932085A

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

64th Street NORTH
City Of Niagara Falls

Site No. 932085A
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

64th STREET NORTH
NYS SITE NUMBER 932085A
CITY OF NIAGARA FALLS
NIAGARA COUNTY
NEW YORK STATE

Prepared For

DIVISION OF SOLID AND HAZARDOUS WASTE
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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DATE OF SUBMITTAL: JANUARY, 1988

64th STREET NORTH

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SECTION 1

EXECUTIVE SUMMARY

64th STREET NORTH

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of the Phase I investigation for the 64th Street North site (NYS Site Number 932085A, no EPA Site Number given) located in the City of Niagara Falls, Niagara County, New York (see Figure I-1).

SITE BACKGROUND

The 64th Street North site encompasses the area north on Niagara Falls Boulevard adjacent to Interstate 190 (see Figures I-1, I-2, I-3). The site is currently used by the New York State Department of Transportation and several businesses including Wizard Methods, Inc., Walter S. Johnson Building Company, and LaSalle Steel. Ownership during the period (1937-1950) when wastes were landfilled onsite is unknown (Hopkins, 1988; NCHD, 1982).

In the 1930s and the 1950s, the City of Niagara Falls and the civilian housing project reportedly utilized the site for disposal of municipal waste and incinerator ash; however, the quantity of wastes landfilled on-site is unknown. There is a possibility that demolition wastes from a civilian housing complex located south of Niagara Falls Boulevard along 64th Street was also used to fill swales located on the 64th Street North site. This disposal practice was expected to occur in the early 1950s (Hopkins, 1988; NCHD, 1982).

According to interviews with several local residents, no industrial wastes were reportedly disposed of on-site (Hopkins, 1988). However, industrial wastes are not suspected to be disposed of on-site (USEPA, 1985)

Soil sampling of the site was conducted by the U.S. Geological Survey (USGS) in 1982, by the NUS Corporation in 1985, and by Woodward-Clyde for the Texas Brine Corporation in April 1986. Results of these soil sampling events indicated high concentrations of fluoranthene, phenanthrene, as well as other organics. Although there were no soil background samples collected at the site to be used for comparison, the concentrations were well above soil detection limits and were greater than 10,000 ppb. Concentrations of iron and mercury were also detected in levels significantly exceeding soil background levels for the Niagara Falls area (USEPA, 1985; NUS, 1986; Woodward-Clyde, 1986). According to the NYS Department of Health, there is no threat to the environment or neighboring populations as a result of contaminants found in the soil samples taken during installation of the Texas Brine Pipe Line (Woodward-Clyde, 1986).

Groundwater monitoring wells were installed both upgradient and downgradient of the site by the USGS, by Woodward-Clyde Consultants to monitor groundwater from Necco Park (CECOS) Landfill, and by NUS Corporation. Only results from the USGS well SA-1 (downgradient well) were available during the Phase I site investigation (Hopkins, 1988). Based on these results, concentrations of cadmium, lead, methylene chloride and toluene were found in concentrations exceeding the New York State Class GA Groundwater Standards; however, concentrations were not significantly above these standards (USEPA, 1985). Additionally, results of the upgradient wells were not available to evaluate an observed release for groundwater. No surface water monitoring has been conducted at the site.

During a recent ES and D&M site visit, an HNu meter was used to detect the presence of volatile organics upwind and downwind of the site. No volatile organics were detected above background concentrations of 1 ppm (ES and D&M Site Visit, April, 1986).

ASSESSMENT

In an attempt to quantify the risk associated with this site, we applied the Hazard Ranking Scoring (HRS) System 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 disposal substances 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).

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

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

- o The preliminary HRS score is:

S_M = 11.24	S_A = 0
S_{GW} = 2.98	S_{FE} = 0
S_{SW} = 19.22	S_{DC} = 50.00

  These scores indicate that the site is easily accessible, and that the site soils are contaminated with toxic wastes.

RECOMMENDATIONS

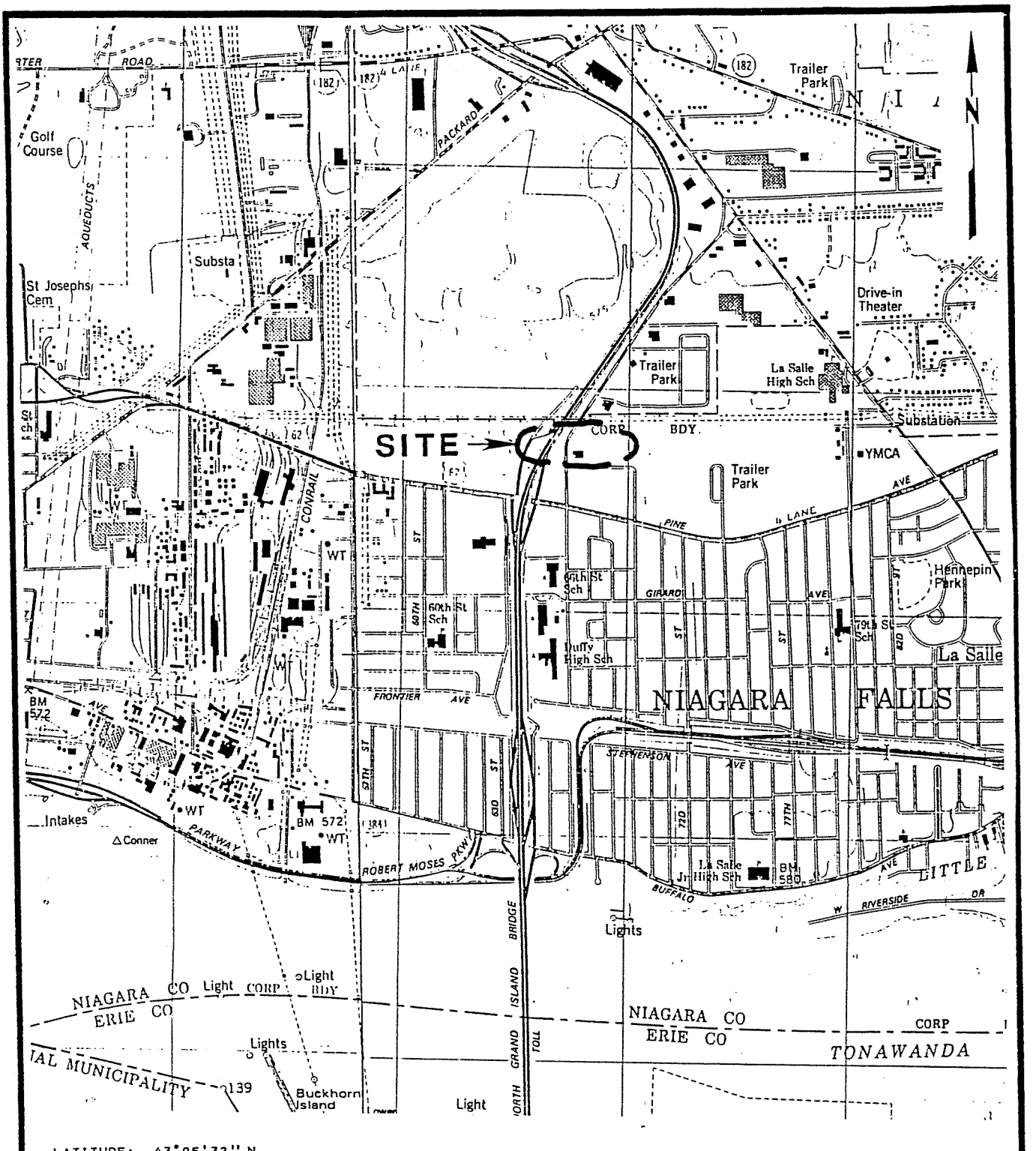
The following recommendations are made for the completion of Phase II:

- o Review monitoring results from groundwater studies conducted of the (CECOS) landfill site;

- o Groundwater monitoring system consisting of 1 upgradient and 1 downgradient well. The upgradient well shall be located between Sabre Park Trailor Court and the Texas Brine Pipeline and east of I-190. The downgradient well shall be located east of I-190 and west of the warehouse; and

- o Analyses to include hazard substance list (HSL) organics and HSL metals.

The estimated man-hour requirements to complete Phase II are 1,141, while the estimated cost is $104,975.



LATITUDE: 43°05'32" N
LONGITUDE: 78°59'29" W

SCALE

0 1000 2000 3000 4000 FEET

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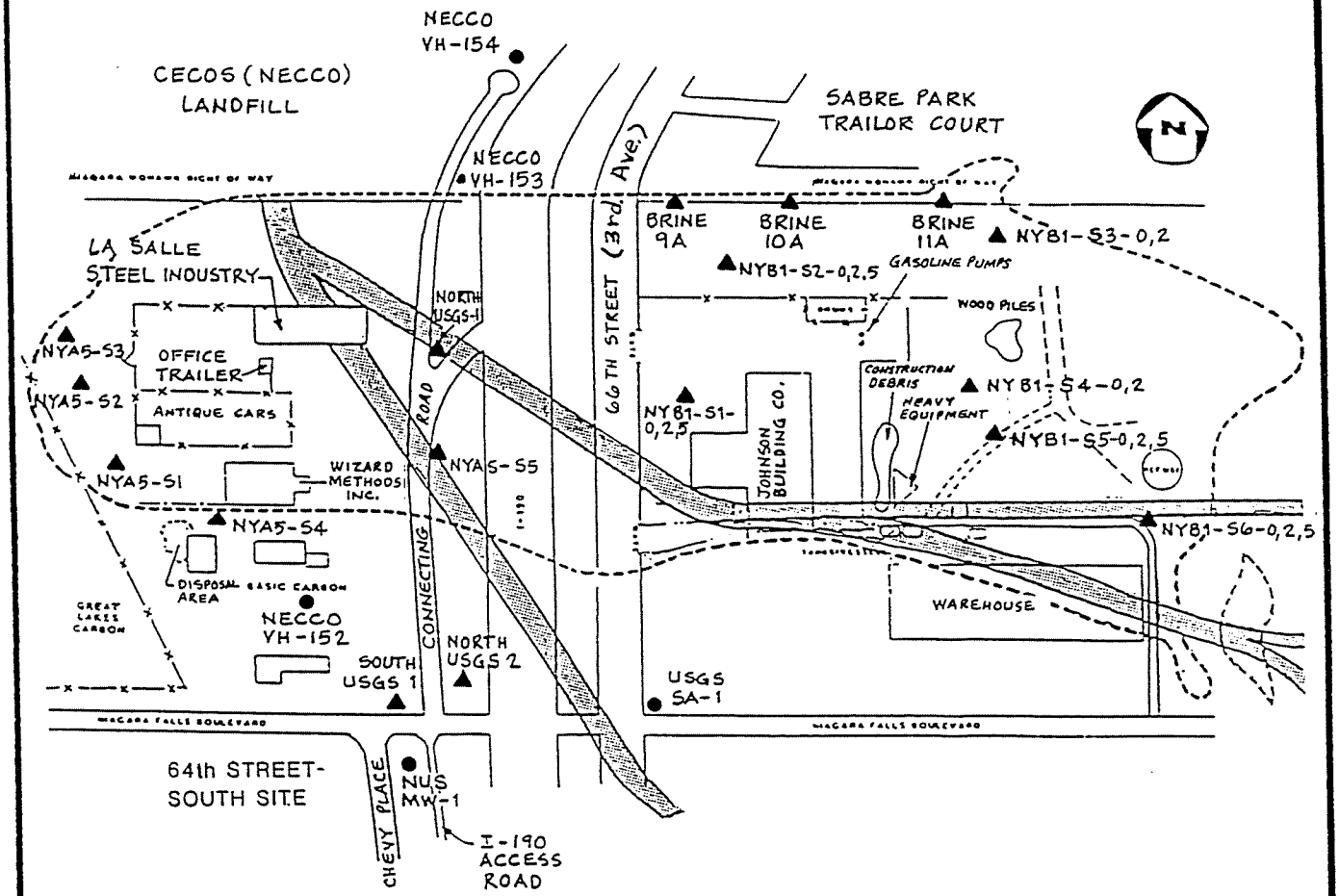
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
64 TH STREET NORTH

FIGURE I-1

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



64TH STREET – NORTH SITE

NOT TO SCALE

LEGEND:

—x—x— FENCE

APPROXIMATE AREA OF SUSPECTED DISPOSAL

ORIGINAL DRAINAGE SWALE

▲ SOIL SAMPLE

0 SURFACE SAMPLES

2 SAMPLE TAKEN AT 2 ft. DEPTH

5 SAMPLES TAKEN AT DEPTHS GREATER THAN 2 ft.

● GROUND WATER SAMPLES

NOTE:

SAMPLES LABELLED BRINE WERE OBTAINED DURING CONSTRUCTION OF THE BRINE PIPELINE.
SAMPLES LABELLED NY WERE TAKEN BY NUS CORP.

REFERENCES: BASE FROM NUS 1986 STUDY. REVISED BASED ON INFORMATION OBTAINED FROM NCHD, 1988 AND ES AND D & M SITE VISIT, 1985.

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PLOT PLAN
64th STREET-NORTH

FIGURE I-2

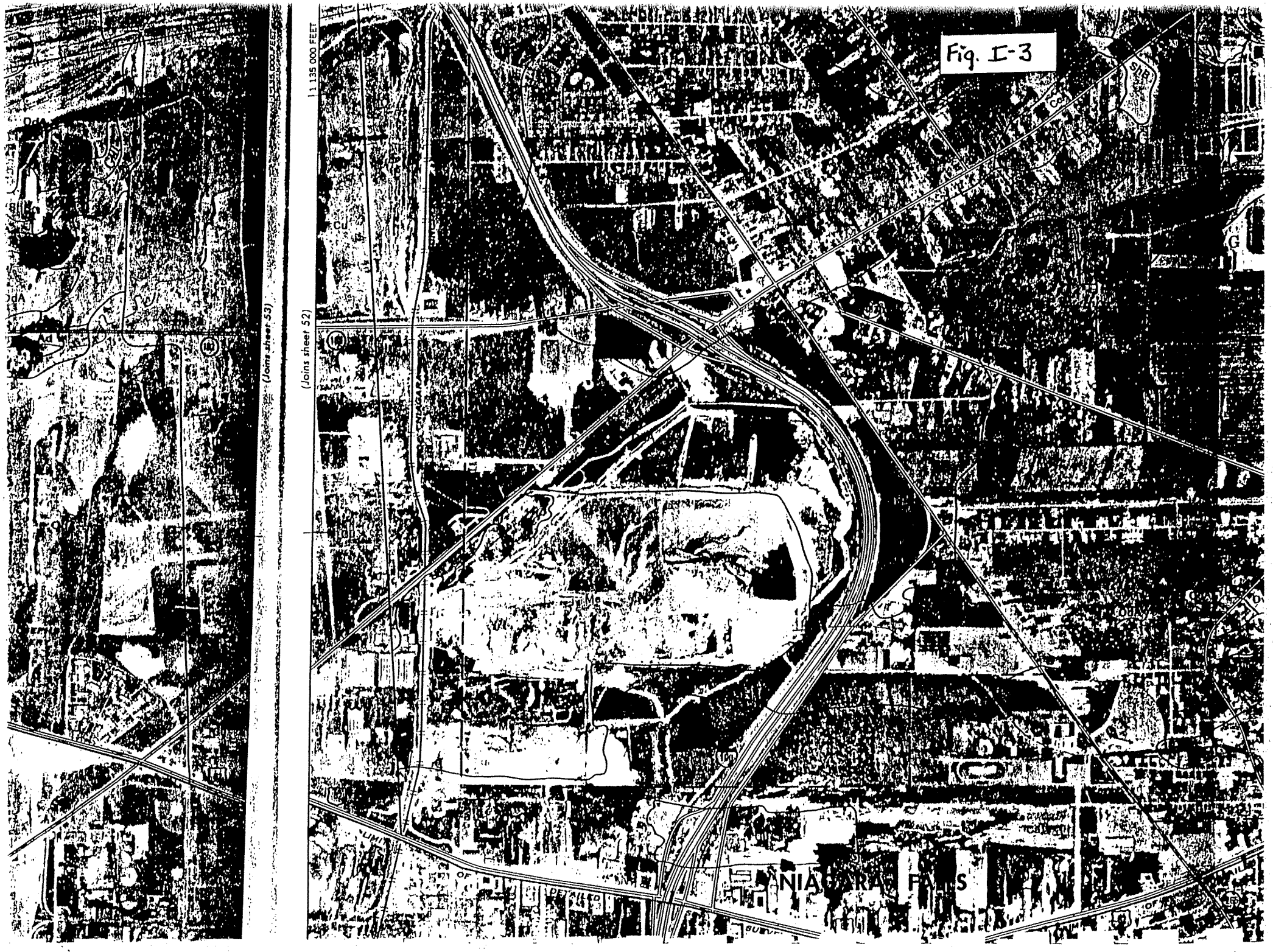


Fig. I-3
1:135 000 FEET
(Joins sheet 52)
(Joins sheet 53)
NIAGARA FALLS

SECTION II
PURPOSE

The purpose of the Phase I investigation at the 64th Street North 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 landfilling of municipal wastes. Based on this initial evaluation of the 64th Street North 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
SITE ASSESSMENT

SITE HISTORY

The 64th Street North site encompasses approximately 20 acres north of Niagara Falls Boulevard along Interstate I-190. Portions of the site are owned by Jack Johnson of Johnson Building Company, Vince Salerno of LaSalle Steele Industry, and the New York State Department of Transportation. A portion of the property is leased by Wizard Methods, Inc. which operates a sewer cleaning business (NCHD, 1982 and ES and D&M Site Visit, December 1985). Presently, Interstate 190 bisects the site. This road is elevated from 5-12 feet above grade with clean fill (Hopkins, 1982 and ES and D&M Site Visit, December, 1985). The 64th Street North site is located approximately one quarter mile southeast of the CECOS/NECCO Park landfill complex (ES and D&M Site Visit, December, 1985).

Ownership of the 64th Street North disposal area during the late 1930s and 1950s, the time the site received wastes, is unknown. The site is suspected to have been used as farmland prior to 1950 (NCHD, 1982). The western portion of the site (west of I-190) was owned by Niagara Mohawk prior to 1955. At that time, the Johnson family purchased the site for use in their construction business (ES and D&M Site Visit - Jack Johnson, 1986).

Domestic, demolition, and commercial wastes were suspected to be disposed of on-site by the City of Niagara Falls and the Civilian Housing Project; however, the quantity of waste disposal is unknown. According to interviews of local residents conducted by the Niagara

County Health Department, industrial wastes are not suspected of being disposed of onsite. No information was found during the Phase I investigation which confirms that industrial wastes were disposed of at the site (NCHD, 1982; Hopkins, 1988).

SITE TOPOGRAPHY

The 64th Street North site is located north of Niagara Falls Boulevard (Pine Avenue) in the City of Niagara Falls, Niagara County, New York. This site consists of a roughly rectangular 20-acre disposal area approximately 800 feet north of Niagara Falls Boulevard. This site is bounded by the Niagara Mohawk easement, Sabre Park Trailer Court, and CECOS (NECCO) Landfill to the north, extends several hundred feet west of Connecting Road, and more than 1,000 feet east of Interstate 190 (I-190) (NUS, March, 1986; and NCHD, 1982).

The nearest residence is the Sabre Park residential area located less than one quarter mile north of the site. Commercial and industrial areas are located adjacent to the site and along Niagara Falls Boulevard. Areas north of the site are predominantly residential with some commercial property. Approximately 60-70 percent of the site is now covered by either pavement or buildings. Commercial buildings on this site are owned by Walter S. Johnson Building Company, Inc. and LaSalle Steel. Interstate I-190 runs north-south through the site. A portion of the property leased by Wizard Methods, Inc. is also built over the disposal area (NUS, 1986; ES and D&M Site Visit, 1985; and NCHD, 1982).

Surface runoff from the site is expected to enter storm sewers which empty into either the Niagara River or Gill Creek. Swales are found along either side of I-190 near the site, and ponded water was visible on the eastern portion of the site (NCHD, 1982; and ES and D&M Site Visit, December 1985).

Municipal water is available in this area. There are no known drinking water wells within 3 miles of this site. The nearest industrial well (Olin) is about 2 miles south-west of the site. The Niagara River is one mile south of this site, and city water intakes are located over 2.5 miles downstream of the 64th Street North site (Hudson, 1985; Kapsteina, 1988).

Local Sensitive Environment

A NYS registered wetland, TW-3, is located approximately 0.25 miles east of this site. There are no critical habitats or endangered species within 1 mile of this site (McMurry, 1986; Ozard, 1986).

SITE HYDROLOGY

Boring data from monitoring wells on and in the vicinity of the site indicate that bedrock beneath the site is Lockport Dolomite occurring at depths of approximately 20 to 30 feet. These boring data also indicate that clay interbedded with sand overlies the bedrock. A 1947 soil survey lists the soils at the site as Poygan Clay (NCHD, 1982; USEPA, 1985; NUS, 1986). Construction photographs from the Walter S. Johnson building show a clay zone extending 8 feet below grade. No wastes were visible in the photograph of the excavation (ES and D&M Site Visit, 1985). For HRS scoring, the permeability of the site soils is assumed to be 10^{-5} cm/sec.

Two aquifers potentially exist underlying the 64th Street North site. A perched water table is expected to occur in the unconsolidated material at depths of 3 to 5 feet. The perched aquifer appears to occur primarily in the filled areas of the site (NYSDEC, 1985). A bedrock aquifer is found within the bedding joints of the Dolomite, at depths of over 30 feet (Johnston, 1964). Groundwater depths of 1.5 feet have been reported by Woodward-Clyde (NYSDOH/Woodward-Clyde, October 1986). Based on a groundwater monitoring program conducted by NUS Corporation the groundwater flow was observed to flow south (NUS, 1986).

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 throughout the region, and moraines (generally till) mark former ice margins. 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 (Johnston, 1964).

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margin. The Niagara County region is covered by lake sediments, the most recent being from Lake Iroquois (a larger predecessor to Lake Ontario) and from Lake Tonawanda (an elongated lake which occupied an east-west valley and drained north into Lake Iroqouis). The sediments consist of blanket sands and beach ridges which are occasionally underlain by lacustrine silts and clays (indicating quiet, deeper water deposition) (Johnston, 1964).

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, and LaSala, 1968).

SITE CONTAMINATION

During the late 1930s and 1950s, the City of Niagara Falls used the site as a municipal landfill (USEPA, 1985). It is possible that demolition wastes from a local civilian housing project were disposed of in the swales located on-site (NCHD, 1982). Domestic and commercial wastes are suspected to be the principal wastes landfilled. Based on interviews with local residents there has been no disposal of industrial waste at the site (Hopkins, 1988 and NUS, 1986). The quantity of wastes disposed of on-site is unknown (NCHD, 1982). Leachate outbreaks were not observed during site inspections by NCHD (1982), and ES and D&M (1985).

In 1982, the United States Geological Survey (USGS) drilled two auger holes in the western portion of the site. Sample analysis included a few organic priority and nonpriority pollutants, hydrocarbons, and iron. Results of these northern soil tests indicated the presence of iron (2,600,000-4,200,000 ppb) in levels exceeding background soil values (iron: 1-2 million ppb); however, these levels were not significantly above the background levels (USEPA, March 1985).

Additional soil samples were collected from three locations north of the eastern portion of the site and south of Sabre Trailer Park in the Niagara Mohawk right of way. These samples were analyzed for priority pollutants, cyanide, and phenol. EPTOX extracts from these samples were also analyzed for isomers of BHC and RCRA metals (NYSDOH, W. Gilday and Woodward-Clyde Consultants, October 1986). Metals were not detected in the samples in levels exceeding background soil levels for the Niagara area. Woodward-Clyde found high concentrations of organics in the samples taken for Texas Brine Corporation; however, there are no federal, state, or local background soil levels for organics to determine if these concentration levels are significant. Several organics were, however, significantly above the detection limit of 330 ppb. Since organic chemicals are not typically found in natural soils, and since there are no standards for organic concentrations in soils, a concentration level of 10,000 ppb was used for comparison purposes for

all organics. There were only three chemicals which exceeded 10,000 ppb: benzo(a)pyrene (Sample 10A - 13,000 ppb), benzo(b)fluoranthene (Sample 10A - 14,000 ppb), and fluoranthene (Sample 9A - 13,000 ppb). Analytical results for these contaminants, as well as results from the USGS soil sampling, are presented in Table IV-1. A complete summary of analytical results from both studies are provided in the Appendix. It is not known whether the concentrations for the three organics are significant; however, according to Woodward-Clyde Consultants, these concentrations do not pose a threat to the environment or neighboring populations (NYSDOH, W. Gilday and Woodward-Clyde Consultants, October 1986).

In 1985, NUS Corporation collected numerous soil samples at various depths throughout the site. These samples were analyzed for priority pollutant organics and inorganics. Analytical results indicated the presence of organics and metals. Of the metals analyzed, only iron and mercury were significantly above the soil background levels (iron: 1400-2000 ppm and mercury: 0.08-0.28 ppm) specified in the Niagara River Toxics Committee Report (1984). The concentrations for these metals are presented in Table IV-2 (NUS Corporation, 1986).

As previously stated, there are no soil background levels for organics. For purposes of analyzing the results, only those organics with concentrations exceeding 10,000 ppb are listed in Table IV-2. These contaminants also significantly exceeded the detection limits. High concentrations of PCB (6200 ppb) and pesticides (720 ppb-chlordane) were also detected in the soils on site (NUS Corporation, 1986).

