the presence of 25 to 30 drums and large amounts of fill material (foundry sands and construction debris) at the site. Based on this initial evaluation of the Clinton-Bailey site, a Phase II Work Plan has been prepared for collecting any additional data needed to complete the HRS score. In addition, a cost estimate for the recommended Phase II work is provided.

SECTION III

SCOPE OF WORK

The scope of work for the New York State Inactive Site Investigation Program (Phase I) was to collect and review all available information necessary for the documentation and preparation of a Hazard Ranking System score and a Phase II work plan and cost estimate if required. The work activities performed included data collection and review, a site inspection, and interviews with knowledgeable individuals of past and present disposal activities at the site.

The sources contacted during this Phase I investigation included government agencies (federal, state and local), present site owners and operators, and any other individuals that may have knowledge of the site, as identified during the performance of the investigation. These sources are listed in Appendix A. The intent of the list is to identify all persons, departments, and/or agencies contacted during the third round of the Phase I investigations even though useful information may not have been collected from each source contacted.

SECTION IV

SITE ASSESSMENT

SITE HISTORY

From the late 1800's to the 1920's the Clinton-Bailey site was used as a clay quarry and brickyard, and coal-fired kilns were present on-site. Filling activities are known to have taken place in 1927 (E&E, 1984). According to local hearsay, the site was used as a dump by the City of Buffalo during this time (Hayhurst, 1985). Between 1927 and 1956, scavenger dumping occurred on-site including the disposal of wastes from steel fabricating processes (i.e., slag, foundary sands) (E&E, 1984).

In 1956, the property was purchased by Erie Land and Improvement Company and in 1980, the property was divided between Sen-Wel Industries (western 5.5 acres) and the Norfolk Southern Corporation (eastern 5.5 acres). In 1983, the Niagara Frontier Transportation Authority (NFTA) retained a consultant to assess the environmental impact of past waste disposal practices at the site, since the site was under consideration for the construction of an NFTA bus garage (E&E, 1984). Based on the results of this study, NFTA decided not to obtain the property. The site is currently a vacant lot.

SITE TOPOGRAPHY

The Clinton-Bailey site is located in the southern part of the City of Buffalo, Erie County, New York State (see Figure IV-1). The ground surface is irregular due to past dumping practices, but originally was a low-lying swampy area.

The northern portion of this rectangular 11 acre site contains assorted types of hard fill as well as a small amount of decaying materials and occasional barrels above ground. The southern part of the site is largely swamp area, draining to the south and flowing into the Buffalo River, 0.2 miles south of the site.

To the north of the site is the Niagara Frontier Growers Cooperative Market Company, which provides open booths for farm produce marketing. To the east of the site is Bailey Avenue. To the south of the site is property owned by Sen-Wel Industries.

Local Sensitive Environments

There are no nearby freshwater wetlands designated as such by New York State or critical habitats for endangered species.

SITE HYDROLOGY

This summary of site hydrogeology is based on information from USGS topographic maps, NYS Museum and Science Service Bedrock Geology Map and Quaternary Geology Map, LaSala (1968), and Ecology and Environment International (3/30/84).

Regional Geology and Hydrology

The site is located in the Erie-Ontario lowlands physiographic province. The bedrock of this region is predominantly limestone, dolostone, and shale. Most of the rocks are deep aquifers with regional flow to the south.

In the recent past, most of New York State, including the site, has been repeatedly covered by a series of continental ice sheets. The activity of the glacier widened pre-existing valleys, and deposited widespread accumulations of till. The melting of ice, ending approximately 12,000 years ago, produced large volumes of meltwater; this water subsequently shaped channels and deposited thick accumulations of stratified, granular sediments.

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margin. The Erie County region is covered by lake sediments, the most recent being from Lake Warren (a larger predecessor to Lake Ontario and Lake Erie). The sediments consist of blanket sands and beach ridges which are occasionally underlain by lacustrine silts and clays (indicating quiet or deeper water deposition).

Granular deposits in this region frequently act as shallow aquifers, whereas lacustrine clays, as well as tills, often inhibit ground water movement. However, fine-grained, water-lain sediments, such as silts and clays, frequently contain horizontal laminations and sand seams. These internal features facilitate lateral ground water movement through otherwise low permeability materials.

Site Hydrogeology

Bedrock is expected to be Onondaga Limestone and to occur at depths varying from 20' to 30'. Several industrial wells of the Donna Hanna Coke Company withdrew groundwater from this unit, typically at a rate of 35,000 gpd until the firm ceased operations in 1983. The water was high in H_2S and other chemicals as follows:

Parameter	Quantity
Sulfate	104 ppm
Chloride	334 ppm
Ca/Mg Hardness	338 ppm
Specific Conductance	1,750 umhos
pH	7.2

Soil stratigraphy, as indicated on the E&E boring logs (1984) and on boring logs from other nearby Phase I sites is as follows:

Unit	Depth Range (ft)
Fill and/or sandy soil	0 - 10
Very soft red and grey silty clay	10 - 30
Top of bedrock	30

A perched aquifer is located within the fill/sandy soil unit, on top of the clay. Water table measurements show a level varying from 4.5' to 10' below ground surface. Flow direction is unknown. For HRS scoring, the permeability of the sandy soil has been assumed to be 10^{-3} cm/sec to 10^{-1} cm/sec.

SITE CONTAMINATION

Because dumping and fill operations occurred prior to accurate recordkeeping, the amount of material disposed at the site can not accurately be determined. A site investigation conducted by Ecology and Environment International (E&E) (3/30/84) indicated the presence of scattered drums and small containers, metal scrap, household trash, and industrial slag. Samples taken by E&E showed the presence of iron, lead, mercury, and arsenic in ground water and soil[1]; and arsenic, iron, and lead in standing surface water. Figure IV-2 shows the location of ground water and soil samples. Table IV-1 presents analytical results for groundwater and surface water and Tables IV-2 and IV-3 present the results for surface and subsurface (2-foot depth) soil, respectively.

---

[1] Soil samples were taken both at the surface and at a depth of 2 feet.

In addition to conducting environmental sampling, E&E also took samples from selected drums at the site. Only four samples (three composites and one grab) were taken and the results showed the presence of toluene, trichloroethane and/or cyanide in drum contents (E&E, 1985). These drums had been removed prior to the ES and D&M site inspection in March, 1985.

HNu meter readings were taken during the site inspection conducted by ES and D&M on March 18, 1985. All measurements were below 1 ppm.

TABLE IV-1

ANALYTICAL RESULTS FOR WATER SAMPLES AT CLINTON-BAILEY SITE
(All results in parts per billion)

Parameter	Sample Number B-4	B-3	W1 (Surface Water)
Total Halogenated Organics (as Lindane)	0.10	0.14	0.039
Arsenic	715	111	21.8
Iron	41.3	168	887
Lead	51.5	91.9	63.2
Mercury	2.48	3.00	< 0.40

SOURCE: Ecology and Environment, 1984.

< = None detected at the standard detection limits.

TABLE IV-2

RESULTS OF SURFACE SOIL SAMPLING AT CLINTON-BAILEY SITE

Sample Number	Total Halogenated Organics (as Lindane) (mg/kg)	Arsenic (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
S-1	0.31	7.21	10,300	495	0.568
S-2	1.04	9.32	28,600	495	0.338
S-3	0.19	0.89	9,120	427	0.435
S-4	0.25	12.0	11,400	904	0.964
S-5	0.48	13.4	15,500	14,800	1.37
S-6	0.04	16.2	9,250	529	0.179
S-7	1.94	14.3	15,800	16,400	0.890
S-8	0.49	6.45	28,500	1,250	0.431
S-9	0.36	9.64	26,300	11,700	2.58
S-10	0.07	7.21	40,400	11,900	0.120

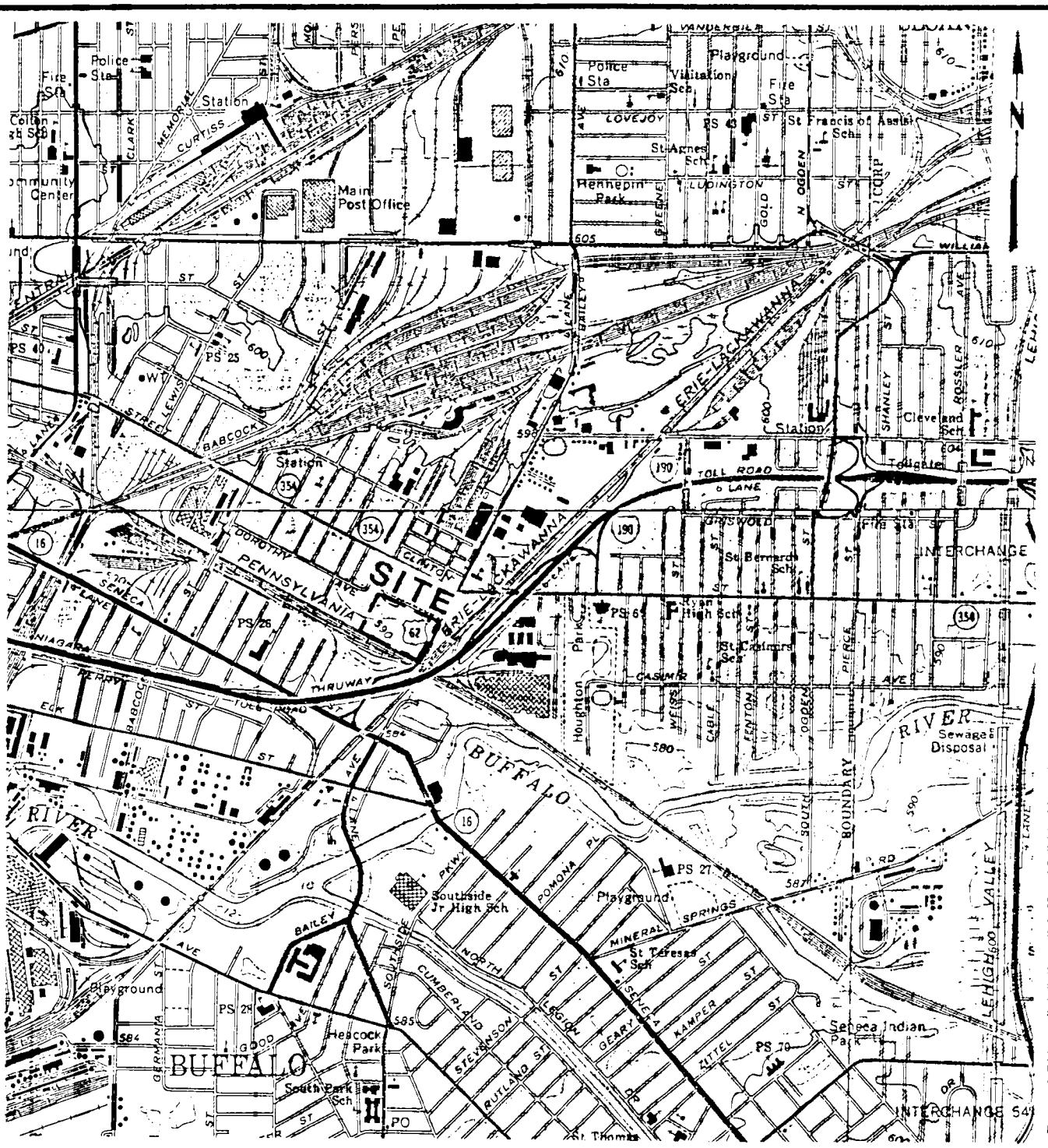
SOURCE: Ecology and Environment, 1984

TABLE IV-3

RESULTS OF SUBSURFACE SOIL SAMPLING AT CLINTON-BAILEY SITE

Sample Number	Total Halogenated Organics (as Lindane) (mg/kg)	Arsenic (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
S-11	0.36	11.1	15,500	541	0.661
S-12	0.32	11.3	7,600	1,550	1.02
S-13	0.94	11.9	38,600	23,500	1.30
S-14	0.49	19.5	16,300	1,220	0.787
S-15	0.16	15.3	13,800	813	2.25
S-16	0.71	14.6	13,000	0.72	0.816
S-17	2.24	14.2	12,700	8.81	0.917
S-18	0.21	13.4	24,700	11.3	1.06
S-19	0.75	8.72	41,300	13.1	1.07
S-20	0.36	1.96	72,800	24.9	0.315
B-4-A	0.16	14.3	20,600	15.1	<0.080
B-2	0.19	7.84	9,910	4.80	<0.080
B-5A	0.06	7.70	15,800	10.4	<0.080
B-3-A	0.26	15.4	19,400	136	<0.080
B-1	0.18	7.10	17,200	10.3	<0.080

SOURCE: Ecology and Environment, 1984



SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map Buffalo SE, NY (1965) and Buffalo NE, NY (1965) Quadrangles

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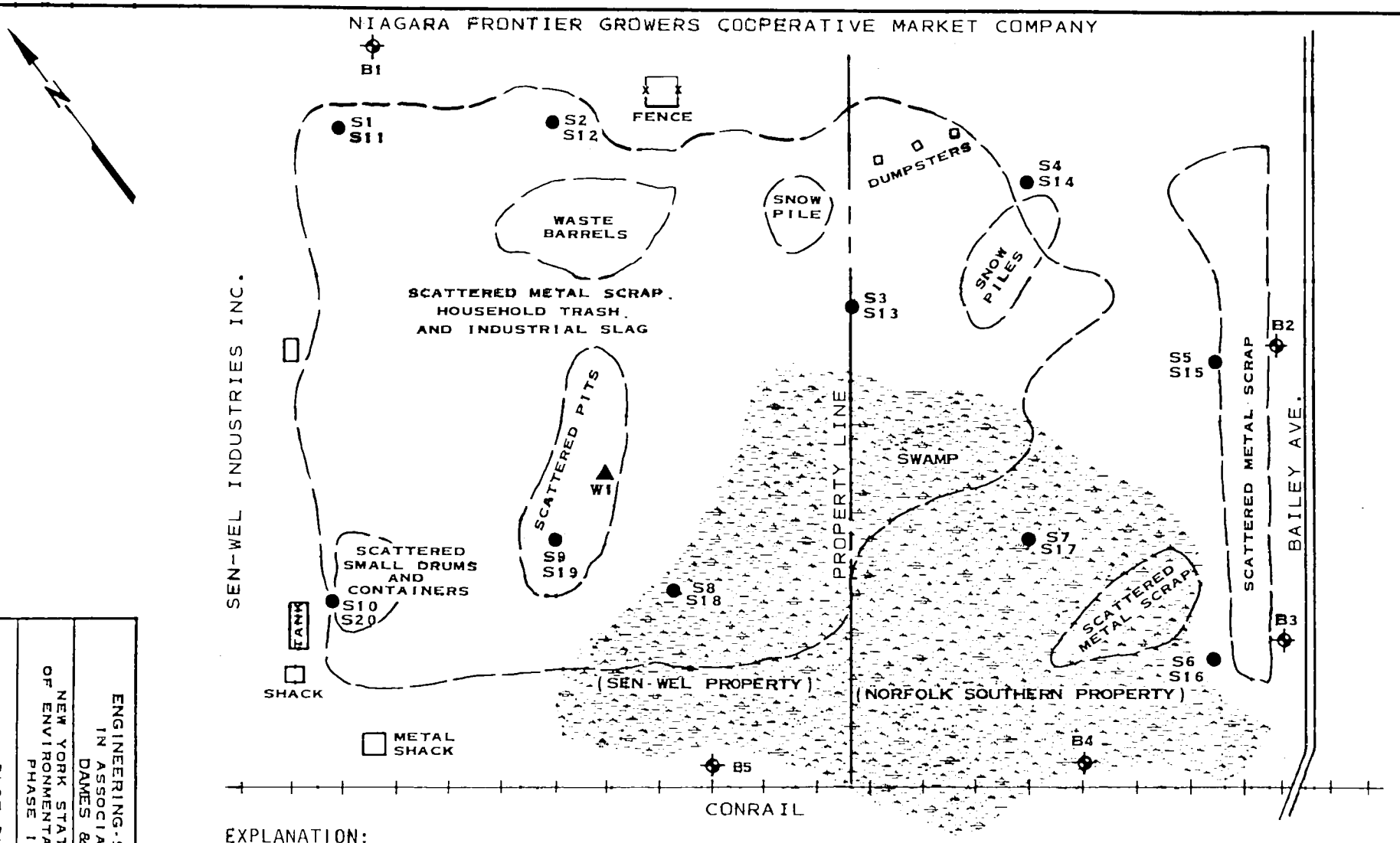
SITE LOCATION MAP
CLINTON BAILEY

FIGURE IV-1



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PLOT PLAN
CLINTON-BAILEY

FIGURE IV-2

SECTION V

PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

NARRATIVE SUMMARY

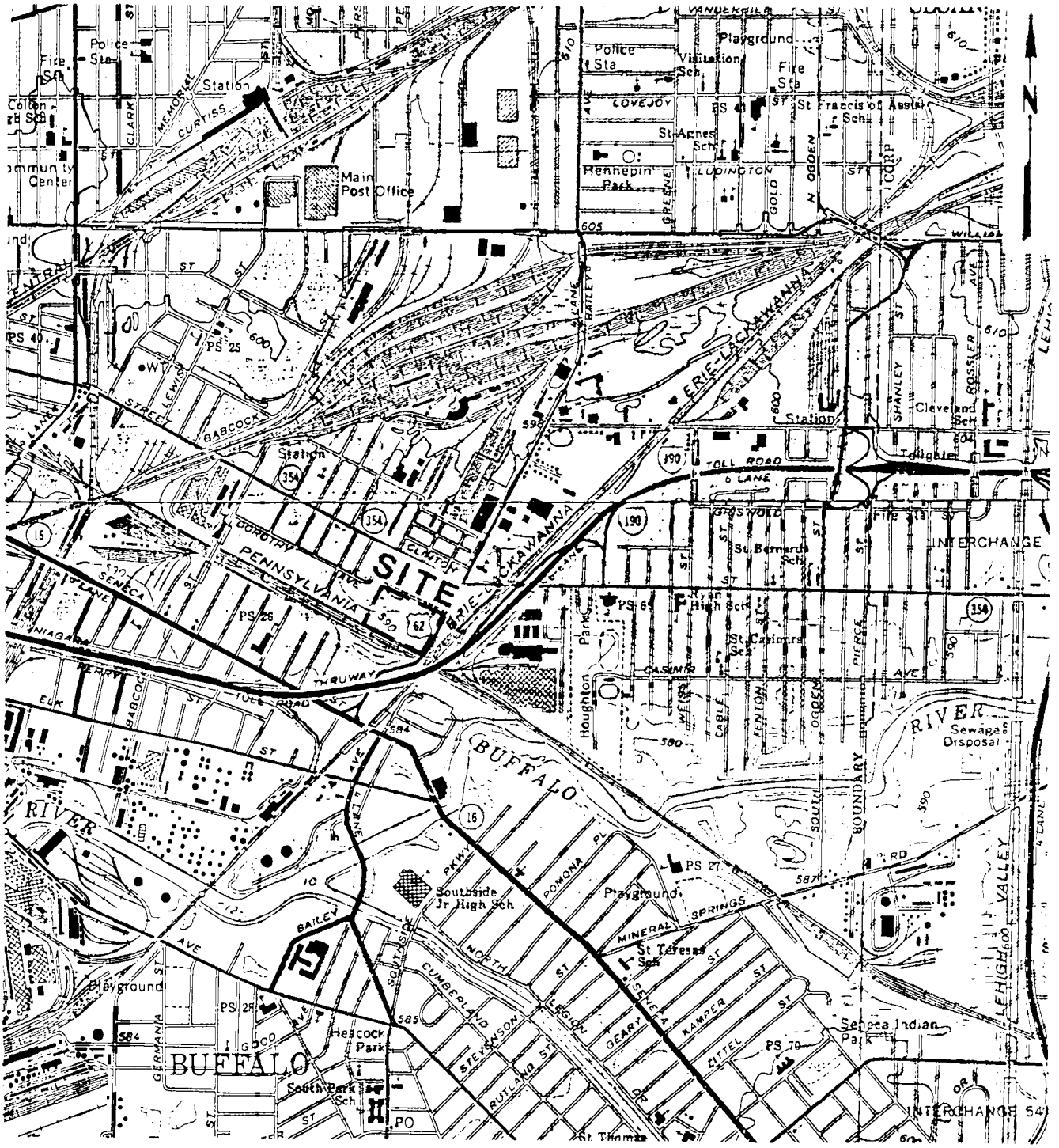
The 11-acre Clinton-Bailey site is located in Buffalo, Erie County, New York. The site is split into an eastern and western parcel, owned by Sen-Wel Industries and the Norfolk Southern Corporation, respectively. The site has been used as a clay quarry and brickyard, and filling activities (foundry sands, construction debris, etc.) are known to have taken place in 1927 (E&E, 1984). The site is currently a vacant lot.

