915033

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

LaSalle Reservoir **Site No. 915033**
Buffalo **Erie County**

DATE: March 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.

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

LaSalle Reservoir
Buffalo, Erie County, New York
Site #915033

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.
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SECTION 1

1.0 EXECUTIVE SUMMARY

The LaSalle Reservoir site is a former limestone quarry occupying approximately 50 acres in the Central Park section of the City of Buffalo, Erie County, New York (Figures 1 and 2). The site was owned and operated by the City of Buffalo as a landfill for municipal refuse, incinerator ash, construction and demolition debris, stoves and refrigerators, and tree parts. The site also received paint waste mixed with sawdust floor sweepings and refuse from Buffalo Forge Company. The Erie County DEP has indicated that industrial wastes were probably disposed of at the site. By 1972, the majority of the site had been filled to the level of the original topography. An apartment complex and a public playground presently occupy the area of the former landfill. An unfilled portion of the quarry in the southeastern section of the site is currently used as a stormwater detention basin by the Buffalo Sewer Authority. The depth of this basin and the former quarry is approximately 45 feet below the natural ground surface.

No analytical data is known to exist for the site.

The Phase I effort included a compilation of information from the records of the New York State Department of Environmental Conservation (NYSDEC), Erie County Department of Environment and Planning (DEP), New York State Health Department and personnel associated with site operations. Recra Research, Inc. (Recra), personnel conducted an inspection of the site on November 25, 1985.

The intent of the Hazard Ranking System (HRS) is to provide a method by

which uncontrolled hazardous waste sites may be systematically assessed as to the potential risk that they may pose to human health and the environment. The HRS is designed to provide a numerical value through an assessment of technical data and information, and relating that information with respect to:

- o migration of hazardous substances from the site (Sm)
- o risk involved with direct contact (Sdc)
- o the potential for fire and explosion (Sfe).

The risks involved with direct contact (Sdc) and the potential for fire and explosion (Sfe) are evaluated according to site specific information including toxicity of waste, quantity, site demographics, location with respect to sensitive habitats of wildlife, etc. Migration potential (Sm) is evaluated through the rating of factors associated with three routes or pathways: groundwater (Sgw), surface water (Ssw) and air (Sa). The scored value for each route is composited to determine the risk to humans and/or the environment from the migration of hazardous substances from the site (Sm).

Based on information gathered during this investigation, the LaSalle Reservoir site was scored according to the Mitre Corporation Hazard Ranking System (HRS) and the following scores were obtained:

$S_m = 0$ ($S_{gw} = 0$; $S_{sw} = 0$; $S_a = 0$)

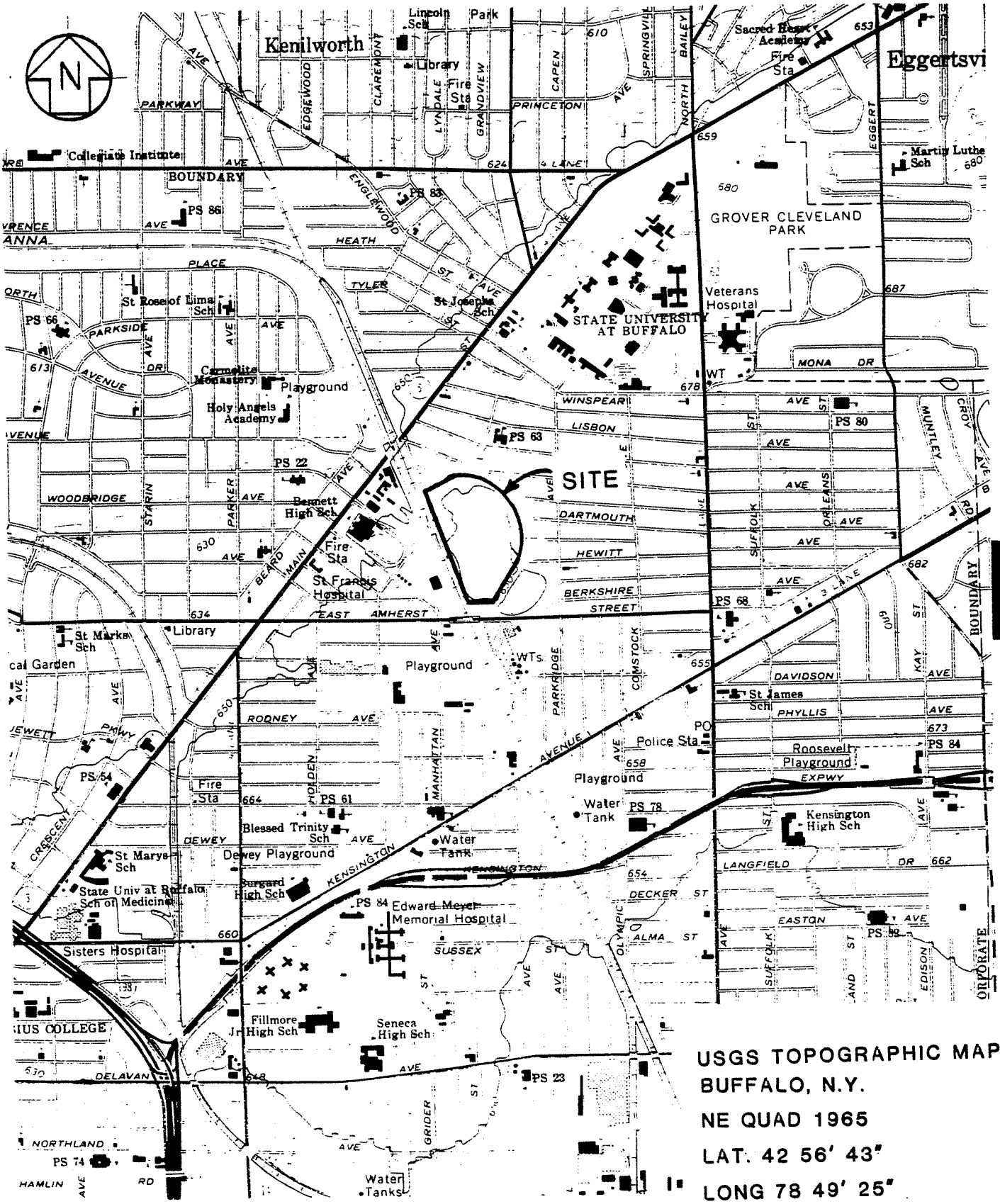
S_{fe} = N/A

$S_{dc} = 0$

If NYSDEC determines further investigation of the LaSalle Reservoir site

is warranted, the Phase II investigation should include:

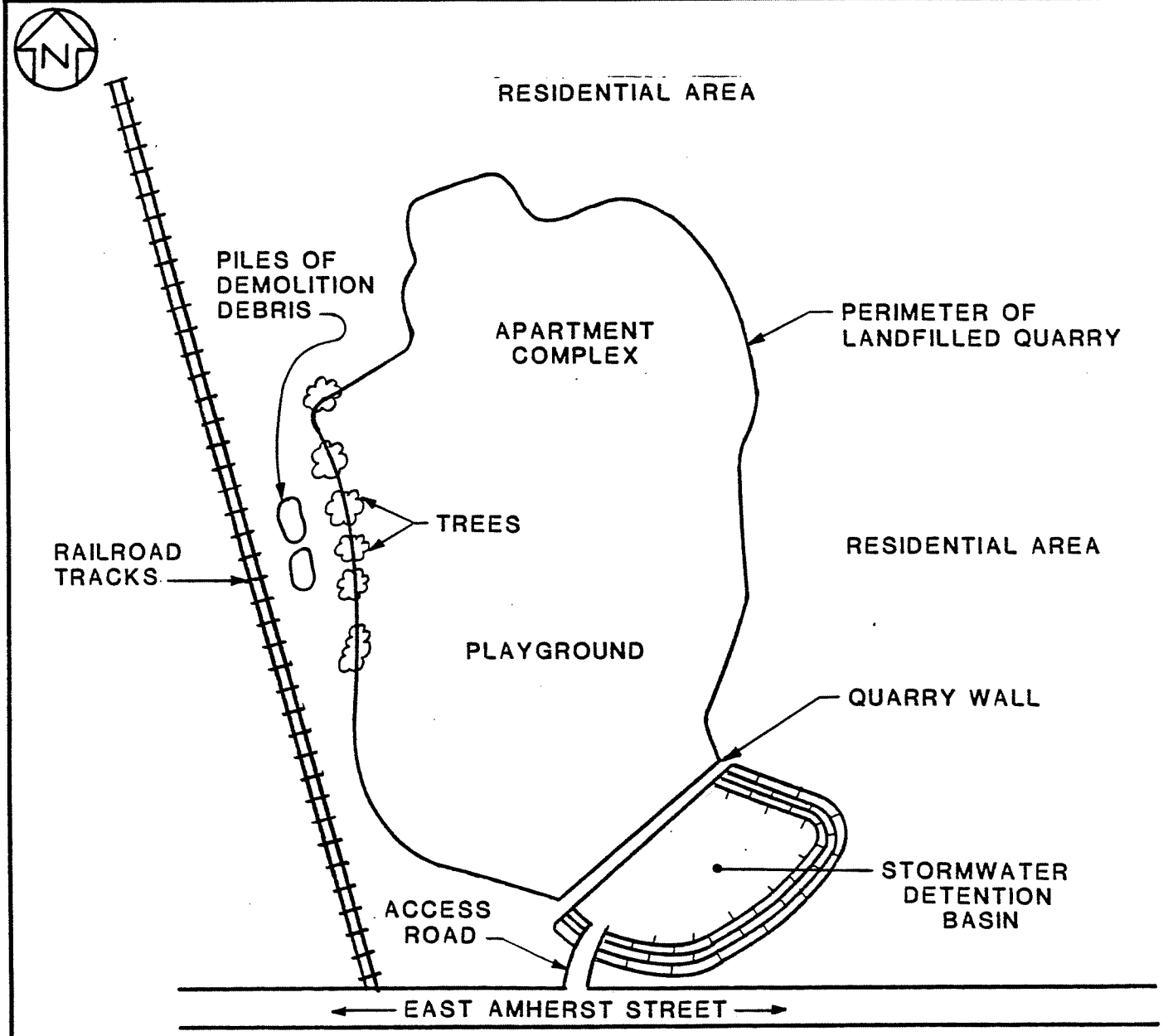
- o preliminary soil sampling and waste characterization
- o preliminary sampling of groundwater seepage from quarry walls
- o preliminary sampling of surface water in stormwater detention basin
- o installation of four deep groundwater monitoring wells at 50 feet below ground surface
- o groundwater sampling and analysis



USGS TOPOGRAPHIC MAP
BUFFALO, N.Y.
NE QUAD 1965
LAT. 42 56' 43"
LONG 78 49' 25"

RECRA RESEARCH INC. BUFFALO, NEW YORK	Scale: 1:24,000	LASALLE RESERVOIR BUFFALO, N.Y. N.Y.S. SUPERFUND PHASE I	VICINITY MAP
	By / Date		
	Dwn. JEM 12/85		
	Ckd.		
	Ap'vd.		
	Rev.	Project No. 5C280400	A FIGURE 1

BRUNING 61160-1



RECRA RESEARCH INC. BUFFALO, NEW YORK	Scale: NTS			LASALLE RESERVOIR BUFFALO, NEW YORK N.Y.S. SUPERFUND PHASE I	SITE MAP
		By	Date		
	Dwn.	MJS	1/86		
	Ckd.				
	Ap'vd.				
	Rev.			Project No. 5C280400	A FIGURE 2

BRUNING 44-131 61160-1

SECTION 2

2.0 PURPOSE

The objective of this Phase I investigation is to prepare a report for the LaSalle Reservoir site that provides a history and preliminary assessment of the site 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 site inspection.
- o collection and review of available data for report preparation and preliminary scoring using the HRS.
- o evaluation of data for completeness and identification of data inadequacies.
- 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 geology of the site, evidence of waste disposal, form of waste disposal, visible signs of contaminant release to the environment whenever present (e.g. leachate), access to the site, and location of water resources, population centers, and sensitive environments such as wetlands.

SECTION 3

3.0 SCOPE OF WORK

In order to provide an accurate and thorough preliminary assessment of the LaSalle Reservoir site, Recra personnel conducted a search of state and county office files, a review of available general information concerning regional geography, geology and hydrogeology, and a site visit that included an interview with personnel associated with site operations.

The majority of the data comprising this report was obtained from NYSDEC Region 9 located at 600 Delaware Avenue, Buffalo, New York (716-847-4600) and the Erie County Department of Environment and Planning located at 95 Franklin Street, Buffalo, New York (716-846-8390). NYSDEC Region 9 also provided floodplain information and the location of wetlands and critical habitats of endangered species in the vicinity of the site.

Recra personnel conducted a site inspection on November 25, 1985 to identify the present condition of the site. Weather during the inspection was sunny and 30°F with no snow cover on the ground. No air monitoring was conducted at this time.

SECTION 4

4.0 SITE ASSESSMENT

4.1 Site History

The LaSalle Reservoir site, located in the City of Buffalo, New York, occupies approximately 50 acres bounded on the west by railroad tracks, on the east by Parkridge Avenue, on the south by East Amherst Street and on the north by LaSalle Avenue (Ref. 11). The site was owned and operated by the City of Buffalo as a landfill for municipal refuse, incinerator ash, construction and demolition debris, stoves and refrigerators, and tree parts (Ref. 2 and 11). The Erie County DEP has indicated that industrial wastes were probably disposed of at the site (Ref. 2). The site also received paint waste mixed with sawdust floor sweepings and refuse from Buffalo Forge Company (Ref. 14).

In 1927 the area including the site was a limestone quarry. The quarry also existed on the east side of the railroad tracks in the area that is now Bennett High School (Ref. 2). It is difficult to determine when landfilling operations began at the site, but by 1951 filling of the inactive quarry was well underway, especially in the northern section. In 1960, the northeast and west portions of the former quarry appeared to be filled to grade with the surrounding topography. By 1972, the entire original quarry area had been filled (Ref. 2).

The northern portion of the site is now a housing development; the southern portion is a playground. The southeastern portion of the site contains an unfilled portion of the quarry which is used by the Buffalo Sewer Authority as a stormwater detention basin.

The land including the site was originally owned by the Buffalo Cement Company and was used as a stone quarry (Ref. 4). In 1947 the Buffalo Crushed Stone Company conveyed the site of the present detention basin to the City of Buffalo. In 1960, the City of Buffalo acquired an adjoining 24.75 acre portion from Houdaille Industries, Inc. (successor in title to Buffalo Crushed Stone Corporation), to be used as a public park. The LaSalle Reservoir site is owned by the City of Buffalo but falls under the jurisdiction of the Buffalo Sewer Authority (Ref. 4).

4.2 Site Area Surface Features

4.2.1 Topography and Drainage

Topography in the vicinity of the site is generally flat with a gentle slope of approximately 1% trending to the west (Ref. 1). With the exception of the southeastern portion of the site, the original quarry has been filled to the grade of the surrounding topography. The southeastern portion contains an unfilled portion of the quarry used by the Buffalo Sewer Authority as a stormwater detention basin (Refs. 2, 4).

Surface run-off from the landfilled portion of the site can enter the Buffalo sewer system which probably would include the stormwater detention basin. The nearest surface water is Scajaquada Creek located approximately two miles southwest of the site (Ref. 1).

4.2.2 Environmental Setting

The LaSalle Reservoir site is located in a densely populated residential/commercial area of Buffalo, New York (Figure 1). The

northern portion of the site is now an apartment complex and the southern portion is a playground (Figure 2). All residents in the City of Buffalo are served by a municipal water supply (Refs. 6, 7). Surface water intakes for the Buffalo City Division of Water are located in the mouth of the Niagara River, approximately six miles to the southwest (Ref. 7). The site is located two miles northeast of Scajaquada Creek (Ref. 1). Scajaquada Creek has been assigned a Class B rating, whose best usage is for primary contact recreation and any other uses except as a source of water supply for drinking, culinary or food processing purposes (Refs. 12, 13). Usage of Scajaquada Creek appears to be limited to recreation with some fishing in the Delaware Park area (Ref. Recra site visit).

As the majority of the site is occupied by an apartment complex and a playground, there is no access control. A visit to the site by Recra Research, Inc. personnel in November, 1985 indicated no exposed wastes. A service road leading to the base of the stormwater detention basin in the southeast portion of the site extends from East Amherst Street.

There are no critical habitats of endangered species or sensitive environments in the vicinity of the site (Ref. 3). The site is not located within a 100 year floodplain (Ref. 5).

4.3 Site Hydrogeology

4.3.1 Geology

The LaSalle Reservoir is the site of a former quarrying operation in the Onondaga Limestone (Ref. 8). This formation consists of three members. The lowest member is a gray coarse-grained limestone, generally only a

few feet in thickness (Ref. 6). This member occasionally grades laterally into reef deposits which increases its thickness (Ref. 8). The middle member of the Onondaga is a cherty limestone, approximately 40-45 feet thick. The upper unit is a dark-gray to tan limestone with a thickness ranging from 50 to 60 feet (Ref. 6).

The Onondaga Limestone and other limestone units in the Buffalo area contain water-bearing openings resulting from the solutioning of limestone by groundwater (Ref. 6). Solutioning occurs mainly along vertical and bedding plane joints. The coefficient of transmissivity of the limestone units is estimated to range between 300 and 25,000 gallons per day per foot depending on the extent and magnitude of solutioning of the rock (Ref. 6).

4.3.2 Soils

There are no naturally occurring soils at the site as these soils were removed during the quarry operation. Soils presently occupying the site include assorted fill material and soils imported from off-site areas (Ref. 2).

4.3.3 Groundwater

As stated in Section 4.3.1, groundwater movement in the Onondaga limestone occurs through fractures and solution cavities. According to the Buffalo Sewer Authority, groundwater seepage to the quarry floor occurs through the limestone on a continual basis, however, no substantial accumulation of water in the quarry occurs (Ref. 2). Depth from the ground surface to the quarry floor is approximately 45 feet.

4.4 Previous Sampling and Analysis

4.4.1 Groundwater Quality Data

No groundwater quality data for this site is known to exist.

4.4.2 Surface Water Quality Data

No surface water quality data for this site is known to exist.

4.4.3 Air Quality Data

No air quality data for the site is known to exist.

4.4.4 Other Analytical Data

No other analytical data for this site is known to exist.

5.0 PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM

5.1 Narrative

The LaSalle Reservoir site is a former limestone quarry which occupies approximately 50 acres in the Central Park area of Buffalo, Erie County, New York (Ref. 1). Quarrying of the area including the site by the Buffalo Cement Company was underway in the 1920's (Refs. 2, 4). It is not known when landfilling of the quarry began but by 1951 active filling of the site was taking place (Ref. 2). The City of Buffalo is reported to have disposed of municipal refuse, incinerator ash, construction and demolition debris, stoves and refrigerators and tree parts at the site (Refs. 2, 11). The site also received paint waste mixed with sawdust floor sweepings and refuse from Buffalo Forge Company (Ref. 14). The Erie County DEP has indicated that industrial wastes were probably disposed of at the site (Ref. 2). By 1972, the entire original quarry had been filled to the grade of the surrounding topography (Ref. 2). A second quarry in the southeastern portion of the site is presently owned by the City of Buffalo and serves as a stormwater detention basin for the Buffalo Sewer Authority (Refs. 2, 4).

