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ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

Exolon Corporation **Site No. 915023**

Tonawanda **Erie County**

DATE: February 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:

Recra Environmental, Inc.

3/3069

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

The Exolon-Esk Company
City of Tonawanda
Erie County, New York
Site #915023

Prepared For:

Division of Solid and Hazardous Waste
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-0001

Prepared By:

Recra Environmental, Inc.
4248 Ridge Lea Road
Amherst, NY 14226

January 1986

EXOLON-ESK COMPANY
TABLE OF CONTENTS

EXOLON-ESK COMPANY

LIST OF FIGURES

2.0 PURPOSE

The objective of this Phase I investigation is to prepare a report for the Exolon Company site that provides a site history based on a review of available data, assigns a numerical value to the site through the use of the Hazard Ranking System (HRS) and develops a proposed Phase II work plan designed to address the data inadequacies identified during report preparation. The purpose of developing a Phase I report in this manner is to provide an objective assessment of the site and the potential impact it may pose to human health and the environment.

The Phase I objective was met through the following activities:

- o an interview with a representative from the company,
- o collection and review of available data for report preparation and preliminary scoring of the HRS,
- o site inspection,
- o evaluation of data for completeness and identification of data inadequacies, and
- o development of a proposed Phase II work plan to address the data inadequacies identified.

The site inspection is an integral part of the Phase I report preparation and is conducted to confirm actual site conditions. Typically, the site visit is designed to note the general topography and the geology of the site, evidence and forms of waste disposal, and visible signs of release of contaminants to the environment such as leachate, access to the site and location relative to water supplies, population centers and sensitive environments such as wetlands.

3.0 SCOPE OF WORK

In order to permit an accurate characterization of the Exolon site, Recra personnel conducted a search for literature and information regarding the site and site vicinity. This search included the review of general information available at area colleges and universities, such as, regional geography, geology, and hydrogeology of the study area. The search also included review of state and county office files regarding the site as well as personal interviews with parties associated and/or familiar with the site and site vicinity.

Information received from NYSDEC Region 9, located at 600 Delaware Avenue, Buffalo, New York 14202 (telephone 716/847-4600) and the Erie County Department of Environment and Planning located at 95 Franklin Street, Buffalo, New York (telephone 716/847-6370), comprises the majority of the data base utilized in developing this report. Review of these office files provided information related to past operations and site conditions during past inspections.

Recra personnel also conducted telephone interviews with Mr. Ron Szatkowski of the Exolon-Esk Company, 1000 East Niagara Street, Tonawanda, New York (telephone 716/693-4550). Documentation of these conversations are presented as Reference 3 of this report. No other interviews were obtained during this investigation.

4.0 SITE ASSESSMENT

4.1 Site History

The disposal site is located on the property of the Exolon Company located at 1000 East Niagara Street in the Town of Tonawanda (Figure 1). The Exolon Company manufactures artificial aluminum oxide and silicon carbide abrasives for grinding wheels and general industrial use (Reference 2). Between 1949 and 1953, Exolon reportedly disposed of refractory brick from plant kilns, iron tailings (removed during the processing of aluminum oxide), foundry sands, and coal cinders in a low area located on the northern edge of the property (References 1 and 3). There are no records of the quantities of wastes disposed at the site.

In 1981, the Erie County Department of Environment and Planning performed an inspection of the site and stated that the site was closed in compliance with Part 360 of the Environmental Conservation Law. In November 1985, Recra personnel also inspected the site and found the suspected disposal area to be level and well seeded. Also noted was a small mound, approximately 50 feet in diameter located several hundred feet south of the described disposal area (Figure 2). This mound was composed of soil, brick, and other debris and was overgrown with weeds.

It was learned from a telephone interview with Mr. Ron Szatkowski of the Exolon Company (Ref. 3) that the disposal area might exist under one of the plant buildings. This area would be located approximately 100 feet southeast of the original suspected disposal area. It was also learned during this conversation that foundry sands might have been depo-

sited on the property. It is unknown whether these foundry sands contained phenolic binders. Mr. Szatkowski believes these sands were used for castings of machine parts during the 1940's.

4.2 Site Area Surface Features

4.2.1 Topography and Drainage

Topography in the vicinity of the site is relatively flat as the site lies within Lake Tonawanda Plain (Reference 4). The Erie-Barge Canal is located 200 feet to the north, and Ellicott Creek is located 3,000 feet to the south. New York State regulated wetland TE-23, is located 1,000 feet to the southeast (Reference 5). The site is not located within either a 100-year or 500-year flood plain (Reference 19). Surface drainage flows towards the canal following the local topography. A drainage ditch leading from a settling basin located in the central portion of the property flows northwards and discharges into the canal (Figure 2). The company maintains a state SPDES permit for non-contact surface water discharge into this ditch (Reference 21).

4.2.2 Environmental Setting

The area surrounding the site is industrial, commercial, and residential. Population density was estimated by the County to be greater than 10,000 (Reference 1). The Erie-Barge Canal lies within 200 feet of the site. This section of waterway has been classified as a Class "C" water source (Reference 7). Class "C" waters are suitable for fishing and other uses except as a source of water supply for drinking, culinary, or food processing purposes and primary contact recreation.

4.3 Hydrogeology

4.3.1 Geology

Bedrock in the area of the Exolon Company is comprised of the Camillus Shale (Reference 4). This unit contains large amounts of gypsum and is estimated to be approximately 400 feet thick. A well was installed in the southeastern portion of the property in 1978 (Reference 8). The depth to bedrock was found to be 78 feet. The Camillus Shale, part of the Salina group, dips gently to the south and varies from thinly bedded shale to massive mudstone. Gypsum and anhydrite are present in Erie County (Reference 9).

4.3.2 Soils

The USDA Soil Conversation Service describes the soils in the area as being of the Urban Land-Niagara Unit (Reference 10). These soils consist of lake-laid silt, sand and clay deposits. The Niagara soils are somewhat poorly drained and have a seasonal high water table in the upper subsoil during the spring and other excessively wet periods. The rate of permeability through the soil is moderately slow. It was reported that four feet of sandy loam was placed over clay in the filled area (Reference 1).

4.3.3 Groundwater

The Camillus Shale can be a productive bedrock aquifer due to the solutioning of the gypsum zones within the shale. Fairly large yields have been obtained from industrial wells in the Tonawanda area (Reference 9).

Exolon had a well installed by Ehmke Well Drillers of Silver Creek, New York in 1978. This well was screened within the shale bedrock. The average yield from the pumping test conducted in 1978 was about 111 gallons per minute (Reference 8). This well is not used presently. There are no other groundwater wells in the vicinity as all residences in the area are supplied with municipal water (Reference 14).

4.4 Previous Sampling and Analysis

4.4.1 Groundwater Quality Data

Groundwater samples were collected from the newly installed well several times in 1978, and once in 1979 (Ref. 11, 12, 13). Parameters were selected for characterization of the water quality and not for detection of contaminants related to hazardous waste. All analyses indicated high concentrations of Total Dissolved Solids (TDS) which precluded its use due to the high solids concentrations.

4.4.2 Surface Water Quality

There is no surface water quality data available for this site.

4.4.3 Air Quality Data

There is no air quality data available for this site.

4.4.4 Other Analytical Data

There is no other analytical data available.

5.0 PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM

5.1 Narrative

The Exolon-Esk Company is located at 1000 East Niagara Street in the City of Tonawanda, Erie County, New York. The company manufactures artificial aluminum oxide and silicon carbide abrasives for grinding wheels and general industrial use. Between 1949 and 1953 the company reportedly landfilled unknown quantities of kiln bricks, iron tailings, coal cinders and possibly foundry sands on the property (References 1, 3, and 20).

A site profile report prepared by the Erie County Department of Environment and Planning in 1982, identified the disposal site as being located at the northern edge of the property alongside East Niagara Street. This area was approximately 1.5 acres in size. Recra Research, Inc., personnel visited the site in November, 1985 and found the area of the site to be flat and well seeded. The Exolon Company, however, feels the disposal site may be located in an area that is presently beneath a plant building (Ref. 3).

A small mound of debris was observed at the southwestern portion of the property consisting of old bricks and dirt. At present, no landfilling is performed at the company site.

The site is located within a residential and commercial section of the City of Tonawanda. The Erie-Barge Canal is located 200 feet north of the site. A NYS regulated wetland is located 1000 feet to the southeast of the company. A City of Tonawanda inactive landfill is located 500 feet directly south of the site.

5.2 HRS WORKSHEET

Facility name: Exolon-Esk Company

Location: 1000 East Niagara Street, Tonawanda, NY 14150

EPA Region: II

Person(s) in charge of the facility: Ron Szatkowski
Manager, Engineering Services

Name of Reviewer: Recra Research, Inc. Date: 12/20/85

General description of the facility:

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

Between 1949 and 1953 the company reportedly landfilled unknown quantities of kiln brick, coal cinders, iron and aluminum oxide tailings, and possibly foundry sands. This area was about 1.5 acres in size, and is located in the northwest portion of the property. The Erie Barge Canal is located approximately 200 feet to the north of the site.

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

S_{FE} = N/A

$S_{DC} = 0$

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	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	2	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 (1) 2 3	1	1	3	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			7	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	0	18	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	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	0	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			0	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	0		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

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	0	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	2	3	
Total Route Characteristics Score			10	15	
3 Containment	0 1 (2) 3	1	2	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	0	18	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	26	
5 Targets					4.5
Surface Water Use	0 1 2 (3)	3	9	9	
Distance to a Sensitive Environment	0 1 (2) 3	2	4	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 / 12 16 18 20 / 24 (30) 32 35 40	1	30	40	
Total Targets Score			43	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			0	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	0		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]			0	35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S_a =	0		

FIGURE 9
AIR ROUTE WORK SHEET

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

FIGURE 10
WORKSHEET FOR COMPUTING S_M

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

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

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	0	15	8.3
[4] Waste Characteristics Toxicity	(0) 1 2 3	5	0	15	8.4
[5] Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	0 1 2 (3)	4	12	12	
Total Targets Score			32	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]			0	21,600	
[7] Divide line [6] by 21,600 and multiply by 100		S_{DC} =	0		

FIGURE 12
DIRECT CONTACT WORK SHEET

5.3 HRS DOCUMENTATION RECORDS

DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

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

FACILITY NAME: Exolon-ESK Company

LOCATION: 1000 East Niagara Street, Tonawanda, NY 14150

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

None, no analytical data available Score: 0

Rationale for attributing the contaminants to the facility:

None (Ref. 11, 12, 13)

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

Camillus Shale

(Ref. 8 and 9)

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

In 1978 the static water level in the well on the property was measured at 7.5 feet below ground surface. However, the depth to the aquifer is 78 feet. Therefore a score of 1 is used. (Ref. 8)

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

Unknown

Net Precipitation

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

36 inches

(Ref. 16)

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

27 inches

(Ref. 16)

Net precipitation (subtract the above figures):

9.0 inches Score: 2

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Urban Land-Niagara. Poorly drained silty soils

(Ref. 10)

Permeability associated with soil type:

$<10^{-5}$ $\geq 10^{-7}$ cm/sec. Score: 1

(Ref. 16)

Physical State

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

Solids, fine materials Score: 2

(Ref. 1, 2, 3)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastes were landfilled in the northwestern portion of the company's property. (Ref. 1, 20)

Method with highest score:

Landfill, no liner Score: 2 (Ref. 16)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

It is suspected that foundry sands containing phenolic binders could exist in the waste, but this is not documented. Metal tailings (iron, aluminum oxide) were also landfilled. (Ref. 3)

Compound with highest score:

None. Score: 0 (Ref. 16)

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. There is no documentation that any hazardous waste (phenolic binders) were in fact disposed of along with the coal cinders, iron tailings and kiln brick. Therefore, no quantity can be calculated. Score: 0 (Ref. 1, 3, 20)

Basis of estimating and/or computing waste quantity:

It is unknown how deep the area was which was used for landfilling

* * *

5 TARGETS

Ground Water Use

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

Wells in the area are believed to be used for industrial purposes only.

Score: 1

(Ref. 9)

Distance to Nearest Well

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

The well drilled within the bedrock aquifer is located in southeastern portion of property and was designed for industrial use only. Discontinued in 1979.

(Ref. 1)

Distance to above well or building:

Approximately 300 feet

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

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

None Score: 0

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

None

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

None

SURFACE WATER ROUTE

1 OBSERVED RELEASE

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

Unknown, no analytical data available Score: 0

Rationale for attributing the contaminants to the facility:

N/A

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

<1.0% Score: 0

(Ref. 18)

Name/description of nearest downslope surface water:

Erie-Barge Canal. Used for commercial uses such as boating and fishing

(Ref. 7)

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

1.0%

(Ref. 18)

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

No

Is the facility completely surrounded by areas of higher elevation?

No

1-Year 24-Hour Rainfall in Inches

Approximately 2.1 inches Score: 2 (Ref. 16)

Distance to Nearest Downslope Surface Water

Approximately 200 feet Score: 3 (Ref. 18)

Physical State of Waste

Solids, fine material Score: 2 (Ref. 1, 2, 3)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastes were landfilled in a low area in the northwestern portion of the property. (Ref. 1, 20)

Method with highest score:

Landfill, no liner Score: 2 (Ref. 16)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

It is suspected that foundry sands containing phenolic binders could exist in the waste, but this is not documented. Metal tailings (iron, aluminum oxide) were also landfilled.

(Ref. 3)

Compound with highest score:

None. Score: 0 (Ref. 16)

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. There is no documentation that any hazardous waste (phenolic binders) were in fact disposed of along with coal cinders. iron tailings, and refractory brick. Therefore, no quantity can be calculated. Score: 0

(Ref. 3)

Basis of estimating and/or computing waste quantity:

It is unknown how deep the area was which was used for landfilling

* * *

5 TARGETS

Surface Water Use

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

There are three (3) municipal water intakes in the Niagara River west of the facility. The Erie-Barge canal is also directly north of the site which flows into the River is used for fishing and other commercial uses. Score: 3

(Ref. 7, 17)

Is there tidal influence?

No

Distance to a Sensitive Environment

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

N/A

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

Approximately 0.20 miles or 1000 feet Score: 2

(Ref. 5)

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

N/A

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:

Three intakes west of the facility located in the Niagara River:

I.D. #	Population
12	25,000
16	36,000
19	18,538

(Ref. 17)

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

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

Niagara River East Branch (Ref. 17)

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

#12 - 2.0 miles
#16 - 1.8 miles
#19 - 1.9 miles (Ref. 17)

Since each serves population of >10,000. Resulting score = 30

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

N/A

Date and location of detection of contaminants

N/A

Methods used to detect the contaminants:

N/A

Rationale for attributing the contaminants to the site:

N/A

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

N/A

Most incompatible pair of compounds:

N/A

Toxicity

Most toxic compound:

N/A

Hazardous Waste Quantity

Total quantity of hazardous waste:

N/A

Basis of estimating and/or computing waste quantity:

N/A

* * *

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

>10,000

(Ref. 1)

Distance to a Sensitive Environment

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

N/A

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

Approximately 0.20 miles or 1000 feet

(Ref. 5)

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

N/A

Land Use

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

0.1 mile

(Ref. 18)

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

N/A

Distance to residential area, if 2 miles or less:

0.2 mile

(Ref. 18)

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

N/A

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

N/A

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

N/A

FIRE AND EXPLOSION

1 CONTAINMENT

Hazardous substances present:

None

Type of containment, if applicable:

N/A

* * *

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

N/A

Ignitability

Compound used:

N/A

Reactivity

Most reactive compound:

N/A

Incompatibility

Most incompatible pair of compounds:

N/A

* * *

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

There is no documentation that any hazardous waste (phenolic binders) were in fact disposed at the site.

(Ref. 1, 3, 20)

Basis of estimating and/or computing waste quantity:

N/A

* * *

3 TARGETS

Distance to Nearest Population

0.2 mile (Ref. 18)

Distance to Nearest Building

~200 feet (Ref. 18)

Distance to Sensitive Environment

Distance to wetlands:

1000 feet (Ref. 5)

Distance to critical habitat:

N/A

Land Use

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

0.1 mile (Ref. 18)

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

N/A

Distance to residential area, if 2 miles or less:

0.2 mile

(Ref. 18)

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

N/A

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

N/A

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

N/A

Population Within 2-Mile Radius

>10,000

(Ref. 1)

Buildings Within 2-Mile Radius

Site is within a highly residential semi commercial area with population >10,000

(Ref. 1)

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

None, Score: 0

* * *

2 ACCESSIBILITY

Describe type of barrier(s):

None, Score: 3

* * *

3 CONTAINMENT

Type of containment, if applicable:

Landfill, no liner

Score: 0 (Ref. 16)

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

N/A Score: 0

Compound with highest score:

N/A

* * *

5 TARGETS

Population within one-mile radius

>10,000

(Ref. 1)

Distance to critical habitat (of endangered species)

N/A

5.4 EPA PRELIMINARY ASSESSMENT
(Form 2070-12)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Exolon - Esk Company	1000 East Niagara Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Tonawanda	N.Y.	14151	Erie		

09 COORDINATES LATITUDE	LONGITUDE
43 01 29.	78 51 22

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Exolon - Esk Company	1000 East Niagara St.

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Tonawanda.	N.Y	14151	(716) 693-4550

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 11/25/85 (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): Recra Research, Inc.

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

03 YEARS OF OPERATION
1949 (BEGINNING YEAR) | 1953 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Company reportedly deposited refractory brick, foundry sands, and metal tailings in a landfilled area in the northwest portion of the property.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
No indication. Area is flat and well seeded.

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
THOMAS P. CONNARE	Recra Research, Inc.	(716) 833-8203

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Sheldon S. Nozik		Recra	(716) 833-8203	12/12/85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

- [X] A. SOLID
- [X] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ *(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 _____

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
- [X] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

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)*

EPA

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

I. IDENTIFICATION

01 STATE: N.Y. | 02 SITE NUMBER: 915023

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Unknown

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

Unknown

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

N/A

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

N/A

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

Unknown

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

Unknown

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

Unknown

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

Unknown

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

No evidence of any disposal activity. Site is not fenced, however, the area is flat and well seeded.

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915023

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: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None observed

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

Unknown

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

No

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

None known

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

SITE INSPECTION NYSDEC AND COUNTY DEP FILES

5.5 EPA SITE INSPECTION REPORT
(Form 2070-13)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Exxon - Esk Company	1000 East Niagara Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Tonawanda	N.Y.	14151	Erie		

09 COORDINATES LATITUDE	LONGITUDE
43 01 29.	78 51 22.

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)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR / ENDING YEAR)
11 25 85	☐ ACTIVE ☒ INACTIVE	1949 / 1952 ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☒ F. STATE CONTRACTOR Recra Research, Inc. (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Thomas P. Connare	Environmental Scientist	Recra	(716) 838 6200
Sheldon S. Nozik	Environmental Scientist	Recra	(716) 838-6200
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Ron Szatkowski	Engineer	1000 E. Niagara St.	(716) 693-4500
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9:30 a.m.	Sunny, 30° F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
THOMAS P CONNARE	Recra Research, Inc.	(716) 833-8203

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Sheldon S. Nozik		Recra	716-833-8203	12 12 85

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

- [X] A. SOLID
- [X] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ *(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 _____

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
- [X] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

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)*

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	915023

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

unknown

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

unknown

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

N/A

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

N/A

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

Unknown

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

unknown

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

Unknown

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

Unknown

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

No evidence of any disposal activity. Site is not fenced, however the site is flat and well seeded.

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	915023

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: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
none observed

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
none observed

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

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
none observed

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analyses, reports)
SITE VISIT
NYSDEC REGION 9
ERIE COUNTY DEP

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

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) SPDES	NY 0069001	Unknown		non contact cooling water
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
X A. SURFACE IMPOUNDMENT	Unknown	
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

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

05 OTHER
X A. BUILDINGS ON SITE
4 or 5

06 AREA OF SITE
____ ____ (Acres)

07 COMMENTS

Company reportedly landfilled a low area with kiln brick, foundry sand and metal tailings in the northwest portion of the property. The foundry sands are suspected, but unknown whether they contained phenolic binders.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

X A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES X NO

02 COMMENTS

No evidence of any disposal site. Area is flat and well seeded.

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

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE: N.Y. | 02 SITE NUMBER: 915023

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

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

02 STATUS

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

03 DISTANCE TO SITE
A. 2.0 (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) X D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
7.5 (ft)	Unknown	< 4.0 (ft)	_____ (gpd)	☐ YES ☐ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

One well was installed on property for industrial use in 1978. Discontinued in 1979 due to high TDS concentration. Located possibly 300 feet S.E of site. This well is about 140 feet deep and is screened in shale bedrock.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES	COMMENTS	X YES	COMMENTS
X NO		☐ NO	possibly discharges into canal to North

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
Erie-Barge Canal	☐	300 ft.
Niagara River	☐	2.0 (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. 10,000 NO OF PERSONS	B. 30,000 NO OF PERSONS	C. >50,000 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION: < 0.2 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: Many

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 350 ft (ft)

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 in area of industrial, commercial and residential section of the town of Tonawanda.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915023

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	
78 (ft)	Unknown (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9.0 (in)	2.1 (in)	< 1.0 %		1.0 %

09 FLOOD POTENTIAL
SITE IS IN _____ YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. _____ (mi)	B. 0.20 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
_____ (mi)
ENDANGERED SPECIES: _____

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. < 0.2 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is in flat area known as Lake Tonawand Plain. Erie-Barge canal is 200 feet to the north. Elicott Creek is approximately 3000 feet to the south. there is a fresh-water wetland to the southeast about 1000 feet.

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

HRS USERS MANUAL

TOPOGRAPHIC MAP
NYSDEC REGION 9 FILES
ERIE COUNTY D.E.P.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
N.Y.	915023

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

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF _____
(Name of organization or individual)

03 MAPS
☒ YES
☐ NO

04 LOCATION OF MAPS
Recra Research, Inc.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

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

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
N.Y.	915023

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
Exolon-ESK Company	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1000 East Niagara Street	

05 CITY	06 STATE	07 ZIP CODE
Tonawanda	N.Y.	14151

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER
same	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC 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 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. CURRENT OPERATOR *(Provide if different from owner)*

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY *(If applicable)*

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) *(List most recent first; provide only if different from owner)*

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES *(If applicable)*

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
N.Y.	915023

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Exelon Company	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1000 East Niagara Street	

05 CITY	06 STATE	07 ZIP CODE
Tonawanda	N.Y.	14151

III. OFF-SITE GENERATOR(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

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 FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE: N.Y. | 02 SITE NUMBER: 915023

II. PAST RESPONSE ACTIVITIES NONE

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 915023

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

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

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	915023

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 analyses, reports)*

6.0 ADEQUACY OF AVAILABLE DATA

Based on the available information, the Exolon site was scored according to the Mitre Corporation Hazard Ranking System (HRS) and received a migration potential score (Sm) of 0. However, in completing the HRS worksheet, inadequacies in the data base were identified. These data inadequacies include:

- o limited information concerning groundwater quality at the site,
- o limited information concerning geology of the immediate site area,
- o lack of information regarding characteristics and quantity of waste, and
- o limited information regarding the precise area where waste was deposited.

7.0 PROPOSED PHASE II WORK PLAN

This section outlines the recommended procedures and technical means by which a Phase II investigation may be conducted. Any work plan which is submitted to the NYSDEC for conducting a Phase II type study must follow the guidelines established by NYSDEC and subsequently be approved by NYSDEC.

7.1 Project Objectives

The purpose and objective of this proposed Phase II investigation is to obtain a final Hazardous Ranking System (HRS) score for the site as defined under the auspices of the New York State Superfund program, and assess environmental and potential health concerns regarding past disposal practices. The site investigation proposed herein is designed to generate data for the above identified tasks. The scope of these investigations may include:

- o waste characterization
- o data review
- o air monitoring
- o surface geophysics
- o test bore drilling
- o monitoring well installation
- o in-situ permeability testing
- o groundwater, surface water, and surface sediment sampling
- o surveying and mapping
- o chemical analytical testing

- o laboratory geotechnical testing
- o data analysis and reporting
- o characterizing the physical and chemical nature of the site
- o scoring the site with regard to the Hazard Ranking System
- o reporting

7.2 Scope of Work

It is unknown whether the reported wastes landfilled at this site pose a potential risk to human health or the environment. It has not been documented to-date whether foundry sands have been disposed of at the site and a determination has not been made whether foundry sands should be considered a hazardous waste. In order to determine the potential risks posed by this site, the proposed Phase II investigation is suggested to consist of two tasks. Task 1 will be a preliminary, detailed study as outlined below. The results of Task 1 will thereby establish the need for Task 2. The scope of work for Task 2, as presented here, is intended as a preliminary proposal and will be further developed after completion of Task 1.

7.2.1 Task 1

Limited Geophysical Survey

Based upon a review of data collated during the Phase I study, it remains unclear where the precise disposal area is located. Therefore, a preliminary geophysical investigation will be performed. This survey is intended to determine the general limits of the disposal area as noted by the Department of Environmental Planning, along East Niagara Street.

