932087

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

St. Mary's And Bishop Duffy School
City Of Niagara Falls

Site No. 932087

Niagara County

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, P.E., *Director*

By:

ENGINEERING-SCIENCE

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

ST. MARY'S AND BISHOP DUFFY SCHOOL
NYS SITE NUMBER 932087
CITY OF NIAGARA FALLS
NIAGARA COUNTY
NEW YORK STATE

Prepared For

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

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DATE OF SUBMITTAL: JANUARY 1989

ST. MARY'S AND BISHOP DUFFY SCHOOL

TABLE OF CONTENTS

SECTION I

EXECUTIVE SUMMARY

ST. MARY'S AND BISHOP DUFFY SCHOOL

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC) presents the results of the Phase I investigation for the St. Mary's and Bishop Duffy School (NYS Site Number 932087, EPA Site Number D980535249) located in the City of Niagara Falls, Niagara County, New York (see Figure I-1).

SITE BACKGROUND

The St. Mary's and Bishop Duffy School site, currently called Niagara Catholic High School, is located in the City of Niagara Falls adjacent to Interstate 190 and the 66th Street School. Between 1947 and 1948, the Diocese of Buffalo purchased the site from the U.S. Government War Assets Administration. The Diocese of Buffalo currently owns the site (Kennedy & Stoeckl, 1985).

According to Hazardous Waste Disposal Sites in New York State, Vol. III, Hooker Chemical Company utilized the site for disposal of fly ash during the 1950s (NCHD, 1982). During the same period, low-level radioactive slag was used as fill material in low lying areas of the site, according to Father Clifford, previous Principal of Niagara Catholic High School. Although no hazardous wastes are known to be landfilled on-site, studies have not been conducted to determine if drums are buried on-site. The quantity of wastes buried on-site is unknown; however, the low-level radioactive wastes are suspected of being buried under the present football field and asphalt parking lot (NCHD, 1982; NUS, 1985).

Monitoring was conducted at the St. Mary's and Bishop Duffy School site by the USGS and NUS Corporation in 1982 and 1985, respectively. Soil samples collected by the USGS were analyzed for organic priority pollutants, iron and mercury. Iron was detected but not in concentrations significantly above background levels (USGS/EPA, 1985).

Soil samples collected by NUS Corporation were taken at six locations at the school site and analyzed for organics, TCDD, inorganic constituents, pesticides and PCBs. The sample locations are shown on Figure I-2. Contaminants detected above soil detection limits include methylene chloride and PAHs. TCDD (0.098 ppb) was detected northwest of the football field at sample location NYA4-S2A (NUS, 1985). The metal concentrations were not found in concentrations exceeding levels typically found in natural soils (USGS/EPA, 1985).

As part of NUS's soil sampling activities, the soil samples collected from the six sample locations were screened for radioactivity. No radioactivity was detected as a result of this screening process (NUS, 1985). However, slag found beneath the parking lot had radioactive levels exceeding background levels. These radioactive levels were considered safe by local health officials as the slag was covered by the parking lot; therefore, no corrective action was taken (NCHD, 1982 and NUS, 1985).

HNu meter readings were taken during a site inspection by Engineering-Science (ES) and Dames & Moore (D&M) in April 1986. No volatile organics were detected upwind or downwind of the site which exceeded background levels. To date, no groundwater or surface water monitoring has been conducted at the site (NYSDEC Registry Sheet, 1/24/85).

ASSESSMENT

In an attempt to quantify the risk associated with this site, we applied the Hazard Ranking Scoring system (HRS) currently being used by the New York State DEC to evaluate abandoned hazardous waste sites in

New York state. This system takes into account the types of wastes at the site, receptors and transport routes to apply a numerical ranking of the site. As stated in 40CFR Subpart H Section 300.81, the HRS scoring system was developed to be used in evaluating the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems or ecological or environmental damage. It is assumed by the EPA that a uniform application of the ranking system in each state will permit EPA to identify those releases of hazardous substances that pose the greatest hazard to humans or the environment.

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

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

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

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

- The preliminary HRS score is:

S_M = 16.88	S_A = 0
S_{GW} = 3.58	S_{FE} = 0
S_{SW} = 29.05	S_{DC} = 0

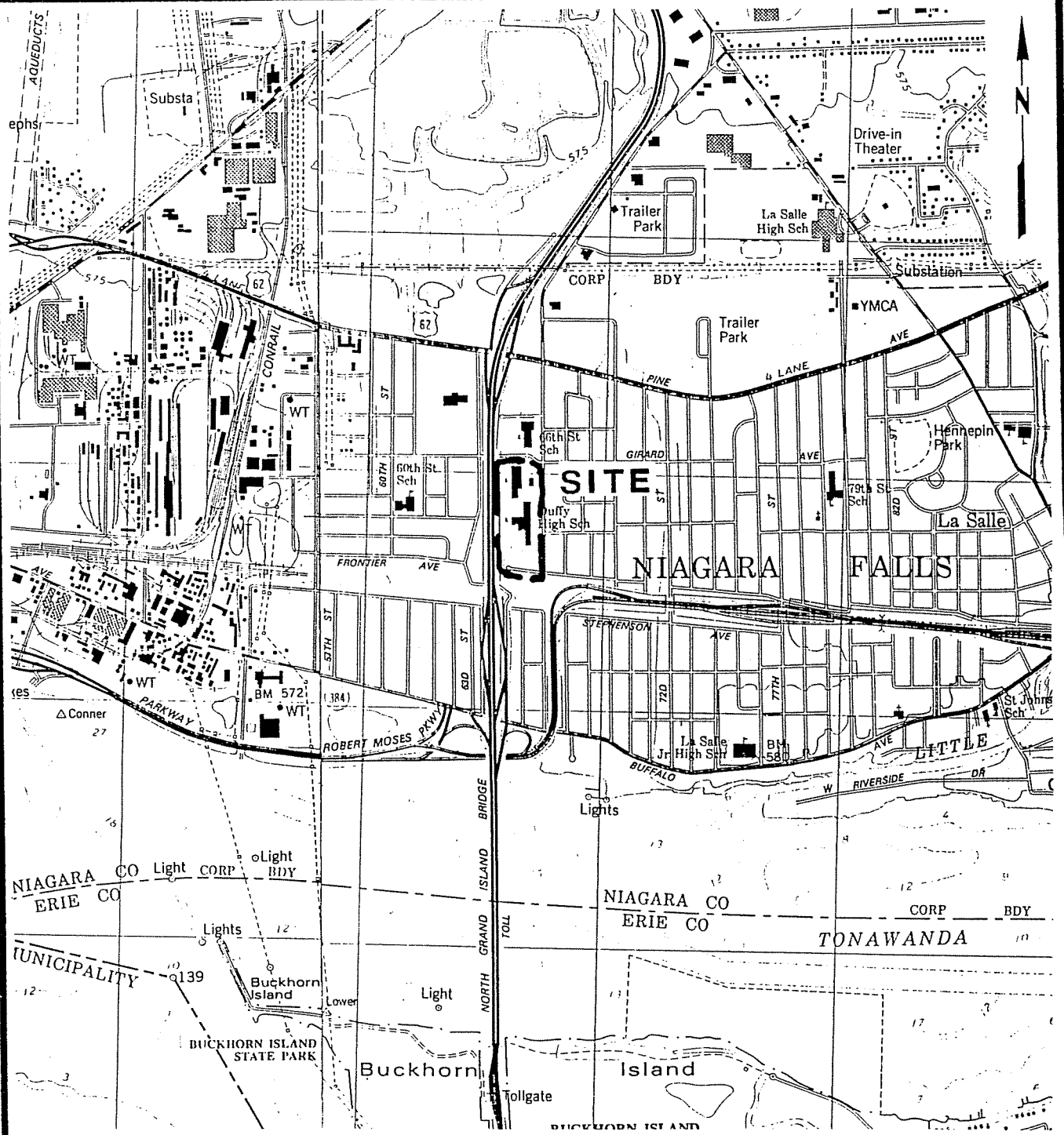
These scores reflect the toxicity of the radioactive slag and fly ash that was used as fill material on site, and the fact that the surface water in the vicinity is used as a water supply.

RECOMMENDATIONS

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

- o Geophysical Survey Study consisting of electrical resistivity and magnetometer surveys
- o Groundwater monitoring system consisting of one upgradient and two downgradient wells based on results of geophysical surveys.
- o Analyses to include Hazard Substance List (HSL) organics and HSL metals.

The estimated man-hour requirements to complete Phase II are 1,205, while the estimated cost is $85,838.



LATITUDE: 43°05'00" N
LONGITUDE: 78°59'21" W

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT (1980) and
Tonawanda West, NY (1980) Quadrangles.

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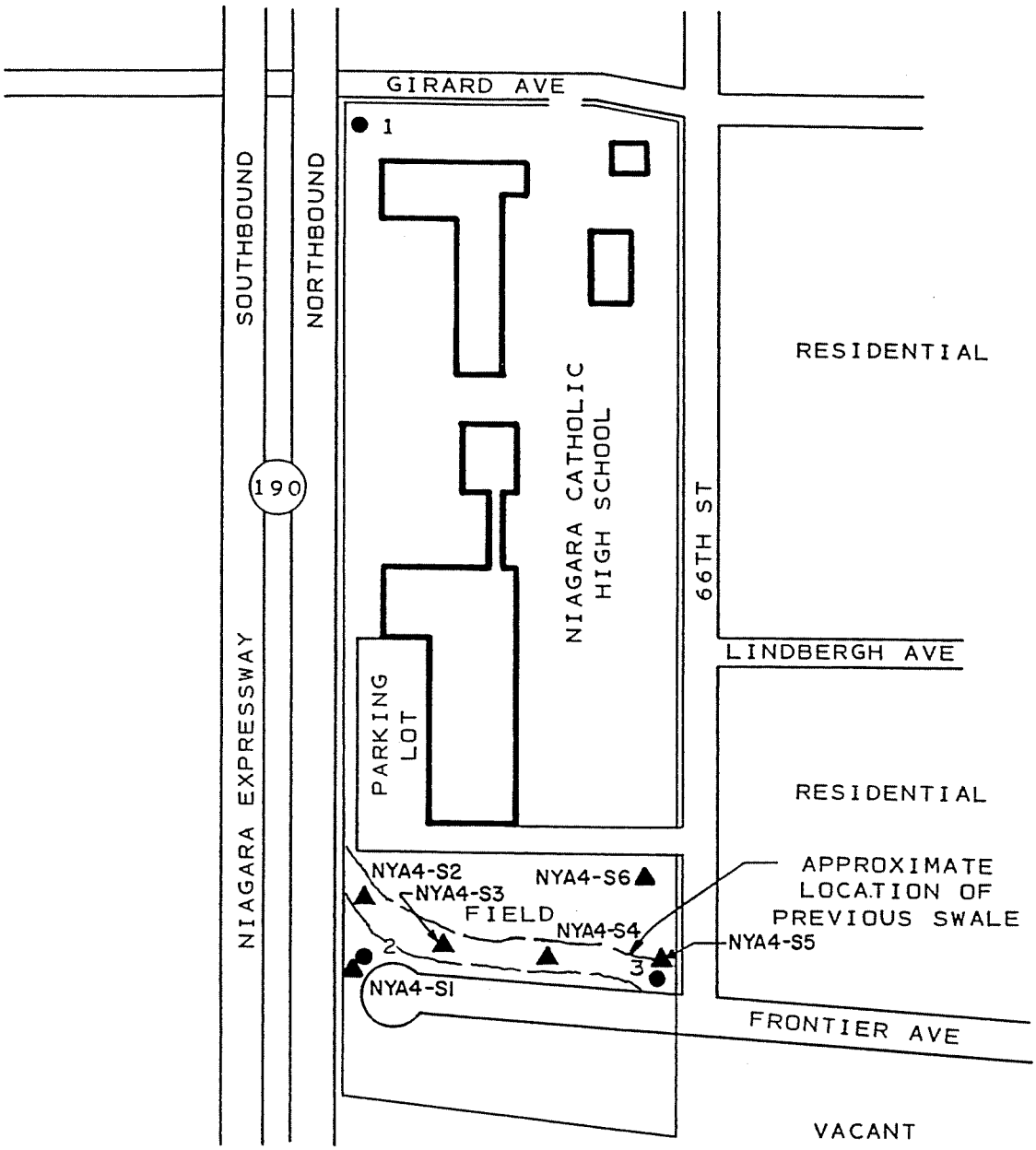
SITE LOCATION MAP
ST. MARY'S AND BISHOP DUFFY SCHOOL

FIGURE I-1



NOT TO SCALE

EXPLANATION:

- ● EXISTING TEST BORING AND SUBSTRATE SAMPLE, USGS 1982
- ▲ SOIL SAMPLE, NUS, 1985

REFERENCE: Base map from USGS field sketch, 1982.

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SAMPLING LOCATIONS
ST. MARY'S AND BISHOP DUFFY SCHOOL

FIGURE I-2

SECTION II
PURPOSE

The purpose of the Phase I investigation at the St. Mary's and Bishop Duffy School site was to assess the hazard to the environment caused by the present condition of the site. This assessment is based on the Hazard Ranking System, which involves the compilation and rating of numerous geological, toxicological, environmental, chemical, and demographic factors and the calculation of an HRS score. Details of HRS implementation are included in Section V. During the initial portion of the investigation, available data and records, combined with information collected from a site inspection, were reviewed and evaluated. The investigation at this site focused on the disposal of unknown quantities of fly ash and radioactive wastes. Based on this initial evaluation of the St Mary's and Bishop Duffy School site, a Phase II Work Plan has been prepared for collecting any additional data needed to complete the HRS score. In addition, a cost estimate for the recommended Phase II work is provided.

SECTION III
SCOPE OF WORK

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

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

SECTION IV

SECTION IV
SITE ASSESSMENT

SITE HISTORY

The Niagara Catholic High School (previously St. Mary's and Bishop Duffy School) site is owned by the Diocese of Buffalo. The Diocese of Buffalo purchased the site from the U.S. Government War Assets Administration in 1947. In 1948, the remaining school property was acquired from the U.S. Government War Assets Administration (Kennedy & Stoeckl letter, 1985). The site consists of a football field and parking lot adjacent to the Niagara Catholic High School.

During the 1950s, unknown local companies and the Hooker Chemical Corporation reportedly disposed of unknown quantities of fly ash at the school site (Hazardous Waste Disposal Sites in New York State, Vol. III, 1985). Low-level radioactive slag were also allegedly used as fill material for low lying portions of the site in the 1950s, prior to the construction of the school (NCHD Site Profile Report, 1982). The company which disposed of the radioactive slag at the site is unknown. The slag wastes are suspected to be buried under the school's existing asphalt parking lot and football field. Review of aerial photographs indicate that a swale which bisected the football field was filled sometime in the late 1950s (NCHD Site Profile Report, 1982; NUS, 1985). It is not known what, if any, hazardous wastes have been disposed on-site (NYSDEC Registry Sheet, 1985).

SITE TOPOGRAPHY

The St. Mary's and Bishop Duffy School site is occupied by the Niagara Catholic High School, located on 66th Street between Girard and

Frontier Avenues, east of Interstate I-190, in the City of Niagara Falls, Niagara County, New York. Although the exact location where fly ash was used as fill on-site is not known, it is believed to include the football field on the southern end of the property. Radioactive slag is suspected to be disposed of beneath the parking lot (NCHD, 1982 and NUS, 1985).

The site is located in a primarily residential area; the nearest residence is approximately 100 feet to the east of the site. Commercial areas are located along Niagara Falls Boulevard, 100 feet north of the site. The site is bordered by Interstate I-190 on the west and an open field to the south. There are no agricultural areas within 2 miles of the site (USGS Topographic Map; NCHD, 1982; and ES and D&M Site Visit, 1985).

The site is currently occupied by school buildings, lawns and sporting fields, and paved parking lots and service roads. No exposed wastes or signs of illegal dumping exist at the site. Since the site is occupied by the school, access is unrestricted.

Areas of surface water ponding occur on the grassy areas of the site; surface water flow is to the east and south into storm drains on 66th Street and Frontier Avenue. The outfall from these storm drains is located at the foot of 60th Street where it discharges to the Niagara River.

Municipal water supply is available in this area. There are no known drinking wells within 3 miles of the site. The nearest industrial wells are located over two miles southwest of the site (NCHD, 1982). The water withdrawn from these wells is used as non-contact cooling water (M. Hopkins Interview, 5/86).

Local Sensitive Environment

A NYS registered wetland, TW-3, is located approximately 0.6 miles northeast of the site. There are no critical habitats with endangered species within 1 miles of the site (Ozard, 1986).

SITE HYDROLOGY

Regional Geology and Hydrology

The site is located in the Erie-Ontario lowlands physiographic province. The bedrock of this region is predominantly limestone, dolostone, and shale. Most of the rocks are deep aquifers with regional flow to the south (NYS Museum and Science Service Bedrock Geology Map).

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

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margin. This region is covered by lake sediments, the most recent being from Lake Iroquois (a larger predecesor to Lake Ontario) and from Lake Tonawanda (an elongated lake which occupied an east-west valley and drained north into Lake Iroquois). The sediments consist of blanket sands and beach ridges which are occassionally underlain by lacustrine silts and clays (indicating quiet, deeper water deposition).

Granular deposits in this region frequently act as shallow aquifers whereas lacustrine clays, as well as till, often inhibit groundwater movement. However, fine-grained, water-lain sediments, such as silts and clays, frequently contain horizontal laminations and sand seams. These internal features facilitate lateral groundwater movement through otherwise low permeability materials (Johnston, 1964).

Site Hydrogeology

Bedrock beneath the site is reported to be Lockport Dolomite (Johnston, 1964). Depth to bedrock is unknown but expected to occur between 20-120 feet (NYSDOH, C. Hudson, 1985). The aquifer of concern is reported to occur within the dolomite, although seasonally perched water-bearing zones may occur in the sand units at depths less than 6 feet (EPA, 1985). The direction of groundwater flow is unknown but believed to be to the south towards the Niagara River.

Detailed soil surveys for this site are unavailable. Shallow borings indicate topsoil and fill, approximately 3 feet thick, overlying a red clay unit with sand lenses to a depth of 6.5 feet. The thickness of the clay unit is unknown; the remaining stratigraphs are also unknown. The soil's profile could be variable throughout the site as a result of past landfilling and construction. For HRS scoring, the permeability of the unsaturated zone is assumed to range from 10^{-3} to 10^{-5} cm/sec (EPA, 1985).

SITE CONTAMINATION

According to a 1979 Interagency Task Force Report, fly ash from the Hooker Chemical Company was buried at the site during the 1950s. Low-level radioactive slag was also reportedly buried onsite, but the source of the waste is unknown (NCHD, 1982). These wastes were allegedly buried on the site where the football field and parking lot are presently located. Review of aerial photographs by the Niagara County Health Department indicate that a swale which bisected the football field was the area that was filled (NCHYD, 1986 and NUS, 1985). The exact location of waste disposal is unconfirmed and it is not known if any hazardous wastes have been disposed of on-site.

In 1982, the USGS collected three soil samples from the St. Mary's and Bisoph Duffy School site as part of the Niagara River Toxic's Study. Two soil samples were collected in the vicinity of the football field

while the third sample was obtained from the northwest corner of the school property. The soil samples were analyzed for several organic compounds, iron and mercury. Analyses for the organic constitutents were either non-detectable or below the quantifiable detection limit. Iron was detected at all three sample locations, however, background levels of iron at concentrations greater than 15,000 ppm. Mercury was not identified in any of the samples analyzed (EPA/USGS, 1985). A copy of the results from the USGS Study are provided in the appendix.

In June 1985, NUS Corporation collected soil samples at six locations in the vicinity of the football field. The sampling locations are presented on Figure IV-1. These samples were analyzed for polyaromatic hydrocarbons (PAHs), inorganics, TCDD, and PCB/pesticides. Analytical results of the soil samples collected at location NYA4-S6 at the northeast corner of the footbal field contained PAHs such as pyrene (1500 ppb), benzo (a) anthracene (740 ppb), and fluoranthene (1100 ppb) as well as other PAHs that exceeded the detection limits of 330 ppb. One sample collected from the southwestern corner of the football field (sample no. NYA4-S1) contained methylene chloride (11 ppb) and 1,1,1 trichloroethane (6.4 ppb). These levels slightly exceed the detection limits of 5 ppb. No other sample locations had organic levels which exceeded the detection limits. Additionally, all six samples were screened for radioactivity. All results of radioactive metering were negative. Metal concentrations did not exceed the soil background levels established by the Niagara River Toxics Committee. TCDD was found in concentrations of 0.098 ppb in sample no. NYA4-S2A, however no other samples indicated the presence of TCDD. A summary of organics and metals that were detected by NUS Corporation is provided in Table IV-1 and Table IV-2. A copy of the analytical results are provided in the appendix.

In April 1986, Engineering-Science (ES) and Dames & Moore (D&M) conducted an inspection of the site and the HNu meter readings were taken upwind and downwind of the site. No volatile organics were detected above background levels. To date, no groundwater or surface water monitoring has been conducted at the site (NYSDEC Registry Sheet, 1985).