Groundwater monitoring in the vicinity of the site has been conducted by various firms including the USGS, NUS Corporation, and Necco. The Necco samples were collected as part of a monitoring program for the CECOS/Necco landfill. Two of the Necco monitoring stations are located north (upgradient) of the site and one station is located south (downgradient) of the site. There is only one NUS and USGS groundwater monitoring station associated with the site and it is located downgradient of the site (Hopkins, 1988). During the Phase I site investigations,

analytical results from the groundwater monitoring events were requested; however, only the results from the USGS well were received (Hopkins, 1988). The results from the USGS well indicated the presence of cadmium (13 ppb), lead (230 ppb), methylene chloride (140 ppb), and toluene (150 ppb) in concentrations that exceeded the NYS Class GA groundwater standards (cadmium = 10 ppb, lead = 25 ppb, methylene chloride = 50 ppb, and toluene = 50 ppb). These concentrations were not significantly above the standards and cannot be attributed to the site for purposes of scoring an observed release since results from the upgradient wells were not available (USGS/EPA, March 1985). Soil and groundwater sampling locations are shown in Figure IV-1.

HNu meter readings were taken upwind and downwind of the site in April 1986 by ES and D&M. The HNu meter readings did not detect volatile organics above background concentrations of 1 ppm.

TABLE IV-1
ANALYTICAL RESULTS FROM USGS AND TEXAS BRINE SOIL SAMPLING

	USGS, ppb			Texas Brine, ppb		
Constituent	1-North (3.3')	2-North (2.7')	1-South	9A	10A	11A
Iron	4,200,000	2,600,000	33,000	-	-	-
Benzo(a)pyrene	-	-	-	-	13,000	1,500
Benzo(b)fluoranthene	-	-	-	-	14,000	5,300
Fluoranthene	-	-	-	13,000	4,500	3,000
Phenanthrene	-	-	-	10,000	4,200	1,800

Source: NYSDOH, W. Gilday and
Woodward-Clyde Consultants, October, 1986

TABLE IV-2

ANALYTICAL RESULTS FROM NUS SOIL SAMPLING[a]
(Soil Concentration in ppb
Unless Otherwise Noted)

Constituent	NYA5-S1	NYA5-S2	NYA5-S3	NYA5-S4	NYA5-S5	NYBI-S1-0	NYBI-S1-2
Benzo(a)Anthracene	2,400	610	-	27,000	740	-	2,000
Benzo(b)Fluoranthene	3,600	620	-	45,000	920	-	2,800
Chrysene	2,500	630	-	30,000	820	-	2,100
Fluoranthene	3,000	1,100	-	52,000	1,500	-	2,800
Indeno(1,2,3-cd)Pyrene	16,000	-	-	-	440	-	-
N-Nitrosodiphenylamine	-	-	-	-	-	-	-
Phenanthrene	1,900	880	-	46,000	930	-	1,700
Pyrene	2,500	800	-	46,000	1,100	-	2,600
Iron, ppm	98,000	15,300	25,100	22,000	14,100	20,600	17,500
Mercury, ppm	0.12	2.1	0.91	8.3	0.6	0.25	-

[a]Only organic chemicals with concentrations above 10,000 ppb and inorganic chemicals above soil background levels are presented.

SOURCE: NUS Corporation, 1986 Report

TABLE IV-2, Continued

ANALYTICAL RESULTS FROM NUS SOIL SAMPLING[a]
(Soil Concentration in ppb
Unless Otherwise Noted)

Constituent	NYBI-S1-5	NYBI-S2-0	NYBI-S2-2	NYBI-S2-5	NYBI-S3-0	NYBI-S3-2	NYBI-S4-0
Benzo(a)Anthracene	-	11,000	7,700	9,400	-	-	-
Benzo(b)Fluoranthene	-	8,900	6,100	5,400	-	-	-
Chrysene	830	12,000	7,400	9,400	-	910	-
Fluoranthene	1,100	21,000	14,000	16,000	1,200	1,700	-
Indeno(1,2,3-cd)Pyrene	-	-	3,200	3,700	-	-	-
H-Nitrosodiphenylamine	-	-	-	-	-	-	-
Phenanthrene	880	11,000	9,200	15,000	-	840	-
Pyrene	950	19,000	12,000	26,000	1,800	1,700	-
Iron, ppm	21,700	12,800	14,900	29,500	18,000	17,300	24,000
Mercury, ppm	-	1.4	1.2	0.31	0.39	1.2	5.0

[a]Only organic chemicals with concentrations above 10,000 ppb and inorganic chemicals above soil background levels are presented.

SOURCE: NUS Corporation, 1986 Report

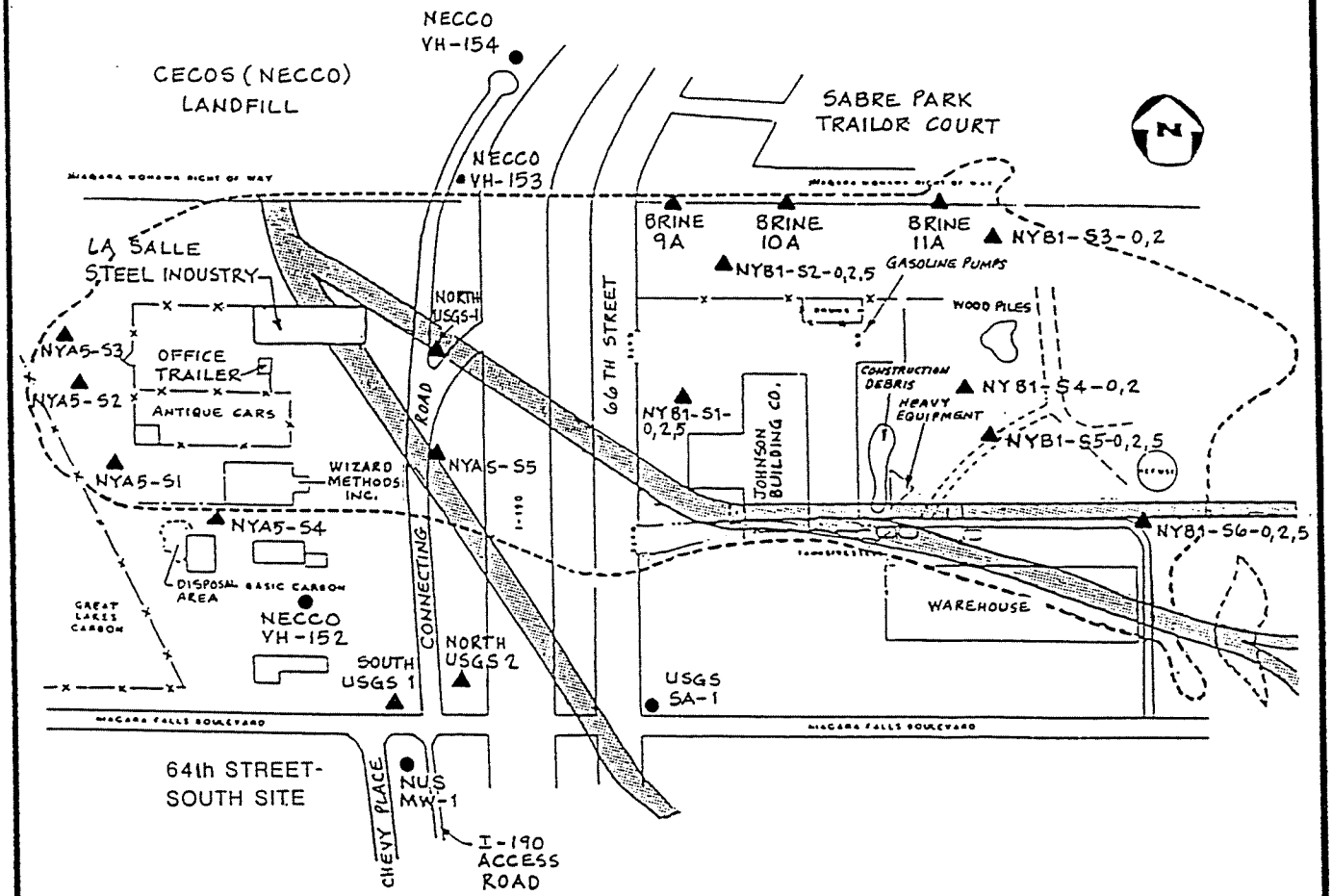
TABLE IV-2, Continued

ANALYTICAL RESULTS FROM NUS SOIL SAMPLING[a]
(Soil Concentration in ppb
Unless Otherwise Noted)

Constituent	NYBI-S4-2	NYBI-S5-0	NYBI-S5-2	NYBI-S5-5	NYBI-S6-0	NYBI-S6-2	NYBI-S6-5
Benzo(a)Anthracene	-	-	1,400	-	-	-	-
Benzo(b)Fluoranthene	-	-	1,300	-	-	-	-
Chrysene	-	-	1,500	-	-	-	-
Fluoranthene	-	-	4,200	1,100	1,600	1,000	-
Indeno(1,2,3-cd)Pyrene		-	-	-	-	-	-
H-Nitrosodiphenylamine	200,000	-	-	-	-	-	-
Phenanthrene	-	-	4,400	1,300	1,200	870	-
Pyrene	-	-	4,300	1,200	1,400	1,400	-
Iron, ppm	21,500	19,800	19,000	20,600	27,300	30,200	21,800
Mercury, ppm	-	-	-	0.5	-	2.3	1.3

[a]Only organic chemicals with concentrations above 10,000 ppb and inorganic chemicals above soil background levels are presented.

SOURCE: NUS Corporation, 1986 Report



64TH STREET – NORTH SITE

NOT TO SCALE

LEGEND:

—x—x— FENCE

APPROXIMATE AREA OF SUSPECTED DISPOSAL

ORIGINAL DRAINAGE SWALE

▲ SOIL SAMPLE

0 SURFACE SAMPLES

2 SAMPLE TAKEN AT 2 ft. DEPTH

5 SAMPLES TAKEN AT DEPTHS GREATER THAN 2 ft.

● GROUND WATER SAMPLES

NOTE:

SAMPLES LABELLED BRINE WERE OBTAINED DURING CONSTRUCTION OF THE BRINE PIPELINE.
SAMPLES LABELLED NY WERE TAKEN BY NUS CORP.

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PLOT PLAN
64th STREET-NORTH

FIGURE IV-1

SECTION V

SECTION V

PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

NARRATIVE SUMMARY

The 20-acre 64th Street North site is located north of Niagara Falls Boulevard adjacent to Interstate 190 and underneath a portion of I-190. Several businessmen and the NYS Department of Transportation currently own portions of the site. From the late 1930s to the 1950s, an unknown quantity of municipal wastes was landfilled on the site reportedly by the City of Niagara Falls (NCHD, 1982 and ES and D&M Site Visit, 1985/86). According to local residents, the site did not receive industrial wastes (Hopkins, 1988).

Soil samples collected by the USGS (1982), by Woodward-Clyde for the Texas Brine Corporation (1986), and NUS Corporation (1985) indicated the presence of organics, PCBs, pesticides, and heavy metals. Iron concentrations (12,100-98,000,000 ppb) and mercury (0.12-8.3 ppm) were detected in levels significantly exceeding local soil background standards. Organics concentrations were above detection limits and greater than 10,000 ppb; however, there are no background limits to determine if concentrations are significantly high.

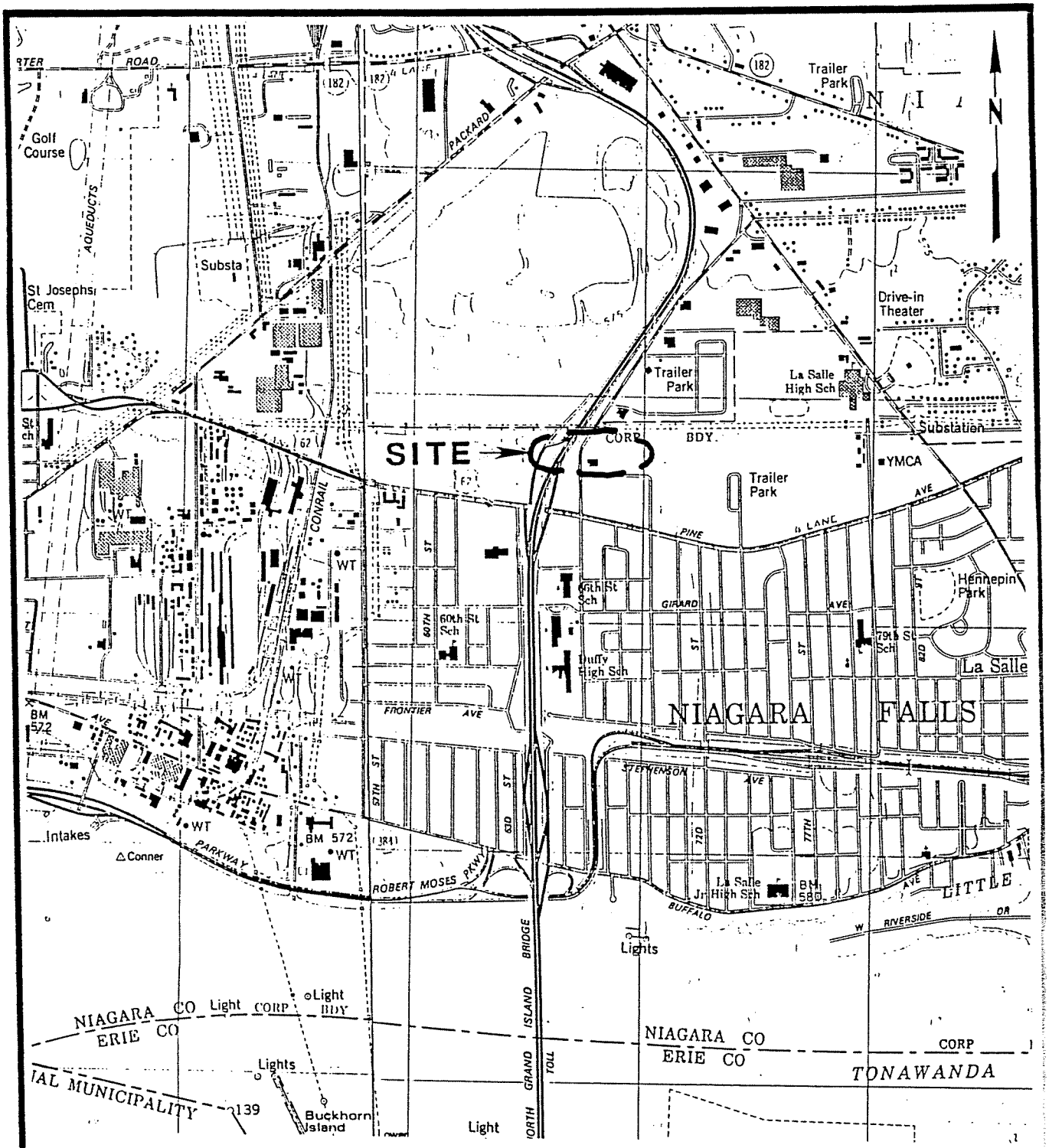
No surface water samples were obtained. HNu meter readings taken at the site did not indicate any level of air contamination above 1 ppm (ES and D&M Site Inspection, April, 1986).

Groundwater monitoring was conducted upgradient and downgradient of the site; however, data were available only for one downgradient well. Results from this well indicated the presence of cadmium, lead, methylene chloride, and toluene above NYS Class GA groundwater standards, but these concentrations were not significantly above the standards (USEPA, 1985).

The 64th Street NOrth site is located in an industrial/commercial area. The Great Lakes Carbon site is located within one quarter mile west of the site and the CECOS landfill is located northwest of the site (ES and D&M Site Inspection, 1985). There are no known drinking water wells in the area within one mile of the site (NCHD, 1982). A federally designated wetland is located 0.25 miles east of the site (Wetlands Map, NYSDEC Region 9, 1986).

NARRATIVE

LOCATION



LATITUDE: 43°05'32" N
LONGITUDE: 78°59'29" W

SCALE
0 1000 2000 3000 4000 FEET

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

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

SITE LOCATION MAP
64 TH STREET NORTH

FIGURE V-1

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

HRS COVER SHEET

Facility Name: 64th Street North

Location: City of Niagara Falls, Niagara County, New York

EPA Region: II

Person(s) in charge of the facility: George Salerno - 64th Street - north
Jack Johnson - 64th Street - north
NYS Dept. of Transportation - 64th Street - north
Joe Russo - 64th Street - south

Name of Reviewer: Cathy J. Bosma Date: 01-28-86

General description of the facility:

The 64th Street North site is 20 acres and is located north of Niagara Falls Boulevard. In the late 1930s and the early 1950s, commercial and domestic wastes were landfilled at the site. Industrial wastes are not suspected to be landfilled on site. The waste disposal quantity is unknown. Soil sampling conducted by NUS Corporation, USGS, and Woodward-Clyde for Texas Brine Corporation detected heavy metals, organics, pesticides, and PCBs. Some organics had concentrations greater than 10,000 ppb; however, there are no background limits to determine if concentrations are significantly high. Results of groundwater sampling from a well downgradient indicated the presence of cadmium, lead, methylene, chloride, and toluene above the NYS Class GA groundwater standards, but these concentrations were not significantly above groundwater standards. There are no known private drinking water wells within 3 miles of the site.

Scores: $S_M = 11.24$ ($S_{GW} = 2.98$ $S_{SW} = 19.22$ $S_A = 0$)
$S_{FE} = 0$
$S_{DC} = 50.00$

Facility Name: 64th Street - North Date: 1-28-86

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	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 (1) 2 3	1	1	3	
Physical State	0 (1) 2 3	1	1	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			1,710	57,330	
7 Divide line 6 by 57,330 and multiply by 100. S_{gw} = 2.98					

GROUND WATER ROUTE WORK SHEET

64th Street - North Surface Water Route Work Sheet 1-28-86

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	1	3	
Total Route Characteristics Score			7	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 Intake Downstream	0 4 6 8 10 12 16 18 (20) 24 30 32 35 40	1	20	40	
Total Targets Score			31	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			12,369	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{sw} = 19.22		

SURFACE WATER ROUTE WORK SHEET

Facility Name: 64th Street - North Date: 1-28-86

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	(0) 45	1	0	45	5.1
Date and Location: April 1986 Measurements taken upwind & 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: 64th Street - North Date: 1-28-86

Worksheet for Computing S_M

	S	S^2
Groundwater Route Score (S_{gw})	2.98	8.88
Surface Water Route Score (S_{sw})	19.22	369.41
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		378.29
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		19.45
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		11.24

WORK SHEET FOR COMPUTING S_M

Facility Name: 64th Street – North Date: 1-28-86

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: 64th Street – North Date: 1-28-86

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	15		8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within 1-Mile Radius	0 1 2 3 (4) 5	4	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 × 4 × 5 If line 1 is 0, multiply 2 × 3 × 4 × 5			10,800	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 50.00		

DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

FACILITY NAME: 64th Street North

LOCATION: Niagara Falls Boulevard, City of Niagara Falls, Niagara Falls County, New York

GROUND WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

Cadmium, lead, methylene chloride, and toluene were detected in a downgradient well above standard. However, groundwater data were not available for the upgradient well.
(USEPA, 1985; NUS, 1986; Woodward-Clyde, 1986).

Rationale for attributing the contaminants to the facility:

An observed release is not scored for this site since monitoring data from the upgradient well were not available for the Phase I assessment of the site.

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) in concern:

Aquifer in Lockport Dolomite. The perch water table aquifer and aquifer of concern are hydraulically conducted.
(Johnston, R.H., Groundwater in the Niagara Falls Area, NY, USGS, 1964)

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

Approximately 20-30 feet.
(Johnston, R.H., Groundwater in the Niagara Falls Area, NY, USGS, 1964)

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

2-5 feet based on USGS borings.
(Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River, USEPA, 1985)

Net Precipitation (CFR 40, Part 300, App. A.)

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:

Dolomite overlain by clay interbedded with sand.
(NCHD, 1982; NUS, 1986)

Permeability associated with soil type

10^{-5} cm/sec to 10^{-7} cm/sec
(CFR 40, Part 300, App A)

Physical State

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

Municipal refuse - solid and unconsolidated wastes - HRS = 1.
(NCHD, 1982; Hopkins, 1988)

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

No surface water monitoring has been conducted at the site to date.
(NYSDEC Registry Sheet, 12/85; USEPA, 1985; NUS, 1986)

Rationale for attributing the contaminants to the facility:

An observed release is not attributed to the site as surface water monitoring has not been conducted.
(NYSDEC Registry Sheet, 12/85; USEPA, 1985; NUS, 1986)

2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

0-2%
(ES and D&M Site Inspection, 1986)

Name/description of nearest downslope surface water:

Niagara River.
(ES and D&M Site Inspection, 1986)

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

0-2%
(ES and D&M Site Inspection, 1986; and USGS Topographic Map: Niagara Falls and Tonawanda West Quadrangles, 1980)

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

No.
(ES and D&M Site Inspection, 1986)

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Unlined landfill with no run-on control or leachate collection system.
(ES and D&M Site Inspection, 1986; NUS, 1986)

Method with highest score:

Unlined landfill with no run-on control or leachate collection system - HRS = 3.
(ES and D&M Site Inspection, 1986; NUS, 1986)

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Organics, PCBs, pesticides, and heavy metals.
(USEPA, March 1985; NUS Corporation Sampling, 1985; and Woodward-Clyde for Texas Brine Corporation, 1986)

Compound with highest score:

Iron, mercury = 18
(Sax, 6th Ed. and HRS Documentation)

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 64th Street North site was used for the disposal of municipal solid waste and the quantity of hazardous waste, if any, is not known.
(NCHD, 1982; NYSDEC Registry Sheet, 1985)

Basis of estimating and/or computing waste quantity:

Unknown. The quantity of hazardous waste disposed of on-site is unknown. Because hazardous waste constituents were detected on-site (NCHD, 1982; USEPA, 1985; NUS, 1986) the lowest non-zero score is used to rate the hazardous waste quantity score.
(USGS/USEPA, 1985)

5. TARGETS

Ground Water Use

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

Non-contact industrial cooling water (Olin Well). The cooling water is not used as drinking water and does not come into contact with employees at Olin Corporation.
(NCHD Site Profile Report, 1982; Kapsteina, Olin Chemical, 1988)

Distance to Nearest Well

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

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

Distance to above well or building:

Not applicable, well not located within 3 miles 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:

No water-supply wells within 3 miles.
(NCHD Site Profile Report, 1982; Kapsteina, Olin Chemical, 1988)

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):

No land irrigation wells within 3 miles.
(NCHD Site Profile Report, 1982)

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

No population served by ground water within 3 miles of the site.
(NCHD Site Profile Report, 1982)

Is the facility completely surrounded by areas of higher elevation?

No.

1-Year 24-Hour Rainfall in Inches

2.1"
(US Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper No. 40, 1963)

Distance to Nearest Downslope Surface Water

1 mile to Niagara River.
(USGS Topographic Map - Niagara Falls & Tonawanda West Quadrangles, 1980)

Physical State of Waste

Municipal refuse - solid and unconsolidated wastes - HRS score = 1.
(NCHD, 1982; Hopkins, 1988)

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill not adequately capped and no diversion system present.
(ES and D&M Site Inspection, 1986; NUS, 1986)

Method with highest score:

Landfill not adequately capped and no diversion system present.
(ES and D&M Site Inspection, 1986; NUS, 1986)

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Organics, PCBs, pesticides and heavy metals in on-site soil.
(EPA/USGS, March 1985; NUS Corporation Sampling, 1985; and Woodward-Clyde for Texas Brine Corporation, 1986)

Compound with highest score:

Iron, mercury = 18
(Sax. - 6th Ed. and HRS Documentation)

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 64th Street North site was used for the disposal of municipal solid waste and the quantity of hazardous waste, if any, is not known.
(NCHD, 1982; NYSDEC Registry Sheet, 1985)

Basis of estimating and/or computing waste quantity:

Unknown. The quantity of hazardous waste disposed of on-site is unknown. Because hazardous waste constituents were detected on-site (NCHD, 1982; USEPA, 1982; NUS, 1986) the lowest non-zero score is used to rate the hazardous waste quantity score.

* * *

5. TARGETS

Surface Water Use

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

Drinking water.
(NYSDOH, Atlas of Community Water System Sources, 1982)

Is there tidal influence?

No.
(ES and D&M Site Visit, 1986)

Distance to a Sensitive Environment (NYSDEC, Region 9, 1986)

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

None within 2 miles. (Western NYS is not a coastal area.)
(USGS Topographic Map: Niagara Falls and Tonawanda West, 1980)

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

Wetland, TW-3, located 0.25 miles east of site.
(McMurry, NYSDEC Region 9, 1986)

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

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

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

City of Niagara Falls water intakes located on Niagara River approximately 2.5 miles downstream from site. Over 80,000 served.
(NYSDOH, NYS Community of Water System Sources, 1982)

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

No agricultural areas served.

Total population served:

Approximately 80,000.
(NYSDOH, NYS Community of Water System Sources, 1982)

Name/description of nearest of above water bodies:

Niagara River.
(NYSDOH, NYS Community of Water System Sources, 1982)

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

2.5 miles.
(NYSDOH, NYS Community of Water System Sources, 1982)

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

HNu meter readings were taken in April 1986. No volatile organics were detected upwind or downwind of the site above 1 ppm.
(ES and D&M Site Inspection, 1986)

Date and location of detection of contaminants:

Not applicable. No observed release.
NUS has an air monitoring station on the 64th South site, but this is not applicable to the site.
(NUS, 1986)

Methods used to detect the contaminants:

HNu meter.