The site is located in a densely populated residential/commercial area. An apartment complex and a playground presently occupy the area of the original quarry. Surface run-off from the site can enter the Buffalo sewer system including the stormwater detention basin. The topography of the landfilled quarry and vicinity is generally flat. The nearest surface water is Scajaquada Creek which is located two miles southwest of the site (Ref. 1). Buffalo residents are served by municipal water

supply. There is no known groundwater usage within three miles of the site (Refs. 6, 7). There is no access control to the site. No groundwater quality, surface water quality, soil quality or air quality data are known to exist for the site. There are no critical habitats of endangered species or sensitive environments in the vicinity of the site (Ref. 3). The site is not located within a 100-year floodplain (Ref. 5).

5.2 HRS WORKSHEET

Facility name: LaSalle Reservoir

Location: Parkridge Avenue and East Amherst Street, Buffalo, NY 14207

EPA Region: II

Person(s) in charge of the facility: City of Buffalo
201 City Hall
Buffalo, NY 14202

Name of Reviewer: _____ Date: _____

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.)

The site is a former limestone quarry approximately 50 acres by 45 feet deep. Most of the quarry was landfilled with municipal wastes from the City of Buffalo. The site also received paint waste mixed with sawdust floor sweeping from Buffalo Forge Company. No waste disposal records are available for the site. An unfilled portion of the quarry in the sourtheastern section is presently used as a stormwater detention basin by the Buffalo Sewer Authority.

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	6	6	
Net Precipitation	0 1 (2) 3		1	2	3	
Permeability of the Unsaturated Zone	0 1 (2) 3		1	2	3	
Physical State	0 1 (2) 3		1	2	3	
Total Route Characteristics Score				12	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)	Multi-plier	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	0	6	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			4	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	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	0	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			0	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)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	(0) 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5] If line [1] is 45, then proceed to line [2]					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	
Toxicity	(0) 1 2 3	3	0	9	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
	Total Waste Characteristics Score		0	20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 (24) 27 30	1	24	30	
Distance to Sensitive Environment	(0) 1 2 3	2	0	6	
Land Use	0 1 2 (3)	1	3	3	
	Total Targets Score		27	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	0	3	7.1
2 Waste Characteristics					7.2
Direct Evidence	(0) 3	1	0	3	
Ignitability	(0) 1 2 3	1	0	3	
Reactivity	(0) 1 2 3	1	0	3	
Incompatibility	(0) 1 2 3	1	0	3	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 (5)	1	5	5	
Distance to Nearest Building	0 1 2 (3)	1	3	3	
Distance to Sensitive Environment	(0) 1 2 3	1	0	3	
Land Use	0 1 2 (3)	1	3	3	
Population Within 2-Mile Radius	0 1 2 3 4 (5)	1	5	5	
Buildings Within 2-Mile Radius	0 1 2 3 4 (5)	1	5	5	
Total Targets Score			21	24	
4 Multiply 1 x 2 x 3			0	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)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	(0) 15	1	0	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			20	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	0		

FIGURE 12
DIRECT CONTACT WORK SHEET

HRS DOCUMENTATION
RECORDS

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: LaSalle Reservoir

LOCATION: Park Ridge Avenue and East Amherst Street, Buffalo, NY 14207

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

None. No analytical testing has been conducted.

Rationale for attributing the contaminants to the facility:

N/A

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

Onondaga Limestone (Ref. 8)

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

Groundwater seepage from the quarry wall indicates that groundwater occurs less than 45 feet (depth of quarry) from the ground surface. Since fill material (possibly containing hazardous substances) could exist at 45 feet below ground surface, assign HRS score of 3. (Ref. 2)

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. 9)

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

27 inches (Ref. 9)

Net precipitation (subtract the above figures):

9 inches

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Cover soil is fill. Natural soils were removed during operation of the Limestone Quarry.

Permeability associated with soil type:

Permeability of moderately permeable limestone and fill material is between 10^{-3} and 10^{-5} cm/sec. (Ref. 9)

Physical State

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

Solid material such as municipal refuse and construction and demolition debris.
Powder or fine material such as incinerator ash and paint waste mixed with sawdust sweepings from Buffalo Forge Company. (Ref. 2, 11, and 14)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Liner, run-on control, ponding

Method with highest score:

No liner, quarry (Ref. 2)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Paint waste, character unknown. (Ref. 2 and 14)

Compound with highest score:

Unknown, cannot score

Hazardous Waste Quantity

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

Unknown (Ref. 2)

Basis of estimating and/or computing waste quantity:

Unknown

* * *

5 TARGETS

Ground Water Use

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

None known; former wells at Nagel's dairy and the Commodore Theatre are no longer used.

(Ref. 2, 6, and 7)

Distance to Nearest Well

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

N/A

(Ref. 2, 6, and 7)

Distance to above well or building:

N/A

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 known

(Ref. 2, 6, and 7)

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):

N/A

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

None known

SURFACE WATER ROUTE

1 OBSERVED RELEASE

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

None known; no analytical testing has been conducted. (Ref. 2)

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% in site vicinity (Ref. 1)

Name/description of nearest downslope surface water:

None known. Surface runoff enters Buffalo sewer system. Buffalo Sewer Authority uses unfilled portion of Limestone Quarry as overflow basin during wet weather. (Ref. 2 and 4)

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

N/A

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

No; however, the southeastern portion of the former quarry is used as a wet weather overflow basin. (Ref. 2 and 4)

Is the facility completely surrounded by areas of higher elevation?

No (Ref. 1)

1-Year 24-Hour Rainfall in Inches

2.2 inches (Ref. 9)

Distance to Nearest Downslope Surface Water

Surface run-off from site cannot be expected to enter a surface water body as it would drain to the Buffalo Sewer System. Cannot score.

(Ref. 2)

Physical State of Waste

Solid material such as municipal refuse and construction and demolition debris.
Powder or fine material such as incinerator ash and paint waste mixed with sawdust sweepings from Buffalo Forge Company. (Ref. 2, 11, and 14)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill - diversion system present. (Ref. 2)

Method with highest score:
No diversion system. (Ref. 9)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Paint waste, character unknown. (Ref. 2 and 14)

Compound with highest score:

Unknown, cannot score

Hazardous Waste Quantity

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

Unknown (Ref. 2)

Basis of estimating and/or computing waste quantity:

Unknown

* * *

5 TARGETS

Surface Water Use

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

Surface run-off from site enters Buffalo Sewer System. Cannot score. (Ref. 2)

Is there tidal influence?

N/A

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:

N/A (Ref. 3)

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

N/A (Ref. 3)

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:

N/A; greater than three miles to surface water intakes in Lake Erie and the Niagara River.

(Ref. 7)

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

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

N/A

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

N/A

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

None. No analytical testing has been conducted.

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:

Unknown (Ref. 2 and 14)

Most incompatible pair of compounds:

Unknown (Ref. 2 and 14)

Toxicity

Most toxic compound:

Unknown (Ref. 2 and 14)

Hazardous Waste Quantity

Total quantity of hazardous waste:

Unknown (Ref. 2 and 14)

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

>20,000 (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:

N/A (Ref. 3)

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

N/A (Ref. 3)

Land Use

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

500 feet (Ref. 1)

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:

Northern portion of site is a housing development; southern portion is a playground.

(Ref. 2)

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?

No

FIRE AND EXPLOSION

1 CONTAINMENT

Hazardous substances present:

Paint wastes; character unknown (Ref. 2 and 14)

Type of containment, if applicable:

None (Ref. 2)

* * *

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

N/A

Ignitability

Compound used:

Unknown (Ref. 2 and 14)

Reactivity

Most reactive compound:

Unknown (Ref. 2 and 14)

Incompatibility

Most incompatible pair of compounds:

Unknown (Ref. 2 and 14)

* * *

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Unknown (Ref. 2 and 14)

Basis of estimating and/or computing waste quantity:

N/A

* * *

3 TARGETS

Distance to Nearest Population

The northern portion of the site is a housing development; the southern portion is a playground. (Ref. 2)

Distance to Nearest Building

The northern portion of the site is a housing development; the southern portion is a playground. (Ref. 2)

Distance to Sensitive Environment

Distance to wetlands:

N/A (Ref. 3)

Distance to critical habitat:

N/A (Ref. 3)

Land Use

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

500 feet (Ref. 1)

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

N/A (Ref. 1)

Distance to residential area, if 2 miles or less:

Northern portion of site is a housing development; southern portion is a playground. (Ref. 2)

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

N/A (Ref. 1)

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

N/A (Ref. 1)

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

No

Population Within 2-Mile Radius

50,000 (Ref. 1)

Buildings Within 2-Mile Radius

1,000 (Ref. 1)

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

N/A

* * *

2 ACCESSIBILITY

Describe type of barrier(s):

None; northern portion of site is a housing development; southern portion is a playground (Ref. 2)

* * *

3 CONTAINMENT

Type of containment, if applicable:

None (Ref. 2)

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Unknown (Ref. 2 and 14)

Compound with highest score:

N/A

* * *

5 TARGETS

Population within one-mile radius

20,000 (Ref. 1)

Distance to critical habitat (of endangered species)

N/A (Ref. 3)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
LASALLE RESERVOIR	PARK RIDGE AVENUE AND EAST AMHERST STREET

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
BUFFALO	NY	14202	ERIE		

09 COORDINATES LATITUDE	LONGITUDE
42 56 43.0	078 49 25.0

10 DIRECTIONS TO SITE (Starting from nearest public road)
MAIN STREET ROUTE 5 IN BUFFALO TO EAST AMHERST STREET NEAR BENNETT HIGH SCHOOL. EAST ON EAST AMHERST STREET. SITE IS ON LEFT JUST BEYOND RAILROAD VIADUCT

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
CITY OF BUFFALO	201 CITY HALL

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
BUFFALO	NY	14202	(716) 855-5035

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
UNKNOWN	

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
			( )

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

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

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 12/29/83 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: ERIE COUNTY DEPT. OF ENVIRONMENT (Specify)
CONTRACTOR NAME(S): AND PLANN NS

02 SITE STATUS (Check one)	03 YEARS OF OPERATION		
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN	APPROX 1950 (BEGINNING YEAR)	APPROX 1971 (ENDING YEAR)	☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
INCINERATOR ASH, GARBAGE AND DEMOLITION DEBRIS.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
NONE KNOWN.

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
PEDRO FIERRO	RECRA ENVIRONMENTAL INC	(716) 852-7203

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
ANDRE J. LAPRES	—	RECRA	(716) 833-8203	12/6/85 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

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: UNKNOWN

CUBIC YARDS:

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
- [ ] 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)

N/S DEPT OF ENVIRONMENTAL CONSERVATION, INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT 1/24/85. ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING SITE REPORT, CAMERON O'CONNOR, DECEMBER, 1983.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
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
NONE KNOWN.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
DRAINAGE FROM SITE ENTERS BUFFALO SEWER SYSTEM.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
THERE IS NO ACCESS CONTROL. SOUTHERN PORTION OF SITE IS A PARK.

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

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

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN; HOWEVER, THERE IS NO ACCESS CONTROL AND SOUTHERN PORTION OF SITE IS A PARK.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
NONE KNOWN.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
WASTES WERE APPARENTLY DUMPED INTO ABANDONED LIMESTONE QUARRY.

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

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
SURFACE DRAINAGE FROM SITE ENTERS BUFFALO SEWER SYSTEM

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
SITE WAS OPERATED PRIOR TO HAZARDOUS MATERIAL DISPOSAL REGULATIONS AND MAY HAVE RECEIVED INDUSTRIAL WASTE. REPEATEDLY SITE WAS USED FOR RANDOM DUMPING AND DISPOSAL OF MUNICIPAL REFUSE AND CONSTRUCTION AND DEMOLITION DEBRIS.

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)
NYS DEPT. OF ENVIRONMENTAL CONSERVATION, INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT. 1/24/85. ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING, SITE REPORT, CAMERON O'CONNOR, DECEMBER, 1983.

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
NY	915023

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
LASALLE RESERVOIR	PARK RIDGE AVENUE AND EAST AMHERST STREET

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
BUFFALO	NY	14202	ERIE		

09 COORDINATES LATITUDE	LONGITUDE
42 56 43.0	078 [illegible] 55.2

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	02 SITE STATUS	03 YEARS OF OPERATION
11 25 85 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	Approx 1950 (BEGINNING YEAR) Approx 1972 (ENDING YEAR) ___ 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) 833-8203
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
SHELDON NOZIK	STAFF GEOLOGIST	RECRA	(716) 833-8203
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
DONALD MENNO	INDUSTRIAL WASTE ADMINISTRATOR	BUFFALO SEWER AUTHORITY	(716) 283-1820
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	10:30 AM	SUNNY, 32°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
PEDRO FIERRO	RECRA ENVIRONMENTAL INC	(716) 833-8205

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
ANDRE J. LAFRES	—	RECRA	(716) 833-8203	11 25 85 (MONTH DAY YEAR)

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
NY	915033

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 UNKNOWN

CUBIC YARDS _____

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
- [ ] 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)*

NYS DEPT. OF ENVIRONMENTAL CONSERVATION, INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT, 11/24/85. ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING SITE REPORT, CAMERON O'CONNOR, DECEMBER 1983.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	915033

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
DRAINAGE FROM SITE ENTERS BUFFALO SEWER SYSTEM.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
THERE IS NO ACCESS CONTROL. SOUTHERN PORTION OF SITE IS A PARK.

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

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

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
NONE KNOWN, HOWEVER, THERE IS NO ACCESS CONTROL AND SOUTHERN PORTION OF SITE IS A PARK.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915022

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
None known.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None known.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Wastes were apparently dumped into abandoned limestone quarry.

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

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Surface drainage from site enters Buffalo sewer system.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Site was operated prior to hazardous waste disposal regulations and may have recieved industrial waste. Reportedly site was used for random dumping and disposal of municipal refuse and construction and demolition debris.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None known.

III. TOTAL POPULATION POTENTIALLY AFFECTED: Unknown

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
NYS Dept. of Environmental Conservation, Inactive Hazardous Waste Disposal Site Report 1/24/85. Erie County Dept. of Environment and Planning, Site Report, Cameron O'Connor, December, 1983.

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915032

II. PERMIT INFORMATION

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

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	UNKNOWN	
☐ 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

- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE

50 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

NO DIKING, LINERS, BARRIERS OR OTHER CONTAINMENT STRUCTURES KNOWN. ABANDONED LIMESTONE QUARRY WAS REPORTEDLY FILLED WITH MUNICIPAL REFUSE AND CONSTRUCTION AND DEMOLITION DEBRIS.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS FILL AREA HAS BEEN COVERED AND IS USED FOR BASEBALL FIELDS.

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

NYS DEPT. OF ENVIRONMENTAL CONSERVATION, INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT, 1/24/85. ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING, SITE REPORT, CAMERON O'CONNOR, DECEMBER 1983.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY *(Check as applicable)*

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

02 STATUS

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

03 DISTANCE TO SITE

A. 4 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check one)*

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

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL > 3 (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
UNKNOWN (ft)	UNKNOWN	UNKNOWN (ft)	UNKNOWN (gpd)	☐ YES ☐ NO

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

NONE KNOWN WITHIN THREE MILES OF THE SITE

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE *(Check one)*

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
SCAJAQUADA CREEK	☐	2 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. _____ NO. OF PERSONS	B. _____ NO. OF PERSONS	C. > 20,000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION < .1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE > 1000

04 DISTANCE TO NEAREST OFF-SITE BUILDING < .1 (mi)

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

SITE IS LOCATED IN A DENSELY POPULATED RESIDENTIAL - COMMERCIAL AREA. NORTHERN PORTION OF SITE CONTAINS AN APARTMENT COMPLEX. SOUTHERN PORTION IS CITY PARK.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one) N/A SITE IS A FORMER LIMESTONE QUARRY.

☐ 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	
0 (ft)	N/A (ft)	N/A	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9 (in)	2.2 (in)	< 1 %		< 1 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. _____ (mi) OTHER: B. > 1 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 1 (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. _____ (mi)	B. < .1 (mi)	C. N/A (mi)	D. N/A (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

SITE AND SURROUNDING AREA IS GENERALLY FLAT WITH THE EXCEPTION OF THE UNFILLED PORTION OF THE QUARRY ON THE EAST SIDE OF THE SITE. UNFILLED PORTION OF QUARRY IS PRESENTLY USE BY THE BUFFALO SEWER AUTHORITY AS A WET WEATHER OVERFLOW BASIN.

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

ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING, SITE REPORT, CAMERON O'CONNOR, DECEMBER, 1983.

1 TOPOGRAPHIC MAP BUFFALO NE

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II. SAMPLES TAKEN NONE KNOWN

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 NONE KNOWN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL TOPO

02 IN CUSTODY OF RECRA RESEARCH, INC.
(Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS RECRA RESEARCH, INC., 4249 RIDGE LEA RD., AMHERST, NY 14226

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

NONE KNOWN

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

EPA FORM 2070-13 (7-81)

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

EPA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	915033

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER		08 NAME (PARENT COMPANY (If applicable))	09 D+B NUMBER	
City of Buffalo					
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
201 City Hall					
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Buffalo	NY	14202			
01 NAME	02 D+B NUMBER		08 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		08 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
01 NAME	02 D+B NUMBER		08 NAME	09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first) / IV. REALTY OWNER(S) (If applicable, list most recent first)

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

NYS Dept. of Environmental Conservation Hazardous Waste Disposal Site Report, 1/24/85.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915022

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

01 NAME	02 D+B NUMBER
N/A	

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
UNKNOWN	

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)*

NYS DEPT. OF ENVIRONMENTAL CONSERVATION HAZARDOUS WASTE DISPOSAL SITE REPORT 1/24/85

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
NONE KNOWN	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
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)

ERIE COUNTY DEPT. OF ENVIRONMENT AND PLANNING, SITE REPORT, CAMERON O'CONNOR, DECEMBER 1983.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	915033

II. PAST RESPONSE ACTIVITIES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	915033

II PAST RESPONSE ACTIVITIES *(Continued)*

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

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

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

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

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

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

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

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

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

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

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

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

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	915033

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

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

EPA FORM 2070-13 (7-81)

SECTION 6

6.0 ADEQUACY OF AVAILABLE DATA

In completing the Hazard Ranking Score (HRS), the LaSalle Reservoir site was found to have a migration potential (S_m) score of 0. This Sm score was based on the information acquired through a review of available literature. During the completion of the HRS, several data inadequacies were encountered. These inadequacies include:

- subsurface information including depth to the water table and/or aquifers of concern, permeability of bedrock, groundwater quality, and groundwater flow direction.
- types and quantities of hazardous wastes (if any) disposed on site.
- surface water quality in the stormwater detention basin.