TABLE IV-1

SUMMARY OF SOIL MONITORING FOR ORGANIC COMPOUNDS

Constituent	Concentration	Sampling Location Number	Detection Limits, ppb
Methylene Chloride	11 ug/l	NYA4-S1	5
1,1,1-Trichloroethane	6.4 ug/l	NYA4-S1	5
Phenanthrene	760 ug/l	NYA4-S6	330
Fluoranthene	1,100 ug/l	NYA4-S6	330
Pyrene	1,500 ug/l	NYA4-S6	330
Benzo(a)Anthracene	740 ug/l	NYA4-S6	330
Chrysene	730 ug/l	NYA4-S6	330
Benzo(b)Flouranthene	740 ug/l	NYA4-S6	330
Benzo(k)Flouranthene	560 ug/l	NYA4-S6	330
Benzo(a) Pyrene	650 ug/l	NYA4-S6	330
Indeno (1,2,3-cd)Pyrene	510 ug/l	NYA4-S6	330
Benzo(ghi)Perylene	580 ug/l	NYA4-S6	330

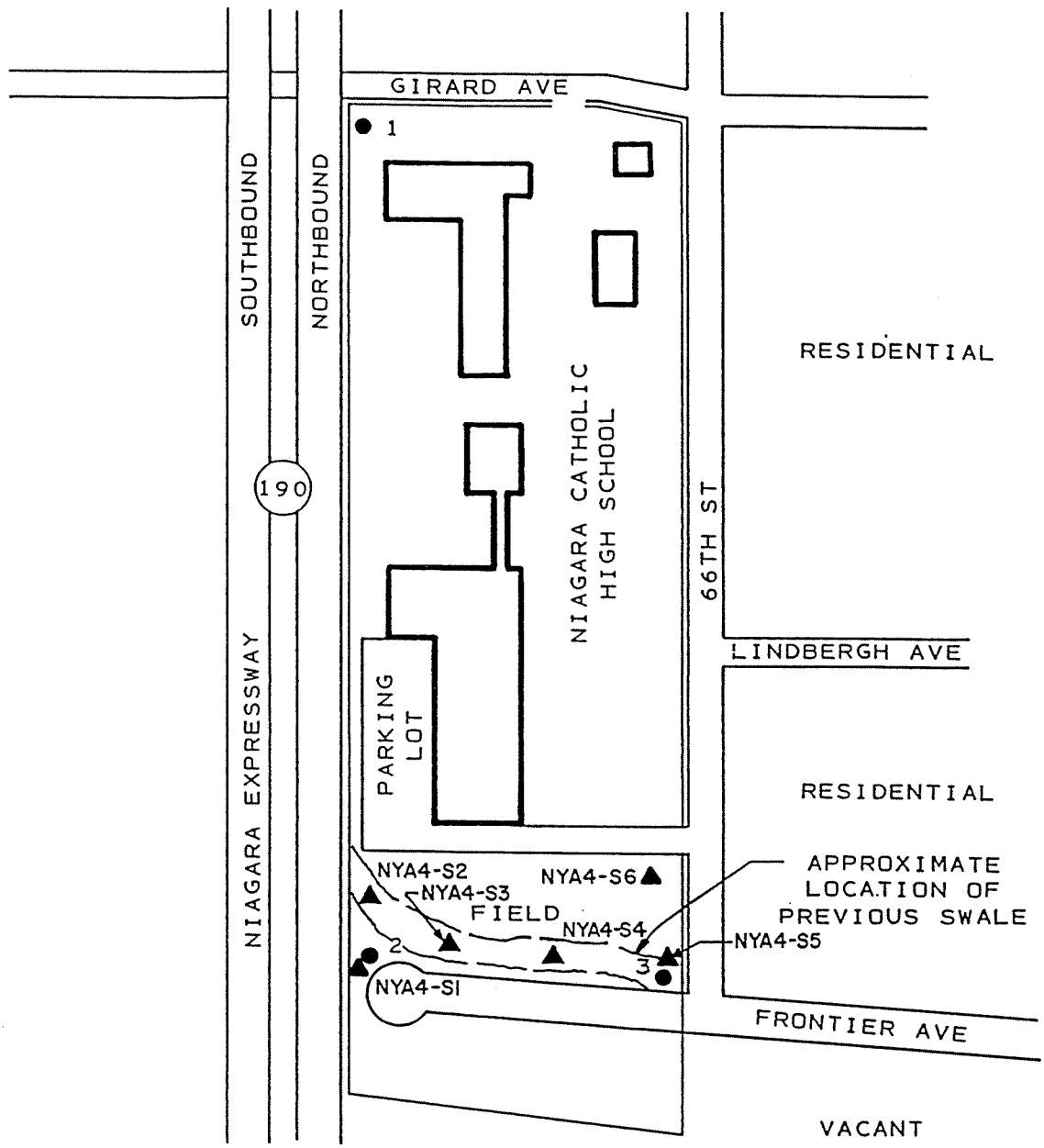
Source: NUS Corporation Report, June 26, 1985

TABLE IV-2
SUMMARY OF SOIL MONITORING FOR INORGANIC COMPOUNDS

Constituent	Sampling Locations NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYAR-S6	Background Concentrations *
Arsenic	8.4	-	-	-	14	8.7	0.1-100
Barium	122	-	-	-	-	146	10-500
Chromium	-	15	13	15	13	24	1-2000
Copper	29	15	24	14	29	72	2-100
Iron	29200	17000	12600	14400	14400	26200	100-100,000
Lead	42	8.8	19	14	24	77	10-700
Nickel	29	-	-	-	-	30	5-7000
Vanadium	33	-	-	-	-	30	20-500
Zinc	158	62	54	62	59	155	5-3500

Source: NUS Corporation Report, June 26, 1985
Note: Concentrations are in ppm.

* USGS, 1984.



NOT TO SCALE

EXPLANATION:

- ● EXISTING TEST BORING AND SUBSTRATE SAMPLE, USGS 1982
- ▲ SOIL SAMPLE, NUS, 1985

REFERENCE: Base map from USGS field sketch, 1982.

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SAMPLING LOCATION
ST. MARY'S AND BISHOP DUFFY SCHOOL

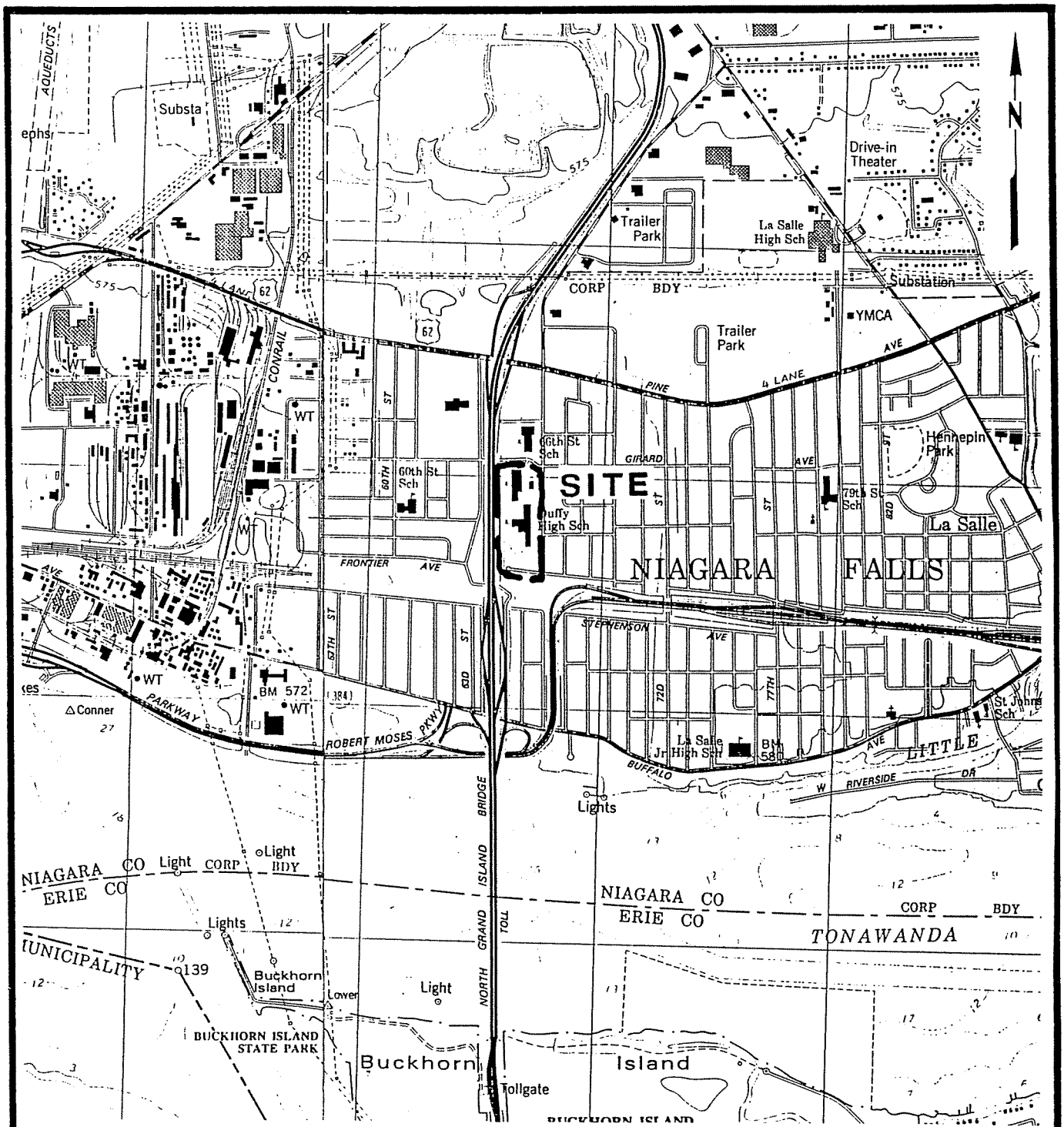
FIGURE IV-1

NARRATIVE SUMMARY

The St. Mary's and Bishop Duffy School site (presently Niagara Catholic High School) is located in Niagara Falls adjacent to Interstate 190 and the 66th Street School. The site is currently used as a high school and is owned by the Diocese of Buffalo (NCHD, 1982).

In the 1950's, an unknown quantity of fly ash and radioactive slag were buried beneath the present parking lot and football field. According to the Niagara County Health Department, Hooker Chemical Company was reponsible for the fly ash disposal and an unknown company was responsible for disposal of radioactive slag (NCHD, 1982). Drum disposal on-site is unconfirmed (NUS Corp., 1985). The disposal of hazardous waste is unconfirmed (NCHD, 1982).

Soil sampling was conducted in 1982, 1983, and 1985 by the USGS/EPA and NUS Corporation, respectively. Results of the analysis indicated high levels of PAHs at NUS sample location NYA4-S6 (pyrene: 1500 ug/l, benzo(a)anthracene: 740 ug/l). These samples were above detection limits (330 ug/l). Additionally, metal concentrations did not exceed background levels, and radioactivity was not detected at all six NUS sampling locations. No groundwater or surface water monitoring has been conducted at the site (NCHD, 1982). Results of HNu meter readings taken upwind and downwind of the site did not detect volatile organics (ES and D&M Site Inspection, 1986).



LATITUDE: 43°05'00" N
LONGITUDE: 78°59'21" W

SCALE

0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map
Niagara Falls, NY-ONT (1980) and
Tonawanda West, NY (1980) Quadrangles.

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PHASE I REPORT

SITE LOCATION MAP
ST. MARY'S AND BISHOP DUFFY SCHOOL

FIGURE V-1

HRS COVER SHEET

Facility Name: Niagara Catholic High School (formerly St. Mary's and Bishop Duffy School)

Location: 66th Street, City of Niagara Falls, Niagara County, New York

EPA Region: II

Person(s) in charge of the facility: Monsignor Cronin (Diocese of Buffalo)
Moira O'Dea (Niagara Catholic High School Principal)

Name of Reviewer: Cathy J. Bosma Date: 4-23-86

General Description of the facility:

The site was used by Hooker Chemical Corporation for the disposal of fly ash. The quantity landfilled is unknown. Radioactive slag is also known to be disposed of on-site by an unknown company. Soil samples taken by NUS Corporation and EPA/USGS indicate the presence of polyaromatic hydrocarbons. Benzo(a)pyrene, phenanthrene and other PAHs were present in soil samples in excess of detection limits. No groundwater or surface water monitoring has been conducted at the site. The Niagara Catholic High School is presently located on the site.

Scores: S_M = 16.88 (S_{GW} = 3.58 S_{SW} = 29.05 S_A = 0)

S_{FE} = 0

S_{DC} = 0

Facility Name: St. Mary's & Pierre DuPuy School Date: 4-23-86

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	4	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			10	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	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			1710	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 2.98		

GROUND WATER ROUTE WORK SHEET

Facility Name: St. Mary's & Bishop Duffy School Date: 4-23-86

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	4	6	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			8	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
5 Targets					4.5
Surface Water Use	0 1 2 (3)	3	9	9	
Distance to a Sensitive Environment	0 (1) 2 3	2	2	6	
Population Served/ Distance to Water	0 4 6 8 10 / 12 16 18 20 / 24 (30) 32 35 40	1	30	40	
Total Targets Score			41	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			18696	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{SW} = 29.05		

SURFACE WATER ROUTE WORK SHEET

Facility Name: St. Mary's & Bishop Duffy School Date: 4-23-86

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: April 23, 1986; upwind and downwind of site					
Sampling Protocol: HNU meter					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100			S_a = 0		

AIR ROUTE WORK SHEET

Facility Name: St Mary's & Bishop Duffy School Date: 4-23-86

Worksheet for Computing S_M

	S	S^2
Groundwater Route Score (S_{gw})	2.98	8.88
Surface Water Route Score (S_{sw})	29.05	843.90
Air Route Score (S_a)	0.00	0.00
$S_{gw}^2 + S_{sw}^2 + S_a^2$		852.78
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		29.27
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M$		16.88

WORK SHEET FOR COMPUTING S_M

Facility Name: St. Mary's & Bishop Duffy School Date: 4-23-86

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

FIRE AND EXPLOSION WORK SHEET

Facility Name: St. Mary's & Bishop Duffy School Date: 4-23-86

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		8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within 1-Mile Radius	0 1 2 3 (4) 5	4	16	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			16	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		

DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: Niagara Catholic High School (formerly St Mary's and Bishop Duffy School)

LOCATION: Niagara County, Niagara Falls, New York

GROUND WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

No groundwater monitoring conducted at the site
(NYSDEC Registry Sheet, 1985).

Rationale for attributing the contaminants to the facility:

Not applicable. No observed release.

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) in concern:

Lockport Dolomite. Depth to bedrock is expected to be 5 to 15 feet.
(Johnston, 1964)

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

Assumed to be 35', as there are wells of this depth in the vicinity. It should be noted that seasonal perched water bearing zones may occur at depths of less than 6 feet.
(Johnston, 1964; EPA, 1985)

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

Approximately 5' based on USGS borings.
(USGS, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River, 1985)

Net Precipitation (CFR 40, Part 300, 1983)

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

Mean annual precipitation is 36".
(Climatic Atlas of the United States, US Department of Commerce, National Climatic Center, 1979)

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

Mean annual lake evaporation is 27".
(Climatic Atlas of the United States, US Department of Commerce, National Climatic Center, 1979)

Net precipitation (subtract the above figures):

36" - 27" = 9" net precipitation.
(Climatic Atlas of the United States, US Department of Commerce, National Climatic Center, 1979)

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Fine sands and clay.
(USGS, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River, 1985)

Permeability associated with soil type

10^{-3} cm/sec to 10^{-5} cm/sec.
(CFR 40, part 300, 1983)

Physical State

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

Flyash - powder or fine material. Radioactive slag-consolidated solid.
(NYSDEC, Inactive Hazardous Waste Disposal Site Report, 1985)

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Unlined disposal area and no run-on control.
(NCHD, Site Profile Report, 1982)

Method with highest score:

Unlined landfill.
(NCHD, Site Profile Report, 1982)

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Polyaromatic hydrocarbons (pyrene, methylene chloride, phenanthrene, fluoranthene).
(USGS/EPA, 1985; NUS Corp. Sampling Results, 1985)

Note: Although groundwater monitoring has not been conducted on-site, several hazardous waste constituents with the potential for migrating into the groundwater were detected in soil samples.

Compound with highest score:

Benzo(a)Pyrene = 18 (Sax. 5th Edition)

Hazardous Waste Quantity

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

The quantity of hazardous waste disposed of on-site is unknown.
(NCHD Site Profile Report, 1982; NYSDEC Registry Sheet, 1983)

Basis of estimating and/or computing waste quantity:

Although the quantity of hazardous disposal on-site is unknown, for purposes of rating the site, a HRS score of 1 is used because soil monitoring detected the presence of hazardous waste constituents at the site.

5. TARGETS

Ground Water Use

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

No known drinking water wells within 3 miles of the site. Industrial wells for non-contact cooling water.
(NCHD, Site Profile Report, 1982, Mike Hopkins Interview)

Distance to Nearest Well

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

Industrial wells on Buffalo Avenue, Niagara Falls.
(NCHD, Site Profile Report, 1982)

Distance to above well or building:

Approximately 2 miles southeast of site.
(NCHD, Site Profile Report, 1982)

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 within 3 miles.
(NCHD, Site Profile Report, 1982; Mike Hopkins Interview, NCHD)

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

None within 3 miles.
(NCHD, Site Profile Report, 1982)

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

Zero (0).

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

No surface water monitoring conducted at the site.
(NYSDEC Registry Sheet, 1985)

Rationale for attributing the contaminants to the facility:

Not applicable. No observed release.

2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

2-3%
(ES and D&M Site Visit, 1985; C. Hudson, NYSDOH, 1985)

Name/description of nearest downslope surface water:

Niagara River, 3500 feet south of site.
(USGS Topographic Map: Niagara Falls and Tonawanda West Quadrangles; NCHD, 1982)

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

2-3%
(ES and D&M Site Visit, 1985; C. Hudson, NYSDOH, 1985)

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

No.
(ES and D&M Site Visit, 1985)

Is the facility completely surrounded by areas of higher elevation?

No.

1-Year 24-Hour Rainfall in Inches

2.1"
(CFR 40, Part 300, 1983)

Distance to Nearest Downslope Surface Water

3500 feet south to Niagara River.
(USGS Topographic Maps: Niagara Falls and Tonawanda West Quadrangles; C. Hudson, NYSDOH)

Physical State of Waste

Fly ash - powder or fine material. Radioactive slag-consolidated solid.
(NYSDEC, Inactive Hazardous Waste Disposal Site Report, 1983)

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Site not adequately covered with no diversion system.
(ES and D&M Site Visit, 1985; NCHD, Site Profile, 1982)

Method with highest score:

Site not adequately covered and no diversion system.
(ES and D&M Site Visit, 1985; NCHD, Site Profile, 1982)

Note: The asphalt paving serves as an impermeable barrier for wastes buried under the parking lot; however, wastes were also reportedly buried under the football field. Therefore, for HRS scoring, the site is not adequately covered.

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Polyaromatic hydrocarbons (benzo(a)pyrene, pyrene, fluoranthene) **(USGS/EPA, 1985; NUS Corp. Sampling Results, 1985, RECRA Research 1979)**

Compound with highest score:

Benzo(a)Pyrene = 18 (Sax 5th Ed.)

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):

Quantity of hazardous wastes disposed of on-site is unknown. **(NCHD Site Profile Report, 1982; NYSDEC Registry Sheet, 12/83)**

Basis of estimating and/or computing waste quantity:

Although the quantity of hazardous wastes disposed on-site is unknown, for purposes of rating the site, a HRS score of 1 is used because soil monitoring indicated the presence of hazardous waste constituents at the site.

* * *

5. TARGETS

Surface Water Use

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

Drinking water, recreation, and commercial. **(NYSDOH, Community Water System Sources, 1982; ES and D&M Site Inspection, 1986)**

Is there tidal influence?

No.
(USGS Topographic Map, Niagara Falls Quad)

Distance to a Sensitive Environment

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

None within 2 miles.
(NYSDEC, Region 9, Wetlands Map, 1986)

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

Wetland TW-3 locatead approximately 0.6 miles northeast of site.
(NYSDEC, Region 9, Wetlands Map, 1986)

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

There are no federally designated critial habitats in New York State (Ozard, 1986).

Population Served by Surface Water (NYSDOH, Community Water System Sources, 1982)

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:

City of Niagara Falls water intakes located on Niagara River approximately 1-2 miles from site. Approximately 80,000 people served.
(NYS Atlas of Community Water System Sources, 1982; NCHD, 1982).

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

No agricultural areas served.
(NCHD, 1982)

Total population served:

80,000 people.
(NYS Atlas of Community Water System Sources, 1982; NCHD, 1982)

Name/description of nearest of above water bodies:

Niagara River.
(USGS Topographic Maps: Niagara Falls and Tonawanda West Quadrangles)

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

1-2 miles.
(NYS Atlas of Community Water System Sources, 1982; NCHD, 1982)

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

HNu meter did not detect volatile organics upwind or downwind of the site.
(ES and D&M Site Visit, April, 1986)

Date and location of detection of contaminants:

Not applicable, no observed release.

Methods used to detect the contaminants:

HNu meter.

Rationale for attributing the contaminants to the site:

Contaminants with the potential to impact the air pathway, based on HNu meter readings and information reviewed during the Phase I study are not attributed to the site.