Rationale for attributing the contaminants to the site:

Not applicable, no release of volatile organics that could impact the air pathway.
(NYSDEC Registry Sheet, 1985)

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

No reactive compounds are known to exist on-site.
(NUS, 1986; and NYSDEC Registry Sheet, 1985)

Most incompatible pair of compounds:

No incompatible pair of compounds are known to exist on-site.
(NUS, 1986; and NYSDEC Registry Sheet, 1985)

Toxicity

Most toxic compound:

Iron and mercury were detected in on-site soils; however, they are not expected to impact the air pathway.
(USGS/EPA, 1985; NUS, 1986; and Woodward-Clyde for Texas Brine Corporation, 1986)

Hazardous Waste Quantity

Total quantity of hazardous waste:

The hazardous waste quantity score for the air pathway is zero because no hazardous wastes with the potential to impact the air pathway are known to exist on-site.
(USGS/EPA, 1985; NUS, 1986; and NCHD, 1982)

Basis of estimating and/or computing waste quantity:

See above comment.

* * *

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

5,902 people
(US Bureau of the Census, 1980)

Distance to a Sensitive Environment

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

None within 2 miles (western NYS is not a coastal area).
(USGS Topographic Map: Niagara Falls and Tonawanda West Quadrangles, 1980)

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

Wetland, TW-3, located 0.25 miles east of site.
(McMurry, NYSDEC Region 9, 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:

South 64th Street: Russo Chevrolet on site - 1/4 mile.
North 64th Street: Salerno Building and Johnson Building are on site - 0 miles.
(ES and D&M Site Visit, 1985/86; and NUS, 1986)

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

Niagara Reservation (5 miles)
(USGS Topographic Map, Niagara Falls and Tonawanda West Quad, 1980)

Distance to residential area, if 2 miles or less:

Less than 1/4 mile north of site (Sabre Trailer Park).
(NCHD Site Profile Report, 1982; and ES and D&M Site Visit, 1986)

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, National Park Service, "National Register of Historic Places" and "National Natural Landmarks," 1983)

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

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

Type of containment, if applicable:

* * *

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; NUS, 1986)

Reactivity

Most reactive compound:

No reactive compounds are known to exist on-site.
(NYSDEC Registry Sheet, 1985; NUS, 1986)

Incompatibility

Most incompatible pair of compounds:

No incompatible compounds are known to exist on-site.
(NYSDEC Registry Sheet, 1985; NUS, 1986)

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

No hazardous waste with the potential to create a fire or explosion hazard is known to exist on-site.
(NYSDEC Registry Sheet, 1985)

Basis of estimating and/or computing waste quantity:

The hazardous waste quantity score for the fire and explosion pathway is zero because no hazardous wastes are known to exist on-site.
(NYSDEC Registry Sheet, 1985)

* * *

3. TARGETS

Distance to Nearest Population

Less than 1/4 mile.
(NCHD, 1982; and ES and D&M Site Visit, 1985/86))

Distance to Nearest Building

Buildings located on top of disposal site.
(NCHD, 1982; ES and D&M Site Inspection, 1985/86)

Distance to Sensitive Environment

Distance to wetlands:

0.25 miles to TW-3 wetland.
(McMurry, NYSDEC Region 9, 1986)

Distance to critical habitat:

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

Land Use

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

Walter S. Johnson Building Company, and Salerno Building located on site. Great Lakes Carbon and Necco Landfill located within 1/4 mile.
(NCHD, 1982; ES and D&M Site Inspection, 1985/86)

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

There are no national or state parks/forests within 2 miles of the site.
(USGS Topographic Map, Niagara Falls and Tonawanda West Quad, 1980)

Distance to residential area, if 2 miles or less:

Less than 1/4 mile north of the site is Sabre Trailer Park.
(NCHD Site Profile Report, 1982; and ES and D&M Site Visit, 1985/86)

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, National Park Service, "National Register of Historic Places" and "National Natural Landmarks," 1983)

Population with 2-Mile Radius

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

Buildings Within 2-Mile Radius

9,673 buildings (36,756 people ÷ 3.8 people per house).

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

Based on records 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 Records Search)**

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the site to prevent entry. Therefore, site is accessible for HRS scoring. **(ES and D&M Site Inspection, 1985; Hudson, 1985)**

* * *

3. CONTAINMENT

Type of containment, if applicable:

The site does not have an adequate cover system and hazardous constituents have been detected in on-site soils. Therefore, for HRS scoring, hazardous substances are accessible to direct contact. **(ES and D&M Site Inspection, 1985; NCHD, 1982; NUS, 1986; USEPA, 1985)**

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Heavy metals, pesticides, organics and PCBs. **(USEPA, March 1985; NUS Corporation Sampling, 1985; and Woodward-Clyde for Texas Brine Corporation, 1986)**

Compound with highest score:

Iron, mercury (soils). **(Sax, 6th Ed.)**

5. TARGETS

Population within one-mile radius

5,902 people.
(US Bureau of the Census, 1980)

Distance to critical habitat (of endangered species)

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

HRS REFERENCES*

1) Bowers, R. and Johnson, J., owners of 64th Street site, interview for Phase I Investigation, 4/23/86.

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

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

4) Hopkins, M., Niagara County Health Department, interview for Phase I Investigation, 5/8/86.

5) Hopkins, M., Niagara County Health Department, interview for Phase I Investigation, 2/17/88.

6) Hopkins, M.E., Niagara County Health Department, Letter to C. Bosma, Engineering-Science, 2/4/88.

7) Hopkins, M.E., Niagara County Health Department, Letter to C. Bosma, Engineering-Science, 2/23/88.

8) Hopkins, M., Niagara County Health Department, interview for Phase I Investigation, 11/20/85.

9) Hudson, C., NYSDOH Bureau of Toxic Substance Assessment, interview for Phase I Investigation, 12/30/85.

10) Johnston, R.H., Ground Water in the Niagara Falls Area, New York, State of New York, Conservation Department, Water Resources Commission, 1964.

11) Kapsteina, A., Olin Chemical, interview for Phase I Investigation, 2/2/88.

12) McMurry, M., NYSDEC Regulatory Affairs - Region 9, Interview for Phase I Investigation, 1/3/86.

13) NUS Corporation, Superfund Division, presentation of Analytical Data from 64th Street Dump North, Niagara Falls, New York, 3/20/86.

14) New York State Department of Health, NYS Atlas of Community Water System Sources, 1982.

15) New York State Department of Environmental Conservation, Inactive Hazardous Waste Disposal Site Report (Registry Sheet), 1/24/85.

16) Niagara County Health Department, Site Profile Report for 64th Street North, 1982.

17) Ozard, J., NYSDEC Wildlife Resources Center, interview for Phase I Investigation, 1/17/86.

18) Sax, N.I., Dangerous Properties of Industrial Materials, 6th Edition, Van Nostrand Reinhold Company, 1986.

19) U.S. Bureau of the Census, Population Census Tracts, 1980.

20) US Department of Commerce, Climatic Atlas of the United States, National Climatic Center, Ashville, NC, 1979.

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

22) U.S. Department of Interior, National Park Service, "National Register of Historic Places" and "National Natural Landmarks," 1983.

23) U.S. Environmental Protection Agency, "Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste Disposal Sites," U.S. Geological Survey, 1985.

24) U.S. Geological Survey; Topographic Maps: Niagara and Tonawanda West Quadrangles, 1980.

25) Woodward-Clyde Consultants, Texas Brine Corporation Brine Pipeline, Soil Excavation and Disposal Plan, 7/29/86.

*For General References, see Appendix A.

REF - 1

Bowers et al, 1986

INTERVIEW FORM

INTERVIEWEE/CODE Russ Bowers / Jack Johnson 1

TITLE - POSITION Owner

ADDRESS 925 66th St

CITY Niagara Falls STATE NY ZIP 14304

PHONE (716) 283-5733 RESIDENCE PERIOD _____ TO _____

LOCATION 64th St - N. INTERVIEWER CJ Bono / Larry Keefe

DATE/TIME 4-23-86 / 9:30 am

SUBJECT: Phase I Site Investigation.

REMARKS: 1. NUS Corp. took soil samples in Dec 1985 (abo.t 6 samples). Can obtain report from John Anderson (716) 285-8842. "Project for Performance of Remedial Response Activ. at Uncontr. Haz. Subst Facil. - Zone 1"

2. Johnson family owned site from 1955 on. Constructed present bldg in 1977. (Jack has pictures of site construction). When installing bldg, only construction debris was found, no discolored water was visible during construction. Site has 3 gasoline underground storage ~~site~~ tanks. Subsoil = soft clay

3. Previous to 1955, Niagara Mohawk owned site. Site was used by various parties Carbide as a dump site for construction debris

4. No spontaneous Fires or Explosions are known to have occured

5. Trailer Park located ~~a~~ less than 1/4 mile away

I agree with the above interview ~~summary~~:

Signature/Title: [signature]

Comments:

INTERVIEW FORM

INTERVIEWEE/CODE Russ Bowers/Jack Johnson /

TITLE - POSITION Owner

ADDRESS 925 66th Street

CITY Niagara Falls STATE NY ZIP 14304

PHONE (716) 283-8733 RESIDENCE PERIOD _____ TO _____

LOCATION 64th Street North INTERVIEWER C. Bosma/Larry Keefe

DATE/TIME 4/23/86 / 9:30 a.m.

SUBJECT: Phase I site investigation

REMARKS: 1. NUS Corp. took soil samples in Dec. 1985 (about 6 samples). Can obtain report from John Anderson (716) 285-8842. "Project for Performance of Remedial Response Activity at Uncontrolled Hazardous Substance Facilities - Zone 1."

2. Johnson family owned site form 1955 on. Constructed present building in 1977. (Jack has pictures of site construction.) When installing building, only construction debris was found, no discolored water was visible during construction. Site has 3 gasoline underground storage tanks. Subsoil - soft clay.

3. Previous to 1955, Niagara Mohawk owned site. Site was used by various parties as a dump site for construction debris.

4. No spontaneous fires or explosions are known to have occured.

5. Trailer Park located less than one-quarter mile away

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: /s/ James R. Bowers /s/ Jack Johnson

COMMENTS:

REF-2

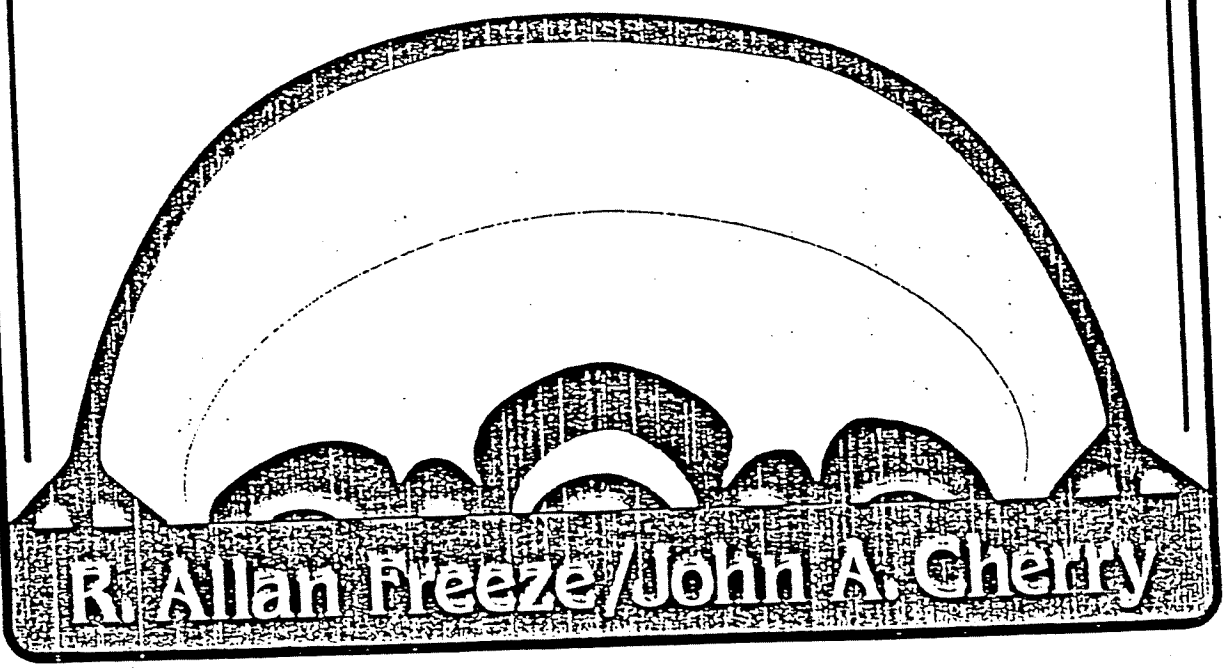
ES and D&M

ES AND D&M SITE INSPECTION

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

REF- 3
Freeze & Cherry, 1979

GROUNDWATER



R. Allan Freeze/John A. Cherry

REF-3
Freeze+Cherry, 1979.

Table 2.2 Range of Values of Hydraulic Conductivity and Permeability

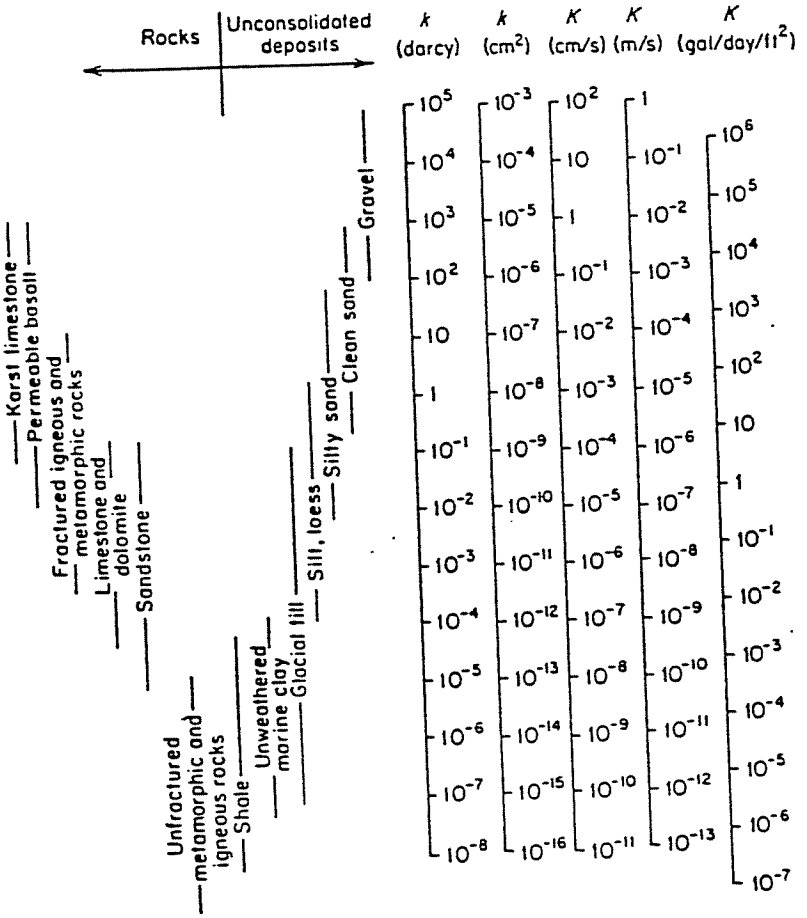


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	Permeability, k*			Hydraulic conductivity, K		
	cm²	ft²	darcy	m/s	ft/s	U.S. gal/day/ft²
cm²	1	1.08×10^{-3}	1.01×10^{8}	9.80×10^{2}	3.22×10^{3}	1.85×10^{9}
ft²	9.29×10^{2}	1	9.42×10^{10}	9.11×10^{5}	2.99×10^{6}	1.71×10^{12}
darcy	9.87×10^{-9}	1.06×10^{-11}	1	9.66×10^{-6}	3.17×10^{-5}	1.82×10^{1}
m/s	1.02×10^{-3}	1.10×10^{-6}	1.04×10^{5}	1	3.28	2.12×10^{6}
ft/s	3.11×10^{-4}	3.35×10^{-7}	3.15×10^{4}	3.05×10^{-1}	1	6.46×10^{5}
U.S. gal/day/ft²	5.42×10^{-10}	5.83×10^{-13}	5.49×10^{-2}	4.72×10^{-7}	1.55×10^{-6}	1

*To obtain k in ft², multiply k in cm² by 1.08×10^{-3}.

REF.. 4
Hopkins, 1986

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION Niagara County Health Department

ADDRESS 10th Street and East Falls

CITY Niagara Falls STATE N.Y. ZIP 14303

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

LOCATION phone interview INTERVIEWER Larry Keefe (Dames and Moore)

DATE/TIME May 8, 1986 / 11:20 a.m.

SUBJECT: groundwater usage in the Niagara Falls area

REMARKS: Regarding the following sites: Great Lakes Carbon, Wurlitzer, Dibacco #2, Adams Generating Plant, Hydraulic Canal, 64th Street, St. Mary's and Bishop Duffy Schools, Silbergeld Junkyard, and Tam Ceramics; the following known groundwater usage applies:

1. The only known drinking water wells are on Pennsylvania Avenue in the town of Niagara. There are 2 wells on Pennsylvania Avenue and 3 on Delaware Avenue (adjacent street).
2. The only known operational industrial well is at Olin Chemical on Buffalo Avenue, City of Niagara Falls. This is a non-contact cooling water usage only.

I agree with the above interview summary:

Signature/Title:

Comments:

REF 4

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 KEEGE (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.IBACCO #2, [4]ADAMS GENERATING PLANT, [5]HYDRAULIC CANAL, [6]64th ST, [7]ST. MARY'S & BISHOP DUFFY SCHOOLS, [8]SILBERFELD BOULEVARD, 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 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 Cooling ~~PROCESS~~ WATER USAGE ONLY.

I agree with the above interview summary as corrected:

Signature/Title: Michael F Hopkins, NCHD

Comments:

REF- 5

Hopkins, 2/17/8

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION Niagara County Health Dept. (NCHD)

ADDRESS

CITY Niagara Falls STATE NY ZIP

PHONE (716) 284-3128 RESIDENCE PERIOD TO

LOCATION INTERVIEWER Cathy J. Bosma

DATE/TIME 2/17/88 / afternoon

SUBJECT: Phase I - 64th St - North Site

REMARKS: I requested the following information/clarification based on NCHD Draft review comments. (Mike had sent some information after my first request.)

1. Direction of ground water flow? South

2. Federal Centers for Disease Control Assessments of NUS Data? The data Mike has available is for the 64th St - South site. Mike is not sure if CDC evaluated NUS North site data because he does not have this information. He thinks CDC may have evaluated data because NUS always has CDC do this. Availability of this information is unknown.

3. Is there any groundwater data for the north site? CECOS has wells on western part of 64th St - North; USGS has well east of I-190 and north of Niagara Falls Blvd, and Dupont may also have well data. Mike will send me this information.

4. Are interviews with local residents applicable to 64th St - North? These were really regarding Niagara Falls High School but residents also discuss disposal in 64th area. No person mentioned disposal of industrial wastes or drums. (Mike will send this information.)

5. EPA/USGS, Nov. 1985 - Results of soil sampling at Sabre Trailer Park? Mike didn't think these results are appropriate to 64th St.-North. Mike

I agree with the above interview summary:

Signature/Title:

Comments:

REF-5

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins interview - page two /

TITLE - POSITION

ADDRESS

CITY STATE ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION INTERVIEWER

DATE/TIME /

SUBJECT:

REMARKS: said trailer park is a separate Phase I study.

6. Any other information we may need?

Woodward-Clyde and Texas Brine found garbage and a propane tank (which blew up) during excavation for installing a line on Niagara Mohawk right-of-way. Mike will send this information.

I agree with the above interview summary:

Signature/Title:

Comments:

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins / p.1

TITLE - POSITION Niagara County Health Dept (NCHD)

ADDRESS

CITY Niagara Falls STATE NY ZIP

PHONE (716) 284-3128 RESIDENCE PERIOD TO

LOCATION INTERVIEWER Cathy J. Bosma

DATE/TIME 2-17-88 / afternoon

SUBJECT: Phase I - 64th St. - North Site

REMARKS: I Requested the following information/clarification based on NCHD Draft review comments. (Mike had sent some information after my first request)

1. Direction of Groundwater Flow? South

2. Federal Centers for Disease Control/ Assessment of NUS Data?
The data Mike has available is for the 64th St. - South site. Mike is not sure if CDC evaluated NUS north site data, because he does not have this information. He thinks CDC ~~has~~ may have evaluated the data because NUS always has CDC do this. Availability of this information is unknown.

3. Is there any ... groundwater data for the north site?
CECOS has wells on western part of 64th St - North.
USGS has well at east of I-190 & North of Niagara Falls Blvd and DuPont may also have well data. Mike will send me this information.

4. Are interviews with local residents applicable to 64th St - North?
These were really regarding Niagara Falls High School but residents also discuss disposal in 64th area. No person

I agree with the above interview summary:

Signature/Title:

Comments:

REF-5

INTERVIEW FORM, Continued

INTERVIEWEE/CODE Mike Hopkins / p.2

TITLE - POSITION NCHD

ADDRESS

CITY STATE ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION INTERVIEWER

DATE/TIME 2-17-88 /

SUBJECT: Phase I - 64th St - North Site

REMARKS:

Mike will send this information.

4. cont. — mentioned disposal of industrial wastes or drums.

5. EPA/USGS Nov 1985 - Results of soil sampling of Sabre Trailer Park?

Mike didn't think these results are appropriate to 64th St. - North Site. Mike said trailer park is a separate Phase I study.

6. Any other information we may need?

Woodward-Clyde and Texas Brine found garbage and a propane tank (which blew up) during excavation for installing a line on Niagara Mohawk right of way. Mike will send this information.

I agree with the above interview summary:

Signature/Title:

Comments:

REF- 6
Hopkins, 2/4/88

NIAGARA COUNTY
HEALTH DEPARTMENT
HUMAN RESOURCES BUILDING
MAIN POST OFFICE BOX 428
10th AND EAST FALLS STREET
NIAGARA FALLS, NEW YORK 14302

February 4, 1988

Engineering Science
10521 Rosehaven Street
Fairfax, VA 22030

Attention: Ms. Cathy Bosma

Dear Ms. Bosma:

Attached is information from our files pertaining to the 64th Street - North site. The following is attached:

1. Sketches prepared by this department showing the routes of former drainage swales (now level with surrounding grade), estimated limits of waste disposal and photocopies of air photos showing disposal in progress (1951 and 1958).

ES already had 2. Results of soil analyses from samples collected by NUS Corporation in 1985.

3. Results of soil samples collected from the Niagara Mohawk (Texas Brine Co.) right-of-way north of the site. Also attached is an inspection report noting waste material encountered during utility line construction during 1986. The waste encountered was visually classified as rubble and municipal refuse.

Please contact me if you need additional information at (716) 284-3128.