SECTION 7

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 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 HRS score for the site as defined under the auspices of the New York State Superfund program, and assess concerns regarding past disposal practices. The site investigation proposed herein is designed to generate data for the above identified tasks. The scope of this investigation may include:

- o preliminary soil/fill sampling and waste characterization
- o preliminary sampling of water seepage from the quarry walls
- o preliminary sampling of water collected in the stormwater retention basin
- o air monitoring
- o test bore drilling
- o monitoring well installation
- o in-situ permeability testing
- o groundwater, leachate stream and surface water sampling
- o surveying and mapping
- o chemical analytical testing
- o laboratory geotechnical testing

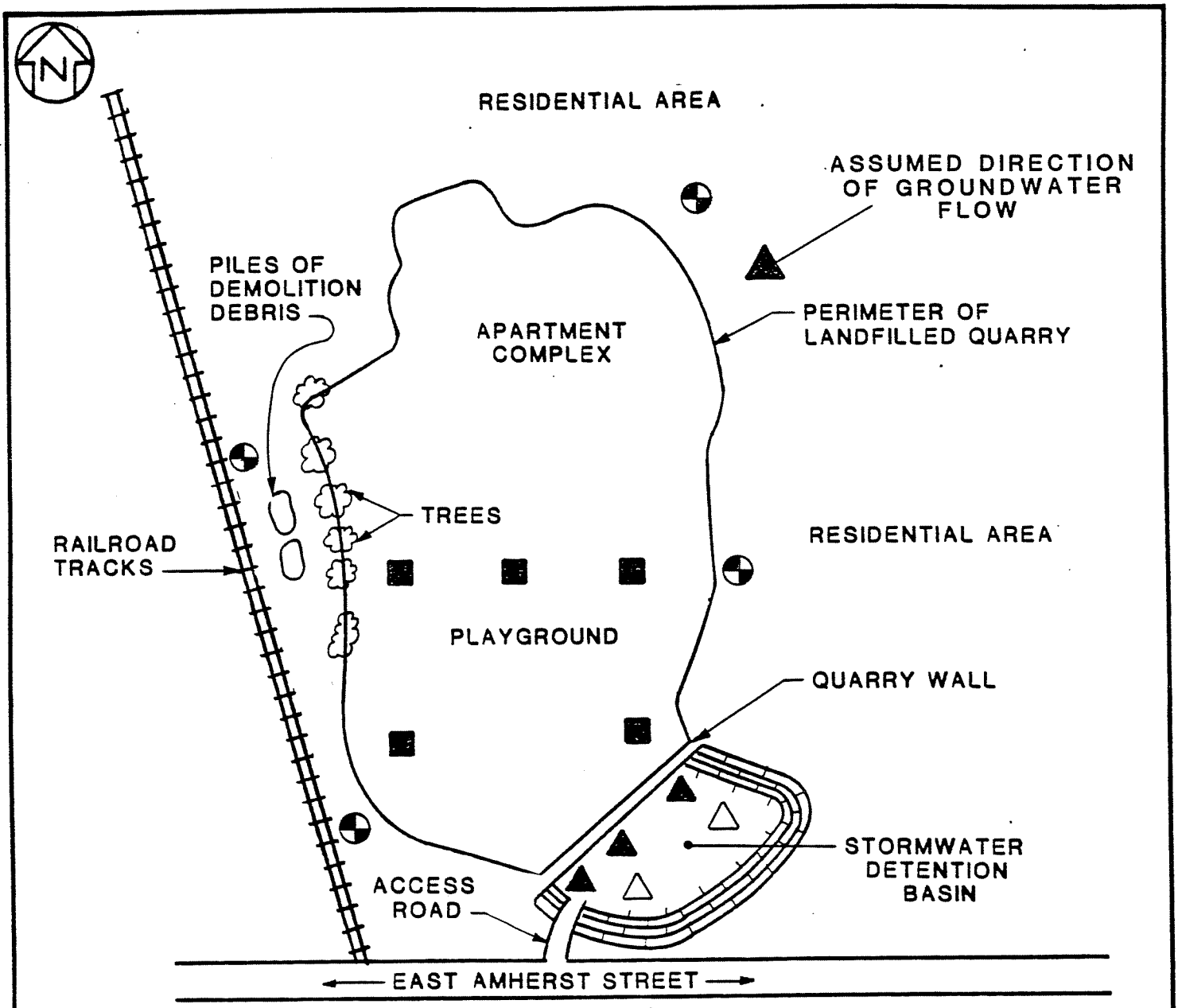
- o groundwater well survey
- o data analysis and reporting
- o characterizing the physical and chemical nature of the site
- o scoring the site under the Hazard Ranking System
- o reporting.

7.2 Scope of Work

While there is no documentation that hazardous substances have been disposed of at the site, the filling of the quarry occurred at a time when landfilling was unregulated. Due to the lack of records concerning the types of wastes deposited at the site, it is recommended that sampling of the suspected waste materials and a preliminary characterization of those materials be performed. The results of the preliminary study should be evaluated to determine if a more detailed and costly Phase II study is warranted.

There are two potential contaminant pathways from the site: 1) direct contact with the surface of the fill material, and 2) groundwater seepage from cracks in the quarry walls to the Buffalo Sewer Authority stormwater retention basin. Shallow sampling of soil on the surface of the fill material would provide samples for waste characterization and give an indication of the potential for exposure to contamination. Samples should be collected using a hand auger at several locations across the site from the surface and at depths of one and two feet (Figure 3). Samples from within each boring will be composited.

Groundwater quality in the area of the site may be tested by sampling



Scale: NTS			LASALLE RESERVOIR BUFFALO, NEW YORK N.Y.S. SUPERFUND PHASE II	PROPOSED PHASE II WORKPLAN MAP
	By	Date		
Dwn.	MJS	1/86		
Ckd.				
Ap'vd.				
Rev.			Project No. 5C280400	A FIGURE 3

BRUNING 44-131 61160-1

water seeping from the quarry wall and collected in the stormwater retention basin (Figure 3). Soil/fill and water samples should be analyzed for priority pollutant metals and cyanide, and scanned for organics, halogenated organics (including PCBs) and volatile halogenated organics.

If preliminary testing indicates the presence of hazardous substances in the landfill, the remainder of the Phase II investigation described below should be conducted.

7.2.1 Geophysical Survey

A geophysical survey may be of limited use at the LaSalle Reservoir site. The presence of an apartment complex and a public playground on the surface of the landfilled quarry would interfere with the use of conductivity and resistivity techniques to obtain an accurate geophysical interpretation of subsurface conditions. In order to determine the original perimeter of the landfilled quarry, however, it may be necessary to conduct a seismic survey.

7.2.2 Test Borings

Four test borings will be advanced around the perimeter of the quarry at a depth of approximately 50 feet below ground surface (Figure 3). This depth has been selected for the purpose of developing the cost estimate presented in Section 7.8. Actual depths will be determined based on the subsurface conditions encountered during the drilling and logging of two

initial deep test borings. Based on a field review of the site, tentative locations for the borings will be selected by NYSDEC as recommended by Recra.

Prior to initiating drilling activities, the drilling rig, augers, rods, split spoon, 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 decontamination area. Throughout and after the cleaning processes, direct contact between equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures will be used.

Test borings will be advanced with NX core barrel and tri-cone roller bit driven by truck mounted drilling equipment. During the drilling, an HNU photoionization detector will be used to monitor the gases exiting the hole. A ten foot core sample will be taken immediately after the water bearing zone is reached.

Boring logs will be maintained at Recra.

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
- o identification of alternative drilling methods used and justification thereof
- o depths recorded in feet and fractions thereof (tenths or inches), referenced to ground surface

- 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.

7.2.3 Groundwater Monitoring and Sampling

Rock wells will be constructed in two phases. The first phase will involve advancing an NX core barrel to a depth ten feet above the intended final depth of the well. The borehole will then be enlarged to the desired depth using a 5-7/8 inch O.D. tri-cone roller bit.

A length of four inch I.D. galvanized steel casing will then be permanently installed from the bottom of the borehole to a height of two to four feet above ground surface. The casing will be tremie grouted into place with a cement/bentonite grout mixture thus completing the first phase of well installation.

Prior to the commencement of the second phase of well installation, the grout will be allowed to cure for a minimum of 24 hours. The second phase of well installation will involve reaming out the grout from the inside of the casing. Upon completion of grout removal, an NX core barrel will be advanced an additional ten feet. The NX borehole will remain open to serve as the intake for the well. The casing will be fitted with a vented locking cap.

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 PVC or

stainless 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:

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

The development process will continue until a stabilization of pH, specific conductance, temperature, and clarity (goal of $\leq$100 turbidity units) 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 pH, conductivity, hardness, priority pollutant metals and organics (Contract Laboratory Protocol), CN and PCBs. GC/MS procedures 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 PVC or stainless 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.

7.2.4 Surface Water Sampling

Additional water samples should be collected from the sampling points used during the preliminary investigation. Water samples should be tested for the same parameters as in the groundwater analysis.

7.2.5 Air Monitoring

Air monitoring with an HNU photoionization detector will be performed at one upwind and one downwind location prior to any site work and also during drilling and monitoring well installations. Measurements will be taken within the normal breathing zone. Wind direction will be recorded at the time of monitoring.

7.2.6 Surveying

A map will be prepared showing the location and elevation (ground surface, top of monitor well casing) of each monitoring well, sampling location, 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:

- 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 datum. USGS benchmarks will be used whenever available.
- 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." Chemical analyses performed at Recra will follow Contract Laboratory Protocol.

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 preliminary sampling and waste characterization is based on the collection of five composite soil samples, three groundwater seepage samples, and two stormwater retention basin surface water samples.

o Preliminary Sampling and Waste Characterization	$ 6,370.00*

The estimated cost of the Phase II Work Plan is based on the placement of four monitoring wells at 50 feet below ground surface.

o Subsurface Investigation	$16,000.00
o Analyses	21,285.60*
o Engineering Evaluation and Report	8,000.00
Total Phase II	$45,285.60

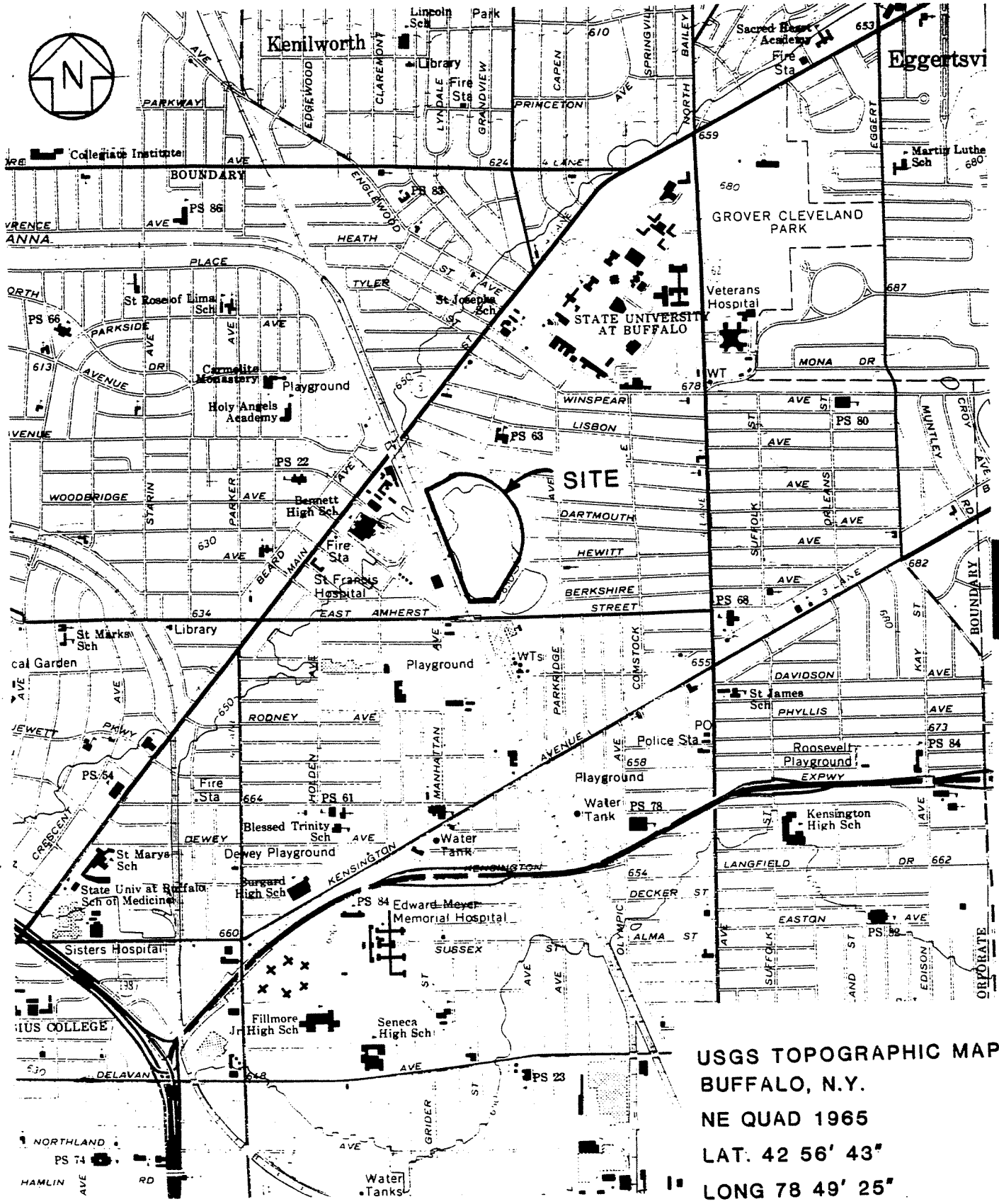
*Price includes Contract Laboratory Protocol for priority pollutant metals and/or organics. Actual costs will vary among contracted laboratories.

APPENDIX A

APPENDIX A

DATA SOURCES AND REFERENCES

REFERENCE 1



USGS TOPOGRAPHIC MAP
BUFFALO, N.Y.
NE QUAD 1965
LAT. 42 56' 43"
LONG 78 49' 25"

61160-1

BRUNING

RECRA RESEARCH INC.
BUFFALO, NEW YORK

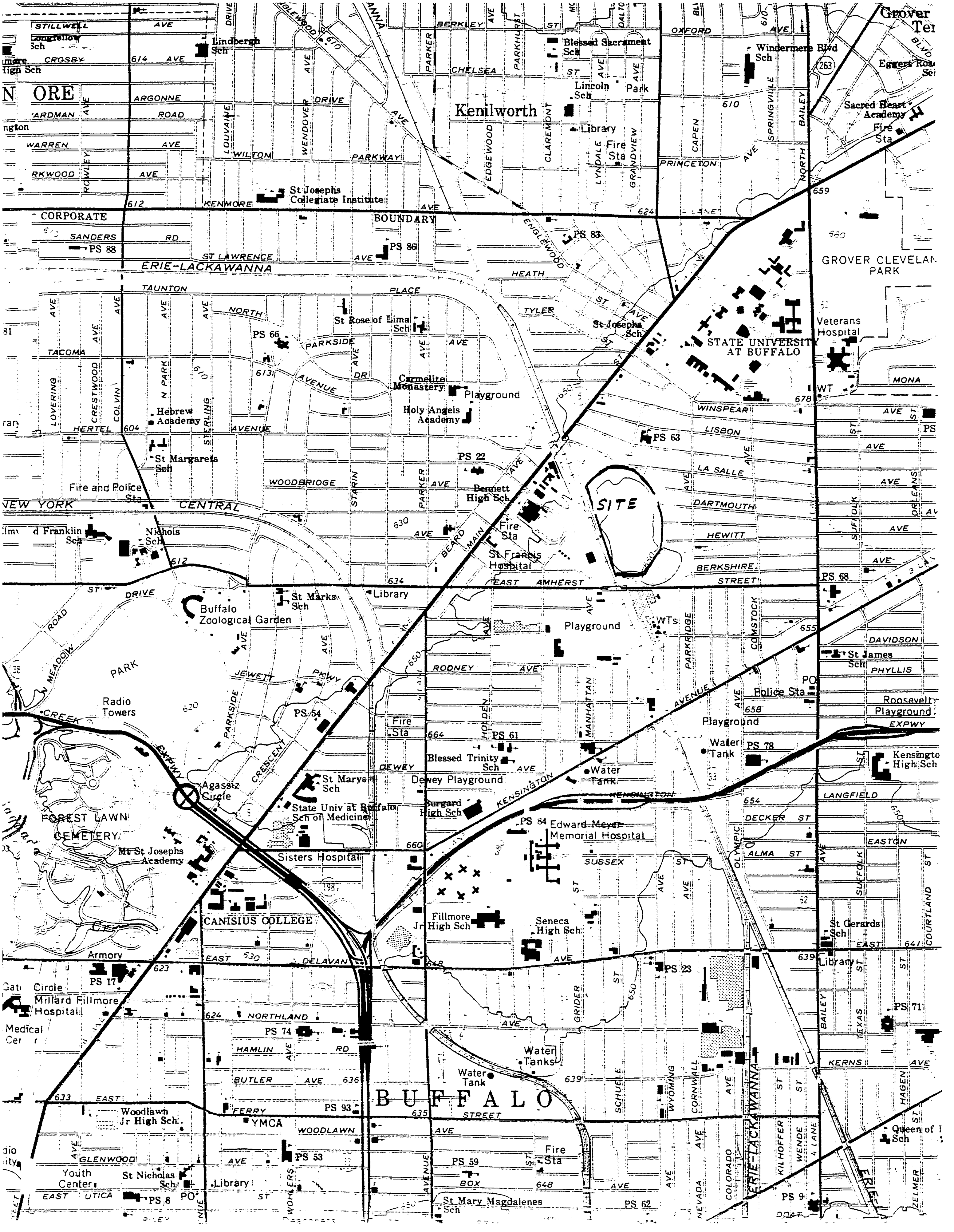
Scale: 1:24,000		
	By	Date
Dwn.	JEM	12/85
Ckd.		
Ap'vd.		
Rev.		

LASALLE RESERVOIR
BUFFALO, N.Y.
N.Y.S. SUPERFUND
PHASE I

Project No. 5C280400

VICINITY MAP

A



SITE
Kenilworth
BUFFALO
STATE UNIVERSITY AT BUFFALO
GROVER CLEVELAND PARK
CORPORATE BOUNDARY
Buffalo Zoological Garden
PARK
FOREST LAWN CEMETERY
CANISIUS COLLEGE
Veterans Hospital
St Francis Hospital
Sisters Hospital
Edward Meyer Memorial Hospital
Millard Fillmore Hospital
State Univ at Buffalo Sch of Medicine
Bennett High Sch
Kensington High Sch
Seneca High Sch
Fillmore Jr High Sch
Burgard High Sch
Woodlawn Jr High Sch
Agassiz Circle
Radio Towers
Playground
Dewey Playground
Roosevelt Playground
Library
Fire Sta
Water Tank
Water Tanks
PS 22
PS 23
PS 54
PS 61
PS 63
PS 66
PS 68
PS 74
PS 78
PS 83
PS 84
PS 86
PS 88
PS 93
KENSINGTON EXPWY
ERIE-LACKAWANNA
NEW YORK CENTRAL
MAIN
BAILEY
EAST AMHERST STREET
EAST DELAVAN AVE
EAST FERRY STREET
HERTEL AVENUE
KENMORE AVE
WINSPEAR
LISBON
LA SALLE
DARTMOUTH
HEWITT
BERKSHIRE

REFERENCE 2

COUNTY OF ERIE
DEPARTMENT OF ENVIRONMENT & PLANNING
DIVISION OF ENVIRONMENTAL CONTROL

MEMORANDUM

TO Peter Buechi DATE Dec. 20, 1983

FROM Donald Campbell

SUBJECT

Attached are copies of the following profile reports:

1) LaSalle Reservoir

2) Central Auto Wrecking

Any questions, please call me.

DONALD CAMPBELL, P.E.
Sr. Env. Quality Engineer
Division of Environmental Control

DC:rb

Attachments

LASALLE RESERVOIR

Site #195033

East Amherst Street

Buffalo, New York

Prepared by Erie County
Department of Environment and
Planning

December, 1983

LASALLE RESERVOIR

Site #915033

East Amherst Street

Buffalo, New York

The Interagency Task Force, in Volume 3 of Hazardous Waste Disposal Sites in New York State, reported that this site received illegal refuse and non-combustible material. The site is coded "A", indicating that further field inspection, preliminary hydrogeological information and additional information on chemicals present is needed.