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

No reactive or incompatible compounds are known to exist on-site.
(NYSDEC, Registry Sheet, 1985; NCHD, 1982)

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.
(NYSDEC, Registry Sheet, 1985; NCHD, 1982)

Toxicity

Most toxic compound:

No toxic compounds with the potential to impact the air pathway are known to exist on-site (NYSDEC, Registry Sheet, 1985; NCHD, 1982). Note: Organic constituents detected in soil samples do not constitute an air release because they are buried on-site.

Hazardous Waste Quantity

Total quantity of hazardous waste:

The quantity of hazardous wastes disposed of on-site is unknown (NCHD Site Profile Report, 1982; NYSDEC Registry Sheet, 1983).

Basis of estimating and/or computing waste quantity:

The hazardous waste quantity for the air route is rated as zero since no contaminants with the potential to impact the air pathway are known to exist on-site.

* * *

3. TARGETS

Population Within 4-Mile Radius

Underline 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

4,000 people

(NCHD Site Profile Report, 1982)

Distance to a Sensitive Environment

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

None within 2 miles.
(NYSDEC Department of Regulatory Affairs, Region 9, Wetlands Map, 1986)

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

Wetland TW-3 located approximately 0.6 miles northeast of site.
(NYSDEC Department of Regulatory Affairs, Region 9, Wetlands Map, 1986)

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

There are no federally designated critical habitats in New York State (Ozard, 1986).

Land Use

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

1000 feet to commercial area.
(NCHD, Site Profile Report, 1982)

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

None except city parks:
Hennepin Park - 1 mile
Gill Creek Park - 1-1/2 mile
Hyde Park - 1-1/2 mile
(USGS Topographic Map, Niagara Falls and Tonawanda West Quad)

Distance to residential area, if 2 miles or less:

100 feet.
(NCHD, Site Profile Report, 1982)

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

None.
(NCHD, Site Profile Report, 1982)

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

None.
(NCHD, Site Profile Report, 1982)

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

No.
(USDOI, 1983)

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

No information was found during the conduct of the Phase I investigation which indicates that there was or is a fire and/or explosion potential at the site.

Type of containment, if applicable:

Not applicable, no wastes on-site that could pose a fire/explosion threat.
(NYSDEC, Registry Sheet, 1985; NCHD, 198; NCHD, 1982)

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

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

Ignitability

Compound used:

No ignitable compounds are known to exist on-site.
(NYSDEC, Registry Sheet, 1985; NCHD, 1982)

Reactivity

Most reactive compound:

No reactive compounds are known to exist on-site.
(NYSDEC, Registry Sheet, 1985; NCHD, 1982)

Incompatibility

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.
(NYSDEC, Registry Sheet, 1985; NCHD, 1982)

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

No hazardous waste quantity information is available for the site.
(NCHD Site Profile Report, 1982; NYSDEC Registry sheet, 12/83)

Basis of estimating and/or computing waste quantity:

Hazardous wastes with the potential to cause a fire or explosion hazard are not attributed to the site.

* * *

3. TARGETS

Distance to Nearest Population

Nearest residential area is 100 feet from school site and less than 50 feet from school.
(NCHD Site Profile Report, 1982)

Distance to Nearest Building

<1/4 mile to next school. Niagara Catholic High School exists on site.
(ES and D&M Site Visit, 1986)

Distance to Sensitive Environment

Distance to wetlands:

0.6 miles to Wetland TW-3
(NYSDEC Department of Regulatory Affairs, Reg. 9, Wetlands Map, 1986)

Distance to critical habitat:

There are no federally designated critical habitats in New York State (Ozard, 1986).

Land Use

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

1000 feet to commercial area.
(NCHD, Site Profile Report, 1982)

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

None except these city parks:
Hennepin Park - 1 mile
Gill Creek Park - 1-1/2 mile
Hyde Park - 1-1/2 mile
(USGS Topographic Map, Niagara Falls and Tonawanda West Quad)

Distance to residential area, if 2 miles or less:

100 feet.
(NCHD, Site Profile Report, 1982)

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

None.
(ES and D&M Site Visit, 1985; NCHD - Site Profile Report, 1982)

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

None.
(ES and D&M Site Visit, 1985; NCHD - Site Profile Report, 1982)

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

No.
(USDOI, 1983)

Population within 2-Mile Radius

36,756 people.
(US Bureau of the Census, 1980 Census data)

Buildings Within 2-Mile Radius

Over 1,000.
(NCHD, Site Profile Report, 1982)

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

Based on information reviewed during the Phase I study, there is no confirmed instance in which contact with hazardous substances at the site has caused injury, illness or death to humans or animals.
(Phase I Record Search, 1985-86)

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the site to prevent entry. Site is a school.
(ES and D&M Site Visit, April 1986)

* * *

3. CONTAINMENT

Type of containment, if applicable:

Hazardous waste constituents have been detected in subsurface soils which are covered by soil fill (depth unknown) or by a portion of the asphalt parking lot. However, there are no exposed wastes at the site.

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Polyaromatic Hydrocarbons.
(NUS Corp., 1985; USGS/EPA, 1985)

Compound with highest score:

Benzo(a)pyrene = 3
(Sax. 5th Ed.)

5. TARGETS

Population within one-mile radius

4,000 people.
(NCHD, Site Profile Report, 1982)

Distance to critical habitat (of endangered species)

There are no federally designated critical habitats in New York State.
(Ozard, 1986)

REFERENCES

1. Code of Federal Regulations, Protection of Environment, NO. 40, Parts 190-399, 1983.

2. Engineering-Science, (ES) and Dames & Moore (D&M) Site Visits, 12/85 and 4/86.

3. Hudson, C., NYSDOH, Interview for Phase I Site Investigation, 12-30-85.

4. Johnston, R. H., USGS. "Groundwater in the Niagara Falls Area, NY with Emphasis on the Water-Bearing Characteristics of the Bedrock," 1964.

5. NYS Atlas of Community Water System Sources (1982).

6. NYSDEC, Department of Regulatory Affairs, Region 9. Mike McMurry Interview, 1/3/86.

7. NYSDEC. Inactive Hazardous Waste Disposal Site Report, Registry Sheet, 12/85.

8. NCHD, Site Profile Report, 1982.

9. NCHD, M. Hopkins Interview, 5/8/86.

10. NUS, Site Inspection Report and Analytical Results, 1985.

11. Ozard, John (1986), NYSDEC, Interview for Phase I Investigation, January 17, 1986.

12. SAX, N.I. (1984). Dangerous Properties of Industrial Materials, Van Nostrand Reinhold Company, New York.

13. RECRA Research, Analytical Results, 1979.

14. US Bureau of the Census, 1980 Census.

15. US Department of Interior, National Park Service (1983). "National Register of Historic Places and National Natural Landmarks."

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

17. USGS/EPA, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River, 1985.

18. USGS Topographic Map: Niagara Falls and Tonawanda West Quadrangles.

* For general references, see Appendix A.

CFR

REF (1)

List of Illustrations

Figure No.

List of Tables

Table No.

1.0 Introduction

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) (Pub. L. 96–510) requires the President to identify the 400 facilities in the nation warranting the highest priority for remedial action. In order to set the priorities, CERCLA requires that criteria be established based on relative risk or danger, taking into account the population at risk; the hazardous potential of the substances at a facility; the potential for contamination of drinking water supplies, for direct human contact, and for destruction of sensitive ecosystems; and other appropriate factors.

This document describes the Hazard Ranking System (HRS) to be used in evaluating the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems, or ecological or environmental damage. Detailed instructions for using the HRS are given in the following sections. Uniform application of the ranking system in each State will permit EPA to identify those releases of hazardous substances that pose the greatest hazard to humans or the environment. However, the HRS by itself cannot establish priorities for the allocation of funds for remedial action. The HRS is a means for applying uniform technical judgment regarding the potential hazards presented by a facility relative to other facilities. It does not address the feasibility, desirability, or degree of cleanup required. Neither does it deal with the readiness or ability of a State to carry out such remedial action as may be indicated, or to meet other conditions prescribed in CERCLA.

The HRS assigns three scores to a hazardous facility:

- S_M reflects the potential for harm to humans or the environment from migration of a hazardous substance away from the facility by routes involving ground water, surface water, or air. It is a composite of separate scores for each of the three routes.
- S_{FE} reflects the potential for harm from substances that can explode or cause fires.
- S_{DC} reflects the potential for harm from direct contact with hazardous substances at the facility (i.e., no migration need be involved).

The score for each hazard mode (migration, fire and explosion and direct contact) or route is obtained by considering a set of factors that characterize the potential of the facility to cause harm (Table 1). Each factor is assigned a numerical value (on a scale of 0 to 3, 5 or 8) according to prescribed guidelines. This value is then multiplied by a weighting factor yielding the factor score. The factor scores are then combined: scores within a factor category are added; then the total scores for each factor category are multiplied together to develop a score for ground water, surface water, air, fire and explosion, and direct contact.

BILLING CODE 6560-50-M

REF 2

ES AND D&M SITE INSPECTION

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

(3)

INTERVIEW FORM

INTERVIEWEE/CODE Charley Hudson /

TITLE - POSITION NYSDOH Bureau of Toxic Substance Assessment

ADDRESS

CITY Albany STATE NY ZIP

PHONE (518) 473-8427 RESIDENCE PERIOD TO

LOCATION NYSDOH office INTERVIEWER S. Powers

DATE/TIME 12/30/85 / 10:30 am

SUBJECT: St. Mary's & Bishop Duffy School #932087

REMARKS: Notes from NYSDOH site inspection report

Inspected by R. Tuers and B. Gilday

Site is used for gym classes 3 months/yr.

Site is easily accessible.

Site is poorly capped with no leachate collection system

There are no wells within 2 miles of this site

Principal aquifer is in lockport dolomite 20-120 ft. deep

Geologic material is sand and clay, $K=10^{-5}$ cm/sec

Population Magnets- section 64th street site

Surface Water:

Niagara river:3500' used for drinking, swimming, fishing and irrigation

Site slope: 2-3%

Intervening terrain (SW site) 2-3%

Soil contamination data in Niagara Report (USGS)

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF (3)

Interviewee: Charley Hudson

Title/Position: NYSDOH Bureau of Toxic Substance Assessment

city/state Albany NY

Phone: (518) 473-8427

Location: NYSDOH office Interviewer: S. Powers

Date/Time 12/30/85 10:30 AM

Subject: St. Mary's & Bishop Duffy Schools #932087

Remarks: Notes from NYSDOH site inspection report.*

Inspected by R. Tuers & B. Gilday

Site is used for gym classes 3 months/yr.

Site is easily accessible

Site is poorly capped w/ no leachate collection system

There are no wells within 2 miles of this site

principal aquifer is in lockport dolomite

20-120 ft deep

geologic material is sand & clay $K = 10^{-5}$ cm/sec

Population Magnets - see 64th Street site

Surface Water

Niagara River - 3500' used for drinking, swimming, fishing, & irrigation

Site slope - 2-3%

intervening terrain (SW-site) 2-3%

Soil contamination data in Niagara Report (USGS)

I agree with the above summary:

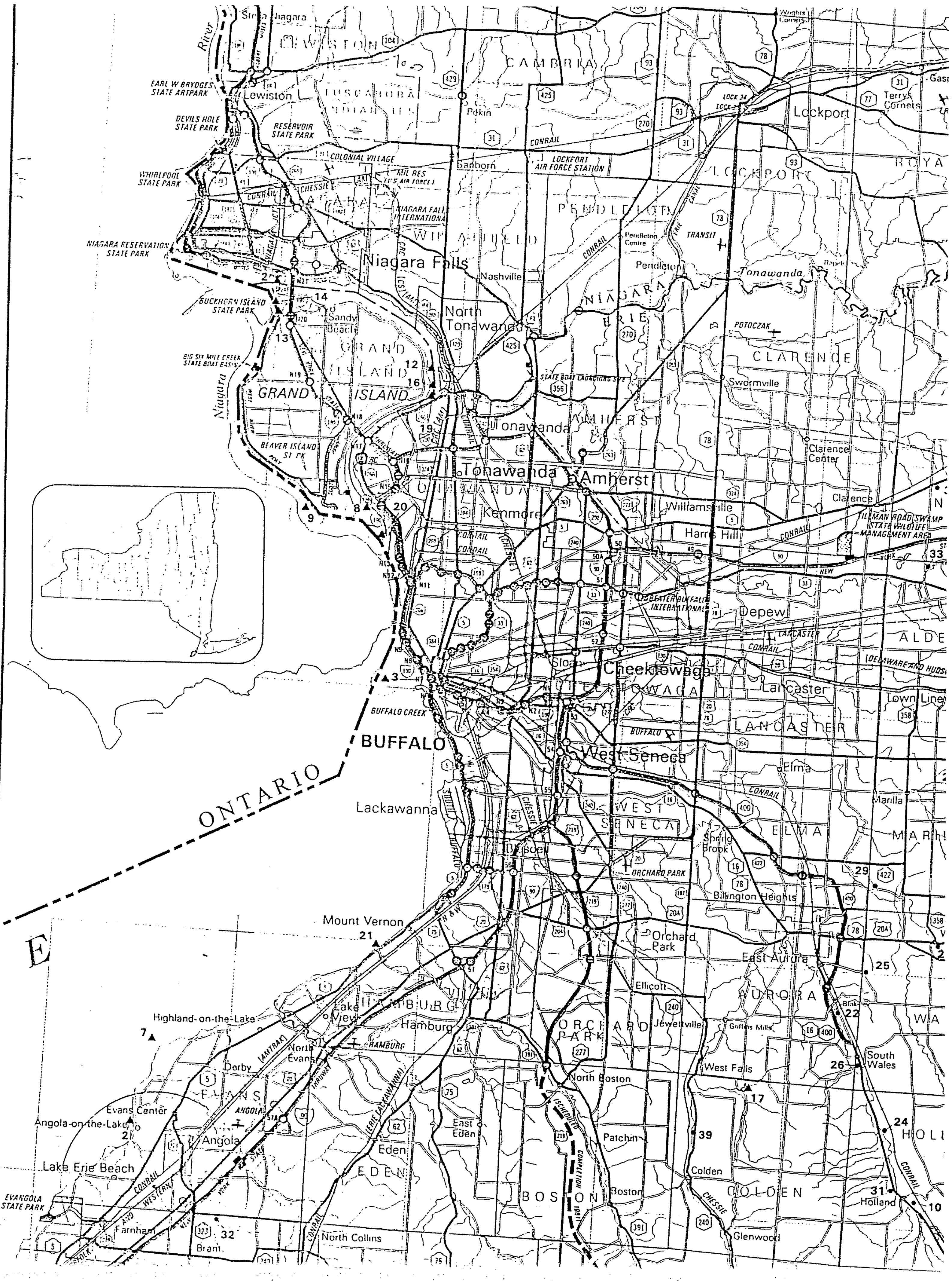
Signature: CMH

Comments:

* This report is not in final form so DOH did not want copies

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



Lewiston
EARL W BRYDGES STATE ARTPARK
DEVILS HOLE STATE PARK
RESERVOIR STATE PARK
WHIRLPOOL STATE PARK
NIAGARA RESERVATION STATE PARK
BUCKHORN ISLAND STATE PARK
BIG SIX MILE CREEK STATE BOAT BASIN
BEAVER ISLAND ST PK
CAMBRIA
Pekin
Sanborn
LOCKPORT AIR FORCE STATION
COLONIAL VILLAGE
NIAGARA FALLS INTERNATIONAL
Lockport
LOCKPORT
Terrys Corners
Wrights Corners
PENDLETON
Pendleton Centre
Pendleton
Tonawanda
Niagara Falls
Nashville
WHEATFIELD
North Tonawanda
Sandy Beach
GRAND ISLAND
NIAGARA
ERIE
POTOCZAK
CLARENCE
Swormville
STATE BOAT LAUNCHING SITE
AMHERST
Tonawanda
Clarence Center
Tonawanda
Amherst
Clarence
Williamsville
Kenmore
Harris Hill
TILLMAN ROAD SWAMP STATE WILDLIFE MANAGEMENT AREA
GREATER BUFFALO INTERNATIONAL
Depew
LANCASTER
ALDEN
Sloan
Cheektowaga
CHEEKTOWAGA
Lancaster
Town Line
BUFFALO CREEK
BUFFALO
West Seneca
Elma
Marilla
Lackawanna
WEST SENECA
ELMA
Spring Brook
ORCHARD PARK
Billington Heights
Mount Vernon
Orchard Park
East Aurora
ONTARIO
AURORA
Ellicott
Highland-on-the-Lake
Lake View
HAMBURG
Hamburg
ORCHARD PARK
Jewettville
Griffins Mills
North Evans
South Wales
West Falls
Derby
North Boston
EVANS
Evans Center
Angola-on-the-Lake
Angola
East Eden
Eden
Patchin
Colden
Lake Erie Beach
EDEN
EVANGOLA STATE PARK
BOSTON
Boston
COLDEN
Holland
Farnham
Brant
North Collins
Glenwood
CONRAIL
CHESSIE
AMTRAK

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

REF. 5

INTERVIEW FORM

INTERVIEWEE/CODE Mike McMurry /

TITLE - POSITION Environmental Analyst

ADDRESS 600 Delaware Ave.

CITY Buffalo STATE NY ZIP 14202

PHONE (716) 847-4551 RESIDENCE PERIOD ____ TO ____

LOCATION DEC Regulatory Affairs Buffalo INTERVIEWER Eric NYE - DIM

DATE/TIME 1/3/86 / ____

SUBJECT: Wetlands & Flood Info - Region 9

REMARKS: Met with Mike who gave me access to both Wetland and Floodway maps for the local region.

Also left site locations for the identification of Wildlife, Critical Habitat & National Wildlife Refuges

St. Mary's and Bishop Duffy School Site:

- Distance to a Sensitive Environment - none within two miles of site
- Distance to fresh - water wetland - Wetland TW-3 is located approximately 0.6 miles NW of site.
- Distance to critical habitat - none within one mile

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF (5)

INTERVIEW FORM

INTERVIEWEE/CODE ~~MC Murry~~ Mc Murry MIKE ~~MCMURRY~~ /

TITLE - POSITION ENVIRONMENTAL ANALYST

ADDRESS 600 Delaware Ave

CITY Buffalo STATE N.Y. ZIP 14202

PHONE (716) ~~649-8175~~ 847-4551 . RESIDENCE PERIOD _____ TO _____

LOCATION DEC REGULATORY AFFAIRS, BUFFALO INTERVIEWER ERIC NYE - DHM

DATE/TIME 1/3/86 /

SUBJECT: WETLANDS & FLOOD INFO - REGION 9

REMARKS: MET WITH MIKE WHO GAVE ME ACCESS TO BOTH WETLAND AND FLOODWAY MAPS FOR THE LOCAL REGION

~~X~~ ALSO LEFT SITE LOCATIONS FOR THE IDENTIFICATION OF WILDLIFE CRITICAL HABITAT & NATIONAL WILDLIFE REFUGES

St. Mary's and Bishop Duffy school site

1) - Distance to a sensitive environment - none within two miles of site

2) Distance to fresh-water wetland - Wetland TW-3 is located approximately 0.6 miles northeast of site

3) Distance to critical Habitat - none within one mile

I agree with the above interview summary:

Signature/Title: Michael J. McMurry, Environmental Analyst

Comments:

REF. 5

NYS WETLANDS MAPS

NYS Wetlands Maps were reviewed during the Phase I investigation. Individual maps for each site were not obtained and are, therefore, not included in the Phase I reports. Site specific information collected concerning the location of a wetland within 1 mile of a given site is recorded in the documentation section of each report.

REF (6)

DIVISION OF SOLID AND
INACTIVE HAZARDOUS WASTE DISPOSAL

CLASSIFICATION CODE: 2a REGION: 9 SITE CODE: 932007

NAME OF SITE : St. Mary's and Bishop Duffy School
STREET ADDRESS: 66th Street

TOWN/CITY:	COUNTY:	ZIP:
Niagara Falls (c)	Niagara	

SITE TYPE: Open Dump -X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 2 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Niagara Catholic High School - 283-3111
CURRENT OWNER ADDRESS.: 520-66th St, NF, NY 14304
OWNER(S) DURING USE...: Unknown
OPERATOR DURING USE...: Unknown
OPERATOR ADDRESS.....: Unknown
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To 1950's

SITE DESCRIPTION:
The site was reportedly used by Hooker Chemical Company to dispose of fly ash during the 1950's. The site is currently occupied by Niagara Catholic High School. The exact location of the disposal area in this property is unknown.

UGGS, in August 1982 and May 1983, took soil samples, in the approx. area. The results of the organic analysis indicate low levels of a limited number of organic parameters. DIOXIN

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected -

TYPE	QUANTITY (units)
None Known	Unknown

SITE CODE: 442007

TYPE OF DATA AVAILABLE:

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

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: Top Soil over sand and clay layers
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

From the limited data from the soil test, there seems to be no major environmental problem.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient Information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: EJ Feron, Jr.
TITLE: Sr. San. Engineerg.

NAME.: Peter Buechi
TITLE: Ass. San. Engineer

DATE.: 01/24/85

NEW YORK STATE DEPARTMENT OF HEALTH

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

NAME.:
TITLE:

DATE.: 01/24/85

REF. (7)

NAME

ST. MARY'S AND BISHOP DUFFY SCHOOLS (DEC #932087)

LOCATION

This site is occupied by Niagara Catholic High School (formerly Bishop Duffy and Madonna High Schools). The school is located on 66th Street between Girard and Frontier Avenue, east of the Niagara Expressway (I-190). The exact location of the disposal areas on this property is unknown.