This survey is also intended to provide a preliminary basis upon which borehole locations for a possible subsurface investigation (Task 2) can be identified, and also delineate the need for additional, more detailed geophysical studies during Task 2.

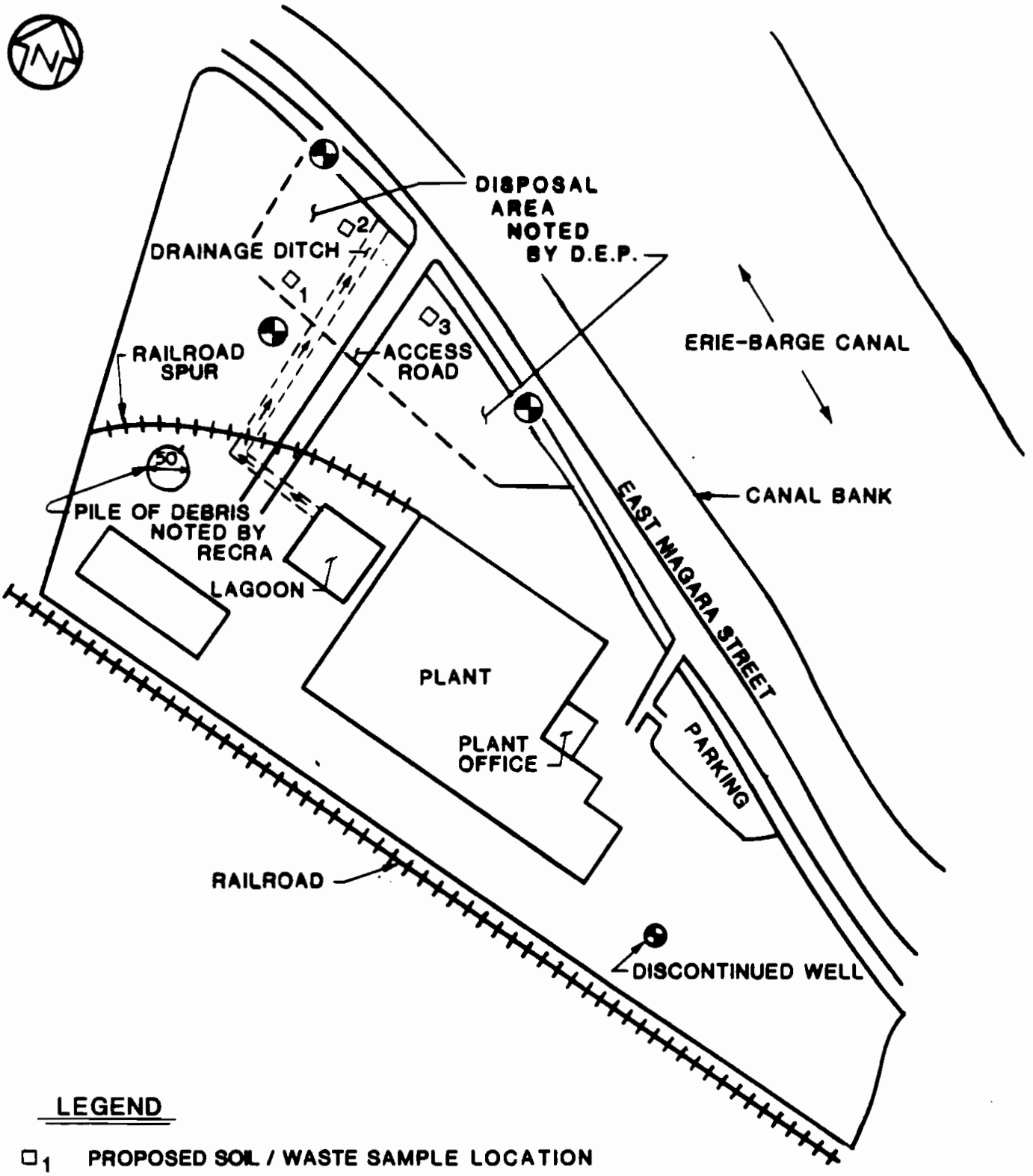
The geophysical survey will be conducted using the Terrain Conductivity method. Terrain conductivity readings will be obtained using a Geonics Model EM-31 terrain conductivity meter utilizing a 10-15 meter grid system. The 10-15 meter grid network is designed to obtain maximum efficiency from the survey. The spacing of this network may change at the time the survey is conducted. The conductivity readings may serve to detect clusters of drums, tanks, cables, lateral fill variations, and contaminated groundwater plume geometry, if present.

Air Monitoring

Air monitoring with an HNU Photoionization detector will be performed at one upwind and one downwind location prior to any site work. In addition, air monitoring will be conducted during any subsurface investigation as described in Task 2.

Waste Characterization

In order to determine the chemical nature of the fill material and thereby the potential risks associated with the site, surface (0'-2' interval) and subsurface (2'-4' interval) soil samples will be collected at the three locations indicated on Figure 3. Each sample will be obtained by the use of either a hand auger or a power auger. Each of the



LEGEND

□1 PROPOSED SOIL / WASTE SAMPLE LOCATION

PROPOSED TEST BORING / MONITORING WELL LOCATION

	Scale: NTS			EXOLON COMPANY TONAWANDA, NEW YORK N.Y.S. SUPERFUND PHASE I	SAMPLING AND MONITORING WELL LOCATION MAP
		By	Date		
	Dwn.	MJS	12/85		
	Ckd.				
	Ap'vd.				
	Rev.			Project No. 5C280399	A FIGURE 3

BRUNING 61160-1

six samples will be analyzed for heavy metals, total recoverable phenolics, and scanned for halogenated organics, volatile halogenated organics and total organics.

GC/MS procedures will include the identification and quantification of all peaks ten percent or greater than the nearest calibrating standard. An EP Toxicity Test for heavy metals will be performed on the soil/waste sample found to contain the highest metals concentration, if present.

7.2.2 Task 2

Based on the review of the data generated in Task 1, a subsurface investigation may or may not be initiated. The subsurface investigation will provide a preliminary geological and hydrogeological assessment, and provide for additional information for final scoring of the site according to the Mitre Model Hazard Ranking System (HRS).

Test Borings

All geophysical data and interpretations will be used to finalize the locations of proposed test borings/monitoring wells. No borings or monitoring wells will be placed in the field until the final locations are determined by Recra in concurrence with the New York State Department of Environmental Conservation.

Three (3) test borings will be advanced, one upgradient and two downgradient of the fill area (Figure 3). Prior to initiating drilling activities, the drilling rig, augers, rods, appurtenant equipment, well pipe and screens will be cleaned with steam. This cleaning procedure will

also be used between each boring. These activities will be performed in a designated on-site cleaning area. Throughout the cleaning processes, direct contact between equipment and the ground surface will be avoided. Plastic sheeting and/or support structures will be used.

Test borings will be advanced with hollow stem augers, driven by truck mounted drilling equipment. During the drilling, an HNU photoionization detector will be used to monitor the gases exiting the hole. Auger cuttings will be contained and removed off-site only if readings from the HNU photoionizer are recorded at 5 ppm or above. Soil samples will be collected using a two inch outside diameter split-barrel sampler advanced in accordance with the standard penetration test procedure (ASTM D-1586). The sample barrel(s) will be cleaned prior to each use by the following procedure:

- initially cleaned of all foreign matter
- washed with a detergent and water mixture
- rinsed with potable water
- washed with acetone
- rinsed with distilled water
- allowed to air dry.

An HNU detector will be used to monitor the gases from each sample as the split barrel sampler is opened. All samples will be placed in organically pre-cleaned, teflon-lined screw cap glass jars. The cleaning of the sample jars will include:

- o soap wash
- o tap water rinse
- o acetone rinse (pesticide grade)
- o rinse with copious quantities of deionized water (at least six rinsings) until no residual acetone is detected.

Samples will be delivered daily, under chain of custody control, to the Recra Environmental Laboratories in Tonawanda, New York. Each sample will be analyzed for heavy metals, total recoverable phenolics and scanned for halogenated organics, volatile halogenated organics and total organics.

Split-spoon samples will be taken every five feet until the water table is reached unless there is a change in geologic material or overlying waste material is discovered through visual or HNU detection. Once the water bearing zone is encountered, continuous split-spoon samples will be obtained. Geologic classification of split-spoon samples will be performed and boring logs maintained by a Recra geologist.

At a minimum, each boring log will include:

- o date, test hole identification, and project identification
- o name of individual developing the log
- o name of driller and assistant(s)
- o drill make and model, auger size
- o identification of alternative drilling methods used and justification thereof (e.g. rotary drilling with a specific bit type to remove a sand plug from within the hollow stem augers)
- o depths recorded in feet and fractions thereof (tenths or inches), referenced to ground surface

- o standard penetration test (ASTM D-1586) blow counts
- o for samples, the length of the sample interval and the length of the sample recovered
- o the first encountered water table along with the method of determination, referenced to ground surface
- o drill and borehole characteristics
- o sequential stratigraphic boundaries.

Selected split-spoon samples obtained while sampling at five foot intervals or when a change in lithology has occurred will be analyzed for Atterberg limits and moisture content. Analysis of a selected split-spoon sample from the encountered water bearing material will be performed for grain size determination. In the event that the borehole/monitoring well must be left unattended prior to completion, the borehole/monitoring well will be properly secured to ensure its integrity.

Groundwater Monitoring Well Installation and Sampling

It is proposed that three (3) monitoring wells will be installed within the original test borings. These wells will be installed after review of the information obtained from the soil samples. Wells will be constructed of 5-foot long, 2-inch I.D. threaded flushjointed PVC screen and riser casing. Well screens will be installed with the top of the well screen located approximately one foot above the encountered groundwater table, dependent upon the major geologic changes encountered. All installations will include a washed, graded, sand pack surrounding the screen and extending two feet above the screen top. A two-foot thick bentonite seal will be placed above the sand pack and the remaining annu-

lus filled with bentonite/grout to within two feet of the ground surface. A four to six inch diameter steel casing with locking cap will be placed over each well and cemented in place.

Well development will be performed using a pump or bottom discharge bailer at each well no sooner than 48 hours after the well grouting has been completed. Bailing will utilize pre-cleaned, dedicated galvanized steel bailers at each well. Pumping will utilize a surface peristaltic pump fitted with pre-cleaned, dedicated polyethylene tubing for each well.

Prior to water and sediment evacuation, static water level and well bottom measurements will be recorded at each well using an electric level sounder or fiberglass tape. These will be cleaned prior to and after each use. The well water/sediment volume will also be calculated.

Well evacuation will be supplemented by:

- o Temperature, pH, and specific conductance measurements
- o Evacuation volume measurement
- o Visual identification of water clarity and color
- o Visual identification of the physical characteristics of removed sediments

The development process will continue until a stabilization of pH, specific conductance, temperature, and clarity of discharge is achieved.

The well development is designed to correct any clogging of the water-bearing formation which may occur as a side effect of the drilling, and remove any drilling water (if used) from the water table such that each

well will yield water which is representative of the in-situ conditions. Static water level measurements will also be made following well development.

Groundwater sampling will be initiated one week after the well development has been completed. Each sample will be analyzed for heavy metals, total recoverable phenolics, and scanned for halogenated organics, volatile halogenated organics and total organics. The GC/MS scan will include the identification and quantification of all peaks 10% or greater than the nearest calibrating standard.

At each well location, initial static water level and well bottom measurements will be recorded using an electric level sounder and/or fiberglass tape which will be cleaned between each well. Well water will be evacuated prior to sample collection by bailing or pumping to dryness or removing a minimum of three equilibrated well water volumes. Precleaned, dedicated galvanized steel bailers will be used for sampling at each well.

Permeability testing of the newly installed monitoring wells will be conducted following sampling. Initial static water level measurements will be made in each well followed by the injection of a weighted slug of specific volume. An instantaneous head displacement associated with the slug volume will be created and the subsequent decline in water level will be measured with an electric water level sounder. Once head conditions reach a static state, the slug will be removed and a negative head condition will result relative to the initial static water level. The subsequent rise in water level will be measured with an electric

water level sounder.

Data analysis will involve the determination of the coefficient of permeability. The analysis will utilize a technique provided by Harry R. Cedergren in Seepage, Drainage and Flow Nets, 2nd Edition, whereby the log of head ratio (dependent variable) is plotted with respect to elapsed time (independent variable). Data points for permeability determination are obtained from a linearization of this plot and utilized in an appropriate equation.

The testing will provide data on the permeability of the materials at the top of the water table. These values will subsequently be utilized for determining approximate flow rates within the saturated zone, and extrapolated to approximate permeability in the unsaturated zone as required in the scoring under the HRS. This data will be useful in assessing the rate of groundwater flow in this area and as data input in evaluating potential remedial alternatives if required.

Air Monitoring

Air monitoring with an HNU photoionization detector will be performed as follows:

- at one upwind and downwind location prior to any site work
- during borings and monitoring well installations
- for all split-spoon samples
- for all surface soil and sediment samples

Surveying

A map will be prepared showing the location and appropriate elevations (ground surface, top of monitor well casing) for each boring sampling location monitor well installation and other key contour points as determined by Recra.

A licensed land surveyor will be used to establish the locations and elevations of each above-mentioned point, as follows:

- o Vertical Control - Elevations (0.01') will be established for the ground surface at the well, the top of monitor well casing (T.C.), and at least one other permanent object in the vicinity of the boring and well. Elevations will be relative to a regional, local or project specific datyum. USGS benchmarks will be used whenever available.
- o Horizontal Control - Exploratory borings and monitor wells will be located by ties (location and distance) to at least two nearby permanent objects. USGS benchmarks will be used whenever available.

7.3 Quality Assurance and Quality Control

An overall Quality Assurance Program is essential for the production of high-quality analytical data. Such a program requires precise control of laboratory activities. For the Quality Assurance Program in effect at the Laboratories of Recra, the reader is referred to a document previously submitted by Recra to NYSDEC, entitled, "Operation Manual - Field and Analytical Services."

7.4 Final Hazard Ranking System Score

Upon completion of all field work and laboratory analysis, the Final Hazard Ranking System score will be calculated per NYSDEC guidelines.

7.5 Phase II Report

Upon completion of the investigation, a Phase II report will be prepared in complete accordance with the NYSDEC's Phase II report format. The Phase II report will include a plot plan drawing showing the following:

- o groundwater gradient
- o topographic relief
- o sampling locations
- o physical parameters and major contaminants/concentrations identified for each sampling location
- o any contaminant plumes (based on geophysical and monitoring data).

Five copies of the draft final Phase II report and fifteen copies of the final Phase II report will be submitted.

7.6 Applicable Procedures and Standards

All work performed for this project, including but not necessarily limited to, borings, monitoring well installations, monitoring, sampling, surveying, chain of custody, sample preservation, sample extraction, sample analysis, and HRS scoring, will conform to all applicable standards, guidelines, and prescribed methods and practices of the U.S. Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), and other applicable regulatory agencies. Any changes or modifications in these specifications will require approval by NYSDEC.

7.7 Estimated Cost

The estimated cost of the Phase II Work Plan is described below. This estimate is based on the placement of three (3) monitoring wells at 30 feet below ground surface.

Task 1

Air Monitoring and Surface Geophysics	$2,500.00
Waste Characterization Analyses	4,000.00
Task 1 Subtotal	$6,500.00

Task 2

Subsurface Investigation	$10,454.25
Analyses	3,691.20
Preliminary Engineering Evaluation, Final HRS Scoring and Report	8,000.00
Task 2 Subtotal	$22,145.45
TOTAL PHASE II	$28,645.45

APPENDIX A

DATA SOURCES AND REFERENCES

REFERENCES

1. Hazardous Waste Site Profile: Exolon Company. Prepared by the Erie County Department of Environment and Planning. February 1982.

2. Letter from Robert Taylor, Works Manager, the Exolon Company to Peter Millock, Office of Council, NYSDEC, Albany. June 20, 1979.

3. Letters of Documentation to Mr. Ron Szatkowski, The Exolon Company from Sheldon S. Nozik, Recra Research, Inc. December 18, 1985, and June 19, 1986.

4. Buehler, J. E., and I. H. Tesmer, 1963. Geology of Erie County, New York. Buffalo Society of Natural Sciences Bulletin, Vol. 21, No. 3, pp. 9.

5. Documentation of Freshwater Wetlands and Critical Habitats of Endangered Species from NYSDEC, Region 9. December 18, 1985.

6. State of New York Official Compilation of Codes, Rules, and Regulations, 1983. Article 8, Part 837.

7. New York State Water Classifications and Quality Standards. Bureau of National Affairs, Inc., Part 701. August 17, 1979.

8. Report of Pumping Test. Ehmke Well Drillers, Inc. March 27-28, 1978.

9. LaSala, A. M. Jr., 1968. Groundwater Resources of the Erie-Niagara Basin, New York. Prepared for the Erie-Niagara Basin Regional Water Resources Planning Board. Basin Planning Report ENB-3.

10. United States Department of Agriculture, Soil Conservation Service, 1979. General Soil Map and Interpretations, Erie County, New York.

11. Well Information Compiled by Exolon. April 5, 1978.

12. Analytical Results from Ecology and Environment, Inc. April 18, 1978.

13. Analytical Results from Recra Research, Inc. January 12, 1979.

14. Letter of Documentation to Mr. Skip Evans, Town of Tonawanda, from Sheldon S. Nozik, Recra Research, Inc. December 10, 1985.

15. United States Environmental Protection Agency, 1985. Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste-Disposal Sites. EPA 905/4-85-001.

16. Uncontrolled Hazardous Waste Site Ranking System-Users Manual, Draft. June 10, 1982.

REFERENCES
(Continued)

17. New York State Atlas of Community Water System Sources, 1982. New York State Department of Health.

18. United States Geological Survey 7.5 minute Topographic Map. Tonawanda East, New York, 1980.

19. Flood Insurance Rate Map, City of Tonawanda, Plate 2 of 2, 360259 0002 B. February 11, 1983.

20. Initial Site Inspection Report for the Exolon Company. Prepared by the Erie County Department of Environment and Planning. No Date

21. Industrial Chemical Survey and SPDES Discharge Information, NYSDEC.

REFERENCE 1

HAZARDOUS WASTE SITE PROFILE

EXOLON CORP.

1000 East Niagara St.

City of Tonawanda

Site # 915023

Prepared by Erie County

Dept. of Env. & Planning

FEB. 1982

EXOLON COMPANY
1000 EAST NIAGARA STREET
CITY OF TONAWANDA, NEW YORK
SITE # 915023

The Interagency Task Force (IATF), in Volume III of Hazardous Waste Disposal Sites in New York State, reports that refractory brick, iron oxide, and coal cinders were disposed of in low areas on the Exolon Company property. The site is coded F indicating that no in-place toxics are present in dangerous amounts and that no further action would be required.

BACKGROUND INFORMATION

The Exolon Company is located on East Niagara Street in the City of Tonawanda approximately 1000 feet west of the city's corporate boundary (Exhibit 1).

The company manufactures artificial aluminum oxide and silicon carbide abrasives for grinding wheels and general industrial use.

Between 1949 and 1952, Exolon disposed of refractory brick from plant kilns, iron tailings (removed during the processing of aluminum oxide) and coal cinders in a low area located in the front of their property (Exhibit 2). The IATF reports that the disposal site is approximately 1.5 acres in size.

AERIAL PHOTOGRAPHY

A review of aerial photography records for the years 1951 and 1958 did not reveal any indication of landfilling in the study area.

SITE INSPECTION

On December 21, 1981, this Department performed an on-site inspection of the former disposal area. The site has been closed in conformance with Part 360 of the Environmental Conservation Law.

SOILS AND HYDROGEOLOGIC DATA

The General Soil Map and Interpretations for Erie County by the U.S.D.A. Soil Conservation Service describes the soil in the area as being of the Niagara Unit. These soils are lakelaid silt, sand and clay deposits. Niagara Soils are somewhat poorly drained and have a seasonal high watertable in the upper part of the subsoil during the Spring and other excessively wet periods. The rate of permeability through the soil layers is moderately slow.

records? →

Exolon officials stated that there is four (4) feet of sandy loam over clay in the landfill area.

In 1979, Exolon installed a well for process water on the southeast portion of their property. The well is reported to be 140 feet deep. Although no boring data is available, information from Exolon indicate that clay and silt are the main soil types. Between the depths of 80-86 feet water was being drawn up with sand. Consequently, it appears that a sand lens lies beneath the more impermeable upper soils. As the sand in the water was undesirable for Exolon's needs, the well was drilled into bedrock. The bedrock is shale and lies at a depth of 86 feet. This well is no longer in use. No new well has been installed.

Surface water within one (1) mile radius of the site includes the Erie Barge Canal which is 200 feet to the north, a protected wetland that is 1000 feet to the south and Ellicott Creek which is 3000 feet to the south. Lateral mitigation through the sandy loam layer to the Erie Barge Canal could occur. However, no degradation of surface water is expected.

The site is not within a flood hazard area.

Surface drainage from the landfill area would most likely be to the Erie Barge Canal. No large surface water drainage patterns were observed during the site inspection.

Given the type of soil in the area of the landfill, downward percolation of water through the sandy loam would occur; however, the deeper more impervious clay layer would preclude any further downward movement to the groundwater.

GEOGRAPHIC DATA

The land use within a one (1) mile radius of the site is industrial residential and commercial. The population density would be greater than 10,000. All residents receive their drinking water from a municipal system.

DIRECT CONTACT

The area is posted as private property. No problems are anticipated.

FIRE AND EXPLOSTION POTENTIAL

No potential for fire or explosion can be associated with the disposal area.

CONCLUSION

The types of material known to be landfilled at this area are not considered toxic or hazardous.

There is no evidence that hazardous wastes were ever disposed of on-site, consequently there appears that no environmental degradation can be associated with this site.

RECOMMENDATION

No further action or remedial work is recommended at this site.