Yours very truly,

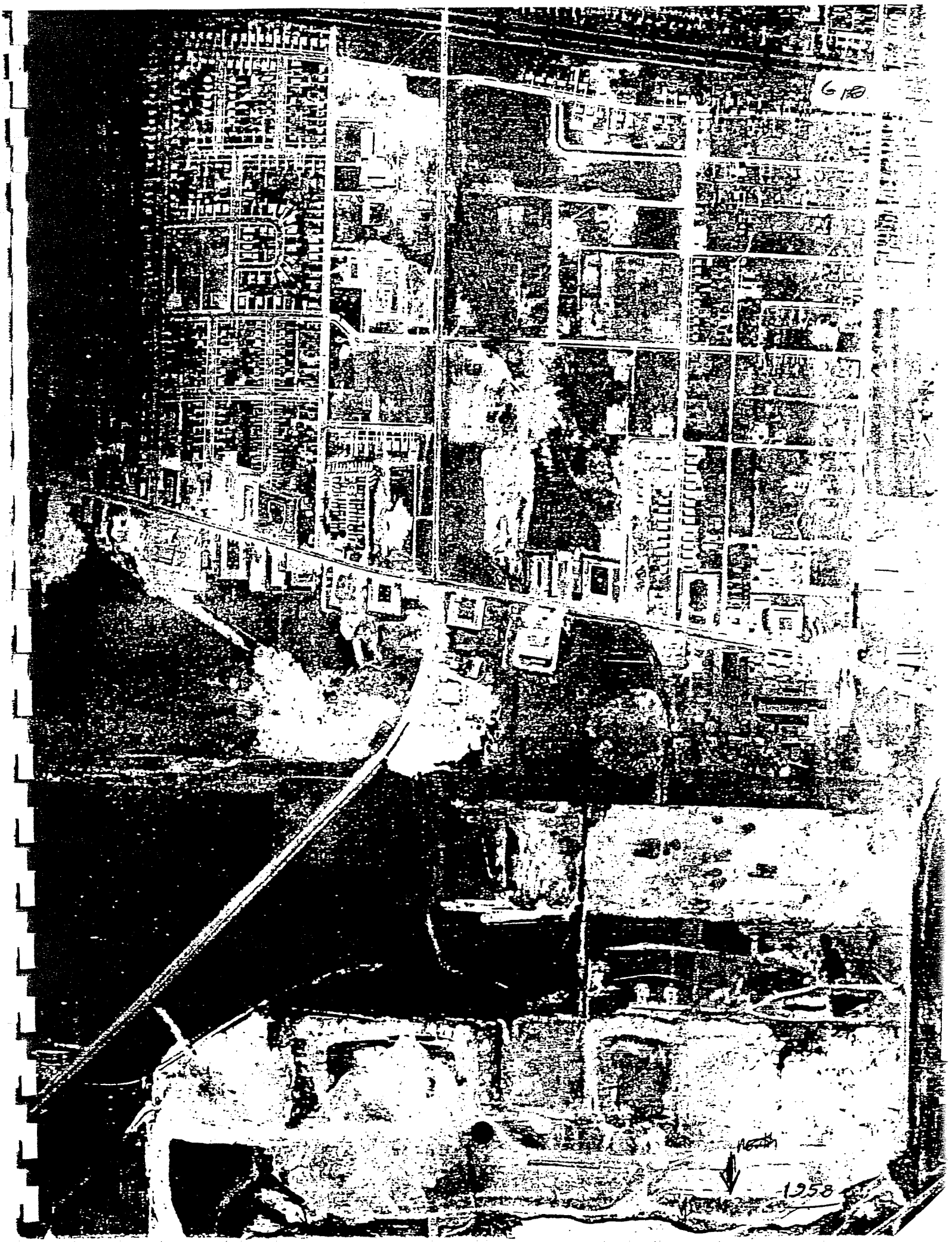
Michael E. Hopkins
Assistant Public Health Engineer

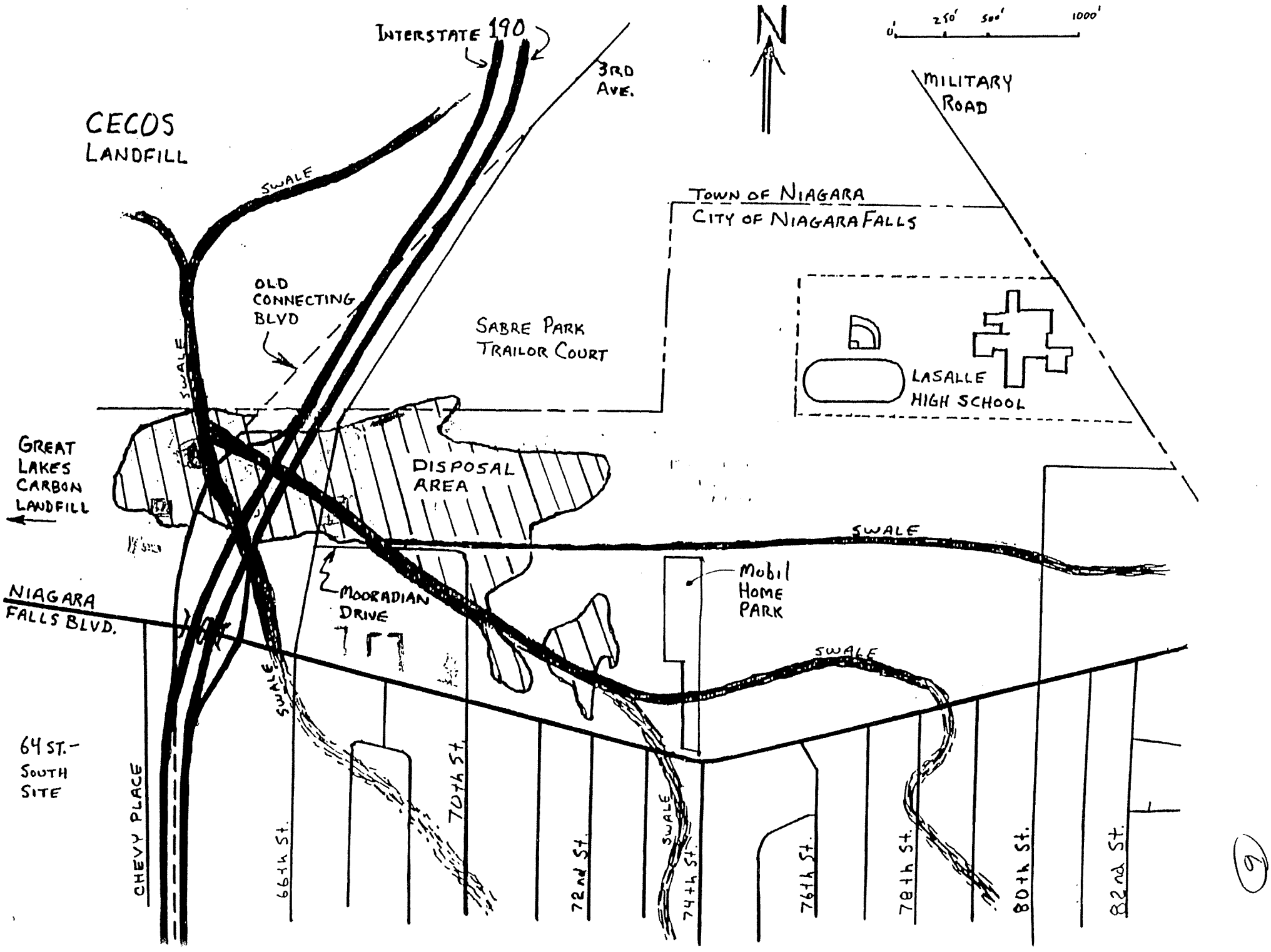
MEH:cs
Attach.

cc: Mr. J. Tygert/DEC-9 w/o attach.

T561 North

6


1958


INTERSTATE 190
3RD AVE.
CECOS LANDFILL
SWALE
OLD CONNECTING BLVD
SWALE
SABRE PARK TRAILOR COURT
TOWN OF NIAGARA
CITY OF NIAGARA FALLS
MILITARY ROAD
LASALLE HIGH SCHOOL
GREAT LAKES CARBON LANDFILL
DISPOSAL AREA
SWALE
MOORADIAN DRIVE
Mobil Home PARK
NIAGARA FALLS BLVD.
SWALE
SWALE
64 ST.- SOUTH SITE
CHEVY PLACE
66th St.
70th St.
72nd St.
SWALE
74th St.
76th St.
78th St.
80th St.
82nd St.
0'
250'
500'
1000'

REF - 7
Hopkins, 3/23/88

NIAGARA COUNTY
HEALTH DEPARTMENT
HUMAN RESOURCES BUILDING
MAIN POST OFFICE BOX 428
10th AND EAST FALLS STREET
NIAGARA FALLS, NEW YORK 14302

February 23, 1988

Recd
2-29-88 fm

E S Engineering Science
Two Flint Hill
10521 Rosehaven Street
Fairfax, VA 22030-2899

Attention: Ms. Cathy Bosma

Dear Ms. Bosma:

The following is a compilation of the information you requested regarding the 61th Street-North Site:

1) Historical information

In response to your request for historical information and documentation of our 1985 investigation in this area, we have compiled a summary of our actions and conclusions. We feel this will suffice for your purposes. It is noted that the entire file contains hundreds of pages with useful information scattered throughout.

During 1985 this department conducted an extensive historical investigation into reports of former waste disposal at a number of areas in the LaSalle area of Niagara Falls including the 61th Street-North Site. This investigation included study of historical aerial photographs (1937, 1951, 1958, 1966 and 1978), interviewing with knowledgeable individuals, including former residents, a door to door survey to obtain information from present residents, identification of former drainageways which are now filled to grade, interviews with Thruway Authority personnel and contractors who have built buildings and installed utility lines in this area. Since that time, NUS Corporation, as contractor to EPA has collected samples from many of these areas and a salt-water brine pipeline has been constructed through the area.

Based on the above information, the following is our interpretation of historical waste disposal activities at the 61th Street-North Site:

No evidence of waste disposal activity or any significant development of this site is noted prior to 1937 (based on air photos (1937 and 1919, 1921 and 1927 maps). Much of the surrounding area was being cultivated at that time. The I 190 was not yet constructed but Connecting Road and Niagara Falls Boulevard were in place. A forked drainage swale, several to possibly 10 feet deep in places stretched across the site. Drainage apparently flowed westward. The surrounding area was largely wetland. Drawing showing the former swale routes were previously provided to you.

During World War II the area south of Niagara Falls Boulevard was developed as a civilian housing complex for aircraft construction workers. This development was demolished in the early 1950's. Simultaneously, the drainage swale from the center of the 61th Street Site to Niagara Falls Boulevard was filled in. This area may contain debris from the demolition of the housing project. It has also been reported that this area may have received garbage or incinerator ash from the housing project while it was active. We contacted the Department of Defense, but they were not able to provide any useable information on these activities.

In the 1950's the remaining section of swale, including the large east-west trending swale was filled. It is suspected that much of this area was filled with municipal-type garbage. Several adjoining low areas were also filled. The area appears to have been filled in and essentially level with grade by 1958.

The I 190 was constructed in the late 1950's and early 1960's and the site was developed to near its present extent by the mid 1960's.

The above information is largely confirmed by using aerial photographs and by several persons interviewed by this department in 1985. In 1986 the Texas Brine Corporation encountered obvious raw garbage in an excavation along the north side of the site. Thruway Authority personnel interviewed were unaware of any waste material encountered during the I 190 construction but it is noted that this section of the I 190 is a fill section.

We hope that the above is adequate for your purposes, we can supply more detailed information if requested however the above should be adequate for a Phase I or II type investigation.

2) Groundwater information

Groundwater data for this area is available from several sources, including:

1) NUS - 1986 LaSalle Area groundwater study
2) USGS - Niagara River Study
3) Dupont/Woodward Clyde - Hecco Park Investigations
4) CECOS/Newco groundwater monitoring system

The above data in its entirety is too large to transmit. We have attached various summaries and maps showing well locations. Additional information should be obtained from the above sources.

3) Information on Texas Brine Line construction near site

Attached are various documents related to the construction of the Texas Brine Line adjacent to the site.

Please contact me with any questions at 716-284-3128.

Very truly yours,

Michael Hopkins
Assistant Public Health
Engineer

MH:lj

cc: Jaspal Walia
L. Rusin
R. Tramantano

NUS Corporation
1987 REF-7

1.0 EXECUTIVE SUMMARY

This report includes the following items:

- o A characterization of the hydrogeology underlying the LaSalle Residential Area.
- o A presentation of the results for the soil samples collected during installation of the United States Environmental Protection Agency (EPA) wells in the LaSalle Residential Area.
- o A presentation of the results of the May sampling of the groundwater monitoring wells located in the LaSalle Residential Area.
- o A comparison of the results of the four groundwater sampling events conducted in the LaSalle Residential Area between January 27, 1986 and May 16, 1986.

From October 30, 1985 to May 8, 1986, EPA's contractor installed six clusters of monitoring wells in the LaSalle Residential Area. Each cluster included at least four wells installed to monitor different groundwater intervals. A total of 25 wells were installed. Figure 1-1 illustrates the general well design and relative positions of the monitoring intervals. Table 1-1 gives a general description of each well. The monitoring intervals include:

- o The shallow groundwater present in the overburden.
- o The regolith (a zone of highly weathered and fractured rock at the interface between the bedrock and overburden)
- o A shallow bedrock fracture zone
- o The second fracture zone encountered in the bedrock.

Based on the water level data provided in Table 1-1 from the EPA wells and two USGS (U.S. Geologic Survey) wells in the LaSalle Area, a characterization of the

following a "J" or a number means the compound was also found in the laboratory blank, indicating that field procedures or laboratory analysis could have resulted in contamination of the sample. An "E" indicates the sample did not pass EPA's quality assurance/quality control (QA/QC) standards.

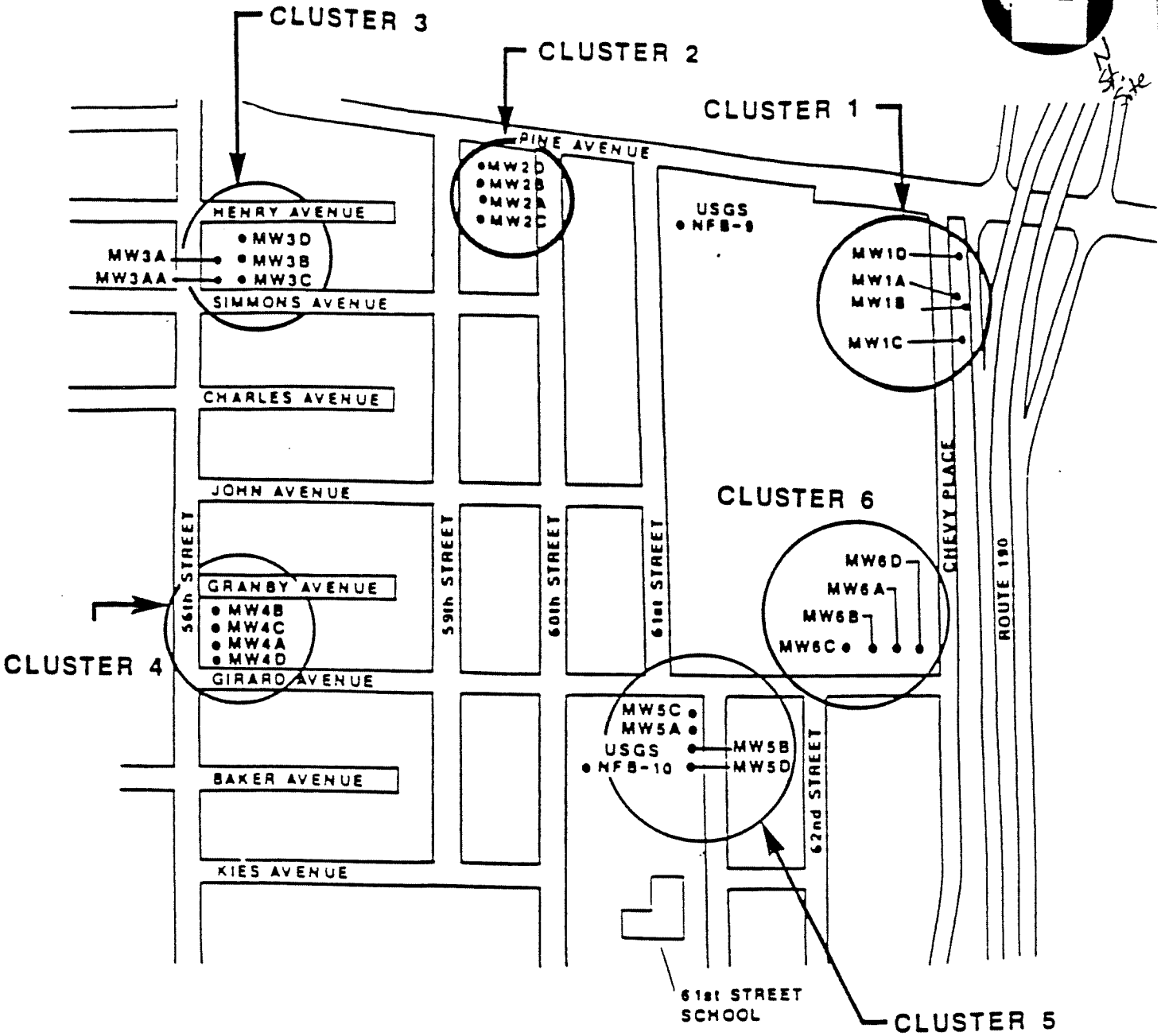
During installation of the EPA monitoring wells a soil sample was collected from each borehole. A total of 24 soil samples were collected. The only organic contaminant detected in these samples was toluene. Concentrations of toluene ranged from trace amounts to 210 ug/l. Toluene was not present in most of the groundwater samples and is, therefore, not considered to be related to any groundwater contamination.

Between May 12 and 14, 1986, twenty-seven groundwater samples were collected from the EPA wells and two USGS wells in the LaSalle Residential Area. Figure 1-3 provides the location of all wells sampled in the LaSalle area. The only measurable organic contamination was confined to three wells: MW2B and MW2C at Cluster 2 and USGS well NFB-9. All organic contaminants identified were volatile organics. In MW2B the following volatile organics were found: vinyl chloride, 1,1-dichloroethene, trans-1,2-dichloroethene, trichloroethene and benzene. The volatile organic compounds detected in MW2C were vinyl chloride, trans-1,2,-dichloroethene, carbon disulfide and benzene. In USGS well NFB-9, vinyl chloride and trans-1,2-dichloroethene were found.

Inorganic and other SAS results did not indicate any levels of concern.

The EPA wells in the LaSalle Residential Area have been sampled on four separate occasions. During each of these sampling events the measurable organic contamination occurred primarily at Cluster 2 and at USGS well NFB-9. Figure 1-4 provides a graphical comparison of the levels of organic compounds detected during each sampling event. In each case none of the contaminants found in wells MW2B and MW2C were present in well MW2A. The lack of contamination in well MW2A indicates the lacustrine clay layer is probably an effective barrier to upward migration of contaminants in the LaSalle Residential Area. Figure 6-2 indicates the variation in concentration of semi-volatiles, pesticides, and cyanide by sampling event. This figure illustrates, as does figure 1-4, that contamination occurs at highest concentrations in monitoring well MW2B. Figure 1-5 also indicates contaminants have been detected at low levels in wells MW1B, MW2C, MW3AA, and MW6A, but not in a consistent manner.

REF-7



LEGEND

● SAMPLED EPA AND USGS WELLS

FIGURE 1-3

MONITORING WELL LOCATION MAP

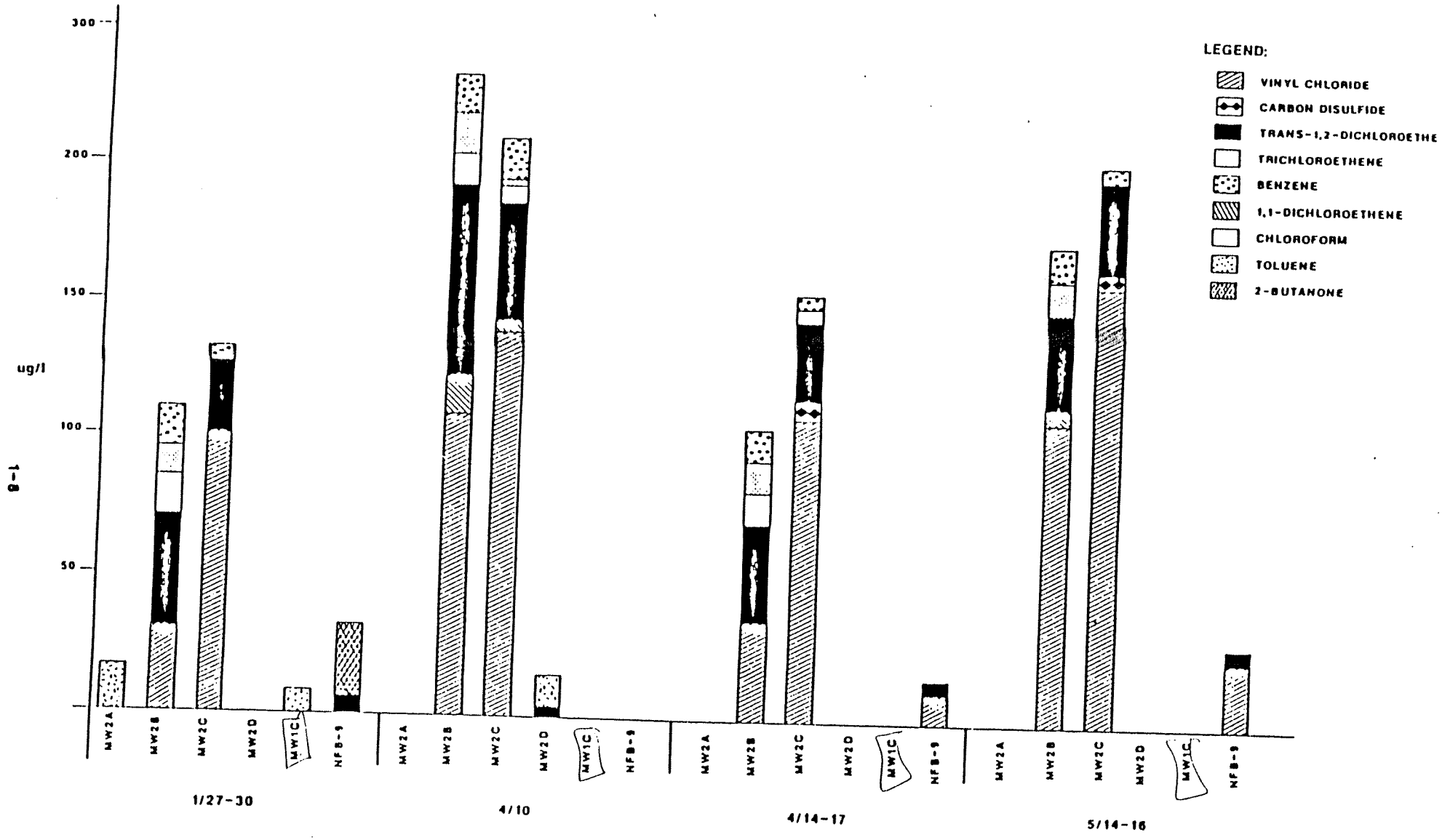
LASALLE AREA GROUNDWATER MONITORING PROGRAM

NIAGARA FALLS, N.Y.

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company



VARIATIONS OF VOLATILE ORGANIC CONCENTRATIONS PER SAMPLING EVENT

LaSALLE AREA GROUNDWATER MONITORING PROGRAM

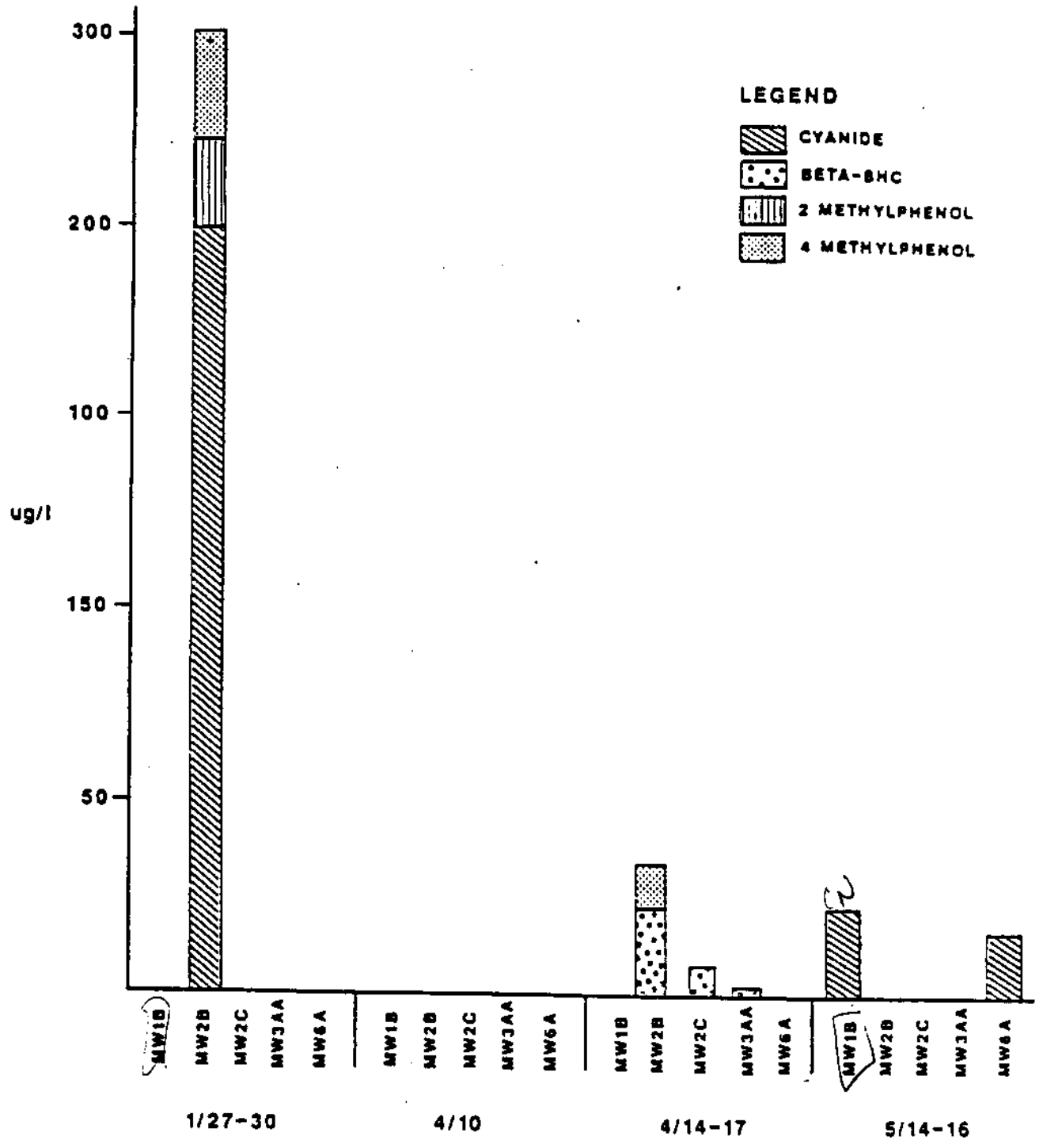
NIAGARA FALLS, N.Y.