A site sketch is attached.

OWNERSHIP

The area outlined above is owned by Niagara Catholic High School, 520 - 66th Street, Niagara Falls, NY 14304. Any correspondence should be directed to Father Clifford, Principal.

HISTORY

Bishop Duffy High School was built in 1955, Madonna High School was built in 1959. These schools were later consolidated into Niagara Catholic High School.

According to Hazardous Waste Disposal Sites in New York State, Vol III, this site was used by the Hooker Chemical Company to dispose of fly ash during the 1950's. This area was reportedly a low swampy area at this time.

Father Clifford, Principal of Niagara Catholic High School informed the writer that he was unaware of any previous disposal activity and was unable to provide further information. He stated that previously radioactive slag was found beneath asphalt parking lots. Levels of radiation exceeding background were detected although these levels did not warrant corrective actions. Currently, there are no visible signs of previous disposal activities. The surface is completely covered with buildings, lawns or parking lots. The exact location of the disposal area is unknown, but is suspected to include the south section of the property.

PREVIOUS SAMPLING

There is no record of samples being taken from this site at anytime.

AERIAL PHOTOGRAPHS

USDA aerial photography (1":660') was examined. Photograph ARE 3T-82, taken in 1958 shows Bishop Duffy High School, but not Madonna High School. The area south of the school building appeared level at this time. Photograph ARE 2G3-27, taken in 1966, showed the area to be developed [illegible] its present [illegible].

SOILS/GEOLOGY

A detailed soil survey for this area is unavailable. No information on the nature of the soils here was found. Groundwater in the Niagara Falls Area (Johnston, 1964) does not list any well or boring records in the vicinity of this site.

Bedrock is reported by Johnston to be Lockport Dolomite. The depth to bedrock is unknown.

GROUNDWATER

The depth to the water table and the direction of flow of the groundwater are not known.

There are no known drinking water wells in this area. The nearest industrial wells are over two miles to the southwest.

SURFACE WATER

The nearest surface water is the Niagara River which is 3,500 feet south. The City of Niagara Falls water intakes are one mile downstrea Industrial intakes are also located downstream.

There are no wetlands within one mile of this site, although numerous nearby areas were marshy prior to filling and drainage.

This site is not in a 100 year flood plain.

AIR, FIRE AND EXPLOSION

The potential for fire or air emissions from the wastes contained in this site is expected to be small, assuring the only waste disposed of here is fly ash.

It is estimated that 4,000 people live within a one mile radiu and that over 10,000 people live within two miles. The nearest population is less than one-hundred feet away across 66th Street.

The nearest buildings are suspected to be the school buildings. The nearest off-site buildings are the homes along 66th Street. Over 1,000 buildings are within a two mile radius.

The nearest residential area is 100 feet away. The nearest commercial area is along Niagara Falls Boulevard, 1,000 feet north. The nearest industrial area is one mile west. There are no agricultural areas with two miles.

DIRECT CONTACT

There are no exposed wastes at this site. Access is unrestrict as the area is used as a school.

CONCLUSIONS

There is no evidence of any hazardous material being disposed of at this site. Confirmation is needed. Samples could be obtained or test wells could be placed nearly anywhere on the school grounds. Insufficient data is available to assess the impacts of this site on water quality in the Niagara River.

Code Activity REF. 7

Code Location

Service Request No.

Date Received Complaint

NIAGARA COUNTY
DEPARTMENT OF HEALTH

ervice Request Deed Search

Originator of Complaint ..... Address .....

Owner Diocese of Buffalo ..... Address 35 LINCOLN PKWY., BUFFALO

Occupant Niagara Catholic ..... Address 520 66TH ST., NIAGARA Falls

Date	Hours	REPORT OF INVESTIGATION
2-20-85		This writer went to the County Clerk's Office in Lockport to trace the previous owners of the property where Niagara Catholic now exist. The entire property was sold to the Diocese in sections by four (4) different owners. As they occured and are labelled on the enclosed map:
		(1) and (1A) – both these properties were sold to the Diocese by the U.S. of A. and make up approx. one half the entire property. The first was sold on 1-3-47 and the second on 2-26-48. Prior to being owned by U.S. of A. the property was owned by the LaSalle Development Corp. On several dates including 6-2-43, 2-16-44, 9-44, 10-43, 6-19-45, 10-3-46, 5-25-48 and several other dates the LaSalle Devel. Corp. either sold portions of the property to U.S. of A. or there were judgments on amended declaration of taking in which U.S. of A. took over the property. LaSalle Dev. Corp. bought this land (described as lots 51-52, mile res., land under water) from Day Holding Corp. on 11-22-1923.
		A small section of property in this area (approx. one acre) was sold to U.S. of A. by Johanna Muldoon on 6-19-45.

Date Abated ..... By J. Lendzian

NIAGARA COUNTY
DEPARTMENT OF HEALTH

Code Activity .....

Code Location .....

Service Request No. .....

Date Received Complaint .....

Service Request .....

Originator of Complaint ..... Address .....

Owner ..... Address .....

Occupant Niagara Catholic Address 520 66th St, Nia. Falls

Hours	REPORT OF INVESTIGATION
2.00-85	deed search, cont. —

(2.) The southern portion of land now owned by the Diocese of Bflo. was sold to them on 11-24-52 by Joseph N. Harbatowski. I could not determine at this time at what time and from whom Mr. Harbatowski bought or received the property as this name is listed several hundred times in the grantee book as buying property from several different parties between 1930 and 1952 with either no description or a very vague description of the property listed. However, I did not see the Kedalle Dev. Corporation listed at any time as the grantor.

(3.) Another section of property was sold to the Diocese by the City of Niagara Falls on 12-17-53. All or at least a portion of this land was previously owned by the Kedalle Dev. Corp. which sold the property to the City of N.F. on 9-28-44.

(4.) A very small section of land was sold to the Diocese by John A. & Doreen S. Howard on 1-21-54.

Cont. —

Date Abated ..... By .....

NIAGARA COUNTY
DEPARTMENT OF HEALTH

Code Activity .....

Code Location .....

Service Request No. .....

Date Received Complaint .....

rvice Request .....

Originator of Complaint ..... Address .....

Owner ..... Address .....

Occupant Niagara Catholic Address 520 66TH ST., Niagara Falls

Date	Hours	REPORT OF INVESTIGATION
2-20-85		Deed search, Cont.—

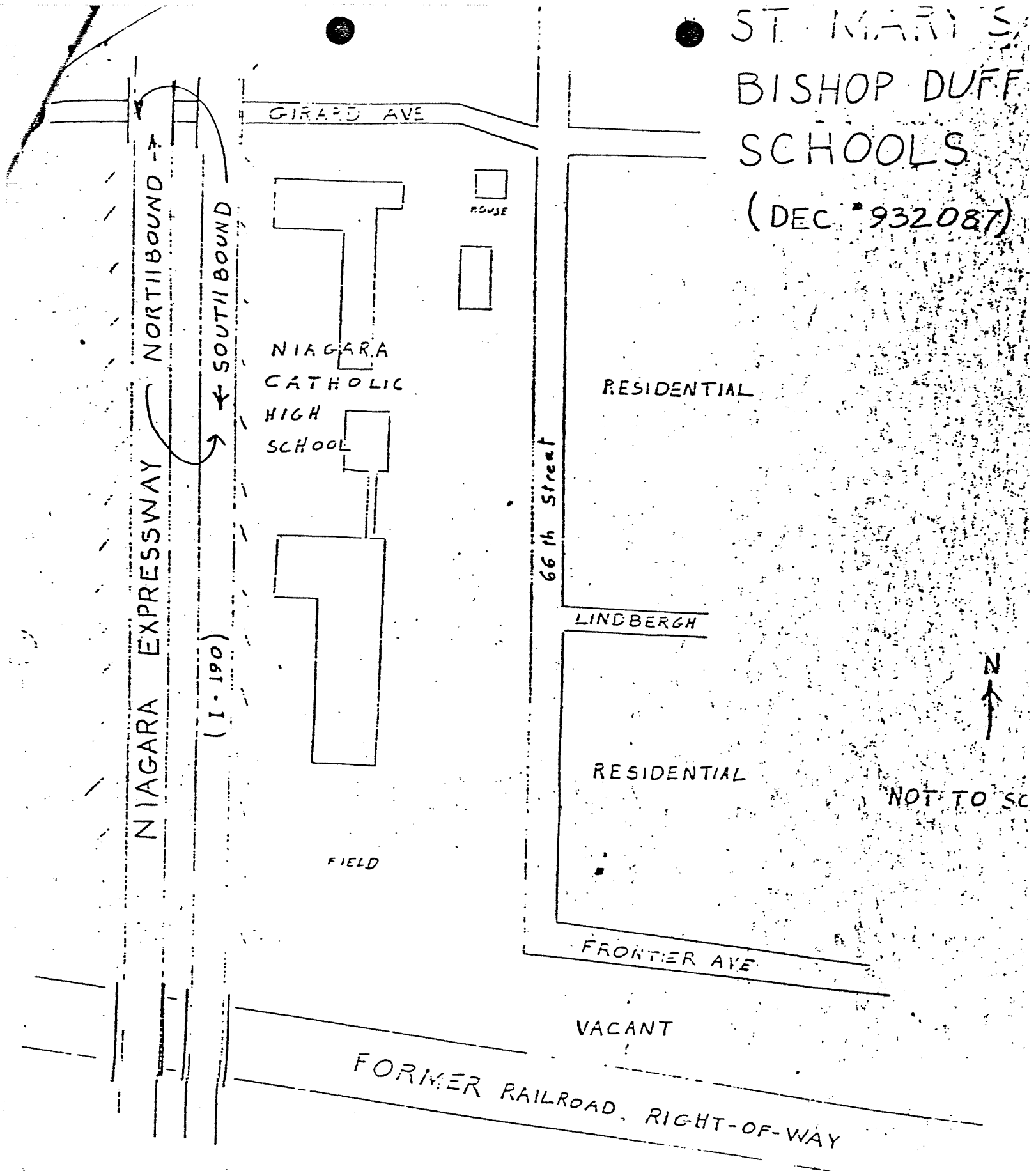
Previous to the Howards, the property was owned by Mrs. Ralph L. Schaffer who sold it on 12-1-1950. Previous the Mr. Schaffer buying it on 12-3-45 the property was owned by Genevieve Miller who acquired title after the death of her husband, Francis Miller. I could not find any further record of transfer of ownership beyond 1930.

J. Kendrejan

References:

LIBER	1128	PAGE	360
"	1123	"	439
"	1083	"	591
"	906	"	378
"	857	"	589
"	843	"	183
"	738	"	28
"	111	"	246
"	762	"	255
"	455	"	321

Date Abated ..... By .....



NOTE: THE EXACT LOCATION OF INACTIVE DISPOSAL AREAS IS NOT KNOWN

M. Hopkins
NCHD

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION Niagara County Health Dept.

ADDRESS 10th Street & East Falls

CITY Niagara Falls STATE NY ZIP 14303

PHONE (716) 284-3124 RESIDENCE PERIOD ____ TO ____

LOCATION Phone Interview INTERVIEWER Larry Keefe (Dames & Moore)

DATE/TIME May 8, 1986 / 11:20am

SUBJECT: Ground water usage in the Niagara Falls area

REMARKS: Regarding the following sites: Great Lakes Carbon, Wurlitzer, Dibacco #2, Adams Generating Plant, Hydraulic Canal, 64th St., St. Mary's & Bishop Duffy School, Silbergeld Junkyard, and Tam Ceramic. The following known Ground Water Usage Applies:

1) The only known Drinking water wells are on Pennsylvania Ave. in the town of Niagara. There are 2 wells on Penn. Ave. and 3 on Delaware Ave. (Adj creek Street)

2) The only known operational industrial well is at Olin Chemical on Buffalo Ave, city of Niagara Falls. This is a non-contact cooling water usage only.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REF. (8)

MAY 15 1986

INTERVIEW FORM

INTERVIEWEE/CODE MIKE HOPKINS /

TITLE - POSITION NIAGARA COUNTY HEALTH DEPT.

ADDRESS 10th STREET & EAST FALLS

CITY NIAGARA FALLS STATE NY ZIP 14303

PHONE (716) 284-3124 RESIDENCE PERIOD ______ TO ______

LOCATION: PHONE INTERVIEW INTERVIEWER LARRY KEECE (DAMES & MOORE)

DATE/TIME MAY 8, 1986 / 11:20 A

SUBJECT: GROUNDWATER USAGE IN THE NIAGARA FALLS AREA

REMARKS: REGARDING THE FOLLOWING SITES; [1]GREAT LAKES CARBON; [2]WURLITZER, [3]D. BACCO #2, [4]ADAMS GENERATING PLANT, [5]HYDRAULIC CANAL, [6]64th ST, [7]ST. MARY'S & BISHOP DUFFY SCHOOLS, [8]SILBERGELD JUNKYARD, AND [9]TAM CERAMICS; THE FOLLOWING KNOWN GROUNDWATER USAGE APPLIES:

1) THE ONLY KNOWN DRINKING WATER WELLS ARE ON PENNSYLVANIA AVE IN THE TOWN OF NIAGARA. THERE ARE ~~4~~ 2 WELLS ON PENN. AVE and 3 on Delaware Ave (Adjacent street)

2) THE ONLY KNOWN OPERATIONAL INDUSTRIAL WELL IS AT OLIN CHEMICAL ON BUFFALO AVE, CITY OF NIAGARA FALLS. THIS IS A NON-CONTACT ~~PROCESS~~ cooling WATER USAGE ONLY.

I agree with the above interview summary: as corrected:

Signature/Title: Michael F. Hopkins PEHD

Comments:

REF. (9)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Niagara Catholic High School Site Name (St. Mary's School)	NYD980535249 EPA Site ID Number
66th Street Niagara Falls, New York Address	02-8505-04A TDD Number

SITE DESCRIPTION

Niagara Catholic High School, formerly St. Mary's School is located in Niagara Falls, Niagara County, New York. The three acre site was formerly used as a disposal area. During the 1950's wastes from local companies were dumped at the location of the present football field. There are unsubstantiated reports of drums buried there as well. Radioactive slag was used as fill for the parking lot behind the school and has been ruled safe by local health officials as long as it remains covered.

Niagara Catholic High School is located in an industrialized and residential area. Another school, the 66th Street School, is directly north of the site. Residential areas are east and south of the site and Interstate I-190 is to the west. CECOS industrial landfill is located approximately 0.5 mile north of the site.

NUS FIT II sampled the site on 6/26/85 and found the soil in the field contaminated with polyaromatic hydrocarbons (PAHs) such as pyrene and benzo (a) anthracene.

HAZARD RANKING SCORE: No Score Pending Analysis of Laboratory Data.

Prepared by: G. Rojek/L. Gneiding of NUS Corporation **Date:** October 21, 1985

SAMPLING TRIP REPORT

SITE NAME: [illegible] Catholic School (St. Mary's School)

TDD #: 02-8505-04A

SAMPLING DATE: 6/26/85

EPA CASE NO: 4452/1728B

1. Site Location: See Figure 1

2. Sampling Locations: See Figure 2

3. Sample Descriptions: See Table 1

4. Laboratories Receiving Samples:

Sample Type	Name and Address of Laboratory
Organic (Soil)	Gulf South Research Institute 5010 LeRoy Johnson Blvd. New Orleans, LA 10126
Inorganic (Soil)	Rocky Mountain Analytical Labs 5530 Marshall St. Arvada, CO 80002

5. Sample Dispatch Data:

Organic soil samples were shipped by FIT personnel via Federal Express under Airbill No. 923031793.

Inorganic soil samples were shipped by FIT personnel via Federal Express under Airbill No. 923031782. Samples were shipped on June 26, 1985 at 1400 hours.

6. Sampling Personnel:

Name	Organization	Duties on Site
Gary Rojek	NUS Corp. - FIT II	Project Manager/ Photo Documentation
Luke Darragh	NUS Corp. - FIT II	Sample Management
Debbie LaMond	NUS Corp. - FIT II	Site Safety Officer

Name	Organization	Duties on Site
Mike Nicholas	NUS Corp. - FIT II	Sampler
Joe Mayo	NUS Corp. - FIT II	Sampler
Jay Crystall	NUS Corp. - FIT II	Sample Scanning

7. Weather Conditions: 70°F clear, northerly winds 10-20 mph

8. Additional Comments:

A total of six (6) soil samples were collected from the field adjacent to the school which is presently used as a football field. All samples were screened for radioactive levels in the field with negative results.

All samples collected are to be analyzed for priority pollutants. One (1) aqueous QA/QC blank sample collected from EPA, Edison, New Jersey was included with shipment to the labs.

9. Report Prepared By: Gary Rojek Date: 7/02/85

10. Approved By: Ronald M Nanna Date: 8/23/85

TABLE 1

SAMPLE DESCRIPTIONS
ST. MARY'S SCHOOL
CASE #4452/1728B

Sample Number	Sample Type	Traffic Report Number	Federal Express Airbill Number	Time Hours	Location
NYA4-S1	Organic Soil Inorganic Soil	BD122 MBB916	923031793 923031782	0920	Southwest corner of field. Depth of sample 1.5-2 feet
NYA4-S2	Organic Soil Inorganic Soil	BD123 MBB917	923031793 923031782	0935	Northwest corner of field near fence line. Depth of sample 2 feet.
NYA4-S3	Organic Soil Inorganic Soil	BD124 MBB918	923031793 923031782	0955	Western section of football field in area of former swale. Depth of sample 2-3 feet.
NYA4-S4	Organic Soil Inorganic Soil	BD125 MBB919	923031793 923031782	1005	Center of football field in area of former swale. Depth of sample 1 foot.
NYA4-S5	Organic Soil Inorganic Soil	BD126 MBB920	923031793 923031782	1015	Southeast corner of field in area of former swale. Depth of sample 1-5 feet.
NYA4-S6	Organic Soil Inorganic Soil	BD127 MBB921	923031793 923131782	1025	Northeast corner of field near driveway. Depth of sample 1 foot.
NYA4-B1	Organic Blank(a)	BD128	923031793	N/A	U.S. EPA Edison, NJ

Notes: (a) Organic blanks contained doubly deionized distilled water obtained from U.S. EPA, Edison, New Jersey on June 21, 1985.

SAMPLING TRIP REPORT

SITE NAME: Niagara Catholic High School

TDD #: 02-8405-04A

SAMPLING DATE: 8/23/85

EPA CASE NO.: 4893

1. Site Location: See Figure 1
2. Sample Location Map: See Figure 2
3. Sample Descriptions: See Table 1
4. Laboratories Receiving Samples:

Name and Address of Laboratory

California Analytical Labs
2544 Industrial Blvd.
West Sacramento, CA 95691

Attention: R. Ulrich

5. Sample Dispatch Data:

TCDD soil samples were shipped by FIT personnel via Federal Express under Airbill #289624963 to NUS Corporation, Edison, New Jersey, on 8/23/85 at 1200 hours. Samples were repackaged and shipped by FIT personnel via Federal Express under Airbill #289624834 to California Analytical Labs on 8/26/85 at 1500 hours.

6. Sampling Personnel

Name	Organization	Duties on Site
Gary Rojek	NUS Corp. FIT II	Project Manager
Janine Dinan	NUS Corp. FIT II	Site Safety Officer
Jay Crystall	NUS Corp. FIT II	Sampler
Debbie LaMond	NUS Corp. FIT II	Sample Management Officer
Luke Darragh	NUS Corp. FIT II	Sampler

7. Weather Conditions: 60°F partly cloudy

8. Additional Comments:

A total of six (6) soil samples were collected from the football field which lies adjacent to the high school. The site was originally sampled on 6/26/85. The samples taken on 8/23/85 were taken approximately in the same location and depth as the previous site inspection.

All samples collected will be analyzed for TCDD. A total of six (6) QA/QC blanks were included in the shipment to California Analytical Labs.