Soil (surface and subsurface) and ground water samples taken in 1983 indicate the presence of arsenic, iron, lead, and mercury in those two media (E&E, 3/30/84). These sampling locations are shown in Figure I-2. HNu meter readings taken at the site were all less than 1 ppm. The sampling locations on-site are depicted in Figure V-2.

Standing water was observed on the site, which is located in a historically swampy area. A perched aquifer is located within the fill material and sandy soil, and water table measurements show levels ranging from 4.5' to 10' below ground surface. There are no nearby wetlands or critical habitats for endangered species.

To date, there are no known health problems associated with the site. No cleanup action has been taken, other than the removal of drums following E&E's 1984 report.

LOCATION



LATITUDE: 42°52'72"
LONGITUDE: 78°49'09"

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map Buffalo SE, NY (1965) and Buffalo NE, NY (1965) Quadrangles

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OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CLINTON BAILEY

FIGURE ii-1

Facility Name: Clinton-Bailey

Location: Clinton St. and Bailey Ave, Buffalo, NY

EPA Region: II

Person(s) in charge of the facility:

Name of Reviewer: S. J. Tiffany Date: 4/10/85

General Description of the facility:

This 11-acre site was used as a dumping ground for rubble, slag, and cinder-like material. Additionally, 25 to 30 drums were disposed on-site. A 1984 study determined presence of heavy metals in the groundwater and soil.

Scores: $S_M = 3.23$ ($S_{gw} = 4.18$ $S_{sw} = 3.72$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 62.5$

Facility Name: Clinton - Bailey Date: 4/10/85

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	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	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			14	15	
3 Containment	0 1 2 (3)	1	3	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	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1		40	
Total Targets Score			3	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			2394	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 4.18		

GROUND WATER ROUTE WORK SHEET

Facility Name: CLINTON-BAILEY Date: 4/10/85

Surface Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	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	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	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			14	15	
3 Containment	0 1 2 (3)	1	3	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	3	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/ Distance to Water	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			3	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			2394	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 3.72		

SURFACE WATER ROUTE WORK SHEET

Facility Name: CLINTON-BAILEY Date: 4/10/85

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: 3/18/85, upwind and downwind meter readings					
Sampling Protocol: HNU meter survey					
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	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		

AIR ROUTE WORK SHEET

Facility Name: Clinton - Bailey Date: 4/10/85

Worksheet for Computing S_M

	S	S^2
Groundwater Route Score (S_{gw})	4.18	17.47
Surface Water Route Score (S_{sw})	3.72	13.84
Air Route Score (S_a)	0.0	
$S_{gw}^2 + S_{sw}^2 + S_a^2$		31.31
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		5.60
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		3.23

WORK SHEET FOR COMPUTING S_M

Facility Name: CLINTON-BAILEY Date: 4/10/85

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1	0	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} = 0		

FIRE AND EXPLOSION WORK SHEET

Facility Name: Clinton - Bailey Date: 4/10/85

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	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		8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			20	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			13500	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 62.5		

DIRECT CONTACT WORK SHEET

HRS
DOCUMENTATION
RECORDS

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: Clinton-Bailey

LOCATION: Corner of Clinton St. and Bailey Ave., Buffalo, Erie County, New York

GROUNDWATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

Mercury, lead, iron, arsenic, THO as lindane. Due to the groundwater monitoring methods used to collect this information and the absence of an upgradient well, the data will not be used in this HRS score.
(Ecology & Environment International Draft Report, 3/30/84)

Rationale for attributing the contaminants to the facility:

Analyses collected from on-site monitoring wells (E&E Draft Report, 3/30/84). However, there are no upgradient wells and therefore, an observed release can not be scored.

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) in concern:

1. Shallow aquifer, probably perched.
2. Bedrock aquifer in limestone.
(E&E boring logs, 4/84)

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

$\leq$ 4.5' (E&E boring logs, 4/84).

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

Unknown.

Net Precipitation

U.S. Dept. of Commerce, National Climatic Center, 1979, (Climatic Atlas of the United States)

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

Mean annual precipitation is 36".

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

Mean annual lake evaporation is 26-28"

Net precipitation (subtract the above figures):

8-10" (36" - 28" = 8"; 36" - 26" = 10").

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Fill and/or sandy soil (E&E Boring Logs, 4/84).

Permeability associated with soil type

10^{-3} to 10^{-1} cm/sec (Freeze, R.A., and J.A. Cherry, Groundwater, 1979).

Physical State

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

Metal scrap, household trash and industrial slag - solid.
Leaking drums containing toluene and trichloroethane - liquid.
(Ecology and Environment International, 3/30/84).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

No liner and no run-on control.

Method with highest socre:

Unlined landfill - 3.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Toluene
1,1,1-trichloroethane
Cyanide
Lead
Arsenic
Mercury
THO as Lindane
(E&E Report, 3/30/84)

Compound with highest score:

Lead (toxicity 3, persistence 3) - 18 (Sax, N.J., 1979 5th Edition).

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):

Unknown, large amount of fill spread over site (NYSDEC Registry Sheet, 12/83).

Basis of estimating and/or computing waste quantity:

Hazardous constituents are present in the soil and groundwater at the site; however, the quantity of waste disposed on-site is unknown (NYSDEC Registry /sheet, 12/83 and E&E Report, 1984). Therefore, for purposes of rating the site, 1 to 10 cubic yards of hazardous waste are assumed to be disposed on-site.

5. TARGETS

Ground Water Use

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

Public water supply in use within 3 mile radius of site; no private drinking water wells (Violanti, 1985).

Distance to Nearest Well

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

Not applicable.

Distance to above well or building:

Not applicable.

Population Serviced by Groundwater 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:

None within 3 miles (Violanti, 1985).

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 (Violanti, 1985).

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

None (Violanti, 1985).

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

Arsenic, lead, iron, mercury, THO (as lindane) were detected during the E&E Study (1984), however, no upgradient surface water station was sampled on-site to establish background concentrations of contaminants.

Rationale for attributing the contaminants to the facility:

The analysis was performed on a composite surface water sample collected from the standing water in the scattered pits on the site (E&E Report, 1984).

2. ROUTE CHARACTERISTICS

(USGS Topographic Map: Buffalo SE, NY Quadrangle, 1965)

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0.0%

Name/description of nearest downslope surface water:

Buffalo River.

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

0.0%

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

Yes, the southern portion of the site is a low lying marshy area with standing water observed in March of 1985.

Is the facility completely surrounded by areas of higher elevation?

No.

1-Year 24-Hour Rainfall in Inches

2.1" (U.S. Department of Commerce National Climatic Center, 1979, Climatic Atlas of the United States).

Distance to Nearest Downslope Surface Water

Marsh adjacent to site leads to Buffalo River 0.2 miles downstream of site.

Physical State of Waste

Metal scrap, household trash, and industrial slag - solid.
Liquid drums containing toluene and trichloroethane - liquid.
(Ecology and Environment International, 3/30/84).

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill not covered and no diversion system.

Method with highest score:

Landfill not covered and no diversion system.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Toluene
1,1,1-trichloroethane
Cyanide
Lead
Arsenic
Mercury
THO as Lindane
(E&E Report, 3/30/84)

Compound with highest score:

Lead (toxicity = 3, persistence = 3) -18 (Sax, N.I., 1979, 5th Edition)

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):

Unknown, large amount of fill spread over site (NYSDEC Registry Sheet, 12/83).

Basis of estimating and/or computing waste quantity:

Hazardous constituents are present in the soil and groundwater at the site; however, the quantity of waste disposed on-site is unknown (NYSDEC Registry Sheet, 12/83 and E&E Report, 1984). Therefore, for purposes of rating the site, 1 to 10 cubic yards of hazardous waste are assumed to be disposed on-site.

* * *

5. TARGETS

Surface Water Use

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

Industrial and commercial shipping (Violanti, 1985).

Is there tidal influence?

No.

Distance to a Sensitive Environment

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

None within 2 miles (western NYS not a coastal area).

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

None within 1 mile (Sneider and Wilkinson, 1985).

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

None within 1 mile (Sneider and Wilkinson, 1985).

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:

None within 3 miles (NYS Atlas of Community Water System Sources, 1982).

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

Not applicable.

Total population served:

Not applicable.

Name/description of nearest of above water bodies:

Not applicable.

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

Not applicable.

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

None.

Date and location of detection of contaminants:

ES/D&M site visit 3/18/85.

Methods used to detect the contaminants:

HNU meter readings were taken and all readings were less than 1 ppm, indicating no air releases

Rationale for attributing the contaminants to the site:

Not applicable.

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

No reactive compounds are known to be disposed on-site.

Most incompatible pair of compounds:

No incompatible compounds are known to be disposed on-site.

Toxicity

Most toxic compound:

Drums containing toluene and trichloroethane were previously found on-site. Total halogenated organics were detected in low concentrations in soil and water samples collected on-site. HNU meter readings did not detect volatile organics on-site (ES and D&M Site Inspection, 3/18/85). Therefore, no toxic compounds are documented to be on-site that could impact the air pathway.

Hazardous Waste Quantity

Total quantity of hazardous waste:

Unknown. Hazardous constituents have been detected in the soil and groundwater at the site. The quantity of hazardous waste disposed on-site is unknown (NYSDEC Registry Sheet, 12/83).

Basis of estimating and/or computing waste quantity:

The hazardous constituents detected on-site in soil and water samples were not found to impact the air pathway as indicated by the HNU meter survey. Therefore, no hazardous wastes can be attributed to the site for the air pathway.

* * *

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

262,399 people (Compiled from 1980 US Census Data)

Distance to a Sensitive Environment

(USGS Topographic Map: Buffalo, NY-NE, Buffalo, NY-SE Quadrangles, 1965)

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

None within 2 miles (western NYS not a coastal area).

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

None within 1 mile (Sneider and Wilkinson, 1985).

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

None within 1 mile (Sneider and Wilkinson, 1985).

Land Use

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

Approximately 0.1 mile (ES and D&M Site Inspection, 3/18/85).

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

None within 2 miles (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

Distance to residential area, if 2 miles or less:

Approximately 0.05 miles north of Clinton Street (ES and D&M Site Inspection, 3/18/85).

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

None within 1 mile (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

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

None within 2 miles (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

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

No.

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

No information was discovered during the Phase I study which indicates that a fire and explosion situation existed or presently exists at the site.

Type of containment, if applicable:

Not applicable, see above comment.

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

No measurements to determine the fire and explosion potential were taken on-site.

Ignitability

Compound used:

No ignitable compounds are known to exist on-site.

Reactivity

Most reactive compound:

No reactive compounds are known to exist on-site.

Incompatibility

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Hazardous waste constituents are present in the soil and groundwater at the site; however, the quantity of waste disposed on-site is unknown (NYSDEC Registry Sheet, 12/83 and E&E Report, 1984).

Basis of estimating and/or computing waste quantity:

Drums were sampled on-site by E&E during the 1984 study. Toluene and trichloroethane were found on-site. It is suspected that these drums were leaking as indicated by the results. However, the drums have been removed and there is no documentation which indicates that a potential threat of a fire and explosion hazard exists on-site.

* * *

3. TARGETS

Distance to Nearest Population

0.1 mile. Site is located in a commercial/industrial area (ES and D&M Site Inspection, 3/18/85).

Distance to Nearest Building

Approximately 200 feet from site (ES and D&M Site Inspection, 3/18/85).

Distance to Sensitive Environment

Distance to wetlands:

None within 1 mile of the site (NYSDEC, Region 9, Department of Fish and Wildlife, 1985).

Distance to critical habitat:

None within 1 mile (NYSDEC, Region 9, Department of Fish and Wildlife, 1985).

Land Use

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

Approximately 0.1 mile (ES and D&M Site Inspection, 3/18/85).

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

More than 2 miles (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

Distance to residential area, if 2 miles or less:

Approximately 0.05 mile north of Clinton Street (ES and D&M Site Inspection, 3/18/85).

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

More than 1 mile (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

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

More than 2 miles (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

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

No.

Population with 2-Mile Radius

69,083 people (US Census Data, 1980).

Buildings Within 2-Mile Radius

18,180 buildings (USGS Topographic Map: Buffalo NE and Buffalo SE Quadrangles, 1965).

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

There is no confirmed instance in which contact with hazardous substances at this site has caused injury, illness or death to humans or domestic or wild animals.

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the facility (ES and D&M Site Inspection, 3/18/85).

* * *

3. CONTAINMENT

Type of containment, if applicable:

There is no cover system on-site to prevent the contaminanted soil from being accessible to direct contact (ES and D&M Site Inspection, 3/18./85).

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Toluene, cyanide, arsenic, 1,1,1-trichloroethane, lead, and mercury.

Compound with highest score:

Heavy metals (toxicity = 3).

5. TARGETS

Population within one-mile radius

12,868 people (US Census Data, 1980).

Distance to critical habitat (of endangered species)

None within 1 mile (NYSDEC Region 9, Division of Fish and Wildlife, 1985).

LATITUDE: 42°52'72"
LONGITUDE: 78°49'09"

SCALE

0 1000 2000 3000 4000 FEET

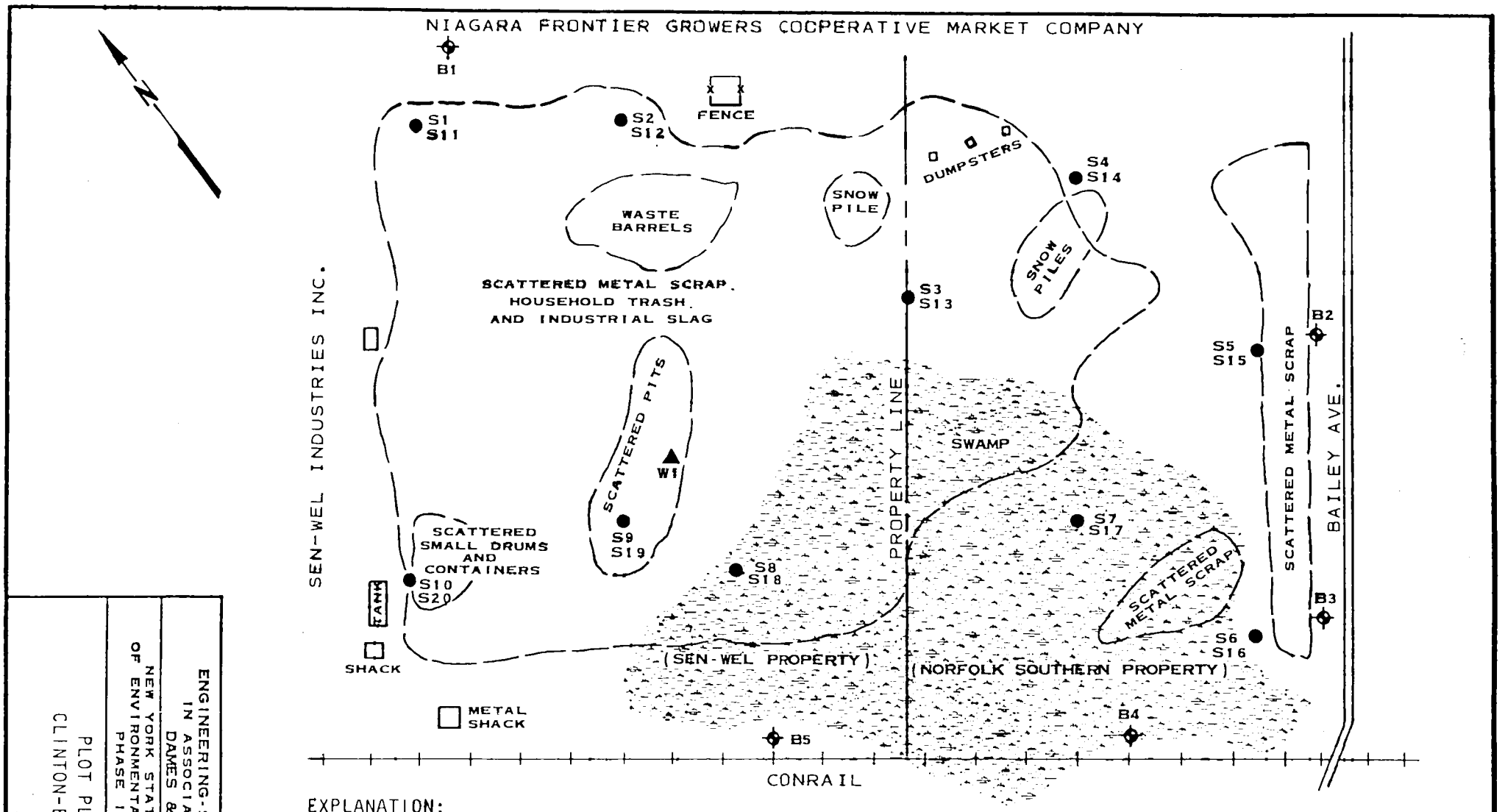
REFERENCE: U.S.G.S. 7.5' Topographic Map Buffalo SE, NY (1965) and Buffalo NE, NY (1965) Quadrangles

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CLINTON BAILEY

FIGURE iv-1



ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

PLOT PLAN
CLINTON-BAILEY

FIGURE iv-2

HRS REFERENCES

1. Code of Federal Regulations, Protection of Environment, No. 40, Parts 190 to 399, 1983.

2. ES and D&M Site Inspection, March/April, 1985.

3. Freeze, R. A., and Cherry, J. A., Groundwater, 1985.

4. LaSala, Groundwater Resources of the Erie-Niagara Basin, New York, 1968.

5. NYS Atlas of Community Water System Sources, NYS Department of Health, 1982.

6. NYSDEC, Inactive Hazardous Waste Disposal Sites, Registry Sheet, 12/83.

7. NYS Museum and Science Service Bedrock Geology Map, Map and Chart Series, No. 15 (compiled by Rickard, L. V., and Fisher, D. W.).

8. NYS Museum and Science Service Bedrock Geology Map, Map and Chart Series, No. 28 (compiled by Muller, Ernest, H.), 1977.

9. Sax, Irving, N., Dangerous Properties of Industrial Materials, Fifth Edition.

10. Sneider, Jim and Wilkinson, Mike, NYSDEC Division of Fish and Wildlife, Personal Communication, 1/10/85 through 1/11/85.