FIGURE 1-4

NUS CORPORATION

REF-7

REF-7

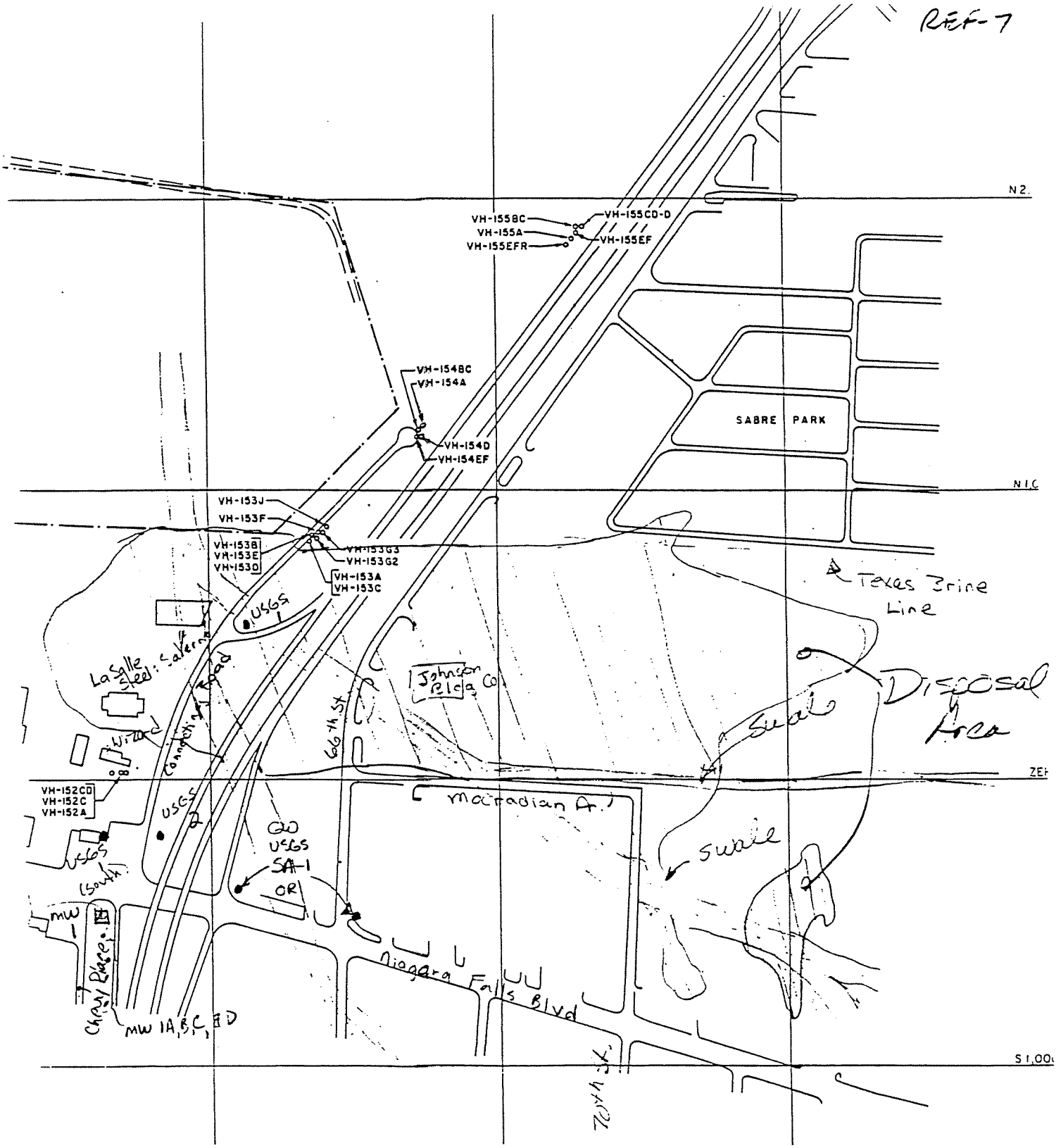


VARIATIONS OF SEMI-VOLATILES, PESTICIDES AND CYANIDE PER SAMPLING EVENT
LaSALLE AREA GROUNDWATER MONITORING PROGRAM
NIAGARA FALLS, N.Y.

FIGURE 1-5

NUS CORPORATION
A Halliburton Company

REF-7



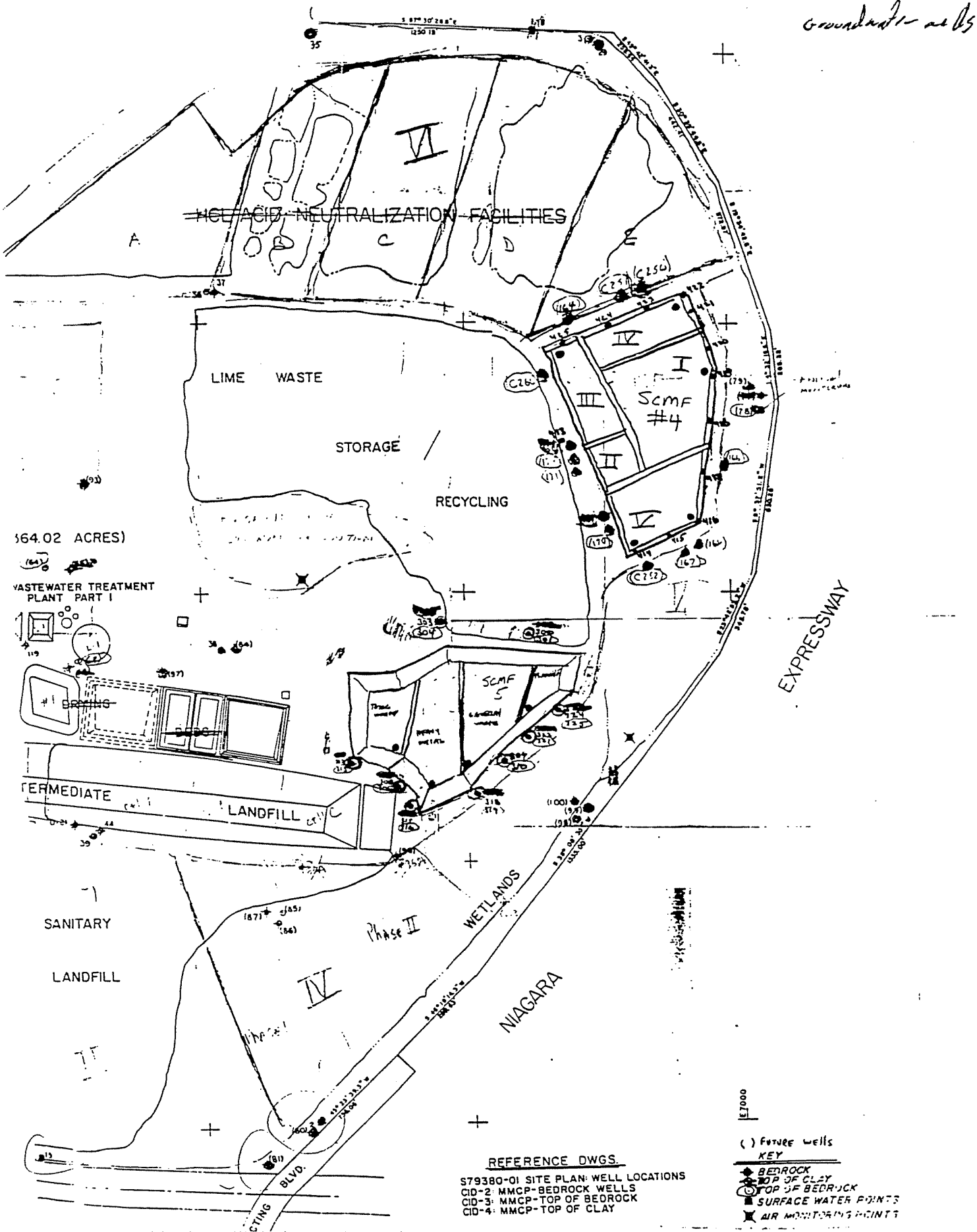
MONITORING WELL LOCATION PLAN
NECCO PARK
E. I. du PONT de NEMOURS & CO.
NIAGARA FALLS, NEW YORK

WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

REF-7

CECOS/MMCP Groundwater wells



(8)

HOPKINS, 11/20/85

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION

ADDRESS

CITY STATE ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION INTERVIEWER

DATE/TIME 11-20-85 /

SUBJECT: 64th St.

REMARKS: EPA has done soil sampling. There is no 64th St. Most of the South site is this side (Great Lakes Carbon). Info on 64th St. - Book Mike gave me is not up to date.

Recent Info - 10,000 - 70,000 ppb of various PNA : Mike has analytical data.

As of 1982 George Salerno — OK as of Tax Assessor 1100 Connecting Road Niag Falls, NY 14304

South owned by Mr. Russo or Russo Chev.

North Side: George Mr. Joseph Salerno / Walter Johnson

Extent of site is vague.

Sewer line (Love Canal sewer, New York Landfill) through 64th St. Approx. Date of sewer install : 1930. Next summer they may test the pipe. 42" line

10" Sewer goes to Niag R : Ash main outfall is not mentioned. Mike will get me a profile report. 14

Jack Walter S. Johnson Bldg Co Inc, 925 64th St 283-8?3

deceased 23 yr

Niagara Falls City Assessors Office 286-4? 8144 ?-75-3144

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: M. Hopkins

COMMENTS:

REF 8

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION

ADDRESS

CITY STATE ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION INTERVIEWER Cathy J. Bosma

DATE/TIME 11/20/85 /

SUBJECT: 64th Street

REMARKS: EPA has done soil sampling. ~~There is no 64th St., most of the south~~ site is the swale (Great Lakes Carbon). Info. on 64th St; book Mike gave me is not up-to-date. Recent info - 60,000 - 70,000 ppb of various PNA - Mike has analytical data. South owned by Mr. Russo or Russo Chev. North side owned by Mr. Joseph George Salerno/Walter Johnson. Extent of site is vague.

Sewer line (Love Canal sewer, NECCO landfill leachate) through 64th S. Approx date of sewer install. (42" line) = 1930. Next summer they plant test to pipe. 60" sewer goes to Niagara River. Outfall is not monitored. Mike will get me a ~~profile report.~~

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: /s/ M. Hopkins

COMMENTS:

REF - 9
HUDSON, 1985

Interview Form

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: 64th St ~~Site~~

Remarks: Notes from NYSDOH Site inspection Repgt. *

Inspected by R. Tuers & B. Gilday 4/25/85

Property is very accessible - kids were riding motor cycles at time of inspection

Residential area to the west

highest soil $ contaminant measured:

N, N dimethyl-1-dodecamine 12.2 ug/g

Primary aquifer

20'-140' deep NO wells within 3 miles

Geologic material - clay, sand 10^{-5} cm/sec

Prevailing wind SSW

Site is poorly capped w/ NO leachate collection

Surface Water -

Pike creek runs through site in an underground conduit

Niagara River 5000' drinking water used 100,000 ppl ?

also used for swimming & fishing

Facility Slope - 0-2 %

I agree with the above summary:

Signature: [signature]

Comments:

[illegible] not in final [illegible] DOH did not want copies

population trends - see notes on 64th Street Site

Ref 9

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 a.m.

SUBJECT: 64th St.

REMARKS: Notes from NYSDOH inspection report*

Inspected by R. Tuers and B. Gilday 4/25/85. Property is very accessible - kids were riding motor cycles at time of inspection. Residential area to the west. ~~Highest~~ soil contaminant measuree: N,N dimethyl-1-dodeccuine 12.2 ug/g

Primary aquifer 20 -140 feet deep. No wells within three miles. ~~Geologic material~~ is clay, sand 10^{-5} cm/sec. Prevailing wind SSW. Site is poorly capped with no leachate collection. Surface water - Pike Creek runs through site in an underground conduit. Niagara River is 5,000 feet; drinking water used 100,000 people? also used for fishing and swimming. Facility slope - 0-2%

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

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: /s/ C. Hudson

COMMENTS:

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

REF-10

GROUND WATER IN THE NIAGARA FALLS AREA, NEW YORK

With Emphasis on the Water-Bearing Characteristics of the Bedrock

By

Richard H. Johnston

... ABSTRACT

The Niagara Falls area encompasses 550 square miles in the extreme northwestern corner of New York. The area is one of very low relief except for the Niagara escarpment and the gorge of the Niagara River. A thin cover of Pleistocene unconsolidated deposits overlies the bedrock throughout most of the area. These deposits consist of three types: (1) glacial till, (2) lake deposits, and (3) a few small sand and gravel deposits. The bedrock consists of nearly flat-lying sedimentary rocks of Paleozoic age. The southern one-third of the area is underlain by the Lockport Dolomite (Silurian) and the northern two-thirds of the area by the Queenston Shale (Ordovician). Between these is a small area along the gorge and escarpment which is underlain by a series of thin limestones, shales, and sandstones.

The Lockport Dolomite is the only important aquifer in the Niagara Falls area. Ground water occurs in it 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 character of the three types of water-bearing openings results in two distinct sets of ground-water conditions: (1) a moderately permeable zone at the top of rock, generally 10 to 15 feet thick, characterized by both vertical joints and bedding joints that have been widened by solution of dolomite and by small cavities formed by solution of gypsum, and (2) the remainder of the formation consisting of seven permeable zones (composed of bedding joints) surrounded by essentially impermeable rock. In the upper part of rock, either artesian or water-table conditions may exist locally. However, in the lower part of rock, the seven water-bearing zones act as separate and distinct artesian aquifers. Recharge to the water-bearing zones apparently occurs directly at the outcrop of the bedding joints composing the zones rather than by downward movement of water through vertical joints. Ground water in the Lockport, characteristically a calcium sulfate or calcium bicarbonate water, is very hard and moderately mineralized. A highly mineralized water, characterized by higher concentrations of sodium and chloride than those measured in typical Lockport water, occurs in the lowest two zones of the formation.

. . . 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.

INTERVIEW FORM

INTERVIEWEE/CODE Al Kapteina 1

TITLE - POSITION Laboratory Technician

ADDRESS Olin Chemical

CITY C. Niagara Falls STATE NY ZIP

PHONE (716) 278-6584 RESIDENCE PERIOD TO

LOCATION INTERVIEWER Cathy J. Booma

DATE/TIME 2-2-88 1 ~ 2pm Engineering Science

SUBJECT: Phone Interview - Adams Generating Plant & other disposal sites

REMARKS: I asked about groundwater withdrawal wells and Olin's use of the groundwater.

Respond: Al said they have 2 (G) wells located about 15 ft from each other. The wells draw from 600 - 1500 gpm of water and are located between Buffalo Ave. and Robert Moses Parkway. Between 24th and 26th Street extensions.

The groundwater is pumped to carbon adsorption system prior to being piped to heat exchangers for cooling purposes. The water is then discharged to the sewer system.

There is no direct contact with the groundwater.

I agree with the above interview summary:

Signature/Title: Al Kapteina CJ Booma

Comments:

INTERVIEW FORM

INTERVIEWEE/CODE Mike McMurray /

TITLE - POSITION Environmental Analyst

ADDRESS 600 Delaware Avenue

CITY Buffalo STATE NY ZIP 14202

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

LOCATION DEC Regulatory Affairs, Buffalo INTERVIEWER Eric Nye - D&M

DATE/TIME 1/3/86 / ____

SUBJECT: Wetlands and flood information - Region 9

REMARKS: Met with Mike who gave me access to both wetland and floodway maps for the local region./ (s) MJM

* Also left site locations for the identification of wildlife critical habitats and national wildlife refuges.

There is a wetland (TW-3) located 0.25 miles from the site.

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: /s/ Michael J. McMurray, Evirnonmental Analyst

COMMENTS:

REF –
NUS Corp, 1986
REF (13)

64 ST. DUMP - NORTH

PROJECT FOR PERFORMANCE OF REMEDIAL RESPONSE ACTIVITIES AT UNCONTROLLED HAZARDOUS SUBSTANCE FACILITIES—ZONE 1

NUS CORPORATION
SUPERFUND DIVISION

(13)

R-584-03-86-01

PRESENTATION OF ANALYTICAL DATA
FROM
64TH STREET DUMP NORTH
NIAGARA FALLS, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8506-05
CONTRACT NO. 68-01-6699

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MARCH 20, 1986

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY
Deborah E. LaMond
DEBORAH E. LAMOND
PROJECT MANAGER

REVIEWED/APPROVED BY
Ronald M. Naman
RONALD M. NAMAN
REGIONAL PROJECT MANAGER

1.0 EXECUTIVE SUMMARY

Sampling of the soils at the 64th Street Dump North site, Niagara Falls, New York was performed in two parts.

Part one was performed on the western portion of the site on June 12, 1985 as part of the Basic Carbon Company site inspection. Those sections of this presentation which refer to sampling conducted as part of the Basic Carbon Company site inspection have been taken verbatim from Report Number R-584-09-85-04, Presentation of Analytical Data from Basic Carbon Company, Niagara Falls, New York. The Basic Carbon Company data presentation has been reviewed and commented on by the Agency for Toxic Substances and Disease Registry. Four surface soil samples, one subsurface soil sample and one quality assurance/quality control field blank were collected and analyzed. The significant findings of this evaluation are as follows:

Varying concentrations of volatile and semi-volatile compounds were detected in the soil samples taken at Basic Carbon. In addition, a pesticide (alpha-BHC) and a polychlorinated biphenyl mixture (Aroclor 1248) were found in samples NYA5-S3 and NYA5-S4, respectively.

Concentrations of inorganic compounds detected in the soil samples were generally within normal ranges for soil with the exceptions of cadmium, chromium, lead and mercury. All of the aforementioned exceeded the levels specified by Bohn et al. (1979) for inorganic compounds in the soil in at least one of the samples.

Part two of the 64th Street Dump North sampling was performed on the eastern portion of the site on December 19, 1985. Soil samples were collected at four locations at depths of 0-4 inches, 2 feet and approximately 4 feet at each of those locations (See Table 4-2). At two locations, soil samples were collected at depths of 0-4 inches and 2 feet. Auger refusal at those two locations precluded sampling any deeper than 2 feet. One quality assurance/quality control field blank was collected. The significant findings of this evaluation are as follows:

Varying concentrations of volatile and semi-volatile compounds were detected in the soil samples. In addition, four pesticides (alpha-BHC, chlordane, aldrin, 4,4'-DDE) were found in ten soil samples and two polychlorinated biphenyl mixtures (Aroclors 1254 and 1260) were found in samples NYB1-S1-2 and NYB1-S1-5, respectively.

Concentrations of inorganic compounds detected in the soil samples were generally within normal ranges for soil with the exceptions of mercury, lead and zinc. All of the aforementioned exceeded the levels specified by Bohn et al. (1979) for inorganic compounds in the soil in at least one of the samples.

(13)

2.0 OBJECTIVE

The objective of this study was to determine the existence or non-existence of hazardous substances in the soils in the vicinity of the 64th Street North Dump site.

(13)

3.0 BACKGROUND

This section provides a description of the site as it presently exists and a review of the site's history.

The 64th Street Dump North site is a 20 acre site located in a highly industrialized area of the city of Niagara Falls, Niagara County, New York and was used as a municipal landfill during the 1940's and 1950's. The southern border of the site is approximately 800 feet north of Niagara Falls Boulevard. The site is bounded by the Niagara Mohawk easement to the north and extends from several hundred feet west of Connecting Road to 1,000 feet or more east of Interstate 190 (I-190) (See Figures 3-1 and 3-2). The possibility exits that industrial wastes may have been placed in the landfill, but there are no documented reports describing such disposal.

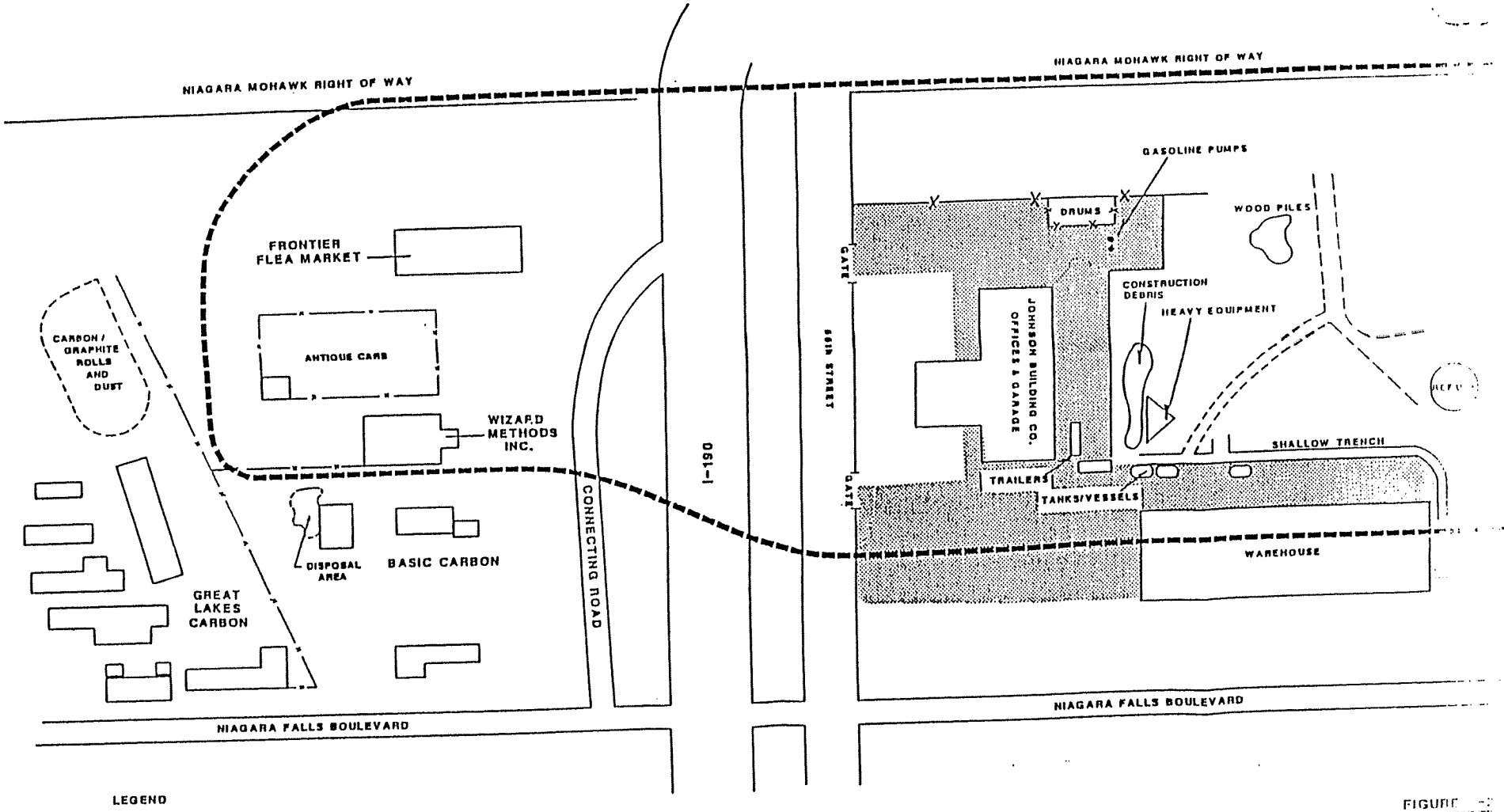
Presently, about 60-70 percent of the former disposal area is now covered with pavement. Several commercial buildings also occupy the site. Current ownership of the site is spiit between three parties. The portion of the site located west of I-190 is owned by Jim Salerno of LaSalle Steel. The CECOS/Necco Park landfill complex is located less than one quarter mile to the north of this western portion of the site. The State of New York Department of Transportation owns the portion of the site which lies under I-190 including the rights of way to either side of the highway. The portion of the site east of I-190 is owned by the Walter S. Johnson Building Company, Inc. The Sabre Park residential area is located less than one quarter mile to the north of this eastern portion of the site.

A site inspection was conducted on the portion of the site which lies to the east of I-190 on December 19, 1985.

Sampling on the portion of the site located west of I-190 was conducted on June 12, 1985 under TDD #02-8305-10 as part of the site inspection for Basic Carbon Company. It should be noted that analysis of historical photos and site related documents subsequent to the June 12, 1985 site inspection performed at Basic Carbon Company revealed that only one of the samples was actually taken in the vicinity of the disposal activities at Basic Carbon. The other samples were taken in locations which would characterize the area relative to landfill and dumping

activities at the 64th Street Dump North site. All samples collected during the Basic Carbon site inspection have been included as part of the 64th Street Dump North sampling as a result of information provided by the historical photos. The locations sampled during the Basic Carbon Company site inspection correspond to the location of the western portion of the 64th Street North Dump. Site access problems precluded sampling both portions of the site at the same time.

Multi-depth soil samples were collected on the eastern portion of the site at six locations. Five soil samples were collected on the western portion of the site as part of the Basic Carbon Company sampling. This report is a presentation of the data generated by these field activities.



FIGURE

SITE MAP

64th STREET DUMP-NORTH, NIAGARA FALLS, N.Y.

(NOT TO SCALE)

METHODOLOGY

Sampling on the western portion of the 64th Street Dump North site (Basic Carbon Company) was conducted on June 12, 1985. Four surface samples and one sub-surface sample were collected. One quality assurance/quality control (QA/QC) field blank was also included with the shipment for analysis. All samples were analyzed for Hazardous Substance List compounds.

The five samples were collected at random, permeable surface areas on and near the site. Table 4-1 provides sample descriptions showing the sample number, type, time and location of each sample. Figure 4-1 provides a sampling location map.