9. Report Prepared By: Luke Darragh Date: 8/26/85

10. Approved By: Ronald M Lanza Date: 8/26/85

TABLE 1

SAMPLE DESCRIPTIONS

CASE #4893

Sample Number	Dioxin Traffic Report Number	Batch Number	Time Hours	Date Shipped	Date Sampled	Location
NYA4-S1A	DB0060-03	1	0714	8/26/85	8/23/85	Southwest corner of field Sample taken at a depth 1.5 to 2.0 feet.
NYA4-S2A	DB0060-02	1	0725	8/26/85	8/23/85	Northwest corner of field near fence. Sample taken at depth of 2.0 feet.
NYA4-S3A	DB0060-01	1	0742	8/26/85	8/23/85	Western section of football field in former swale area Sample taken at depth of 2.0 feet.
NYA4-S4A	DB0060-04	1	0748	8/26/85	8/23/85	Center of football field in former swale area. Sample taken at depth of 1.0 foot.
NYA4-S5A	DB0060-05	1	0753	8/26/85	8/23/85	Southeast corner of field in the former swale area. Sample taken at depth of 1.0 foot.
NYA4-S6A	DB0060-06	1	0805	8/26/85	8/23/85	Northeast corner of field near driveway. Sample taken at depth of 1.0 foot.
NYA4-S7A	DB0060-07	1	N/A	8/26/85	N/A	QA matrix spike.
NYA4-S8A	DB0060-08	1	N/A	8/26/85	N/A	QA field blank.
NYA4-S9A	DB0060-09	1	N/A	8/26/85	N/A	QA LV14 Z22IN21J7
NYA4-S10A	DB0060-10	1	N/A	8/26/85	N/A	QA LV 24 Q32JQ94K6
NYA4-S11A	DB0060-11	1	N/A	8/26/85	N/A	QA LV 14 G25GO51C1
NYA4-S12A	DB0060-12	1	N/A	8/26/85	N/A	QA LV 29 F32YO73W9

NIAGARA CATHOLIC HIGH SCHOOL
SAMPLING DATE: 8/23/85
CASE: 4893
TCDD ANALYSIS

Sample Number	Matrix	Sample Depth (Ft.)	PPB TCDD Measure	PPB TCDD Detection Limit
NYA4-S1A	soil	1.5-2.0	ND	0.051
NYA4-S2A	soil	2.0	0.098	—
NYA4-S3A	soil	2.0	ND	0.056
NYA4-S4A	soil	1.0	ND	0.059
NYA4-S5A	soil	1.0	ND	0.033
NYA4-S6A	soil	1.0	ND	0.43
NYA4-S7A	Native TCDD spike	N/A	1.11	—
NYA4-S8A	blank	N/A	ND	0.080
NYA4-S9A	PE QA sample	N/A	6.3	—
NYA4-S10A	PE QA sample	N/A	0.88	—
NYA4-S11A	PE QA sample	N/A	6.8	—
NYA4-S12A	PE QA sample	N/A	0.99	—

Notes:

ND - not detected

NA - not applicable

PPB- parts per billion

NUS CORPORATION
RARITAN PLAZA III, FIELDCREST AVENUE
EDISON, NEW JERSEY 08837
201-225-6160

our 35th yea

C-584-08-85-67

August 12, 1985

Ms. Diana Messina
U.S. Environmental Protection Agency
Region II
Edison, New Jersey 08837

Dear Diana:

Enclosed please find copies of the analytical results of samples collected on June 26, 1985 at the St. Mary's School Site in Niagara Falls, New York. Work was authorized under TDD #02-8505-04A.

Subsurface soil samples were collected from locations in and around a football field which is adjacent to the present school building. Analytical results indicate the presence of toluene and polyaromatic hydrocarbons in the northeast corner of the field. Methylene chloride and 1,1,1 trichloroethane were found in one sample in the southwest corner of the field.

Very truly yours,

Gary Rojek

Approved:

GR:jls

Enclosure

ST.MARY'S SCHOOL
SAMPLING DATE: 06/26/85
CASE: 4452/1728B

VOLATILES

SAMPLE NUMBER	NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYA4-S6	NYA4-
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLAN
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Chloromethane							
Bromomethane							
Vinyl Chloride							
Chloroethane							
Methylene Chloride	11	E	E	E	E	E	E
Acetone		E	E	E	E	E	J
Carbondisulfide							
1,1-Dichloroethene							
1,2-Dichloroethane							
Trans-1,2-Dichloroethene							
Chloroform							
1,2-Dichloroethane							
2-Butanone							
1,1,1-Trichloroethane	6.4	E	E	E	E	E	J
Carbon Tetrachloride							
Vinyl Acetate							
Bromodichloromethane							J
1,1,2,2-Tetrachloroethane							
1,2-Dichloropropane							
Trans-1,3-Dichloropropene							
Trichloroethene							
Dibromochloromethane							
1,1,2-Trichloroethane							
Benzene							
Cis-1,3-Dichloropropene							
2-Chloroethylvinylether							
Bromoform							
2-Hexanone							
4-Methyl-2-Pentanone							
Tetrachloroethene			J			23	
Toluene							
Chlorobenzene							
Ethylbenzene							
Styrene							
Total Xylenes							

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

CASE: 4452/1728B

SEMI-VOLATILES							
SAMPLE NUMBER	NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYA4-S6	NYA4-B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLANK
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
N-Nitrosodimethylamine							
Phenol							
Aniline							
Bis(2-Chloroethyl)Ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
Benzyl Alcohol							
1,2-Dichlorobenzene							
2-Methylphenol							
Bis(2-Chloroisopropyl)Ether							
4-Methylphenol							
N-Nitroso-Di-n-Propylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol							
Benzoic Acid							
Bis(2-Chloroethoxy)Methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene						J	
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-Methylphenol							
2-Methylnaphthalene						J	
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethyl Phthalate							
Acenaphthylene							
3-Nitroaniline							
Acenaphthene							
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran							
2,4-Dinitrotoluene							
2,6-Dinitrotoluene							
Diethyl Phthalate			J				
4-Chlorophenyl-phenylether							
Fluorene							
4-Nitroaniline							

SAMPLING DATE: 06/26/85
CASE: 4452/1728B

SEMI-VOLATILES

SAMPLE NUMBER	NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYA4-S6	NYA4-B1
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLANK
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
4,6-Dinitro-2-Methylphenol							
N-Nitrosodiphenylamine							
4-Bromophenyl-Phenylether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene	J			J	J	760	
Anthracene						J	
Di-n-Butylphthalate							
Fluoranthene	J		J	J	J	1100	
Benzidine							
Pyrene	J		J	J	J	1500	
Butylbenzylphthalate							
3,3'-Dichlorobenzidine							
Benzo(a)Anthracene	J			J		740	
Bis(2 Ethylhexyl)Phthalate							
Chrysene	J			J		730	
Di-n-Octyl Phthalate							
Benzo(b)Fluoranthene						740	
Benzo(K)Fluoranthene						560	
Benzo(a)Pyrene						650	
Indeno(1,2,3-cd)Pyrene						510	
Dibenzo(a,h)Anthracene						580	
Benzo(ghi)Perylene							

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ST.MARY'S SCHOOL
SAMPLING DATE: 06/26/85
CASE: 4452/1720B

PESTICIDES/PCBs

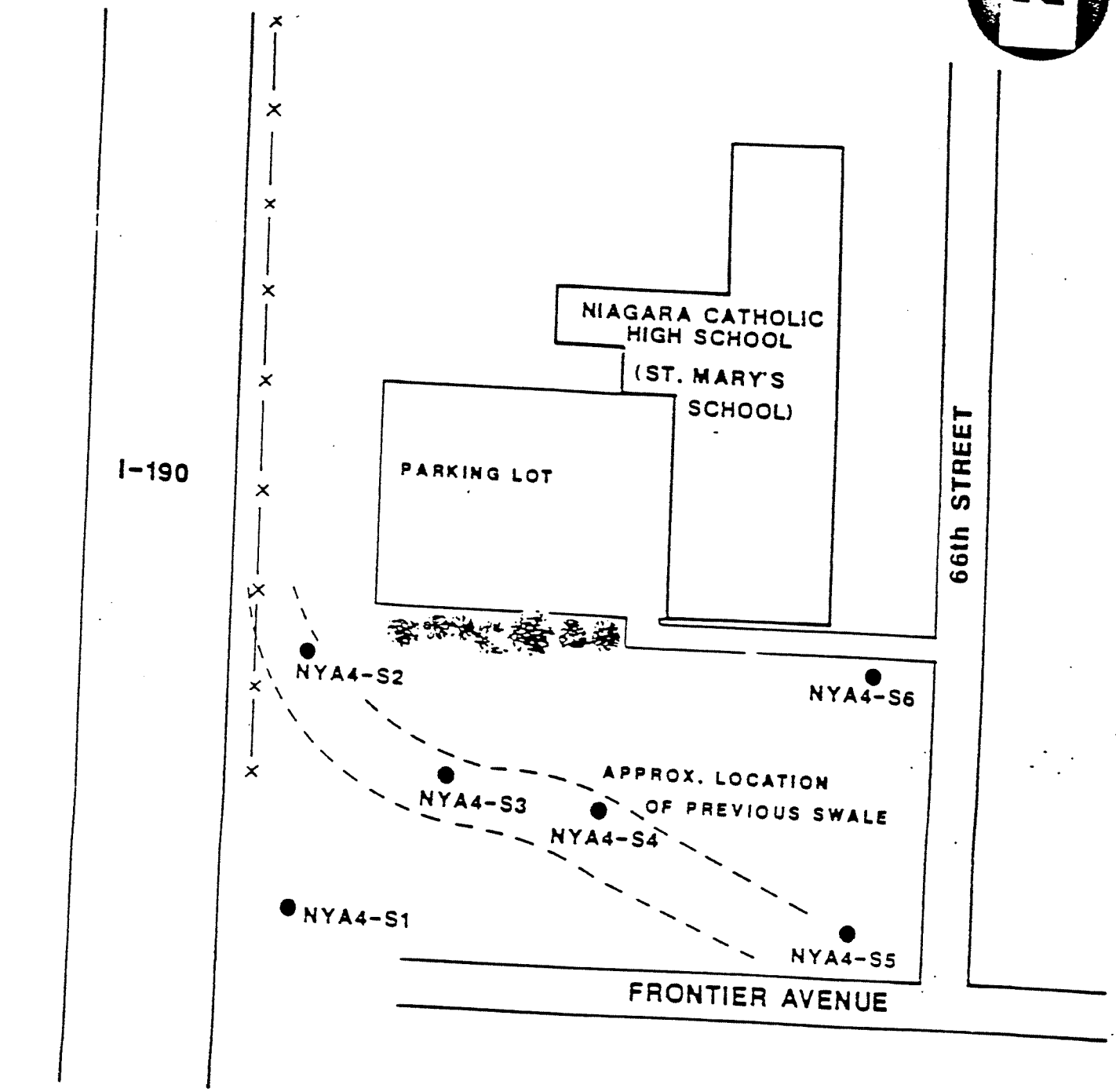
SAMPLE NUMBER	NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYA4-S6	NYA4-B1
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLANK
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Alpha-BHC							
Beta-BHC							
Delta-BHC							
Gamma-BHC (Lindane)							
Heptachlor							
Aldrin							
Heptachlor Epoxide							
Endosulfan I							
Dieldrin							
4,4'-DDE							
Endrin							
Endosulfan II							
4,4'-DDD							
Endrin Aldehyde							
4,4'-DDT							
Methoxychlor							
Endrin Ketone							
Chlordane							
Toxaphene							
Arochlor-1016							
Arochlor-1221							
Arochlor-1232							
Arochlor-1242							
Arochlor-1248							
Arochlor-1254							
Arochlor-1260							

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit

ST.MARY'S SCHOOL
SAMPLING DATE: 06/26/85
CASE: 4452/17298

INORGANICS							
SAMPLE NUMBER	NYA4-S1	NYA4-S2	NYA4-S3	NYA4-S4	NYA4-S5	NYA4-S6	NYA4-
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLAN
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/K
Aluminum	16300	7180	7150	7030	6460	12800	
Antimony	J	J	J	J	J	J	
Arsenic	8.4	J	J	J	14	8.7	
Barium	122	J	J	J	J	146	
Beryllium	J	J	J	J	J	J	
Cadmium						J	
Calcium	17900	3490	16500	29900	11100	15000	
Chromium	E	15	13	15	13	24	
Cobalt	J	J	J	J	J	J	
Copper	29	15	24	14	29	72	
Iron	29200	17000	12600	14400	14400	26200	
Lead	42	8.8	19	14	24	77	
Magnesium	8530	J	4150-	7200	3270	8110	
Manganese	J	J	J	J	J	J	
Mercury	J	J	J	J	J	J	
Nickel	29	J	J	J	J	30	
Potassium	J	J		1210	J	J	
Selenium							
Silver	J					J	
Sodium	E	E	J	E	E	E	
Thallium							
Tin							
Vanadium	33	J	J	J	J	30	
Zinc	158	62	54	62	59	155	

NOTES:
Blank space - compound analyzed for but not detected
E - analysis did not pass QA/QC requirements
J - compound present below the specified detection limit



SAMPLE LOCATION MAP

ST. MARY'S SCHOOL, NIAGARA FALLS, N.Y.

(NOT TO SCALE)

FIGURE 2

NUS CORPORATION

A Halliburton Company

REF 10

INTERVIEW FORM

INTERVIEWEE/CODE John Oyard /
TITLE - POSITION Senior Wildlife Biologist, Significant Habitat Unit
ADDRESS NYSDEC Wildlife Resources Center, Building 8
CITY Delmar STATE N.Y. ZIP 12054
PHONE (518) 439-7486 RESIDENCE PERIOD ____ TO ____
LOCATION phone conversation INTERVIEWER Lisa A. Ryan
DATE/TIME Jan 17, 1986 @ 3:00
SUBJECT: Sensitive Environments in N.Y.

REMARKS:

- There are no federally designated critical habitats of endangered species located within New York State.

- There are 16 map sets (1:250000) which show ecologically significant areas within the state and copies will be sent to us for future use.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

INTERVIEW FORM

INTERVIEWEE/CODE John Ozard /

TITLE - POSITION Senior Wildlife Biologist, Significant Habitat Unit

ADDRESS NYSDEC Wildlife Resources Center, Building 8

CITY Delmar STATE NY ZIP 12054

PHONE (518) 439-7486 RESIDENCE PERIOD ____ TO ____

LOCATION phone conversation INTERVIEWER Lisa A. Ryan

DATE/TIME Jan. 17, 1986 / 3:00 p.m.

SUBJECT: Sensitive environments in NY

REMARKS: There are no federally designated critical habitats of endangered species located within New York State

There are 16 map sets (1:250000) which show icologically significant areas within the state and copies will be sent to us for future use.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: /s/ John W. Ozard

COMMENTS: The 1:250000 scale maps show state potent. significant wildlife habitats.

Dangerous Properties of Industrial Materials

Fifth Edition

N. IRVING SAX

Assisted by:

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

VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

REF.

12

St. Mary's & Bishop Duffey Sch.

November 28, 1979

Mr. John Malinchock
Niagara County Health Department
10th and East Falls Street
Niagara Falls, New York 14303

Re: Soil Analyses

Dear Mr. Malinchock:

Please find enclosed Recra Research, Inc.'s results of the analyses of soil samples received at our laboratories on November 20, 1979.

If you have any questions concerning these data, do not hesitate to contact the undersigned.

Sincerely,

RECRA RESEARCH, INC.

Robert K. Wyeth

Robert K. Wyeth
Laboratory Director

JAP/RKW/skb
Enclosure

Job #992

RECRA RESEARCH, INC. ... Amherst, New York 14150 / (716) ...-6200

ANALYTICAL RESULTS

NIAGARA COUNTY HEALTH DEPARTMENT

Report Date: November 28, 1979
Sample Date: 11/79

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION (DATE)	
		#1 (11/79)	#2 (11/79)
Total Lead	µg/g (dry)	150	94

COMMENTS: Samples were received at Recra on November 20, 1979. All analyses were performed according to U.S. Environmental Protection Agency methods. Results are expressed on a dry weight basis.

FOR RECRA RESEARCH, INC. J. P. Lasagna

DATE 11/29/79

REF. 13

US CENSUS DATA, 1980

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

USDOI, 1983

(14)

NATIONAL REGISTER OF HISTORIC PLACES

ANNUAL LISTING OF PROPERTIES

JANUARY 1979 THROUGH DECEMBER 1982

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JULY 1983

USDOI, 1983

Federal Register

Tuesday
March 1, 1983

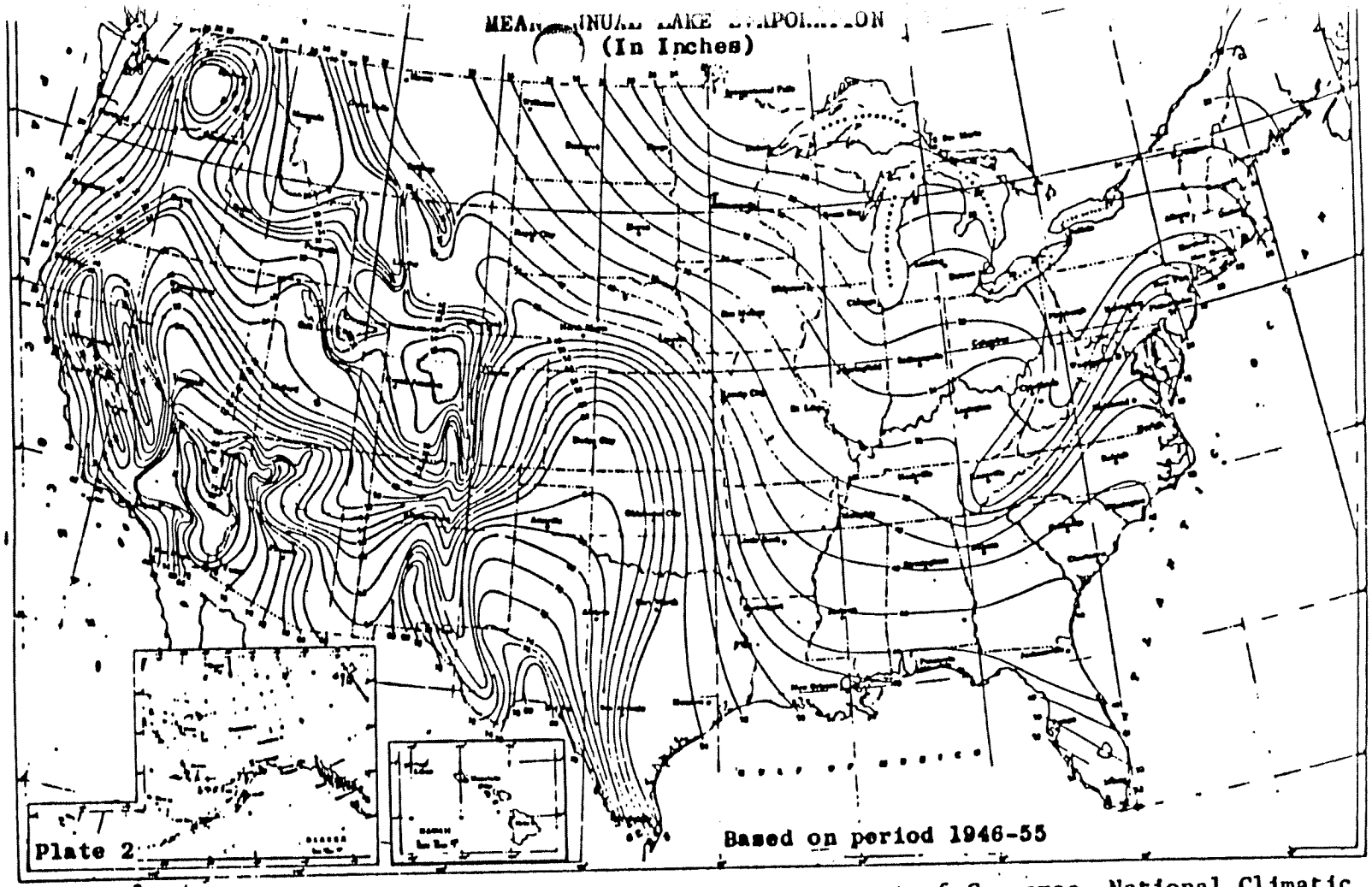
14

Part III

Department of the Interior

National Park Service

National Registry of Natural Landmarks

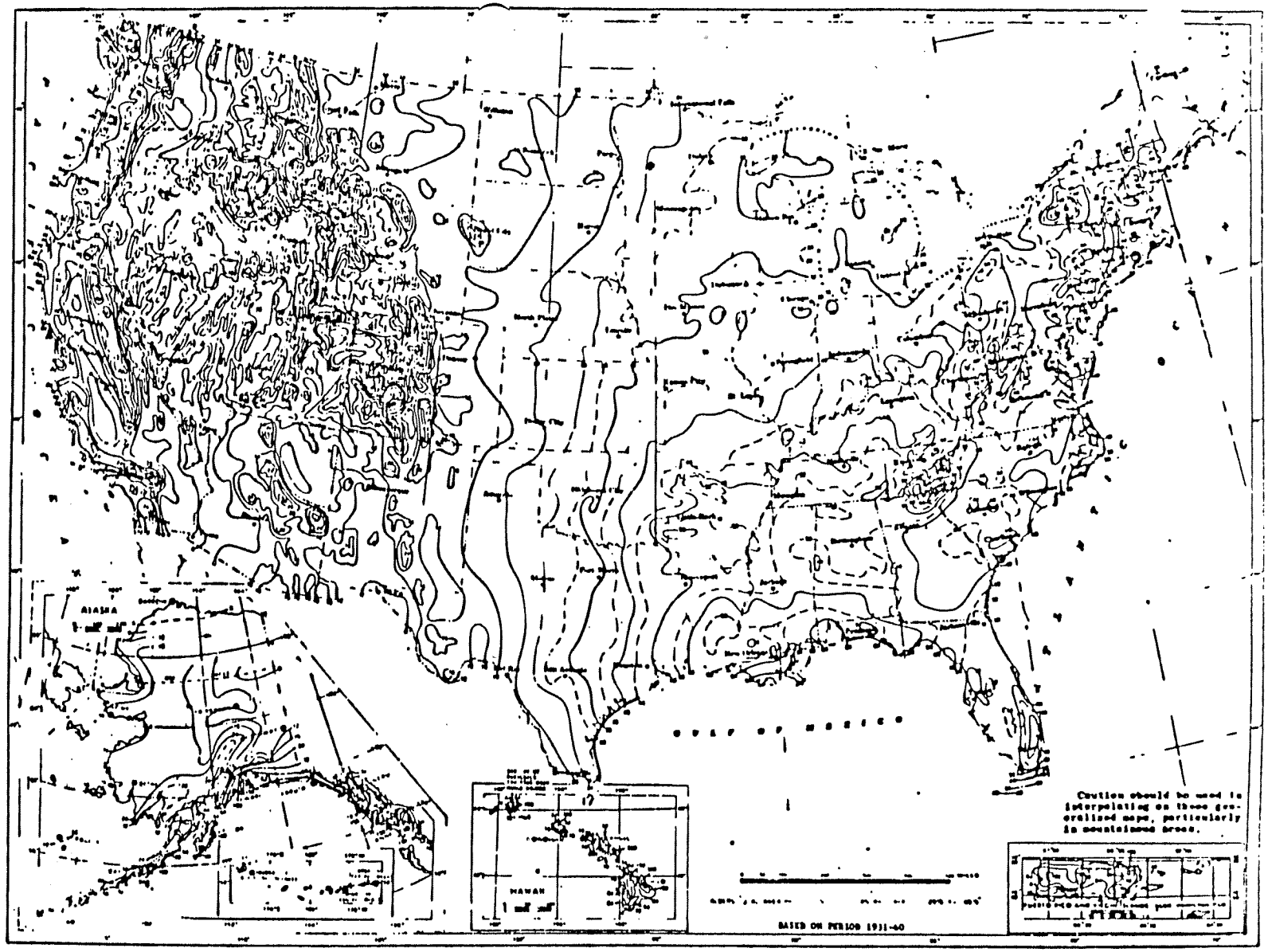


Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

Figure 4

Mean Annual Lake Evaporation (In Inches)