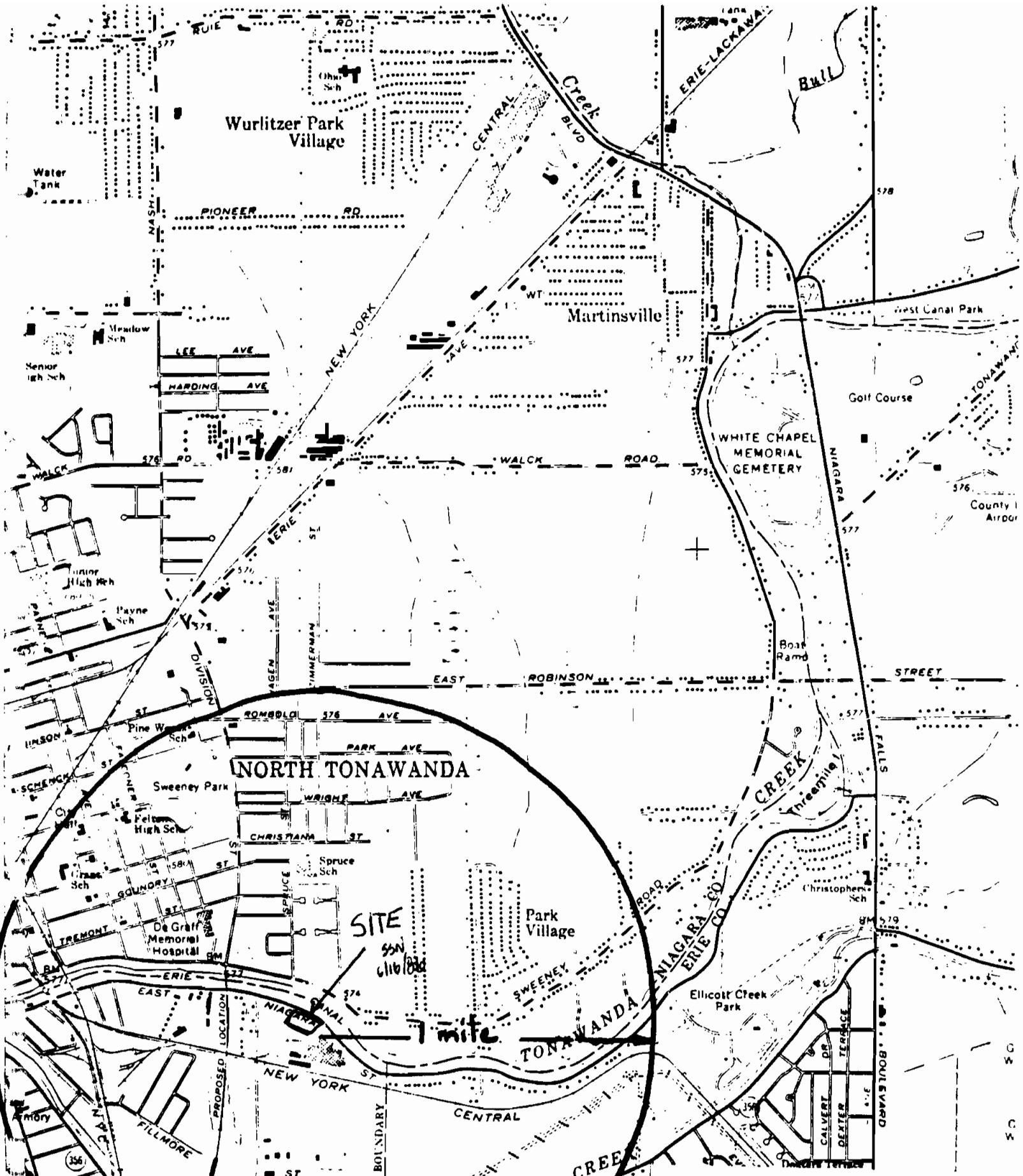


EXHIBIT 1

U.S.G.S. 7.5 min. Exelon Corp
Tonawanda East Quad
DEP February 1982

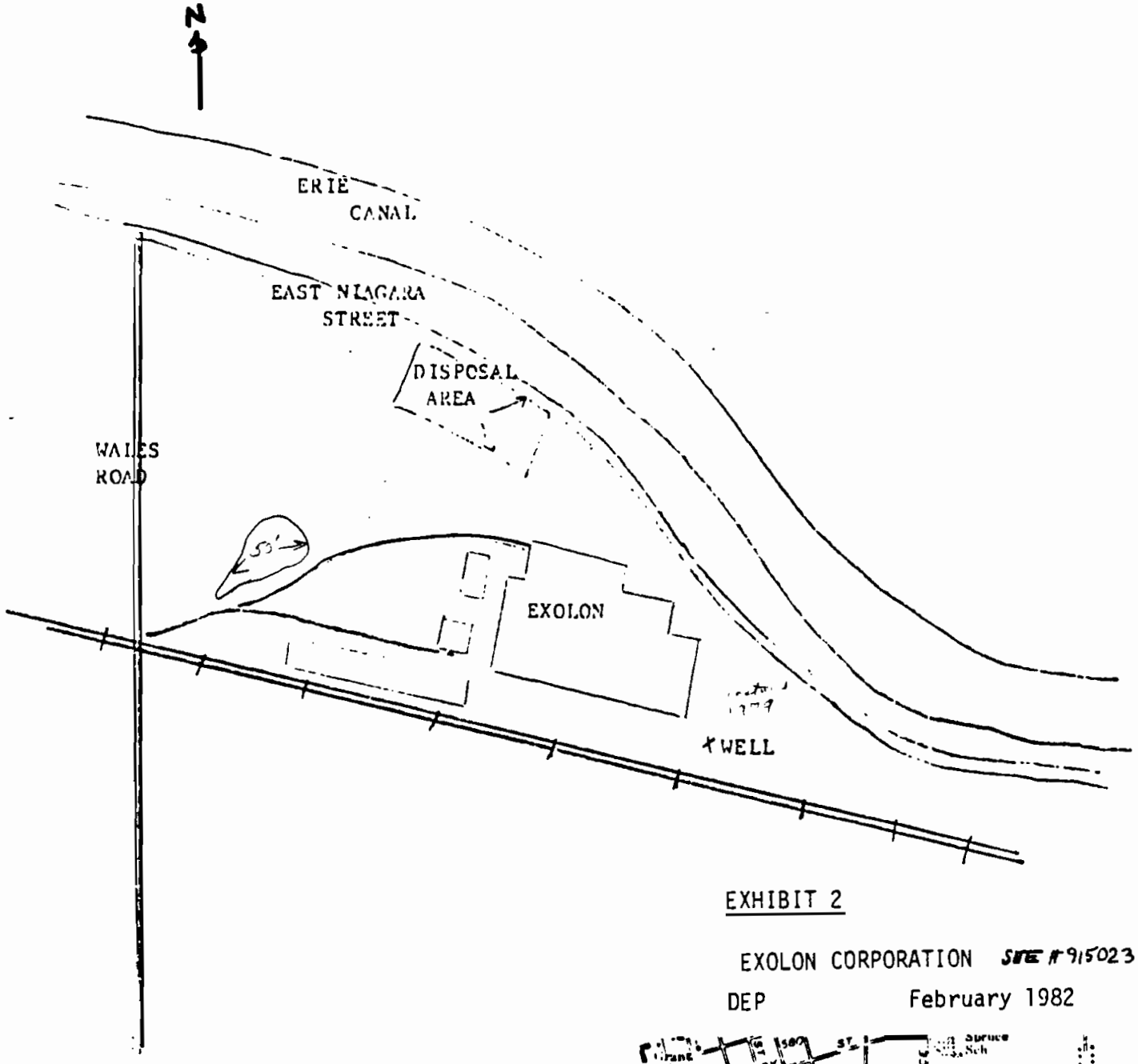
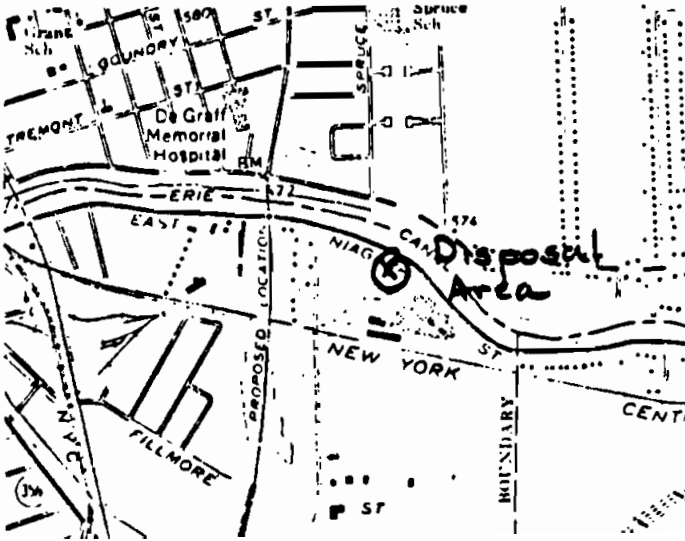


EXHIBIT 2

EXOLON CORPORATION SITE # 915023

DEP February 1982



REFERENCE 2

EXOLON

THE EXOLON COMPANY

MANUFACTURERS OF FUSED ALUMINUM OXIDE AND SILICON CARBIDE

TONAWANDA, NEW YORK 14150, U. S. A.
TELEPHONE: 716 693-4550
TELEX: 91-217

June 20, 1979

Mr. Peter Millock
Office of Council
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

SUBJECT: Hazardous Wastes Sites

Dear Mr. Millock:

Our company, The Exolon Company, has been listed as a dump site for 'Possible Significant Quantities' of hazardous wastes. We feel this is incorrect and would like our name removed from the state listing.

I have had telephone conversations with Mr. Jack Tygert, Engineer for the New York State on toxic wastes, Buffalo Office, and my understanding is that we were listed because at some time a document was filed with the Erie County Environment and Planning Board that we used some of our product as landfill. Because our product was an 'unknown' to the people making the study of dump sites we were listed as a potential problem.

Our products are Artifical Aluminum Oxide and Silicon Carbide Abrasives for grinding wheel and general industrial use. These are inert and have no toxic properties.

Mr. Tygert was going to obtain a copy of offending document for our review but has apparently not had any success. Any help your office can provide to resolve this issue would be very much appreciated. We will provide any specific information required to substantiate our feeling of being improperly classified as a disposal site.

Very truly yours,

Robert F. Taylor
Works Manager

cc: Mr. Jack Tygert
Engineer - Toxic Wastes

RFT/vlh

REFERENCE 3

RECRA ENVIRONMENTAL, INC.

Hazardous Waste And Toxic Substance Control

June 19, 1986

Mr. Ron Szatkowski
Manager Engineering Services
Exolon-Esk Company
1000 East Niagara Street
Tonawanda, NY 14150

Dear Mr. Szatkowski:

Thank you for your continued assistance regarding the Phase I Superfund investigation we are currently conducting.

As consultants to the State, we are required to have all of our interviews, personal or by telephone, documented. Below is a synopsis of our telephone conversation On June 16 and 19, 1986. I would like to request that you read the account, sign at the bottom of the page, and return the original to me. This is only to serve as documentation that the conversation took place.

- After discussions with your former employee who was employed during the reported disposal period, you still maintain that the disposal area exists beneath the buildings at your facility.

- In addition, the waste disposed of at this time consisted of used brick, dirt, and old rotor tails (iron tailings). It is assumed that foundry sands may have been landfilled also, but this would have been in minute amounts.

- In your best judgement, it is possible that the foundry sands contained phenolic binders, based on the operations of the company at that time. However, this is only an assumption and cannot be verified.

Thank you for your assistance.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Sheldon S. Nozik

Sheldon S. Nozik
Environmental Geologist

SSN:pal

Ronald J. Szatkowski

Ron Szatkowski

RECEIVED
JUN 23 1986
RECRA RESEARCH, INC.

4248 Ridge Lea Road, Amherst, New York 14226 Telephone (716) 838-6200

RECRA RESEARCH, INC.

Hazardous Waste And Toxic Substance Control

December 18, 1985

Mr. Ron Szatkowski
Exolon Company
1000 East Niagara Street
Tonawanda, NY 14150

Dear Mr. Szatkowski:

Thank you for your assistance in the Phase I Superfund investigation we are conducting presently with regard to the Exolon Company.

As part of the background search requirements for the NYSDEC Superfund investigations, we the consultants are required to have all of our interviews, personal or by telephone, documented. Below is an account of our conversation on December 18, 1985. Would you please read the account, sign at the bottom, and return the original to me. This is only to serve as documentation that the conversation took place.

° One of your employees, who has been with Exolon since 1946, stated that he is unaware of any disposal site other than an area which was backfilled with foundry sands and kiln brick prior to construction of a building over that area.

° There are no records of any disposal on your property as to location or quantities of any materials.

° There is a pile of debris in the western portion of the property which consists of kiln brick and dirt which was disposed of approximately 3-4 years ago.

° You will have a copy of a property map which you will send me along with this letter.

Thank you for your cooperation.

Sincerely,

RECRA RESEARCH, INC.

Sheldon S. Nozik

Sheldon S. Nozik
Environmental Specialist

SN/jlo
cc: T. Connare

Ronald J. Szatkowski
Mr. Ron Szatkowski

4248 Ridge Lea Road, Amherst, New York 14226 Telephone (716) 838-6200

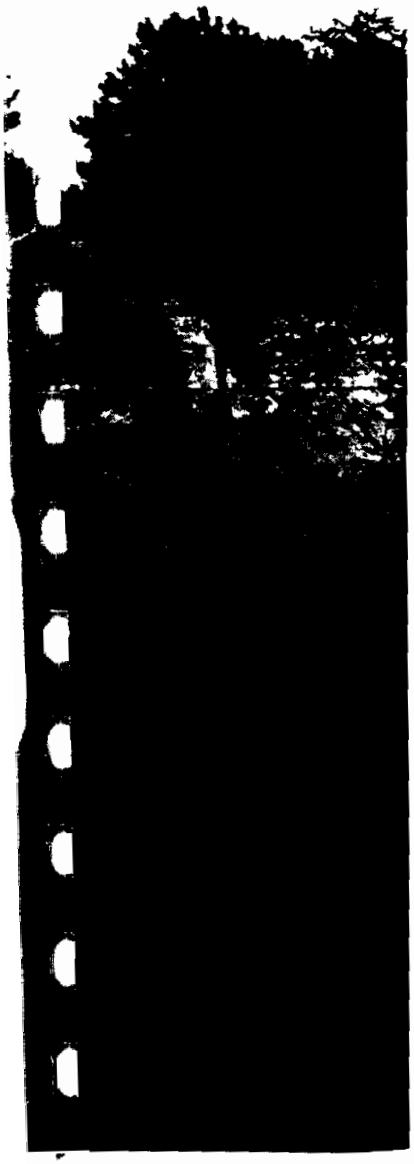
REFERENCE 4

GEOLOGY

OF

ERIE COUNTY

New York



By

EDWARD J. BUEHLER

Professor of Geology
State University of New York at Buffalo

AND

IRVING H. TESMER

Professor of Geology
State University College at Buffalo

BUFFALO SOCIETY OF NATURAL SCIENCES
BULLETIN

Vol. 21. No. 3 Buffalo, 1963

r the Onondaga Limestone. The Early Devonian sea
t the Appalachian trough and did not extend into the
te, which at that time was undergoing erosion. Thus,
n mity) represents the Early Devonian and part of
unty.

nestone begins the Devonian record in western New
and the environment was one of warm, clear salt water
; al reefs flourished. An exceptionally fine reef was
q rry at Main Street and Kensington Avenue in
xpressway construction.

r ter of the Onondaga sea was replaced by muddy
sh s of the Middle Devonian Hamilton Group. This
highlands to the east which were uplifted during the
ding known as the Acadian orogeny. They constitute
a v ich is described on page 19.

sits gan with black shales of the Marcellus Formation
stagnant water environment. This was followed by
le. Some of these gray shale beds are quite barren of
pe lly the more calcareous ones, record a sea bottom
achiopods, bryozoans, and other Paleozoic marine
: persistent limestone beds represent brief clearing of
s tl crinoids or sea lilies must have formed immense
r ir dissociated stem segments are an important
ie. The uppermost Hamilton shale is succeeded by a
us bed of iron sulphide. The remarkable dwarfed
vec re attributed to a stagnant water environment
nor al growth.

narked a return to black shale deposition in western
lac nd gray shale alternate through a thickness of
org nic-rich black mud environment to the west and
t to the east oscillated back and forth with time,
f these two facies. Fossils are relatively scarce in
le ds. The area was largely inhabited by certain
inc by an occasional armored fish. The uppermost
onsists of beds of shale and siltstone. This coarsen-
to silt marks the westward migration of the Devo-

Paleozoic Era, as well as all of the Mesozoic and
have left no record in western New York. This
le l during most or all of that time, and subject
ime in the latter part of the Pleistocene Epoch.
heir related history are described in the following
GY.

Surficial Geology

PHYSIOGRAPHY

Both the altitude and relief of the land surface tend to increase from north to south. The lowest elevation is 565 feet above sea level at the northern tip of Grand Island and the highest, 1,945 feet above sea level, is in Sardinia township, southeastern Erie County. On the basis of physiography the county may be divided into three parts: the flat Lake Tonawanda plain in the north, followed by the Lake Erie plain, and the Allegheny plateau in the south.

The Onondaga escarpment is a conspicuous topographic feature. This north-facing cliff, formed by the outcropping northern edge of the resistant Onondaga Limestone and Upper Silurian dolostone, can be traced from Buffalo eastward through Akron. In Erie County it seldom exceeds 40 feet in height. Some of the streams which cross the escarpment form waterfalls, but many of the smaller streams disappear in fissures and caves and reappear on the plain to the north.

Between the Onondaga escarpment and the parallel Niagara escarpment to the north is the Lake Tonawanda plain, so named because in late Pleistocene time it was occupied by now extinct Lake Tonawanda. This plain actually is a shallow east-west trending trough, 10 to 15 miles in width, which is drained along its axis by Tonawanda Creek.

The Lake Erie plain, so called because it was covered by glacial lakes ancestral to the present Lake Erie, is an area 6 to 12 miles in width between the Onondaga escarpment and the hilly region to the south. This plain is smooth or gently rolling and rises in elevation toward its southern border where much of it is 900 to 1,000 feet above sea level.

The southern third of the county lies within the maturely dissected Allegheny plateau, the northern border of which is sometimes referred to as the Lake Erie or Portage escarpment. The hilly topography of this region appears to be largely the result of stream erosion for there are no appreciable folds or faults. Glacial erosion has modified the shape of some of the larger valleys and has produced a general rounding of the topography. The amount of glacial drift is commonly so great as to obscure the topography of the underlying bedrock.

tka Creek Shale Member, black calcareous shale with some calcareous

Do

Onondaga Limestone

rehouse Limestone Member, light-gray limestone containing numerous corals and considerable c-gray chert nodules; Nedrow Member, intermixed light-gray limestone and dark-gray chert; ecl Member, light-gray limestone with some light-gray chert nodules, locally represented by a il b ierm.

L A

UNCONFORMITY

Se

Akron Dolostone

Light-gray dolostone

Sb

Bertie Formation

Vi...amsville Member, light-gray argillaceous limestone; Scajaquada Member, interbedded dark-gray shale and argillaceous limestone; Falkirk Member, light-gray dolostone; Oatka Member, dark-gray shale with argillaceous limestone at base containing eurypterids.

E R

SILURIAN

Sc

Camillus Shale

Gray shale containing large amounts of gypsum

Contact

Inferred Contact

GEOLOGIC MAP OF ERIE COUNTY, NEW YORK BEDROCK GEOLOGY

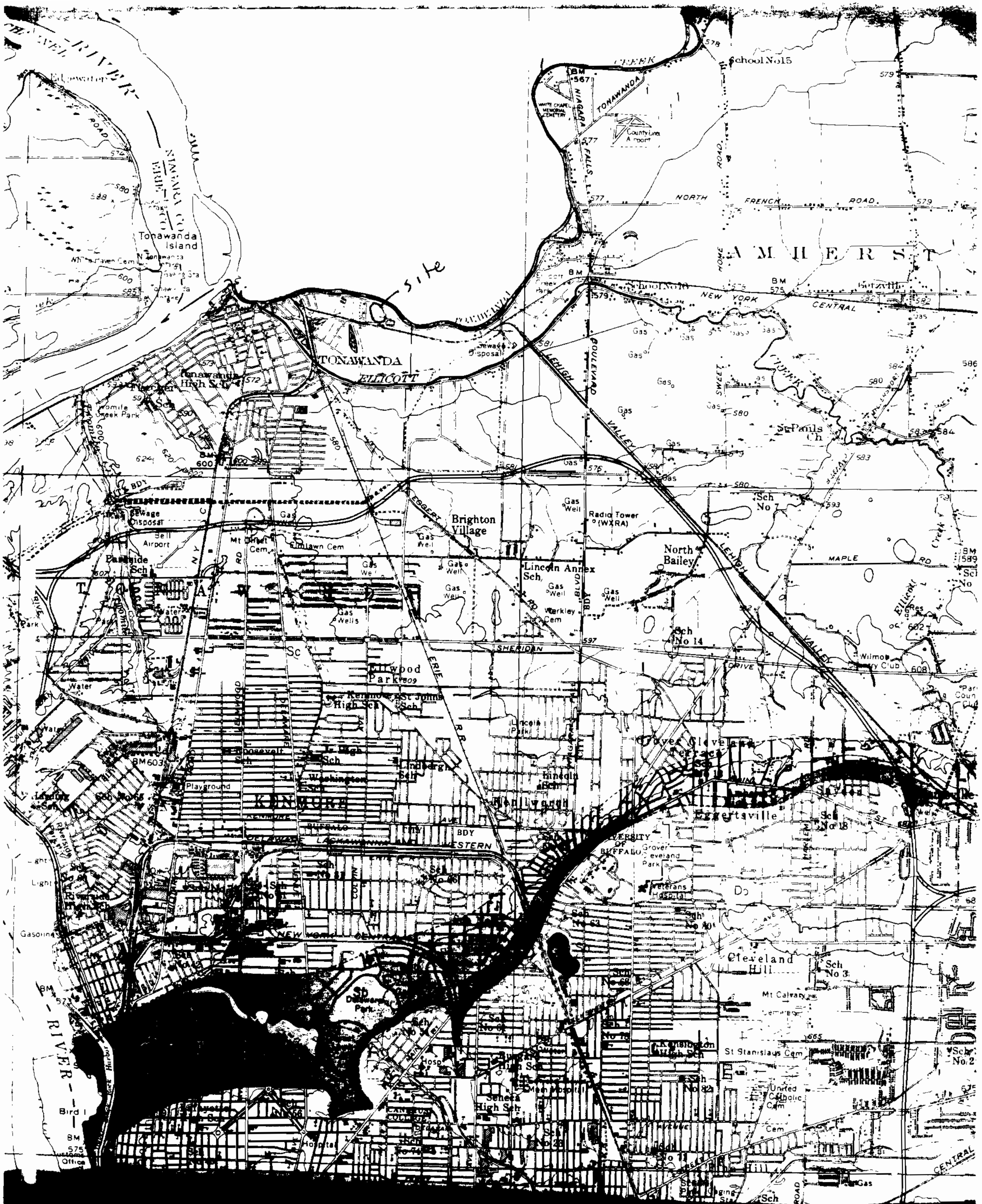
by Edward J. Buehler and Irving H. Tesmer

1963

Scale 1:62500

0 1 2 Miles

CONTOUR INTERVAL


RIVER
Edgewater
ROAD
NIAGARA CO
ERIE CO
Tonawanda Island
CREEK
School No15
BM 567
TONAWANDA
NIAGARA FALLS
County Line Airport
NORTH
FRENCH
ROAD
AMHERST
site
School No10
NEW YORK CENTRAL
Gas
TONAWANDA
ELLICOTT
Sewage Disposal
LEHIGH VALLEY
BOULEVARD
Tonawanda High Sch
Twomile Creek Park
St Pauls Ch
Brighton Village
Radio Tower (WXRA)
North Bailey
Sch No 7
MAPLE RD
Sewage Disposal
Sell Airport
Mt Olivet Cem
Elmlawn Cem
Parkside Sch
Lincoln Annex Sch
Gas Wells
Sch No 14
SHERIDAN
DRIVE
Ellwood Park
Kenmore High Sch
St Johns Sch
Lincoln Park
ERIE RR
Grover Cleveland Terrace
Roosevelt Sch
Lindbergh Sch
Washington Sch
Playground
KENMORE
DELAWARE
LACKAWANNA
WESTERN
Eggertsville
Sch No 18
UNIVERSITY OF BUFFALO
Grover Cleveland Park
Veterans Hospital
NEW YORK CENTRAL
Cleveland Hill
Sch No 3
Mt Calvary Cem
Delaware Park
Kensington High Sch
St Stanislaus Cem
Sch No 2
United Catholic Cem
Seneca High Sch
Gasoline
RIVER
Bird I
BM 575
CENTRAL

REFERENCE 5

New York State Department of Environmental Conservation
600 Delaware Avenue, Buffalo, NY 14202-1073 716/847-4550

Henry G. Williams
Commissioner

December 18, 1985

Mr. Sheldon S. Nozik
RECRA Research, Inc.
4248 Ridge Lea Road
Amherst, NY 14226

Dear Mr. Nozik:

Tentative Erie County and final Niagara County freshwater wetlands are shown directly on your site maps for the Superfund sites you are studying. Please be sure to examine all the maps since I did not copy all wetland boundaries if a given area was shown on another map.

Also, our maps show only those wetlands which exceed 5 ha in size. We have no information compiled for wetlands less than 5 acres in size.

To my knowledge, we have no "critical habitats" within one mile of the sites in question. Further, I am not aware of endangered or threatened species occupying these sites.

If you need some specific information on the wetlands within your study area, you will need to come to Regional Headquarters to compile those data.

Sincerely,

Gordon R. Batcheller
Senior Wildlife Biologist
Region 9

GRB:ls

Enc.

cc: Mr. Pomeroy

RECRA RESEARCH, INC.

Hazardous Waste And Toxic Substance Control

December 13, 1985

Mr. James Pomeroy
Habit Protection Biologist
NYSDEC Fish and Wildlife Office
128 South Street
Olean, NY 14760

Dear Mr. Pomeroy:

As per our telephone conversation on December 3, 1985, enclosed are sections of the topographic maps for the NYSDEC Phase I Superfund sites we are presently working on. Below is a list of these sites:

1. Exolon Company
2. Pennwalt-Lucidal
3. Mollenberg-Betz Co.
4. Empire Waste
5. Bisonite Paint Co.
6. Stocks Pond
7. Aluminum Matchplate
8. Otis Elevator (Stimm Assoc.)
9. LaSalle Reservoir
10. Tonawanda City Landfill
11. Union Road Site
12. Central Auto Wrecking (Diarsonal Co.)
13. Procknal and Katra
14. Consolidated Freightway
15. U.S. Steel (Stimm Assoc.)
16. Ernst Steel
17. American Brass (Anaconda)
18. Erie-Lackawanna Site
19. Dresser Industries
20. W. Seneca Transfer Station
21. Old Land Reclamation
22. Northern Demolition
23. Lackawanna Landfill
24. South Stockton Landfill*
25. Chadakoin River Park*
26. Dunkirk Landfill*
27. Felmont Oil Co.*
28. NFTA**
29. Walmore Road Site**
30. Schreck's Scrapyard**

* Chautaugua County
** Niagara County

As part of the search requirements for the NYSDEC Superfund sites, each of these sites must be documented as follows:

- if there are any coastal wetlands within two (2) miles of the site
- if there are any freshwater wetlands within one (1) mile of the site (5 acre min.
- if there are any critical habitats within one (1) mile of the site (endangered species or wildlife refuges)

Continued . . .