11. US Census Data, 1980.

12. US Department of Commerce. "Climatic Atlas of the United States". 1979.

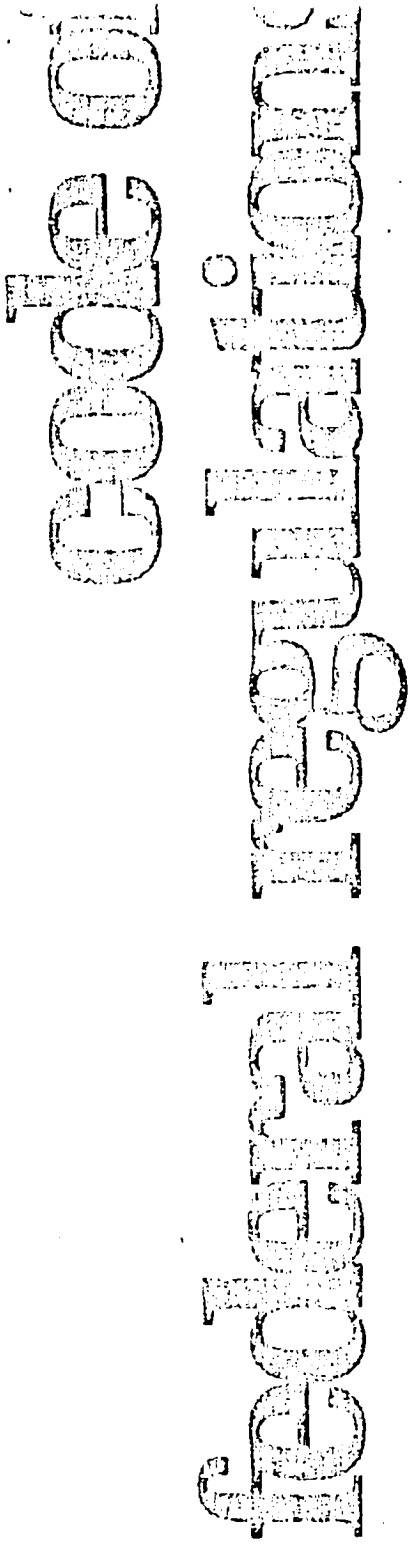
13. US Department of Commerce Technical Paper No. 40. "Rainfall Frequency Atlas of the United States". 1963.

14. USGS Topographic Maps: Buffalo, NE-NY and Buffalo SE-NY Quadrangles, 1965.

15. Violanti, Louis, NYS Department of Health, Buffalo Region, Personal Communication, 10/8/85.

Protection of Environment

REF-1



40

PARTS 190 to 399

Revised as of July 1, 1983

CONTAINING
A CODIFICATION OF DOCUMENTS
OF GENERAL APPLICABILITY
AND FUTURE EFFECT

AS OF JULY 1, 1983

With Ancillaries

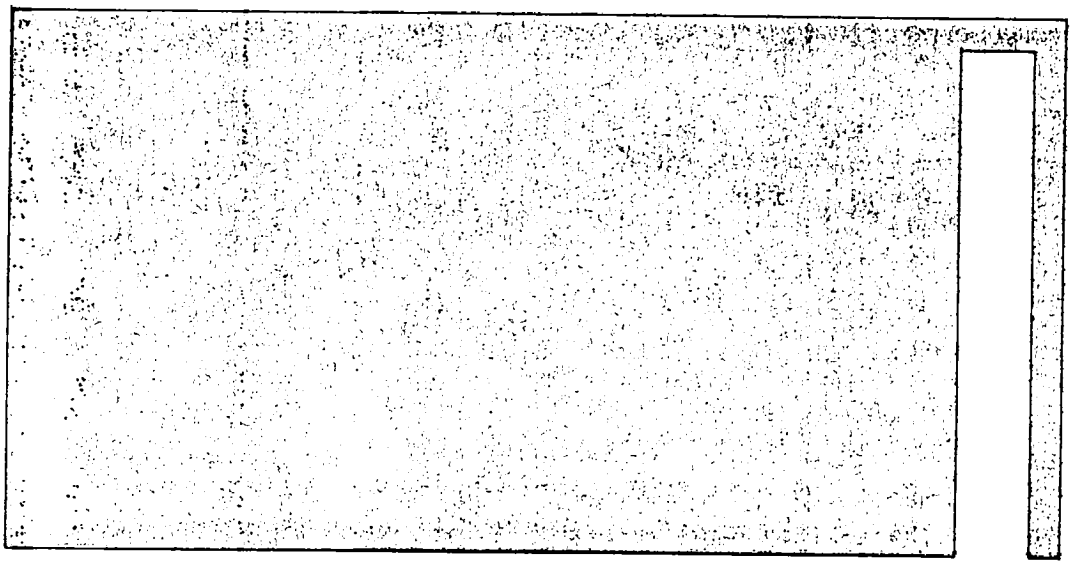
Published by
the Office of the Federal Register
National Archives and Records Service
General Services Administration

as a Special Edition of
the Federal Register

ES AND D&M SITE INSPECTION

Observations made during the ES and D&M Site Inspections are provided on US EPA Forms 2070-12 and 2070-13. Field notes were used to complete these EPA Forms, and are not included herein.

REF-3



R. Allan Freeze

Department of Geological Sciences
University of British Columbia
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John A. Cherry

Department of Earth Sciences
University of Waterloo
Waterloo, Ontario

GROUNDWATER

Prentice-Hall, Inc.
Englewood Cliffs, New Jersey 07632

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

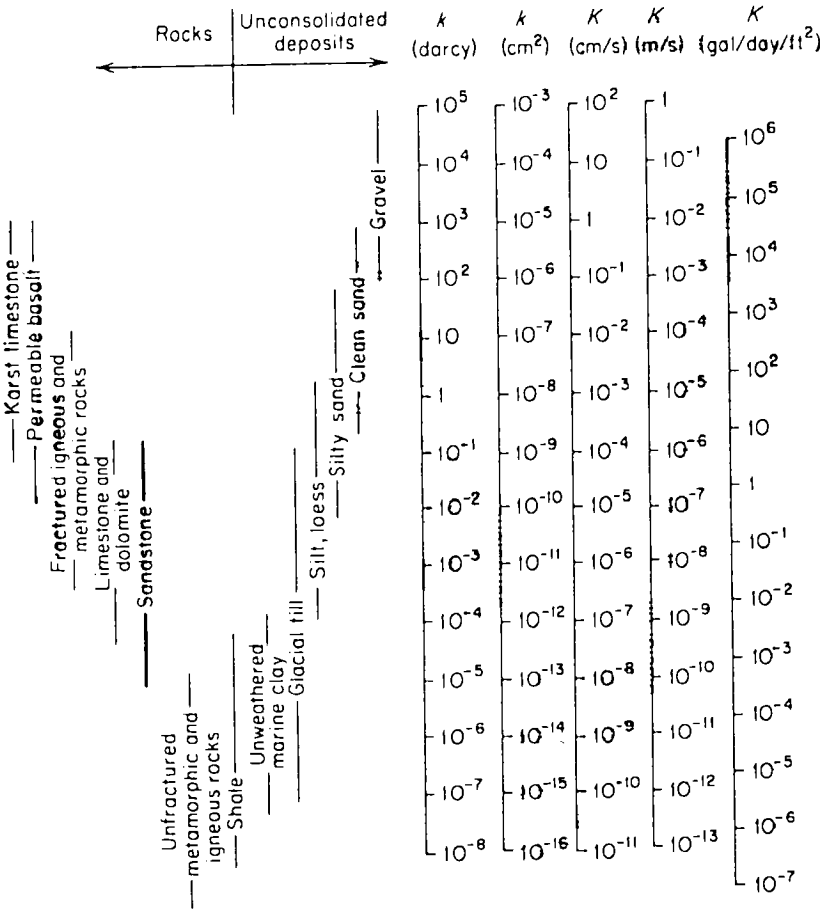


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm^2	ft^2	darcy	m/s	ft/s	gal/day/ft^2
cm^2	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft^2	9.29×10^{2}	1	9.42×10^{10}	9.11×10^{5}	2.99×10^{6}	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^{1}
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	5.74×10^{5}
gal/day/ft^2	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.74×10^{-6}	1

*To obtain k in ft^2, multiply k in cm^2 by 1.08×10^{-3}.

REF-4

GROUND-WATER RESOURCES OF THE ERIE-NIAGARA BASIN, NEW YORK

Prepared for the
Erie-Niagara Basin Regional Water Resources
Planning Board

by

A. M. La Sala, Jr.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

in cooperation with

THE NEW YORK STATE CONSERVATION DEPARTMENT
DIVISION OF WATER RESOURCES

STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION

Basin Planning Report ENB-3

1968

(LaSala, 1968)

Yields of wells

The Camillus Shale is by far the most productive bedrock aquifer in the area. Except in the vicinity of Buffalo and Tonawanda, where industrial wells produce from 300 to 1,200 gpm, no attempt has been made to obtain large supplies from the formation. However, the inflow of water to gypsum mines near Clarence Center and Akron indicate that large supplies are not necessarily restricted to the Buffalo and the Tonawanda area. Two examples of large flows of water encountered in gypsum mining have already been mentioned. Pumpage from gypsum mines near Clarence Center (including the mine mentioned previously) is substantial. The water pumped is discharged to Got Creek. On July 2, 1963, the creek had a flow of 2.1 mgd (million gallons per day) about half a mile downstream from the mines, that was due almost entirely to the pumpage. Water for industrial use is pumped from a flooded, abandoned gypsum mine at Akron. This pumpage, at a rate of 500 to 700 gpm, has had no appreciable effect on the water level in the mine.

Probably the larger solution openings are most common in discharge areas near Tonawanda Creek and its tributaries and near the Niagara River; the flow of ground water becomes concentrated as it approaches the streams to which it discharges. Other discharge areas, such as low-lying swampy areas and headwaters of small streams that have perennial flow, are likely places to drill wells.

LIMESTONE UNIT

Bedding and lithology

The term "limestone unit" in this report is applied to a sequence of limestone and dolomite overlying the Camillus Shale. The limestone unit includes the Bertie Limestone at the base, the Akron Dolomite, and the Onondaga Limestone at the top. The lithology and thickness of these units are shown in figure 7. The Bertie Limestone and the Akron Dolomite are Silurian in age and are separated from the overlying Onondaga Limestone of Devonian age by an unconformity or erosional contact.

The Bertie Limestone is mainly dolomite and dolomitic limestone but contains interbedded shale particularly in the thin-bedded lower part of the formation. The middle part is brown, massive dolomite, and the upper part is gray dolomite and shale whose beds are of variable thickness. The total thickness of the formation is about 55 feet (Buehler and Tesmer, 1963, p. 30-31).

The Akron Dolomite is composed of greenish-gray and buff dolomite beds varying from a few inches to about a foot in thickness. The upper contact of the Akron is erosional and is often marked by remnants of shallow stream channels. Thin lenses of sandy sediments lie in the bottoms of some channels. The thickness of the formation is generally between 7 and 9 feet (Buehler and Tesmer, 1963, p. 33-34).

(LaSala, 1968)

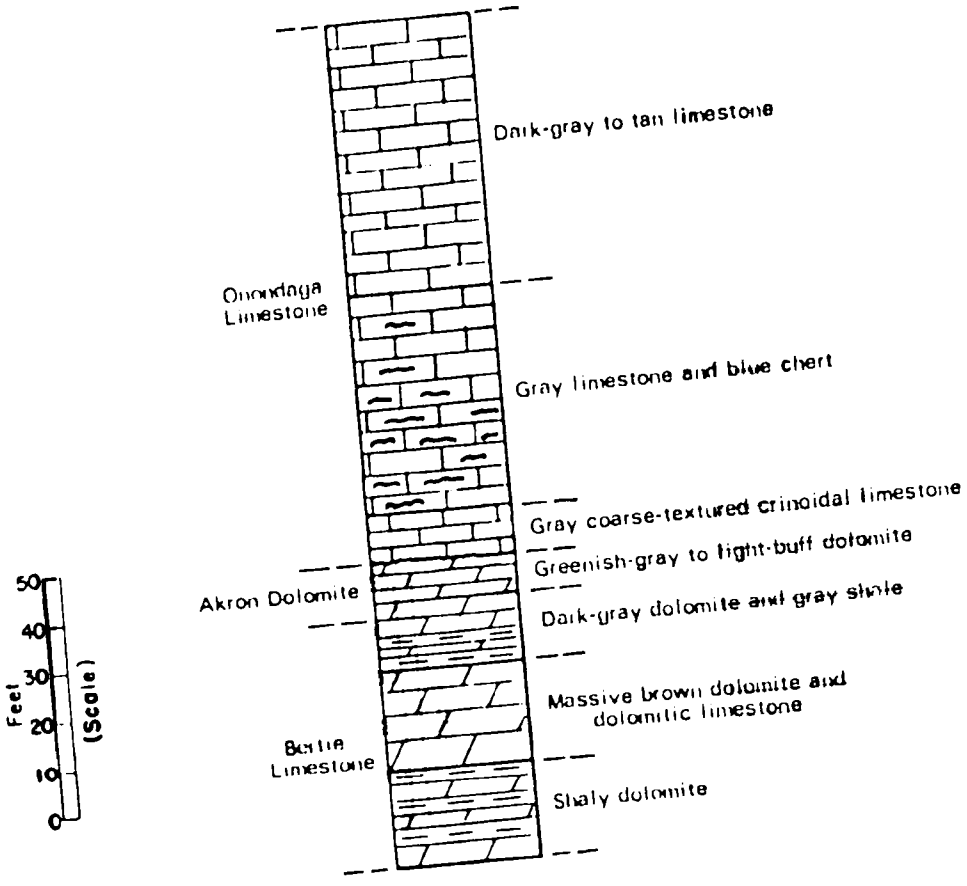


Figure 7.--Lithology of the limestone unit.

The Onondaga Limestone, about 110 feet thick, makes up the greatest thickness of the limestone unit. The formation consists of three members. The lowest member is a gray coarse-grained limestone, generally only a few feet thick. At places this member grades laterally into reef deposits which increases its thickness (Buehler and Tesmer, 1963, p. 35-36).

The middle member of the Onondaga is a cherty limestone. In some zones the chert exceeds the amount of limestone. The unit is probably 40-45 feet thick.

The upper unit is a dark-gray to tan limestone of varying texture and is probably about 50-60 feet thick.

Water-bearing openings

The limestone unit contains water-bearing openings that are similar to those of the Lockport Dolomite. Because the limestone unit is more soluble, however, solution widening of the openings appears to be more

(LaSala, 1968)

unced. The types of water-bearing joints in the limestone can be
at the falls of Murder Creek at Akron. Not all of the flow of
er Creek plunges over the falls. A considerable part of the flow
lates into the limestone unit upstream from the falls and discharges
m bedding joints both at the face and along the sides of the falls.
principal zones of discharge are at the base of the Bertie, and at a
act of a shaly zone and overlying thick-bedded dolomite 20 feet above
base.

The falls at Akron also illustrate in an exaggerated way the role of
cal joints. Water from Murder Creek percolates into the rock through
ion-widened vertical joints before reaching the bedding-plane joints.
ontinuous and concentrated flow of water in the creek has widened
rtical joints to an unusual degree. Vertical joints are ordinarily
arrow. They probably are most effective in aiding the movement of
to the bedding joints where the bedding joints are close to the
rface.

cally, solution along bedding joints in the limestone unit has been
nough to cause the rock overlying the solution opening to settle.
of this type probably accounts for at least some of the small
ons in the outcrop belt of the Onondaga Limestone. A collapsed
zone in the Onondaga Limestone discharges a large volume of water
uarry (257-840-A) near Harris Hill. About 3,000 gpm is pumped
quarry, and most of the water is reported to come from the
zone.

limestone unit is cut by a fault on the east side of Batavia.
ting limestone are likely to cause shattering along the fault
create a permeable water-bearing zone.

and hydraulic characteristics

mestone unit is similar to the Lockport Dolomite in structure.
s hydrology is different. The limestone unit is cut trans-
Tonawanda Creek and its major tributaries. Small tributaries
it in northerly and westerly directions. The limestone unit
er in the interstream areas by percolation into joints. The
charged laterally to the streams and at places along the
scarp or enters the Camillus Shale at depth.

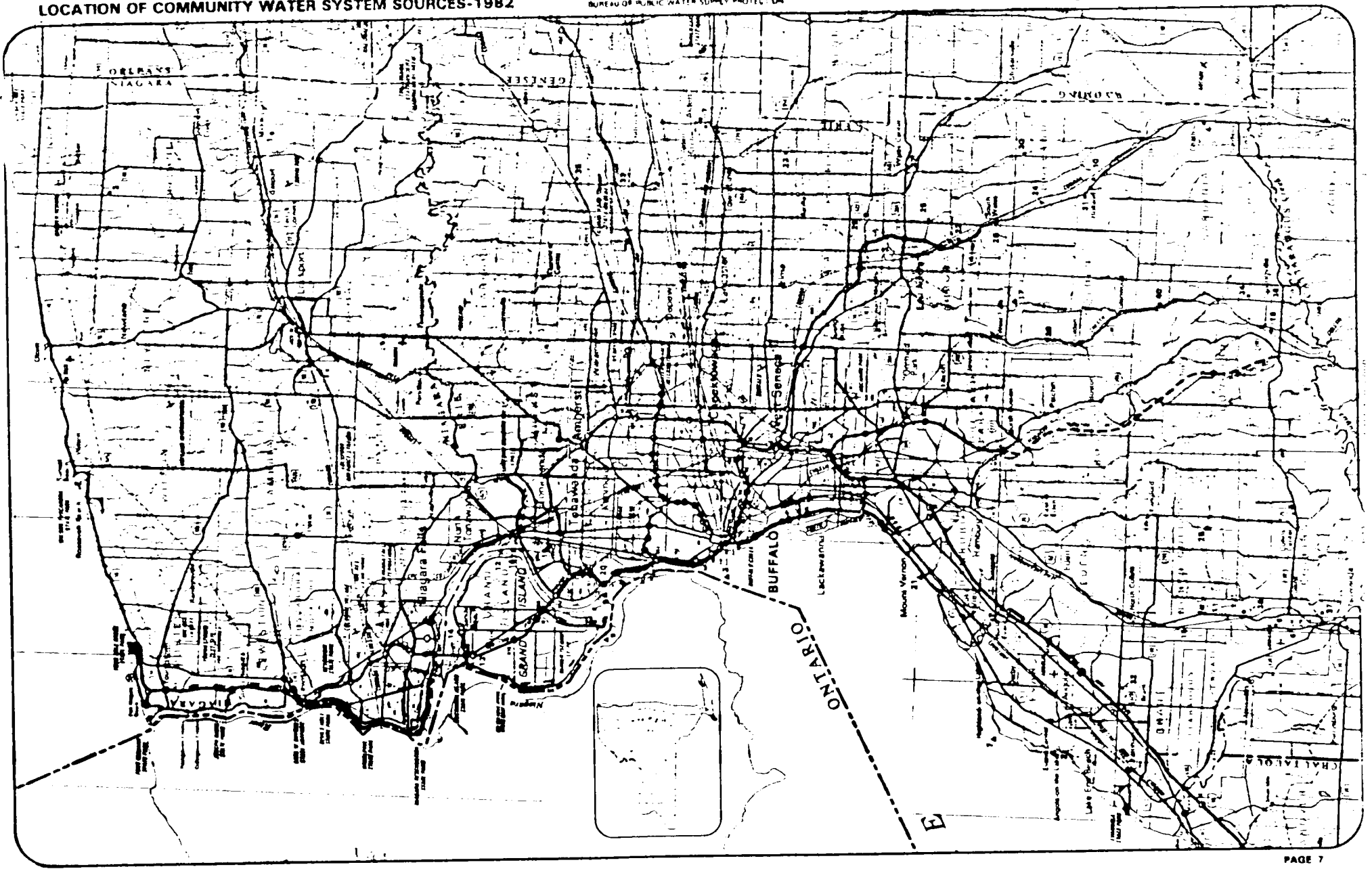
ficient of transmissibility of the limestone unit probably
bout 300 to 25,000 gpd per foot. Specific capacity data are
3. Drillers' reports indicate high transmissibilities for
unit in Williamsville which probably arise from relatively
ation of ground water near Ellicott Creek. The coefficients
ility given in table 3 were computed from specific capacity
thod described by Walton (1962, p. 12-13).