REF
15



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

Figure 5

Normal Annual Total Precipitation (inches)

BILLING CODE 6560-50-C

REF 15

United States
Environmental Protection
Agency

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

EPA-905/4-85-001
March 1985

USGS

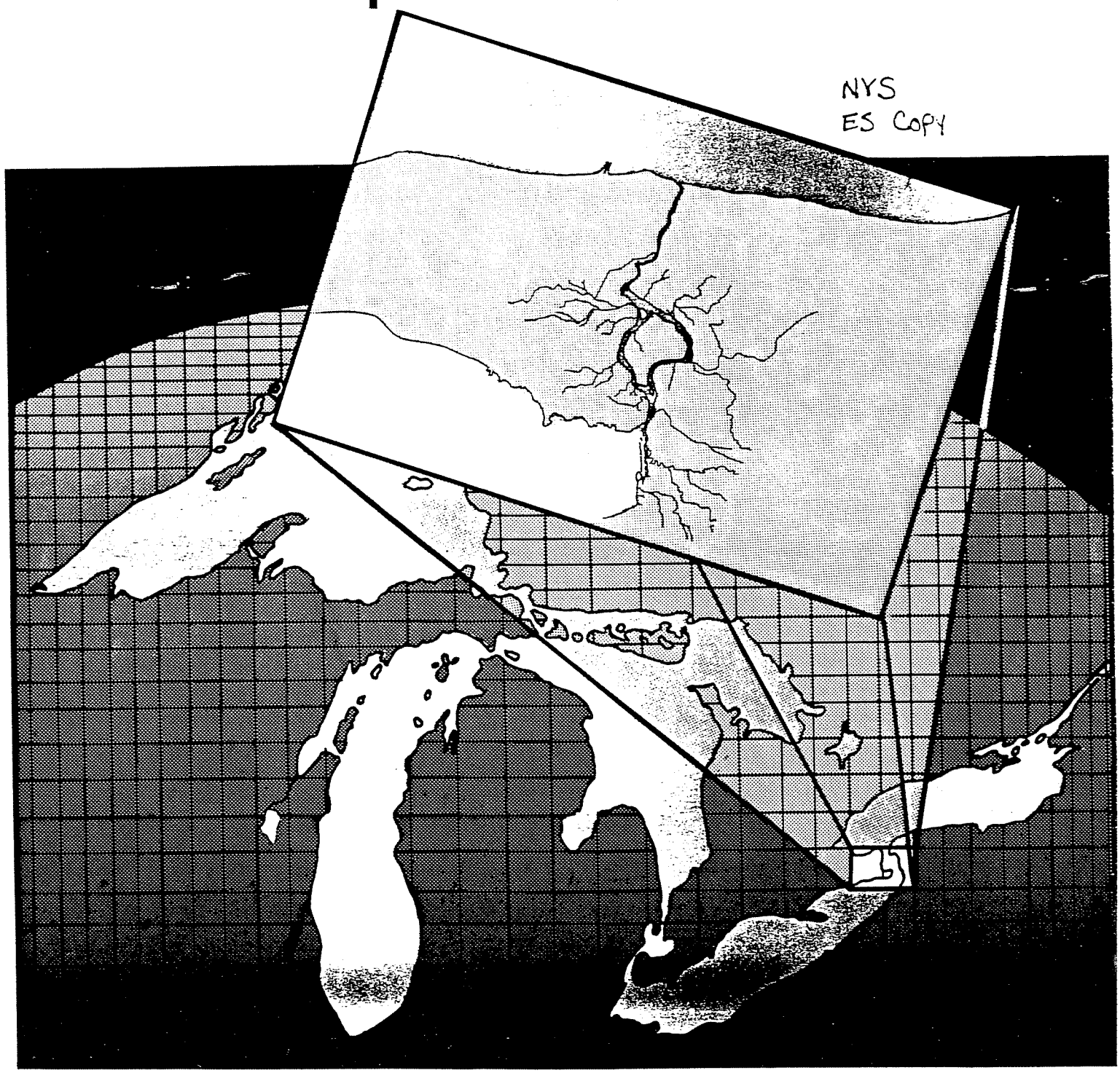
REF. 16

REF 01707 0

EPA

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

NYS
ES COPY



238. SAINT MARY'S SCHOOL (USGS field reconnaissance) NYSDEC 932087

General information and chemical-migration potential.--The St. Mary's School site, in the city of Niagara Falls, received an unknown quantity of fly ash from Occidental Chemical Company during the 1950's. The potential for contaminant migration is indeterminable.

Geologic information.--The U.S. Geological Survey drilled three test borings on the site in 1982; the locations are shown in fig. C-56. The geologic logs are on page 413.

Hydrologic information.--Ground water was encountered in some of the sand units. The logs indicated a series of perched water-bearing units that may be caused by seasonal increases in precipitation.

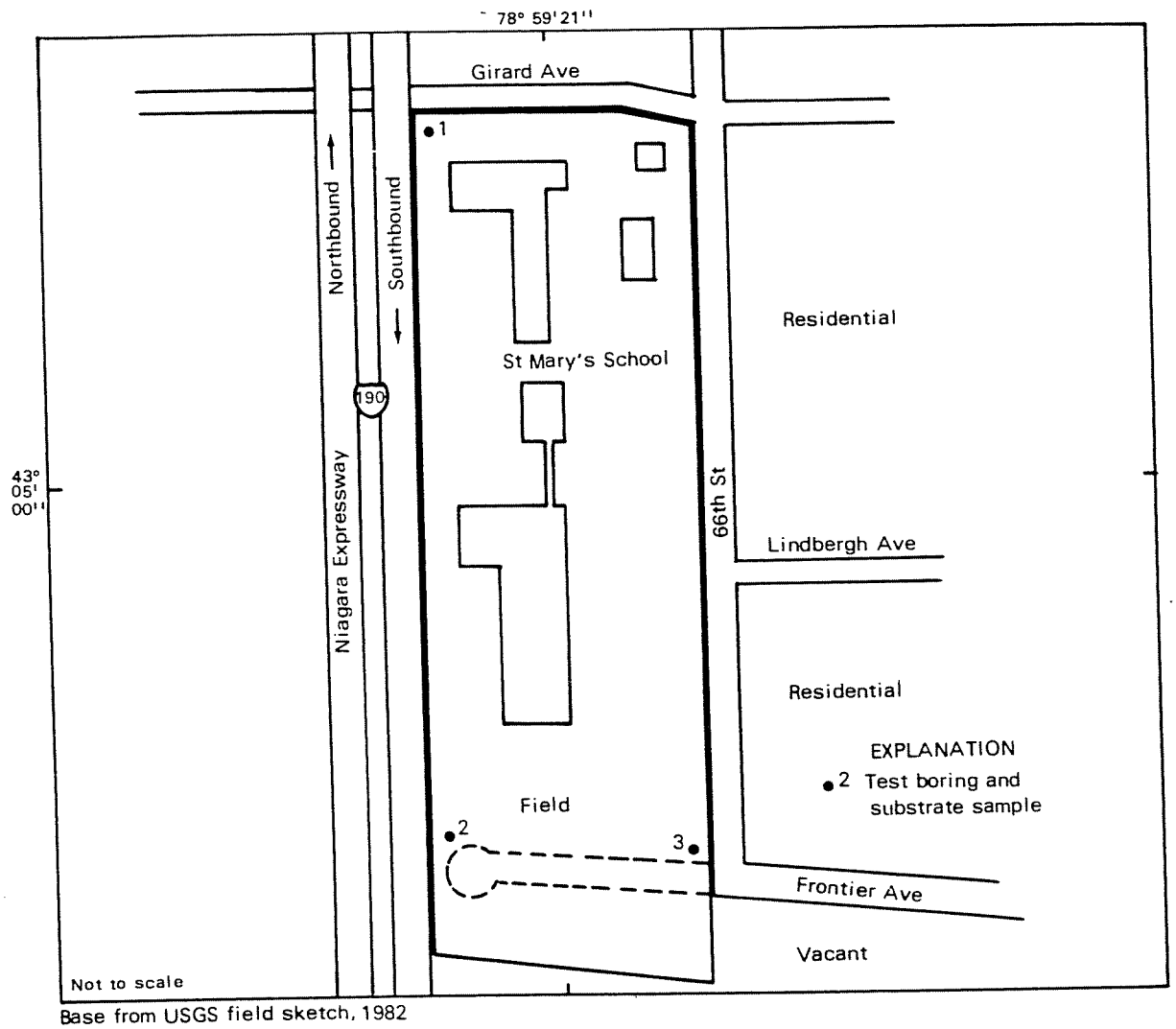


Figure C-56. Location of sampling holes at St. Mary's School, site 238, Niagara Falls.

Boring no.	Depth (ft)	Description
1	0 - 2.5	Topsoil.
	2.5 - 3.0	Sand, fine, yellow, damp.
	3.0 - 5.5	Clay, yellow.
	5.5 - 6.0	Sand, yellow, damp.
	6.0 - 6.5	Clay, red.
		SOIL SAMPLE: 2.5 ft.
2	0 - 1.5	Topsoil.
	1.5 - 2.5	Same.
	2.5 - 4.5	Sand, yellow, fine, dry.
	4.5 - 5.0	Clay, sandy, wet.
	5.0 - 6.0	Sand, yellow, fine, wet.
	6.0 - 6.5	Clay, red, dry.
		SOIL SAMPLE: 5 ft.
3	0 - 3	Topsoil and sand.
	3 - 4.5	Clay, yellow
	4.5 - 6.0	Sand, yellow, wet.
	6.0 - 6.5	SOIL SAMPLE: 5 ft.

Chemical information.--The U.S. Geological Survey collected three soil samples for iron, mercury, and organic-compound analyses; results are given in table C-35. The samples contained four organic priority pollutants, two organic nonpriority pollutants, and some unknown hydrocarbons.

Table C-35.--Analyses of substrate samples from St. Mary's School, site 238, Niagara Falls, N.Y.
(Locations shown in fig. C-56. Concentrations are in µg/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)			
	1	2	(Split)	3
First sampling (08-12-82)	(2.5)	(5.0)		(5.0)
Inorganic constituents				
Iron	1,400,000	1,700,000	(130,000)	1,700,000
Mercury	--	--	(--)	--

[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.

* Compounds detected but not quantified--Holding time exceeded before GC/MS acid- and base-neutral extractable compounds were extracted.

Table C-35.--Analyses of substrate samples from St. Mary's School, site 238, Niagara Falls, N.Y. (continued)
(Locations shown in fig. C-56. Concentrations are in µg/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft) (samples taken from first sand layer)		
Second sampling (05-29-83)	1A (2.5)	2A (2.5)	3A (2.5)
Organic compounds			
Priority pollutants			
Heptachlor	LT	LT	--
Heptachlor epoxide	--	LT	--
Bis(2-ethylhexyl) phthalate	*	*	--
Di-n-octyl phthlate	*	*	--
Nonpriority pollutants			
trans-1,2-Dichloro-cyclohexane[1]	--	*	--
cis-1,3-Dichloro-cyclohexane[1]	--	--	*
Unknown hydrocarbons[1]	*	--	--

242. CHARLES GIBSON SITE (Literature review) NYSDEC 932063

General information and chemical-migration potential.--The Charles Gibson site, in the eastern part of the town of Niagara, on Cayuga Creek, was used as a disposal site during 1955-57 for 403 drums (about 90 tons) of hexachlorobenzene and 101 truckloads (about 1,000 tons) hexachlorocyclohexane (BHC) cake.

A remedial investigation program has been developed by the site owner in response to the NYSDEC Division of Environmental Enforcement to assess the extent of past disposal practices and impact on the ground water and surface water in the area. The potential for contaminant migration is major because of the proximity to the creek and the nature of the buried material.

Geologic information.--No data are available at present. The site probably consists of a lacustrine clay deposit overlying bedrock of Lockport Dolomite.

Hydrologic information.--No data are available at present. Ground water would probably occur at or near stream stage. The direction of ground-water flow is probably eastward toward the stream.

Chemical information.--Sampling by the NYSDEC in 1982 indicated that the waste material contains BHC's in concentrations exceeding 90,000,000 µg/kg.

Table ~~119~~ 124 C-37.--Analyses of substrate samples from St. Mary's School, site 238, Niagara Falls, N.Y. (Locations shown in fig. ~~156~~ 130. Concentrations are in µg/Kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.)

	Sample number and depth below land surface (ft)			
	1	2	(Split)	3
First sampling (08-12-82)	2.5	5.0		5.0
Inorganic constituents				
Iron	1,400,000	1,700,000	(130,000)	1,700,000
Mercury	—	--	(--)	—

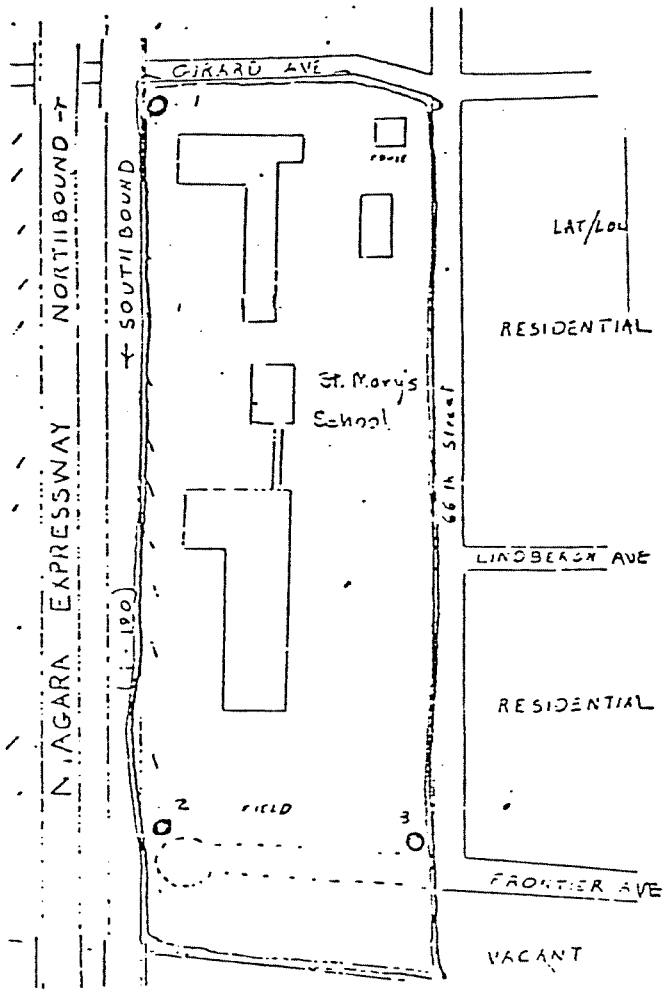
	Sample number and depth below land surface (ft) (samples taken from first sand layer)		
	1A	2A	3A
Second sampling (05-29-83)	2.5	2.5	2.5
Organic compounds			
Priority pollutants			
Heptachlor	LT	LT	—
Heptachlor epoxide	--	LT	—
Bis(2-ethylhexyl)phthalate	*	*	—
Di-n-octylphthlate	*	*	—
Nonpriority pollutants			
Trans-1,2-dichloro-cyclohexane[1]	—	*	—
Cis-1,3-dichloro-cyclohexane[1]	—	--	*
Unknown hydrocarbons[1]	*	—	—

[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.

* Compounds detected but not quantified--Holding time exceeded before GC/MS acid- and base-neutral extractable compounds were extracted.

78° 59'21"

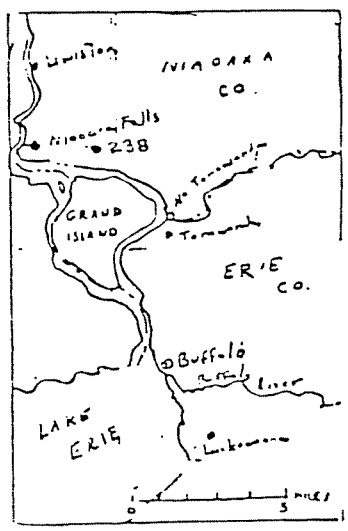
'05'00"

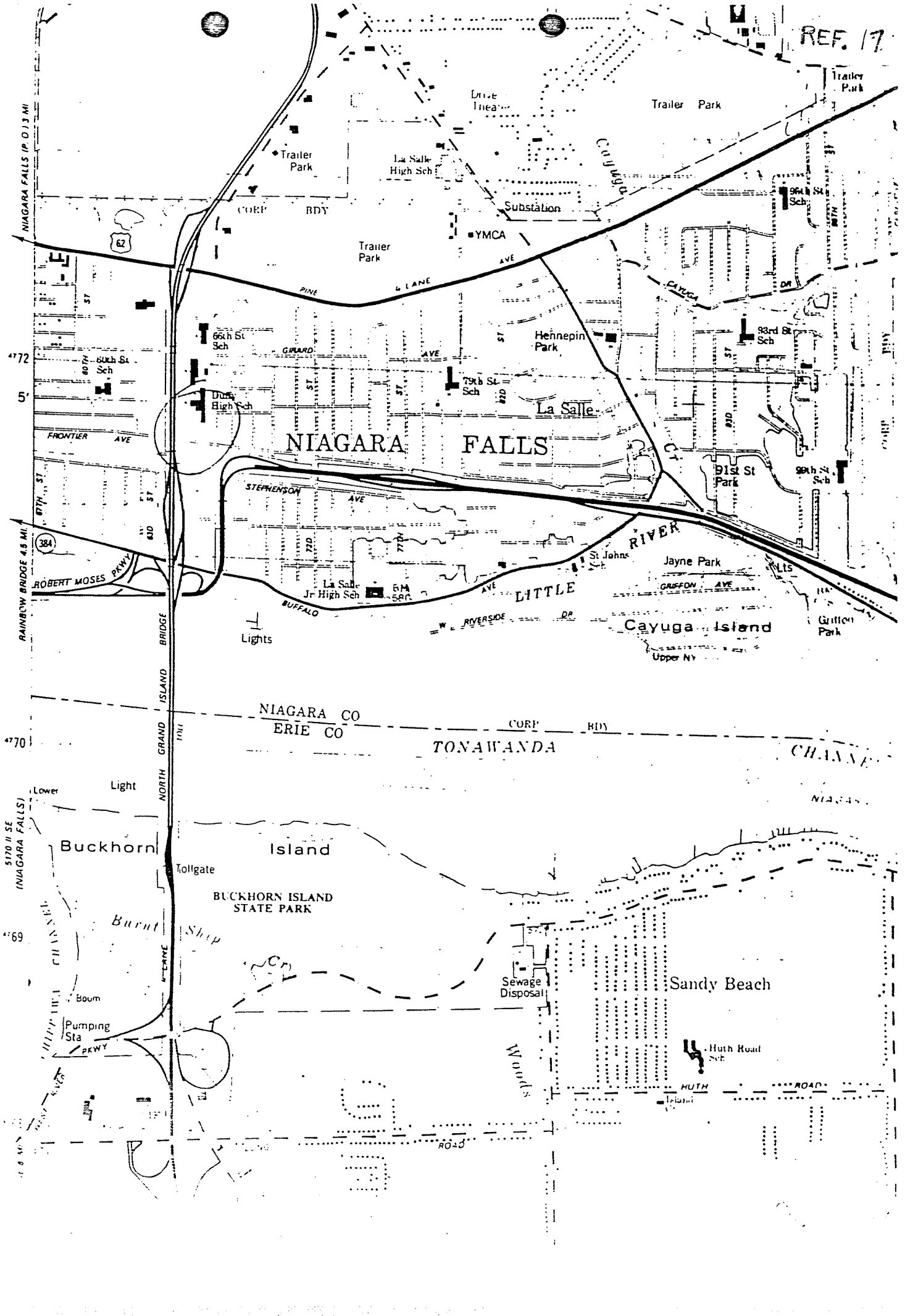


EXPLANATION

• 2 TEST BORING AND SUBSTRATE SAMPLE

MAP NOT TO SCALE




REF. 17
NIAGARA FALLS (P.O.) 3 MI
Trailer Park
Drive Theatre
Trailer Park
La Salle High Sch
Cayuga
CORP BDY
Substation
YMCA
Trailer Park
96th St Sch
PINE AVE
4 LANE
CAYUGA DR
66th St Sch
GIRARD AVE
Hennepin Park
93rd St Sch
60th St Sch
79th St Sch
Dudley High Sch
La Salle
NIAGARA FALLS
FRONTIER AVE
91st St Park
99th St Sch
STEPHENSON AVE
RAINBOW BRIDGE 4.5 MI
ROBERT MOSES PKWY
St Johns
Jayne Park
La Salle Jr High Sch
BUFFALO AVE
LITTLE RIVER
GRIFFON AVE
RIVERSIDE DR
Lights
Cayuga Island
Griffon Park
Upper NY
NIAGARA CO
ERIE CO
CORP BDY
TONAWANDA
CHANNEL
Lower Light
NORTH GRAND ISLAND BRIDGE
Buckhorn Island
Tollgate
BUCKHORN ISLAND STATE PARK
Burnt Ship Creek
Sewage Disposal
Sandy Beach
Boom
Pumping Sta
PKWY
Huth Road Sch
HUTH ROAD
Woods
ROAD
4772
4770
4769
5170 II SE (NIAGARA FALLS)

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D980535249

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Niagara Catholic High School (formerly St. Marys and Bishop Duffy School)	520 66th St.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Niagara Falls	NY	14304	Niagara	063	33

09 COORDINATES LATITUDE: 43 05 00.N | LONGITUDE: -78 59 21.W

10 DIRECTIONS TO SITE (Starting from nearest public road): School is located on 66th Street between Girard and Frontier Avenue, east of the Niagara Expressway (I-190).