The site is located in the City of Buffalo; bounded on the west by railroad tracks, on the east by Parkridge Avenue, the south by East Amherst Street and the north by Lasalle Street.

The Universal Transverse Mercator coorindinates are 4756^{400} mN and 677^{200} mE on the U.S.G.S. 7.5 minute Buffalo Northeast Guadrangle. (Exhibit I).

AERIAL PHOTOGRAPHY

Aerial photography was used to try to fill in gaps in the information such as period of use, types of fill material and the extent of the fill.

In 1927 the entire area as outline in Exhibit 2 was a limestone quarry. The quarry also existed on the east side of the railroad tracks, in the area that is now Bennett High School.

By 1951, filling of the inactive quarry was well under way, with the most activity occurring in the northern section. A new quarrying area existed on the southeast portion of the property (Exhibit 2).

The 1958 and 1960 photos show continued filling activity. Access roads from the south and northeast are visible. Several lifts of fill are noted. The tone of the material indicate disposal of a hetergenous material. Filling activity is most evident in the central portion of the site.

No lagoon settling ponds or inlet plumes were noted in the 1960 photo.

There was a ponded area at the toe of the active portion of the fill. This ponded area appeared to be from surface runoff and does not reflect disposal into groundwater that has seeped up into the fill area.

In 1960, the northeast and west corners of the former quarry appear to be filled to grade with the surrounding topography. The active portion of the landfilling is still well below grade.

In the 1960 photo, piles of uniform light colored material is noted. This material is most likely piles of concrete, construction and demolition debris, crushed rock and cover material.

By 1972, the entire original quarry area had been filled. The southeast and eastern areas were covered with a uniform light tone material (Exhibit 3). This may have indicated that these areas receivedthis fill material that was less than a year old.

FIELD INSPECTION

The northern portion of the site is now a housing development, the southern portion is a playground.

The southeastern portion of the site still contains the sceond quarry which is now used by the Buffalo Sewer Authority for a wet weather overflow basin. (Exhibit 4).

No observable concerns are associated with the area.

The City of Buffalo was contacted for further information, if available. Apparently, the only thing remembered about the site is that the City used it to dispose of municipal refuse, construction and demolitin debris, stoves and refrigerators and tree parts. Random dumping also occurred at the site.

ENVIRONMENTAL DATA

Soils

There are no natural soils at the site. All original soils were removed during quarrying. Soils that are now on site would be classified as miscellaneous which would include assorted fill material and soils imported from other areas. Permeability on site would be miscellaneous reflected on site soils.

Bedrock

Bedrock under the site is limestone.

Surface Water

There is no streams or wetlands within a one (1) mile radius of the site. Surface drainage would be to the City of Buffalo sewers.

Groundwater

The groundwater in this area is not used as a drinking water source.

Accordingly, to Buffalo Sewer Authority groundwater seepage from the joints in the limestone to the quarry floor is a continual process (the quarry is approximately 45 feet deep). However, the flow is not heavy and never amounts to any substantial accumulation in the quarry. The groundwater seepage is clear and does not have any odors other than a sulfide. No typical leachate material has been noted seeping from the quarry wall adjacent to the former fill area.

Land Use

Land use within a one (1) mile radius consists of commercial, industrial, railroad and residential.

Health Rule

There is no evidence that the area presents a health risk to the people in the vicinity.

Direct Contact

There is no access control. The southern portion is a park.

Fire or Explosion Risk

None.

CONCLUSIONS

Available information indicates that the area received typical material associated with a disposal area run by a municipality. Most of the material would consist of nonhazardous materials from households and commercial firms.

As disposal occurred during an era when hazardous materials were not regulated, it is probable that industrial firms used the site (on a contractual basis) and disposed of waste now considered hazardous or toxic. There may also be waste buried at the site that was left over from the quarry operation if wet separation or wet processing occurred.

Conditions as outlined above are probably the same for all fill in quarries that were once in the City of Buffalo (i.e. Bennet High School and the Fillmore/Kensington area).

At this time, there is no evidence to indicate that these areas are causing environmental degradations.

RECOMMENDATIONS

Too little is known about the site to conclude that the site is now, or ever will be, a problem.

The only way to adequately access the site would be a thorough and expensive soil and groundwater sampling project.

At this time, there is no justification to recommend such action.

It is also unjustified to require or recommend that additional information must be gained so that it can be "plugged" into the Mitre Rating Evaluation. The Mitre Rating system, itself, is an insufficient tool to rank hazards when the site has so many question marks associated with it.

Use of such sampling as an Organic Vapor Analyzer or VLF-EM Terrian conductivity survey at a site such as this would be of little use to gather and provide accurate and/or true information.

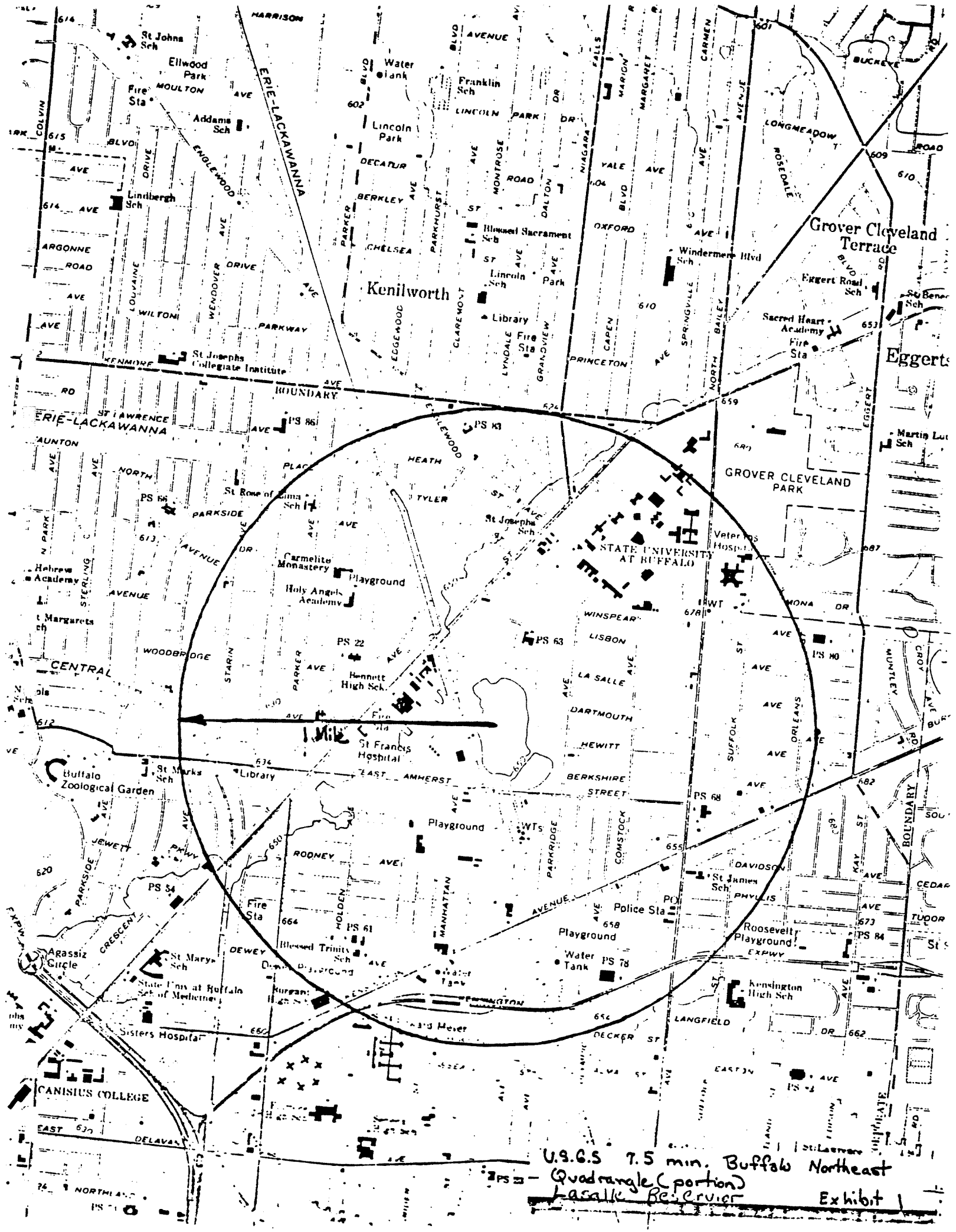
This parcel of land should have a deed statement indicating past land uses to help guide future planning in the area. (This should apply to all quarries that were later used as landfills and not included in the IATF report).

Until further information by physical examination, or from past users becomes available, a no action status should be applied.

CAMERON O'CONNOR
Prin. Env. Quality Technician

CO'C:lp

enc



U.S.G.S 7.5 min. Buffalo Northeast Quadrangle (portion)

Lasalle Reservoir Exhibit 1

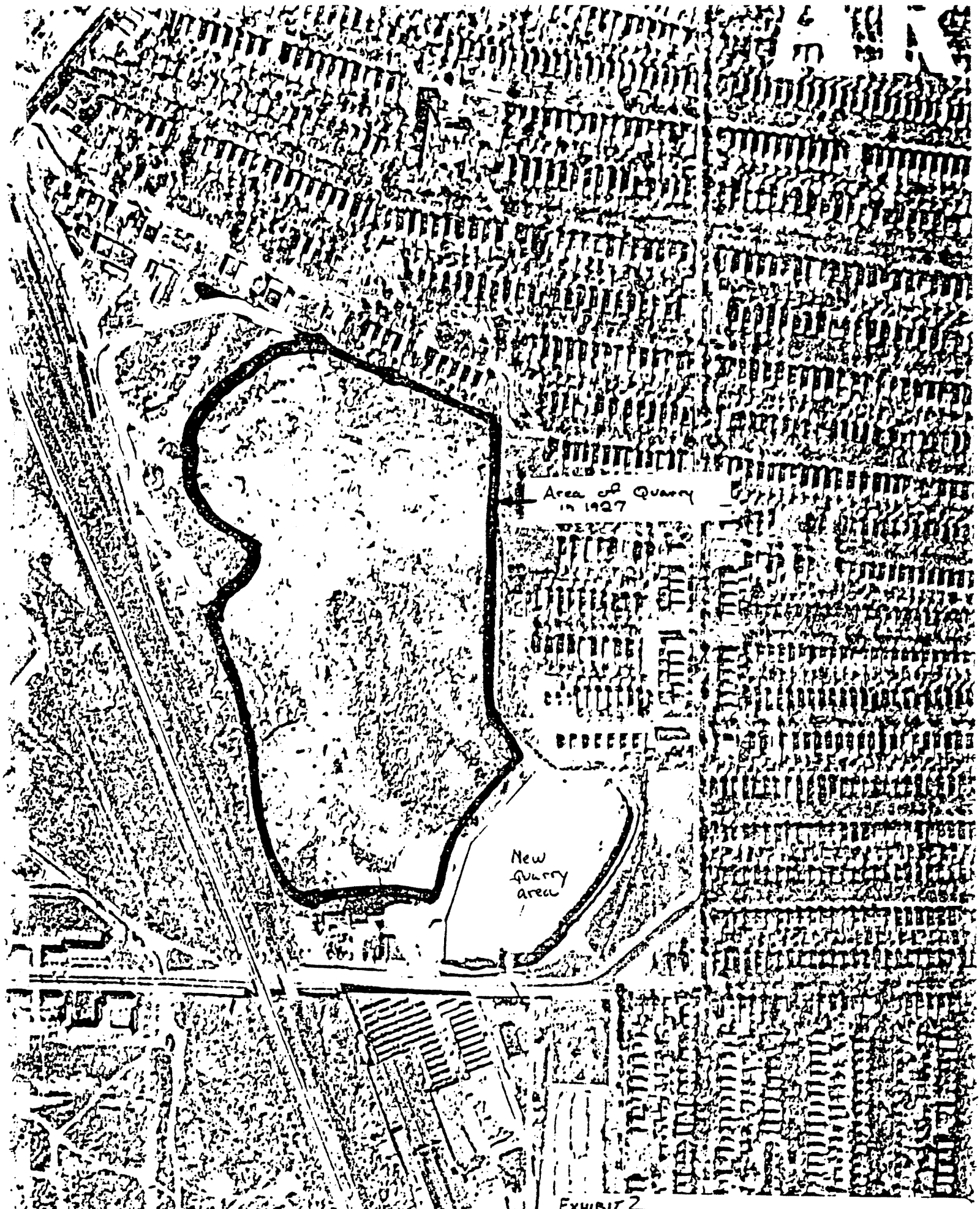
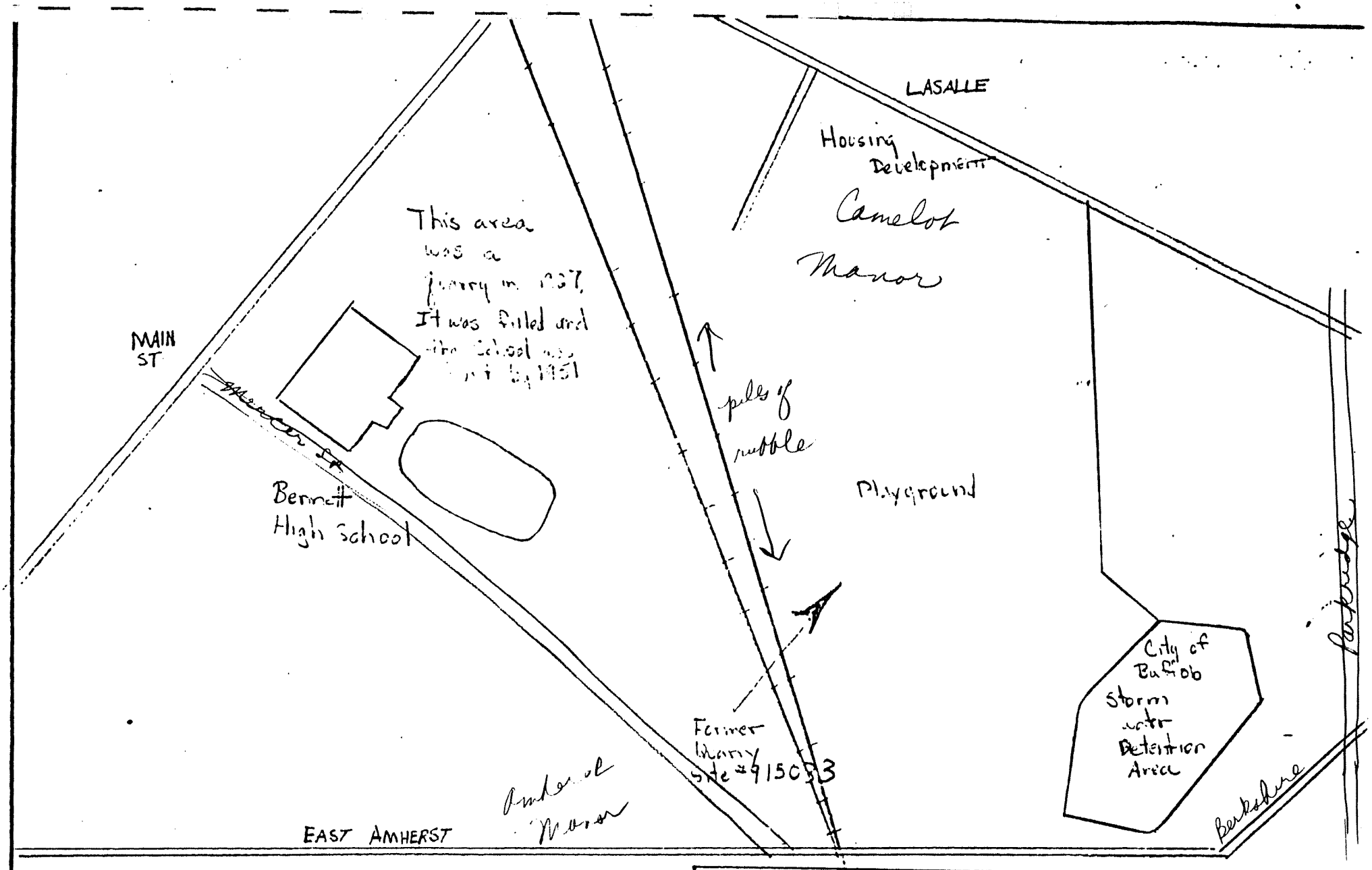


EXHIBIT 2
PORTION OF 1951 AERIAL PHOTO
LASALLE RESERVOIR # 915033
DEP 12/83

EXHIBIT 3
PORTION OF 1972 AERIAL PHOTO
LASALLE RESERVOIR Site # 915033 DEP 12/15



LASALLE RESERVOIR
Buffalo NY
Present Conditions
EXHIBIT 4

DEP 12/02

REFERENCE 3

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 Batcheller

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.

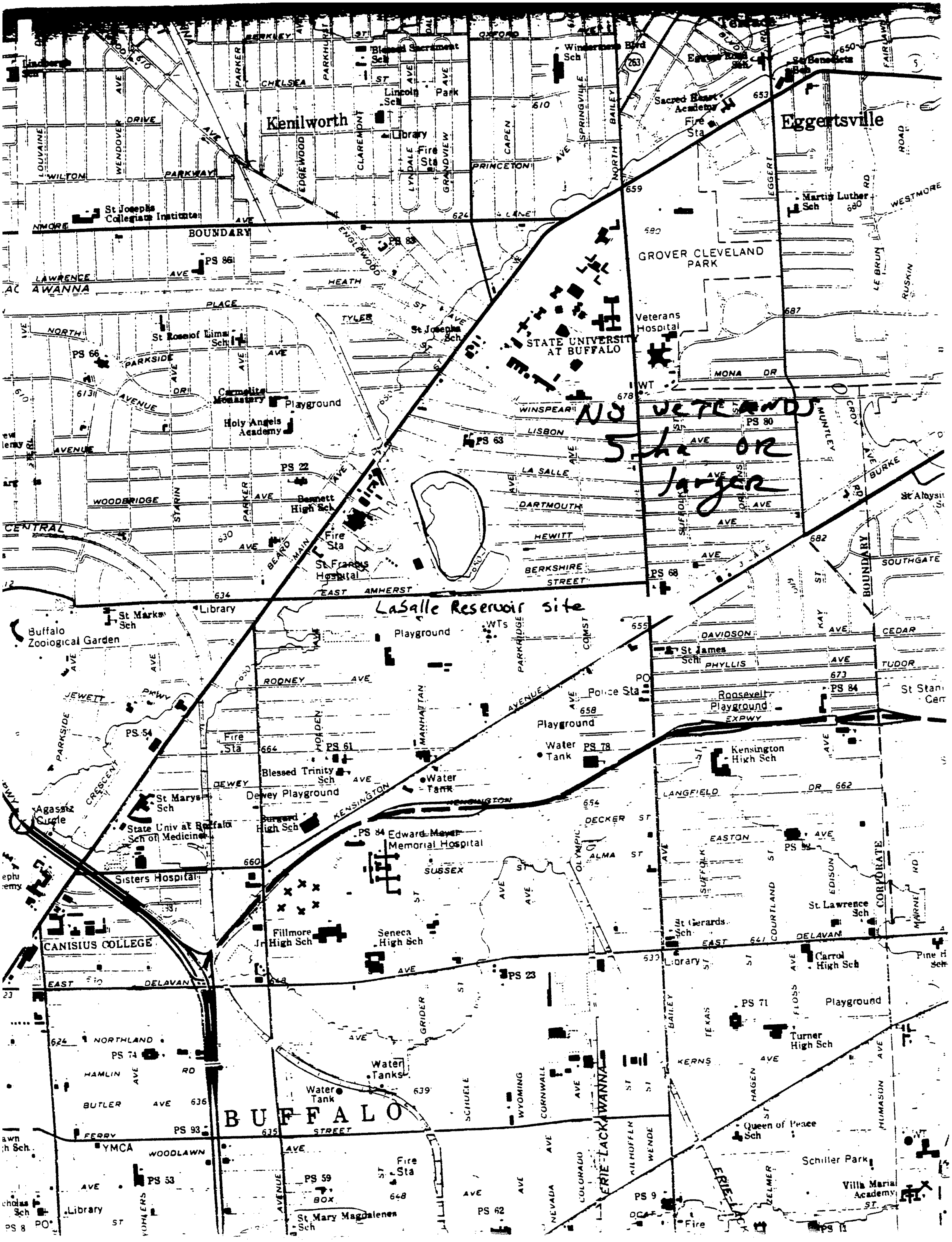
Thank you very much for your assistance and promptness in these matters. Should you have any questions or comments, please do not hesitate to call.