4248 Ridge Lea Road, Amherst, New York 14226 Telephone (716) 838-6200

Would you please forward information on sites 1-10 as soon as possible, as we have a January 15, 1986 deadline for submittal of these reports to Albany.

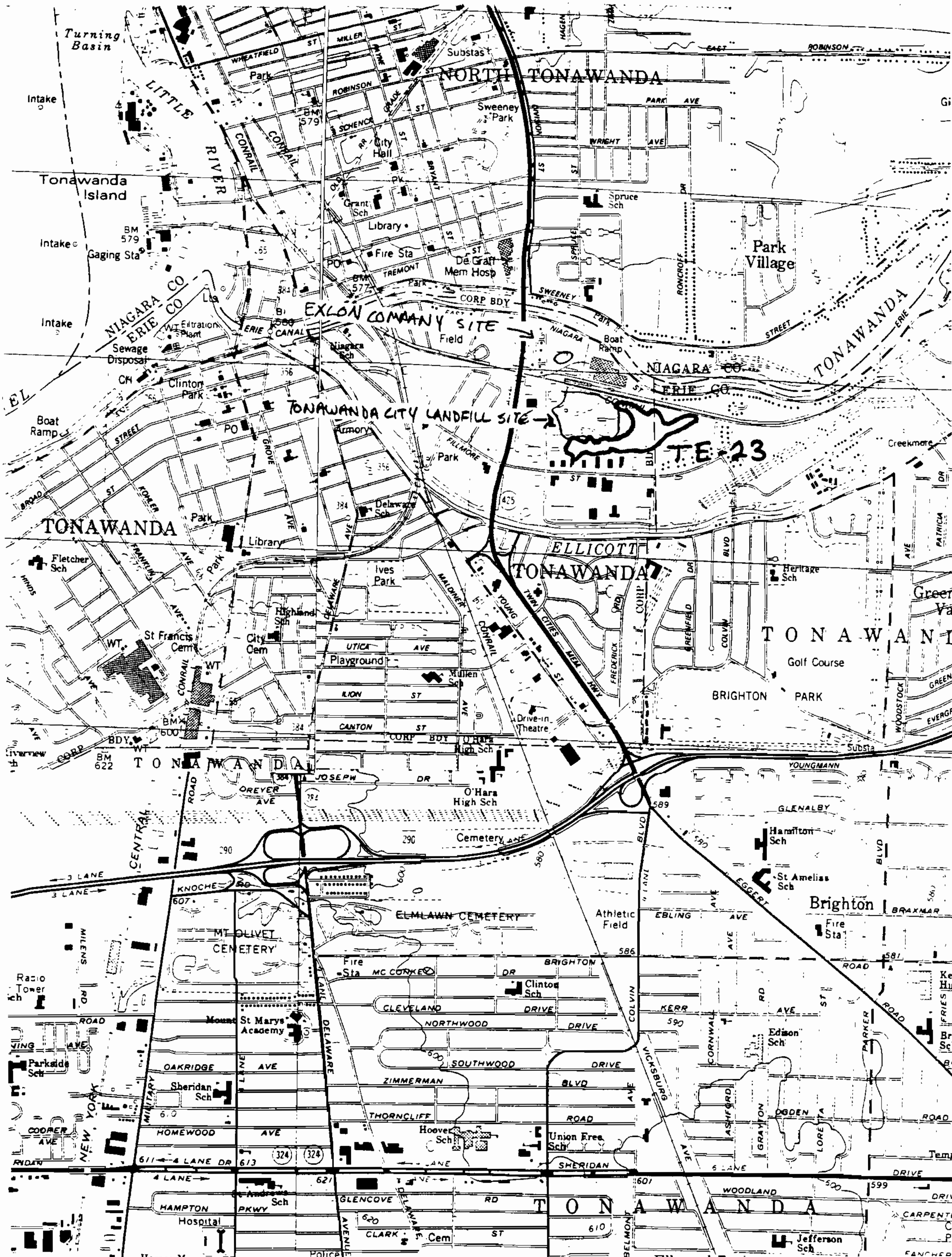
Thank you very much for your assistance and promptness in these matters. Should you have any questions or comments, please do not hesitate to call.

Sincerely,

RECRA RESEARCH, INC.

Sheldon S. Nozik
Environmental Specialist

SSN/jlo
Enclosure



NORTH TONAWANDA
EXLON COMPANY SITE
TONAWANDA CITY LANDFILL SITE
TE-23
TONAWANDA
Turning Basin
Tonawanda Island
LITTLE RIVER
NIAGARA CO
ERIE CO
ERIE CANAL
Sewage Disposal
Clinton Park
Boat Ramp
Sweeney Park
City Hall
Grant Sch
Library
Fire Sta
De Graff Mem Hosp
Spruce Sch
Park Village
Niagara Sch
Armory
Delaware Sch
Fletcher Sch
St Francis Cem
City Cem
Ives Park
Highland Sch
Playground
Mullen Sch
Drive-in Theatre
O'Hara High Sch
ELLICOTT
Heritage Sch
Golf Course
BRIGHTON PARK
Cemetery
ELMLAWN CEMETERY
MT OLIVET CEMETERY
Athletic Field
Hamilton Sch
St Amelias Sch
Brighton
Fire Sta
Clinton Sch
Mount St Marys Academy
Edison Sch
Parkside Sch
Sheridan Sch
Hoover Sch
Union Free Sch
St Andrews Sch
Hospital
Jefferson Sch
Radio Tower
Creekmore

REFERENCE 6

STATE OF NEW YORK

OFFICIAL COMPILATION

OF

CODES, RULES AND REGULATIONS

MARIO M. CUOMO
Governor

GAIL S. SHAFFER
Secretary of State

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162 Washington Avenue
Albany, New York 12231

1/83

ARTICLE 8

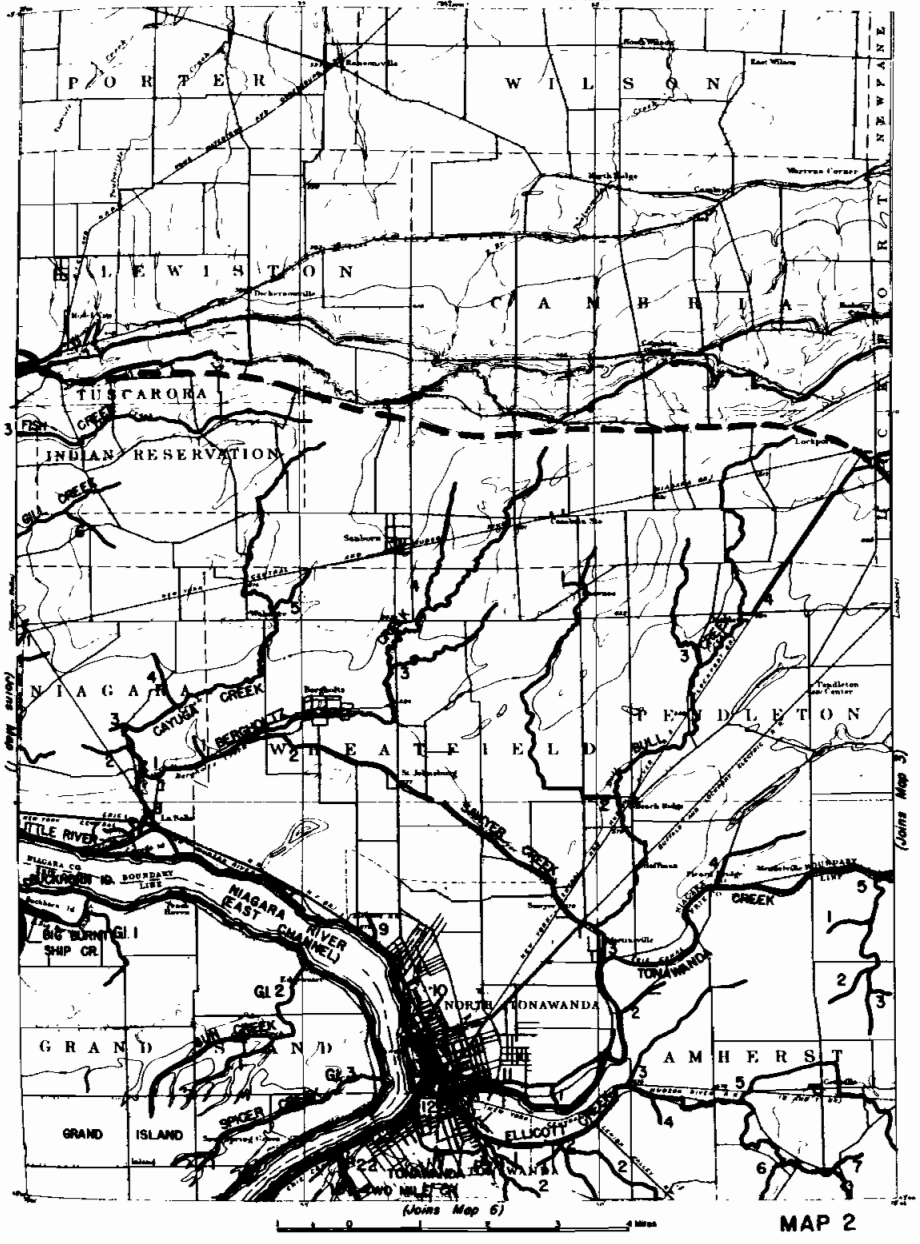
Lake Erie — Niagara River Drainage Basin Series

PART

TABLE I (contd.)

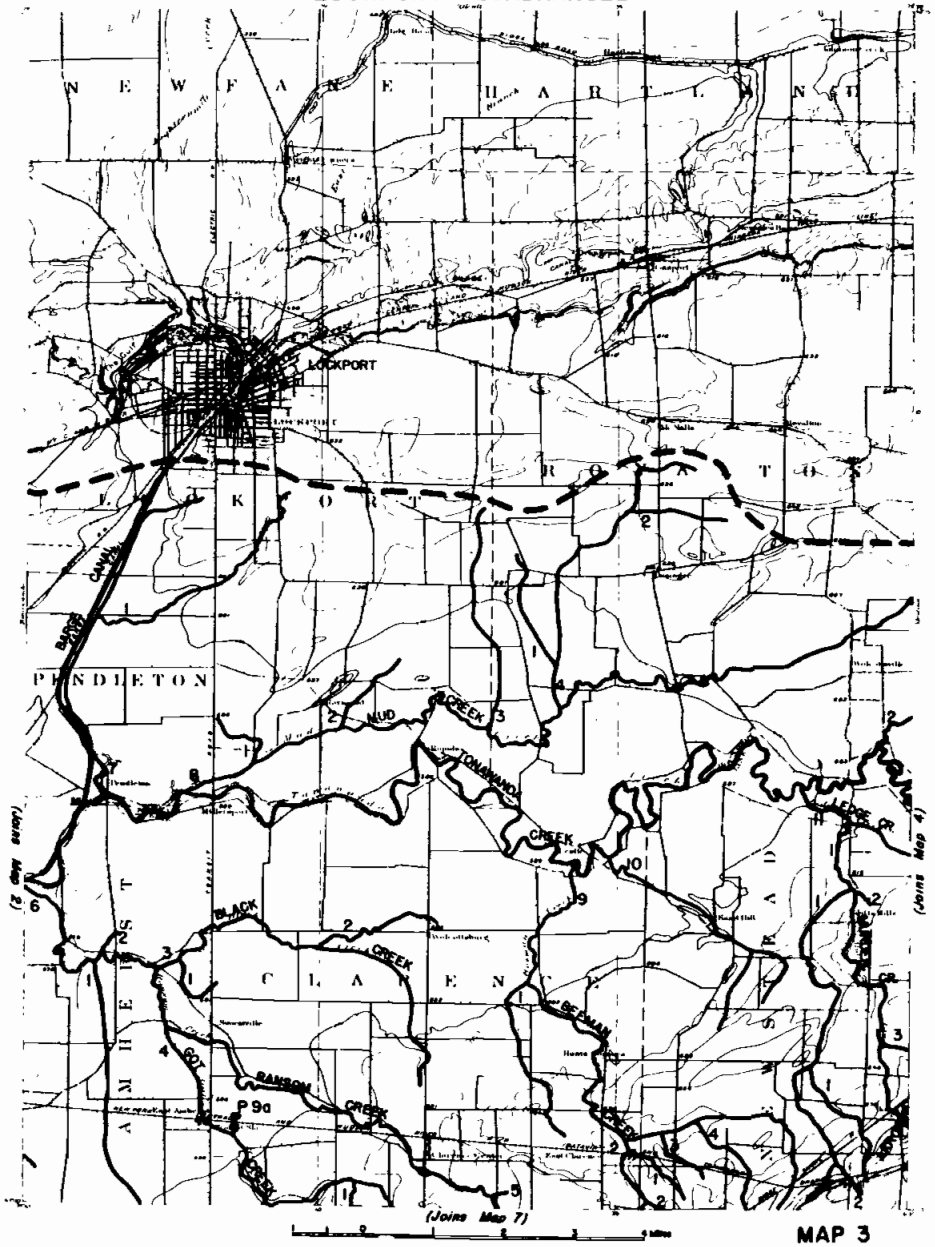
Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
19	0-158-12 portion as described	Tonawanda Creek	Enters Niagara River from east at Erie-Niagara county line. Mouth to Barge Canal confluence at Pendleton.	2,3	C	C
20	0-158-12 portion as described	Tonawanda Creek	From Barge Canal confluence at Pendleton to dam at East Pembroke.	3,4,8	B	B
21	0-158-12 portion as described	Tonawanda Creek	From dam at East Pembroke to water supply dam at Batavia.	4,5,8,9	C	C
22	0-158-12 portion as described	Tonwanda Creek	From water supply dam at Batavia to source.	8,9,12	A	A
23	0-158-12-1 portion as described	Ellicott Creek	Enters Tonawanda Creek from southeast approximately 0.3 mile from mouth. Mouth to Erie Railroad crossing.	2	D	D
24	0-158-12-1 portion as described	Ellicott Creek	From Erie Railroad crossing to trib. 1 which is in line with a continuation of Mill Creek Road, City of Tonawanda.	2	C	C
25	0-158-12-1 portion as described including P 4a	Ellicott Creek	From trib. 1 which is in line with a continuation of Mill Creek Road, City of Tonawanda to trib. 17 which is approximately 0.5 mile west of western boundary, Village of Alden.	2,6,7	B	B

TONAWANDA QUADRANGLE



MAP 2

LOCKPORT QUADRANGLE



MAP 3

REFERENCE 7

NEW YORK WATER CLASSIFICATIONS AND QUALITY STANDARDS

(Official Codes, Rules, and Regulations of the State of New York, Chapter X — Division of Water Resources, Article 2, Parts 700 through 704; Adopted April 28, 1972; Amended February 21, 1974; September 20, 1974; Part 703 Amended August 2, 1978; Effective September 1, 1978)

CONTENTS

PART 700

TESTS OR ANALYTICAL DETERMINATIONS

Section 700.1 Collection of samples. In making any tests or analytical determinations to determine compliance or noncompliance of sewage, industrial wastes or other waste discharges with established standards, samples shall be collected in such manner and at such locations as are approved by the commissioner. In approving such locations the commissioner shall be guided by the fact that (a) there must be prompt mixing of the discharge with the receiving waters; (b) that the mixing will not interfere with biological communities to a degree which is damaging to the ecosystem; (c) that the mixing will not diminish other beneficial uses disproportionately.

700.2 Tests or analytical determinations. Tests or analytical determinations to determine compliance or noncompliance with standards shall be made in accordance with the latest edition of (a) *Standard Methods for the Examination of Water and Wastewater* prepared by American Public Health Association (APHA), American Water Works Association (AWWA) and Water Pollution Control Federation (WPCF); (b) *Methods for Chemical Analysis of Water and Wastes* prepared by Environmental Protection Agency (EPA); (c) *Water Standards of the American Society for Testing and Materials* (ASTM); or (d) by other methods approved by the commissioner and the administrator as giving results equal to or superior to methods listed in any of the other documents.

PART 701

CLASSIFICATIONS AND STANDARDS OF QUALITY AND PURITY

(April 28, 1972; Amended February 21, 1974; September 20, 1974)

Section 701.1 Definitions. The terms, words or phrases used in Parts 700, 701, 702 and 704 shall have the following meaning:

(a) *Commissioner* shall mean the Commissioner of the Department of Environmental Conservation.

(b) *Administrator* shall mean the Administrator of the United States Environmental Protection Agency.

(c) *Best usage of waters* as specified for each class shall be those uses as determined by the commissioner and the administrator in accordance with the considerations prescribed by the Environmental Conservation Law and Public Law 92-500.

(d) *Approved treatment* as applied to water supplies shall mean treatment accepted as satisfactory by the authorities responsible for exercising supervision over the sanitary quality of water supplies.

(e) *Source of water supply for drinking, culinary or food processing purposes* shall mean any source, either public or private, the waters from which are used for domestic consumption or used in connection with the processing of milk, beverages or foods. (When water is taken for public drinking, culinary or food processing purposes, refer to New York State Department of Health regulations 10 NYCRR 170.)

(f) *Primary contact recreation* shall mean recreational activities where the human body may come in direct contact with raw water to the point of complete body submergence. Such uses include swimming, diving, water skiing, skin diving and surfing.

(g) *Secondary contact recreation* shall mean recreational activities where contact with the water is minimal and where ingestion of the water is not probable. Such uses include but are not limited to fishing and boating.

(h) *Saline surface waters* shall mean all waters which are so designated by the commissioner.

(i) *International boundary waters* shall mean those waters to which the water quality standards developed and adopted pursuant to the Boundary Water Treaty of 1909 and the Great Lakes Quality Agreement of 1972 apply.

(j) *Sewage, industrial waste and other wastes* shall have the meanings given in section 17-0105 of the Environmental Conservation Law.

(k) *Estuary* shall mean the tidal portion of a river or stream.

(l) A *thermal discharge* is one which results or would result in a temperature change of the receiving water.

(m) *Heat of artificial origin* shall mean all heat from other than natural sources including but not limited to, cumulative effects of multiple and proximate thermal discharges.

CLASS C

Best usage of waters. Suitable for fishing and all other uses except as a source of water supply for drinking, culinary or food processing purposes and primary contact recreation.

Quality Standards for Class C Waters

Item: 1. Coliform.

Specifications: The monthly geometric mean total coliform value for 100 ml of sample shall not exceed 10,000 and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 2,000 from a minimum of five examinations. This standard shall be met during all periods when disinfection is practiced.

Item: 2. pH.

Specifications: Shall be between 6.5 and 8.5.

Item: 3. Total dissolved solids.

Specifications: None at concentrations which will be detrimental to the growth and propagation of aquatic life. Waters having present levels less than 500 milligrams per liter shall be kept below this limit.

Item: 4. Dissolved oxygen.

Specifications: For cold waters suitable for trout spawning, the DO concentration shall not be less than 7.0 mg/l from other than natural conditions. For trout waters, the minimum daily average shall not be less than 6.0 mg/l. At no time shall the DO concentration be less than 5.0 mg/l. For nontrout waters, the minimum daily average shall not be less than 5.0 mg/l. At no time shall the DO concentration be less than 4.0 mg/l.

Note 1: Refer to note 1 under Class AA which is also applicable to Class C standards.

CLASS D

Best usage of waters. These waters are suitable for secondary contact recreation, but due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery or stream bed conditions, the waters will not support the propagation of fish.

Conditions related to best usage of waters. The waters must be suitable for fish survival.

Quality Standards for Class D Waters

Item: 1. pH.

Specifications: Shall be between 6.0 and 9.5.

Item: 2. Dissolved oxygen.

Specifications: Shall not be less than three milligrams per liter at any time.

Note 1: Refer to note 1 under Class AA which is also applicable to Class D standards.

701.5 Classes and standards for saline surface waters. The following items and specifications shall be the standards applicable to all New York Saline Surfaces Waters which are assigned the classification of SA, SB, SC or SD, in addition to the specific standards which are found in this Part under the heading of each such classification.

Quality Standards for Saline Surface Waters

Items: 1. Garbage, cinders, ashes, oils, sludge or other refuse.

Specifications: None in any waters of the marine district as defined by Environmental Conservation Law (§17-0105).

Item: 2. pH.

Specifications: The normal range shall not be extended by more than 0.1 pH unit.

Item: 3. Turbidity.

Specifications: No increase except from natural sources that will cause a substantial visible contrast to natural conditions. In cases of naturally turbid waters, the contrast will be due to increased turbidity.

Item: 4. Color.

Specifications: None from man-made sources that will be detrimental to anticipated best usage of waters.

Item: 5. Suspended, colloidal or settleable solids

Specifications: None from sewage, industrial wastes or other wastes which will cause deposition or be deleterious for any best usage determined for the specific waters which are assigned to each class.

Items: 6. Oil and floating substances.

Specifications: No residue attributable to sewage, industrial wastes or other wastes, nor visible oil film nor globules of grease.

Item: 7. Thermal discharges.

Specifications: (See Part 704 of this Title.)

CLASS SA

Best usage of waters. The waters shall be suitable for shellfishing for market purposes and primary and secondary contact recreation.

Quality Standards for Class SA Waters

Item: 1. Coliform.

Specifications: The median MPN value in any series of samples representative of waters in the shellfish growing area shall not be in excess of 70 per 100 ml.

Item: 2. Dissolved oxygen.

Specifications: Shall not be less than 5.0 mg/l at any time.

Items: 3. Toxic wastes and deleterious substances.

Specifications: None in amounts that will interfere with use for primary contact recreation or that will be injurous to edible fish or shellfish or the culture or propagation thereof, or which in any manner shall adversely affect the flavor, color, odor or sanitary condition thereof or impair the waters for any other best usage as determined for the specific waters which are assigned to this class.

CLASS SB

Best usage of waters. The waters shall be suitable for primary and secondary contact recreation and any other use except for the taking of shellfish for market purposes.

Quality Standards for Class SB Waters

Item: 1. Coliform

Specifications: The monthly median coliform value for 100 ml of sample shall not exceed 2,400 from a minimum of five examinations and provided that not more than 20 percent of the samples shall exceed a coliform value of 5,000 for 100 ml of sample and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 200 from a minimum of five eximinations. This standard shall be met during all periods when disinfection is practiced.

REFERENCE 8

EHMKE WELL DRILLERS, INC.
104 Main Street
SILVER CREEK, NEW YORK 14136
Area Code 716 934-2658

77' casing
43' hole in rock
140'

Well depth: 140 ft.