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Diocese of Buffalo	100 South Elmwood Ave.

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Buffalo	NY	14202	(716) 847-6700

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Niagara Catholic High School	520 66th Street

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Niagara Falls	NY	14304	(716) 283-8771

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 DATE 4/21/86 (MONTH DAY YEAR) ☐ NO

BY (Check all that apply)
☐ A. EPA ☒ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): Engineering Science (ES) and Dames & Moore (D&M)

02 SITE STATUS (Check one)	03 YEARS OF OPERATION		
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN	unknown (BEGINNING YEAR)	1958 (ENDING YEAR)	☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Site was used by Hooker Chemical Company for disposal of flu ash. Soil samples indicate the presence of polyaromatic hydrocarbons (PAH), (benzo(a) pyrene). Radioactive slag was found beneath the parking lot in low concentrations.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
The site is easily accessible. It is currently used by High School students. The depth of cover material over the unknown quantity of wastes is unknown.

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 (Inspection 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
Cathy J. Bosma	Engineering-Science	(703) 591-7575

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Cathy J. Bosma		Same	( )	5/1/86 (MONTH DAY YEAR)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535049

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER (Specify) Unknown
- [ ] 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)

- [x] A. TOXIC
- [ ] B. CORROSIVE
- [x] C. RADIOACTIVE
- [x] 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			Unknown
OCC	OTHER ORGANIC CHEMICALS			Unknown
IOC	INORGANIC CHEMICALS			Unknown
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			Unknown

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
OCC	Pyrene	999	SI	1500	ug/l
	Benzo(a) Anthracene	999		740	ug/l
	Fluoranthene	999		1100	ug/l
	Phenanthrene	85-01-8		760	ug/l
	Chrysene	999		730	ug/l
	Benzo(b) Fluoranthene	999		740	ug/l
	Benzo(K) Fluoranthene	999		560	ug/l
	Benzo (a) Pyrene	999		650	ug/l
	Indeno(1,2,3 cd) Pyrene	999		510	ug/l
OCC	Benzo(ghi) Perylene	999	SI	580	ug/l

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)

NUS Corporation Report, June 1985.

EPA/USGS 1985

ST. MARY'S & BISHOP DUFFY

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

NUS SAMPLING RESULTS IDENTIFY TRACE LEVELS OF SEVERAL CONTAMINANTS IN OVERBURDEN (1-5'). NO GROUNDWATER DATA AVAILABLE; MIGRATION POTENTIAL TO GROUND WATER IS LOW.

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

NO DATA AVAILABLE.

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

NO DATA AVAILABLE

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

LOW POTENTIAL DUE TO NATURE OF SUSPECTED WASTES (FLY ASH)

01 ☒ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: ~4000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

ALL WASTES ARE COVERED HOWEVER ACCESS TO THE SITE IS UNRESTRICTED SINCE THE AREA IS SCHOOL GROUNDS.

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 3 (Acres)
02 ☐ OBSERVED (DATE: 6/26/85) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

NUS STUDIES FOUND SOIL SAMPLES FROM SITE TO BE CONTAMINATED WITH POLYAROMATIC HYDROCARBONS.

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

LOW POTENTIAL SINCE SURFACE WATER INTAKES (NIAGARA RIVER) ARE APPROX. 2 MILES DOWNSTREAM OF SITE.

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

NO RECORD OF INCIDENT.

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

NO RECORD OF INCIDENT

St. Mary's

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

NO RECORD OF DAMAGE

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

NO RECORD OF DAMAGE

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

LOW POTENTIAL DUE TO NATURE OF SITE (SCHOOL) AND URBAN LOCATION

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

RADIOACTIVE SLAG FOUND BENEATH ASPHALT PARKING LOTS. UNSUBSTANTIATED REPORTS OF BURIED DRUMS ON SITE - POSSIBILITY OF LEAKAGE.

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

NO RECORD OF DAMAGE

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

UNKNOWN

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

NO RECORD OF ILLEGAL DUMPING - UNLIKELY SINCE SITE IS A SCHOOL GROUNDS.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

USGS, 1984
NCHD, 1982
NUS, 1985

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Niagara Catholic High School (formerly St. Marys and Bishop Duffy School)	520 66th St.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Niagara Falls	NY	14304	Niagara	063	33

09 COORDINATES LATITUDE	LONGITUDE
43 05 00.N	78 59 21.W

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

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR / ENDING YEAR)
04 23 86	☐ ACTIVE ☑ INACTIVE	unknown / 1958 ☐ 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 _____ (Name of firm) ☑ G. OTHER Engineering Science (ES) & Dames & Moore (D&M) (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Cathy J. Bosma	Civil Engineer	ES	(703) 591-7575
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Larry Keefe	Geologist	D&M	(315) 633-2572
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Maire O'Dea	Principal	520-66th St.	(716) 283-8771
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☑ PERMISSION ☐ WARRANT	11:00 am	Windy, clear, sunny, 35°

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Cathy J. Bosma	Engineering-Science	(703) 591-7575

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Cathy J. Bosma		Same		5 1 86

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	D980535249

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER Unknown (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			Unknown
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			Unknown

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
CCC	Pyrene	999	SI	1500	ug/l
	Benzo(a) Anthracene	999		740	
	Fluoranthene	999		1100	
	Phenanthrene	55-01-8		760	
	Chrysene	999		730	
	Benzo(b) Fluoranthene	999		740	
	Benzo(K) Fluoranthene	999		560	
	Benzo(a) Pyrene	999		650	
	Indeno(1,2,3-cd) Pyrene	999		510	
CCC	Benzo(ghi) Perylene	999	SI	580	ug/l

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)

NUS Corporation Report, 1985
EPA/USGS 1955

ST. MARY'S

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D98C535249

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

NUS SAMPLING RESULTS IDENTIFY TRACE LEVELS OF SEVERAL CONTAMINANTS IN OVERBURDEN (1-5'). NO GROUNDWATER DATA AVAILABLE; MIGRATION TO GROUNDWATER IS POSSIBLE

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

NO DATA AVAILABLE

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

NO DATA AVAILABLE

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

LOW POTENTIAL DUE TO NATURE OF WASTES (FLY ASH)

01 [X] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~4,000 within 1 mile — 04 NARRATIVE DESCRIPTION

NO EXPOSED WASTES AT SITE. UNRESTRICTED ACCESS SINCE AREA IS SCHOOL GROUNDS

01 [X] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE: 6/85) — [ ] POTENTIAL — [X] ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

NUS SAMPLING FOUND THE SOIL IN THE FIELD CONTAMINATED WITH POLYAROMATIC HYDROCARBONS.

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

LOW POTENTIAL - SURFACE WATER INTAKES ~2 MILES FROM SITE.

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

NO RECORD OF INCIDENT

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

NO RECORD OF INCIDENT

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980535249

HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

NONE NOTICED

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

NONE NOTICED

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

LOW POTENTIAL DUE TO NATURE OF SITE

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

RADIO ACTIVE SLAG FOUND BENEATH ASPHALT PARKING LOTS. UNSUBSTANTIATED REPORTS OF BURIED DRUMS ON SITE - POSSIBILITY OF LEACHATE.

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

NONE NOTICED

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

UNKNOWN

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

NONE NOTICED DURING SITE VISIT; NO REPORT OF ILLEGAL DUMPING

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

USGS, 1984
NCHD, 1982, 1986
NUS, 1985
ES & DIM SITE INSPECTION, 1986

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

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	N/A			
☐ 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	Unknown	
☐ 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 — School

06 AREA OF SITE

2-3 (Acres)

07 COMMENTS

An unknown quantity of radioactive slag, fly ash and other unknown industrial wastes were landfilled on site. The waste material is suspected to be disposed of under the asphalt parking lot and the schools football field. Flyash was brought to the site by Hooker Chemical Company.

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 drums are known to be disposed of on site. The site has no liner or run on control. The depth of cover is unknown.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☑ YES ☐ NO

02 COMMENTS

Site is a high school. Site is located under a parking lot and football field.

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

NCHD, Site Profile Report, 1982.
NUS Corporation Report, 1985

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D980535249

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. 22 (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
(PERCHED) 5 (ft)	UNKNOWN	20-120 (ft)	UNKNOWN (gpd)	☐ YES ☐ NO UNKNOWN

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

NO KNOWN DRINKING WELLS WITHIN 3 MILES
INDUSTRIALS WELLS FOR NON-CONTACT USE ± .2 MILES SOUTH WEST OF SITE.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS: UNKNOWN.	☐ YES ☐ NO	COMMENTS: UNKNOWN

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
NIAGARA RIVER	☐	0.6 (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. 4,000 NO. OF PERSONS	B. 16,000 NO. OF PERSONS	C. 72,452 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 21,000

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 100 ft (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)

THE SITE IS OCCUPIED BY NIAGARA CATHOLIC HIGH SCHOOL ON 66TH STREET, NIAGARA FALLS. THIS AREA IS PRIMARILY RESIDENTIAL OF MEDIUM DENSITY. COMMERCIAL AREAS ARE ~1000 FEET NORTH, THE NEAREST INDUSTRIAL ZONE IS ~ 1 MILE WEST. THERE ARE NO AGRICULTURAL AREAS WITHIN TWO MILES.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

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

02 PERMEABILITY OF BEDROCK (Check one)

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

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
20-120 (ft)	UNKNOWN (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
9" (in)	2.1 (in)	2-3 %	SW	2-3 %

09 FLOOD POTENTIAL

SITE IS IN 7500 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 (TW-3)

B. 0.6 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 3 (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	AGRICULTURAL LANDS AG LAND
A. 0.2 (mi)	B. ϕ (mi)	C. _____ (mi)	D. > 2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

AREA IS REPORTED TO HAVE BEEN A LOW SWAMPY AREA DURING THE 1950's. DISPOSAL OF FLY ASH ~~RE~~ FILLED AREA UNTIL ROUGHLY LEVEL. CURRENTLY SITE SURFACE IS COMPLETELY COVERED WITH BUILDINGS, LAWNS, OR PARKING LOTS

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

CFR 40, PART 300
NCHD, 1982
NYS DEC REG 9, 1986
USGS, 1985
NUS, 1985
NYSDOH, 1985

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

II. SAMPLES TAKEN

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

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu	Meter readings taken upwind and downwind of the site did not measure any volatile organics present

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☑ GROUND ☐ AERIAL

02 IN CUSTODY OF Engineering Science and Dames & Moore
(Name of organization or individual)

03 MAPS ☑ YES ☐ NO

04 LOCATION OF MAPS
Engineering-Science and Dames & Moore.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

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

ES and D&M Site Visit, Apr. 1986

EPA FORM 2070-13 (7-81)

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535249

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Diocese of Buffalo		100 South Elmwood Ave		Buffalo	NY	14202

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
U.S. Government War Assets Adm.		Unknown				
LaSalle Development Corp		Unknown			NY	
City of Niagara Falls						

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

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

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

Letter for Msgr. Paul Cronin which enclosed letter from Kennedy & Stoeckl
April 17, 1986

Deed Search, Feb., 1985

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535049

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	04 SIC CODE
Site is a Catholic School		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
520 66th St.	Niagara Falls	NY	14304

08 YEARS OF OPERATION	09 NAME OF OWNER
~ 34 years	Diocese of Buffalo

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	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	04 SIC CODE
U. S. Government		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
Unknown			

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER	04 SIC CODE
LaSalle Development Corp		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
Unknown			

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
~ 1923-1948	

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER	04 SIC CODE
City of Niagara Falls		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
1941 - 1953	

10 NAME	11 D+B NUMBER	13 SIC CODE

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	14 CITY	15 STATE	16 ZIP CODE

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

Letter for Msgr. Paul Cronin which enclosed letter from Kennedy & Stoeckl, April 17, 1986.

Deed Search, Feb. 1985.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535240

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Not Applicable	

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
Hooker Chemical Company			
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
Niagara Falls	NY		

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)

NCHD Site Profile Report, 1982

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535049

II. PAST RESPONSE ACTIVITIES NONE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EPA

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

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D980535049

II. PAST RESPONSE ACTIVITIES (Continued) NONE

01 ☐ R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ W. GAS CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Z. AREA EVACUATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE	03 AGENCY

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

NCHD, 1982
NUS Corporation, 1985

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980535249

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)

Charley Hudson, NYSDOH, 1985
NCHD, 1982
NUS Corp, 1985

SECTION VI

ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

ASSESSMENT OF DATA ADEQUACY

A summary assessment of the adequacy of existing data for completion of the HRS score is presented in Table VI-1. Insufficient information is presently available to complete an HRS score for this site.

PHASE II WORK PLAN

Objectives

The objectives of the Phase II activities are:

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

TABLE VI-1

ASSESSMENT OF DATA ADEQUACY

HRS Data Requirement	Comments on Data
Observed Release	
Groundwater	Inadequate to score an observed release
Surface Water	Inadequate to score an observed release
Air	Adequate for HRS score, no observed release
Route Characteristics	
Groundwater	Inadequate for HRS score
Surface Water	Adequate for HRS score
Air	Adequate for HRS score
Containment	Adequate for HRS score
Waste Characteristics	Inadequate for HRS score
Targets	Adequate for HRS score
Observed Incident	Adequate for HRS score
Accessibility	Adequate for HRS score

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

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

Groundwater - A groundwater monitoring system consisting of 3 wells is recommended. Borings will be drilled to a maximum depth of 80 feet; soil samples will be taken every 5 feet or more frequently if a change in soil lithology is encountered. The wells will be placed in the aquifer of concern and constructed of 2" PVC pipe. The groundwater samples will be analyzed for HSL organics and metals. Subsurface soil samples will be analyzed for HSL organics and metals. In addition, sieve and hydrometer analyses will be performed on representative samples.

Surface Water and Sediment - No further studies required.

Air - An air monitoring survey with an HNu meter is recommended to test the air quality above the site.

TASK DESCRIPTION

The proposed Phase II tasks are described in Table VI-2.

COST ESTIMATE

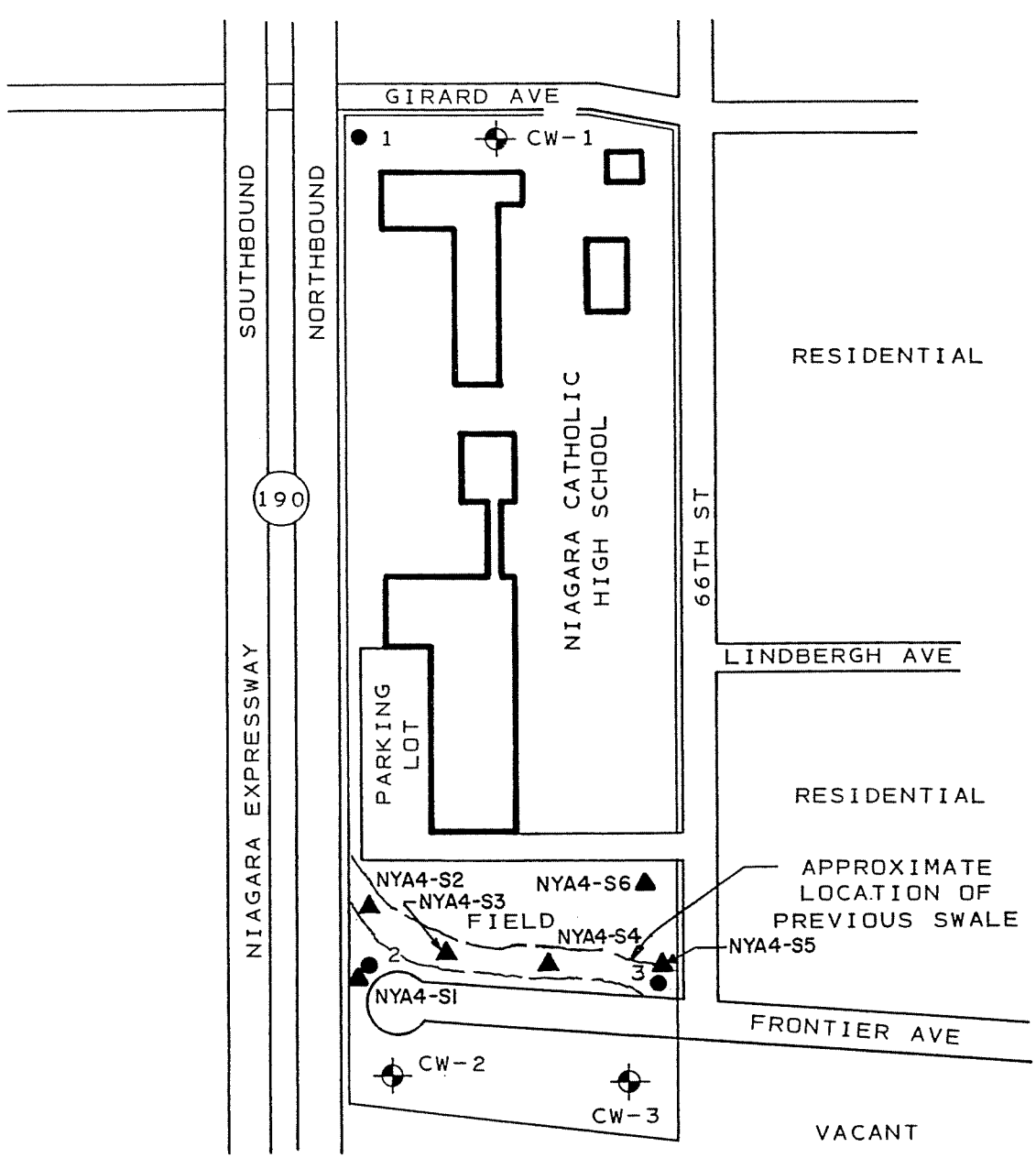
The estimated man-hours required for the Phase II project are presented in Table VI-3 and the estimated project costs are presented by task in Table VI-4.

HEALTH AND SAFETY PLAN

The Health and Safety Plan will be submitted as a separate document.

QUALITY ASSURANCE PLAN

The Quality Assurance Plan will be submitted as a separate document.



NOT TO SCALE

EXPLANATION:

- ● EXISTING TEST BORING AND SUBSTRATE SAMPLE, USGS 1982
- ▲ SOIL SAMPLE, NUS, 1985
- ⊕ PROPOSED GROUNDWATER MONITORING WELL

REFERENCE: Base map from USGS field sketch, 1982.

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

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SAMPLING LOCATION
ST. MARY'S AND BISHOP DUFFY SCHOOL

FIGURE VI-1

TABLE VI-2

PHASE II WORK PLAN - TASK DESCRIPTION

	Task	Description of Task
II-A	Update Work Plan	Review the information in the Phase I report, conduct a site visit, and revise the Phase II work plan.
II-B	Conduct Geophysical Studies	Conduct resistivity and electromagnetic surveys.
II-C	Conduct Boring/Install Monitoring Wells	Install 1 upgradient and 2 downgradient wells. The wells are to be located at a depth of approximately 80 feet and constructed of 2" PVC pipe.
II-D	Construct Test Pits/Auger Holes	No further construction of test pits/ auger holes necessary.
II-E	Perform Sampling & Analysis	
	Soil samples from borings	Soil samples collected at 5' intervals during drilling and at changes in sub-surface lithologies. Perform one grain size analysis and permeability test per subsurface lithology change.
	Soil samples from surface soils	No further studies necessary.
	Soil samples from borings	No further studies necessary.
	Sediment samples from surface water	No further studies necessary.
	Groundwater samples	3 groundwater samples are to be collected and analyzed for HSL organics and metals.