Sincerely,

RECRA RESEARCH, INC.

Sheldon S. Nozik
Environmental Specialist

SSN/jlo
Enclosure



Kenilworth
Eggertsville
GROVER CLEVELAND PARK
Veterans Hospital
STATE UNIVERSITY AT BUFFALO
NY WETLANDS 5 ha OR larger
LaSalle Reservoir site
Buffalo Zoological Garden
St Joseph's Collegiate Institute
Lincoln Park
Bennett High Sch
St Francis Hospital
Edward Meyer Memorial Hospital
Kensington High Sch
Sisters Hospital
State Univ at Buffalo Sch of Medicine
CANISIUS COLLEGE
Fillmore Jr High Sch
Seneca High Sch
Turner High Sch
Carrol High Sch
Schiller Park
Villa Maria Academy
Queen of Peace Sch
St Mary Magdalenes Sch
Agassiz Circle
BUFFALO
BOUNDARY
MAIN
EAST AMHERST STREET
EAST DELAVAN AVE
FERRY STREET
KENSINGTON EXPWY
BAILEY AVE
ERIE-LACKAWANNA

REFERENCE 4

James D. Griffin
Mayor

Walt

Department of Public Works
City of Buffalo, N. Y.

ROOM 502 — CITY HALL — BUFFALO, NEW YORK — 14202 — PHONE 855-5636

November 27, 1985

Commissioner

John C. Friedline, Jr.

Mr. Charles N. Goddard, P.E.
Chief-Bureau of Hazardous Site Control
Division of Solid and Hazardous Waste
State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Phase I

Re: LaSalle Reservoir - ID #915033

Dear Mr. Goddard:

Your undated letter regarding preliminary field investigation of an "Inactive Hazardous Waste Disposal Site" (LaSalle Reservoir, ID# 915033) has been referred to the Department of Public Works for response. The following is a brief history of the site.

What you have referred to as the LaSalle Reservoir is the Buffalo Sewer Authority Storm Water Detention Basin. Originally the land was owned by the Buffalo Cement Company and was used as a stone quarry. In 1947 the Buffalo Crushed Stone Company (successor in title to the Buffalo Cement Company) conveyed the site of the present detention basin to the City of Buffalo by deed filed in the Erie County Clerk's office in liber 4213 at page 194.

Subsequently, the City of Buffalo acquired an abutting 0.6 acre parcel from the Buffalo Crushed Stone Company by deed filed in liber 4833 at page 269. In 1960, the City of Buffalo acquired an adjoining 24.75 acre parcel from Houdaille Industries Inc. (successor in title to Buffalo Crushed Stone Corp.) by deed filed in liber 6613 at page 431. This conveyance was made on

Mr. Charles N. Godard, P.E. November 27, 1985

Re: LaSalle Reservoir - ID #915033

the express condition that the City of Buffalo would proceed to have the premises filled to the approximate level of the adjoining streets and that the parcel would be dedicated and used solely as a public park.

The Buffalo Sewer Authority does not own any land. Title to the parcel in question is owned by the City of Buffalo, but under the jurisdication of the Buffalo Sewer Authority. Prior to the date that the City of Buffalo acquired title to the "LaSalle Reservoir", the parcel was used as a stone quarry. Since then, the parcel has been used as a storm water detention basin.

Any further questions concerning the "LaSalle Reservoir" should be directed to the Buffalo Sewer Authority.

Very truly yours,

John C. Friedline, Jr.
Commissioner of Public Works

JCF:JCL:HEM:kh

cc: John Kutch, BSA

716 - 855 - 4664
1038 City Hall
Buffalo, NY.
14202

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-0001

Henry G. Williams
Commissioner

1985 N.Y.S. Forest Preserve Centennial

December 24, 1985

Mr. John C. Friedline, Jr.
Commissioner
Department of Public Works
City of Buffalo
Room 502
City Hall
Buffalo, New York 14202

Re: Phase I Study
LaSalle Reservoir #915033
Buffalo/Erie County

Dear Mr. Friedline:

Thank you for your letter of November 27, providing information on the above referenced site. A copy is being forwarded to our consultant, Recra Research, for their use in developing the necessary report. Future contact will be through Mr. John Kutch at the Buffalo Sewer Authority.

Sincerely,

Walter E. Demick

Walter E. Demick, P.E.
Supervisor
Western Investigation Section
Bureau of Hazardous Site Control
Division of Solid and Hazardous Waste

cc: J. Kutch - Buffalo Sewer Authority
G. Cox - Recra Research

REFERENCE 5

DAILY FIELD REPORT

PROJECT NO. Superfund Phase I **LOCATION** NYSDEC Delaware Ave

DATE 12/10/85 **REPORT NO.** _____

WEATHER CONDITIONS _____

REPORT

ACTIVITIES

Information was obtained from Becky Anderson of the Flood Control Division of the NYSDEC office on Delaware Ave.

- The following sites were found to lie within either a 100 yr. flood plain or a 500 yr. flood plain and a photocopy was made of the FIRM. map:

1. Walmore Rd. site
2. NFTA
3. Chadakoin River Park
4. Central Autowrecking
5. Procknal and Katra
6. Felmont Oil
7. W. Seneca Transfer station
8. U.S. Steel (Stimson Assoc.)

- The following sites were found not to lie within any flood plain and a photocopy was obtain of the FIRM map documenting this:

1. Exolon
2. Tonawanda city landfill
3. Lackawanna Landfill
4. Union Rd. Site
5. Mollenberg-Betz
6. Old Land Reclamation
7. Dresser
8. Stocks Pond
9. Ernst Steel
10. S. Stockton L.F.
11. Northern Demolition

DAILY FIELD REPORT

PROJECT NO. _____ LOCATION _____

DATE _____ REPORT NO. _____

WEATHER CONDITIONS _____

REPORT

ACTIVITIES

- The following sites were found not to lie within any flood plain, although no copies of these maps were obtained:

1. Anaconda (American Brass
2. Bisonite Paint
3. Alominum Matchplate
4. LaSalle Reservoir
5. Pennwalt - Lucidal
6. Empire Waste
7. Otis Elevator (Hard Manfg.)
8. Consolidated Freightway

REMARKS

Shelley A. Nagel 12/10/85

REFERENCE 6

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

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).

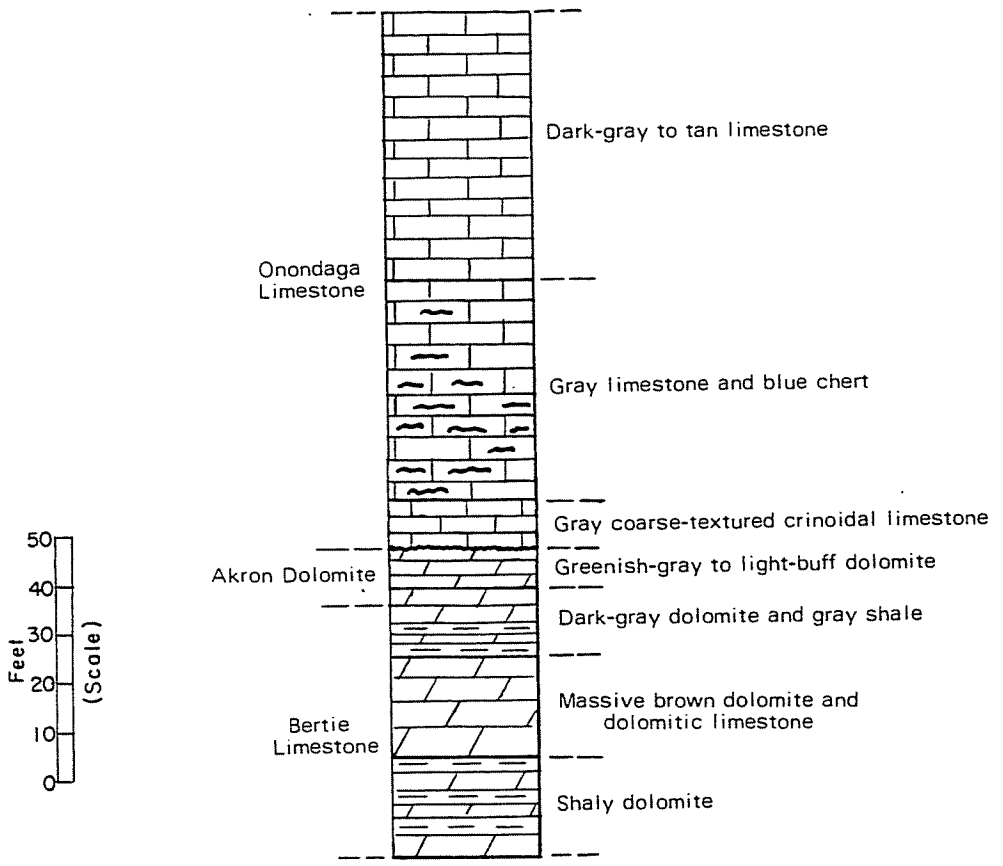


Figure 7.--Lithology of the limestone unit.

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

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

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

Water-bearing openings

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

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

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

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

The limestone unit is cut by a fault on the east side of Batavia. Faults cutting limestone are likely to cause shattering along the fault and, thus, create a permeable water-bearing zone.

Hydrologic and hydraulic characteristics

The limestone unit is similar to the Lockport Dolomite in structure. However, its hydrology is different. The limestone unit is cut transversely by Tonawanda Creek and its major tributaries. Small tributaries flow across it in northerly and westerly directions. The limestone unit receives water in the interstream areas by percolation into joints. The water is discharged laterally to the streams and at places along the north-facing scarp or enters the Camillus Shale at depth.

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

Table 3.--Specific-capacity tests of wells finished in the limestone unit

Well number	Pumping rate (gpm)	Duration of pumping (hours)	Drawdown (feet)	Specific capacity (gpm/ft)	Coefficient of transmissibility (gpd/ft)
252-852-1	85	34	7	12.1	25,000
-2	30	--	17	2	4,000
255-848-1	130	--	10	13	25,000
255-850-1	180	6	45	4	8,000
259-824-1	100	8	30	3.3	6,000
-2	100	8	12	8.3	15,000
300-824-1	104	8	28	3.7	7,000

The coefficient of storage of the limestone unit is probably between those of the Lockport Dolomite and the Camillus Shale. The storage coefficients of these three units vary mainly with the volume of the openings in the rocks which, in turn, vary with the solubility of the rocks. Limestone is more soluble than dolomite but less soluble than gypsum. Storage coefficients in the limestone unit should, therefore, be somewhat higher than those of the Lockport Dolomite but somewhat lower than those of the Camillus Shale.

Yields of wells

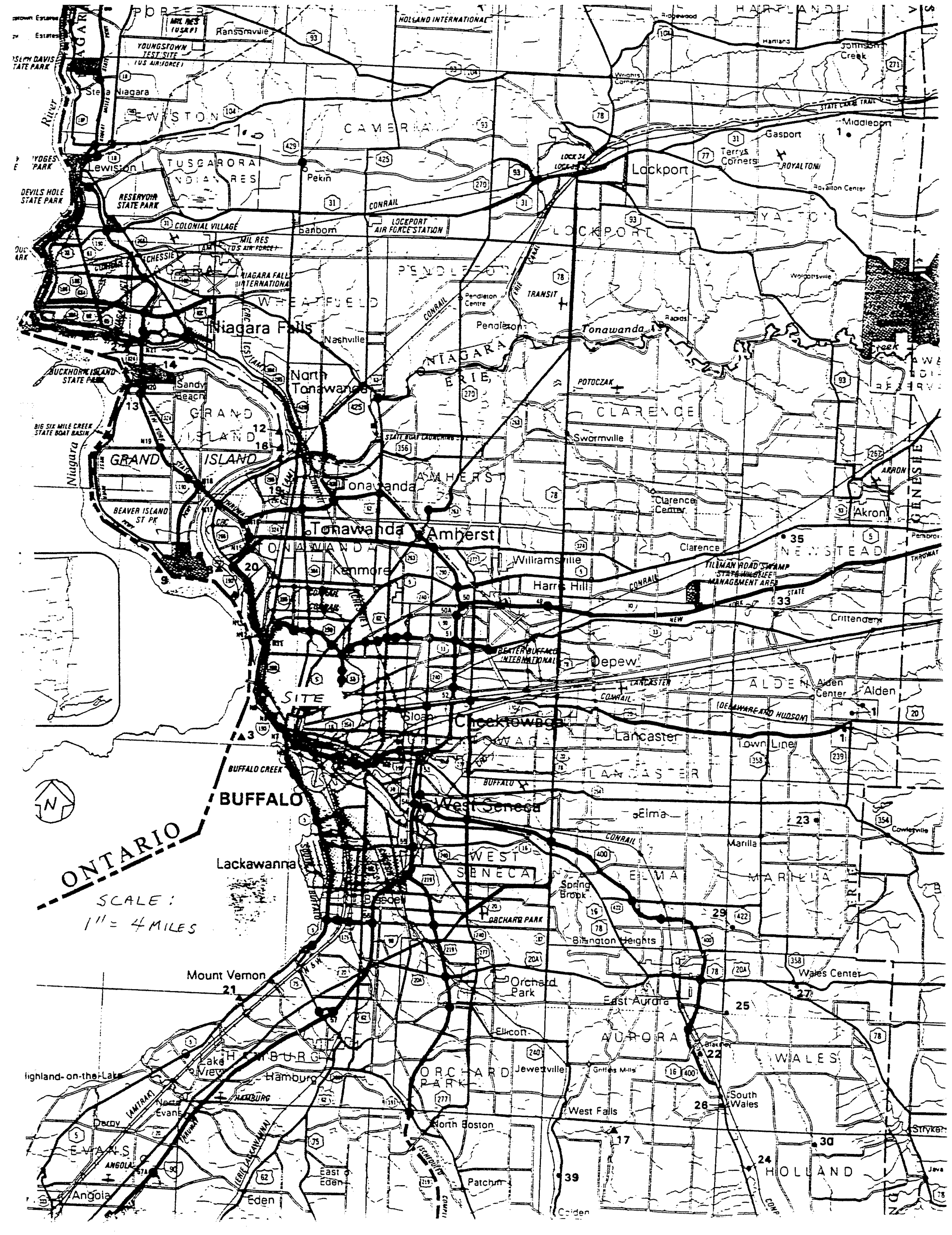
The limestone unit is more productive than the Lockport. A number of large-yield wells in Buffalo, Cheektowaga, Williamsville, Pembroke, and Batavia are finished in the limestone unit and indicate that yields of 300 gpm and possibly more can be obtained. Like the Lockport Dolomite, the yields of wells in the limestone unit range through a broad spectrum. However, the more productive wells in the limestone unit are relatively abundant when compared to those in the Lockport. Of significance also is that three wells half a mile apart drilled for an industrial firm near Pembroke, each sustained a discharge of about 100 gpm (table 6, wells 259-824-1, -2, and 300-824-1). These three wells indicate that such yields are available in some areas.

REFERENCE 7

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



Ransomville
HOLLAND INTERNATIONAL
YOUNGSTOWN TEST SITE (US AIR FORCE)
Stella Niagara
LEWISTON
CAMBRIA
Lewiston
TUSCARORA INDIAN RES
Pekin
RESERVOIR STATE PARK
DEVILS HOLE STATE PARK
CONRAIL
COLONIAL VILLAGE
Sanborn
LOCKPORT AIR FORCE STATION
Lockport
Gasport
Middleport
Terrys Corners
ROYALTON
Royalton Center
ROYALTON
LOCKPORT
PENDLETON
WHEATFIELD
NIAGARA FALLS INTERNATIONAL
Niagara Falls
Nashville
Pendleton Centre
Pendleton
TRANSIT
Tonawanda
Wolcottsville
NIAGARA
ERIE
POTOCZAK
North Tonawanda
BUCKHORN ISLAND STATE PARK
Sandy Beach
GRAND ISLAND
CLARENCE
Swormville
BIG SIX MILE CREEK STATE BOAT BASIN
Niagara
GRAND ISLAND
AMHERST
AKRON
Tonawanda
Clarence Center
Akron
BEAVER ISLAND ST PK
Tonawanda
Amherst
TONAWANDA
Clarence
NEWSTEAD
Williamsville
TILLMAN ROAD SWAMP STATE WILDLIFE MANAGEMENT AREA
Kenmore
Harris Hill
Crittenden
GREATER BUFFALO INTERNATIONAL
Depew
SITE
ALDEN
Alden Center
Alden
LANCASTER
DELAWARE AND HUDSON
Sloan
Cheektowaga
CHEEKTOWAGA
Lancaster
Town Line
BUFFALO CREEK
LANCASTER
BUFFALO
West Seneca
Elma
Cowlesville
ONTARIO
WEST SENECA
Marilla
Lackawanna
ELMA
MARILLA
Spring Brook
SCALE: 1" = 4 MILES
Blasdell
ORCHARD PARK
Billington Heights
Mount Vernon
Orchard Park
East Aurora
Wales Center
Ellicott
AURORA
WALES
HAMBURG
Lake View
Hamburg
Jewettville
ORCHARD PARK
Highland-on-the-Lake
HAMBURG
North Evans
West Falls
South Wales
Derby
North Boston
Strykersville
EVANS
HOLLAND
ANGOLA
East Eden
Patchin
Angola
Eden
Colden
GENESEE

ERIE COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Akron Village (See No 1 Wyoming Co, Page 10)	3640	
1	Alden Village	3460	Wells
2	Angola Village	8500	Lake Erie
3	Buffalo City Division of Water	357870	Lake Erie
4	Caffee Water Company	210	Wells
5	Collins Water District #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

REFERENCE 8

GEOLOGY

OF

ERIE COUNTY

New York

By

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AND

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Professor of Geology
State University College at Buffalo

BUFFALO SOCIETY OF NATURAL SCIENCES
BULLETIN

Vol. 21. No. 3 Buffalo. 1963

ARTHROPODS

Eurypterus remipes lacustris Harlan — *Pterygotus* sp.
Leperditia scalaris Jones

GRAPTOLITES

Inocaulis akronensis Ruedemann — *Medusaegraptus graminiformis* (Pohlmann)

Devonian System

LOWER DEVONIAN (ULSTERIAN) SERIES

ORISKANY SANDSTONE

The Oriskany Sandstone is not exposed as such in western New York but sand grains at the Silurian-Devonian contact have been termed Oriskany by Clarke (1900, pp. 79, 96-98).