REPORT OF PUMPING TEST DATE: March 27-28, 1978

OWNER: Exolon Co.
1000 East Niagara St.
Tonawanda, NY 14150

LOCATION: Same

WELL # 1 FOREMAN: Ronald Metxger DURATION OF TEST: 24. Hours

TYPE WELL: [XX] Gravel [XX] New [XX] Open Hole [X] Gravel-packed [X] Developed
[XX] Rock [ ] Old [XX] Screened [ ] Natural-pack [ ] Perforated

CASINGS: Length: 77' (Outer) 8" I.D. 8-5/8" O.D. Grouted: [ ] Yes
(Inner) _____ I.D. _____ O.D. [XX] No

SCREENS: [X] Telescope Size 3" x 6' long [X] Stainless steel [ ] Everdur Bronze
[ ] Std. Pipe Size _____ [ ] Low-carbon steel [ ] Armco galv. iron
[ ] Slotted Casing _____ [ ] Red Brass [ ] Plastic
Screen I.D. 6-5/8" Screen O.D. 7¼" Length 6'0" Overall 17'7"
[XX] Sump casing 9' of 7" OD [ ] Closed bail bottom [ ] Lead Packer top
[XX] Flush tube 70.5' to 73'0' [XX] Weld ring top to 7" OD casing.
[ ] K Packer top Slot size: #100

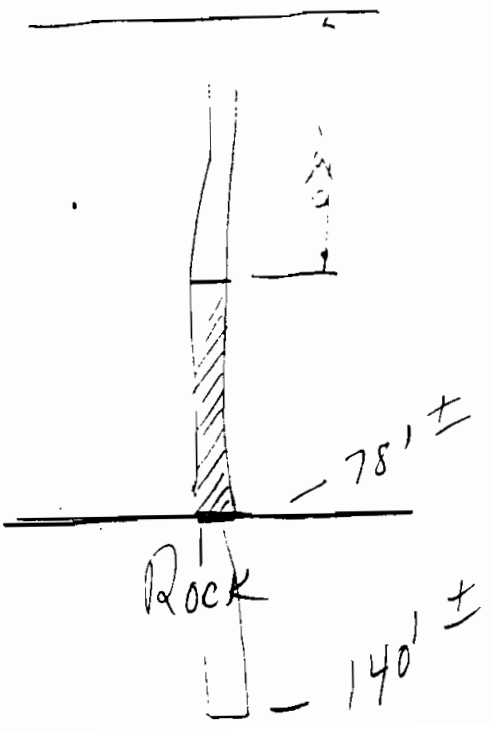
TYPE PUMP: [XX] Turbine [ ] Submersible [ ] Suction DISCHARGE: 5" pipe
Top of swadged 7" OD risor - 70½' Orifice: 3"
DEPTH READING DEVICE: [ ] Altitude gauge [X] Electric probe
TOP OF SCREEN @ 76' TOP OF BOWLS @ 61'4"
STATIC WATER LEVEL 7'-6" WATER SAMPLE TAKEN BY bottom of bowl @ 65'

	TIME OF DAY	BACK PRESS	ORIFICE	GPM	ALTITUDE	WATER LEVEL	OBS.HOLE
3-27-78	11:00 AM	--	3"	50	--	9'	Black to grey c
	11:30	--	3"	50	--	9'	Clear
	12:00 PM	--	"	60	--	12'	Brown
	12:30	--	"	60	--	12'	Clear
	1:00	--	"	75	--	14'	Brown
	1:30	6½'	"	87	--	15'6"	Clear to clou
	2:00	6"	"	85	--	16	Cloudy
	2:30	7"	"	92.	--	19'	clear to clou
	3:00	7"	"	92	--	19'4"	cloudy
	3:30	7"	"	92	--	19'6"	cloudy
	4:00	8"	"	98	--	21'	clear to lt.g
	4:30	9"	"	104	--	23'	clear to brow
	5:00	10"	"	110	--	30'	clear to brow
	5:30	10"	"	110	--	30'	cloudy to brc
	6:00	10"	"	110	--	31'	cloudy to brc
	6:30	11"	"	116	--	31'	clear to clou
	7:00	12"	"	120	--	31'	cloudy to brc
	7:30	13"	"	125	--	31'2"	cloudy to brc
	8:00	13"	"	125	--	31'2"	cloudy to brc
	8:30	14"	"	130	--	31'2"	cloudy to brc
	9:00	15"	"	134	--	31'4"	cloudy to brc
	9:30	16"	"	139	--	34'4"	cloudy to brc
	10:00	17"	"	143	--	34'6"	cloudy to brc

EHMKE
WELL DRILLERS
Silver Creek

	TIME OF DAY	BACK PRESS	ORIFICE	GPM	ALTITUDE	WATER LEVEL	OBS.HOLE
3-27-78							
	10:30	18"	3"	147	--	34'10"	cloudy to brown
	11:00	19	"	151	--	45'10"	cloudy to brown
	11:30	19	"	151	--	48'	cloudy to brown
-28-78	12:00	20	"	155	--	52'2"	cloudy to brown
	12:30 AM	20	"	155	--	53'6"	cloudy
	1:00	20	"	155	--	55'	cloudy
	1:30	14	"	130	--	54'	cloudy
	2:00	14	"	130	--	54'	clear
	2:30	11	"	116	--	59'	cloudy
	3:00	11	"	116	--	59'	clear
	3:30	10" - 11"	"	110-116	--	59'	clear
	4:00	10"	"	110-116	--	60'	clear
	4:30	10"	"	110	--	59'	clear
	5:00	10"	"	110	--	59'	clear
	5:30	10"	"	110	--	59'	clear
	6:00	10"	"	110	--	59'	clear
	6:30	10"	"	110	--	59'	clear
	7:00	10"	"	110	--	59'	clear
	7:30	9" - 10"	"	110	--	60'	clear
	8:00	9" - 10"	"	110	--	59'	clear
	8:30	9" - 10"	"	110	--	59'	clear
	9:00	9" - 10"	"	110	--	59'	clear
	9;30	9" - 10"	"	110	--	59'	clear
	10:00	9" - 10"	"	110	--	59'	clear
	10:30	9" - 10"	"	110	--	59'	clear
	11:00	9" - 10"	"	110	--	59'	clear

Rebound 5 minutes to 10'



EXOLON COMPANY
1000 East Niagara Street
Tonawanda, N. Y. 14150

WATER SUPPLY # 1

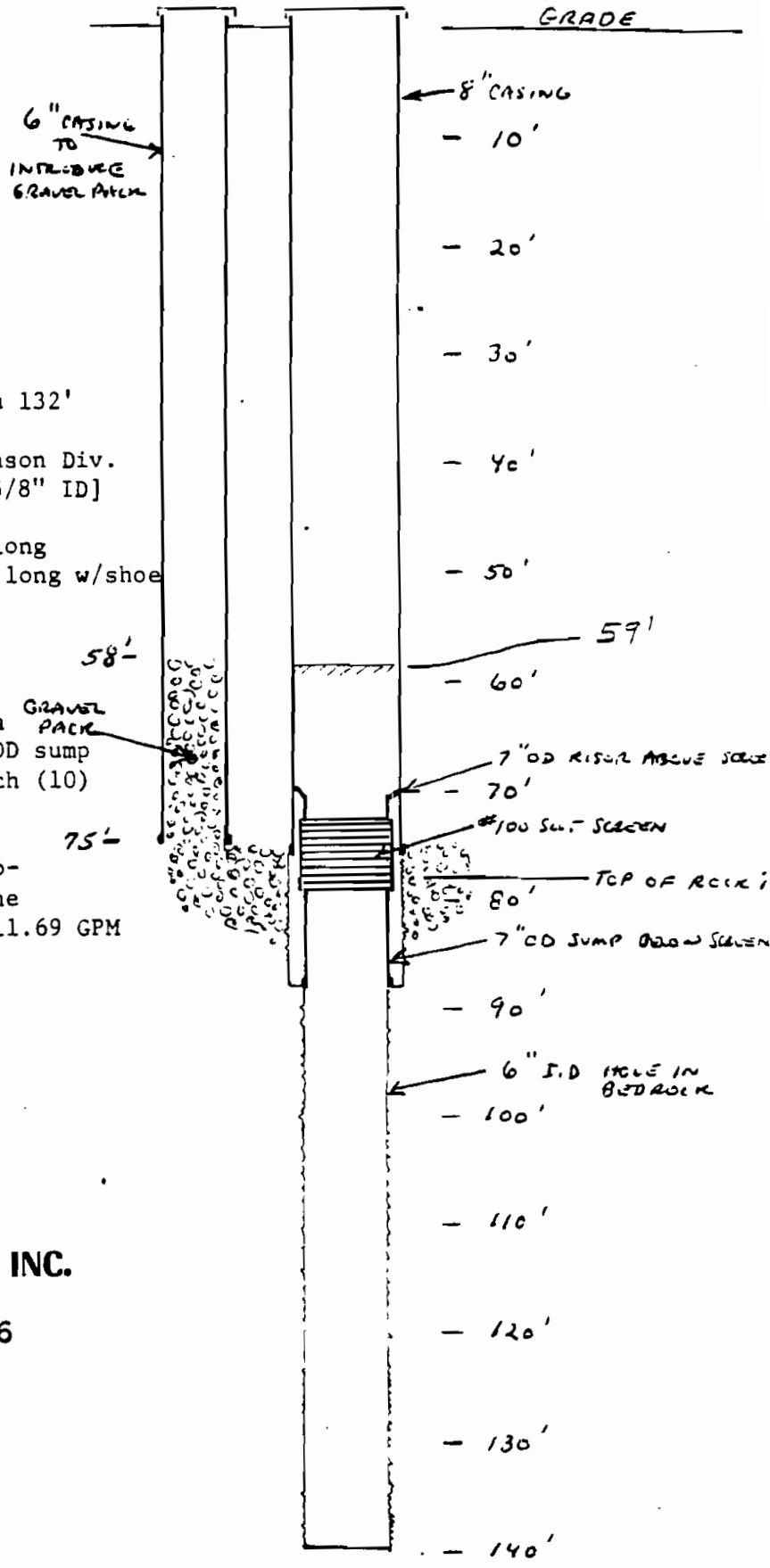
Completed: 3-28-78

Driller: Ronald Metzger
Tool Dresser: Jack Will

Total depth: 140'
~~Bottom of 8" hole: 88'~~
Top of Bedrock: 78'
Sand & gravel vein: 72' thru 78'
Bedrock Vein: 106' (gypsum break)
132' (limestone)
Note: Extreme hard rock: 130' thru 132'

Screen: 8" telescope size UOP Johnson Div.
100 slot throughout [6-5/8" ID]
stainless steel material
riser pipe of 7" OD 2'7" long
sump casing of 7" OD 9'0" long w/shoe
screen length: 6'0"
overall length: 17'7"
length exposed: 3'0"
Note: gravel stop ring at bottom of screen area and slots in the 7" OD sump cut by acetylene torch (10)

Final pumping test: 3-27 & 28-78
Gauged 110 GPM at 59' pumping level. 24 hour test. The average rate of flow was 111.69 GPM



VERTICAL SCALE
1/4" = 4'

EHMKE WELL DRILLERS INC.
Box 4, 104 Main Street
Silver Creek, N. Y. 14136
934-2658

REFERENCE 9

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

Many domestic-supply wells penetrate from 1 foot to a few feet into the soluble rocks and produce small but adequate yields. On the other hand, industrial wells that were intended to produce large supplies of water give a truer picture of the water-supply potential of the rocks. Data on industrial wells show that the Camillus Shale will yield as much as 1,200 gpm and the limestone unit as much as 300 gpm and probably more. But the data also show that the rocks produce low yields at places. This is shown by such wells as 301-848-1 which was drilled to obtain a large supply for an industry but which yielded only 30 gpm. The water-bearing zones obviously are unevenly distributed through the rocks. Factors that control the occurrence of the water-bearing zones cannot be evaluated at the present time to the extent necessary to predict exactly where the zones occur.

The Lockport Dolomite is the least productive unit of the soluble rocks. Within the Erie-Niagara basin yields of wells in the Lockport range from about 4 to 90 gpm. Depth of the wells range from 20 to 70 feet. Most of the deeper wells were drilled where the depth to bedrock is greatest. Domestic-supply wells generally are finished in the fracture zone at the rock surface or in a bedding joint within the uppermost 30 feet of the rock. It is usually not necessary to drill deeper into the Lockport if only a small supply is needed.

Drilling deeper in an attempt to intersect additional bedding-plane openings at depth would provide higher yields but, generally, at the expense of lower water levels and therefore higher pump lifts. Johnston (1964) collected data on a much larger number of wells along the outcrop belt of the Lockport Dolomite than were inventoried in the Erie-Niagara basin. He found that wells drawing water from the lower 40 feet of the Lockport (the northern part of the outcrop area) yield from 1/2 to 20 gpm and have an average yield of 7 gpm. Wells finished in the upper part of the Lockport (the southern part of the outcrop area) yield from 2 to 110 gpm and have an average yield of 31 gpm. Yields of as much as 50 or 100 gpm are possible from the Lockport in the Erie-Niagara basin but would be exceptional.

CAMILLUS SHALE

Bedding and lithology

The Camillus Shale lies above the Lockport Dolomite and crops out to the south of where the dolomite is exposed. Exposures of the Camillus Shale are rare in the Erie-Niagara basin because of the low relief of the outcrop area and the cover of glacial deposits. Geologists who have studied the Camillus in the study basin agree that it consists mostly of gray shale. (For example, see Buehler and Tesmer, 1963, p. 29-30.) Subsurface data, on the other hand, indicate that a considerable amount of gray limestone and dolomite is interbedded with the shale. Along with these carbonates, gypsum comprises a significant part of the Camillus Shale. Some of the gypsum beds are as much as 5 feet thick. Gypsum also occurs in the Camillus as thin lenses and veins. Table 1,

which is a log compiled during construction of a mine slope, illustrates the occurrence of gypsum and the predominance of carbonate rocks in some parts of the Camillus.

Though the Camillus dips southward at approximately 40 feet to the mile, the dip is not uniform. Gypsum miners say the formation "rolls," to describe the gentle folding of its beds. The formation is marked by broad, low folds with amplitudes of a few feet and spacings of a few hundred feet between crests. The fold axes generally are east-west.

Water-bearing openings

The extensive beds of gypsum make the Camillus Shale unique among the shale formations of the basin. The importance of the gypsum lies in its solubility; gypsum is far more soluble than the enclosing rocks, whether shale, dolomite, or limestone. Where gypsum has been dissolved, openings exist for the passage and storage of water.

The effect of the solution of gypsum on the water-bearing properties of the Camillus Shale (and other rocks) can be readily appreciated. Where the topmost beds of the Camillus crop out at the base of the falls of Murder Creek at Akron, the Camillus seems to be an impermeable shale. If one judged the water-bearing properties of the Camillus on the basis of this outcrop alone, he would be wrong. Yields of water wells and drainage into gypsum mines prove that large volumes of water do move through the Camillus.

Clues to the nature of the water-bearing openings in the Camillus can be obtained by considering some of the circumstances where large volumes of water were obtained. About 1885, the Buffalo Cement Company located a 4-foot thick bed of gypsum only 43 feet below land surface by test drilling in Buffalo on Main Street near Williamsville. A shaft was sunk with the intention of beginning a subsurface mining operation, but when the gypsum was struck the shaft was flooded with ground water. The report is that "..... a pump with a capacity of 2,000 gallons per minute failed to make any impression upon it [the water] and the attempt was abandoned" (Newland and Leighton, 1920, 209-210).

In 1964, a gypsum mine near Clarence Center received an unexpected inflow of ground water. Several hundred gallons of water per minute continuously enters the mine at a place about midway down the entry slope. This water is pumped out by a drainage system diagrammatically shown in figure 6. Ordinarily, only small seeps occur in the remainder of the mine from roof bolts and small cracks in the roof. At a distance of more than a mile from the entry slope, the working face intersected an unplugged drill hole. Water poured into the mine at an alarming rate until the hole was plugged with much effort.

Large-yield wells, such as those at Tonawanda and North Tonawanda, obtain water from thin intervals of gypsum-bearing rock. The gypsum in the Camillus Shale obviously is related to the occurrence of large quantities of water. Gypsum is a highly soluble mineral and is

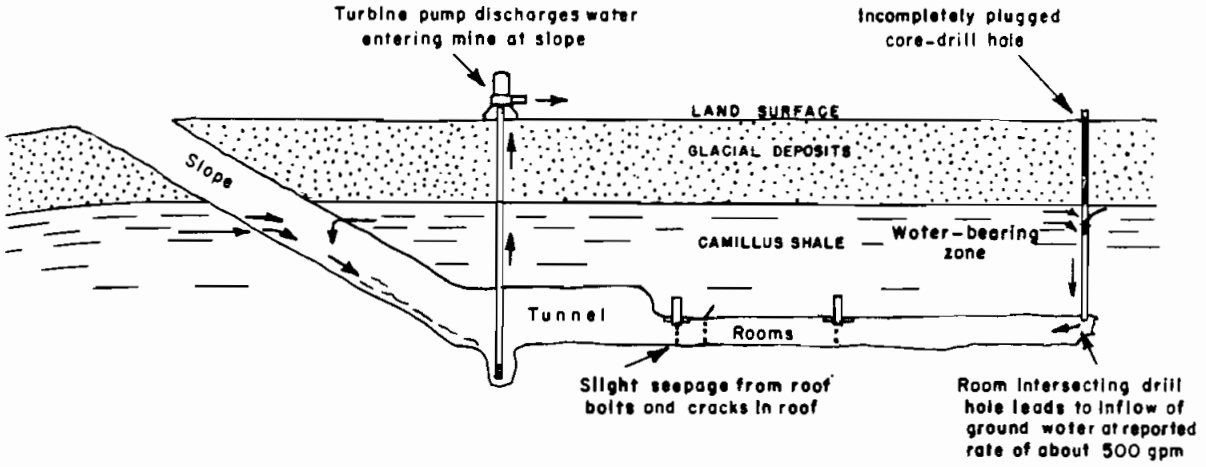


Figure 6.--Occurrence of ground water in the Camillus Shale at a gypsum mine near Clarence Center.

dissolved by circulating ground water faster than are the enclosing rocks. Very likely the openings in the Camillus that yield copious amounts of water were formed by the solution of gypsum by ground water. The water-bearing zones are mainly horizontal because most of the gypsum occurs in horizontal beds and thin zones of gypsiferous shale and dolomite. Only those gypsum zones actually exposed to circulating ground water can be widened by solution. The gypsum must be in contact with an open fracture through which the water can move. If no open fracture exists, the gypsum cannot be dissolved. The occurrence of ground water at the gypsum mine shown in figure 6 is a further illustration. The 4 1/2-foot thick bed that is mined at a depth of 66.9 feet (table 1) is dry because of the lack of vertical fractures to transmit water to it.

The solution-widened water-bearing zones occur at various depths and stratigraphic horizons in the Camillus. The existence of such zones is borne out by well data. For instance, wells 303-850-1 and -2 are 90 feet apart and obtain water from the same 2- to 3-foot thick zone at a depth of 67 to 68 feet. Such zones may be continuous for as much as 1 or 2 miles but information is not available on the extent of individual zones. The gypsum occurs principally in lenticular beds. The thicker beds may be 3 or 4 miles in lateral extent. The thinner beds can be expected to be much smaller in extent.

A zone of fracturing and solution extending several feet below the rock surface yields relatively small but sufficient water supplies for domestic use. This zone appears to be present throughout the area and is unrelated to stratigraphic position.

Hydrologic and hydraulic characteristics

The Camillus Shale forms a low topographic trough split down the axis by Tonawanda Creek. Ground water that enters the formation discharges mainly to the creek. Little water is discharged to the small, barely incised streams on the Camillus. These streams are dry much of the year.

Coefficients of transmissibility given in table 2 were computed for the Camillus Shale on the basis of specific capacities of wells penetrating a considerable thickness of the aquifer, by the method described by Walton (1962, p. 12-13).

Table 2.--Specific-capacity tests of wells finished in the Camillus Shale

Well number	Pumping rate (gpm)	Duration of pumping (hours) e: estimated	Drawdown (feet)	Specific capacity (gpm/ft)	Coefficient of transmissibility (gpd/ft)
a/ 258-853-1	1,090	e8	53	21	40,000
-2	90	--	22	4	7,000
258-855-1	500	e8	17	29	55,000
-2	1,000	e8	26	38	70,000
-3	1,500	e8	38	39	70,000
303-850-1	700	24	10	70	--
-2	660	e8	8	83	--

a/ Well also penetrates water-bearing zone in Lockport Dolomite.

The large specific capacities of wells 303-850-1 and -2 probably result in part from recharge induced from Sawyer Creek. Measurements of recovery of water levels in well 303-850-1 were made when well 303-850-2 was shut down after a year of continuous pumping. From these data, a coefficient of transmissibility of about 80,000 per foot and a coefficient of storage of 0.025 were computed. The computed transmissibility is about half the transmissibility that would have been indicated from specific capacity if recharge were not induced from Sawyer Creek.

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

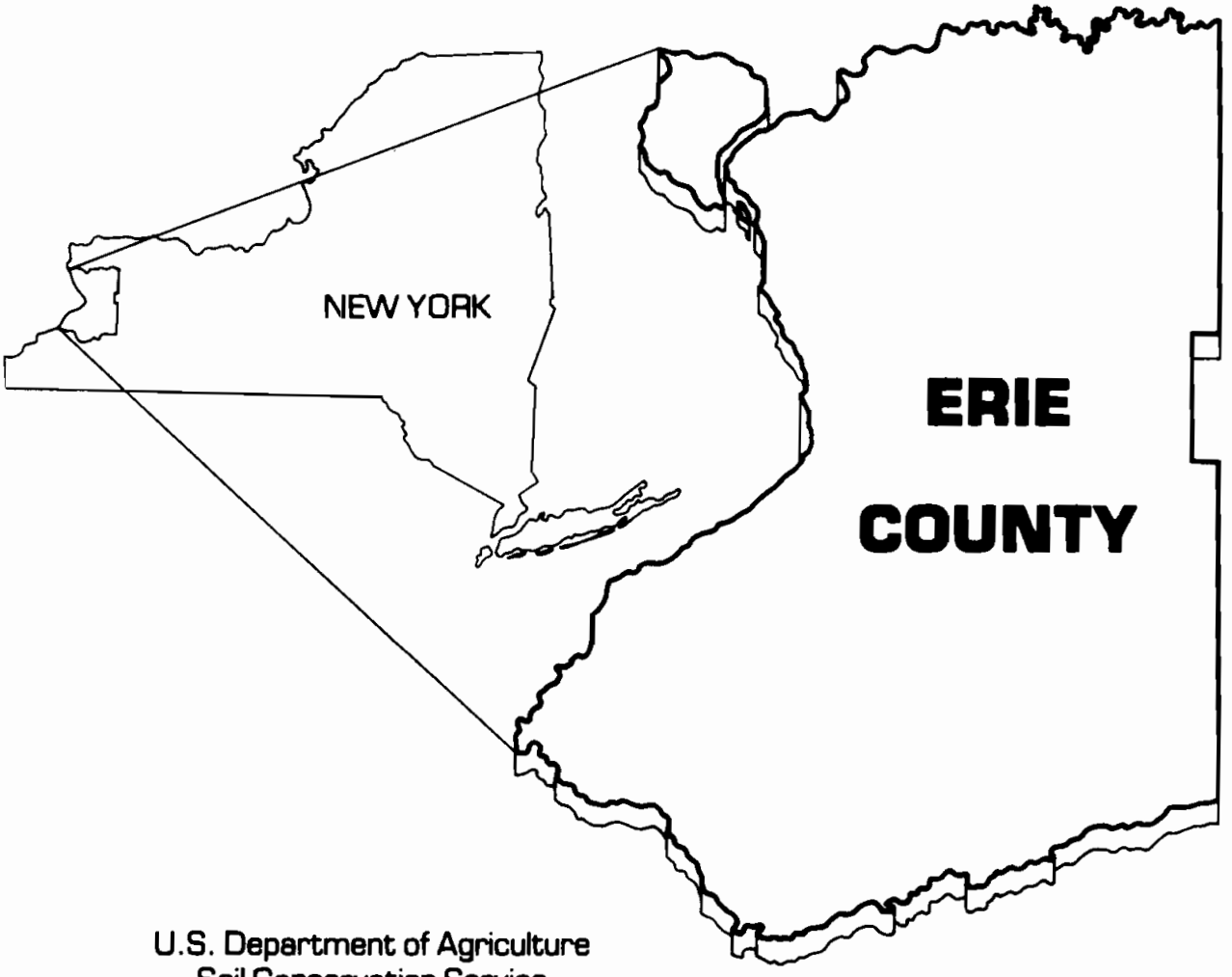
The term "limestone unit" in this report is applied to a sequence of limestone and dolomite overlying the Camillus Shale. The limestone unit includes the Bertie Limestone at the base, the Akron Dolomite, and the Onondaga Limestone at the top. The lithology and thickness of these units are shown in figure 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).

REFERENCE 10

GENERAL SOIL MAP and INTERPRETATIONS



U.S. Department of Agriculture
Soil Conservation Service

in cooperation with

Cornell University Agricultural Experiment Station and
Erie County Soil and Water Conservation District

42. URBAN LAND-NIAGARA, NEARLY LEVEL

Nonsoil areas, and deep, somewhat poorly drained, silty soils, on lowland plains

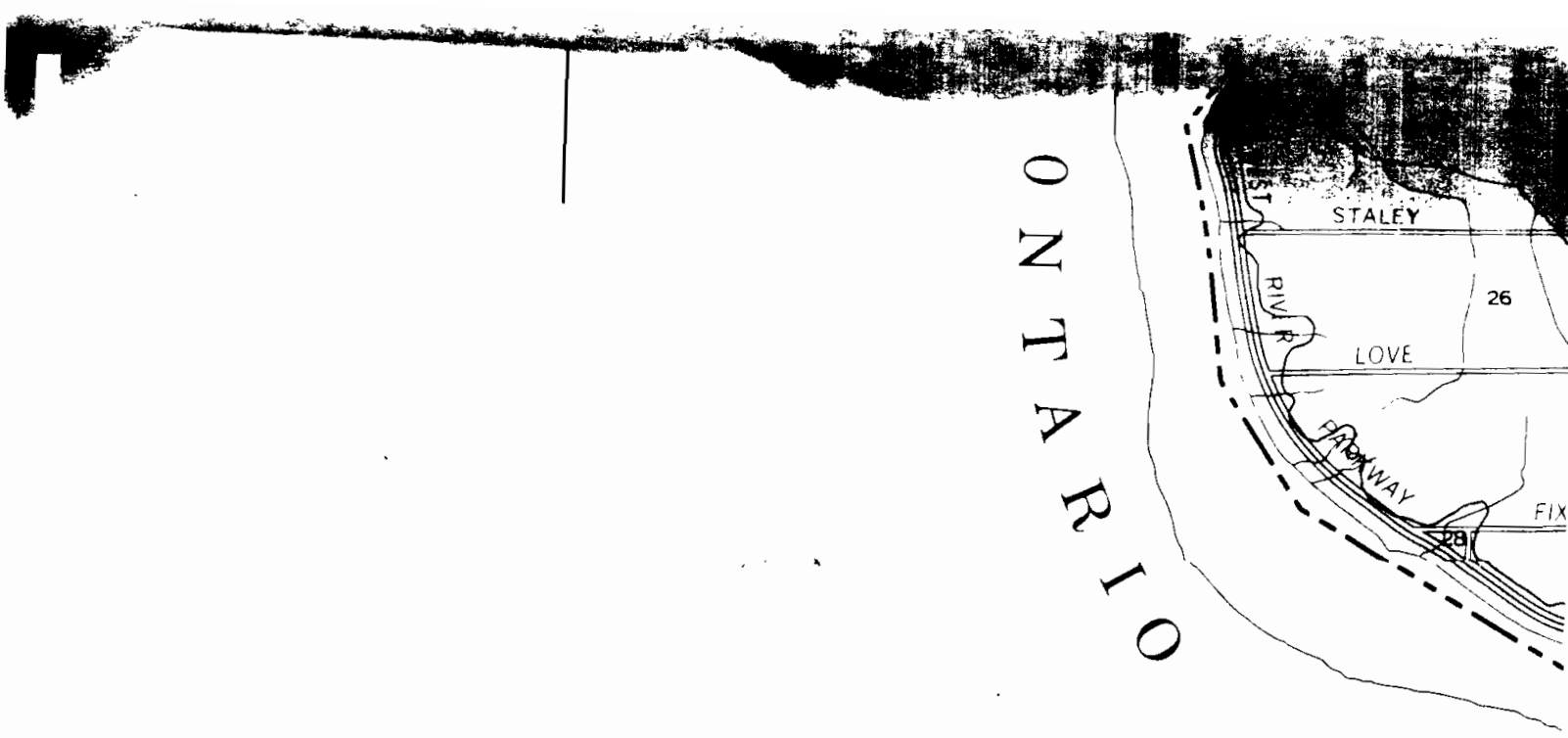
This unit is in areas of residential or commercial developments interspersed with areas of undisturbed silty soils. Most areas of this unit are in the southern part of Buffalo and a few smaller areas are in the town of Tonawanda. Slope is dominantly 0 to 3 percent.