(NYSDOH, 1982)

LOCATION OF COMMUNITY WATER SYSTEM SOURCES-1982

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION

ERIE and NIAGARA COUNTIES



ERIE COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Akron Village (See No 1 Wyoming Co, Page 10)	3640	
1	Alden Village	3460	Wells
2	Angola Village	8500	Lake Erie
3	Buffalo City Division of Water	357870	Lake Erie
4	Caffee Water Company	210	Wells
5	Collins Water District #1	704	Wells
6	Collins Water Districts #1 and #2	1384	Wells
7	Erie County Water Authority (Sturgeon Point Intake)	375000	Lake Erie
8	Erie County Water Authority (Van Dewater Intake)	NA	Niagara River - East Branch
9	Grand Island Water District #2	9390	Niagara River
10	Holland Water District	1670	Wells
11	Lawtons Water Company	138	Wells
12	Lockport City (Niagara Co)		Niagara River - East Branch
13	Niagara County Water District (Niagara Co)		Niagara River - West Branch
14	Niagara Falls City (Niagara Co)		Niagara River - West Branch
15	North Collins Village	1500	Wells
16	North Tonawanda City (Niagara Co)		Niagara River - West Branch
17	Orchard Park Village	3671	Pipe Creek Reservoir
18	Springville Village	4169	Wells
19	Tonawanda City	18538	Niagara River - East Branch
20	Tonawanda Water District #1	91269	Niagara River
21	Wanakah Water Company	10750	Lake Erie
Non-Municipal Community			
22	Aurora Mobile Park	125	Wells
23	Bush Gardens Mobile Home Park	270	Wells
24	Circle B Trailer Court	50	Wells
25	Circle Court Mobile Park	125	Wells
26	Creekside Mobile Home Park	120	Wells
27	Donnelly's Mobile Home Court	99	Wells
28	Lovanos State Hospital	NA	Clear Lake
29	Hillside Estates	160	Wells
30	Hunters Creek Mobile Home Park	150	Wells
31	Knox Apartments	NA	Wells
32	Maple Grove Trailer Court	72	Wells
33	Millgrove Mobile Park	100	Wells
34	Perkins Trailer Park	75	Wells
35	Quarry Hill Estates	400	Wells
36	Springville Mobile Park	116	Wells
37	Springwood Mobile Village	132	Wells
38	Taylors Grove Trailer Park	39	Wells
39	Valley View Mobile Court	42	Wells
40	Villager Apartments	NA	Wells

NIAGARA COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Lockport City (See No 12, Erie Co)	25000	
1	Middleport Village	2000	Wells (Springs)
	Niagara County Water District (See No 13, Erie Co)	48	
2	Niagara Falls City (See also No 14 Erie Co)	77386	Niagara River - East Branch
	North Tonawanda City (See No 16 Erie Co)	36000	
Non-Municipal Community			
3	Country Estates Mobile Village	28	Wells

(NYSDOH, 1982)

(NYSDEC, 1983)

(47-15-11 (10/83)

REF-6

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: 2A SITE CODE: NEW SITE 915126

NAME OF SITE: CLINTON - BAILEY REGION: 9

STREET ADDRESS: CLINTON ST AND BAILEY AVE

TOWN/CITY: BUFFALO COUNTY: ERIE

NAME OF CURRENT OWNER OF SITE: SENNELL INDUSTRIES AND NORFOLK + SOUTHERN

ADDRESS OF CURRENT OWNER OF SITE: 1396 CLINTON ST BUFFALO, NY 14240 — 940 TERMINAL TOWER, BOX 6119 CLEVELAND, OHIO 44101 CORP.

TYPE OF SITE: OPEN DUMP [X] STRUCTURE [ ] LAGOON [ ]
LANDFILL [ ] TREATMENT POND [ ]

ESTIMATED SIZE: 11.7 ACRES

SITE DESCRIPTION:
A VACANT LOT FRONTING BAILEY AVENUE BETWEEN NIAGARA FRONTIER GROWERS COOPERATIVE ON THE NORTH AND CONRAIL PROPERTY ON THE SOUTH.
DISPOSAL OF DRUMS CONTAINING UNKNOWN MATERIAL FIRST NOTED IN MARCH 1984.
PRELIMINARY INVESTIGATION CONDUCTED BY POTENTIAL PURCHASERS OF THE SITE. INVESTIGATION REVEALED ELEVATED LEVELS OF LEAD AND MERCURY IN THE SOILS ON SITE. GROUNDWATER FROM TEST WELLS ON SITE CONTAINED LEVELS OF ARSENIC, MERCURY AND LEAD ABOVE STATE GROUNDWATER STANDARDS.

HAZARDOUS WASTE DISPOSED: CONFIRMED [X] SUSPECTED [ ]
TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, TONS, DRUMS, GALLONS)
FILL MATERIAL ON SITE CONTAINS HEAVY METALS	UNKNOWN

(NYSDEC, 1983)

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

UNKNOWN, 19 ___ TO UNKNOWN, 19 ___

OWNER(S) DURING PERIOD OF USE: UNKNOWN

SITE OPERATOR DURING PERIOD OF USE: UNKNOWN

ADDRESS OF SITE OPERATOR: _____

ANALYTICAL DATA AVAILABLE: AIR ☐ SURFACE WATER ☒ GROUNDWATER ☒
SOIL ☒ SEDIMENT ☐ NONE ☐

CONTRAVENTION OF STANDARDS: GROUNDWATER ☒ DRINKING WATER ☐
SURFACE WATER ☐ AIR ☐

SOIL TYPE: _____

DEPTH TO GROUNDWATER TABLE: _____

LEGAL ACTION: TYPE: NONE STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: NONE

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

SOILS AND GROUNDWATER ON SITE CONTAMINATED WITH HEAVY METALS. FURTHER INVESTIGATION REQUIRED TO DETERMINE FULL EXTENT OF CONTAMINATION ON SITE AS WELL AS MIGRATION OFF SITE.

ASSESSMENT OF HEALTH PROBLEMS:

INSUFFICIENT INFORMATION

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME JOHN W. HUGEN
TITLE SR. SAN. ENGR
NAME PETER BURKETT
TITLE ASSOC. SAN. ENGR.
DATE: _____

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____

GEOLOGIC MAP OF NEW YORK

1970

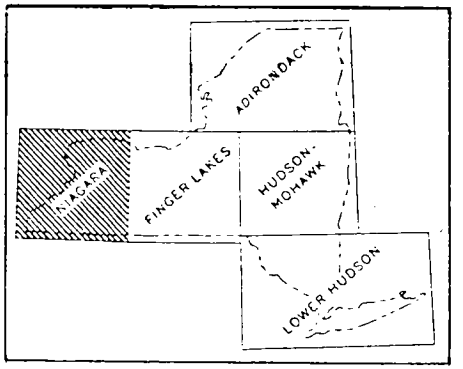
Niagara Sheet

Scale 1:250,000

5 0 5 10 15 Statute Miles 20

5 0 5 10 15 20 25 Kilometers 30

CONTOUR INTERVAL 100 FEET



Topographic Base from AMS Quadrangles 1:250,000 scale.

NEW YORK STATE MUSEUM AND SCIENCE SERVICE

MAP AND CHART SERIES NO. 15

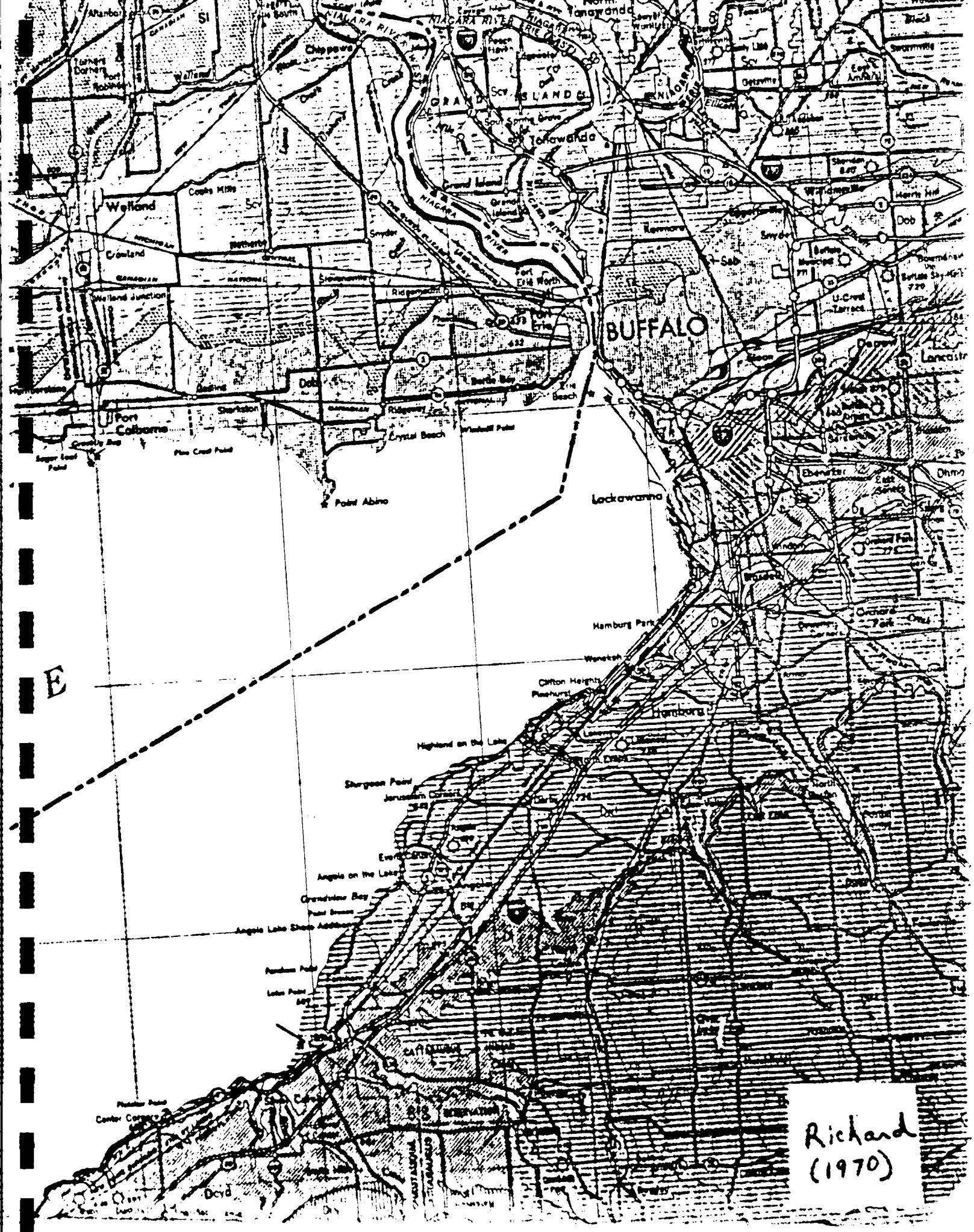
COMPILED AND EDITED BY

Lawrence V. Rickard

Donald W. Fisher

March, 1970

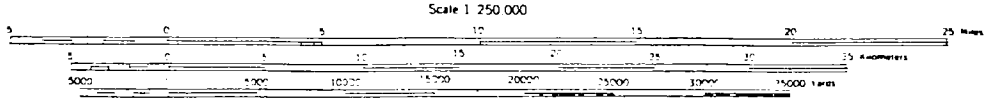
REF-7

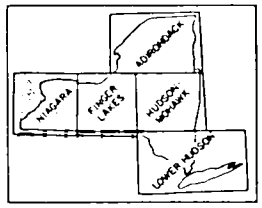

BUFFALO
Welland
Port Colborne
Tonawanda
Grand Island
Lackawanna
Hamburg
Richard
(1970)

QUATERNARY GEOLOGY OF NEW YORK, NIAGARA SHEET

by Ernest H. Muller

Muller, Ernest H. (1977)
New York State Museum and Science Service
Map and Chart Series Number 28





MAP DATA SOURCES

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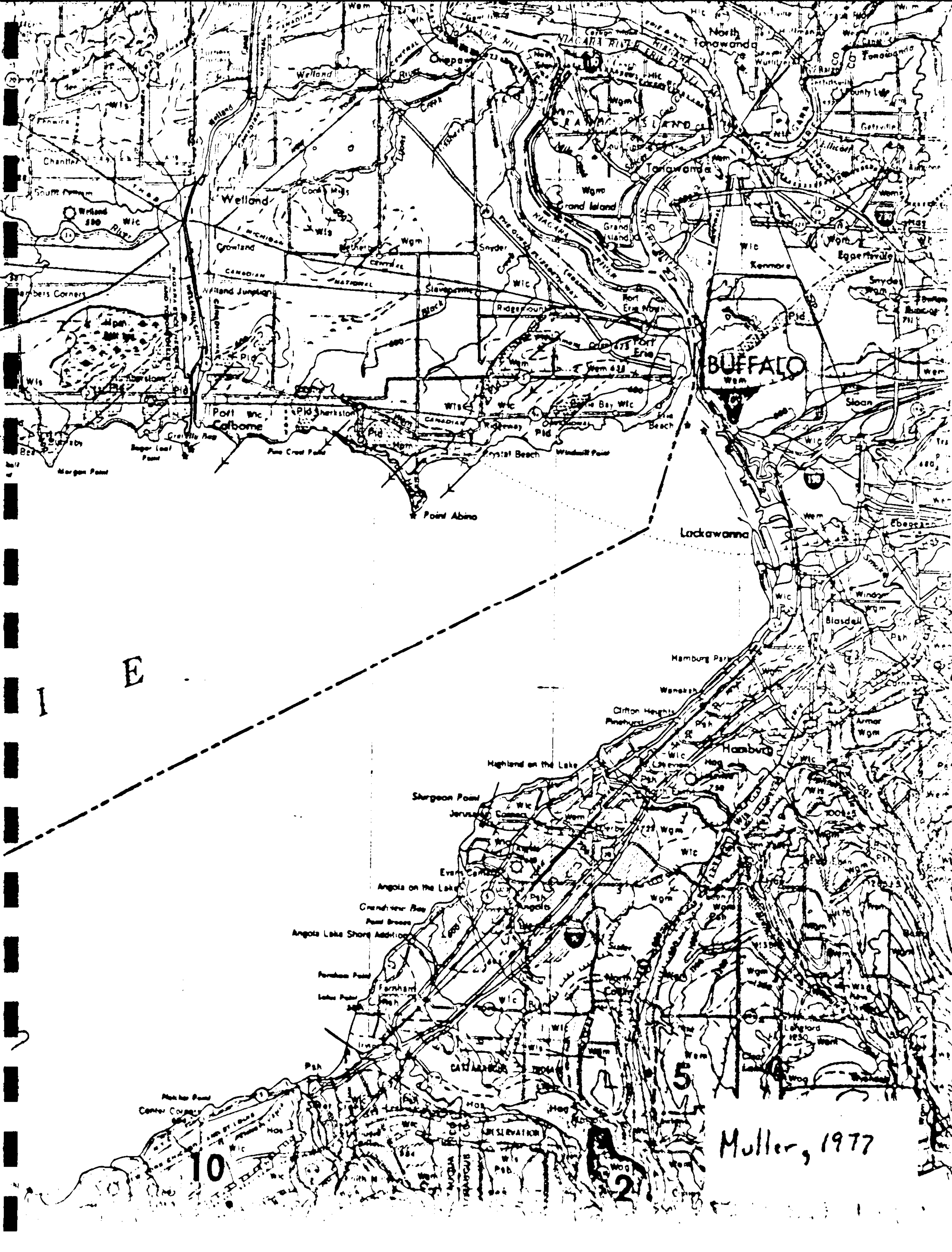
RSF-2


North Tonawanda
Tonawanda
Grand Island
Welland
Crowland
Welland Junction
Chippawa
Port Colborne
Sherkston
Ridgeway
Crystal Beach
Point Abino
Port Erie
Fort Erie
BUFFALO
Kenmore
Eggertsville
Snyder
Sloan
Lackawanna
Blasdell
Hamburg Park
Clifton Heights
Hamburg
Highland on the Lake
Sturgeon Point
Angola on the Lake
Angola
Angola Lake Shore Addition
Farnham
Lakeview
Center Corners
E
I
10
4
5
2
Muller, 1977

REF-9

Dangerous Properties of Industrial Materials

Fifth Edition

N. IRVING SAX

Assisted by:

Marilyn C. Bracken/Robert D. Bruce/William F. Durham/Benjamin Feiner/
Edward G. Fitzgerald/Joseph J. Fitzgerald/Barbara J. Goldsmith/John H. Harley/
Robert Herrick/Richard J. Lewis/James R. Mahoney/John F. Schmutz/
E. June Thompson/Elizabeth K. Weisburger/David Gordon Wilson

VNR VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

(Sax, 1984)

Lead (con't)

TOXICITY DATA: 3	CODEN:
orl-rat TDLo: 790 mg/kg (MGN)	AEHLAU 23,102,71
orl-rat TDLo: 1140 mg/kg (14D pre-21D post)	PHMCAA 20,201,78
orl-mus TDLo: 1120 mg/kg (MGN)	AEHLAU 23,102,71
orl-mus TDLo: 6300 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo: 12600 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo: 4800 mg/kg (1-16D preg)	BECTA6 18,271,77
ivn-ham TDLo: 50 mg/kg/(8D preg): TER	EXPEAM 25,56,69
orl-dom TDLo: 662 mg/kg (1-21W preg)	TXAPA9 25,466,73
ivn-ham TDLo: 50 mg/kg/(8D preg): TER	EXPEAM 25,56,69
orl-wmn TDLo: 450 mg/kg/6Y: CNS	JAMAAP 237,2627,77
ipr-rat LDLo: 1000 mg/kg	EQSSDX 1,1,75
orl-pgn LDLo: 160 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Indefinite IARC** 23, 325,80.

TLV: AIR: 0.15 mg/m3 DTLVS* 4,243,80; *Toxicology Review:* TRBMAV 33(1),85,75; PGMJAO 51(601),783,75; JDSCAE 58(12),1767,75; IRXPAT 12,1,73; CTPHBG 55,147,71; CTOXAO 6(3),377,73; QURBAW 7(1),75,74; RREVAH 54,55,75; JAVMA4 164(3),277,74; AEMBAP 40,239,73; CTOXAO 5(2),151,72; FOREAE 7,313,42; KOTTAM 11(11),1300,75; GEIGAI 20(3),291,73; STEVA8 2(4),341,74; CLCHAU 19,361,73; AJMEAZ 38,409,65; 85DHAX PB,254,72; PDTNBH 6,204,77; AMTODM 3,209,77. OSHA Standard: Air: TWA 200 ug/m3 (SCP-O) FEREAC 39,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 1 102,191,195,200,208,214,262, VOL 3 S341. Reported in EPA TSCA Inventory, 1980.

THR: See lead compounds. A hmn CNS. HIGH orl; MOD irr. A common air contaminant. It is a ± CAR of the lungs and kidney and an exper TER.

Fire Hazard: Mod, in the form of dust when exposed to heat or flame. See also powdered metals.

Explosion Hazard: Mod, in the form of dust when exposed to heat or flame.

Incomp: NH_4NO_3, ClF_3, H_2O_2, NaN_3, Na_2C_2, Zr. disodium acetylide; oxidants.

Disaster Hazard: Dangerous; when heated, emits highly tox fumes; can react vigorously with oxidizing materials.

For further information see Vol. 1, No. 1 of *DPIM Report.*

LEAD ACETATE

CAS RN: 301042 NIOSH #: AI 5250000
mf: $C_4H_6O_4 \cdot Pb$; mw: 325.29

Trihydrate, colorless crystals or white granules or powder. Slightly acetic odor; slowly effloresces; d: 2.55; mp: 75° when rapidly heated. Decomp above 200°; very sol in glycerol. Keep well closed.