MIDDLE DEVONIAN (ERIAN) SERIES

ONONDAGA LIMESTONE

TYPE REFERENCE: Hall (1839, pp. 293-309).

TYPE LOCALITY: Onondaga County, New York. A more exact type locality has not been designated.

TERMINOLOGY: Eaton (1828, p. 153) called the Onondaga Limestone "Cornitiferous limerock." Oliver (1954) conducted the most recent and thorough study. He recognized four members: the Edgecliff (oldest), Nedrow, Moorehouse, and Seneca (see fig. 5).

AGE AND CORRELATION: The Onondaga Limestone is generally dated as early Middle Devonian but comparison with the European standard section suggests a late Early Devonian age to some (Cooper *et al.* 1942). This formation has been traced eastward across New York State and southward into the Appalachian Mountains. To the west, the Onondaga correlates in part with the Detroit River Group of Michigan.

THICKNESS: Complete measured sections of the Onondaga Limestone in Erie County have not been published. Luther (1906, p. 13) mentions 162 feet. Bishop (1897, p. 390) gives a more probable figure of 108 feet. The Edgecliff Member, normally only a few feet in thickness, swells to about 35 feet in the bioherm at Williamsville (filled quarry at Main Street and Kensington Avenue). This produces a local dome with dips as great as 10 degrees.

LITHOLOGY: The *Edgecliff Member* is a gray, coarse-textured, crinoidal limestone with abundant corals. In the Williamsville bioherm and vicinity, there are beds of green tinted shale and some disseminated bituminous matter.

The *Nedrow Member* is a rough-weathering, cherty limestone. The chert

is generally blue-black in color and in some beds so greatly exceeds the limestone in amount that the term bedded chert is applicable. Fossils are not as common as in the other members.

The *Moorehouse Limestone Member* bears a coral-brachiopod-bryozoan fauna. The texture varies from coarse to very finely crystalline and the color from dark gray to tan. Chert, some light buff in color, and disseminated bituminous matter are present.

Oliver (1954, pp. 637-641) suggests that the *Seneca*, the uppermost member of the Onondaga, cannot be recognized in Erie County. The upper part of the Moorehouse may be of Seneca age. A thin layer which may represent the Tioga Bentonite occurs near the top of the Onondaga Limestone in western New York and is said to crop out in the Federal Crushed Stone quarry in Cheektowaga.

The north-facing cliff of the Onondaga escarpment consists chiefly of the Edgecliff and Nedrow Members.

PROMINENT OUTCROPS: East Amherst Street storm sewer; Buffalo Crushed Stone quarry at Wehrle and Harris Hill roads; Louisville Cement Company quarry on New York route 5 near Clarence; Murder Creek near Akron Falls Park (pl. 6, lower). There are numerous exposures along the Onondaga escarpment. The exposure at Greiner Road is especially prominent. The upper part of the Onondaga can be observed in the quarry of the Federal Crushed Stone Company on Como Park Road in Cheektowaga, and in the Lancaster Crushed Stone quarry at Clarence (pl. 7, upper).

CONTACTS: The Onondaga Limestone rests disconformably on the Upper Silurian Akron Dolostone. The contact with the overlying Marcellus Formation cannot be seen in Erie County.

ECONOMIC GEOLOGY: The Onondaga Limestone is an important source of crushed stone in Erie County and is quarried for that purpose by several companies. In the past, the Nedrow Member has been used for building stone.

PALEONTOLOGY: Oliver (1954, pp. 638-639; 1958, p. 822) lists the following species from the Edgecliff Member in Erie County:

COELENTERATES

Bethanyphyllum robustum
Billingsastraea cf. *verneuili* (Edwards and Haime)
Blothrophyllum decorticatum Billings
B. promissum
Breviphrentis vandelli
Caunopora sp.
Chonophyllum magnificum (Billings)
Coenites sp.
Cystiphylloides robustum
C. sulcatum
C. cf. *conifollis*
C. sp. A
Eridophyllum gigas
Favosites basalticus
F. canadensis (Billings)
F. emmonsi
F. epidermatus
F. tuberosa
F. turbinatus Billings
Heliophylloides corniculum
Heliophyllum gemmatum
H. halli (?) Edwards and Haime
H. sp. C

Camillus
Gray shale containing larg

ICES

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STRATIGRAPHIC COLUMN
BERTIE-ONONDAGA

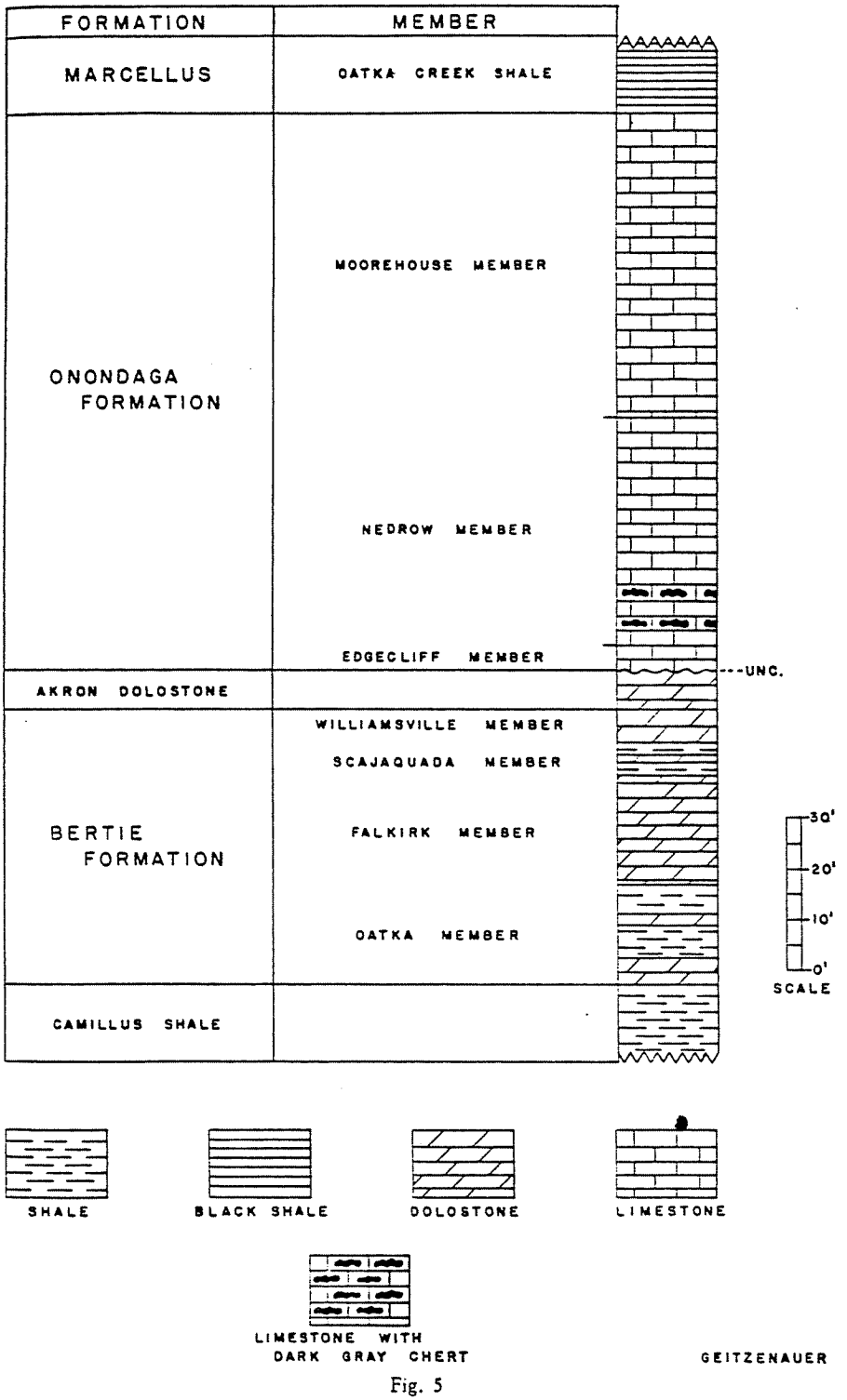


Fig. 5

REFERENCE 9

DRAFT

UNCONTROLLED HAZARDOUS WASTE SITE RANKING SYSTEM - A USERS MANUAL

DRAFT

10 June 1982

(errata included)

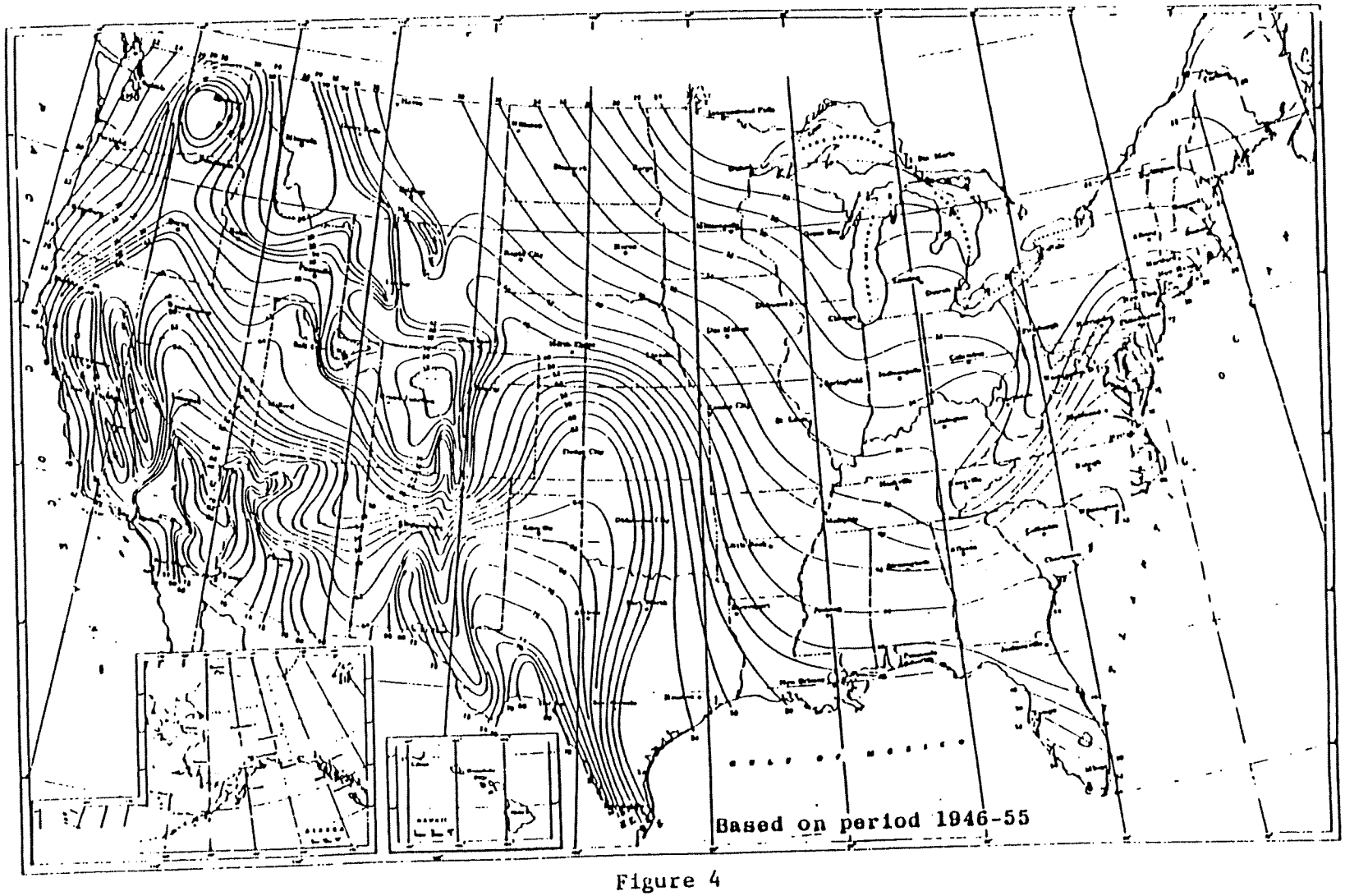


Figure 4

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.

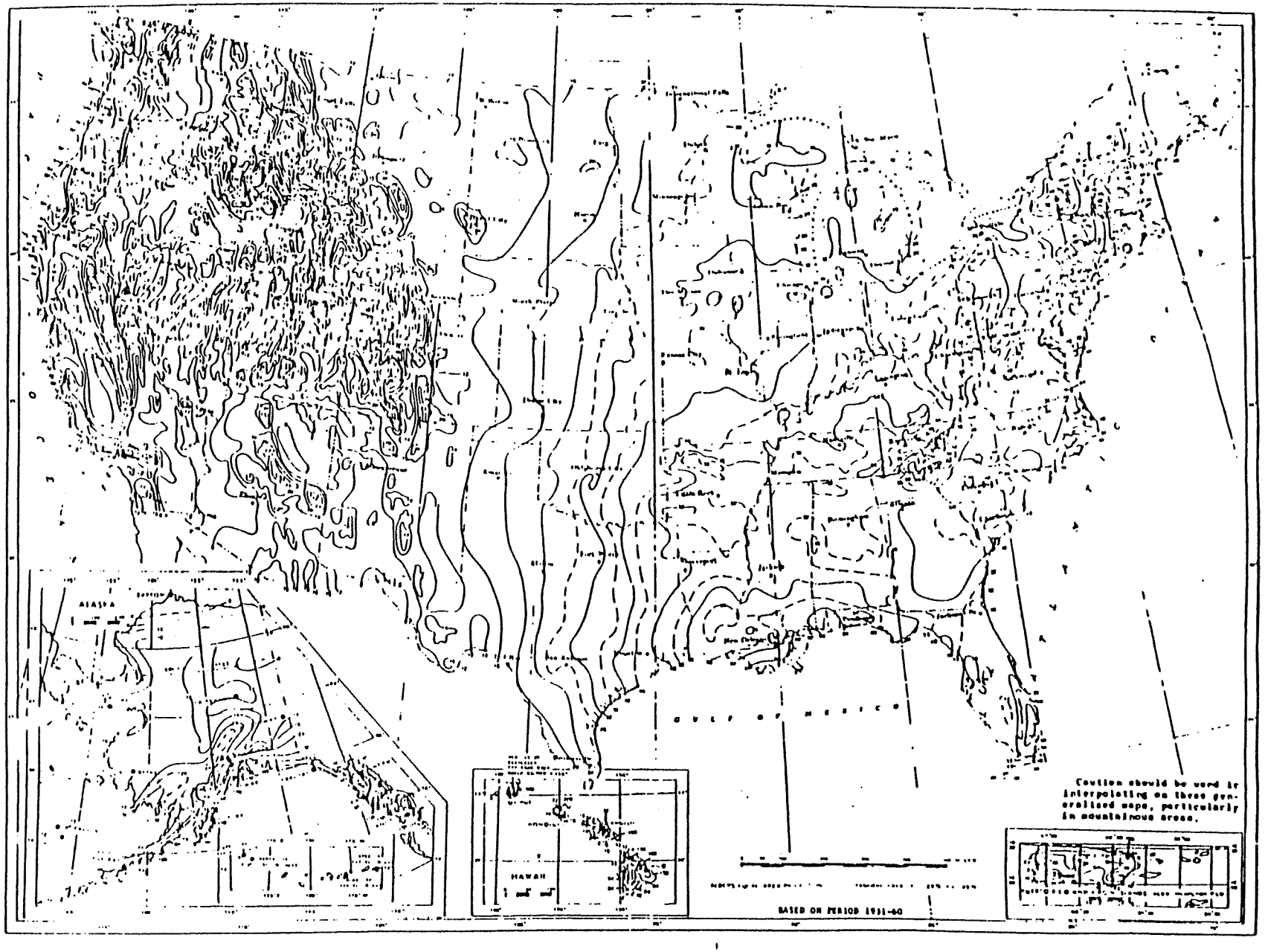


Figure 5

Normal Annual Total Precipitation (inches)

Source: Climatic Atlas of the United States, 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

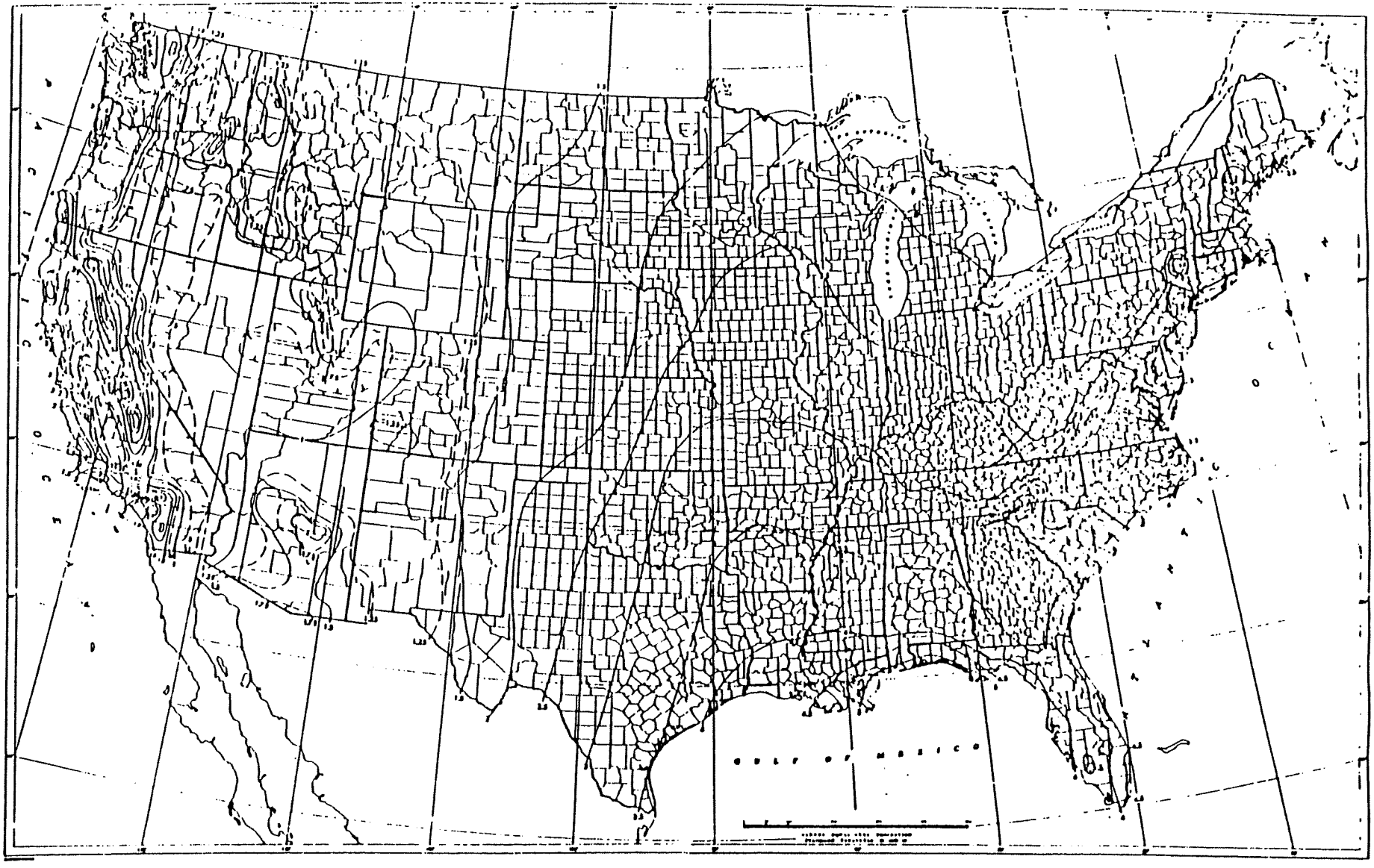


FIGURE 8

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.