This unit covers about 7,900 acres or 1.2 percent of the county. Urban land accounts for 70 percent of the unit, Niagara soils about 25 percent, and soils of minor extent make up the remaining 5 percent.

The Urban land portion of this unit is covered by streets, sidewalks, driveways, house foundations, parking lots, and occasional business areas or shopping plazas. In these areas the soil layers have been disturbed or removed. The undisturbed areas of this unit are dominanted by Niagara soils that formed in silty, gravel and stone-free, lake-laid sediments. The Niagara soils are somewhat poorly drained and have a seasonal high water table in the upper part of the subsoil during the spring and other excessively wet periods. The rate of water movement (permeability) through the soil layers is moderately slow. The undisturbed soil areas are primarily in lawns, gardens, or parks.

Soils of minor extent are mainly those of the Odessa and Cosad series. Odessa soils are in a few areas where the soil deposits are dominated by clayey sediments and Cosad soils are in other areas where sandy deposits mantle silty or clayey sediments.

This unit generally has a high density of residential development. Seasonal wetness and moderately slow permeability are primary considerations for further development of this unit. These soils are also highly susceptible to frost action, and because of low strength, foundations often settle unevenly.



U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

R"IELL UNIVERSITY AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP

ERIE COUNTY, NEW YORK

SCALE 1:62,500

3 2 1 0 3 MILES

3 2 1 0 3 KILOMETERS

LEGEND

DEEP SOILS WITHOUT FRAGIPANS FORMED IN GLACIAL TILL AND IN LACUSTRINE MANTLED GLACIAL TILL

1 Cazenovia-Cayuga, gently sloping

2 Churchville-Remson, nearly level

3 Darien, nearly level

4 Derby, gently sloping

5 Lima-Honeoye, gently sloping

GARA
River
Tonawanda
Creek
NORTH
FRENCH
SCHOELLES
FOREST
RD
HEIM
AWANDA

45

FEET

40

[illegible]	Alton-Palmyra-Phelps, gently sloping
[illegible]	Blasdell-Farnham, gently sloping
[illegible]	Chenango-Castile, gently sloping
32	Chenango-Varysburg-Blasdell, moderately steep
33	Red Hook, nearly level

DEEP SOILS FORMED IN RECENT ALLUVIAL DEPOSITS

34	Teel-Middlebury, nearly level
35	Wayland, level
36	Wayland-Farnham, nearly level

DEEP SOILS FORMED IN ORGANIC DEPOSITS

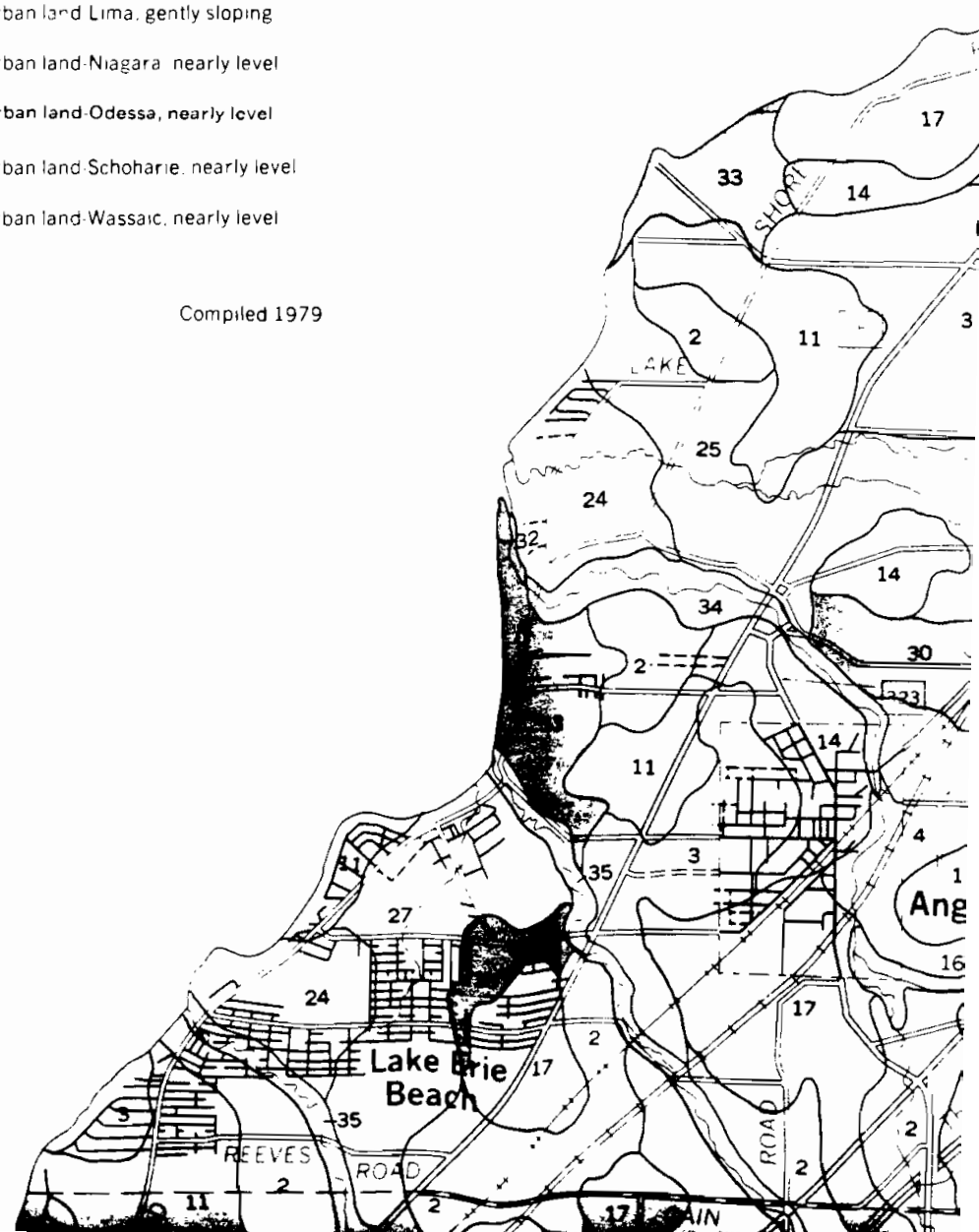
37	Palms, level

MIXED URBAN LAND AND SOIL AREAS

38	Urban land
39	Urban land-Churchville, nearly level
40	Urban land-Collamer, gently sloping
41	Urban land-Lima, gently sloping
42	Urban land-Niagara, nearly level
43	Urban land-Odessa, nearly level
44	Urban land-Schoharie, nearly level
45	Urban land-Wassaic, nearly level

Compiled 1979

L



REFERENCE 11

TEST OF WELL WATER

	AT WELL ECOLOGY & ENVIRONMENT 4-18-78	TREATED EXOLON 1-5-79	TREATED RECRA 1-29-79	TREATED EXOLON 5-1-79
PH	8.1	6.9	7.4	6.8
CHLORIDES	NO TEST	3500	NO TEST	NO TEST
SULFATES		1880	"	"
SULFIDES		NONE	0.9	.285
Fe		2.83	NO TEST	NO TEST
MERCURY (MG)		NONE		"
CALCIUM (CA)		1327		948
MAGNESIUM (MN)		NONE		NO TEST
ALUMINUM (AL)		NONE		"
AMMONIA (N)	1.16	NO TEST	4.5	6.0
TOTAL SOLIDS	5790	10,005	12,700	9835
DISSOLVED SOLIDS	5734	NO TEST	12,600	9819
DISSOLVED OXYGEN	<1.0		8.95	NO TEST
TOTAL COLIFORM	<2.0		<20	
FECAL COLIFORM	<2.0		<20	
TOTAL CYANIDE	0.003		<0.3	
TOTAL CADMIUM	NO TEST		<0.005	
TOTAL COPPER	0.026		0.027	
TOTAL ZINC	0.010		0.013	
TOTAL ALKALINITY [AS CO_3]	63.0		62.1	
IRON CYANIDES	<0.010		<0.3	NO TEST
SETTABLE SOLIDS	NO TEST		NO TEST	<0.10
UNSETTABLE SOLIDS	"		"	16
	mg/l	mg/l	mg/l	mg/l

SOLIDS DISCHARGE TO CANAL — (UNSETTABLE SOLIDS) — GAL H_2O / MIN

FORMULA $8.34 \times 16 \left[\frac{60 \times 60 \times 24}{1\,000\,000}\right]$ = LBS/DAY

— 24 HR DAY ONLY

$133.44 \times 0.0864 = 11.53$ LBS/DAY

4-5-78

Water Well

Cost to date :

. Ehmke Well Drillers	$ 9,669.16 *
. Ecology + Enviroment (water Test)	266.83

The above listing does not include a pump, water treatment or any piping or metering.

Observations concerning the quality of the well water.

1. Preliminary analyses by Exploria Chem Lab. indicate a high level of unwanted solids : (Nº V10 1-10-78)
   A. Well depth of 80' range between 980 P.P.M TO 4,700 P.P.M depending on the volume drawn from the well. The 980 P.P.M would be in the range of 80-100 gals/MIN. flow. The 4,700 P.P.M. would be at 125 - 150 gal/MIN. ← TEST Nº V4 2-7-78

Note : Carried in basement - should not be

- Susp. Solid 50 lb - 75 lb max
ave → for monthly period (4 Tests/mo.)

Settable solid
.1 ML/L MAX.
↳ PPM

Observations continued:

2. Hardness:
   A. at 75' level hardness of 21
   B. at 140' level hardness of 75
   C. City water hardness of 9

3. PH:
   A. at 75' = 7.1 (Taken 1-10-78)
   B. at 75' = 7.7 (Taken 2-7-78)
   C. at 140' = 7.5 (Taken 3-30-78)

4. Fe:
   A. @ 75' = 10.11 (Taken 1-10-78)
   B. @ 75' = NOT TESTED (Taken 2-7-78)
   C. @ 140' = Trace (Taken 3-30-78)

5. Mn (Manganese) none present @ 140' (only level tested)

6. Mg (Mercury) none present @ 140' (only level Tested)

7. Ca
   (% by wt.)
   A. at 75' = 15.13 (Taken 1-10-78)
   B. at 140' = 0.36 (Taken 3-30-78)

FORM SCS 1

THE EXOLON COMPANY

TONAWANDA, N. Y.

DATE 1/10/78

NO. Y-10

REQUEST TO LABORATORY

TO TCL FROM WJR COPIES TO GP, AG, WJR, PLN, SEL

SOURCE Exolon - Tonawanda PRODUCED BY

DESCRIPTION OF SAMPLE:

Sample of Exolon new H_2O well #1 at 75 ft.

INFORMATION REQUESTED:

pH Hardness Fe Ca
Chlorides Total Solids Sp. Gr.

REPORT:

pH	7.1
CHLORIDES	PRESENT
TOTAL SOLIDS	984 ppm
Fe	10.11
Sp. Gr.	1.0
Ca	15.13

Water drawn from well at rate of 80-100 gal/min. WR

DATE COMPLETED 1/18/78 BY RA Jaworski

FORM SCS 1

THE EXOLON COMPANY

TONAWANDA, N. Y.

DATE 2/7/78

NO. V-49

REQUEST TO LABORATORY

TO TCL FROM AG COPIES TO GP, AG, PLN, SEL

SOURCE EXOLON - TONAWANDA PRODUCED BY

DESCRIPTION OF SAMPLE:

SAMPLE OF EXOLON NEW H_2O WELL #1 AT 75 FT.

SAMPLE TAKEN AT 11:00 AM ON 2/1/78 BY A.G.

INFORMATION REQUESTED:

CHEMICAL ANALYSIS

REPORT:

[redacted] WHEN WELL H_2O IS SPRINKLED ON HEATED HOT PLATE IT LEAVES A LARGE RESIDUE. ODOR GIVEN OFF SMELLS LIKE STEAM.

pH 7.7

CHLORIDES - VERY POSITIVE

TOTAL SOLIDS - 4705 PPM

SULFUR - TRACE

KCl - TRACE

$CaCl_2$ - 36.34

NaCl - 18.86

Water drawn from well at rate of 120-150 GPM. AG

DATE COMPLETED 2/7/78 BY

FORM SCS 1 Please Reply

THE EXOLON COMPANY
TONAWANDA, N. Y.

DATE 5/1/79
NO. W-137

REQUEST TO LABORATORY

TO TCh FROM RT COPIES TO (AG) RT, PLN

SOURCE Exolon, Tonawanda PRODUCED BY

DESCRIPTION OF SAMPLE:
Sample of Exolon Well Water after Nalco treatment 5/1/79.

INFORMATION REQUESTED:
1. Calcium ($CaCO_3$).
2. Solids-settable.
3. Solids-un-settable.
4. Solids-Total
5. Ammonia
6. Sulfides
7. ph
8. identify solids.

REPORT:

1. Calcium ($CaCO_3$) 948 ppm
2. Solids-settleable less than 0.10 ml/l
3. Solids-unsettleable 16 ppm
4. Solids-Total 9835 ppm
5. Ammonia 6.00 mg/l
6. Sulfides .285 mg/l
7. pH 6.8
8. THE BLACK SOLIDS ARE PROBABLY SULFIDE COMPOUNDS

DATE COMPLETED 5/3/79 BY RA Jaworski

FORM SCS 1

THE EXOLON COMPANY

TONAWANDA, N. Y.

DATE 1/5/79

NO. W-7

REQUEST TO LABORATORY

TO TCL FROM RT COPIES TO AG, RT, BLN, SEL, GP

SOURCE Exolon - Tonawanda PRODUCED BY

DESCRIPTION OF SAMPLE:

Well Water from Pipes Over Cooler #9.
1st day of Operating on Well H_2O. RS/AG 1-4-79

INFORMATION REQUESTED:

ph, Chlorides, Sulfates, Sulfides, Fe, Mg, Ca, Mn, Al, Total Solids

REPORT:

	UNTREATED	TREATED
pH	7.3	6.9
CHLORIDES	4000 P.P.M mg/liter	3500 P.P.M mg/liter
SULFATES	1680 P.P.M mg/liter	1880 P.P.M mg/liter
SULFIDES	NONE	NONE
Fe	2.63 P.P.M mg/liter	2.83 P.P.M mg/liter
Mg	NONE	NONE
Ca	13.59%	13.27% = 1327 PPM
Mn	NONE	NONE
Al	NONE	NONE
TOTAL SOLIDS	10,980	~~10,000~~ 10,005

1/24/79 RA Jaworski

DATE COMPLETED BY

REFERENCE 12

ecology and environment, incorporated

P. O. Box D Buffalo, New York 14225 (716) 632-4491 Telex 91-9183

Anchorage / Billings / Caracas / Houston / Tokyo / Washington

April 18, 1978

Mr. A.W. Gerbec
Exolon Company
1000 East Niagara Street
City of Tonawanda, New York 14120

Dear Mr. Gerbec:

Attached is a Data Summary of laboratory analysis conducted on one (1) sample received at our laboratory on April 3, 1978.

Analysis was performed according to the most recently published guidelines of Title 40, Code of Federal Regulations, Section 136.3, "Identification of Test Procedures." These methods are designated by the Environmental Protection Agency as acceptable for wastewater characterization.

Very truly yours,

C.R. Termini

C.R. Termini
Laboratory Manager

CRT/mr

Enclosure

DATA SUMMARY

mg/l (Parts Per million)

MOST PROBABLE NUMBER

EX-741

	Characteristic	Well Water		ALLOWABLE LIMIT
	Lab Number	443		
	pH Units (Field)	8.1	OK	8.500
	Temperature, °C (Field)	9.0 (48F)	OK	35° C
	Dissolved Oxygen, mg/l (Field)	<1.0	✗	4.000 (MIN)
BACTERIA	Total Coliform, MPN/100ml.	<2		
BACTERIA	Fecal Coliform, MPN/100ml.	<2		
**	Total Dissolved Solids, mg/l	5734.		
**	Total Solids, mg/l	5790.		
CALCIUM CARBONATE	Total Alkalinity, as $CaCO_3$, mg/l	63.0	OK	82.000
	Ammonia, as N, mg/l	1.16	OK	2.000
	Total Cyanide, mg/l	0.003	OK	0.100
	Iron Cyanides, mg/l	<0.010	OK	0.400
	Total Copper, mg/l	0.026	OK	0.200
	Total Zinc, mg/l	0.080	OK	0.300
	Total Cadmium, mg/l	0.010	OK	0.300
	FLOATING SOLIDS, SETTABLE SOLIDS, SLUDGE DEPOSITS	56.0	✗	NONE

** Note: Total Solids 5790 PPM

Total Dissolved Solids 5734 PPM

56 PPM — Total suspended solids

Formula: $8.34 \times 56 \times \left[\frac{125 \times 60 \times 24}{1000000}\right]$ = LBS/DAY

(60 GAL/MIN) $467.04 \times .18 = 84.07$ LBS/DAY discharge solids

REFERENCE 13

EXOLON CO.
ANALYSIS OF WELL WATER

ANALYTICAL RESULTS

THE EXOLON COMPANY

Report Date: 1/29/79
Sample Date: 1/12/79

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION A	B
pH	Standard Units	7.40	-
Temperature (in field)	°C	13.0	-
Dissolved Oxygen (in field)	mg/l	8.95	-
Total Coliform	MPN/100 mls	-	<20
Fecal Coliform	MPN/100 mls	-	<20
Total Solids (103°C)	mg/l	12,700	-
Total Dissolved Solids (103°C)	mg/l	11,600	-
Total Alkalinity (pH 4.5)	mg/l as $CaCO_3$	62.1	-
Ammonia	mg N/l	4.5	-
Total Cyanide	mg/l	<0.3	-
Sulfide	mg/l	0.9	-
Total Cadmium	mg/l	<0.008	-
Total Copper	mg/l	0.027	-
Total Zinc	mg/l	0.013	-

COMMENTS: Samples were collected and received at Recra on 1/12/79. Sample B was used for coliform analyses only. Values reported as "less than" indicate working detection limits.

FOR RECRA RESEARCH, INC. Robt K Wyatt

DATE 1/29/79

RECRA RESEARCH, INC.
TOTAL CHEMICAL WASTE MANAGEMENT THROUGH APPLIED RESEARCH
111 Wales Avenue / Tonawanda, New York 14150 / (716) 692-7620

REFERENCE 14

RECRA RESEARCH, INC.

Hazardous Waste And Toxic Substance Control

December 10, 1985

Mr. Skip Evans
Pretreatment Administrator
Town of Tonawanda
2919 Delaware Avenue
Kenmore, NY 14217

Dear Mr. Evans:

As part of the background search requirements for the NYSDEC Superfund sites, we the consultants, are required to have all of our interviews, personal or by telephone, documented.

Below is an account of our conversation that took place on December 9, 1985. Would you please read the account, sign at the bottom, and return the original to me. This is only to serve as documentation that the conversation took place.

° There are no groundwater wells in use in the vicinity of the Exolon Company at 1000 E. Niagara St.

° All of the homes in the area are receiving municipal water. Town of Tonawanda AREA. CAN NOT ANSWER FOR the City OF Tonawanda
Thank you for your cooperation.

Sincerely,

RECRA RESEARCH, INC.

Sheldon S. Nozik
Sheldon S. Nozik
Staff Geologist

SSN/jlo

Mr. Skip Evans

REFERENCE 15

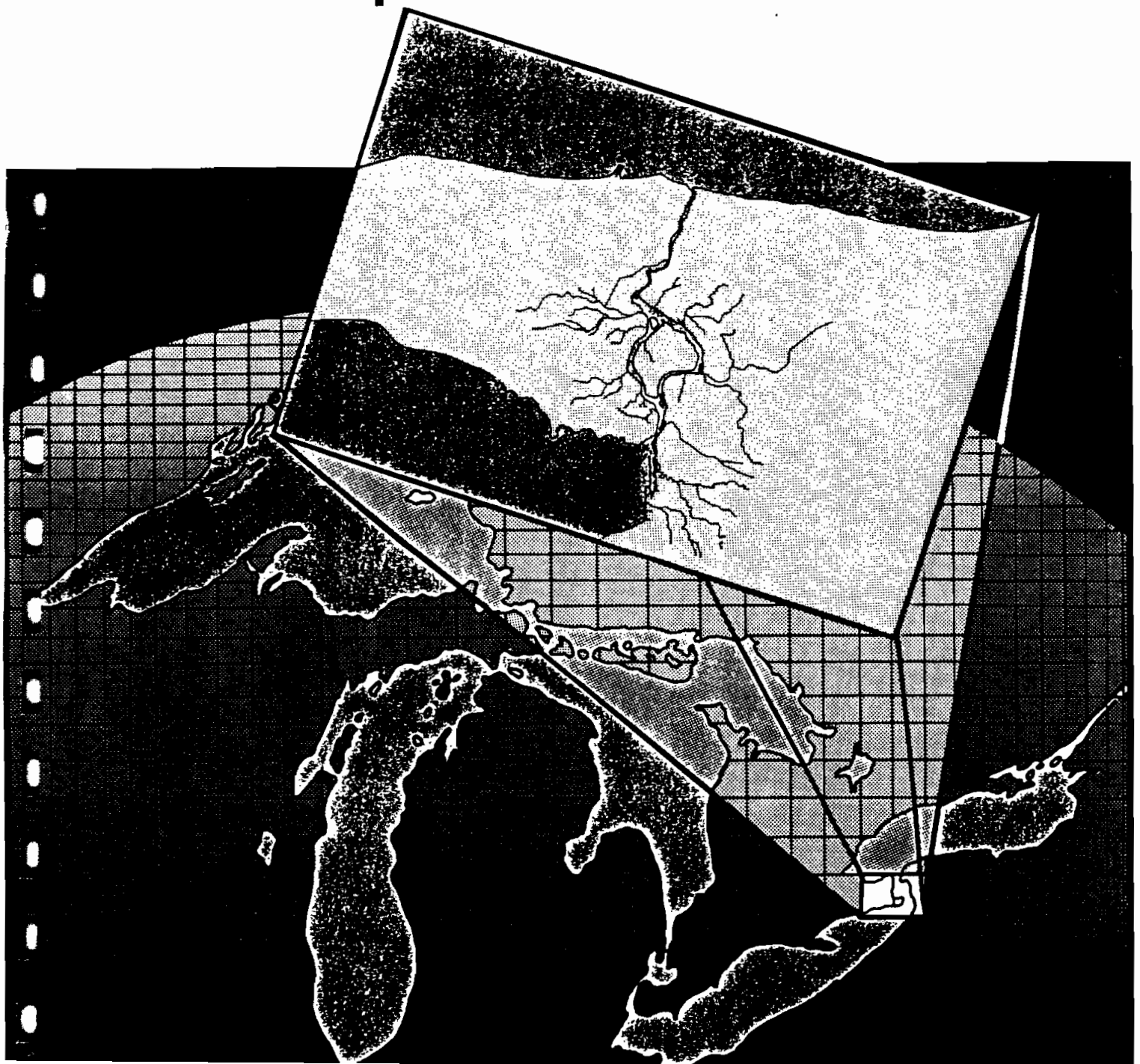
United States
Environmental Protection
Agency

Great Lakes National
Program Office
536 South Clark Street
Chicago, Illinois 60605

EPA-905/4-85-001
March 1985

EPA

Preliminary Evaluation Of Chemical Migration To Groundwater and The Niagara River from Selected Waste-Disposal Sites



130. EXOLON CORPORATION (Literature review) NYSDEC 915023

General information and chemical-migration potential.--The Exolon Company, on East Niagara Street in the City of Tonawanda, manufactures aluminum oxide and silicon carbide abrasives for grinding wheels and general industrial use. The company was reported to have disposed of refractory bricks, iron tailings, and coal cinders in a low area of approximately 1.5 acres.