SYNS:

ACETIC ACID LEAD (2+) SALT	LEAD DIBASIC ACETATE
ACETATE DE PLOMB (FRENCH)	NORMAL LEAD ACETATE
BLEIACETAT (GERMAN)	PLUMBOUS ACETATE
LEAD (2+) ACETATE	SALT OF SATURN
LEAD(II) ACETATE	SUGAR OF LEAD
LEAD DIACETATE	

TOXICITY DATA: 3	CODEN:
dns-rat-ipr 50 ug/kg	PSEBAA 143,446,73
spm-mus-par 1 gm/kg	ARTODN 46,159,80
orl-rat TDLo: 7854 mg/kg (6-16D preg)	FCTXAV 13,629,75
orl-rat TDLo: 1800 mg/kg (1-22D preg/14D post)	TOLED5 7,373,80
orl-rat TDLo: 113 gm/kg (70D pre-21D post)	PBBHAU 8,347,78
orl-mus TDLo: 3150 mg/kg (1-21D preg)	CRSBAW 170,1319,76
orl-mus TDLo: 4800 mg/kg (1-8D preg)	CRSBAW 172,1037,78
orl-mus TDLo: 9 gm/kg (7-21D preg)	CRSBAW 170,1319,76
ipr-mus TDLo: 35 mg/kg (8D preg)	BIMDB3 30,223,79
ivn-ham TDLo: 50 mg/kg/(8D preg): TER	EXMPA6 7,208,67
ivn-ham TDLo: 50 mg/kg (8D preg)	EXPEAM 25,56,69
ipr-pgn LDLo: 150 mg/kg	ARTODN 46,265,80
cyt-hmn: lym 1 mmol/L/24H	TXCYAC 10,67,78
cyt-mus-orl 16800 mg/kg/4W	JTEHD6 2,619,77
cyt-mky-orl 5760 mg/kg/64W	MUREAV 45,77,77
ipr-mus TDLo: 15 mg/kg/(8D preg): TER	BIMDB3 30,223,79
ivn-ham TDLo: 50 mg/kg/(8D preg): TER	EXMPA6 7,208,67
orl-rat TDLo: 250 gm/kg/47W-C: ETA	BJCAAI 16,283,62
ipr-rat LDLo: 204 mg/kg	JPETAB 38,161,30
ipr-mus LD50: 120 mg/kg	COREAF 256,1043,63
orl-dog LDLo: 300 mg/kg	HBAMAK 4,1289,35
scu-dog LDLo: 80 mg/kg	HBAMAK 4,1289,35
ivn-dog LDLo: 300 mg/kg	EQSSDX 1,1,75
scu-cat LDLo: 100 mg/kg	HBAMAK 4,1289,35
scu-rbt LDLo: 300 mg/kg	HBAMAK 4,1289,35
ivn-rbt LDLo: 50 mg/kg	EQSSDX 1,1,75
scu-frg LDLo: 1600 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Animal Positive IARC 23,325,80; Human Suspected IARC** 23,325,80. *Toxicology Review:* ADTEAS 5,51,72; ENVRAL 13,36. 85DHAX Pb,256,72. OSHA Standard: Air: TWA : ug(Pb)/m3 (SCP-O) FEREAC 29,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: MUT data. An exper + CARC, TER, ETA. A susp hmn CARC; HIGH ipr, orl, scu, ivn. See also lead compounds. A poison. An insecticide.

Disaster Hazard: When heated to decomp it emits tox fumes of Pb.

Incomp: $KBrO_3$; acids, sol sulfates, citrates, tartrates, chlorides, carbonates, alkalies, tannin phosphates, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions, tinctures.

For further information see Vol. 1, No. 4 of *DPIM Report.*

LEAD ACETATE, BASIC

CAS RN: 1335326 NIOSH #: OF 8750000
mf: $C_4H_{10}O_8Pb_3$; mw: 807.71

US CENSUS DATA, 1980

US Census Data used in the HRS scoring was obtained from various County Planning Offices. This data was not obtained from a report. The raw census data combined with County Planning Maps was used to estimate the population within 1, 2, 3, and 4 miles of the Phase I site being investigated. Because of the voluminous amount of data used, the data is not provided in this Appendix.

REF-10

INTERVIEW FORM

INTERVIEWEE/CODE Jim Snyder Mike Wilkenson /
TITLE - POSITION NYSDEC, Div of Fish & Wildlife
ADDRESS Delaware Ave.
CITY Buffalo STATE NY ZIP
PHONE ( ) RESIDENCE PERIOD TO
LOCATION NYDEC office INTERVIEWER Eileen Hilligan
DATE/TIME 1/10/85 & 1/11/85
SUBJECT: Phase I site information

REMARKS: The above-named interviewees provided us with the following information regarding our Phase I site. (see attached list)

1) Wetlands in Niagara Co. & proximity to sites
2) Types of fish & wildlife in Erie/Niagara area
3) Use by fish & wildlife of Niagara River & tributaries
4) Sensitive environments & proposed wetlands in the Erie/Niagara area

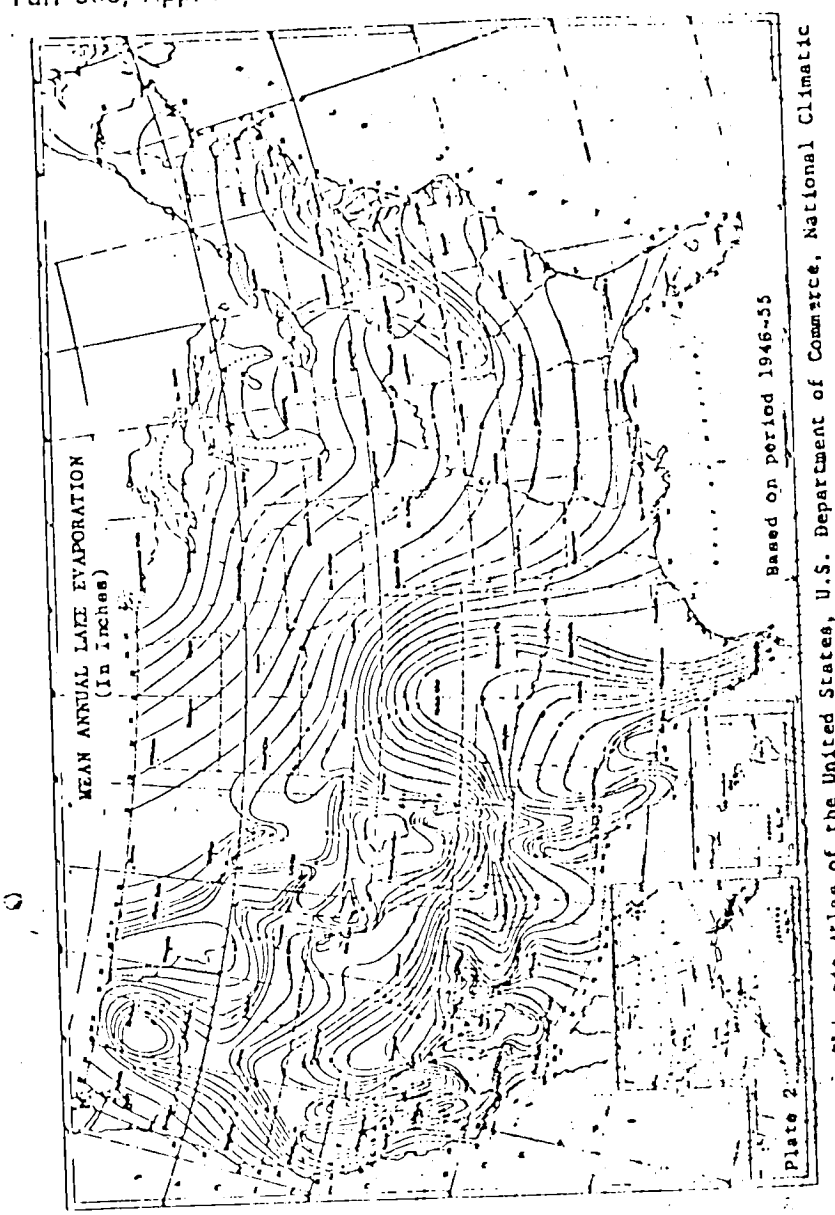
At the Clinton-Bailey site there were NO wetlands or critical habitats within one mile.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: James R. Snyder - Jr. Wildlife Biologist
Michael A. Wilkinson - Conservation Biologist (Ichthic)

COMMENTS: No discussion of wetlands / wildlife regarding Niagara Landfill site - referred to Olean Office

REF-12



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

Figure 4

Mean Annual Lake Evaporation (In Inches)

USDOC, "Climatic Atlas of the United States", 1979

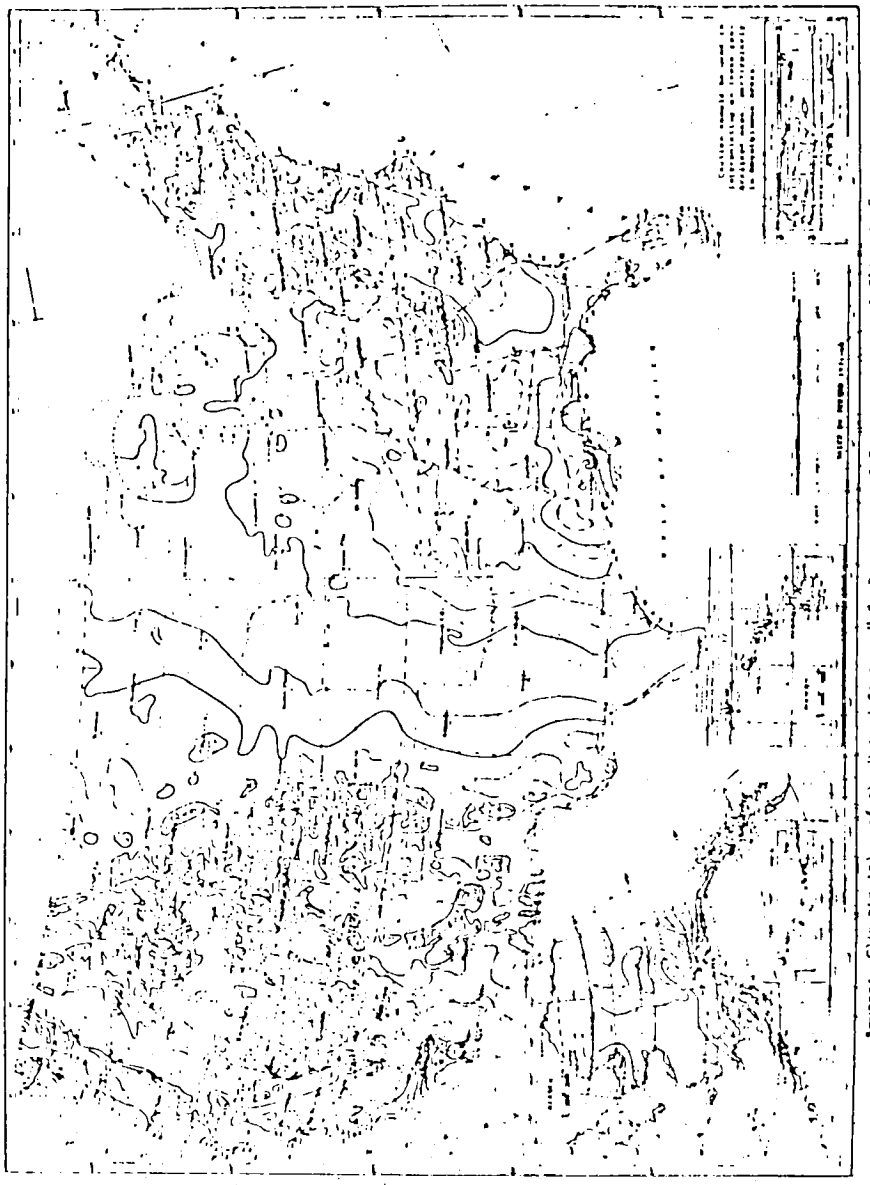
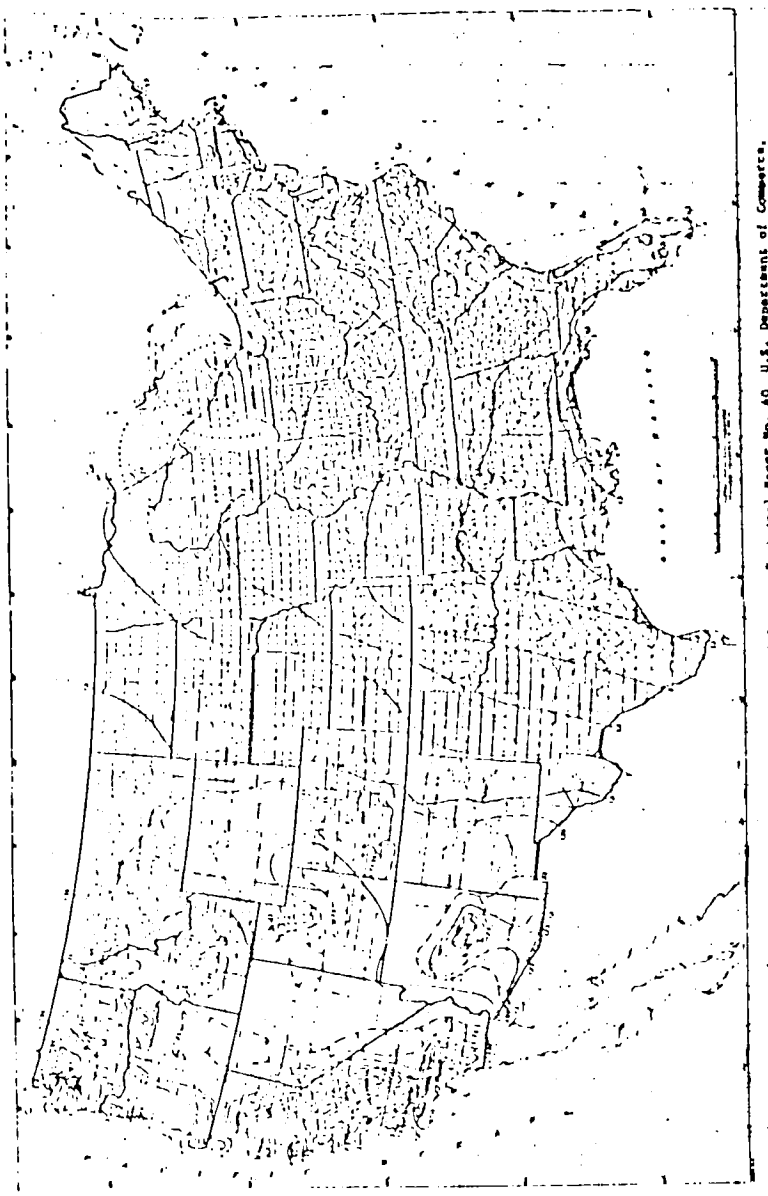


Figure 5
Normal Annual Total Precipitation (inches)

USDOC, "Climatic Atlas of the United States", 1979.

REF-13.

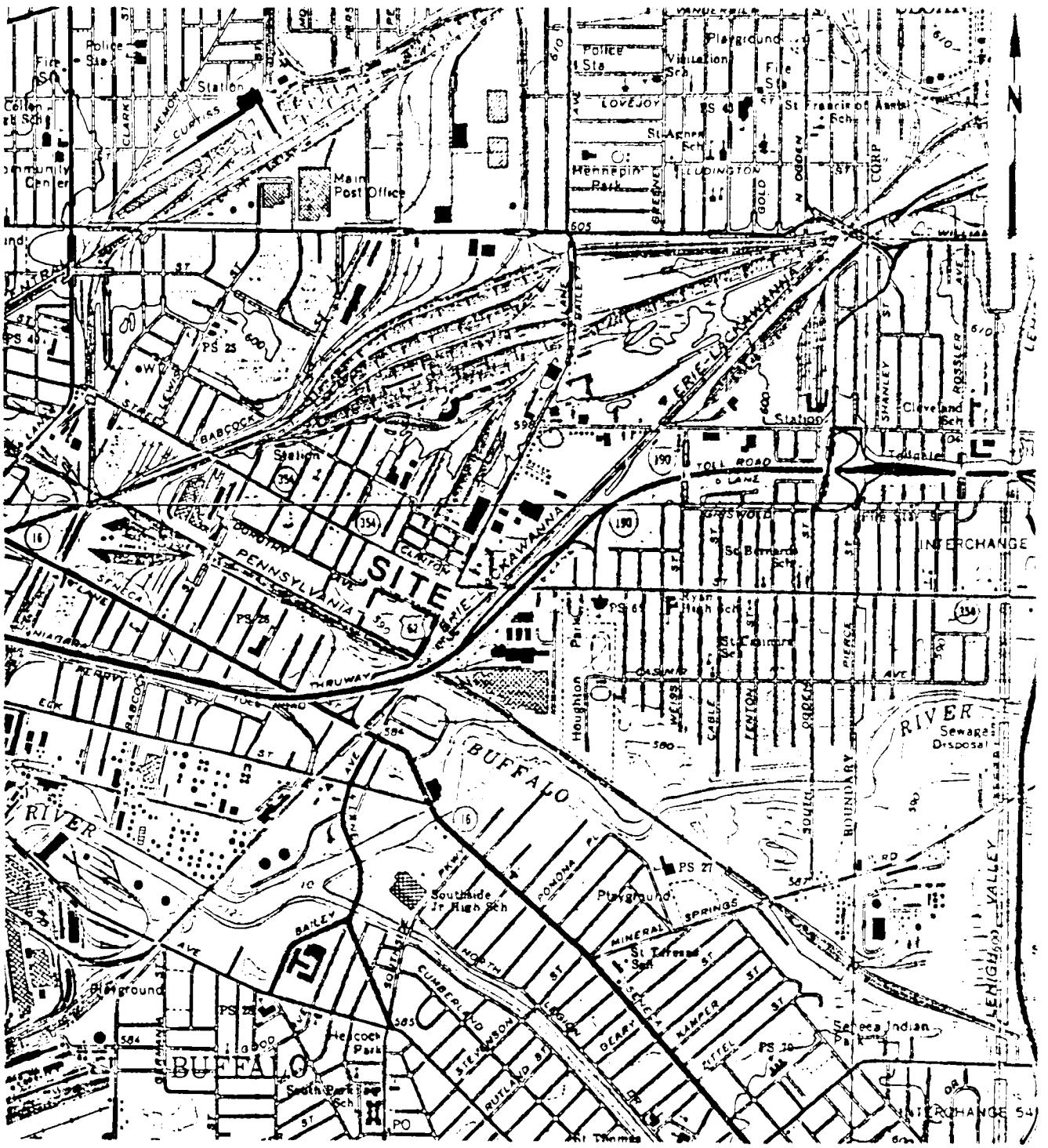


Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

Figure B

1-Year 24-Hour Rainfall (Inches)

USDOC, "Rainfall Frequency Atlas of the United States," Technical Paper #40, 1963



LATITUDE: 42°52'72"
LONGITUDE: 78°49'09"

SCALE
0 1000 2000 3000 4000 FEET

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
CLINTON BAILEY

REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo SE, NY (1978) and Buffalo NW, NY (1978)

INTERVIEW FORM

REF. 15

INTERVIEWEE/CODE Louis Violanti /

TITLE - POSITION NYS Department of Health

ADDRESS Delaware Ave

CITY Buffalo STATE N.Y. ZIP

PHONE (716) 847-4500 RESIDENCE PERIOD TO

LOCATION Interview over phone INTERVIEWER Lisa A. Ryan

DATE/TIME 10/8/85 @ 12:15 pm

SUBJECT: Clinton-Porter Site, Surface & Groundwater Use

REMARKS: There are no private ~~drinking~~ drinking water wells within a three mile radius of the site. According to Mr. Violanti the area is supplied with municipal water. Industry in the area may draw water for cooling etc.