TABLE VI-2, Continued

PHASE II WORK PLAN - TASK DESCRIPTION

Task		Description of Task
	Surface water samples	No further studies necessary.
	Air samples	Using the HNu, determine the presence of organics.
	Waste samples	No further sampling necessary.
II-F	Calculate Final HRS	Based on the field data collected in Tasks II-B - II-E, complete the HRS form.
II-G	Conduct Site Assessment	Prepare final report containing Phase I report, additional field data, final HRS and HRS documentation records, and site assessments. The site assessment will consist of a conceptual evaluation of alternatives and a preliminary cost estimate of the most probable alternative.
II-H	Project Management	Project coordination, administration and reporting.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PHASE II INVESTIGATION
COST ESTIMATE

SITE ID #: 932087
SITE NAME: ST. MARY'S & BISHOP DUFFY SCHOOL
CONSULTANT: ENGINEERING SCIENCE

TABLE VI-3

TASK DESCRIPTION	ESTIMATED HOURS OF DIRECT TECHNICAL LABOR (DTL) L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	TOTAL HOURS	TOTAL COST
II-A UPDATE WORKPLAN	4	24	4	12	4	72	32	40	24	52	268	3801.20
II-B CONDUCT GEOPHYSICAL STUDIES	2	4				40		80	10	10	146	1913.60
II-C CONDUCT BORING/INSTALL MONITORING WELLS	4	8				80		8	10	12	122	1838.40
II-D CONSTRUCT TEST PITS/ AUGER HOLES											0	0.00
II-E SAMPLING AND ANALYSIS											0	0.00
Soil samples from borings		1				8		8			17	242.00
Soil samples from surface soils											0	0.00
Soil samples from auger holes/test pits											0	0.00
Sediment samples from surface water											0	0.00
Groundwater samples		2				24		24			50	700.80
Surface water samples											0	0.00
Air samples											0	0.00
Waste samples											0	0.00
II-F CALCULATE FINAL HRS SCORE	8	16	4	2	8	48	40	16	8	8	158	2528.20
II-G CONDUCT SITE ASSESSMENT	2	40	4		8	80	40	8	60	100	342	4570.80
II-H PROJECT MANAGEMENT	4	30	4		16					48	102	1662.40
TOTAL HOURS	24	125	16	14	36	352	112	184	112	230		
HOURLY RATE $	33.40	25.20	22.00	19.70	17.00	15.10	13.30	12.00	9.60	8.60		
DIRECT LABOR COSTS $	801.60	3150.00	352.00	275.80	612.00	5315.20	1489.60	2208.00	1075.20	1978.00		

5/30/86

TOTAL DTL COSTS	17257.40
INDIRECT LABOR COSTS	20363.73
TOTAL LABOR COSTS	37621.13
PROFIT (15%)	5643.17
TOTAL PRICE	43264.30

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PHASE II INVESTIGATION
COST ESTIMATE

SITE ID #: 932087
SITE NAME: ST. MARY'S & BISHOP DUFFY SCHO
CONSULTANT: ENGINEERING SCIENCE

TABLE VI-4

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST($)	SUBCONTR. COSTS $	SUPP.& EQUIP. $	MISC. $	TRAVEL & PER DIEM $	TOTALS $
II-A UPDATE WORKPLAN	268	3801.20		237	210	260	4508.20
II-B CONDUCT GEOPHYSICAL STUDIES	146	1913.60		940	60	960	3873.60
II-C CONDUCT BORING/INSTALL MONITORING WELLS	122	1838.40	16050	970	75	820	19753.40
II-D CONSTRUCT TEST PITS/ AUGER HOLES	0	0.00					0.00
II-E SAMPLING AND ANALYSIS	0	0.00	16200	228	40	548	17016.00
Soil samples from borings	17	242.00					242.00
Soil samples from surface soils	0	0.00					0.00
Soil samples from test pits/ auger holes	0	0.00					0.00
Sediment samples from surface water	0	0.00					0.00
Groundwater samples	50	700.80					700.80
Surface water samples	0	0.00					0.00
Air samples	0	0.00					0.00
Waste samples	0	0.00					0.00
II-F CALCULATE FINAL HRS SCORE	158	2528.20		50	75		2653.20
II-G CONDUCT SITE ASSESSMENT	342	4570.80		750	1000	165	6485.80
II-H PROJECT MANAGEMENT	102	1662.40		1000	40		2702.40
SUBTOTAL	1205	17257.40	32250.00	4175.00	1500.00	2753.00	
INDIRECT LABOR (118% DTL)		20363.73					
PROFIT (%)		15	5	5	5	0	
PROFIT ($)		5643.17	1612.50	208.75	75.00		
TOTAL COSTS ($)		43264.30	33862.50	4383.75	1575.00	2753.00	85838.55

5/30/86

APPENDIX A

SOURCES CONTACTED DOCUMENTATION

SOURCES CONTACTED SUMMARY SHEET
ST. MARY'S AND BISHOP DUFFY SCHOOL SITE

Person Contacted/ Location	Telephone	Date	Information Collected
Glenn Hardcastle USEPA Headquarters, Superfund Office 401 M Street, SW Washington, DC 20469	202-382-5617	12/19/85	Reviewed list of sites to determine if additional information was available.
John Anderson USEPA-Region II EPA Information Office 345 3rd St. Suite 530 Niagara Falls, NY 14305	716-285-8842	01-06-86	General information from site files.
Charley Hudson NYSDEC - Div. of Envir. Enforcement Empire State Plaza Corning Tower Albany, NY 12237	518-474-2121	12-30-85	Draft Reports
Kevin Walters NYSDEC-Div. of Envir. Enforcement 50 Wolf Road Albany, NY 12233	518-457-4346	12-30-85	Reviewed list of sites to determine legal actions taken.
Walt Demick NYSDEC-Div. of Solid & Haz. Waste 50 Wolf Road Albany, NY 12233	518-457-0639		General information from site files.
Bob Hannaford NYSDEC-Div. of Water SPDES Files 50 Wolf Road Albany, NY 12233	518-457-6716		Reviewed SPDES files for permit numbers and conditions.

SOURCES CONTACTED SUMMARY SHEET (Continued)
ST. MARY'S AND BISHOP DUFFY SCHOOL SITE

Person Contacted/ Location	Telephone	Date	Information Collected
Val Washington NYS-Dept. of Law, Attorney General's Office Empire State Plaza Justice Building Albany, NY 12233	518-473-3105		Reviewed list of sites to determine if legal action has occurred in the past, is in progress, and/or is scheduled in the near future.
Jeff T. Lacey Peter Burke Glenn Bailey NYSDEC-Div. of Environmental Enforcement 600 Delaware Ave. Buffalo, NY 14202	716-847-4582	12-27-85	Reviewed list of sites to determine legal actions taken.
Peter Buechi Ahmad Tayyebi Bob Mitrey Larry Clare NYS-Region 9 Division of Solid & Hazardous Waste 600 Delaware Ave. Buffalo, NY 14202	716-847-4585	11-14-85	Collected information from site files.
Lou Violanti NYS-Regional Dept. of Health 584 Delaware Ave. Buffalo, NY 14202	716-847-4500	11-15-85	Sent site information to Peter Buechi.
Henry Sondonato Robert Armbrust Dick Dybowski Larry Stiller Jackie DiPronio NYSDEC-Region 9 Div. of Air 600 Delaware Ave. Buffalo, NY 14202	716-847-4565	11-15-85	Air emissions permits for sites.

SOURCES CONTACTED SUMMARY SHEET (Continued)
ST. MARY'S AND BISHOP DUFFY SCHOOL SITE

Person Contacted/ Location	Telephone	Date	Information Collected
Mike Wilkenson Jim Sneider NYSDEC-Region 9 Div. of Fisheries and Wildlife 600 Delaware Ave. Buffalo, NY 14202	716-847-4600	11-14-85	Endangered species information.
Mike McMurry Gordon Batcheller NYSDEC-Region 9 Div. of Regulatory Affairs 600 Delaware Avenue Buffalo, NY 14202	716-847-4551	01-08-86	Wetlands, critical habitat.
Marion Pfohl Spencer Schofield Erie and Niagara County Regional Planning Board 3103 Sheraton Dr. Amherst, NY 14226	716-837-2035	12-20-85	Census data, general site information.
Mike Hopkins Niagara County - Dept. of Health Tenth and East Falls St. Niagara Falls, NY 14302	716-284-3124	11-20-85 12-12-85	Collected information from Niagara County site file. Obtained additional information through interview.
Joanne Elsworth Niagara County - Envir. Mgmt. Div. 59 Park Avenue Lock Port, NY 14094	716-439-6033	12-20-85	Census data, general information.
Monsignor Cronin Diocese of Buffalo 100 S. Elmwood Avenue Buffalo, NY 14202	716-847-6700	4-8-86	Site history.
Moira O'Dea Niagara Catholic High School 520 66th Street Niagara Falls, NY 14304	716-283-8771	4-21-86	Site visit.

GENERAL REFERENCES*

19. Cronin, P. T., Rev., Diocese of Buffalo. Letter to ES, 4/17/86

20. Kennedy & Stoeck. Letter to S. Lubick, 2/7/85.

21. USGS, 1984. U.S. Geological Survey Professional Paper 1270.

* Does not include "HRS References" which are provided directly after the HRS documentation records in Section V.

REF.
18

DIOCESE OF BUFFALO
DEPARTMENT OF CATHOLIC EDUCATION
100 South Elmwood Avenue, Buffalo, New York 14202 • (716) 847-6700

REV. MSGR. PAUL T. CRONIN
Superintendent of
Catholic Education

April 17, 1986

Ms. Cathy Bosma
E-S Engineering Science
2 Flint Hill, 10521 Rosehaven Street
Fairfax, Virginia 22030-2899

Dear Miss Bosma:

I tried to contact you by phone today only to find you were in Cleveland for the week.

Perhaps you have verbally received the message that you have permission to do the Walk Through Inspection at Niagara Catholic High School in Niagara Falls, New York, on Wednesday, April 23, 1986 at 11:00 A.M.

-283-8771

Miss Moira O'Dea, the Principal, has been notified that you will be coming.

Regarding your request for information concerning ownership, I am enclosing a copy of our attorney's February 7, 1985 letter explaining the ownership of the property.

With regard to all other data, I would suggest you contact the Department of Environmental Quality, Mr. Peter Buechi, Sanitary Engineer.

Sincerely,

Rev. Msgr. Paul T. Cronin
Superintendent of Catholic Education

PTC:ju
Enclosure
CC: Miss Moira A. O'Dea

GROUND WATER IN THE NIAGARA FALLS AREA, NEW YORK

With Emphasis on the Water-Bearing Characteristics of the Bedrock

BY

RICHARD H. JOHNSTON

GEOLOGIST

U.S. GEOLOGICAL SURVEY

STATE OF NEW YORK

CONSERVATION DEPARTMENT

WATER RESOURCES COMMISSION

BULLETIN GW-53

1964

. . . GEOLOGY OF THE NIAGARA FALLS AREA

The geology of the Niagara Falls area is well understood both because of its simplicity and because of the excellent exposures of bedrock along the Niagara River gorge and the Niagara escarpment. The discussion of geology in this report is limited to those features which directly affect the water-bearing characteristics of the various geologic units. The reader desiring additional geologic information is referred to the reports by Grabau (1901) and Kindle and Taylor (1913).

A thin cover of unconsolidated deposits overlies the bedrock throughout most of the Niagara Falls area. These unconsolidated deposits were laid down during the closing phases of the great ice age (Pleistocene Epoch). The deposits consist of three types: (1) glacial till (locally called "stony hardpan") which is an unsorted mixture of boulders, clay, and sand which was deposited by the ice sheet that covered the area about 10,000 years ago; (2) clay, silt, and fine sand which was deposited in lakes that formed during the melting of the ice sheet; and (3) sand and gravel which was either deposited by streams carrying melt water from the ice sheet or was produced by re-working of till and other deposits along the shore of glacial Lake Iroquois (predecessor of the present Lake Ontario). The glacial till directly overlies the bedrock in most places. The lake-laid clay, silt, and sand overlie the till and are the materials found at the surface throughout a large part of the area. Sand and gravel occurs as isolated deposits and also composes a narrow "beach ridge" that extends in an east-west direction across the area (fig. 2 and pl. 3).

The bedrock in the Niagara Falls area consists of nearly flat-lying (horizontal) sedimentary rocks. The distinguishing feature of sedimentary rocks is their natural layering. Each layer is termed a bed and is separated from the bed above and below by a plane of separation called a bedding plane. The occurrence of sedimentary rocks in the Niagara Falls area can be described as "layer-cake geology" inasmuch as the various rock units crop out in "layer-cake" fashion at the brink of Niagara Falls as shown in figure 5. These units consist of dolomite, shale, limestone, and sandstone. Although the bedrock appears to lie horizontal to the eye, the beds actually dip to the south at about 30 feet per mile. The outcrop pattern produced by erosion of this simple geological structure is shown in plate 3. It can be seen that the area south of the Niagara escarpment is directly underlain by the Lockport Dolomite whereas the area north of the escarpment is underlain by the Queenston Shale. The intervening rocks of the Clinton and Albion Groups (fig. 5) crop out only along the escarpment and in the gorge of the Niagara River.

The bedrock surface is approximately parallel to the land surface throughout most of the Niagara Falls area. South of the Niagara escarpment, the top of the rock lies 5 to 15 feet below land surface. Local exceptions to this occur beneath isolated hills and ridges south of Medina where the depth to bedrock is about 30 to 40 feet. On the lake plain north of the escarpment, depth to rock varies from 5 to 90 feet, but is commonly at depths of 30 to 40 feet. The few irregularities in the surface of the bedrock appear to be due to minor features shaped by glacial or preglacial erosion. No major drainage channels of preglacial origin are known in the area.

because studies made on the Lockport may contribute to a better understanding of the occurrence of ground water in bedrock generally. The Queenston Shale and Clinton and Albion Groups are poor aquifers in comparison to the Lockport Dolomite, and less is known of their water-bearing characteristics.

LOCKPORT DOLOMITE

Character and extent

The Lockport Dolomite is the uppermost bedrock formation in about one-third of the Niagara Falls area. Its outcrop area extends from the Niagara escarpment on the north to the southern boundary of the area covered by this report except in two small areas that may be underlain by the Salina Group. (See plate 3.) One of these areas is in the vicinity of the hamlet of Nashville and the other is in the extreme southeast corner. Because of a lack of rock outcrops in these areas the position of the contact between the Lockport and the Salina cannot be accurately determined. However, the Salina Group is not discussed as a separate water-bearing unit in this report because at most only a few feet of it occurs in the area. Continuous exposures of the Lockport are found along the gorge of the Niagara River and along the Niagara escarpment. The formation is about 150 feet thick in the southern part of the area but has been eroded to a thickness of only about 20 feet along the escarpment (pl. 2). The excellent exposures at Niagara Falls (fig. 5), where the Lockport forms the lip of the Falls, are shown in many geology textbooks as a classic example of flat-lying sedimentary rocks. Throughout most of the remainder of the area, which is relatively flat, the Lockport is concealed by a thin cover of glacial deposits.

As its name implies, the Lockport Dolomite consists mainly of dolomite; however, the formation also includes thin beds of limestone and shaly dolomite near the base. The Lockport consists of five lithologic types which, from top to bottom, are:

(a) brownish-gray, coarse- to medium-grained dolomite, locally saccharoidal with thin intervals of curved bedding (algal structures).

(b) gray to dark-gray, fine-grained dolomite, containing abundant carbonaceous partings.

(c) tannish-gray, fine-grained dolomite.

(d) light-gray, coarse-grained limestone containing abundant crinoid fragments (Gasport Limestone Member).

(e) light-gray shaly dolomite, laminated in part (DeCew Limestone Member of Williams, 1919).

Fisher (1960) divides the Lockport Dolomite into six units based on fossils as well as rock types. An excellent discussion of the stratigraphy of the

Lockport, including measured sections in the Niagara Falls area, is given in the recent thesis by Zenger 1/.

The detailed breakdowns by Fisher and Zenger, although helpful for geologic mapping and correlating the Lockport with rocks of similar age elsewhere, are not necessary in descriptions of the water-bearing properties of the formation. For this purpose the Lockport is subdivided as follows (figure 5 and table 1): (1) upper and middle parts of the Lockport, and (2) lower part of the Lockport, including the Gasport Limestone Member and DeCew Limestone Member of Williams (1919).

Most of the beds in the Lockport are described as either "thick" (1 foot to 3 feet) or "thin" (1 inch to 1 foot). However, massive beds up to eight feet thick and very thin beds (1/4 to 1 inch) occur within the formation. The bedding is generally straight, but curved bedding occurs in some places in the upper part of the formation. The curved bedding is caused by dome-shaped algal structures called "stromatolites" (Zenger, p. 140). These reefs (bioherms), which occur as lens-like masses up to 50 feet across and 10 to 20 feet thick, contain no bedding.

Gypsum (calcium sulfate) is common in the Lockport, occurring chiefly as small irregularly shaped masses (commonly 1/2 to 5 inches in diameter) and as selenite. Sulfide minerals, particularly sphalerite (zinc sulfide), galena (lead sulfide), and pyrite (iron sulfide) occur as particles disseminated throughout the formation.

Water-bearing openings

Types.--Ground-water occurs in the Lockport Dolomite in three types of openings: (1) bedding joints which constitute at least seven important water-bearing zones, (2) vertical joints, and (3) small cavities from which gypsum has been dissolved. Of these, the bedding joints are the most important and transmit nearly all the water moving through the formation. The three types of openings were observed in the dewatered excavations for the conduits of the Niagara Power Project. (See the description of the power project in the introduction and the location of the conduits in figure 3.) The rock faces along the four-mile length of the conduits provided an unequaled opportunity to study water-bearing openings in the entire stratigraphic thickness of the Lockport and to observe the lateral extent of these openings for a few thousand feet. At the time the observations were made (July - August 1960), approximately one-third of the length of the conduits was available for inspection by the writer.

1/ Zenger, D. H., 1962, Stratigraphy of the Lockport Formation (Silurian) in New York State: Unpublished doctoral thesis, Cornell University.

REF. (20)

February 7, 1985

Honorable John LaFalce
2419 Rayborn Building
Washington, D.C. 20515

Attn: Ms. Susan Lubick

RE: Niagara Catholic High School

Dear Susan:

Per our telephone conversation of today enclosed please find a copy of a letter dated February 6, 1985 which I wrote to Mr. Peter Buechi, Associate Sanitary Engineer, NYS Department of Environmental Conservation, together with a copy of Mr. Buechi's letter of October 12, 1984 with the attached analytical results from the sampling program.

As I indicated the Diocese of Buffalo is the owner of the Niagara Catholic site.

The majority of the property was acquired by the Diocese from the U.S. Government War Assets Administration in two parcels, one in January of 1947 which included a then school building in the Pine Acres F.P.H.A. Development, and the second in February of 1948 which included the administration building and commissary of that same subdivision.

The original Duffy High School was opened in September 1946 in a parochial school and transferred in January of 1947 to the existing school building on the property.

If you need anything further, please don't hesitate to call.

Very truly yours,
KENNEDY & STOECKL

Joseph A. Stoeckl

JAS/rad (encs.)
cc Rev. Msgr. Donald W. Trautman
Rev. Msgr. Paul T. Cronin
Mr. Joseph Caliguiri
Deacon Bernard Thomann

APPENDIX B

PROPOSED UPDATED NYS REGISTRY

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: 932087

NAME OF SITE : St. Mary's and Bishop Duffy Schools
STREET ADDRESS: 66th Street
TOWN/CITY: City of Niagara Falls COUNTY: Niagara ZIP: 14304

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: Two (2) Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Niagara Catholic High School
CURRENT OWNER ADDRESS.: 520 66th Street, Niagara Falls, NY 14304
OWNER(S) DURING USE...: Diocese of Buffalo
OPERATOR DURING USE...: Unknown
OPERATOR ADDRESS.....: Unknown
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To 1950's

SITE DESCRIPTION:

The site was reportedly used by Hooker Chemical Company to dispose of fly ash during the 1950's. There are unsubstantiated reports of drums buried onsite. Radioactive slag was used as fill for the parking lot behind the school, but has been determined to be safe by local health officials as long as it remains covered.

Soils samples were taken in August 1982 and May 1983 by USGS. Both priority pollutants and non-priority pollutants were detected but were below quantifiable limits. NUS collected soil samples in June 1985 and found the soil in the field contaminated with polyaromatic hydrocarbons,

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected -

TYPE	QUANTITY (units)
Radioactive Slag	Unknown
Fly ash	Unknown

SITE CODE:

ENVIRONMENTAL DATA AVAILABLE:

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

CONTRAVENTION OF STANDARDS:

Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION: None

TYPE..: State- Federal-
STATUS: In Progress- Completed-

REMEDIAL ACTION:

Proposed- Under Design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: Topsoil and fill over clay layers
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soil results indicate PAHs, (benzo(a) pyrene) levels in excess of background levels.

No groundwater samples exist for the site.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information.

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: E.J. Feron, Jr.
TITLE: Sr. San. Engineer

NAME.: Peter Buechi
TITLE: Asst. San. Engineer

DATE.: 01/24/86

NEW YORK STATE DEPARTMENT OF HEALTH

NAME.: Ronald Tramontano
TITLE: Bur. Toxic Substances Assess.

NAME.:
TITLE:

DATE.: 01/24/86