REFERENCE 10

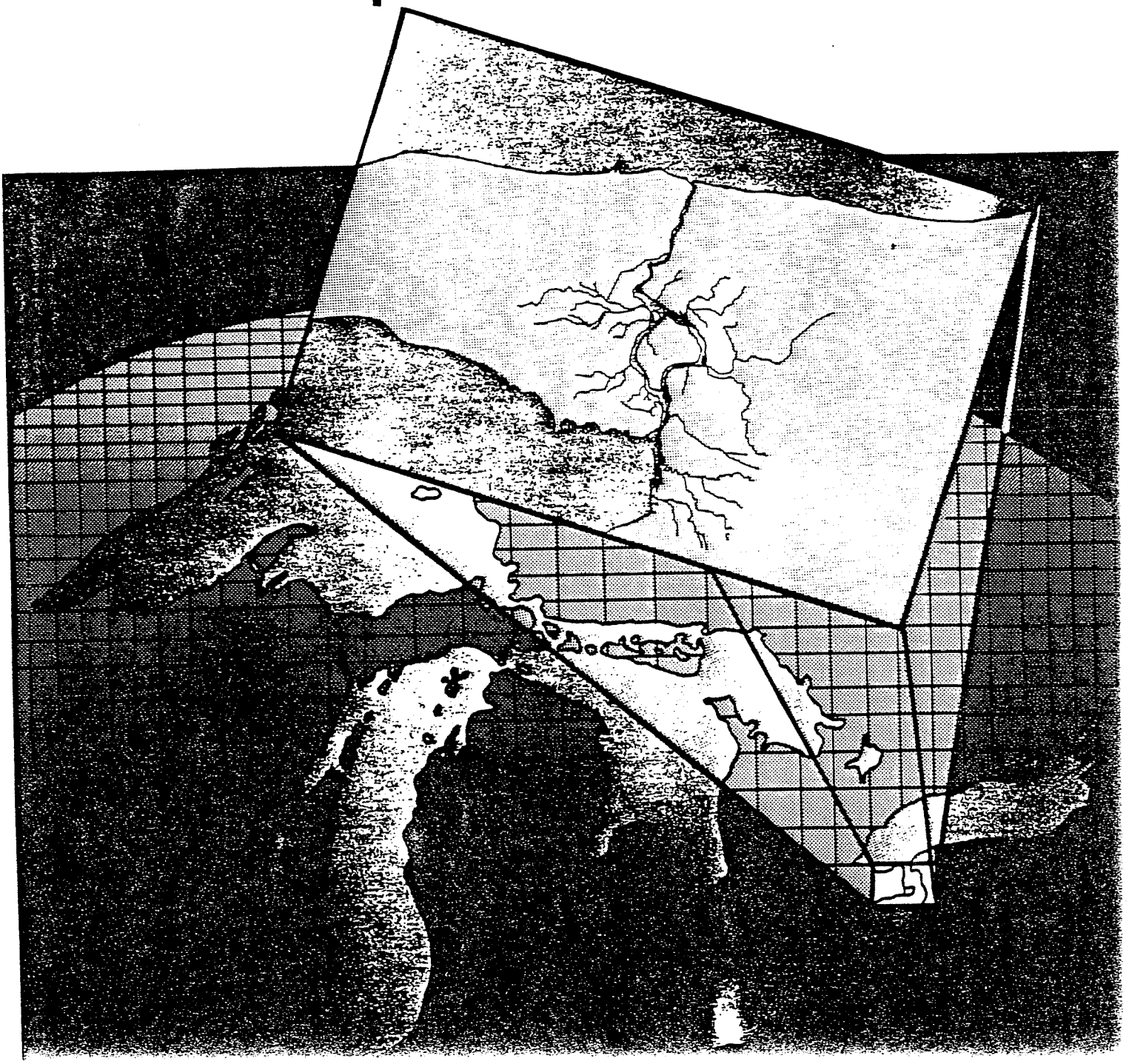
United States
Environmental Protection
Agency

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



BUFFALO AREA

Geology

The Buffalo study area (pl. 1) consists of units of sedimentary bedrock composed of shale, limestone, and dolomite overlain by unconsolidated deposits of clay, sand, and till. The bedrock units are of Silurian and Devonian age; the unconsolidated deposits are primarily of Pleistocene age. The extent of the sedimentary bedrock units is shown in figure 3; the distribution of the unconsolidated units is shown in figure 4.

The bedrock units of concern in this study are: Camillus Shale, Bertie Limestone, and Akron Dolomite (described as one unit); Onondaga Limestone; Marcellus Shale, and the Skaneateles Formation. The unconsolidated deposits of interest are of glacial origin and consist of a glaciolacustrine clay-sand deposit, end-moraine deposits, and an outwash-terrace-delta gravel deposit.

Bedrock Units.--The oldest sedimentary bedrock unit encountered in this study is the Camillus Shale of Silurian age (fig. 3), which occurs only in the northern part of the Buffalo area. This unit has been described by LaSala (1968) as a gray, red, and green thin-bedded shale containing massive mudstone; the unit also contains beds and lenses of gypsum approaching 5 ft in thickness. Subsurface information indicates a dolomitic mudrock to be interbedded within the unit also. The Camillus Shale, estimated to be about 400 ft in thickness, dips southward throughout the area at approximately 40 ft/mi. Information from gypsum miners indicates that the dip of the formation is undulatory within a range of a few feet.

Two other units of Silurian age overlie the Camillus Shale--the Bertie Limestone and the overlying Akron Dolomite. The Bertie Limestone is a gray and brown dolomite with some interbedded shale; the Akron Dolomite is a greenish-gray and buff fine-grained dolomite (LaSala, 1968). The Bertie Limestone, the thicker of the two units, ranges from 50 to 60 ft thick, whereas the Akron Dolomite is estimated to be 8 ft thick. Both formations dip southward, as does the underlying Camillus Shale.

The Onondaga Limestone of middle Devonian age overlies this limestone-dolomite unit; the two units are separated by an unconformity or an erosional contact. The Onondaga Limestone consists of three members. The lowest, which overlies the Akron Dolomite, is a gray, coarse-grained limestone generally a few feet thick. This member, according to Buehlor and Tesmer (1963), grades laterally into reef deposits, thereby increasing its thickness. The middle member consists of a gray limestone and blue chert and reaches a thickness of 40 to 45 ft. The upper member is a dark gray to tan limestone ranging in thickness from 50 to 60 ft. The overall thickness of the Onondaga Limestone is approximately 110 ft.

The Marcellus Shale overlies this limestone unit; the formation is described by LaSala (1968) as being black and fissile. The unit ranges in thickness from 30 to 55 ft and dips generally southward at 40 ft/mi. The uppermost unit within the study area is the Skaneateles Formation. It is olive-gray to dark-gray and black, fissile shale with calcareous beds. The lower 10 feet of the unit is gray limestone. Total thickness is 60 to 90 feet. This unit is found in the southernmost part of the study area.

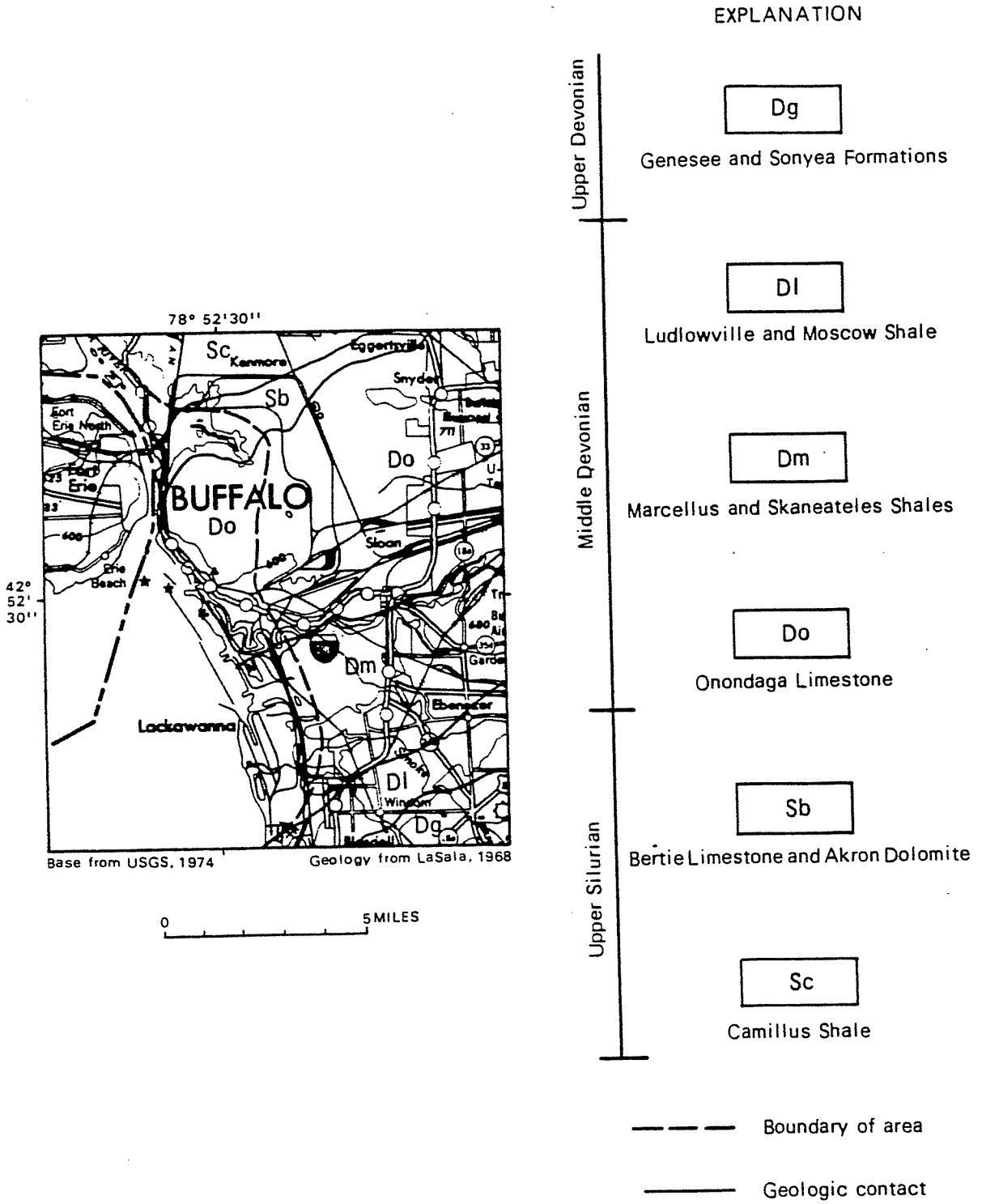


Figure 3. Bedrock geology of the Buffalo area. (Modified from La Sala, 1968.)

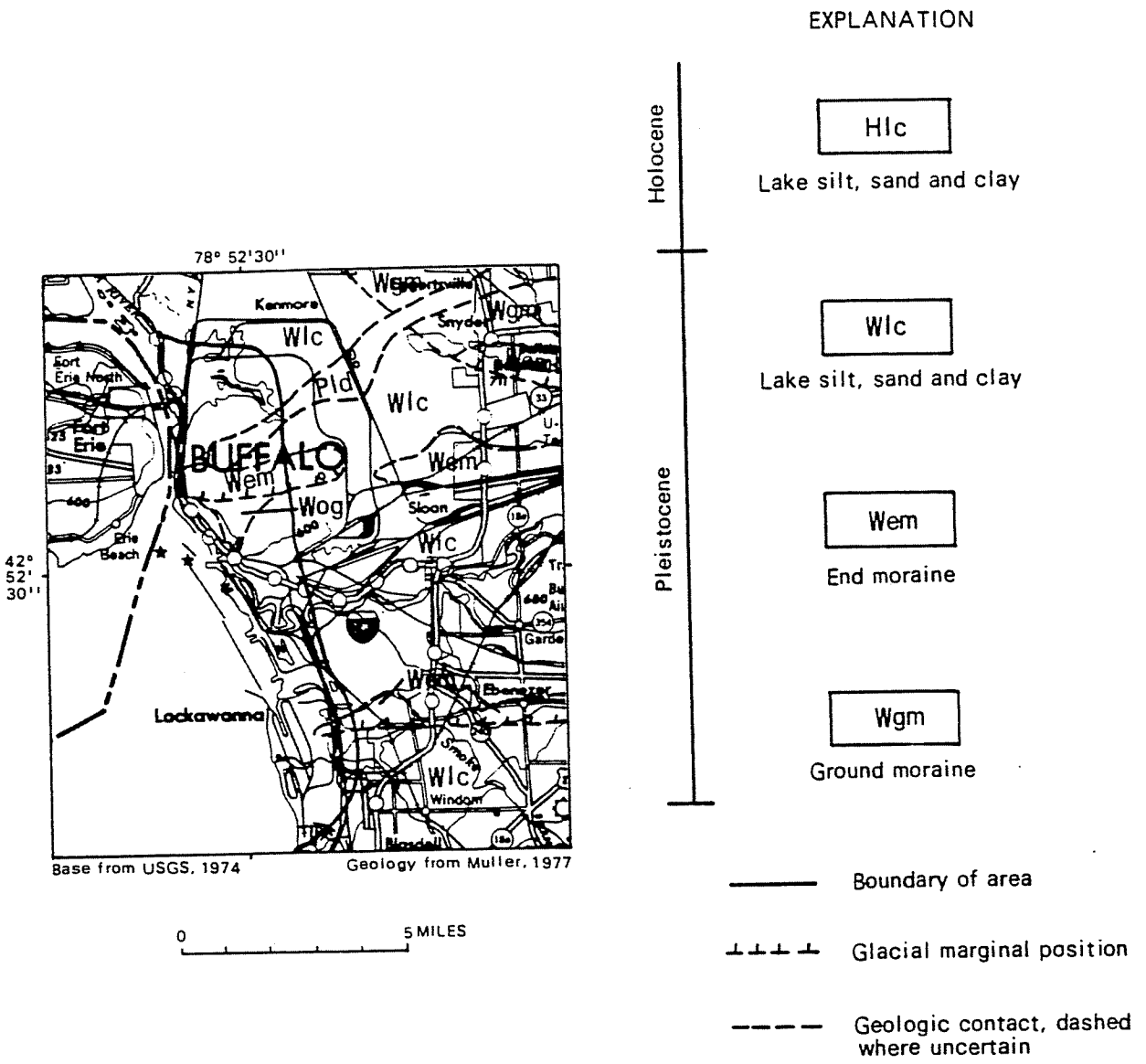


Figure 4. Surficial geology of the Buffalo area. (Modified from Muller, 1977.)

No additional data on the bedrock units within the Buffalo area were obtained. The geology of the units is summarized by La Sala (1968) in his report about ground-water resources of the Erie-Niagara basin.

Unconsolidated Deposits.--The unconsolidated units (fig. 4) consist of glacial material deposited during the latter part of the Pleistocene epoch. The main unconsolidated unit in the Buffalo area is a glaciolacustrine clay-sand deposit consisting of silt, fine to medium sand, and clay and containing laminae of alternating sand and clay.

Two other unconsolidated deposits of lesser extent are present in the area--an end-moraine deposit and a small area of outwash, terrace, and delta gravel. The end-moraine material, which consists of ablation and lodgment tills or poorly sorted gravel that contain more than 20 percent carbonate and crystalline clasts, was deposited at the edge of an ice sheet by meltwater either at the end of an advance or during a stillstand of glacial retreat. The outwash, terrace, and delta gravels, which consist of well-sorted pebbles and cobbles with sand, contain more than 30 percent carbonate and crystalline clasts. The material was deposited by meltwater streams forming coalescent aprons near the ice sheet or as stream terraces or terrace remnants.

Three test holes were drilled to bedrock in the Buffalo area to help define the subsurface geology; their locations are shown in plate 1. The geologic descriptions are as follows:

Boring no.	Depth (ft)	Description
SA-9	0 - 1.5	Topsoil
	1.5 - 6.5	Sand, brown
	6.5 - 11.5	Clay, sandy, with gravel, dark brown
	11.5 - 25.5	Clay, sand with clay, gray, wet at 11.5 ft
	25.5	Bedrock
SA-10	0 - 1.5	Topsoil
	1.5 - 6.5	Clay, sandy, red
	6.5 - 11.0	Clay, some gravel, red
	11.0	Bedrock, material was dry throughout
SA-11	0 - 16.5	Fill, black, ground water at 10 ft
	16.5 - 21.5	Clay, silty, green
	21.5 - 36.5	Clay, silty, gray-green
	36.5 - 60.0	Clay, silty, pinkish-gray
	60.0	Bedrock

The geologic information from these test holes, combined with the data from the waste-disposal sites, enables a general characterization of the area.

The unconsolidated deposits, primarily the glaciolacustrine clay, tend to decrease in thickness toward the east and north, where bedrock rises to less than 5 ft below land surface. Also, the clay unit is generally less than 2 ft below land surface except where it has been removed by landfilling and waste-disposal operations or urbanization.

Aquifer Lithology and Water-Bearing Characteristics

The ground-water system within the Buffalo area consists of a fractured bedrock aquifer and an overlying aquifer of unconsolidated deposits.

Bedrock aquifer.--The bedrock aquifer consists of all the bedrock units discussed previously. The main sources of water are the fractures and solution cavities. The specific-capacity and transmissivity values of selected bedrock aquifer units are shown below.

Bedrock unit[1]	Specific capacity[2] (gal/min)/ft		Transmissivity[2] (gal/d)/ft	
	Min	Max	Min	Max
Akron Dolomite	2	13	4,000	25,000
Camillus Shale	4	83	7,000	70,000

[1] Position of units is shown in figure 3.
[2] Data from LaSala (1968)

The specific capacity of a well is the rate of discharge of water from the well divided by the drawdown of the water level within the well. If the specific capacity is constant except for the time variation, it is roughly proportional to the transmissivity of the aquifer. Transmissivity is the rate at which water is transmitted through a unit width of the aquifer under a unit hydraulic gradient.

The data above indicate that these two properties differ considerably within and among the units. This variation reflects the amount and size of the fractures and solution cavities.

Unconsolidated aquifer.--The unconsolidated aquifer consists of a glaciolacustrine clay and sand and gravel deposits. The thicker unit is the glaciolacustrine clay. The test drilling during the summer of 1982 encountered the water table at various depths within the clay, and saturated sand stringers up to 3 inches thick were common. These stringers were not large, however, and generally thinned out within a few feet.

A seasonal water table above the clay unit was observed during wet periods but not during the summer. This water table is formed by the ponding of infiltrated precipitation above the relatively impermeable clay. As the water mounds upward, gradients toward natural or manmade topographic lows develop and eventually discharge to nearby surface-water bodies. As the season becomes drier and warmer, vegetation increases and takes up the remaining ground water through transpiration.

The hydrologic properties of the unconsolidated aquifer within the Buffalo area are also described in consultants' reports for Buffalo Color Corporation (sites 120-122), Bethlehem Steel Corporation (site 118), and the Alltift Landfill (site 162).