The use of surface water downstream of site is limited to industrial and commercial shipping.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE

COMMENTS:

No EPA No.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Clinton-Bailey	Clinton St + Bailey Ave				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Buffalo	NY	14240	Erie	029	37

09 COORDINATES LATITUDE	LONGITUDE
42 52 12.-	078 49 09.-

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (If known)		02 STREET (Business, mailing, residential)	
Sen-wel Industries	Norfolk + Western Railway	1396 Clinton St	8 N. Jefferson St
03 CITY		**04 STATE / 05 ZIP CODE**	**06 TELEPHONE NUMBER**
Buffalo	Roanoke	NY 14240 / VA 24042	(716) 822-0013 / (703) 981-5407
07 OPERATOR (If known and different from owner)		**08 STREET (Business, mailing, residential)**	
09 CITY		**10 STATE**	**11 ZIP CODE**
			12 TELEPHONE NUMBER ( )

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 12 / 83 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☒ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): Ecology + Environment International

02 SITE STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1920's (BEGINNING YEAR) / 1953 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
25-30 drums, 15 of which contain metal slag fill materials spread across site - foundry sand + construction debris

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
arsenic, iron, lead + mercury measured in soil + groundwater at the site.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
SR Steele II	Engineering-Science (ES)	(703) 591-7575
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY** / **06 ORGANIZATION** / **07 TELEPHONE NUMBER**	**08 DATE**
SR Steele II	ES / (703) 591-7575	4 / 15 / 85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

![EPA]

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	9151[illegible]

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID
- ☒ B. POWDER, FINES
- ☐ C. SLUDGE
- ☒ D. OTHER [illegible] (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS ______
- CUBIC YARDS unknown
- NO. OF DRUMS 25-30

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☒ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
(SLU)	SLUDGE			
(OLW)	OILY WASTE			} contained in unknown
(SOL)	SOLVENTS			number of drums (up to 61)
PSD	PESTICIDES			Only 25-30 drums left on
(OCC)	OTHER ORGANIC CHEMICALS			site, 15 of which are
IOC	INORGANIC CHEMICALS			empty
ACD	ACIDS			
BAS	BASES			
(MES)	HEAVY METALS	10 drums		metal slag (welding operations)

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	toluene ‡	108-88-3	drums	54,000; 37,000	mg/l
	1,1,1-trichloroethane ‡	71-55-6	drums	30,000	mg/l
	cyanide ‡	57-12-5	drums	18.4	mg/kg
	lead	7439-92-1	contained in fill *	2768 (avg)	"
	arsenic	7440-38-2	" *	12.2 (avg)	"
	mercury	7439-97-6	" *	1.02 (avg)	"
	metal slag	—	drums	—	—

‡ drums containing these materials have been removed since E&E report

* foundry sands + construction debris - concentrations are averages at 2' depth excluding perimeter samples

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Ecology + Environment International, Phase 2 Field Investigation Report 3/30/84
- Site inspection conducted by E S E O&M on 3/18/85

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
104	915126

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Contamination of upper aquifer possible due to unlined nature of facility

01 [X] B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Due to uncontained dumping

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

01 [X] F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

Due to uncontained dumping

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915126

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
unknown

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☒ OBSERVED (DATE: 3/85) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Uncontrolled + uncontained dumping

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
No

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
ES/DEM site visit 3/18/85

No EPA No

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	Clinton - Bailey
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	Clinton St & Bailey Ave
03 CITY	Buffalo
04 STATE	NY
05 ZIP CODE	14240
06 COUNTY	Erie
07 COUNTY CODE	029
08 CONG DIST	37
09 COORDINATES — LATITUDE	42 52 12.
LONGITUDE	078 49 09.

10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL ________ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER ________ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	3/12/85
02 SITE STATUS	☐ ACTIVE ☒ INACTIVE
03 YEARS OF OPERATION	1920's (BEGINNING YEAR) 1956 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR Engineering - Science (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ________ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR Dames & Moore (Name of firm) ☐ G. OTHER ________ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
S. Robert STEELE II	ENVIRONMENTAL Scientist	ES	(703) 591-7575
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
[illegible]	[illegible]	[illegible]	[illegible]
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Michael R. Hayhurst	President	1395 Clinton Street Buffalo NY 142[illegible]	(716) [illegible]
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	3³⁰ PM	Clear, Cold (Approx. 30°) Sunny

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
S. Robert STEELE, II	Engineering - Science (ES)	(703) 591-7575

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
S. Robert STEELE		ES	703) 591-7575	3/18/85

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915[illegible]

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [X] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER aqueous (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: ____
CUBIC YARDS: unknown
NO. OF DRUMS: 25-30

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [X] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
(SLU)	SLUDGE			
(OLW)	OILY WASTE			contained in unknown number of drums (up to 61) Only 25-30 drums left on site, 15 of which are empty
(SOL)	SOLVENTS			
PSD	PESTICIDES			
(OCC)	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
(MES)	HEAVY METALS	10 drums		metal slag (welding operations)

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	toluene *	108-88-3	drums	34,000-37,000	mg/l
	1,1,1-trichloroethane *	71-55-6	drums	30,000	mg/l
	cyanide *	57-12-5	drums	18 ±	mg/kg
	lead	7439-92-1	contained in fill *	2768 (avg)	"
	arsenic	7440-38-2	" *	12.2 (avg)	"
	mercury	7439-97-6	" *	1.02 (avg)	"
	metal slag	—	drums	—	—

* drums containing these materials have been removed since E & E report

* foundry sands & construction debris - concentrations are averaged at 2' depth excluding perimeter samples

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- Ecology & Environment International, Phase 2 Field Investigation Report - 3/30/84
- Site inspection conducted by E & E team on 3/12/84

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	915126

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
Contamination in upper aquifer possible due to unlined nature of facility

01 [X] B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
Due to uncontained dumping

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

01 [X] F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION
Due to uncontained dumping

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

unknown

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☒ OBSERVED (DATE: 4/85) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Uncontrolled + unc. contained drums and...

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

No

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)

ES|D & M site visit 3/19/85

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	25-30	drums
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify) fill material/scrap not known		

04 TREATMENT (Check all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER _____ (Specify)

05 OTHER
- ☐ A. BUILDINGS ON SITE

06 AREA OF SITE
12 (Acres)

07 COMMENTS
Approximately 10-15 drums containing slag from welding operations. Empty drums (10-15) were observed on-site during E+E and O&M site inspection 3/15/85

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
drums scattered - some damaged
- [illegible] on soil
- no underlying impermeable clay layer

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS
The Clinton-Bailey site does not have restrictive fencing to prevent unauthorized entry.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

- E+E report, 3/30/84
- letter 4/21/84 E+E to Peter Bueche NYDEC
- Site Inspection by ES and O&M on 3/14/85

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915126

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒	B. ☐
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. ______ (mi)
B. ______ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☒ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ~~[illegible]~~ none within 3 miles

03 DISTANCE TO NEAREST DRINKING WATER WELL ______ (mi)

04 DEPTH TO GROUNDWATER ~ 45 (ft)

05 DIRECTION OF GROUNDWATER FLOW unknown

06 DEPTH TO AQUIFER OF CONCERN ~30 (ft)

07 POTENTIAL YIELD OF AQUIFER unknown (gpd)

08 SOLE SOURCE AQUIFER ☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

5 nearby individual wells in Onondaga limestone at Donna Hanna Coke Co.

10 RECHARGE AREA
☐ YES
☐ NO
COMMENTS unknown

11 DISCHARGE AREA
☐ YES
☐ NO
COMMENTS unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☒ C. COMMERCIAL, INDUSTRIAL
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Buffalo River	☐	0.2 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 12,868 NO. OF PERSONS	B. 69,083 NO. OF PERSONS	C. 262,396 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 18180

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is located in (wholesale) commercial area of the city near urban residential homes

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915126

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
32.5 - 34.5 (ft)	unknown (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
8 - 10 (in)	2.1" (in)	0.0 %	N/A	0.0 %

09 FLOOD POTENTIAL
SITE IS IN > 100 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. _____ (mi) OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
> 2 (mi)
ENDANGERED SPECIES: Bald Eagle, Golden Eagle, Peregrine Falcon

13 LAND USE IN VICINITY

DISTANCE TO: COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. ≤ 0.1 (mi)	B. 0.05 (mi)	C. > 10 (mi)	D. > 10 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

A vacant lot fronting Bailey Avenue between Niagara Frontier Growers Cooperative on the North and Conrail property on the South. The site and surrounding area is flat and marshy.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site visit 1985
USGS topo sheets

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu -	(E+E 3/30/84) held over opening (40 feet deep) - no readings above background
HNu 3/18/85	taken in area of [illegible] and foundry
	sand disposal area

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Engineering - [illegible] (Name of organization or individual)

03 MAPS ☐ YES ☐ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Site map obtained from Mr. Michael [illegible] of Con-WEL Industries, Inc prior to ES and O&M site inspection.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E+E 3/30/84

ES and O&M site inspection, 3/18/85

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915126

II. CURRENT OWNER(S) | **PARENT COMPANY** (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Sen-Wel Industries (western half of site)			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
1246 Clinton St			
05 CITY	**06 STATE** / **07 ZIP CODE**	**12 CITY**	**13 STATE** / **14 ZIP CODE**
Buffalo	NY / 14240		
01 NAME	**02 D+B NUMBER**	**08 NAME**	**09 D+B NUMBER**
Norfolk & Western Railway (eastern half of site)		Norfolk Southern Corp.	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
8 North Jefferson St		8 North Jefferson St	
05 CITY	**06 STATE** / **07 ZIP CODE**	**12 CITY**	**13 STATE** / **14 ZIP CODE**
Roanoke	VA / 24042	Roanoke	VA / 24042
01 NAME	**02 D+B NUMBER**	**08 NAME**	**09 D+B NUMBER**
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
05 CITY	**06 STATE** / **07 ZIP CODE**	**12 CITY**	**13 STATE** / **14 ZIP CODE**
01 NAME	**02 D+B NUMBER**	**08 NAME**	**09 D+B NUMBER**
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
05 CITY	**06 STATE** / **07 ZIP CODE**	**12 CITY**	**13 STATE** / **14 ZIP CODE**

III. PREVIOUS OWNER(S) (List most recent first) | **IV. REALTY OWNER(S)** (If applicable: list most recent first)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
05 CITY	**06 STATE** / **07 ZIP CODE**	**05 CITY**	**06 STATE** / **07 ZIP CODE**
01 NAME	**02 D+B NUMBER**	**01 NAME**	**02 D+B NUMBER**
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
05 CITY	**06 STATE** / **07 ZIP CODE**	**05 CITY**	**06 STATE** / **07 ZIP CODE**
01 NAME	**02 D+B NUMBER**	**01 NAME**	**02 D+B NUMBER**
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
05 CITY	**06 STATE** / **07 ZIP CODE**	**05 CITY**	**06 STATE** / **07 ZIP CODE**

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analyses, reports)

Ecology & Environment, 3/30/84
Letter from K. Fenton Gerace, Norfolk Southern, to Chas Goddard, NYSDEC
11 March 1985

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915120

II. CURRENT OPERATOR *(Provide if different from owner)* | **OPERATOR'S PARENT COMPANY** *(If applicable)*

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Site abandoned			
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	**04 SIC CODE**	**12 STREET ADDRESS** *(P.O. Box, RFD #, etc.)*	**13 SIC CODE**
05 CITY / 06 STATE / 07 ZIP CODE		**14 CITY / 15 STATE / 16 ZIP CODE**	
08 YEARS OF OPERATION	**09 NAME OF OWNER**		

III. PREVIOUS OPERATOR(S) *(List most recent first; provide only if different from owner)* | **PREVIOUS OPERATORS' PARENT COMPANIES** *(If applicable)*

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	**04 SIC CODE**	**12 STREET ADDRESS** *(P.O. Box, RFD #, etc.)*	**13 SIC CODE**
05 CITY / 06 STATE / 07 ZIP CODE		**14 CITY / 15 STATE / 16 ZIP CODE**	
08 YEARS OF OPERATION	**09 NAME OF OWNER DURING THIS PERIOD**		

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	**04 SIC CODE**	**12 STREET ADDRESS** *(P.O. Box, RFD #, etc.)*	**13 SIC CODE**
05 CITY / 06 STATE / 07 ZIP CODE		**14 CITY / 15 STATE / 16 ZIP CODE**	
08 YEARS OF OPERATION	**09 NAME OF OWNER DURING THIS PERIOD**		

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	**04 SIC CODE**	**12 STREET ADDRESS** *(P.O. Box, RFD #, etc.)*	**13 SIC CODE**
05 CITY / 06 STATE / 07 ZIP CODE		**14 CITY / 15 STATE / 16 ZIP CODE**	
08 YEARS OF OPERATION	**09 NAME OF OWNER DURING THIS PERIOD**		

IV. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

Site inspection by ES and O&M, 3/18/85

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Unknown	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Unknown			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915126

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: No

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915126

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ S. CAPPING/COVERING — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ V. BOTTOM SEALED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ W. GAS CONTROL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ X. FIRE CONTROL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ Y. LEACHATE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ Z. AREA EVACUATED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ 2. POPULATION RELOCATED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: No

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION: Drums containing toluene, 1,1,1 - trichloroethane and cyanide (suspected were removed. (E and E Report, 1984)

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site visit by ES/Orrin 3/18/85

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	41526

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYS OEC Environmental Enforcement Division

NYS Attorney General's Office

SECTION VI

ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

ASSESSMENT OF DATA ADEQUACY

A summary assessment of the adequacy of existing data for completion of the HRS score is presented in Table VI-1. Based on this assessment, the following Phase II work plan and cost estimate has been prepared.

PHASE II WORK PLAN

Objectives

The objectives of the proposed Phase II activities are:

- To collect additional field data necessary to identify the occurrence and extent of contamination and to determine if any imminent health hazard exists.
- To perform a conceptual evaluation of remedial alternatives and estimate budgetary costs for the most likely alternative.
- To prepare a site investigation report including final HRS score.

The additional field data required to complete this investigation are described as follows:

Geophysical Survey - A geophysical study consisting of an electrical resistivity survey is recommended. The electrical resistivity survey will be performed at various locations within and beyond the perimeter of the site to investigate site stratigraphy, delineate significant discontinuities and assess the presence and location of contaminant plumes. A magnetic survey will be conducted as necessary on a grid system to aid in locating buried drums and in delineating the limits of the contaminated area.

Groundwater - A groundwater monitoring system consisting of 6 wells with proposed locations shown in Figure VI-1 is recommended. Borings will be drilled to a maximum depth of 30 feet; soil samples will be taken every 5 feet or more frequently if a change in soil lithology is encountered. The wells will be placed in the aquifer of concern and constructed of 2" PVC pipe. The groundwater samples will be analyzed for priority pollutants. In addition, sieve and hydrometer analyses will be performed on representative samples of the subsurface soils. Finally, an in-situ permeability test will be performed on each well.

Surface Water and Sediment - A surface water and sediment monitoring system consisting of 3 monitoring stations in downgradient swamp areas as shown in Figure VI-1 are recommended. The surface water and sediment samples will be analyzed for priority pollutants.

Air - An air monitoring survey with an HNU meter is recommended to test the air quality during site activities.

Surface Soil Samples - Eight surface soil samples will be taken at the scattered areas where drums have been dumped.

TASK DESCRIPTION

The proposed Phase II tasks are described in Table VI-2 as required under the site specific health and safety plan and quality assurance plan which must be submitted prior to initiation of field activities.

COST ESTIMATE

The estimated man-hours required for the Phase II project are presented in Table VI-3 and the estimated project costs by tasks are presented in Table VI-4. The estimated total cost for this project is $66,187.

TABLE VI-1

ASSESSMENT OF ADEQUACY OF DATA

HRS Data Requirement	Comments on Data
Observed Release	
Groundwater	Insufficient data to score release due to lack of upgradient monitoring wells
Surface Water	Insufficient data to score an observed release
Air	Adequate
Route Characteristics	
Groundwater	Adequate data to score
Surface Water	Adequate data to score
Air	Adequate data to score
Containment	Adequate data to score
Waste Characteristics	Inadequate data to score, no waste quantity information
Targets	Adequate data to score
Observed Incident	Adequate data to score
Accessibility	Adequate data to score

TABLE VI-2

PHASE II WORK PLAN - TASK DESCRIPTION

Tasks		Description of Task
II-A	Update Work Plan	Review the information in the Phase I report, conduct a site visit, and revise the Phase II work plan.
II-B	Conduct Geophysical Studies	Conduct resistivity and magnetometry surveys.
II-C	Conduct Boring/Install Monitoring Wells	Install 1 upgradient and 5 downgradient wells. The borings will be drilled to a depth of approximately 30 feet. Wells will be constructed of 2" PVC pipe.
II-D	Construct Test Pits/Auger Holes	No further construction of test pits/auger holes necessary.
II-E	Perform Sampling & Analysis	
	Soil samples from borings	Soil samples collected at 5 ft. intervals during drilling and at changes in subsurface lithologies. Perform one grain size analysis and permeability test per subsurface lithology change.
	Soil samples from surface soils	A total of eight surface soil samples will be collected at the former scavanger drum dumping areas.
	Soil samples from auger holes/test pits	No further studies necessary.
	Sediment samples from surface water	3 sediment samples are to be collected and analyzed for priority pollutants.
	Groundwater samples	6 groundwater samples are to be collected and analyzed for priority pollutants.
	Surface water samples	3 surface water samples are to be collected and analyzed for priority pollutants.