The potential for contaminant migration is indeterminable from the data available.

Geologic information.--The soils are lacustrine silt, sand, and clay deposits. The site has one well, which is reported to be 140 ft deep. Information provided by the site owner indicates the following geologic log:

Depth (ft)	Description
0 - 4	sandy loam
4 - 80	clay and silt
80 - 86	sand
86 - 140	bedrock (Camillus Shale)

Hydrologic information.--Ground-water data are scant. Depth to water has been reported to be approximately 4 ft. The water table probably fluctuates seasonally during spring and other wet periods. Horizontal flow would be greatest during these periods, particularly in the sandy loam. The direction of flow would probably be northward toward the Erie-Barge Canal. Ground water could flow vertically through the sandy loam but would be impeded by the deeper clay and silt layer.

Chemical information,--No chemical information is available, and no monitoring has been planned.

131. FMC CORPORATION (USGS field reconnaissance)

General information and chemical-migration potential.--The FMC Corporation site, in the town of Tonawanda, contains disposal pits for approximately 100 tons of persulfates, perborates, sodium carbonate peroxide, hydrogen peroxide, peracetic acid, calcium and zinc peroxide, magnesium, urea, pyrophosphate, and dipicolinic acid. The site was in operation from 1964-76. The pits have since been closed.

The potential for downward migration is probably limited by the underlying clay unit. The potential for offsite lateral migration is indeterminable.

Geologic information.--The site consists of a glacial lacustrine deposit overlying bedrock of Camillus Shale. The depth to bedrock is greater than 60 ft.

REFERENCE 16

DRAFT

UNCONTROLLED HAZARDOUS WASTE SITE RANKING SYSTEM - A USERS MANUAL

DRAFT

10 June 1982

(errata included)

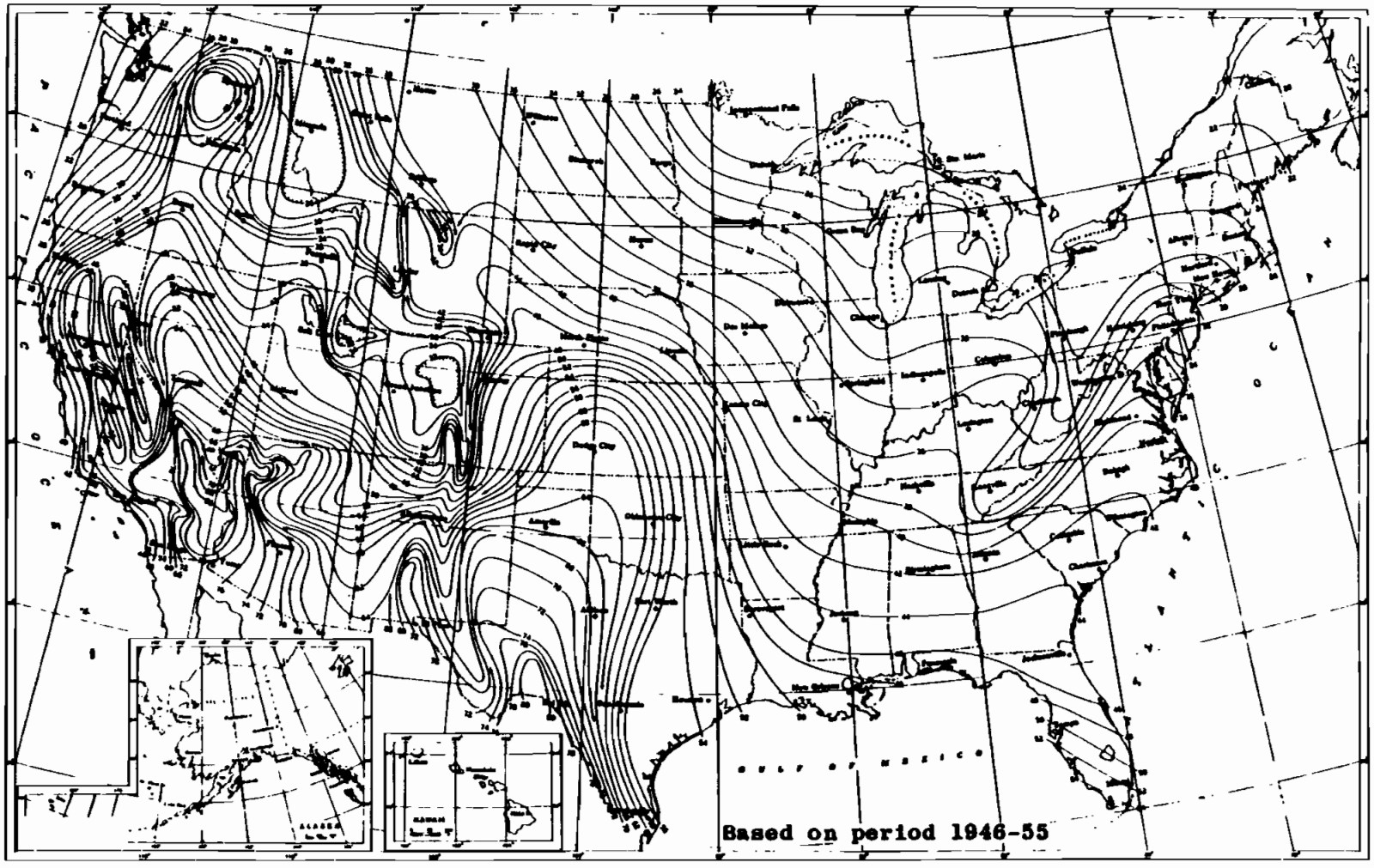


Figure 4

Mean Annual Lake Evaporation (In Inches)

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

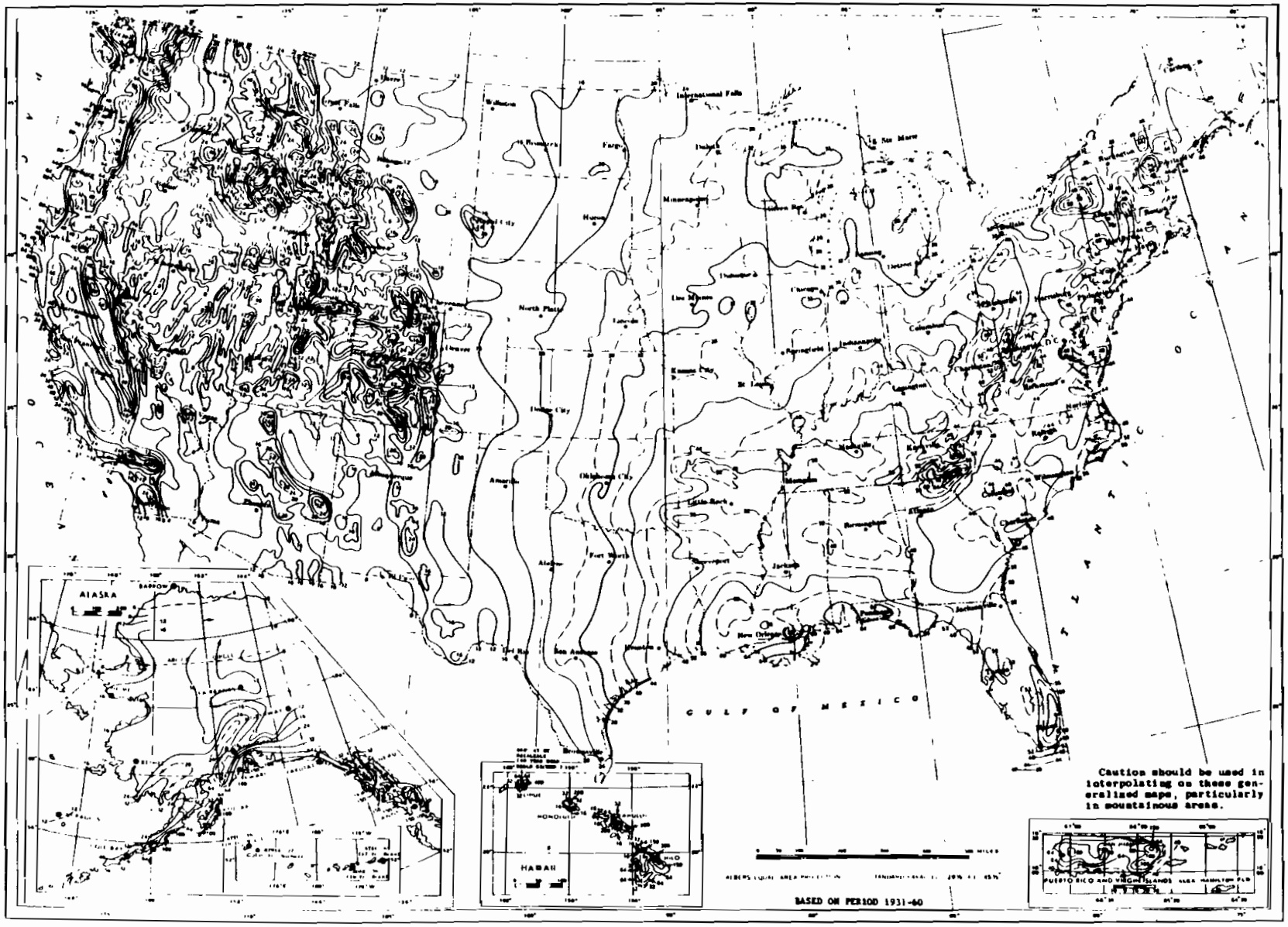


Figure 5

Normal Annual Total Precipitation (inches)

... U.S. Department of Commerce, National Climatic Center ...

TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

TYPE OF MATERIAL	APPROXIMATE RANGE OF HYDRAULIC CONDUCTIVITY	ASSIGNED VALUE
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$< 10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$< 10^{-5} \geq 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$< 10^{-3} \geq 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$> 10^{-3}$ cm/sec	3

*Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

TABLE 3

CONTAINMENT VALUES FOR GROUND WATER ROUTE

Assign containment a value of 0 if: (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compated with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility using the following guidance.

A. Surface Impoundment

	Assigned Value
Sound run-on diversion structure, essentially non permeable liner (natural or artificial) compatible with the waste, and adequate leachate collection system	0
Essentially non permeable compatible liner with no leachate collection system; or inadequate freeboard	1
Potentially unsound run-on diversion structure; or moderately permeable compatible liner	2
Unsound run-on diversion structure; no liner; or incompatible liner	3

B. Containers

	Assigned Value
Containers sealed and in sound condition, adequate liner, and adequate leachate collection system	0
Containers sealed and in sound condition, no liner or moderately permeable liner	1
Containers leaking, moderately permeable liner	2
Containers leaking and no liner or incompatible liner	3

C. Piles

	Assigned Value
Piles uncovered and waste stabilized; or piles covered, waste unstabilized, and essentially non permeable liner	0
Piles uncovered, waste unstablized, moderately permeable liner, and leachate collection system	1
Piles uncovered, waste unstabilized, moderately permeable liner, and no leachate collection system	2
Piles uncovered, waste unstablized, and no liner	3

D. Landfill

	Assigned Value
Essentially non permeable liner, liner compatible with waste, and adequate leachate collection system	0
Essentially non permeable compatible liner, no leachate collection system, and landfill surface precludes ponding	1
Moderately permeable, compatible liner, and landfill surface precludes ponding	2
No liner or incompatible liner; moderately permeable compatible liner; landfill surface encourages ponding; no run-on control	3

discussed below. Match the individual values assigned with the values in the matrix for the combined rating factor. Evaluate several of the most hazardous substances at the facility independently and enter only the highest score in the matrix on the work sheet.

	Value for Persistence			
Value for Toxicity	0	1	2	3
0	0	0	0	0
1	3	6	9	12
2	6	9	12	15
3	9	12	15	18

Persistence of each hazardous substance is evaluated on its biodegradability as follows:

Substance	Easily biodegradable compounds	Straight chain hydrocarbons	Substituted and other ring compounds	Metals, polycyclic compounds and halogenated hydrocarbons
Value	0	1	2	3

More specific information is given in Tables 4 and 5.

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax (Table 6) or the National Fire Protection Association (NFPA) (Table 7) and the following guidance:

Toxicity	Sax level 0 or NFPA level 0	Sax level 1 or NFPA level 1	Sax level 2 or NFPA level 2	Sax level 3 or NFPA level 3 or 4
Value	0	1	2	3

Table 4 presents values for some common compounds.

TABLE 4

WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS

CHEMICAL/COMPOUND	TOXICITY [1]	PERSISTENCE [2]	IGNITABILITY [3]	REACTIVITY [3]
Acetaldehyde	3	0	3	2
Acetic Acid	3	0	2	1
Acetone	2	0	3	0
Aldrin	3	3	1	0
Ammonia, Anhydrous	3	0	1	0
Aniline	3	1	2	0
Benzene	3	1	3	0
Carbon Tetrachloride	3	3	0	0
Chlordane	3	3	0*	0*
Chlorobenzene	2	2	3	0
Chloroform	3	3	0	0
Cresol-O	3	1	2	0
Cresol-M&P	3	1	1	0
Cyclohexane	2	2	3	0
Endrin	3	3	1	0
Ethyl Benzene	2	1	3	0
Formaldehyde	3	0	2	0
Formic Acid	3	0	2	0
Hydrochloric Acid	3	0	0	0
Isopropyl Ether	3	1	3	1
Lindane	3	3	1	0
Methane	1	1	3	0
Methyl Ethyl Ketone	2	0	3	0
Methyl Parathion in Xylene Solution	3	0Δ	3	2
Naphthalene	2	1	2	0
Nitric Acid	3	0	0	0
Parathion	3	0Δ	1	2
PCB	3	3	0Δ	0Δ
Petroleum, Kerosene (Fuel Oil No. 1)	3	1	2	0
Phenol	3	1	2	0
Sulfuric Acid	3	0	0	2
Toluene	2	1	3	0
Trichlorobenzene	2	3	1	0
α-Trichloroethane	2	2	1	0
Xylene	2	1	3	0

[1] Sax, N. I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, 4th ed., 1975. The highest rating listed under each chemical is used.

[2] JRB Associates, Inc., Methodology for Rating the Hazard Potential of Waste Disposal Sites, May 5, 1980.

[3] National Fire Protection Association, National Fire Codes, Vol. 13, No. 49, 1977.

* Professional judgment based on information contained in the U.S. Coast Guard CHRIS Hazardous Chemical Data, 1978.

Δ Professional judgment based on existing literature.

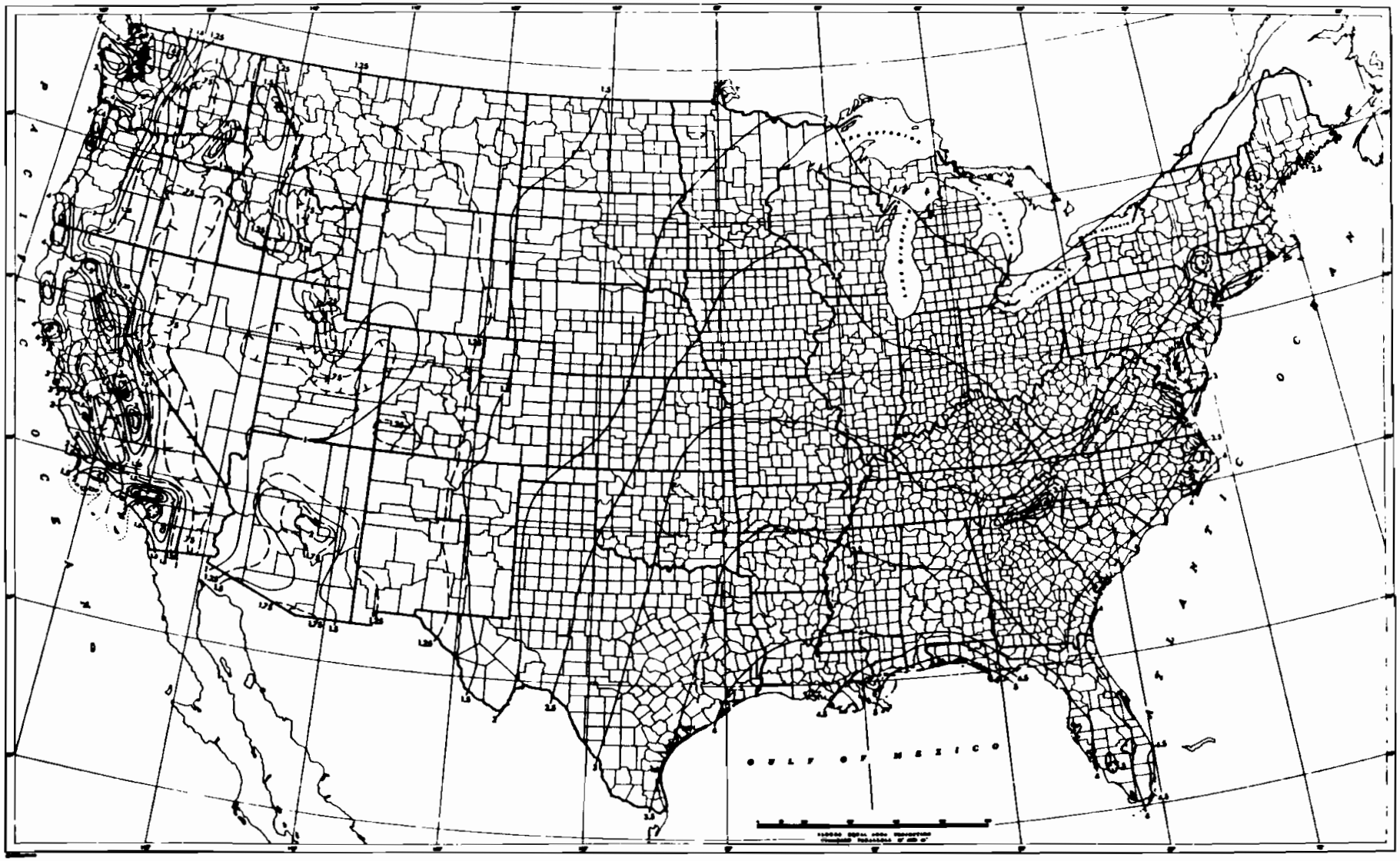


FIGURE 8

1-Year 24-Hour Rainfall (Inches)

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.

TABLE 9

CONTAINMENT VALUES FOR SURFACE WATER ROUTE

Assign containment a value of 0 if: (1) all the waste at the site is surrounded by diversion structures that are in sound condition and adequate to contain all runoff, spills, or leaks from the waste; or (2) intervening terrain precludes runoff from entering surface water. Otherwise, evaluate the containment for each of the different means of storage or disposal at the site and assign a value as follows:

A. Surface Impoundment

	Assigned Value
Sound diking or diversion structure, adequate freeboard, and no erosion evident	0
Sound diking or diversion structure, but inadequate freeboard	1
Diking not leaking, but potentially unsound	2
Diking unsound, leaking, or in danger of collapse	3

B. Containers

	Assigned Value
Containers sealed, in sound condition, and surrounded by sound diversion or containment system	0
Containers sealed and in sound condition, but not surrounded by sound diversion or containment system	1
Containers leaking and diversion or containment structures potentially unsound	2
Containers leaking, and no diversion or containment structures or diversion structures leaking or in danger of collapse	3

C. Waste Piles

	Assigned Value
Piles are covered and surrounded by sound diversion or containment system	0
Piles covered, wastes unconsolidated, diversion or containment system not adequate	1
Piles not covered, wastes unconsolidated, and diversion or containment system potentially unsound	2
Piles not covered, wastes unconsolidated, and no diversion or containment or diversion system leaking or in danger or collapse	3

D. Landfill

	Assigned Value
Landfill slope precludes runoff, landfill surrounded by sound diversion system, or landfill has adequate cover material	0
Landfill not adequately covered and diversion system sound	1
Landfill not covered and diversion system potentially unsound	2
Landfill not covered and no diversion system present, or diversion system unsound	3

REFERENCE 17

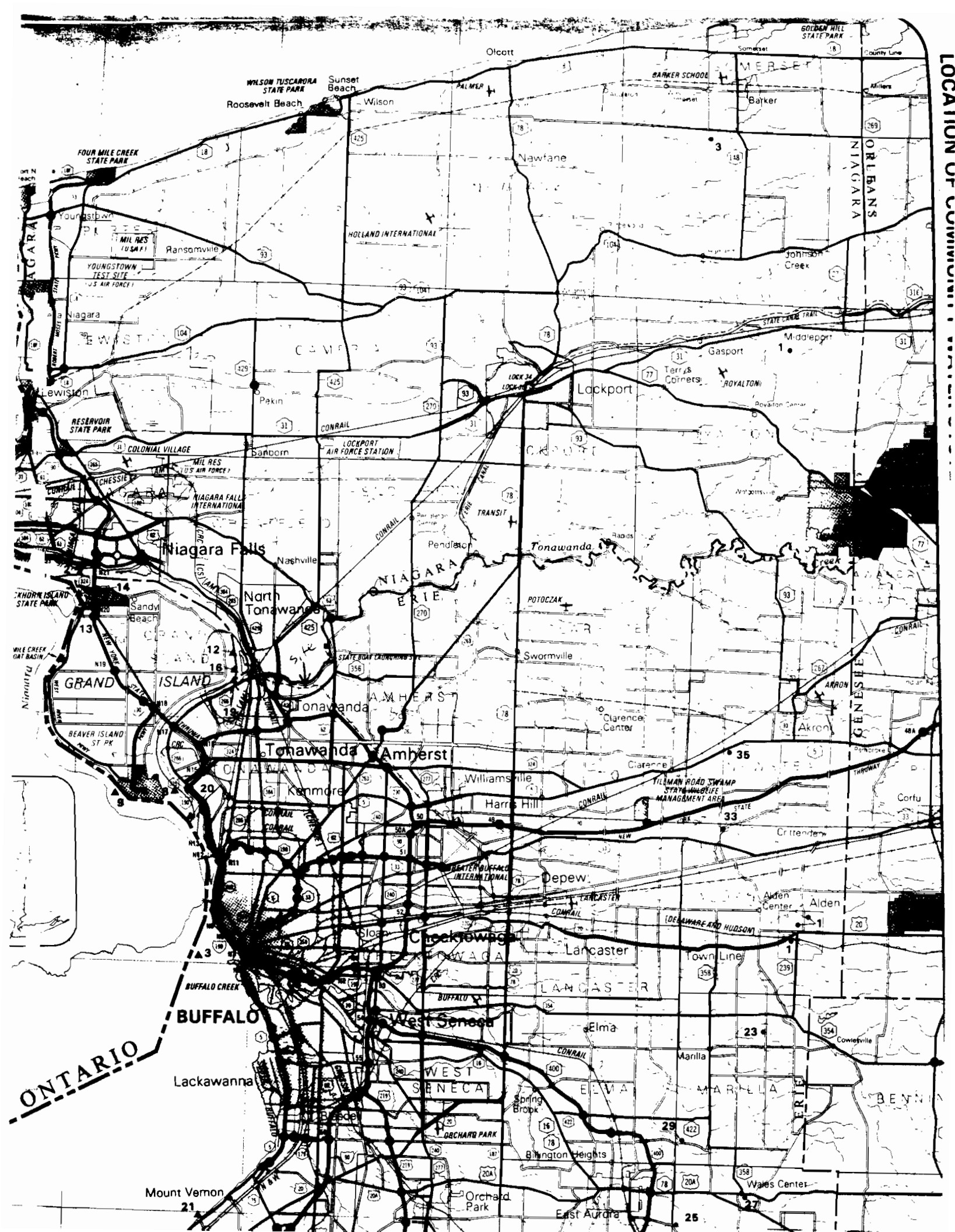
DEC - 5

New York State Atlas of Community Water System Sources 1982

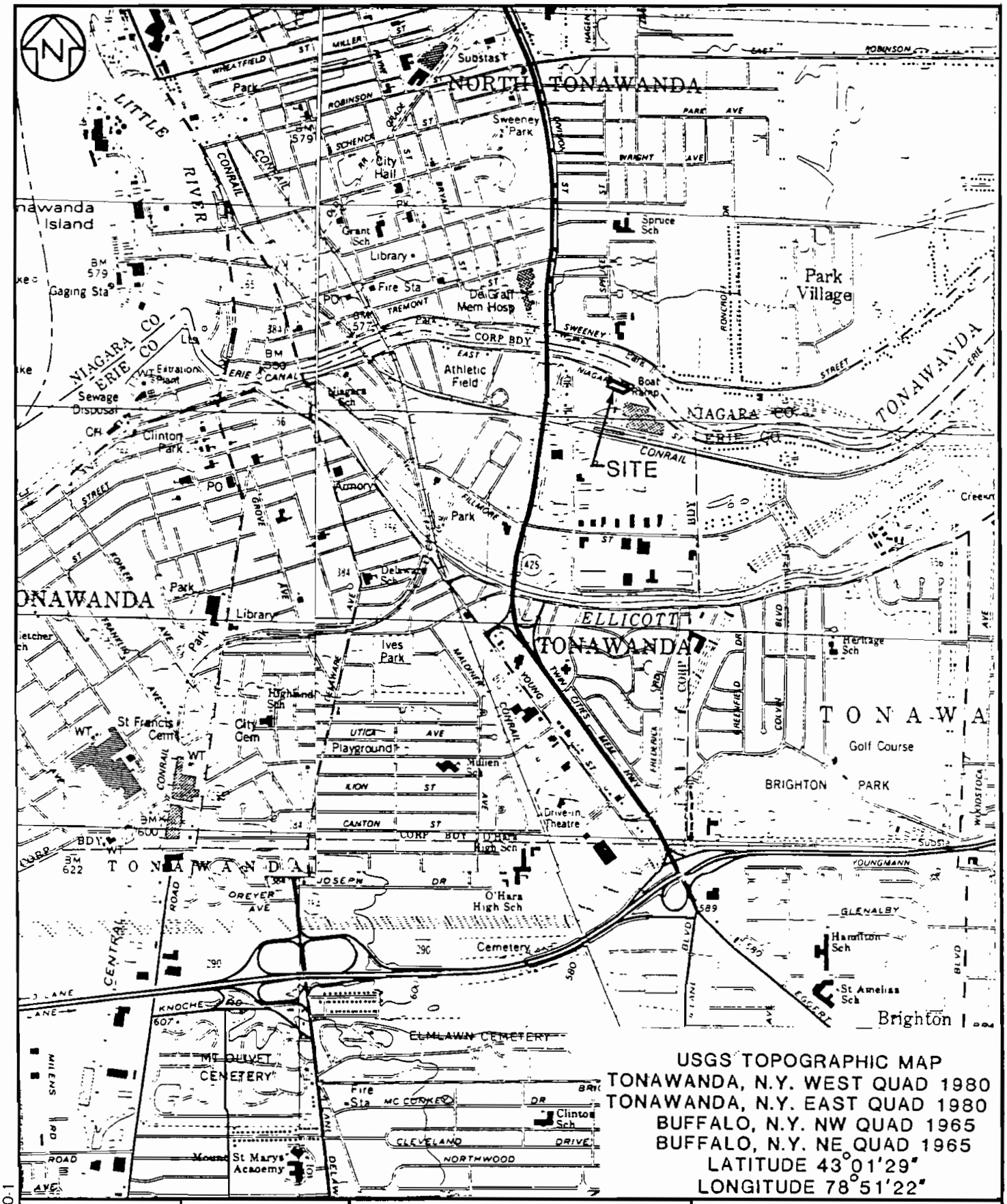
NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION

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 #3	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	Gowanda 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	114	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

NO	UNITY	SYSTE	LATIO	OURCE
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)		77384	Niagara River - East Bra
	North Tonawanda City (See No 16 Erie Co)		36000	
Non Municipal Community				
3	Country Estates Mobile Village		28	Wells


LOCATION OF COMMUNITY WATER SYSTEMS
Olcott
Sunset Beach
Roosevelt Beach
WILSON TUSCARORA STATE PARK
Wilson
PALMER
Somerset
GOLDEN HILL STATE PARK
County Line
BARKER SCHOOL
Barker
Millers
Nawfane
NIAGARA ORLEANS
FOUR MILE CREEK STATE PARK
HOLLAND INTERNATIONAL
Youngstown
MIL RES (USAF)
Ransomville
YOUNGSTOWN TEST SITE (U.S AIR FORCE)
Johnson Creek
Niagara
STATE CANAL TRAIL
Middleport
Gasport
Lewiston
Pekin
Terrys Corners
ROYALTON
Lockport
LOCK 34
RESERVOIR STATE PARK
CONRAIL
COLONIAL VILLAGE
Sanborn
LOCKPORT AIR FORCE STATION
MIL RES (U.S AIR FORCE)
NIAGARA FALLS INTERNATIONAL
TRANSIT
Niagara Falls
Nashville
Pendleton
Tonawanda
Creek
NIAGARA
ERIE
North Tonawanda
POTOCZAK
Sandy Beach
Swormville
GRAND ISLAND
STATE BOAT LAUNCHING SITE
Tonawanda
AMHERST
Clarence Center
Akron
GENESEE
ARRON
BEAVER ISLAND ST PK
Tonawanda
Amherst
Clarence
Williamsville
Kenmore
Harris Hill
TILLMAN ROAD SWAMP STATE WILDLIFE MANAGEMENT AREA
Corfu
Crittenden
GREATER BUFFALO INTERNATIONAL
Depew
Alden Center
Alden
LANCASTER
DELAWARE AND HUDSON
Sloan
Cheektowaga
Lancaster
Town Line
BUFFALO CREEK
BUFFALO
West Seneca
Elma
Cowlesville
Marilla
ONTARIO
Lackawanna
WEST SENECA
ELMA
MARILLA
BENNIN
Spring Brook
ORCHARD PARK
Billington Heights
Mount Vernon
Orchard Park
Wales Center
East Aurora

REFERENCE 18



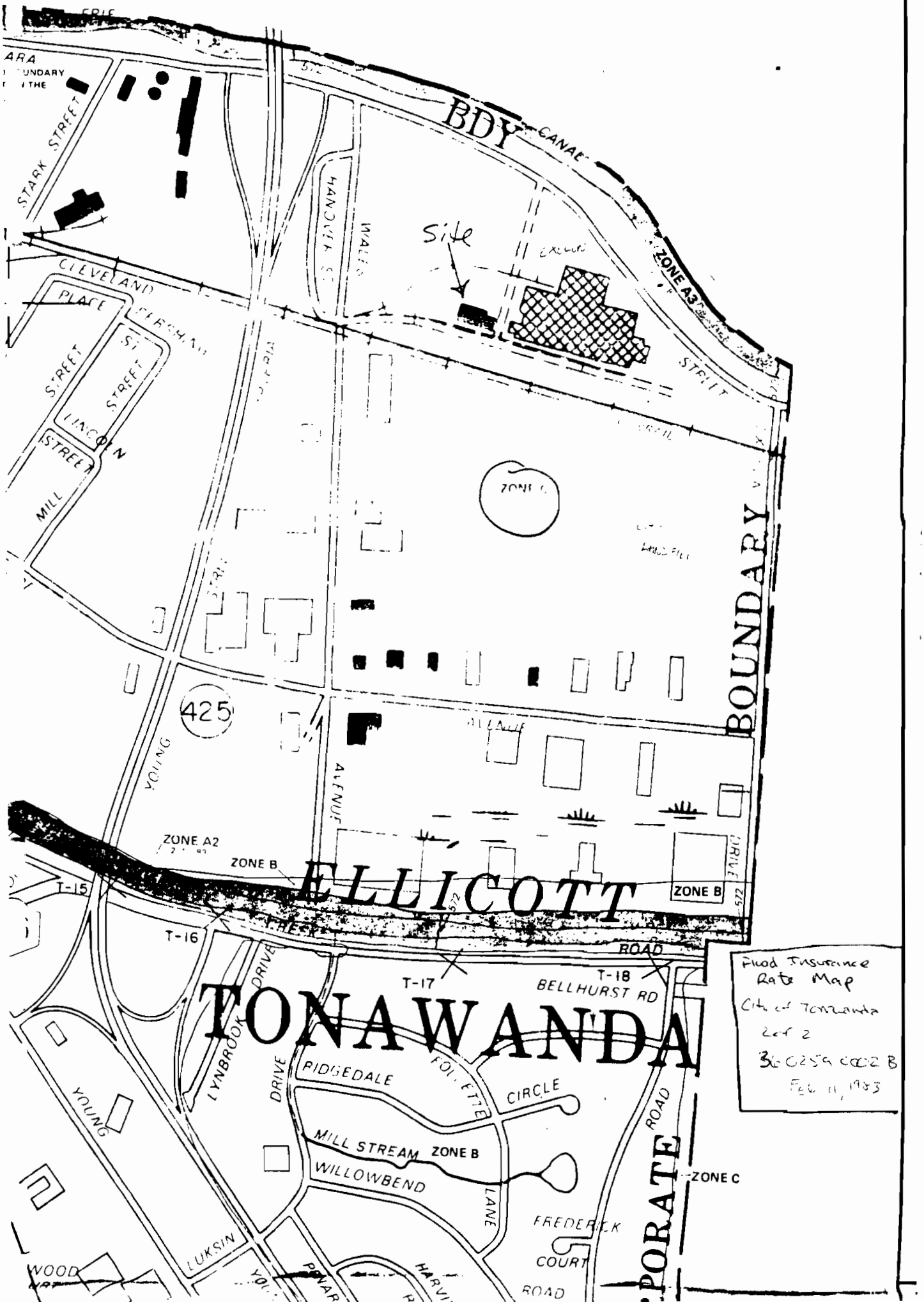
USGS TOPOGRAPHIC MAP
TONAWANDA, N.Y. WEST QUAD 1980
TONAWANDA, N.Y. EAST QUAD 1980
BUFFALO, N.Y. NW QUAD 1965
BUFFALO, N.Y. NE QUAD 1965
LATITUDE 43°01'29"
LONGITUDE 78°51'22"

RECRA RESEARCH INC. BUFFALO, NEW YORK	Scale: 1:24000	EXOLON CORPORATION TONAWANDA, N.Y. N.Y.S. SUPERFUND PHASE I	VICINITY MAP
	By / Date		REF. 18
	Dwn. MJS 12/85		
	Ckd.		
	Ap'vd.		
	Rev.	Project No. 5C280399	A FIGURE 1

61160-1

BRUNING

REFERENCE 19



Flood Insurance Rate Map
City of Tonawanda
Cert 2
360259 0002 B
Feb 11, 1983

REFERENCE 20

Site name Exolon Company County Erie

INITIAL EVALUATION OF INDUSTRIAL AND HAZARDOUS WASTE SITES

(27)

I. General Site Information

1. Site Location Exolon Corp., 1000 E. Niagara St Tonawanda

2. Current owners [X] or operators [ ] :

Address 1000 E. Niagara St. Tonawanda N.Y.

Contact Robert Taylor Plant Manager Phone 693-4550

3. Time during which site was used: 1949 to 1952-53

4. Type of Site: Industrial Disposal [X] Mixed Disposal Area [ ]

Drum Storage [ ] Lagoon [ ] Other (specify) [X] bulk material used as land fill

5. Size of Site (approx.) 10 acres. and/or dimensions

6. Exposed waste: yes [ ] no [X]

II. Waste Characterization (See Section III for more details.)

1. Generator Exolon Corp. Waste Types coal cinders, refractory brick, Fe_2O_3, SiO_2

Composition Total Quantity Bulk [X] Drum [ ]

2. Generator Waste Types

Composition Total Quantity Bulk [ ] Drum [ ]

3. Generator Waste Types

Composition Total Quantity Bulk [ ] Drum [ ]

4. Generator Waste Types

Composition Total Quantity Bulk [ ] Drum [ ]

Report prepared by: [illegible signature] Phone 846-7472

Phone

X. Other Remarks

- plant disposal Refractory brick from plant kilns and coal cinders in landfill in low area shown in photo

- iron tailings removed during the processing of Aluminum oxide was also disposed of in the low area.

- coal cinders, iron tailings (Fe_2O_3), and refractory brick would not seem to pose a hazard

- site and surrounding land was farm land prior to purchase by Exolon Company. Any disposal of industrial/hazardous waste prior to Exolon is remote.

XI. Recommendations NO further action Recommended based on data Available.

1. Minimum level of sampling to determine the hazards posed by materials at the site.

2. Enforcement action to abate problems at the site.

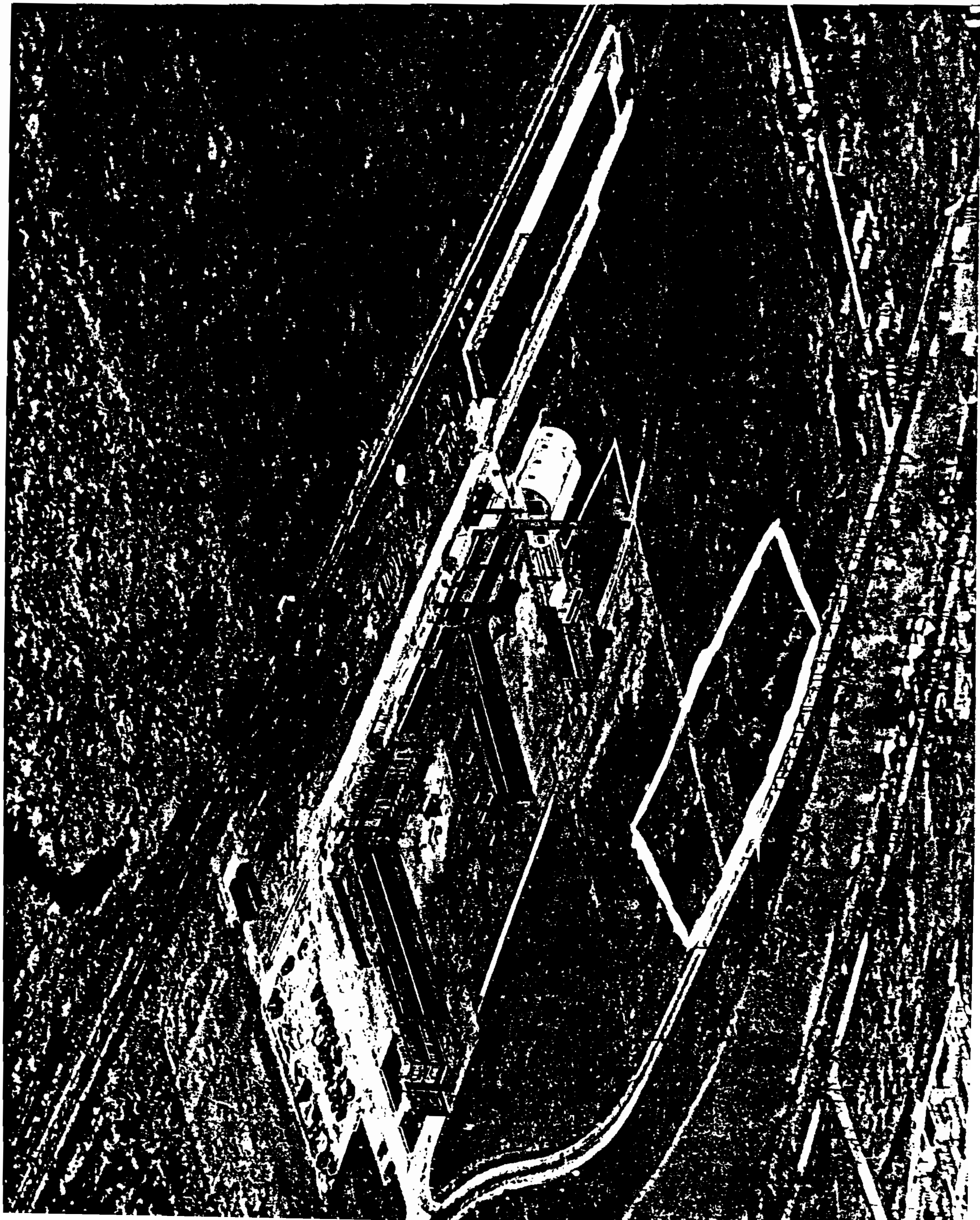
3. Containment actions to prevent further environmental threats at the site.

4. Comprehensive cleanup, or abatement of hazards posed by materials at the site.

5. Formal determination of Imminent Health Hazard by the State Health Department.

6. Other Recommendations

4/5/49



REFERENCE 21

ALBANY, NEW YORK 12233

MAR 1 1977

WATER RESOURCES
INDUSTRIAL PROGRAMS

INDUSTRIAL CHEMICAL SURVEY

PART I

PLEASE COMPLETE AND RETURN TO THE ABOVE ADDRESS, ATTENTION: INDUSTRIAL CHEMICAL SURVEY.

COMPANY NAME	SIC CODE (If known)	OFFICE USE ON
THE EXOLON COMPANY	3291	14 88048

COMPANY MAILING ADDRESS	CITY	STATE	ZIP CODE
1000 East Niagara Street	Tonawanda	New York	1415

PLANT NAME (If different)	CONTACT NAME	TELEPHONE
	William J. Ruth	Area 716-693-455

PLANT ADDRESS (If different) Street	CITY	STATE	ZIP CODE

PRINCIPAL BUSINESS OF PLANT

Manufacture of Artifical Abrasive Grain

NOTE: (If parent company, give name and addresses of all divisions, subsidiaries, etc. located in New York State. A separate questionnaire is to be completed and submitted for each.)

N.A.

PART II
Discharge Information

WATER

1. Does your plant discharge liquid wastes to a municipally owned sanitary sewer system? ☐ Yes ☒ No
   Name of System _____
2. Is your facility permitted to discharge liquid wastes under a State (SPDES) or Federal (NPDES) permit? ☒ Yes ☐ No
   Permit Number N Y 6 9 0 0 1
3. Do you discharge liquid wastes in any other manner? ☐ Yes ☒ No
   Explain _____

If any of the above are "Yes":

a. Do you discharge process or chemical wastes – (i.e. water used in manufacturing including direct contact cooling water and scrubber water)? ☐ Yes ☒ No
b. Do you discharge non-contact cooling water? ☒ Yes ☐ No
c. Do you discharge collected storm drainage only? ☐ Yes ☒ No
d. Do you discharge sanitary wastes only? ☐ Yes ☒ No

AIR

1. Does your facility have sources of possible emissions to the atmosphere? ☒ Yes ☐ No
2. Enter Location and Facility Code as shown on your Air Pollution Control Application for Permits and Certification (If applicable) 1 4 1 6 0 0 1 3 9 2

LIQUID WASTES

1. List Name and Address of Firm (Including yourself) removing wastes other than office and cafeteria refuse.

Name	Address	City	State	Zip Code
Exolon Company	1000 E. Niagara	Tonawanda	N.Y.	14150

Active ☐

2. List Location(s) of Landfill(s) owned and used by your facility.
   1 None - Material is marketed
   2 _____ ☐

PESTICIDES

1. Does this facility:
   Manufacture Pesticides or Pesticide Product Ingredients? ☐ Yes
   Produce Pesticides or Pesticide Product Ingredients? ☐ Yes
   Formulate Pesticides? ☐ Yes
   Repackage Pesticides? ☐ Yes
2. EPA Establishment Number _____ – _____ – _____

PART III

SUBSTANCES OF CONCERN
(Refer to attached TABLE I)

Complete all information for those substances your facility has used, produced, stored, distributed or otherwise disposed of since January 1, 1971. Do not include chemicals used only in analytical laboratory work. Enter the name and code from Table I. If facility uses a substance in any of the Classes A – F which is not specified in the list, enter it as code class plus 99, e.g. B99 with name, usage, etc.

NAME OF SUBSTANCE	CODE	AVERAGE ANNUAL USAGE	AMOUNT NOW ON HAND	(✓) GAL.	(✓) LB.	PURPOSE OF USE (State whether produced, reacted, blended, packaged, distributed, no longer used, etc.)

[If y]ou use chemicals of unknown composition, list trade name or other identification, name of supplier and complete information.

NAME OF SUBSTANCE	AVERAGE ANNUAL USAGE	AMOUNT NOW ON HAND	(✓) GAL.	(✓) LB.	SUPPLIER	PURPOSE OF USE (State whether produced, reacted, blended, packaged, distributed, no longer used, etc.)
Nalco 603	1100 G.	220	X		Nalco Chemical	Blended
Nalco 7744-A	220 G.	55	X		Nalco Chemical	Blended

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

SIGNATURE (Owner, Partner, or Officer) William J. Buth (signature) | DATE 7/24/77

NAME (Printed or Typed) William J. Buth | TITLE Works Manager

New York State Department of Environmental Conservation
584 Delaware Avenue Buffalo, New York 14202

Peter A. A. Berle,
Commissioner

May 8, 1978

Mr. Ray Lane
The Exolon Company
1000 East Niagara Street
Tonawanda, New York 14150

Dear Mr. Lane:

Wellwater Discharge - SPDES #NY0069001
The Exolon Company, Tonawanda (T), Erie County

This office has reviewed your letter of April 27, 1978 which reported some of the characteristics of well water proposed for discharge after use in non-contact cooling. The Department has no objection to the proposed substitution of well water for potable water presently discharged under SPDES Permit #NY0069001 after non-contact cooling.

However, since the change in water source might result in the discharge of ammonia and/or sulfides to the receiving stream in significant concentration, this office is recommending that the SPDES permit be modified to require monthly sampling of the cooling water discharges, DSN 001 and 002 for these parameters. Subject to notification from you that the substitution will be made and the proposed date on which well water will be first discharged.

If the monitoring demonstrates concentrations of ammonia and/or sulfides above 2 mg/l, it will be required that you apply for a modified discharge permit. The revised permit would set effluent limitations for these parameters and possibly require treatment to insure that ammonia concentration does not exceed 3.5 mg/l and that sulfides do not exceed 4.0 mg/l in the discharge.

If monitoring demonstrates an insignificant concentration of pollutants, the testing frequency may be reduced upon your request.

In view of the above, additional testing is recommended prior to proceeding to change water supply sources. If you have any questions regarding the above, please contact Mr. Richard Sweeney at 842-5041. Please confirm the status of this proposed project within thirty (30 days.

Very truly yours,

Robert G. Speed, P.E.
Senior Sanitary Engineer

RPS:egb

EXOLON COMPANY
REC'D
MAY 1 6 1978
BY R.E. LANE
TONAWANDA, N.Y. 14150

COPY

THE EXOLON COMPANY, TONAWANDA, N. Y. 14150

April 27, 1978

Mr. Richard Sweeney
New York State Department of Environmental Conservation
584 Delaware Avenue
Buffalo, New York 14202

Dear Mr. Sweeney:

The enclosed letter and data is in reference to a water well drilled on our property. Our intent is to use this as a non-contact cooling water as we do now with the city water. Is there anything in the data that would not satisfy our presen permit requirements as stated on SPDES Permit #NY-0069001.

Would appreciate your prompt reply.

Sincerely

THE EXOLON COMPANY

Ray E. Lane

REL/1

Enclosure

APPENDIX B

REVISED "HAZARDOUS WASTE DISPOSAL SITE REPORT"

(47-15-11 (10/83)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: _____ SITE CODE: _____

NAME OF SITE: Exolon-Esk Company REGION: 9

STREET ADDRESS: 1000 East Niagara Street

TOWN/CITY: Tonawanda COUNTY: Erie

NAME OF CURRENT OWNER OF SITE: Same

ADDRESS OF CURRENT OWNER OF SITE: _____

TYPE OF SITE: OPEN DUMP ☐ STRUCTURE ☐ LAGOON ☐
LANDFILL ☒ TREATMENT POND ☐

ESTIMATED SIZE: ~1.5 ACRES

SITE DESCRIPTION:

The company reportedly landfilled unknown quantities of kiln brick, foundry sand, coal cinders and metal tailings in an area of approximately 1.5 acres in the northwest portion of the property. This area is covered, flat, and well seeded. The company is in a residential and commercial area of Tonawanda, New York.

HAZARDOUS WASTE DISPOSED: CONFIRMED ☐ SUSPECTED ☒

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
Kiln Brick	Unknown
Foundry Sand	Unknown
Coal Cinders	Unknown
Iron Tailings	Unknown
Aluminum Oxide Tailings	Unknown

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

_____, 19 49 TO _____, 19 53

OWNER(S) DURING PERIOD OF USE: Exolon Company

SITE OPERATOR DURING PERIOD OF USE: _____

ADDRESS OF SITE OPERATOR: 1000 E. Niagara Street

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

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

SOIL TYPE: Urban Land - Niagara Unit - Poorly drained silty soils

DEPTH TO GROUNDWATER TABLE: Approximately 7.5 feet b.g.s.

LEGAL ACTION: TYPE: _____ STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: _____

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Unknown, as no analytical data is available. Site is covered, flat and well seeded.

ASSESSMENT OF HEALTH PROBLEMS:

None known

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Recra Research, Inc.

NAME Sheldon S. Nozik
TITLE Environmental Scientist
NAME _____
TITLE _____
DATE: January 17, 1986

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____