The soil samples were collected and placed into two 8 oz. capacity glass jars and one 120 ml. glass jar for the organic analysis and one 8 oz. glass capacity jar for the inorganic analysis for each sample location. A 3-inch bucket auger was used to collect the sub-surface soil sample and stainless steel hand trowels were used to collect the surface soil samples.

The QA/QC field blank, analyzed for volatile organic compounds only, was doubly deionized water taken from EPA Region II, Edison, New Jersey on June 7, 1985.

Samples for organic and inorganic analyses were shipped to EPA contract laboratories via Federal Express on June 12, 1985.

Sampling on the eastern portion of the 64th Street Dump North site was conducted on December 19, 1985. A total of sixteen soil samples were collected. Soil samples were collected at four locations at depths of 0-4 inches, 2 feet and approximately 4 feet at each of those locations. At two locations, soil samples were collected at depths of 0-4 inches and 2 feet. Auger refusal at those two locations precluded sampling any deeper than 2 feet. One QA/QC field blank was also included with the shipment for analysis. All samples were anlayzed for Hazardous Substance List compounds.

The sixteen samples were collected at random, [illegible] near the site. Table 4-2 provides sample descriptions showing the sample number, type, time and location of each sample. Figure 4-1 provides a sampling location map.

The soil samples were collected and placed into two 8 oz. and one 120 ml. capacity glass jars for organic analysis and one 8 oz. capacity glass jar for the inorganic analysis for each sample location. A 3 inch bucket auger was used to collect the sub-surface soil samples after a Bobcat with an auger attachment was used to bore to the desired depth. Stainless steel hand trowels were used to collect the surface soil samples.

The QA/QC field blank, analyzed for volatile organic compounds only, was doubly deionized water taken from EPA Region II, Edison, New Jersey on December 16, 1985.

Samples for organic and inorganic analyses were shipped to EPA contract laboratories via Federal Express on December 19, 1985.

(13)

TABLE 4-1

Sample Descriptions

64th Street Dump North, Eastern Portion

(Basic Carbon Company)

EPA Case #4449/1725B

06/12/85

Sample Number	Sample Type #	Time	Sample Location
NYA5-S1	Soil	1135	0-4 inches deep, northwest of Wizard Methods.
NYA5-S2	Soil	1153	0-4 inches deep, northwest of the antique car lot.
NYA5-S3	Soil	1200	0-4 inches deep, northwest of the Flea Market.
NYA5-S4	Soil	1215	0-4 inches deep, southwest of Wizard Methods.
NYA5-S5	Soil	1230	Approximately 6 inches deep, adjacent to I-190 Southbound off ramp.
NYA5-B1	Field Blank[a]	N/A[b]	Region II U.S. EPA Edison, New Jersey

Notes:

a) Field blank contains doubly deionized water taken from U.S. EPA, Edison NJ on 6/7/85.

b) N/A = Not Applicable

(13)

TABLE 4-2

Sample Descriptions

64th Street Dump North, Western Portion

EPA Case #5363

12/19/85

Sample Number	Sample Type	Time	Sample Location
NYB1-S1-0	Soil	0930	0-4 inches deep, approximately 25 feet north of office building and 40 feet east of 66th St.
NYB1-S1-2	Soil	1045	2 feet deep, same location as NYB1-S1-0
NYB1-S1-5	Soil	1100	3.5 feet deep, same location as NYB1-S1-0
NYB1-S2-0	Soil	0954	0-4 inches deep, approximately 12 feet north of fence which forms northern boundary of site and 30 feet east of 66th Street
NYB1-S2-2	Soil	1116	2 feet deep, same location as NYB1-S2-0
NYB1-S2-5	Soil	1126	4 feet deep, same location as NYB1-S2-0
NYB1-S3-0	Soil	1200	0-4 inches deep, parallel to and 500 feet east of office building in line with location NYB1-S2.
NYB1-S3-2	Soil	1219	2 feet deep, 10 feet west of location NYB1-S3-0
NYB1-S4-0	Soil	1240	0-4 inches deep, 400 feet north of warehouse and 600 feet east of office building
NYB1-S4-2	Soil	1303	2 feet deep, same location as NYB1-S4-0
NYB1-S5-0	Soil	1317	0-4 inches deep, approximately 300 feet north of warehouse and 675 feet east of office building

(13)

TABLE 4-2 (Cont'd)

Sample Descriptions

64th Street Dump North, Western Portion

EPA Case #5363

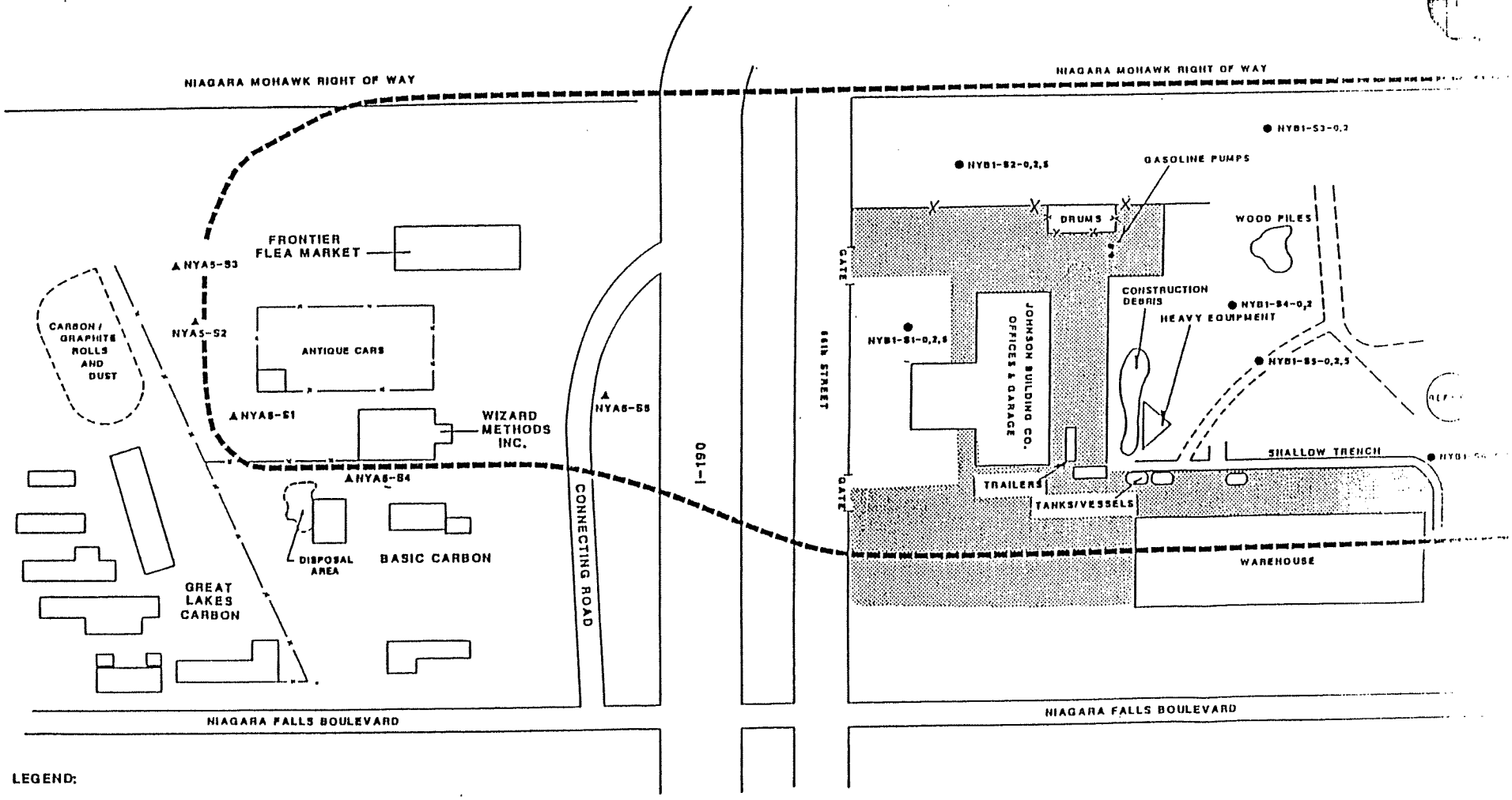
12/19/85

Sample Number	Sample Type	Time	Sample Location
NYB1-S5-2	Soil	1330	2 feet deep, same location as NYB1-S5-0
NYB1-S5-5	Soil	1352	4.7 feet deep, same location as NYB1-S5-0
NYB1-S6-0	Soil	1325	0-4 inches deep, approximately 200 feet northeast of warehouse and 750 feet east of office building
NYB1-S6-2	Soil	1356	2 feet deep, same location as NYB1-S6-0
NYB1-S6-5	Soil	1405	4.8 feet deep, same location as NYB1-S6-0
NYB1-BL1	Field Blank	N/A[b]	U.S. EPA, Region II, Edison, New Jersey

Notes:

a) Field blank contains doubly deionized water taken from U.S. EPA, Edison NJ on 12/16/85.

b) N/A = Not Applicable



LEGEND:

- APPROXIMATE AREA OF SUSPECTED DUMPING
- PAVEMENT/GRAVEL
- ▲ SOIL SAMPLE
- ● MULTI-DEPTH SOIL SAMPLE LOCATIONS
- 0 SURFACE SAMPLES
- 2 SUBSURFACE SAMPLE TAKEN AT 2 ft. DEPTH
- 5 SUBSURFACE SAMPLES TAKEN AT DEPTHS GREATER THAN 2 ft.

FIGURE 4-1

SAMPLE LOCATION MAP

64th STREET DUMP-NORTH, NIAGARA FALLS, N.Y.

(NOT TO SCALE)

This part presents the analytical results of the hazardous substance analyses of the surface and sub-surface soil samples collected on the western portion of the site (Basic Carbon Company). Each organic fraction of the sample is usually analyzed at "low" concentration detection limits. The semi-volatile and pesticide/polychlorinated biphenyl (PCB) fractions of samples NYA5-S3 and NYA5-S4 were analyzed at "medium" concentration detection limits. The decision to analyze at "medium" concentration detection limits was determined by a preliminary gas chromatographic screen which revealed high levels of compounds in each fraction. The "medium" detection limit is 3 to 5 orders of magnitude higher than the "low" detection limit.

Table 5-1 provides the analytical results of these samples. Various notations are used in the table. The notation "E" is used when the sample analysis did not pass U.S. EPA QA/QC requirements and was rejected. The notation "B" is used when the compound was found in the analytical laboratory's method blank as well as the sample. The notation "J" is used to designate the presence of a compound and to indicate that the amount present was below the analytical laboratory's quantitation limit.

Methylene chloride was detected in the analytical laboratory's reagent blank and the QA/QC field blank and acetone was detected in the QA/QC field blank. Both of these chemicals were found in a number of the samples. Acetone and methylene chloride are common laboratory solvents used in sample extraction and glassware cleaning. They are not discussed further since their presence and levels in the samples, with the possible exception of acetone in sample NYA5-S3, are indistinguishable from laboratory-induced contamination.

5.1 Soil Analysis

The five soil samples were analyzed for volatile and semi-volatile organic, pesticide, PCB and inorganic compounds.

TABLE 5-1
NAME: 64TH STREET DUMP NORTH - WESTERN PORTION
(BASIC CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 1449/1725D

VOLATILES

0-4 inches

SAMPLE NUMBER UNITS	NYA5-B1 UG/KG	NYA5-B2 UG/KG	NYA5-B3 UG/KG	NYA5-B4 UG/KG	NYA5-B5 UG/KG	NYA5-B1 UG/L
Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride	51B	85B	550B	140B	41B	JB
Acetone	36		200	93	67	14
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
Trans-1,2-Dichloroethene						J
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane		6.3	27	J	3.75	
Carbon Tetrachloride						
Vinyl Acetate						
Bromodichloromethane						
1,1,2,2-Tetrachloroethane						
1,2-Dichloropropane						
Trans-1,3-Dichloropropene						
Trichloroethene			110			
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
Cis-1,3-Dichloropropene						
2 Chloroethylvinylether						
Bromoform						
2-Hexanone		E				
4-Methyl-2-Pentanone						
Tetrachloroethene					34	
Toluene	6	21				
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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

(53)

TABLE 5-1 (cont'd)
NAME: 64TH STREET DUMP NORTH - WESTERN PORTION
(BASIC CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 4449/1725D

0-4 inches

SEMI-VOLATILES					
SAMPLE NUMBER UNITS	NYA5-B1 UG/KG	NYA5-B2 UG/KG	NYA5-B3 UG/KG	NYA5-B4 UG/KG	NYA5-B5 UG/KG
N-Nitrosodimethylamine					
Phenol					J
Aniline					
Bis(2-Chloroethyl)Ether					
2-Chlorophenol					
1,3-Dichlorobenzene					
1,4 Dichlorobenzene		J			
Benzyl Alcohol					
1,2 Dichlorobenzene		J			
2-Methylphenol					J
Bis(2-Chloroisopropyl)Ether					
4-Methylphenol					
N-Nitroso-Di-n-Propylamine					
Hexachloroethane					
Nitrobenzene					
Isophorone					
2-Nitrophenol					
2,4-Dimethylphenol					J
Benzoic Acid					
Bis(2-Chloroethoxy)Methane					
2,4-Dichlorophenol					
1,2,4-Trichlorobenzene					
Naphthalene	J	J			J
4-Chloroaniline					
Hexachlorobutadiene		J			
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	J				J
2,4-Dinitrophenol					
4-Nitrophenol					
Dibenzofuran	J	J			
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Diethylphthalate	J				
4-Chlorophenylphenyl ether					
Fluorene	J				
4-Nitroaniline					

TABLE 5-1 (cont'd)
NAME: 64TH STREET DUMP NORTH - WESTERN PORTION
(BASIC CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 4449/17250

SEMI-VOLATILES

SAMPLE NUMBER UNITS	NYA5-61 UG/KG	NYA5-62 UG/KG	NYA5-63 UG/KG	NYA5-64 UG/KG	NYA5-65 UG/KG
4,6-Dinitro-2-Methylphenol					
N-Nitrosodiphenylamine					
4-Bromophenylphenyl ether					
Hexachlorobenzene		J			
Pentachlorophenol	J				
Phenanthrene	1900	800		46000	930
Anthracene	670	J		J	J
Di-n-Butylphthalate		E			
Fluoranthene	3000	1100		52000	1500
Benzidine					
Pyrene	2500	800		46000	1100
Butylbenzylphthalate	J				
3,3'-Dichlorobenzidine					
Benzo(a)Anthracene	2400	610		27000	740
Bis(2-Ethylhexyl)Phthalate	E				JB
Chrysene	2500	630		30000	820
Di-n-Octyl Phthalate					
Benzo(b)Fluoranthene	3600	620		45000	920
Benzo(k)Fluoranthene	2700	590		J	830
Benzo(a)Pyrene	3300	620		J	920
Indeno(1,2,3-cd)Pyrene	16000	J		J	440
Dibenzo(a,h)Anthracene	470	J			J
Benzo(ghi)Perylene	1400	J		J	J

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
B = compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

(E)

TABLE 5-1 (cont'd)
NAME: 64TH STREET RAMP NORTH - WESTERN PORTION
(OASIS CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 1449/1725B

PESTICIDES/PCBs

SAMPLE NUMBER UNITS	NYA5-B1 UG/KG	NYA5-B2 UG/KG	NYA5-B3 UG/KG	NYA5-B4 UG/KG	NYA5-B5 UG/KG
Alpha-BHC	E		J		
Beta-BHC	E				
Delta-BHC	E				
Gamma-BHC (Lindane)	E				
Heptachlor	E				
Aldrin	E				
Heptachlor Epoxide	E				
Endosulfan I	E				
Dieldrin	E				
4,4'-DDE	E				
Endrin	E				
Endosulfan II	E				
4,4'-DDD	E				
Endosulfan sulfate	E				
Endrin Aldehyde	E				
4,4'-DDT	E				
Methoxychlor	E				
Endrin Ketone	E				
Chlordane	E				
Toxaphene	E				
Aroclor-1016	E				
Aroclor-1221	E				
Aroclor-1232	E				
Aroclor 1242	E				
Aroclor-1248	E			6200	
Aroclor-1254	E				
Aroclor-1260	E				

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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 5-1 (cont'd)
NAME: 64TH STREET DUMP NORTH - WESTERN PORTION
(OAKTC CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 1449/17250

THORDANICD					
SAMPLE NUMBER UNITS	NYA5-61 MG/KG	NYA5-62 MG/KG	NYA5-63 MG/KG	NYA5-64 MG/KG	NYA5-65 MG/KG
Aluminum	27600	7000	9930	7040	7030
Antimony					
Arsenic	25	12	12	J	9
Barium	407	571	349	199	J
Beryllium	46	J	J	J	J
Cadmium	5.5	2.9	34	5.1	
Calcium	29100	79900	96700	69500	121000
Chromium	67	16	2760	101	32
Cobalt	57	J	J	J	J
Copper	J	J	J	J	J
Iron	98000	15300	25100	22000	14100
Lead	729	29	250	236	110
Magnesium	6660	26600	20300	32000	16000
Manganese	1470	703	1590	533	330
Mercury	0.12	2.1	0.91	0.3	0.6
Nickel	256	J	59	86	J
Potassium	4300	J	J	J	J
Selenium	J	J	J	J	J
Silver	7.3		J		
Sodium		J	J	J	J
Thallium					
Tin	248				
Vanadium	50	J	114	48	J
Zinc	J	J	J	J	J

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
B - compound found in laboratory blank as well as the sample; indicates possible/probable blank contamination

Volatile Organic Compounds

1,1,1-Trichloroethane, trichloroethene and toluene were detected in one or more of the soil samples collected at concentrations up to 110 ug/kg.

Semi-Volatile Organic Compounds

With the exception of NYA5-S3, each of the samples analyzed contained varying amounts of polycyclic aromatic hydrocarbons (PAHs). Naphthalene, phenanthrene, anthracene, fluoranthene, pyrene, acenaphthene, flourene, chrysene, benzo(ghi)perylene and their derivatives were detected at concentrations as high as 52,000 ug/kg. The PAH compounds are components of petroleum and petroleum products including coal tar. Although not reported here, numerous substituted PAHs were also tentatively identified in these samples. These tentatively identified compunds are not included on the Hazardous Substance List. Although no semi-volatile compounds were recorded for sample NYA5-S3, analyzed as a "medium" concentration sample, mass spectra identified the presence of polycyclic-hydrocarbons common to petroleum products. Phthalate esters, phenolic and benzene based compounds, and other semi-volatile compounds were detected in one or more samples below the analytical laboratory's quantitation limits.

Pesticides and PCBs

Sample NYA5-S3 contained alpha-BHC below the analytical laboratory's quantitation limit. Sample NYA5-S4 contained 6,200 ug/kg of the PCB mixture Aroclor 1248. No other pesticides or PCBs were detected.

Inorganic Compounds

Concentrations of a number of inorganic compounds present in the samples were in excess of that normally found in soils (Bohn et al., 1979). Mercury was detected at elevated levels in all samples except NYA5-S1. Sample NYA5-S1 contained elevated levels of lead and tin.

(13)

Sample NYA5-S3 contained elevated levels of cadmium, chromium and lead. The remaining inorganic compounds detected were within the normal concentration range found in natural soils.

(13)

6.0 FINDINGS

This part presents the analytical results of the hazardous substance analyses of the surface and sub-surface soil samples collected on the eastern portion of the site. The semi-volatile and pesticide/PCB fractions of sample NYB1-S4-2 were analyzed at "medium" concentration detection limits.

Table 6-1 provides the analytical results of these samples. Various notations are used in the table. The notation "E" is used when the sample analysis did not pass U.S. EPA QA/QC requirements and was rejected. The notation "B" is used when the compound was found in the analytical laboratory's method blank as wells as the sample. The notation "J" is used to designate the presence of a compound and to indicate that the amount present was below the analytical laboratory's quantitation limit.

Acetone, di-n-butylphthalate and bis(2-ethylhexyl)phthalate were detected in the laboratory method blank and in a number of samples and are considered ubiquitous to laboratory analyses. Acetone is a common laboratory solvent used in extraction and glassware cleaning. These three compounds are not discussed further since their presence in the samples are, for the most part, indistinguishable from laboratory-induced contamination. However it should be noted that in several samples the concentrations of the three compounds are at least two orders of magnitude higher than those found in the laboratory method blanks.

6.1 Soil Analysis

The sixteen soil samples were analyzed for volatile and semi-volatile organic, pesticide, PCB and inorganic compounds.

Volatile Organic Compounds

Toluene and chlorobenzene were detected in one or more samples at concentrations below the analytical laboratory's quantitation limit.

TABLE 6-1
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

VOLATILES

SAMPLE NUMBER	NYD1-B1-01	NYD1-B1-2	NYD1-B1-5	NYD1-B2-01	NYD1-B2-2	NYD1-B2-5	NYD1-B3-01	NYD1-B3-2
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride	E	E	E	E	E	E	E	31000B
Acetone	E	E	E	1600B	E	2000B	120B	
Carbon Disulfide								
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene								
Chloroform								
1,2-Dichloroethane	E	E	E	E	E	E	E	
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,1,2,2-Tetrachloroethane								
1,2-Dichloropropane								
Trans-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2 Trichloroethane	E	E	E	E	E	E	E	E
Benzene								
Cis-1,3-Dichloropropene								
2-Chloroethylvinylether								
Bromoform								
2-Hexanone								
4-Methyl 2-Pentanone								
Tetrachloroethene								
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
B = compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/17/85
CASE: 5363

VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYD1-S4-0 SOIL UG/KG	NYD1-S4-2 SOIL UG/KG	NYD1-S5-0 SOIL UG/KG	NYD1-S5-2 SOIL UG/KG	NYD1-S5-5 SOIL UG/KG	NYD1-S6-0 SOIL UG/KG	NYD1-S6-2 SOIL UG/KG	NYD1-S6-5 SOIL UG/KG	NYD1-BL1 BLANK UG/L
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride	E	E		E	E		E	E	B
Acetone	E	6900D				E	E	E	B
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
Trans-1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone	E	E	E	E	E	E	E	E	E
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,1,2,2-Tetrachloroethane									
1,2-Dichloropropane									
Trans-1,3-Dichloropropene									
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene		E	E	E	E	E	E	E	E
Cis-1,3-Dichloropropene									
2-Chloroethylvinylether									
Bromoform									
2-Hexanone									
4-Methyl-2-Pentanone									
Tetrachloroethene									
Toluene		J			J				
Chlorobenzene		J							
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
B = compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
HANEI 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

SEMI-VOLATILES

SAMPLE NUMBER	NYD1-B1-0	NYD1-B1-2	NYD1-B1-5	NYD1-B2-0	NYD1-B2-2	NYD1-B2-5	NYD1-B3-0	NYD1-B3-2
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol		J						
Aniline								
Bis(2-Chloroethyl)Ether								
2-Chlorophenol								
1,3-Dichlorobenzene								
1,4-Dichlorobenzene			J					
Benzyl Alcohol								
1,2-Dichlorobenzene			J					
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			J					
Naphthalene		J	J			J	J	J
4-Chloroaniline								
Hexachlorobutadiene								
4-Chloro-3-Methylphenol								
2-Methylnaphthalene			J			J	J	
Hexachlorocyclopentadiene								
2,4,6-Trichlorophenol								
2,4,5-Trichlorophenol								
2-Chloronaphthalene								
2-Nitroaniline								
Dimethyl Phthalate						J		
Acenaphthylene								
3-Nitroaniline								J
Acenaphthene		J	J	J	J	J		
2,4-Dinitrophenol								
4-Nitrophenol								
Dibenzofuran		J	J	J	J	1200	J	J
2,4-Dinitrotoluene								
2,6-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenylphenyl ether								
Fluorene		J	J	J	J	3500		J
4-Nitroaniline								

TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

SEMI-VOLATILES

SAMPLE NUMBER	NYD1-64-0	NYD1-64-2	NYD1-65-0	NYD1-65-2	NYD1-65-5	NYD1-66-0	NYD1-66-2	NYD1-66-5
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Phenol		E						
Aniline								
Bis(2-Chloroethyl)Ether								
2-Chlorophenol		E						
1,3 Dichlorobenzene								
1,4-Dichlorobenzene								
Benzyl Alcohol								
1,2-Dichlorobenzene								
2-Methylphenol		E						
Bis(2-Chloroisopropyl)Ether								
4-Methylphenol		E						
N-Nitroso-Di-n-Propylamine								
Hexachloroethane								
Nitrobenzene								
Isophorone								
2-Nitrophenol		E						
2,4-Dimethylphenol		E						
Benzoic Acid		E						
Bis(2-Chloroethoxy)Methane								
2,4-Dichlorophenol		E						
1,2,4-Trichlorobenzene								
Naphthalene				J	J	J	J	J
4-Chloroaniline								
Hexachlorobutadiene								
4-Chloro-3-Methylphenol		E						
2-Methylnaphthalene				J	J			
Hexachlorocyclopentadiene								
2,4,6-Trichlorophenol		E						
2,4,5-Trichlorophenol		E						
2-Chloronaphthalene								
2-Nitroaniline								
Dimethyl Phthalate								
Acenaphthylene								
3-Nitroaniline								
Acenaphthene				J	J	J	J	
2,4-Dinitrophenol		E						
4-Nitrophenol		E						
Dibenzofuran				J	J	J	J	
2,4-Dinitrotoluene								
2,6-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenylphenyl ether								
Fluorene				J	J	J	J	
4-Nitroaniline								

TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

SEMI VOLATILES								
SAMPLE NUMBER	NYD1-B1-01	NYD1-B1-2	NYD1-B1-5	NYD1-B2-01	NYD1-B2-2	NYD1-B2-5	NYD1-B3-01	NYD1-B3-2
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
1,6 Dinitro-2-Methylphenol								
N-Nitrosodiphenylamine	J	J	J			J		
4 Bromophenylphenyl ether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene	J	1700	800	11000	9200	15000	J	840
Anthracene	J	J	J	J	J	4200	J	J
Di-n-Butylphthalate	JB	E	1500B	13000B	JB	JB	900B	E
Fluoranthene	J	2800	1100	21000	14000	16000	1200	1700
Pyrene	J	2600	950	19000	12000	26000	1000	1700
Butylbenzylphthalate								
3,3' Dichlorobenzidine								
Benzo(a)Anthracene	J	2000	J	11000	7700	9400	J	J
Bis(2-Ethylhexyl)Phthalate			E	JB	E			
Chrysene	J	2100	830	12000	7400	9400		910
Di-n-Oct.) Phthalate								
Benzo(b)Fluoranthene		2800	J	8900	6100	5400	J	J
Benzo(K)Fluoranthene			J	8500	4600	5500	J	J
Benzo(a)Pyrene	J	1700	J	10000	6200	6000	J	J
Indeno(1,2,3-cd)Pyrene		J		J	3200	3700		J
Dibenzo(a,h)Anthracene								
Benzo(ghi)Perylene				J	J			

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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
HOMET 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE # 5363

SEMI-VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYD1-B4-0 SOIL UG/KG	NYD1-B4-2 SOIL UG/KG	NYD1-B5-0 SOIL UG/KG	NYD1-B5-2 SOIL UG/KG	NYD1-B5-5 SOIL UG/KG	NYD1-B6-0 SOIL UG/KG	NYD1-B6-2 SOIL UG/KG	NYD1-B6-5 SOIL UG/KG
4,6-Dinitro-2-Methylphenol		E				J		
N-Nitrosodiphenylamine		200000						
4-Bromophenylphenyl ether								
Hexachlorobenzene		E						
Pentachlorophenol			J	4400	1300	1200	870	J
Phenanthrene	J			J	J	J	J	J
Anthracene	J			J				
Di-n-Butylphthalate	11000B	JB	4200B	4400B	JB	4200B	920B	6000B
Fluoranthene	J		J	4200	1100	1600	1000	J
Pyrene	J		J	4300	1200	1400	1400	J
Butylbenzylphthalate								
3,3'-Dichlorobenzidine			J	1400	J	J	J	J
Benzo(a)Anthracene			3200B	E			JB	JB
Bis(2-Ethylhexyl)Phthalate	5300B		J	1500	J	J	J	J
Chrysene								
Di-n-Oct/l Phthalate			J	1300	J	J	J	
Benzo(b)Fluoranthene				J		J	J	
Benzo(K)Fluoranthene				J		J	J	
Benzo(a)Pyrene						J		
Indeno(1,2,3-cd)Pyrene								
Dibenzo(a,h)Anthracene						J		
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
B - compound found in laboratory blank as well as the sample; indicates possible/probable blank contamination

(13)

TABLE 6-1 (cont'd)
ANALYTICAL DATA
HOWE STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

PESTICIDES/PCBs								
SAMPLE NUMBER	NYD1-B1-0	NYD1-B1-2	NYD1-B1-5	NYD1-B2-0	NYD1-B2-2	NYD1-B2-5	NYD1-B3-0	NYD1-B3-2
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Alpha-BHC		82	39	E	190	62		30
Beta-BHC				E				
Delta-BHC				E				
Gamma-BHC (Lindane)				E				
Heptachlor				E				
Aldrin				E				
Heptachlor Epoxide				E				
Endosulfan I				E				
Dieldrin				E				
4,4' DDE				E				
Endrin				E				
Endosulfan II				E				
4,4'-DDD				E				
Endosulfan sulfate				E				
Endrin Aldehyde				E				
4,4'-DDT				E				
Methoxychlor				E				
Endrin Ketone				E				
Chlordane	720			E				
Toxaphene				E				
Aroclor-1016				E				
Aroclor-1221				E				
Aroclor-1232				E				
Aroclor-1242				E				
Aroclor-1248				E				
Aroclor-1254		550		E				
Aroclor-1260			950	E				

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
B = compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

PESTICIDES/PCBs								
SAMPLE NUMBER	NYB1-64-01	NYB1-64-2	NYB1-65-01	NYB1-65-2	NYB1-65-5	NYB1-66-01	NYB1-66-2	NYB1-66-5
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Alpha-BHC	56		20	11		14	7.7	
Beta-BHC								
Delta-BHC								
Gamma-BHC (Lindane)								
Heptachlor		91						
Aldrin								
Heptachlor Epoxide								
Endosulfan I								150
Dieldrin								
4,4'-DDE								
Endrin								
Endosulfan II								
4,4'-DDD								
Endosulfan sulfate								
Endrin Aldehyde								
4,4'-DDT								
Methoxychlor								
Endrin Ketone								
Chlordane								
Toxaphene								
Aroclor-1016								
Aroclor-1221								
Aroclor-1232								
Aroclor-1242								
Aroclor-1248								
Aroclor-1254								
Aroclor-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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
HABET 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

INORGANICS								
SAMPLE NUMBER	NYD1-B1-0	NYD1-B1-2	NYD1-B1-5	NYD1-B2-0	NYD1-B2-2	NYD1-B2-5	NYD1-B3-0	NYD1-B3-2
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	13279	9630	11700	5080	8750	10400	3850	7010
Antimony	J	J	J	J	J	J		J
Arsenic		6	J	6.1	6.5	J	12	6.4
Barium	J	175	168	J	J	J	156	J
Beryllium								
Cadmium							J	50200
Calcium	12600	58000	65900	101000	98800	54400	15	14
Chromium	19	43	36	16	18	25		
Cobalt		J					18	28
Copper	25	77	75	26	25	58	18000	17300
Iron	20600	17500	21700	12800	14900	29500	107	219
Lead		219	179	79	73	91	J	23100
Magnesium	6600	23600	12400	49600	40100	22100	113	479
Manganese	897	692	537	805	609	625	0.39	1.2
Mercury	0.25	E	E	1.4	1.2	0.31		
Nickel	J	31	26			26	J	J
Potassium	J	J	J	J	J	J		
Selenium							J	J
Silver				J	J	J		
Sodium	J	J	J				J	J
Thallium				J	J	J	24	605
Tin	J	31	32	209	220	174		
Vanadium	139	387	508					
Zinc								

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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/12/85
CASE: 5363

INORGANICS									
SAMPLE NUMBER	NYD1-B4-0	NYD1-B4-2	NYD1-B5-0	NYD1-B5-2	NYD1-B5-5	NYD1-B6-0	NYD1-B6-2	NYD1-B6-5
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	9100	12000	10200	10500	14200	11400	20500	13700
Antimony	J	J	J	J	J	J	J	J
Arsenic	7.1	6.1	7.2	J	14	15	6.6	7
Barium	126	172	102	166	145	199	152	J
Beryllium		J	J		J	J	J	
Cadmium								
Calcium	101000	49000		76100	52600	53100	60600	104000
Chromium	53	140	37	35	41	49	41	36
Cobalt								
Copper	82	65	71	92	41	75	54	50
Iron	24000	21500	19800	19000	20600	27300	30200	21800
Lead	241	295	151	253	132	140	52	
Magnesium	33100	15000	23600	32400	20900	10100	10900	21400
Manganese	756	610	729	630	500	1300	550	533
Mercury	5	E	E	E	0.5	E	2.3	1.3
Nickel	32	43	37	40	41	44	40	43
Potassium	J	J	J	J	J	J	3500	J
Selenium								
Silver								
Sodium								
Thallium	J	J	J	J	J	J	J	J
Tin								
Vanadium	34	34	33	40	38	35	52	41
Zinc	304	376	291	404	325	310	142	342

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
B - compound found in laboratory blank as well as the sample, indicates possible/probable blank contamination

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Semi-Volatile Organic Compounds

With the exception of NYB1-S4-2, each of the samples analyzed contained varying amounts of polycyclic aromatic hydrocarbons (PAHs). Naphthalene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, acenaphthalene, chrysene, acenaphthene, benzo(ghi)perylene and their derivatives were detected at concentrations as high as 26,000 ug/kg. Although not reported here, other substituted PAHs were also tentatively identified in these samples. Sample NYB1-S4-2 contained 200,000 ug/kg of N-nitrosodiphenylamine. Sample NYB1-S2-5 contained 1200 ug/kg of dibenzofuran. Phenolic and benzene based compounds and other semi-volatile compounds were detected in one or more samples in amounts below the analytical laboratory's quantitation limits.

Pesticides and PCBs

Ten samples contained varying concentrations of alpha-BHC with the highest concentration, 190 ug/kg, found in sample NYB1-S2-2. Sample NYB1-S1-0 contained chlordane at a concentration of 720 ug/kg. Sample NYB1-S4-2 contained aldrin at a concentraton of 91 ug/kg and sample NYB1-S6-5 contained 4,4'-DDE at a concentration of 150 ug/kg. Sample NYB1-S1-2 contained 550 ug/kg of the PCB mixture Aroclor 1254 and sample NYB1-S1-5 contained 950 ug/kg of Aroclor 1260. No other pesticides or PCBs were detected.

Inorganic Compounds

Concentrations of a number of inorganic compounds present in the samples were in excess of that normally found in soils (Bohn et al., 1979). Mercury was detected at elevated levels in ten samples. Lead and zinc were also detected at elevated levels in at least four samples. The remaining inorganic compounds detected were within the expected concentration range found in natural soils.

File 6.4.14

C-584-09-85-15

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

Dear Diana:

Enclosed are the final analytical results for samples collected at the 64th Street Dump-South site in Niagara Falls, New York. A boring/sampling program was conducted on June 11, 1985 (following a magnetometer survey on 6/10) as directed under TDD #02-8505-07.

Seven (7) locations were selected for sampling at the surface and at depths of two and five feet below the surface. In addition, four (4) soil samples were collected from areas indicating anomalies on the magnetometer survey.

Results indicate that most contaminants detected were present in the surface soil (0" - 3"). A variety of polyaromatic hydrocarbons and phthalates were detected in concentrations ranging from trace quantities to 61,000 ug/kg throughout the former disposal area. Pesticides were detected at concentrations ranging from trace quantities to 330 ug/kg along the northern, western, and southern boundaries of the study area.

Neil Myers

Approved: ______________

Enclosure

A Halliburton Company

ANALYTICAL DATA
64TH STREET BURP--SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/1730B

VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYA1-S1A SOIL UG/KG	NYA1-S1B SOIL UG/KG	NYA1-S1C SOIL UG/KG	NYA1-S2A SOIL UG/KG	NYA1-S2B SOIL UG/KG	NYA1-S2C SOIL UG/KG	NYA1-S3A SOIL UG/KG	NYA1-S3B SOIL UG/KG	NYA1-S3C SOIL UG/KG
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane	500 E	300 E	290 E	020 30	320	300	400	380	690
Methylene Chloride									
Acetone									
Carbondisulfide									
1,1-Dichloroethene									
1,2-Dichloroethene									
trans 1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
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									
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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/1730B

SEMI-VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYA1-S1A SOIL UG/KG	NYA1-S1B SOIL UG/KG	NYA1-S1C SOIL UG/KG	NYA1-S2A SOIL UG/KG	NYA1-S2B SOIL UG/KG	NYA1-S2C SOIL UG/KG	NYA1-S3A SOIL UG/KG	NYA1-S3B SOIL UG/KG	NYA1-S SOIL UG/KG
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			J			J	J	
4-Chloroaniline									
Hexachlorobutadiene									
4-Chloro-3-Methylphenol							J	J	
2-Methylnaphthalene	J								
Hexachlorocyclopentadiene									
2,4,6-Trichlorophenol									
2,4,5-Trichlorophenol									
2-Chloronaphthalene									
2-Nitroaniline									
Dimethyl Phthalate									
Acenaphthylene									
3-Nitroaniline							J	J	
Acenaphthene	J			E					
2,4-Dinitrophenol									
4-Nitrophenol							J		
Dibenzofuran	J			J					
2,4-Dinitrotoluene									
2,6-Dinitrotoluene									
Diethyl Phthalate									
4-Chlorophenyl-phenylether									
Fluorene	J			J			J		
4-Nitroaniline									

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/88
CASE: 4460/4730B

SEMI-VOLATILES	NYA1-S1A	NYA1-S1B	NYA1-S1C	NYA1-S2A	NYA1-S2B	NYA1-S2C	NYA1-S3A	NYA1-S3B	NYA1-S3C
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
UNITS									
4,6-Dinitro-2-Methylphenol									
N-Nitrosodiphenylamine									
4-Bromophenyl-Phenylether									
Hexachlorobenzene									
Pentachlorophenol							1400	590	140
Phenanthrene	1100	J		1200			J	J	410
Anthracene	J	J		J					
Di-n-Butylphthalate							1000	610	1000
Fluoranthene	1300	320		1700					
Benzidine							1600	760	1300
Pyrene	1300	410		1900					
Butylbenzylphthalate									
3,3'-Dichlorobenzidine							1100	390	1100
Benzo(a)Anthracene	850	J		910			J		2500
Bis(2-Ethylhexyl)Phthalate	J			J			1200	450	1200
Chrysene	980	J		1000					
Di-n-Octyl Phthalate							1600	570	1500
Benzo(b)Fluoranthene	1000	J		1400			1100	380	1400
Benzo(k)Fluoranthene	830	J		1000			1200	410	1300
Benzo(a)Pyrene	E	J		1200			810	J	910
Indeno(1,2,3-cd)Pyrene		J		840			J		
Dibenzo(a,h)Anthracene							E	E	
Benzo(ghi)Perylene		J		740					

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

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ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17308

PESTICIDES/PCBs									
SAMPLE NUMBER	NYA1-S1A	NYA1-S1B	NYA1-S1C	NYA1-S2A	NYA1-S2B	NYA1-S2C	NYA1-S3A	NYA1-S3B	NYA1-S3C
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Alpha-BHC	E							J	
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									
Endosulfan sulfate									
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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17308

INORGANICS									
SAMPLE NUMBER	NYA1-S1A	NYA1-S1B	NYA1-S1C	NYA1-S2A	NYA1-S2B	NYA1-S2C	NYA1-S3A	NYA1-S3B	NYA1-S3C
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	9160	9320	9290	7900	4700	8940	9730	12900	5390
Antimony					J	6.7	12	15	J
Arsenic	8.2	10	9.6	7.4	J	J	J	J	J
Barium	119	J	J	J	J	J	J	J	4.4
Beryllium	J	J	J	J	J	J			
Cadmium					21000	15600	25100	23900	12200
Calcium	11000	20600	19100	J	9.1	15	53	47	52
Chromium	63	34	20	18	J	J	J	J	J
Cobalt	J	J	J	J	15	21	48	43	74
Copper	25	26	24	18	12100	10600	27300	23000	47600
Iron	16500	17000	10400	13700	6.1	8.5	J	J	J
Lead	J	J	12	14	8300	6040	8650	7090	3500
Magnesium	6530	8450	7220	J	249	291	782	597	407
Manganese	605	425	245	185			0.38	0.20	0.65
Mercury	0.59	0.40		0.19			37	20	45
Nickel	30	J	J	J	J	J	3000	3170	J
Potassium	J	J	J	J	J	J			
Selenium							J	J	J
Silver		J	J	J				E	E
Sodium	E	E		E					
Thallium									62
Tin							36	34	
Vanadium	31	J	J	J	J	J	147	100	11
Zinc	92	94	69	62	40	55			

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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17308

VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYA1-S4A SOIL UG/KG	NYA1-S4B SOIL UG/KG	NYA1-S4C SOIL UG/KG	NYA1-S5A SOIL UG/KG	NYA1-S5B SOIL UG/KG	NYA1-S5C SOIL UG/KG	NYA1 S6A SOIL UG/KG	NYA1-S6B SOIL UG/KG	NYA1 S6C SOIL UG/KG
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride									
Acetone	40 E	36B	25 J	14 J	63 E	60B E	40 E	35B E	100B
Carbondisulfide									
1,1-Dichloroethene									
1,2-Dichloroethane									
Trans 1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
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									
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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/1730B

SEMI-VOLATILES

SAMPLE NUMBER	NYA1-S4A	NYA1-S4B	NYA1-S4C	NYA1-S5A	NYA1-S5B	NYA1-S5C	NYA1-S6A	NYA1-S6B	NYA1-S6C
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
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				400		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	J			490					
2,4-Dinitrophenol									
4-Nitrophenol									
Dibenzofuran				J					
2,4-Dinitrotoluene									
2,6-Dinitrotoluene									
Diethyl Phthalate									
4-Chlorophenyl-phenylether									
Fluorene				J					
4-Nitroaniline									

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 9460/17300

INORGANICS

SAMPLE NUMBER	NYA1-S4A	NYA1-S4B	NYA1-S4C	NYA1-S5A	NYA1-S5B	NYA1-S5C	NYA1-S6A	NYA1-S6B	NYA1-S6
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	13100	7400	8750	10100	8980	9610	7010	7230	6040
Antimony									
Arsenic	14	10	10	13	10	12	6.5	J	
Barium	149	J	J	246	172	157	J	J	
Beryllium	J	J	J	J	J	J	J	J	J
Cadmium				3.2	3.8				
Calcium	19200	J	9060	16500	22700	15200	4330	45800	43400
Chromium	27	13	17	41	43	39	12	13	11
Cobalt	J	J	J	J	J	J	J	J	J
Copper	34	21	20	34	93	63	J	16	J
Iron	22000	17900	10500	18000	25500	21500	14800	15200	14
Lead	J	9	14	J	J	J	E	E	
Magnesium	12400	J	5220	7550	6710	5460	3190	20200	
Manganese	730	267	261	972	620	384	365	346	3
Mercury	0.64		J	J	J	J			
Nickel	30	J	J	35	31	20	J	J	
Potassium	J	J	J	J	J	J	J	J	J
Selenium									
Silver					J				
Sodium	E	E	E		J	J		J	J
Thallium									
Tin									
Vanadium	38	J	J	42	37	J	J	J	J
Zinc	252	67	74	501	337	296	57	74	

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

VOLATILES

SAMPLE NUMBER	NYA1-S7A	NYA1-S7B	NYA1-S7C	NYA1-S8	NYA1-S9	NYA1-S10	NYA1-S11	NYA1-S6
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone	67	37B	E	20B	E	34B	25B	9.3B
Carbondisulfide	12	E	E	29DB	E	E	E	
1,1-Dichloroethene								
1,2-Dichloroethane								
Trans-1,2-Dichloroethene								
Chloroform								
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,1,2,2-Tetrachloroethane								
1,2-Dichloropropane								
Trans-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane	E	6.9						
Benzene								
Cis-1,3-Dichloropropene								
2-Chloroethylvinylether								
Bromoform								
2-Hexanone								
4-Methyl-2-Pentanone								
Tetrachloroethene								
Toluene	J							
Chlorobenzene	J							
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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/1730B

PESTICIDES/PCBs									
SAMPLE NUMBER MATRIX UNITS	NYA1-S4A SOIL UG/KG	NYA1-S4B SOIL UG/KG	NYA1-S4C SOIL UG/KG	NYA1-S5A SOIL UG/KG	NYA1-S5B SOIL UG/KG	NYA1-S5C SOIL UG/KG	NYA1-S6A SOIL UG/KG	NYA1-S6B SOIL UG/KG	NYA1-S6C SOIL UG/KG
Alpha-BHC				23			35	E	
Beta-BHC				330			40	E	
Delta-BHC									
Gamma-BHC (Lindane)									
Heptachlor									
Aldrin									
Heptachlor Epoxide									
Endosulfan I									
Dieldrin									
4,4'-DDE									
Endrin									
Endosulfan II									
4,4'-DDD									
Endrin Aldehyde									
Endosulfan sulfate									
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

ANALYTICAL DATA
74TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17308

SEMI VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYA1-S4A SOIL UG/KG	NYA1-S4B SOIL UG/KG	NYA1-S4C SOIL UG/KG	NYA1-S5A SOIL UG/KG	NYA1-S5B SOIL UG/KG	NYA1-S5C SOIL UG/KG	NYA1-S6A SOIL UG/KG	NYA1-S6B SOIL UG/KG	NYA1-S6C SOIL UG/KG
4,6-Dinitro-2-Methylphenol									
N-Nitrosodiphenylamine									
4-Bromophenyl-Phenylether									
Hexachlorobenzene									
Pentachlorophenol									
Phenanthrene	1200			2600	2100	590	400		
Anthracene	J			660	490	J	J		
Di n-Butylphthalate									
Fluoranthene	1900			3500	2600	570	670	J	
Benzidine									
Pyrene	1300			2800	2200	480	730	J	
Butylbenzylphthalate							J		
3,3'-Dichlorobenzidine									
Benzo(a)Anthracene	1000			2400		J	J		
Bis(2-Ethylhexyl)Phthalate				490	2300	510	J		
Chrysene	1100			2700	1600	J	410		
Di n-Octyl Phthalate									
Benzo(b)Fluoranthene	970			3000	2300	510	F		
Benzo(K)Fluoranthene	790			2600	1600	J	550		
Benzo(a)Pyrene	990			2900	1900	J	460		
Indeno(1,2,3-cd)Pyrene	400			1200	830		400		
Dibenzo(a,h)Anthracene	J			400					
Benzo(ghi)Perylene	420			1200	E		J		

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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/1730B

SEMI-VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYA1-67A SOIL UG/KG	NYA1-67B SOIL UG/KG	NYA1-67C SOIL UG/KG	NYA1-68 SOIL UG/KG	NYA1-69 SOIL UG/KG	NYA1-610 SOIL UG/KG	NYA1-611 SOIL UG/KG
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					J	450	
Naphthalene							
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro 3-Methylphenol							
2-Methylnaphthalene							
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethyl Phthalate							
Acenaphthylene							
3-Nitroaniline							
Acenaphthene		J		J	J	530	
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran							
2,4-Dinitrotoluene							
2,6-Dinitrotoluene							
Diethyl Phthalate							
4-Chlorophenyl-phenylether							
Fluorene		J		J			
4-Nitroaniline							

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/X730B

SEMI-VOLATILES

SAMPLE NUMBER	NYA1-676	NYA1-67B	NYA1-67C	NYA1-60	NYA1-69	NYA1-610	NYA1-611
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
4,6-Dinitro-2-Methylphenol							
N-Nitrosodiphenylamine							
4-Bromophenyl-Phenylether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene	36000	1300	410	920	550	3600	1300
Anthracene	J	J	J	J	J	820	410
Di-n-Butylphthalate		J	J				
Fluoranthene	50000	1900	480	1300	660	4600	2200
Benzidine							
Pyrene	41000	1700	J	1000	610	4300	3000
Butylbenzylphthalate							
3,3'-Dichlorobenzidine							
Benzo(a)Anthracene	J	670	J	680	460	2900	1400
Bis(2-Ethylhexyl)Phthalate		J			J	1800	1000
Chrysene	J	750	J	710	520	2900	1500
Di-n-Octyl Phthalate							
Benzo(b)Fluoranthene	J	860	J	670	570	3300	E
Benzo(K)Fluoranthene	26000	680	J	680	450	2800	E
Benzo(a)Pyrene	J	670	J	690	500	3200	1600
Indeno(1,2,3-cd)Pyrene		J		J	440	1600	
Dibenzo(a,h)Anthracene				J	400	560	
Benzo(ghi)Perylene		J		J		1700	

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

ANALYTICAL DATA
64TH STREET DUMP SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17300

PESTICIDES/PCBs							
SAMPLE NUMBER	NYA1-S7A	NYA1-S7B	NYA1-S7C	NYA1-S8	NYA1-S9	NYA1-S10	NYA1-S11
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Alpha-BHC				110			J
Beta-BHC							
Delta-BHC							
Gamma-BHC (Lindane)							
Heptachlor							
Aldrin							
Heptachlor Epoxide							
Endosulfan I							
Dieldrin							
4,4'-DDE							
Endrin						E	
Endosulfan II							
4,4'-DDD							180
Endrin Aldehyde							
Endosulfan sulfate							
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

ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17300

INORGANICS							
SAMPLE NUMBER	NYA1-S76	NYA1-S78	NYA1-S7C	NYA1-S8	NYA1-S9	NYA1-S10	NYA1-S11
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	14200	7920	7300	14000	11600	6850	6900
Antimony							
Arsenic	14	2.6	J	16	15	12	11
Barium	457	228	J	J	135	109	115
Beryllium	J	J	J	J	J	J	J
Cadmium	5						
Calcium	20000	46200	15500	46600	21600	62900	14200
Chromium	33	16	12	36	160	67	37
Cobalt	J	J	J	J	J	J	J
Copper	47	24	J	30	29	79	29
Iron	24200	16300	15200	21000	19100	17500	13900
Lead	J	J	E	J	J	J	J
Magnesium	14700	10600	5180	26300	9380	21100	6740
Manganese	667	404	189	863	777	899	759
Mercury	J	J		J	J	J	J
Nickel	42	J	J	25	30	37	31
Potassium	J	J	J	2730	J	J	J
Selenium							
Silver	J				J		
Sodium	J	J	J	J	J	J	J
Thallium							
Tin							
Vanadium	52	J	J	36	34	J	44
Zinc	235	107	48	205	130	302	169