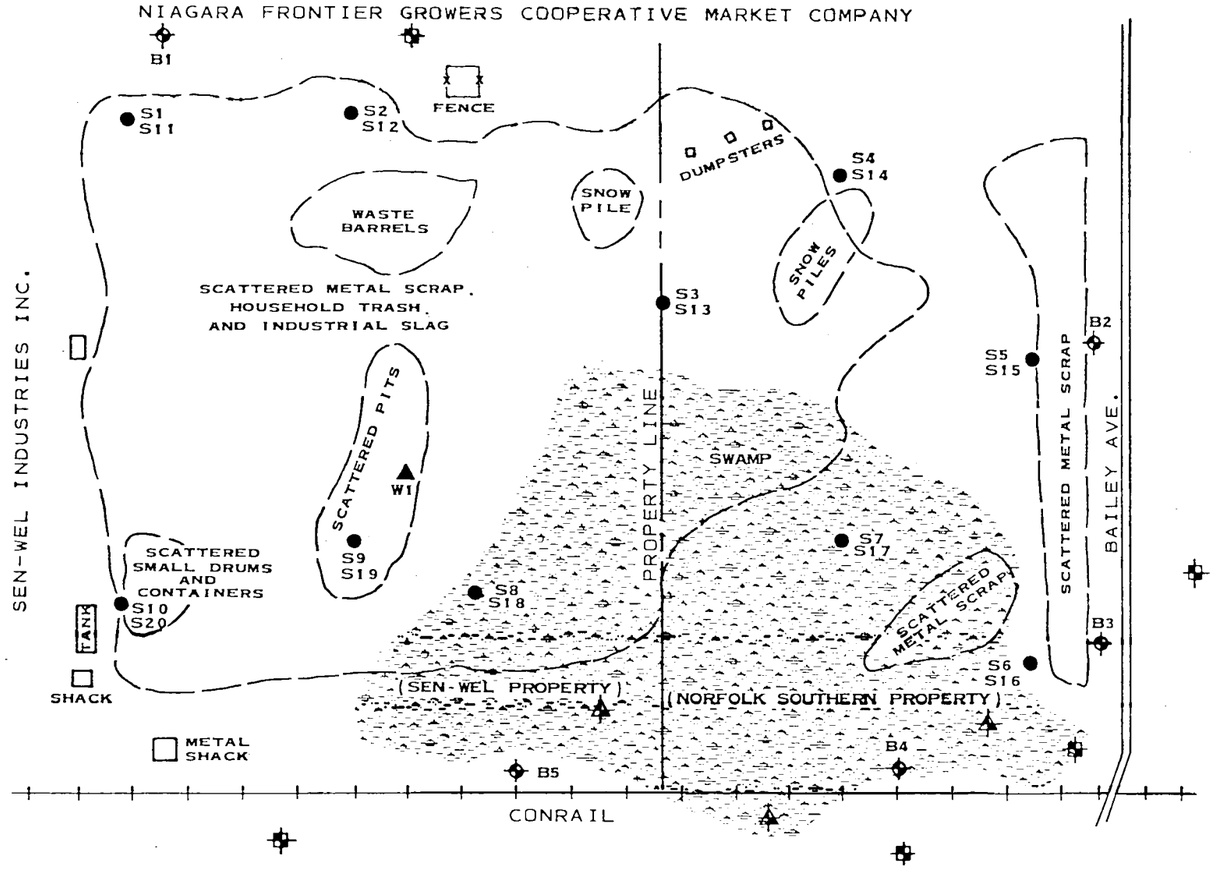
TABLE VI-3
PERSONNEL RESOURCES BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: CLINTON BAILEY)

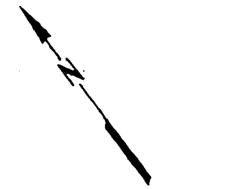
TASK DESCRIPTION	TEAM MEMBERS, MANHOURS												TOTAL HOURS	TOTAL $
	PIC	TRB	PM	DPM	PCM	QAM	HSM	FTL	FT	RAAL	RAAT	SS		
II-A UPDATE WORK PLAN	1	1	8	4		4	4	16		8		28	74	1144.1
II-B CONDUCT GEOPHYSICAL STUDIES			4	1			4	16	200			40	265	2567.79
II-C CONDUCT BORING/INSTALL MONITORING WELLS			8	16		4	4	24	80			24	160	2175.96
II-D CONSTRUCT TEST PITS/AUGER HOLES													0	0
II-E PERFORM SAMPLING AND ANALYSIS														
SOIL SAMPLES FROM BORINGS			4	4		2	2	8	16			8	44	636.42
SOIL SAMPLES FROM SURFACE SOILS			2	2		1	1	4	8			4	22	318.21
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES													0	0
SEDIMENT SAMPLES FROM SURFACE WATER			2	2		1	1	4	16			4	30	392.61
GROUND-WATER SAMPLES			4	2		1	1	8	32			8	56	700.57
SURFACE WATER SAMPLES			2	2		1	1	4	16			4	30	392.61
AIR SAMPLES			1	1			1	2	4				9	146.32
WASTE SAMPLES													0	0
II-F CALCULATE FINAL HRS			4	4				4	4	2		4	22	394.56
II-G CONDUCT SITE ASSESSMENT	2	2	8	2				24	32	12	40	50	172	2217.02
II-H PROJECT MANAGEMENT	2		6	2	3	4	4					12	33	523.88
TOTALS	5	3	53	42	3	18	23	114	408	22	40	166	917	11716.05

TABLE VI-4
COST ESTIMATE BREAKDOWN BY TASK
PHASE II HRS SITE INVESTIGATION (SITE: CLINTON BAILEY)

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST	OTHER DIRECT COSTS (ODC), $ LAB ANALYSIS	TRAVEL AND SUBSISTANCE	SUPPLIES	EQUIP. CHARGES	SUBCON-TRACTORS	MISC.	SUBTOTAL ODC	TOTAL ($)
II-A UPDATE WORK PLAN	74	$1,144.10		$200.00	$50.00	$50.00		$50.00	$350.00	$1,494.10
II-B CONDUCT GEOPHYSICAL STUDIES	265	$2,667.79		$2,000.00	$50.00	$600.00		$25.00	$2,675.00	$5,342.79
II-C CONDUCT BORING/INSTALL MONITORING WELLS	168	$2,175.96		$700.00	$250.00	$900.00	$8,500.00	$250.00	$10,600.00	$12,775.96
II-D CONSTRUCT TEST PITS/AUGER HOLES	0	$0.00							$0.00	$0.00
II-E PERFORM SAMPLING AND ANALYSIS										
SOIL SAMPLES FROM BORINGS	44	$636.42			$100.00	$150.00		$50.00	$300.00	$936.42
SOIL SAMPLES FROM SURFACE SOILS	22	$318.21		$85.00	$20.00	$75.00		$50.00	$230.00	$548.21
SOIL SAMPLES FROM TEST PITS AND AUGER HOLES	0	$0.00							$0.00	$0.00
SEDIMENT SAMPLES FROM SURFACE WATER	30	$392.61	$4,800.00	$85.00	$20.00	$75.00		$50.00	$5,030.00	$5,422.61
GROUND-WATER SAMPLES	56	$700.57	$7,200.00	$250.00	$40.00	$150.00		$50.00	$7,690.00	$8,390.57
SURFACE WATER SAMPLES	30	$392.61	$3,600.00	$85.00	$20.00	$75.00		$50.00	$3,830.00	$4,222.61
AIR SAMPLES	9	$146.32				$60.00		$10.00	$70.00	$216.32
WASTE SAMPLES	0	$0.00							$0.00	$0.00
II-F CALCULATE FINAL HRS	22	$394.56			$150.00	$150.00		$20.00	$320.00	$714.56
II-G CONDUCT SITE ASSESSMENT	172	$2,217.02			$750.00	$300.00		$75.00	$1,125.00	$3,342.02
II-H PROJECT MANAGEMENT	33	$529.88	$1,245.00	$300.00	$150.00	$50.00		$50.00	$1,795.00	$2,324.88
TOTALS	917	$11,716.05	$16,845.00	$3,705.00	$1,600.00	$2,635.00	$8,500.00	$730.00	$34,015.00	$45,731.05

OVERHEAD=	$16,730.52
SUBTOTAL=	$62,461.57
FEE=	$3,725.31
TOTAL PROJECT COST=	$66,186.88





EXPLANATION:

- ● S1-S10 SURFACE SOIL SAMPLES
  S11-S20 SHALLOW SUBSURFACE SOIL SAMPLES (E&E, 1984)
- ⊕ B1-B5 DEEP SUBSURFACE SOIL SAMPLES
  B3 AND B4 ALSO USED FOR COLLECTING GROUNDWATER SAMPLES (E&E, 1984)
- ▲ W1 SURFACE WATER SAMPLE (E&E, 1984)
- PROPOSED SURFACE WATER SAMPLE
- PROPOSED BORING

ENGINEERING-SCIENCE, INC.
IN ASSOCIATION WITH
DAMES & MOORE

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

PROPOSED SAMPLING LOCATIONS
CLINTON-BAILEY

FIGURE VI-1

APPENDIX A

REFERENCES

Sources Contacted

Documentation

SOURCES CONTACTED FOR
CLINTON-BAILEY INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
USEPA Headquarters, Superfund Office	4/2/85	Hamid Saebfed	(202) 382-4839	401 M Street, NW Washington, D.C. 20460	Reviewed list of sites to determine if additional information was available.
USEPA - Region II, OERR	3/22/85	Mel Hauptman	(212) 264-7681	Room 402 26 Federal Plaza New York, NY 10278	General information from site files.
NYSDEC - Division of Solid and Hazardous	12/19/84	Marsden Chen	(518) 457-0639	50 Wolf Road Albany, NY 12233	General information from site files.
NYSDEC - Division of Water	12/19/84	Sal Pagano	(518) 457-6675	50 Wolf Road Albany, NY 12233	Mr. Pagano set up meetings with three bureaus within Division of Water.
NYSDEC - Division of Water	12/20/84	Bob Hannaford	(518) 457-6716	50 Wolf Road Albany, NY 12233	Reviewed SPDES Files for permit numbers and conditions.
NYSDEC - Division of Water	12/21/84	George Hansen	(518) 457-2010	50 Wolf Road Albany, NY 12233	Reviewed DMR files for discharge violations.
NYSDEC - Division of Air Toxics	12/21/84	Art Fossa	(518) 457-7454	50 Wolf Road Albany, NY 12233	Reviewed site list to identify sites with potential air emissions.

SOURCES CONTACTED FOR CLINTON-BAILEY INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Division of Monitoring and Assessment	12/21/84	Bill Berner Frank Estabrook Fred Van Alstyne	(518) 457-7363 (518) 457-7363 (518) 457-7363	50 Wolf Road Albany, NY 12233	Reviewed geology and monitoring information for specific sites.
NYSDEC - Division of Environmental Enforcement	12/20/84	Kevin Walters	(518) 457-4346	50 Wolf Road Albany, NY 12233	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS - Dept. of Law Attorney General's Office	1/7/85	Val Washington	(518) 473-3105	Empire State Plaza Justice Building Albany, NY 12233	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS - Dept of Law Attorney General's Office	1/3/85	Albert Bronson	(716) 847-7196	Buffalo State Office Bldg. Buffalo, NY 14202	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYSDEC - Region 9 Division of Solid and Hazardous Waste	1/7/85	Peter Buechi Ahmad Tayyebi Jack Tygert Larry Clare	(716) 847-4585	600 Delaware Ave. Buffalo, NY 14202	Collected general information from site files.

SOURCES CONTACTED FOR CLINTON-BAILEY INVESTIGATION

CONTACT	DATE CONTACTED	PERSON CONTACTED	TELEPHONE NUMBER	LOCATION	INFORMATION COLLECTED
NYSDEC - Region 9 Division of Air	1/8/85	Henry Sandonato Robert Armbrust	(716) 847-4565 (716) 847-4565	600 Delaware Ave. Buffalo, NY 14202	Collected information concerning previous air emissions from inactive disposal sites.
NYSDEC - Regional Attorney	1/10/85	Peter J. Burke	(716) 847-4551	600 Delaware Ave. Buffalo, NY 14202	Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
NYS Dept. of Health, Buffalo Region Public Health Engineering	1/8/85	Lou Violanti	(716) 847-4500	584 Delaware Ave. Buffalo, NY 14202	Collected information from site files.
NYSDEC - Region 9 Division of Fish and Wildlife	1/10/85 & 1/11/85	Mike Wilkinson Jim Sneider	(716) 847-4600 (716) 847-4600	600 Delaware Ave. Buffalo, NY 14202	Collected information from site files
Erie County, Division of Environmental Control, Dept. of Environment & Planning	1/10/85	Don Campbell Ron Koczaja	(716) 846-6271 (716) 846-6370	95 Franklin Street Buffalo, NY 14202	Collected information from Erie County site files. Obtained additional information through interview.
Erie County, Division of Economic Development and Planning	4/2/85	Mike Alspaugh	(716) 846-6013	95 Franklin Street Buffalo, NY 14202	Obtained 1980 U.S. Census Data.
Sen-Wel Industries	3/7/85 3/18/85	Michael Hayhurst	(716) 822-0013	1395 Clinton St. P.O. Box 928 Buffalo, NY 14240	Conducted site inspection and reviewed site history.

REFERENCES

16. Ecology & Environment International, Phase II Investigation Draft Report, 1984.

17. Hayhurst, Michael, Sen-Wel Industries, Personal Communication, 3/7/85.

Clinton-Bailey Draft

NT-210-D700

(E & E, 1984)

REF-16

PHASE 2 FIELD INVESTIGATION REPORT FOR THE PROPOSED NFTA BUS GARAGE, CLINTON AND BAILEY STREETS, BUFFALO, NEW YORK

March 30, 1984

Prepared for:

NIAGARA FRONTIER TRANSPORTATION AUTHORITY
181 Ellicott Street
Buffalo, New York 14205

ecology and environment international

CAYMAN INTERNATIONAL TRUST BUILDING, P.O. BOX 500, GEORGETOWN, GRAND CAYMAN, CAYMAN ISLANDS, BRITISH WEST INDIES

International Specialists in the Environmental Sciences

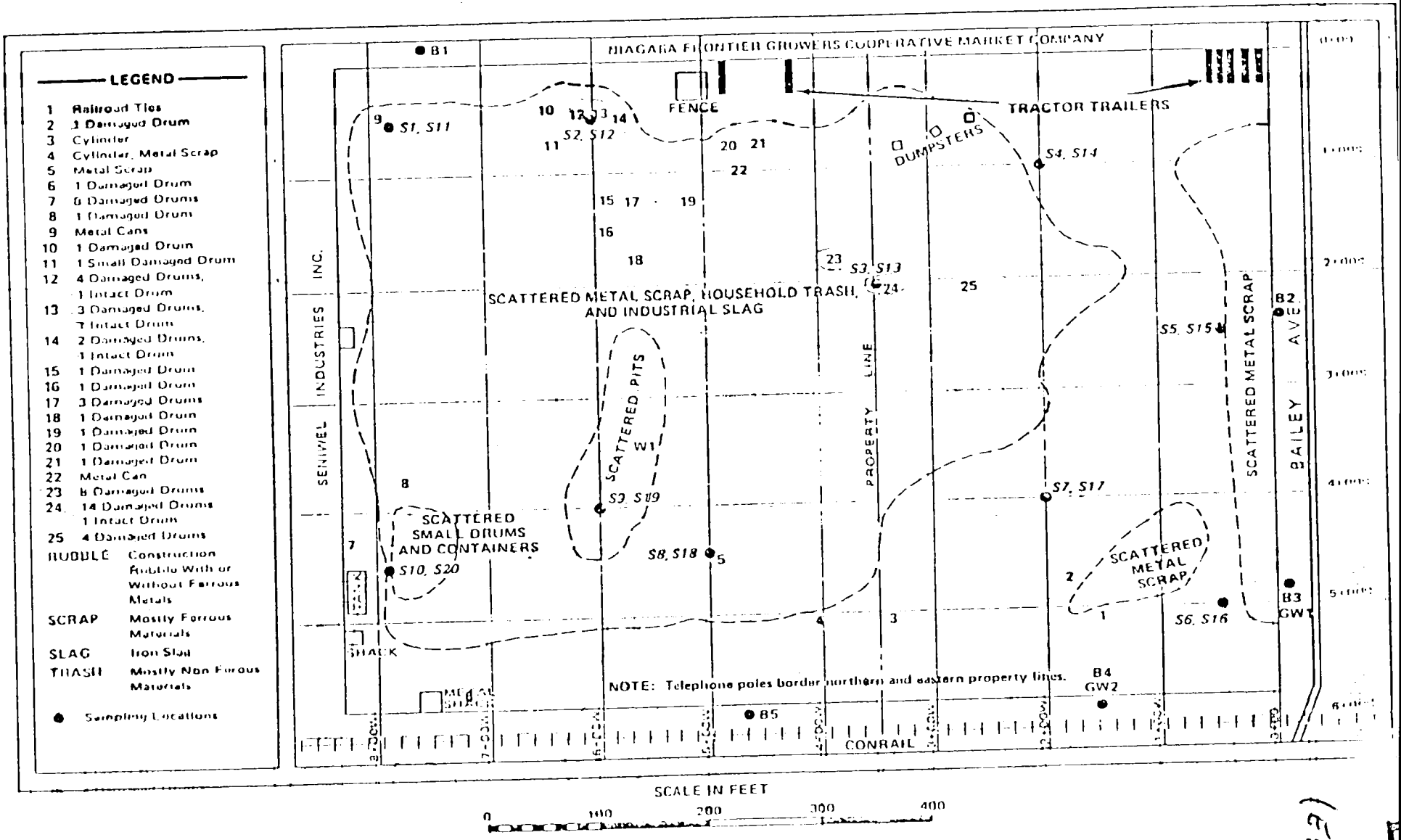


Figure 2-1 SITE PLAN FOR PROPOSED NFTA BUS GARAGE SITE
(Clinton and Bailey Streets)

(1981-82)

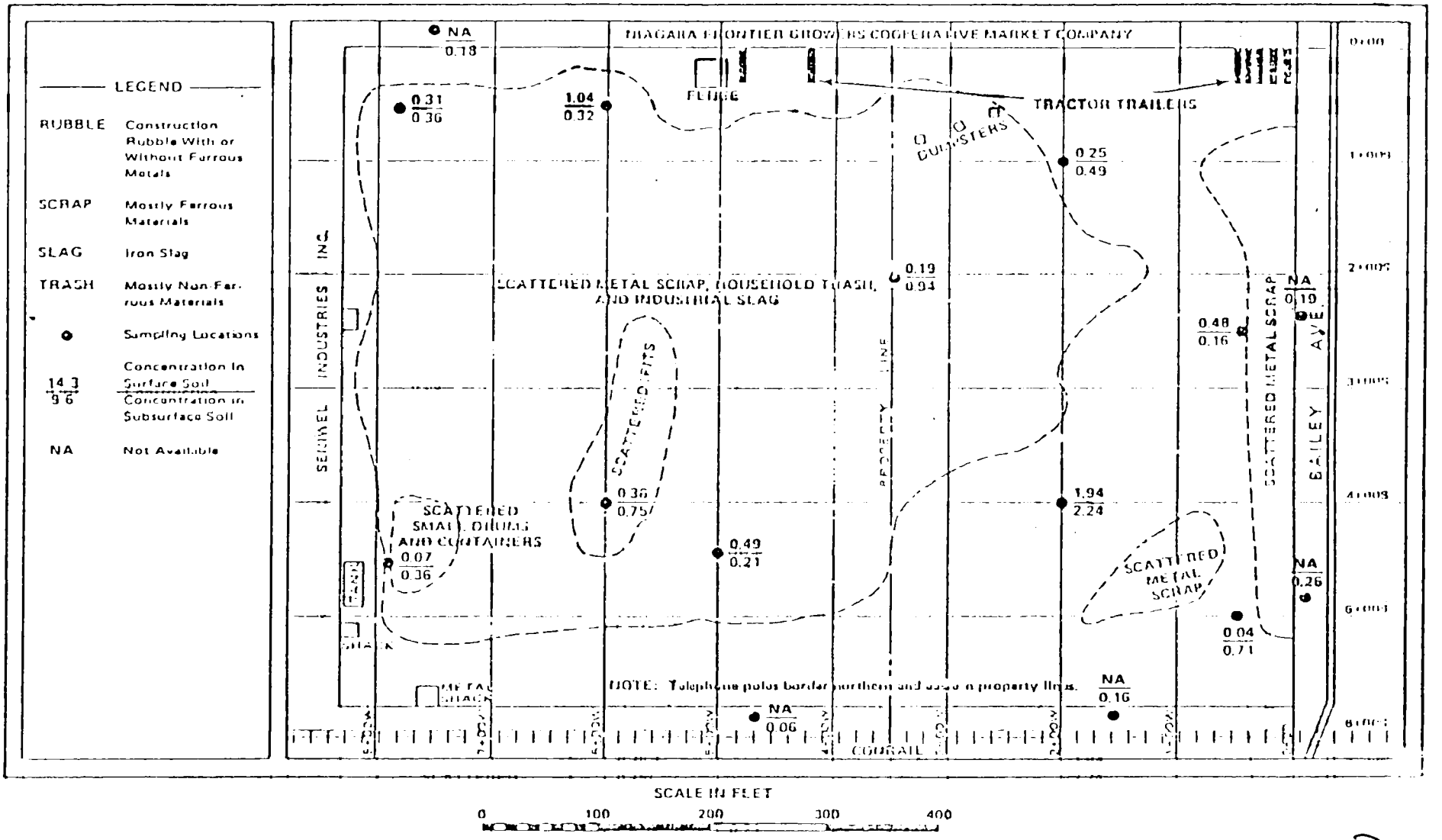


Figure 3–1 TOTAL HALOGENATED ORGANICS AS LINDANE CONCENTRATIONS (ppm) IN SOIL -- PROPOSED NFTA BUS GARAGE SITE

(ERE, 1984)