The general range of hydraulic conductivity was 0.0328 to 155.8 ft/d. The larger value can be attributed to slag fill material, which would have a considerably greater permeability than the glaciolacustrine clay. A permeability test was performed on a clay sample from the Alltift landfill; the permeability ranged from 1.6×10^{-4} to 1.8×10^{-4} ft/d.

The rate of ground-water movement within the unconsolidated aquifer at the Buffalo Color Corporation (sites 120-122) was calculated and ranges from 0.02 to 0.06 ft/yr.

The direction of ground-water movement in the unconsolidated aquifer is generally toward the major surface-water bodies--Lake Erie, Niagara River, and Buffalo River (fig. 4). The ground-water flow pattern is dissected in the northern part of the area, where impermeable bedrock is less than 5 ft below land surface, as indicated in figure 4. This unsaturated zone diverts the flow northward and southward.

Ground-Water Quality

The quality of ground water in the bedrock aquifer in the Buffalo area has been documented by LaSala (1968), who included maps showing the concentration ranges for sulfate, hardness, and chloride. Sulfate concentrations given in that report ranges from 100 to 500 ppm and hardness (as $CaCO_3$) from 150 to 1,000 ppm; chloride concentrations range from 100 to 1,500 ppm, and specific conductance ranges from 1,000 to 9,000 µmho/cm.

To estimate background water quality in the Buffalo area, a water sample was collected from the unconsolidated deposits in the fall of 1982 and analyzed for priority pollutants. The observation well was on Seneca Street (well SA-9, pl. 1), in the eastern part of the area just east of the Buffalo city line, and was screened above the bedrock contact. The results are given in table 14. Cadmium, lead, and zinc exceeded USEPA drinking-water criteria; minor amounts of some organic compounds were also detected. Additional sampling of the ground water in the unconsolidated aquifer would be needed to define the quality of water in this aquifer in the Buffalo area.

Three substrate samples were collected in the Buffalo area at localities not affected by waste-disposal sites to compare their concentrations of heavy metals with those in substrate samples from waste-disposal sites. Results are given in table 13.

Table 13.--Heavy-metal concentrations in samples from undisturbed soils in Buffalo, N.Y., June 1, 1983
[Locations shown in pl. 1. Concentrations in µg/kg.]

Location	Sample number	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Forest Lawn Cemetery	SB-1	5,000	8,000	7,000	20,000	100	10,000	31,000
Martin Luther King Park	SB-2	5,000	8,000	10,000	40,000	90	20,000	42,000
Holy Cross Cemetery[1]	SB-3	9,000	30,000	40,000	290,000	280	40,000	160,000

[1] This location is downwind from a major industrial area.

Table 14.--Analyses of a ground-water sample from well SA-9 in the unconsolidated deposits along Seneca Street, West Seneca, N.Y., November 13, 1982.

[Location shown in pl. 1. Concentrations are in µg/L. Dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

Inorganic constituents			
Antimony	2	Lead	490†
Arsenic	17	Mercury	--
Beryllium	--	Nickel	210
Cadmium	22†	Selenium	1
Chromium	1	Zinc	53,000†
Copper	160		
Organic compounds			
Priority pollutants			
Methylene chloride	3.2	Phenol	LT
Toluene	3.9	Naphthalene	LT
Ethylbenzene	LT	Dimethyl phthalate	LT
DDT	0.17†	Diethyl phthalate	19
		Dibutyl phthalate	LT
Nonpriority pollutants			
Chlordene	0.19	1,3-Dimethylbenzene[1]	LT
1-Methyl-3-phenoxybenzene[1]	LT	2-Butoxyethanol[1]	LT
1-(2-butoxyethoxy)ethanol[1]	490	1-(1-isobutyl-3-methyl-1-butenyl)-pyrrolidine[1]	LT
2-Ethylhexanoic acid[1]	15.7	2,3,3,4-Tetramethylpentane[1]	LT
Exo-2-chloro-1-methyl-bicyclo[2.2.1]heptane[1]	LT	Methyl-3,5-di-O-methyl-alpha-D-xylofuranoside[1]	550
Cis-1-bromo-2-chlorocyclohexane[1]	LT	N-Ethylbutanamide[1]	100
Benzenepropanoic acid[1]	67		

[1] Tentative identification based on comparison with the National Bureau of Standards (NBS) library. No external standard was available. Concentration reported is semiquantitative and is based only on an internal standard. GC/MS spectra were examined and interpreted by GC/MS analysts.

† Exceeds USEPA criterion for maximum permissible concentration in drinking water.

REFERENCE 11

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

CLASSIFICATION CODE: 2a **REGION: 9** **SITE CODE: 915033**

NAME OF SITE : LaSalle Reservoir
STREET ADDRESS: Pack Ridge and E. Amherst ST.

TOWN/CITY:	**COUNTY:**	**ZIP:**
Buffalo	Erie	14202

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 50 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: City of Buffalo
CURRENT OWNER ADDRESS.: 201 City Hall, Buffalo, NY 14202
OWNER(S) DURING USE...: City of Buffalo
OPERATOR DURING USE...:
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To Unknown

SITE DESCRIPTION:
Site is an abandoned quarry reportedly filled with incinerator ash, garbage and construction material. A playground and housing exists on other filled areas of the former reservoir. Not much detail regarding disposal is known about the site. A portion of the reservoir is used by Buffalo Sewer Authority as a wet weather overflow basin.

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected -X

TYPE	QUANTITY (units)
Illegal refuse	Unknown
Non-combustible material	Unknown

ANALYTICAL DATA AVAILABLE:

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

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: In Progress- . Completed-

REMEDIAL ACTION:

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

GEOTECHNICAL INFORMATION:
SOIL TYPE: Unclassified city land
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

From the inspection reports it appears that the site does not pose any environmental problems. However, there are no analytical results to substantiate this conclusion.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: Peter Buechi
TITLE: Assoc. Sanitary Engineer

NAME.: Ahmad Tayyebi
TITLE: Asst. Sanitary Engineer

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT OF HEALTH

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

NAME.:
TITLE:

DATE.: 01/24/85

REFERENCE 12

Item: 6. Radioactivity.

a. Gross beta.

Specifications: Shall not exceed 1,000 picocuries per liter in the absence of Sr^{90} and alpha emitters.

b. Radium 226.

Specifications: Shall not exceed three picocuries per liter.

c. Strontium 90.

Specifications: Shall not exceed 10 picocuries per liter.

Note 1: With reference to certain toxic substances affecting fish life, the establishment of any single numerical standard for waters of New York State would be too restrictive. There are many waters, which because of poor buffering capacity and composition will require special study to determine safe concentrations of toxic substances. However, most of the nontrout waters near industrial areas in this State will have an alkalinity of 80 milligrams per liter or above. Without considering increased or decreased toxicity from possible combinations, the following may be considered as safe stream concentrations for certain substances to comply with the above standard for this type of water. Waters of lower alkalinity must be specifically considered since the toxic effect of most pollutants will be greatly increased.

Ammonia or ammonium compounds — Not greater than 2.0 milligrams per liter expressed as NH_3 at pH of 8.0 or above.

Cyanide — Not greater than 0.1 milligrams per liter expressed as CN.

Ferro- or ferricyanide — Not greater than 0.4 milligrams per liter expressed as Fe(CN)6.

Copper — Not greater than 0.2 milligrams per liter expressed as Cu.

Zinc — Not greater than 0.3 milligrams per liter expressed as Zn.

Cadmium — Not greater than 0.3 milligrams per liter expressed as Cd.

CLASS A

Best usage of waters. Source of water supply for drinking, culinary or food processing purposes and any other usages.

Conditions related to best usage of waters. The waters, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to reduce naturally present impurities will meet New York State Department of Health drinking water standards and will be considered safe and satisfactory for drinking water purposes.

Quality Standards for Class A Waters

Item: 1. Coliform.

Specifications: The monthly median coliform value for 100 ml of sample shall not exceed 5,000 from a minimum of five examinations and provided that not more than 20 percent of the samples shall exceed a coliform value of 20,000 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 examinations.

Item: 2. pH.

Specifications: Shall be between 6.5 and 8.5.

Item: 3. Total dissolved solids.

Specifications: Shall be kept as low as practicable to maintain the best usage of waters, but in no case shall it exceed 500 milligrams per liter.

Item: 4. Dissolved oxygen.

Specifications: For cold waers suitable for trout spawning, the DO concentration shall not 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/1. At no time shall the DO concentration be less than 5.0 mg/1. For nontrout waters, the minimum daily average shall not be less than 5.0 mg/1. At no time shall the DO concentration be less than 4.0 mg/1.

Item: 5. Phenolic compounds.

Specifications: Shall not be greater than 0.005 milligrams per liter (phenol).

Item: 6. Radioactivity.

a. Gross beta.

Specifications: Shall not exceed 1,000 picocuries per liter in the absence of Sr^{90} and alpha emitters.

b. Radium 226.

Specifications: Shall not exceed three picocuries per liter.

c. Strontium 90.

Specifications: Shall not exceed 10 picocuries per liter.

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

CLASS B

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

Quality Standards for Class B 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 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/1 from other than natural conditions. For trout waters, the minimum daily average shall not be less than 6.0 mg/1. At no time shall the DO concentration be less than 5.0 mg/1. For nontrout waters, the minimum daily average shall not be less than 5.0 mg/1. At no time shall the DO concentration be less than 4.0 mg/1.

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

Item: 2. Dissolved oxygen.
Specifications: Shall not be less than 5.0 mg/l at any time.
Item: 3. Toxic wastes and deleterious substances.
Specifications: None in amounts that will interfere with use for primary contact recreation or that will be injurious 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 SC

Best usage of waters. The waters shall be suitable for fishing and all other uses except for primary contact recreation and for the taking of shellfish for market pruposes.

Quality Standards for Class SC 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 in practiced.
Item: 2. Dissolved oxygen.
Specifications: Shall not be less than 5.0 mg/l at any time.
Item: 3. Toxic wastes and deleterious substances.
Specifications: None in amounts that will interfere with use for secondary contract recreation or that will be injurious 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 SD

Best usage of waters. All waters not primarily for recreational purposes, shellfish culture or the development of fish life and because of natural or man-made conditions cannot meet the requirements of these uses.

Quality Standards for Class SD Waters

Item: 1. Dissolved oxygen.
Specifications: Shall not be less than 3.0 mg/l at any time.
Item: 2. Toxic wastes and deleterious substances.
Specifications: None alone or in combination with other substances or wastes in sufficient amounts to prevent survival of fish life or impair the waters for any other best usage as determined for the specific waters which are assigned to this class.

PART 702
SPECIAL CLASSIFICATIONS AND STANDARDS

Section 702.1 Class A — Special (International boundary waters).

(GREAT LAKES WATER QUALITY AGREEMENT OF 1972)

Best usage of waters. Source of water supply for drinking, culinary or food processing purposes, primary contact recreation and other usages.

Conditions related to best usage. The waters, if subjected to approved treatment, equal to coagulation, sedimentation, filtration and disinfection with additional treatment, if necessary, to reduce naturally present impurities, meet or will meet New York State Department of Health drinking water standards and are or will be considered safe and satisfactory for drinking water purposes.

Quality Standards for Class A — Special Waters

(International Boundary Waters)

Item: 1. Coliform.
Specifications: The geometric mean of not less than five samples taken over not more than a 30-day period should not exceed 1,000 per 100 ml total coliform nor 200 per 100 ml fecal coliform.
Item: 2. Dissolved oxygen.
Specifications: In the rivers and upper waters of the lakes not less than 6.0 mg/l at any time. In hypolimnetic waters, it should be not less than necessary for the support of fish life, particularly cold water species.
Item: 3. Total dissolved solids.
Specifications: Should not exceed 200 milligrams per liter.
Item: 4. pH
Specifications: Should not be outside the range of 6.7 to 8.5.
Item: 5. Iron.
Specifications: Should not exceed 0.3 milligrams per liter as Fe.
Item: 6. Phosphorus
Specifications: Concentrations should be limited to the extent necessary to prevent nuisance growths of algae, weeds and slimes that are or may become injurious to any beneficial water use.
Item: 7. Radioactivity.
Specifications: Should be kept at the lowest practicable levels and in any event should be controlled to the extent necessary to prevent harmful effects on health.
Item: 8. Taste and odor-producing substances, toxic wastes and deleterious substances.
Specifications: None in amounts that will interfere with use for primary contact recreation or that will be injurious to the growth and propagation of fish, or which in any manner shall adversely affect the flavor, color or odor thereof or impair the waters for any other best usage as determined for the specific waters which are assigned to this class.
Item: 9. 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 this class.

REFERENCE 13

STATE OF NEW YORK

OFFICIAL COMPILATION

OF

CODES, RULES AND REGULATIONS

MARIO M. CUOMO
Governor

GAIL S. SHAFFER
Secretary of State

Published by
DEPARTMENT OF STATE
162 Washington Avenue
Albany, New York 12231

1/83

TABLE I (contd.)

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
111	0-158-12-77-3 and trib. and 4 as shown on reference map	Tribs. of East Fork	Enter East Fork between Engine Creek, item no. 110, and source.	12	A	A(T)
112	0-158-12-78	Perry Brook	Enters Tonawanda Creek from south approximately 2.8 miles southwest of Johnsonburg.	12	A	A
113	0-185-12-79 and trib. and 80	Tribs. of Tonawanda Creek	Enter Tonawanda Creek between Perry Brook, item no. 112, and source.	12	A	A
114	0-158-13 and tribs. including P 22 as shown on reference map	Two Mile Creek	Enters Niagara River (East Channel) at Two Mile Creek Road in City of Tonawanda.	2,6	B	B
115	0-158-14 and tribs. as shown on reference map	Trib. of Niagara River	Enters Niagara River approximately opposite intersection of Ontario Street and Niagara Street, City of Buffalo.	6	D	D
116	0-158-15 portion as described including P 24 and P 25	Scajaquada Creek	Enters Niagara River approximately opposite intersection of Niagara Street and Tonawanda Street, City of Buffalo. Mouth to crossing of Main Street, City of Buffalo.	6	B	B

REFERENCE 14

DEC
PUBLICATION

"COMMUNITY RIGHT-TO-KNOW"

VOLUME III

PAST HAZARDOUS WASTE DISPOSAL PRACTICES

January 1952 - December 1981

Appendices I - P

APRIL 1, 1985

New York State Department of Environmental Conservation

SITE DESCRIPTION: FMC CORP,37 SAWYER AVE,TONAWANDIA NY 14150 — SITE CODE: 9-15-025

WASTE DESCRIPTION	QUANTITY	U	L	S	D	GENERATOR NAME	ID
FLOOR SWEEPINGS & OFF-SPEC PRODUCTS(PERSULFATES & PEROXIDE)	100.00	T	-	X	-	FMC CORP.	G0914986

SITE DESCRIPTION: BUFFALO CITY DUMP,LASALLE AVE,BUFFALO ** LASALLE RESERVOIR — SITE CODE: 9-15-033

WASTE DESCRIPTION	QUANTITY	U	L	S	D	GENERATOR NAME	ID
PAINT WASTE MIXED W/SAWDUST FLOOR SWEEPINGS & REFUSE			-	X	-	BUFFALO FORGE CO.	G0915085

TRANSPORTERS - RESPONDING WITH QUESTIONNAIRE	ID NUMBER
BUFFALO FORGE COMP,490 BROADWAY,BUFFALO N	T0901719

SITE DESCRIPTION: MOBIL OIL CORPORATION,635 ELK ST,BUFFALO NY 14210 (BURIED) — SITE CODE: 9-15-040

WASTE DESCRIPTION	QUANTITY	U	L	S	D	GENERATOR NAME	ID
ACID SLUDGE			-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
API SEPARATOR SLUDGE			-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
CAUSTIC SLUDGE			-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
LEAD CONTAMINATED QUART CANS	30.00	P	-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
LEAD CONTAMINATED STEEL PARTS			-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
LEADED TANK BOTTOMS	85.00	T	-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915
SLOP OIL EMULSION SOLIDS			-	X	-	MOBIL OIL CORP. (BUFFALO REFINERY	G0914915

SITE DESCRIPTION: PFOHL BROS DUMP,AERO DR(NEAR TRANSIT RD)CHEEKTOWAGA,NY 14225 — SITE CODE: 9-15-043

WASTE DESCRIPTION	QUANTITY	U	L	S	D	GENERATOR NAME	ID
CUTTING OIL,PAINT SLUDGE,THINNERS,SOLVENTS			X	X	X	WARNER LAMBERT TECH INC.	G0915289
PCB CAPACITORS			X	X	-	LANCASTER SERVICE CENTER NYSEG	GX900709
PHENOL AND POSSIBILY OTHER ORGANICS IN LESSER QUANTITIES			X	-	-	OCCIDENTAL CHEM CORP (DUREZ DIV)	G0915342
PHENOL TAR (SEE COMMENTS)	100.00	T	-	X	-	OCCIDENTAL CHEM CORP (DUREZ DIV)	G0915342
SOLVENTS,CHLOROETHANE,ACETONE,NAPTHA,METHYLENE CHLORIDE			X	X	X	WARNER LAMBERT TECH INC.	G0915289

SITE DESCRIPTION: RAMCO STEEL ,110 HOPKINS ST,BUFFALO,NY,14240 — SITE CODE: 9-15-046

WASTE DESCRIPTION	QUANTITY	U	L	S	D	GENERATOR NAME	ID

REFERENCE 15

RECRA ENVIRONMENTAL, INC

File

T. P. Connare

November 25, 1985 - 10:30 A.M.

LaSalle Reservoir - Site Visit

Tom Connare and Sheldon Nozik (Recra personnel) met with Donald Menno, Industrial Waste Administrator for the Buffalo Sewer Authority.

Mr. Menno noted that the Sewer Authority owns the site property in the name of the City of Buffalo.

Mr. Menno then provided directions to the site location.

TPC/dls

APPENDIX B

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: 2a SITE CODE: 915033

NAME OF SITE: LaSalle Reservoir REGION: 9

STREET ADDRESS: Parkridge and E. Amherst St.

TOWN/CITY: Buffalo COUNTY: Erie

NAME OF CURRENT OWNER OF SITE: City of Buffalo

ADDRESS OF CURRENT OWNER OF SITE: 201 City Hall, Buffalo, NY 14202

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

ESTIMATED SIZE: 50 ACRES

SITE DESCRIPTION:

Site is an abandoned quarry reportedly filled with incinerator ash, garbage and construction material. A playground and housing exists on other filled areas of the former reservoir. Not much detail regarding disposal is known about the site. A portion of the reservoir is used by Buffalo Sewer Authority as a wet weather overflow basin.

HAZARDOUS WASTE DISPOSED: CONFIRMED [ ] SUSPECTED [X]

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
Illegal refuse	Unknown
Non-combustible material	Unknown

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

Unknown, 19 ___ TO Unknown, 19 ___

OWNER(S) DURING PERIOD OF USE: City of Buffalo

SITE OPERATOR DURING PERIOD OF USE: City of Buffalo

ADDRESS OF SITE OPERATOR: 201 City Hall, Buffalo, NY 14202

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

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

SOIL TYPE: Unclassified city land

DEPTH TO GROUNDWATER TABLE: Unknown

LEGAL ACTION: TYPE: _____ STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐
NATURE OF ACTION: None

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

From the inspection reports it appears that the site does not pose any environmental problems. However, there are no analytical results to substantiate this conclusion.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Recra Research, Inc.
NAME Thomas P. Connare
TITLE Environmental Scientist
NAME _____
TITLE _____
DATE: January 31, 1986

NEW YORK STATE DEPARTMENT OF HEALTH
NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____