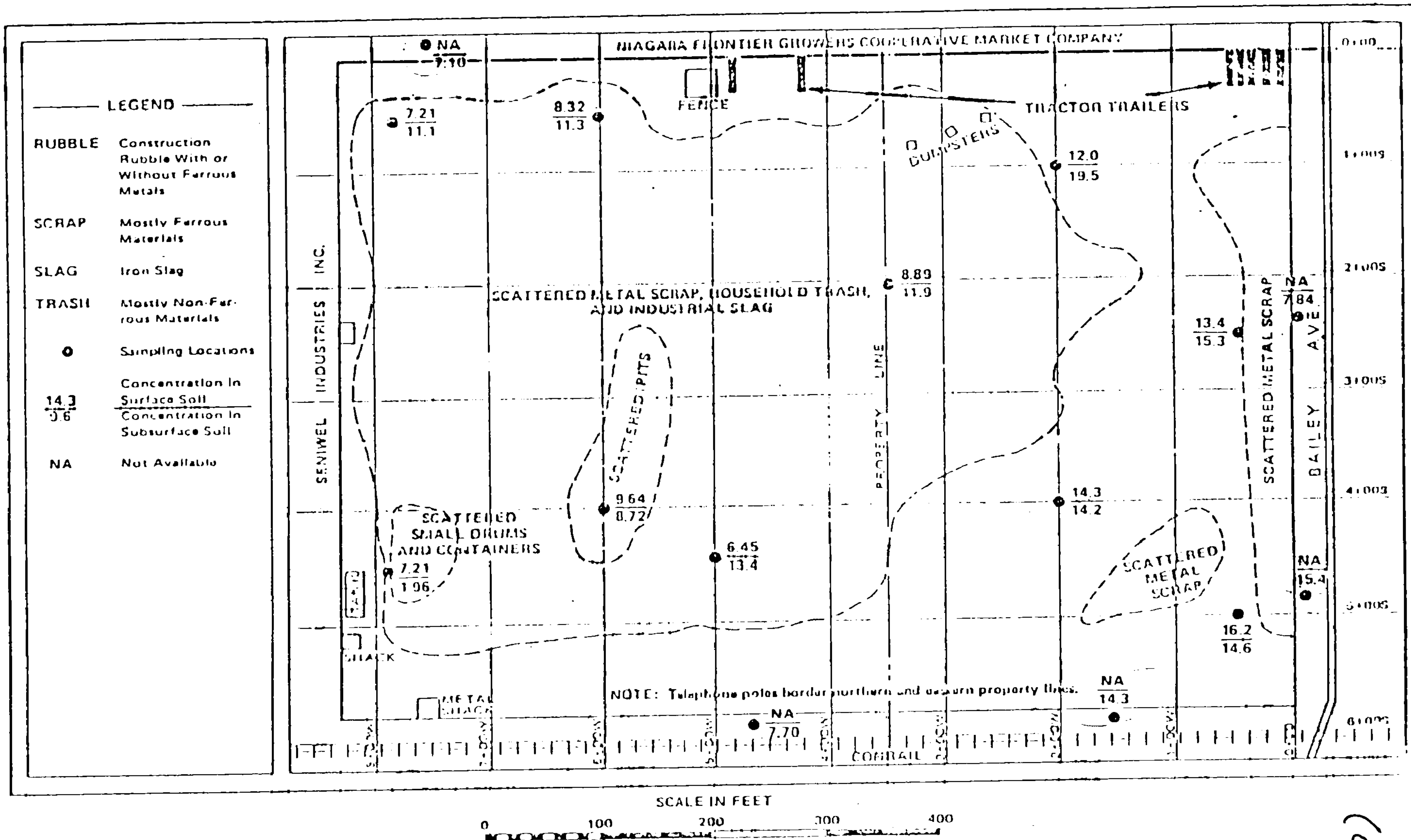


Figure 3-2 ARSENIC CONCENTRATIONS (ppm) IN SOIL – PROPOSED NFTA BUS GARAGE SITE

(E&E, 1984)

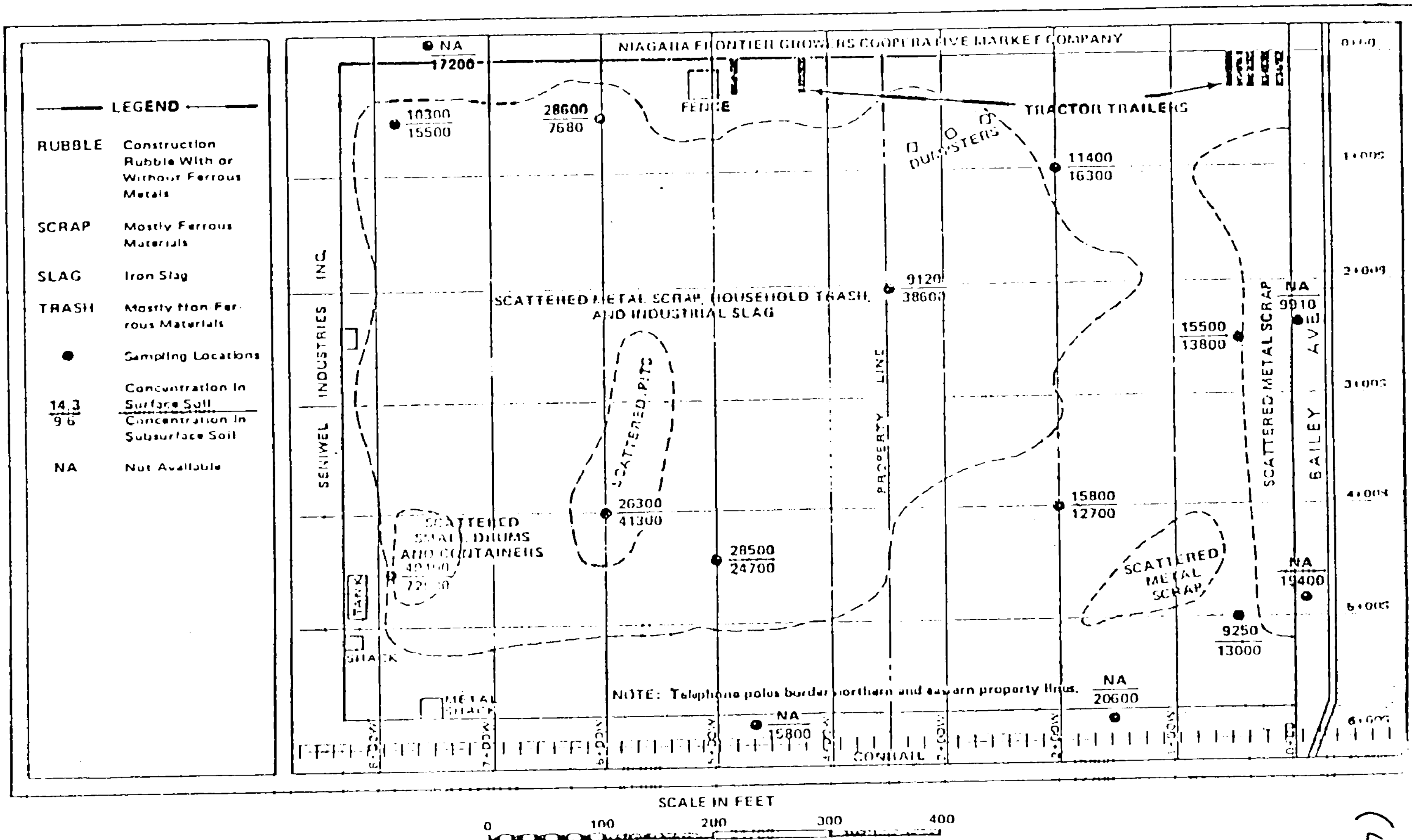


Figure 3–3 IRON CONCENTRATIONS (ppm) IN SOIL – PROPOSED NFTA BUS GARAGE SITE

Draft (3/E, 1984)

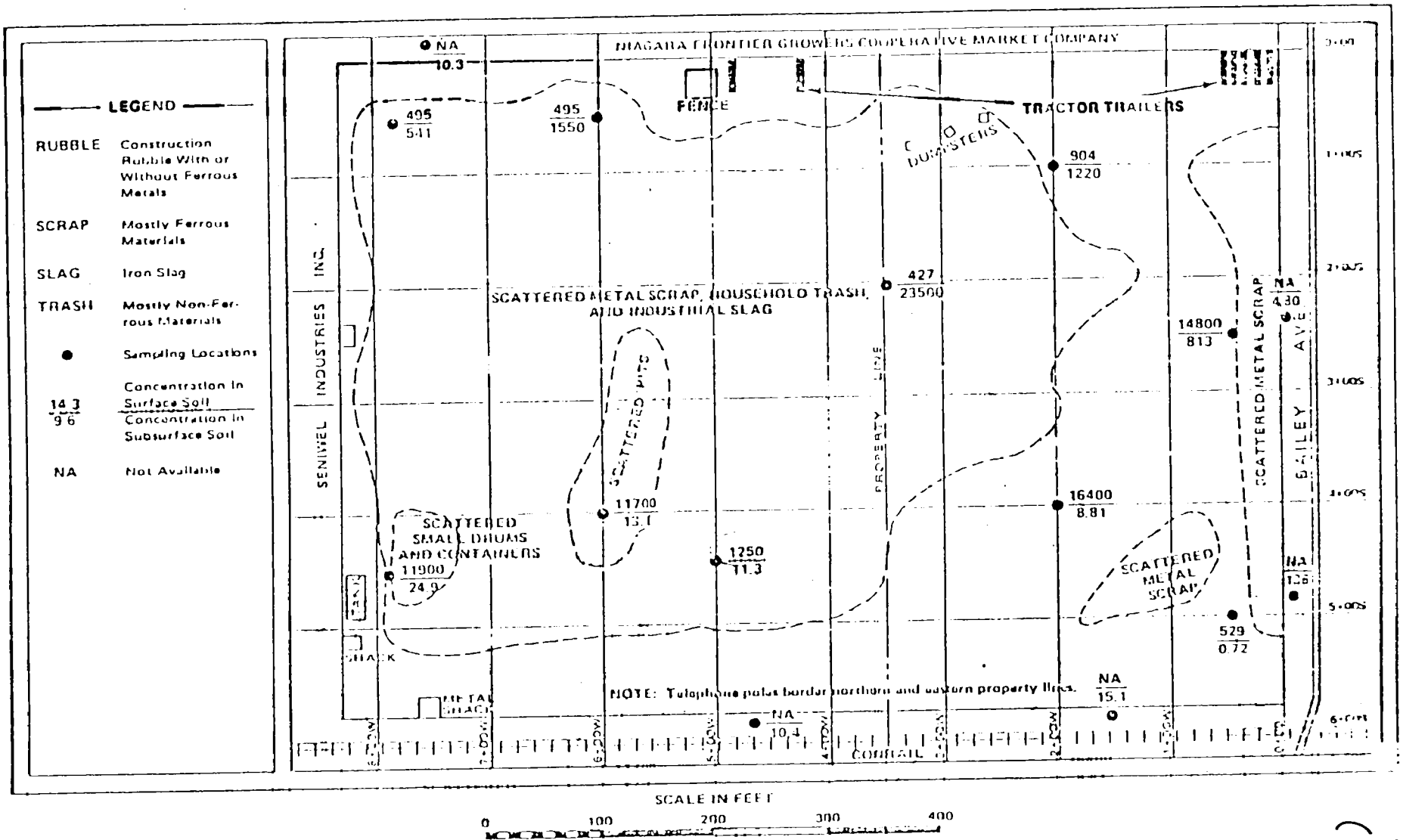


Figure 3–4 LEAD CONCENTRATIONS (ppm) IN SOIL – PROPOSED NFTA BUS GARAGE SITE

(EE, 1984)

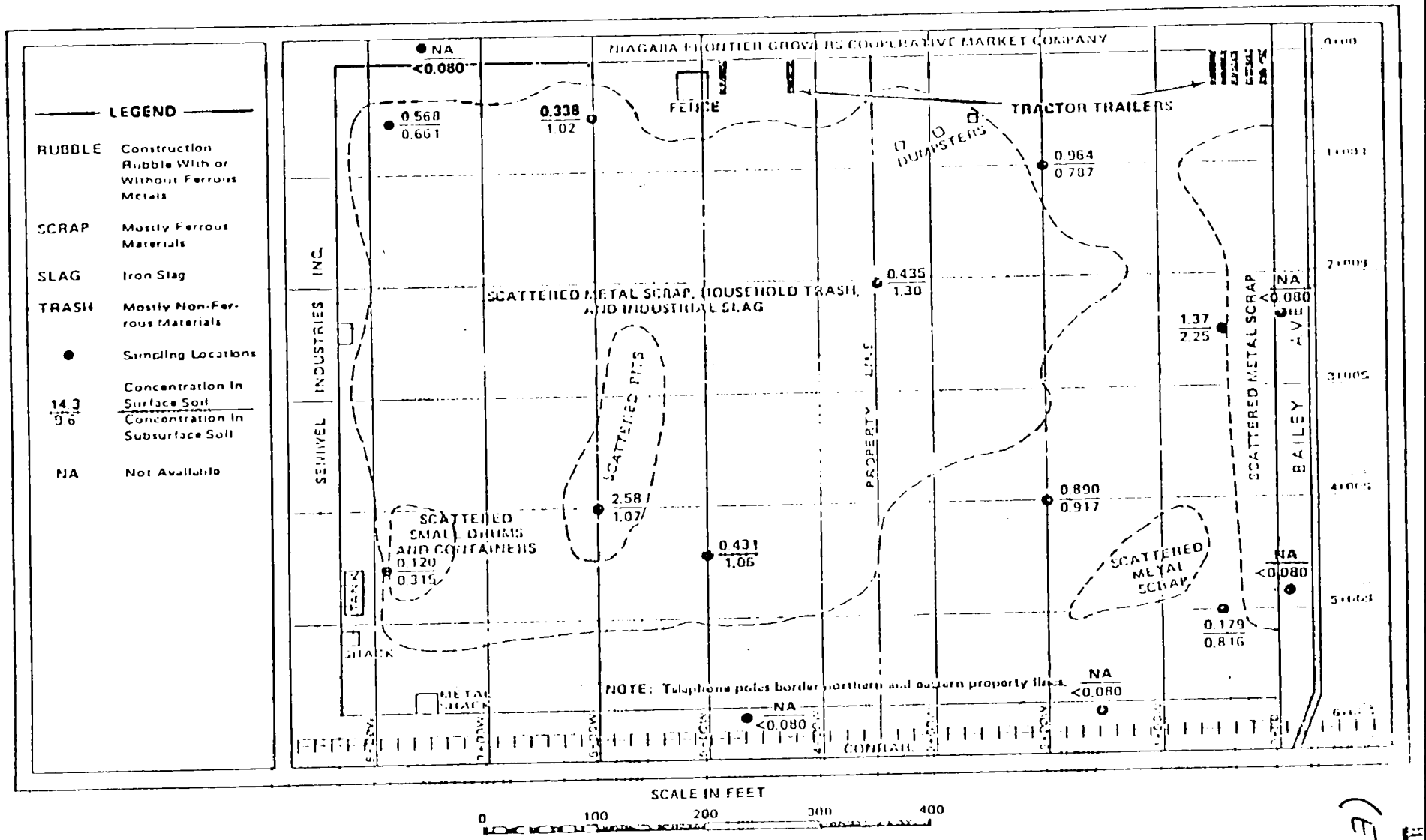


Figure 3-5 MERCURY CONCENTRATIONS (ppm) IN SOIL – PROPOSED NFTA BUS GARAGE SITE

(ECE, 1984)

Draft
(E&E, 1984)

Table 3-1

ANALYTICAL RESULTS FOR WATER SAMPLES

(All results in ppb)

Parameter	E & E Lab Number 84-	199	235	563
	Sample Identity	B-4	B-3	W1 (Surface water)
Total halogenated organics as lindane		0.10	0.14	0.039
Arsenic		715	111	21.9
Iron		41.3	168	887
Lead		51.5	91.9	63.2
Mercury		2.48	3.00	<0.40

< = None detected at the standard detection limits.

Draft
(E&E, 1984)

Table 4-1

HEAVY METAL CONCENTRATIONS IN SOIL SAMPLES

Compound	Highest Concentration (ppm)	Lowest Concentration (ppm)	Average Concentration (ppm)
Total halogenated organics as lindane	2.24	0.04	0.50
Arsenic	19.5	1.96	11.2
Iron	72,800	7,680	21,400
Lead	23,500	0.72	3,470
Mercury	2.58	<0.08	0.739

REF-17

INTERVIEW FORM

INTERVIEWEE/CODE Michael Hayhurst /
TITLE - POSITION President Sen-Wel Industries
ADDRESS PO Box 928
CITY Buffalo STATE NY ZIP 14240
PHONE (716) 822-0013 RESIDENCE PERIOD — TO
LOCATION telephone INTERVIEWER SJ Tiffany
DATE/TIME 3/7/85 / 3:40 pm
SUBJECT: Clinton-Bailey Phase I Site Investigation

REMARKS: Mr. Hayhurst furnished the following information:
- Sen-Wel bought the western half of the Clinton-Bailey site from Erie-Lackawanna Railroad less than five years ago. This parcel is adjacent to Sen-Wel's current operations; however, it has remained vacant, covered w/field grasses & scrub brush.
- According to "local hearsay," the entire area was a large clay quarry, probably used by Buffalo China. The City of Buffalo may have used the site as a dump approximately 50-75 years ago.
- the NFTA investigated the site for construction of a bus station - they had the right of eminent domain had they chosen to exercise it

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

APPENDIX B

PROPOSED UPDATED NYS REGISTRY SHEET

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

CLASSIFICATION CODE: 2a REGION: 9 SITE CODE: 915126

NAME OF SITE : Clinton-Bailey
STREET ADDRESS: Clinton St. and Bailey Ave.

TOWN/CITY:	COUNTY:	ZIP:
Buffalo	Erie	

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 11.7 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Semwell Industrial & Norfolk So. Cor
CURRENT OWNER ADDRESS.: 1396 Clington St. Buffalo, NY 14240
OWNER(S) DURING USE...: unknown
OPERATOR DURING USE...: unknonw
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From unknown To unknown

SITE DESCRIPTION:
A vacant lot fronting Bailey Avenue between Niagara Frontier growers cooperative onthe north and Conrail property on the south. Disposal of drums containing unknown material first noted in March 1984. Preliminary investigation conducted by potential purchaser of the site. Investigation revealed elevated levels of lead & mercury in the soils on site. Groundwater from test wells on site contained levels of arsenic, mercury and lead above state groundwater standards.

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected -

TYPE	QUANTITY (units)
fill material onsite contains heavy metals	unknown

SITE CODE: 915126

ANALYTICAL DATA AVAILABLE:

Air- Surface Water-X Groundwater-X Soil-X Sediment- None-

CONTRAVENTION OF STANDARDS:

Groundwater-X Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: none X State- Federal-
STATUS: In Progress- Completed-

REMEDIAL ACTION:

Proposed- Under Design- In Progress- Completed-
NATURE OF ACTION: none

GEOTECHNICAL INFORMATION:
SOIL TYPE: Sandy loam
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soils and groundwater on site contaminated with heavy metals. Further investigation required to determine full extent of contamination on site as well as migration off site.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient Information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: John W. Hyden
TITLE: Sr. Sanitary Engineer

NAME.: Peter Buechi
TITLE: Assoc. Sanitary Engineer

DATE.: 01/25/85

NEW YORK STATE DEPARTMENT OF HEALTH

NAME.: R. Tramontano
TITLE: Bur. Tox. Subst. Assess.

NAME.:
TITLE:

DATE.: 01/25/85