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

(4)

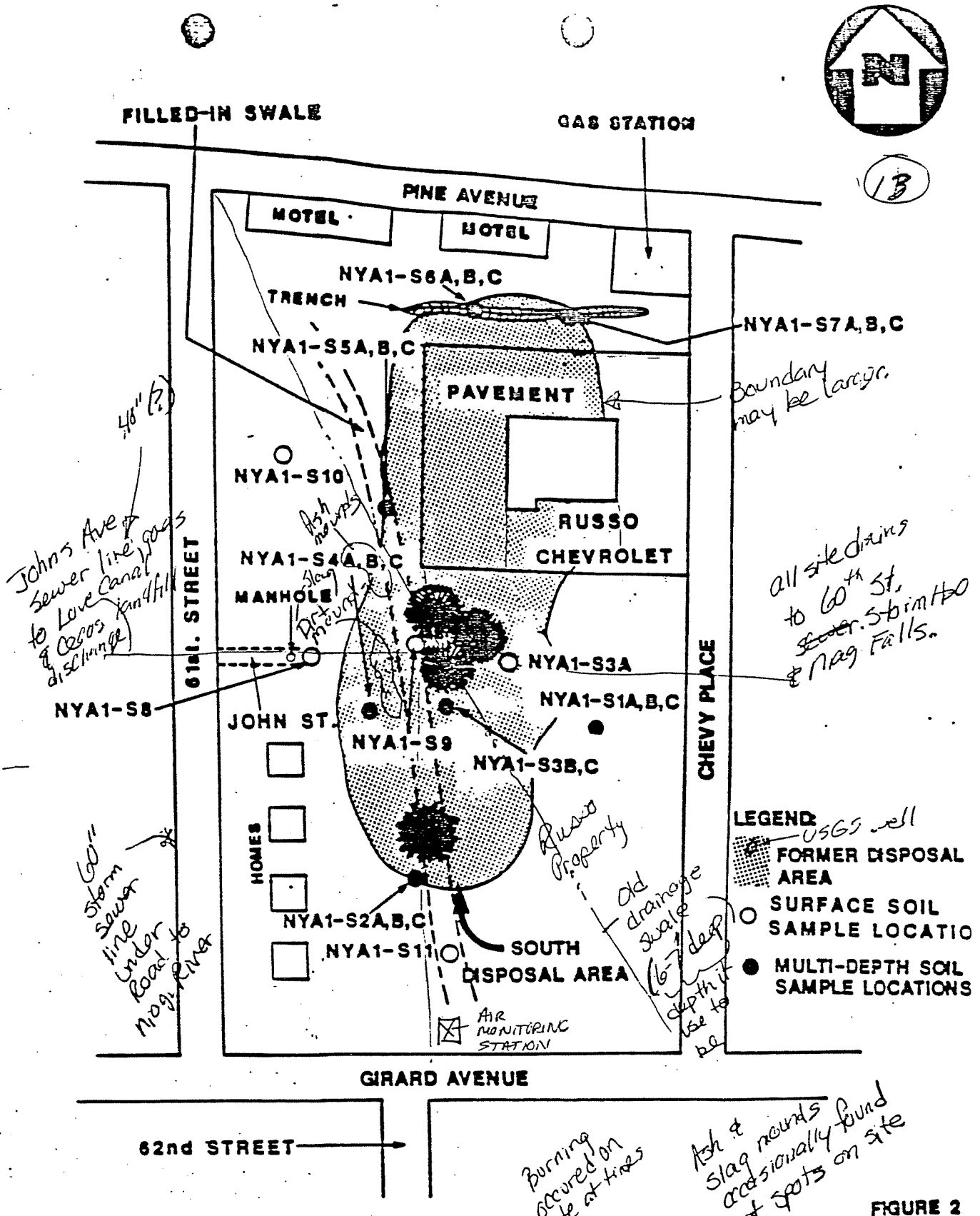


FIGURE 2

SAMPLE LOCATION MAP

64th STREET DUMP-SOUTH, NIAGARA FALLS, NEW YORK

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company

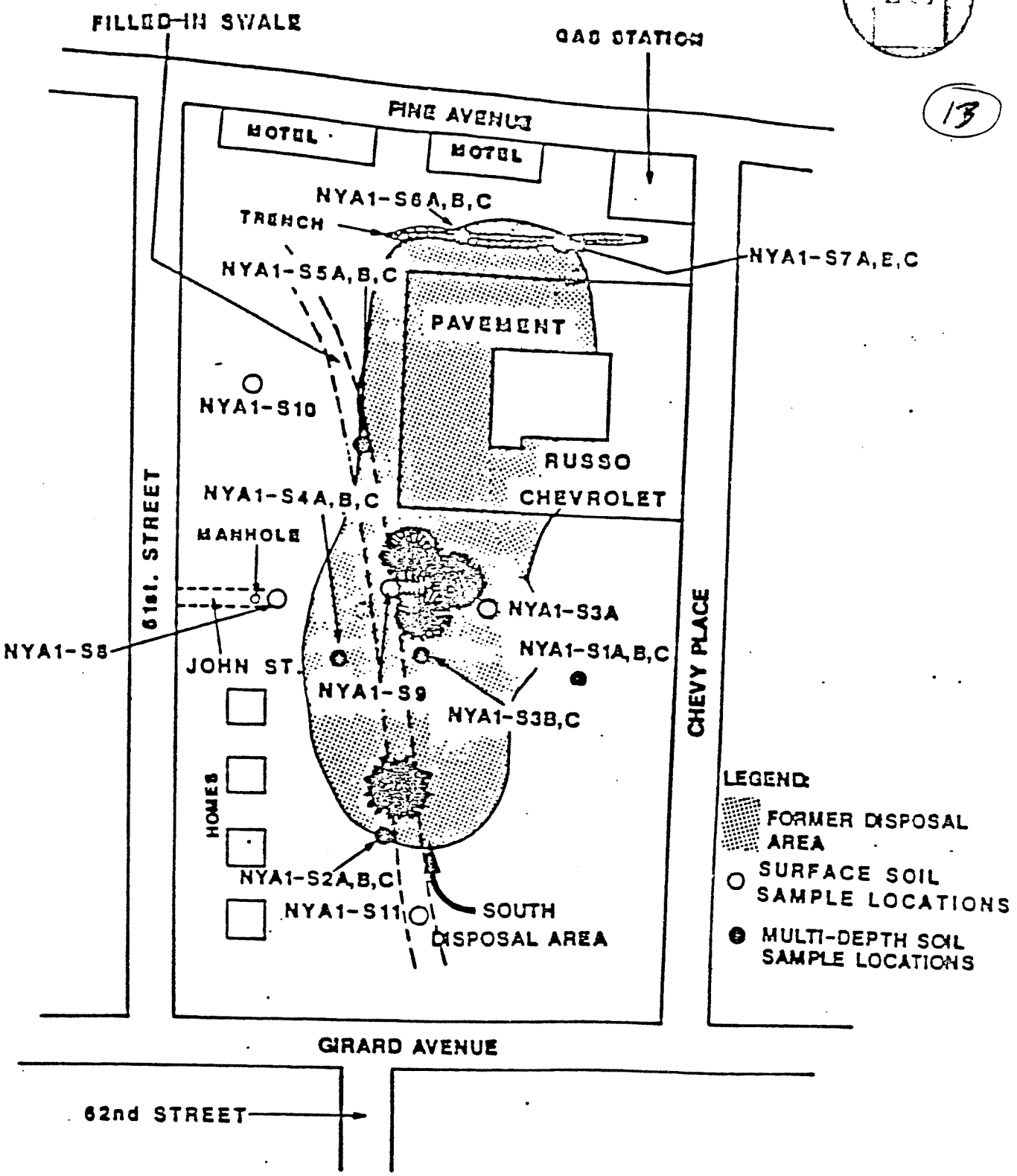


FIGURE 2

SAMPLE LOCATION MAP

64th STREET DUMP-SOUTH, NIAGARA FALLS, NEW YORK

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company

New York State Atlas of Community Water System Sources 1982

NEW YORK STATE DEPARTMENT OF HEALTH

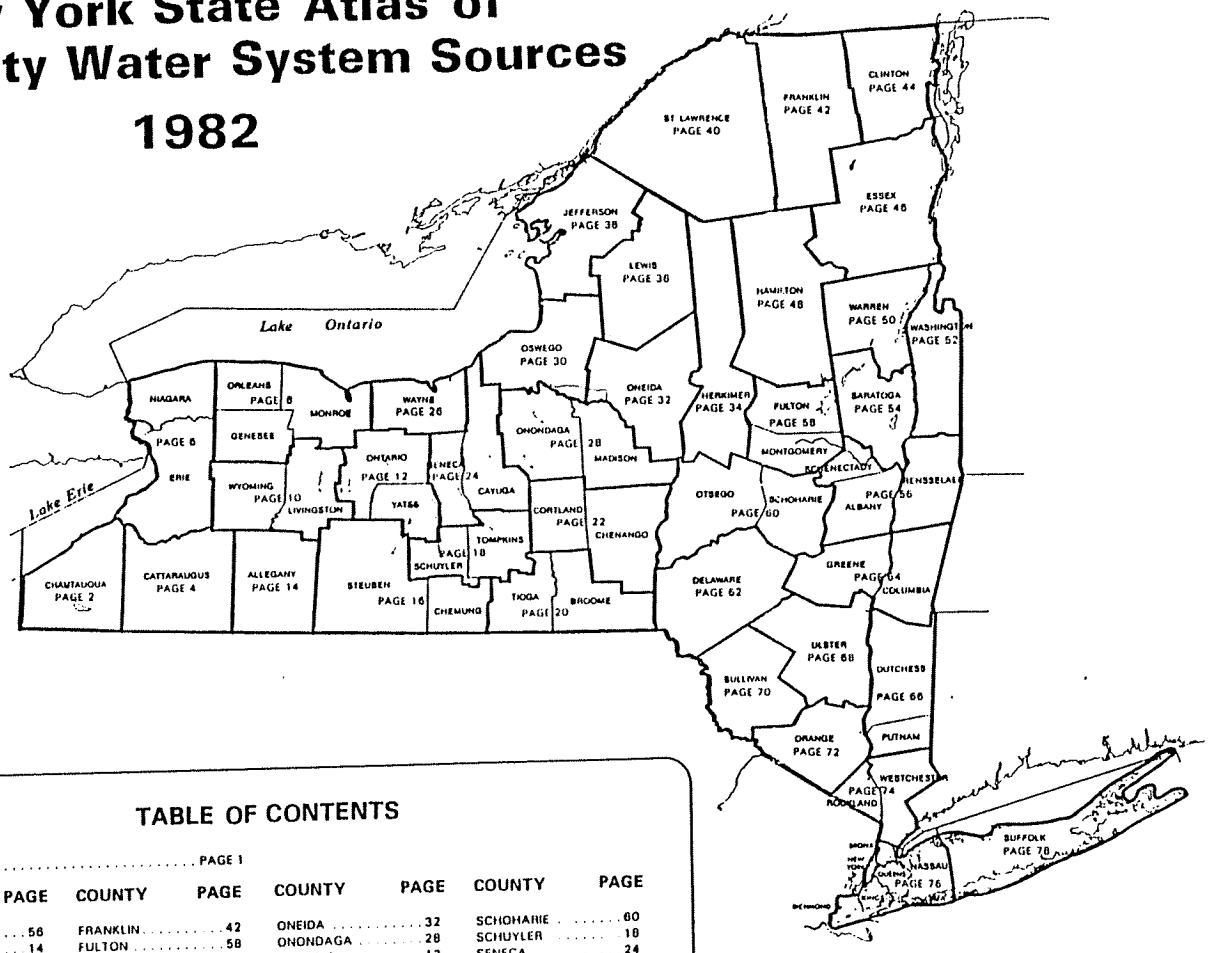


TABLE OF CONTENTS

LEGEND

BOUNDARIES AND PLACES

International
State
County
Town
Indian Reservation
City
Village
Unincorporated Place
Federal Reservation
Built-up Area (Over 25,000 population including any contiguous city or village)

CLASSIFICATION OF POPULATED PLACES

100,000 or more — YONKERS
50,000 to 100,000 — Levittown
12,500 to 50,000 — Poughkeepsie
2,500 to 12,500 — Hampton Bays
250 to 2,500 — Boiceville
250 or less — Corbett

TRANSPORTATION

Highways
- Divided Highways (Under Construction)
  - Full Control of Access
  - Partial or No Control of Access
- Undivided Highway
- Interchange (Interchange Number; Full; Partial)
- Touring Route (State, U.S., Interstate) or State Parkway
- Touring Route Markers: State, U.S.; Interstate

Railroads
- Operating Line
- Service Discontinued
- Operator (DELAWARE AND HUDSON)
- Owner (If Other than Operator) (PENN CENTRAL)
- Company Having Trackage Rights (CONRAIL)

Airports (Open to the Public, Military)
- Runway under 4000'
- Runway over 4000'

Rest Areas
- Food, Gas, Rest Rooms
- Rest Rooms
- Gas, Rest Rooms
- Parking Only

RECREATION FACILITIES

- State or National Recreation Area
- State Campground
- State Boat Launching Site
- State Canal Park
- State Fish Hatchery
- Other State Recreation Site

REF-14
NYS, 1982

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

NIAGARA COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Lockport City (See No 12, Erie Co).	25000	
1	Middleport Village.	2000.	.Wells (Springs)
	Niagara County Water District (See No 13, Erie Co).	48	
2	Niagara Falls City (See also No 14 Erie Co).	77384.	.Niagara River - East Branch
	North Tonawanda City (See No 16 Erie Co).	36000	
Non-Municipal Community			
3	Country Estates Mobile Village. . . .	28.	.Wells

LOCATION OF COMMUNITY WATER SYSTEM SOURCES-1982

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

ERIE and NIAGARA COUNTIES

REF- 15
NYSDEC, 1985

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: 932085

NAME OF SITE : 64th Street
STREET ADDRESS: North and South of Pine Ave. at 64th St.
TOWN/CITY: COUNTY: ZIP:
Niagara Falls (c) Niagara

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 30 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Owned by several parties
CURRENT OWNER ADDRESS.: various
OWNER(S) DURING USE...: Unknown
OPERATOR DURING USE...: City of NF and others
OPERATOR ADDRESS.....: various
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1940's To 1950's

SITE DESCRIPTION:
The site includes an area of 20 ares on the north of Pine Ave., and 10 acres on the south of Pine Ave. Prior to land filling, this area was farm land. The City of Niagara Falls operated a municipal landfill on this site during the 1940's and 1950's and possibly the early 1960's. Domestic and commercial refuse are suspected to be the principal wastes although the disposal of industrial wastes is a possibility.

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected -X

TYPE	QUANTITY (units)
None Known	Unknown

SITE CODE: 932085

ANALYTICAL 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 strata
GROUNDWATER DEPTH: 6'

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Limited data available from the soil analysis indicates no major environmental problem. More investigation is required to make a full assessment of any environmental problem.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient Information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: Abul Barkatr.
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

NAME

64th STREET - NORTH * (DEC #932085)

*This is the first of two sites listed collectively as "64th Street" in the DEC Hazardous Waste Disposal Sites in New York State, Volume III.

LOCATION

The site is a roughly rectangular 20 acre landfill located 800 feet north of Pine Avenue in Niagara Falls, NY. The landfilled area is bounded by the Niagara Mohawk easement to the north and extends from several hundred feet west of Connecting Road to 1,000 feet or more east of Third Avenue. Unconfirmed reports suggest that additional areas to the east have been used as disposal areas.

A site sketch is attached.

OWNERSHIP

Currently the site is owned by several parties including the State of New York Dept. of Transportation (I-190 Right of Way), Johnson & Johnson and Mr. G. Salerno. A portion of the property owned by Wizard Methods, Inc. may also be built atop the landfilled area.

The ownership at the time of active disposal has not been determined.

HISTORY

Prior to landfilling, this land is believed to have been farm land. A 1935 USGS map (Tonawanda West, 7½') shows that several acres of wetlands were present at that time. Connecting Road was in place in 1935, but not in 1927, according to a 1927 City Street map. Third Avenue and the Niagara Thruway were constructed over the site during the early 1950's.

The City of Niagara Falls operated a municipal landfill on this site during the 1940's and 1950's. Domestic and commercial refuse are suspected to be the principal wastes present although the disposal of industrial wastes is a possibility. The type and quantity of industrial wastes buried here, if any, is unknown.

Two adjacent properties, Great Lakes Carbon and CECOS/Newco (previously Union Carbide) are known to have received industrial wastes. The Basic Carbon Company, which operated a small plant on or adjacent to the 64th Street Site, is reported to have operated a landfill on-site from 1951 to 1960. At least 75% of the area of the one mile square quadrant northeast of this site is land which was previously landfilled or otherwise used for waste disposal or treatment. Any effects from these sites on the 64th Street Site is unknown.

HISTORY (continued)

An inspection made in November, 1981 found no visible evidence of previous dumping or waste materials. The Niagara Expressway now occupies the largest portion of the area. The Expressway is elevated five to twelve feet above grade in this section. Swales are found along either side of the side slopes. Ditchs run parallel to both Third Avenue and Connecting Road. The area west of Connecting Road is largely paved and several commercial buildings are found here. The Walter S. Johnson Construction Company building is located east of Third Avenue. The area east of this building is roughly graded with some mounds of 5 to 10 cubic yards. There is evidence of scavenger dumping in this area.

The area behind the Johnson building, east of Third Avenue may be developed residentially in the future.

RESULTS OF PREVIOUS SAMPLING

There is no record of any previous sampling at this location.

EXAMINATION OF AERIAL PHOTOGRAPHS

USDA aerial photographs, numbers ARE-3V-82 (1958) and ARE-2GG-17 (1966), were examined. The 1958 photo showed that most of the area was light colored and devoid of vegatation. No signs of active disposal were found at this time. The I-190 and Third Avenue were not yet constructed. The area to the north was wooded and the area to the east was lightly wooded or brush covered. The commercial buildings along Pine Avenue were in place at this time.

The 1966 photo showed the area to be developed to near its present extent. The I-190 and Third Avenue were in place. Most of the nearby and on-site buildings were in place at this time. The area to the north was still wooded. Saber Park Trailer Court was not yet constructed.

A 1980 EPA document reported that 1951 photography showed dumping into the swale which previously drained the Newco property and that the area west of Connecting Road was full.

SOILS/GEOLOGY

The current USDA Soil Conservation Service Soil Survey for Niagara County lists the soil type only as "cut and fill". A 1947 publication lists the soil as Poygan Clay. The effect of landfilling on soil conditions is not known.

The only boring data found was from the southeast corner of the Newco property. These records showed four to five feet of Lacustrine Silt, over eight to ten feet of Lacustrine Clay, over five feet of Glacial Till, over bedrock.

Bedrock is Lockport Dolomite to over 120 feet in thickness. The depth to water bearing zones in the Dolomite is unknown.

GROUNDWATER

Two aquifers are possible in this area. A perched water-table in the unconsolidated material may exist either on a permanent or seasonal basis. The expected depth to the watertable and the direction of flow are unknown.

Bedding joints within the Dolomite are likely to be water bearing zones. Several bedding joints are expected. The depth to bedrock aquifers and the direction of flow is unknown.

There are no known drinking water wells within three miles of this site. The nearest industrial well is located about two miles southwest (DuPont). There are no other known uses of groundwater in this area.

SURFACE WATER

The nearest surface water is the Niagara River, 8,000 feet to the south. The runoff from this area may enter storm sewers which may enter either the Niagara River or Gill Creek.

Although the direction of groundwater flow is unknown, any groundwater contamination resulting from this site is expected to enter the Niagara River upstream of the City of Niagara Falls water intakes.

There are no wetlands within one mile of this site, although the site itself once contained wetlands. The site is not within a 100 year flood plain.

AIR

There is no record of air quality problems from this site. It is not known if any problems were created while the site was open.

The nearest population is at Saber Park, 600 feet north, 3,000 to 4,000 people live within one mile. The land to the southwest, west and northwest is industrial for over one mile. The land to the north, south and southwest is predominately residential with some commercial property. Much of the area to the east is undeveloped until Military Road, where a commercial area is found.

FIRE/EXPLOSION

The potential for fire or explosion is unknown.

Over 10,000 people live within two miles. Several thousand buildings, including industrial, commercial and residential buildings and approximately 200 Mobil homes are located within a two mile radius. Several buildings are on-site. The nearest off-site buildings are those owned by Wizard Methods and Costanzo Welding on Connecting Road. These buildings are within 200 feet of the filled area.

DIRECT CONTACT

There is no sign of any exposed material at this site. The I-190 Right-of-Way is fenced. Other areas are on private property, but not totally fenced.

CONCLUSIONS

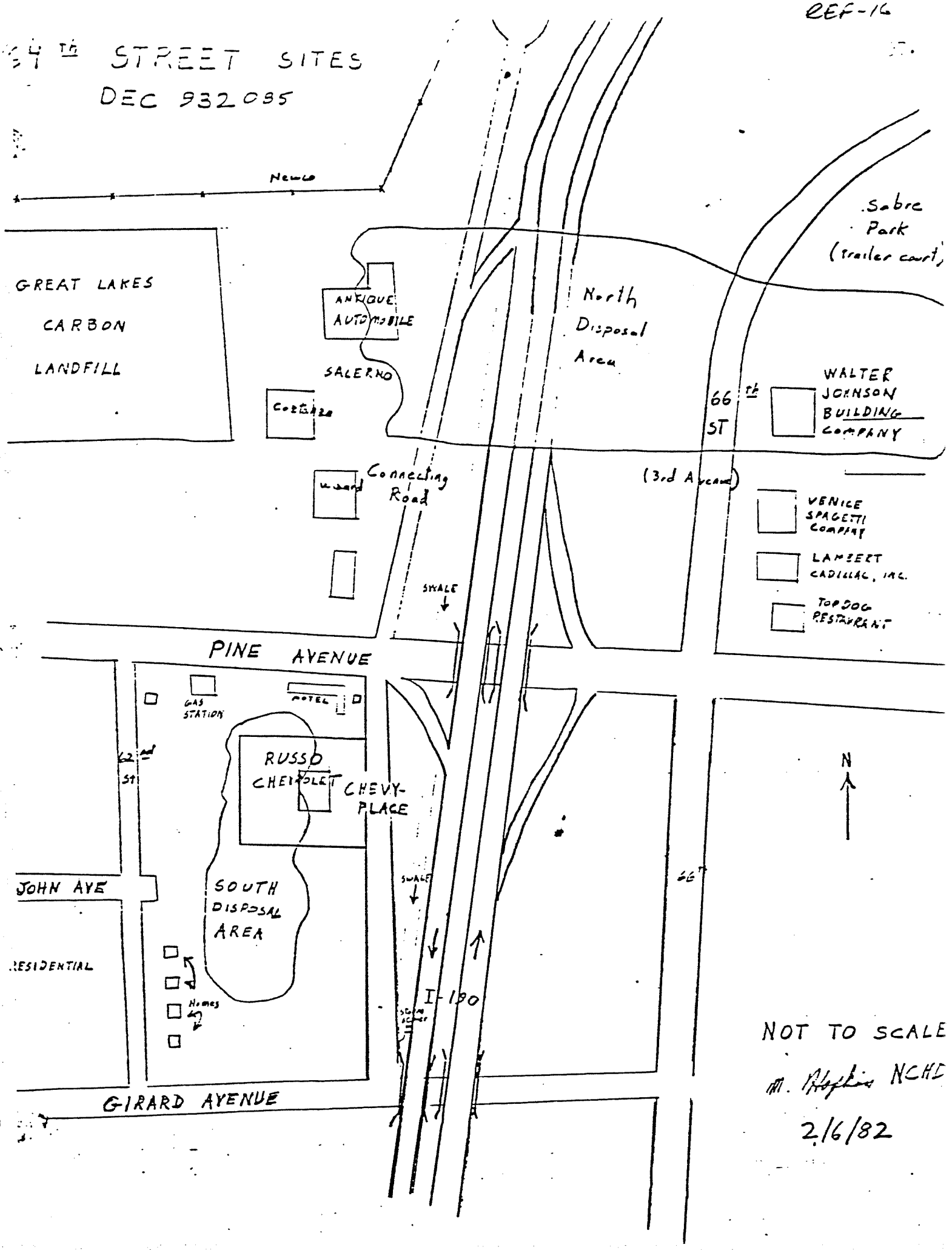
The available data is insufficient to access the potential impacts of this site. The presence or absence of hazardous materials must be determined. The effects of other nearby sites must be considered when accessing impacts.

Sampling and/or observation holes are necessary to obtain data. Holes could be placed along the toe of the slopes of the I-190, along Connecting Road or Third Avenue or behind buildings owned by Mr. Salerno or Mr. Johnson.

Any future excavations in this area should be examined by the DEC or the Niagara County Health Department.

REF-16

54th STREET SITES
DEC 932085



NOT TO SCALE

M. Hopkins NCHD

2/16/82

REF- 17
Ozard, 2/17/86

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.

REF 17

INTERVIEW FORM

INTERVIEWEE/CODE John Oard /

TITLE - POSITION Senior Wildlife Biologist, Significant Habitat Unit

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CITY Delmar STATE N.Y. ZIP 12054

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LOCATION: phone conversation INTERVIEWER Lisa A. Ryan

DATE/TIME Jan 17, 1986 1@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:

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/
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E. June Thompson/Elizabeth K. Weisburger/David Gordon Wilson

VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

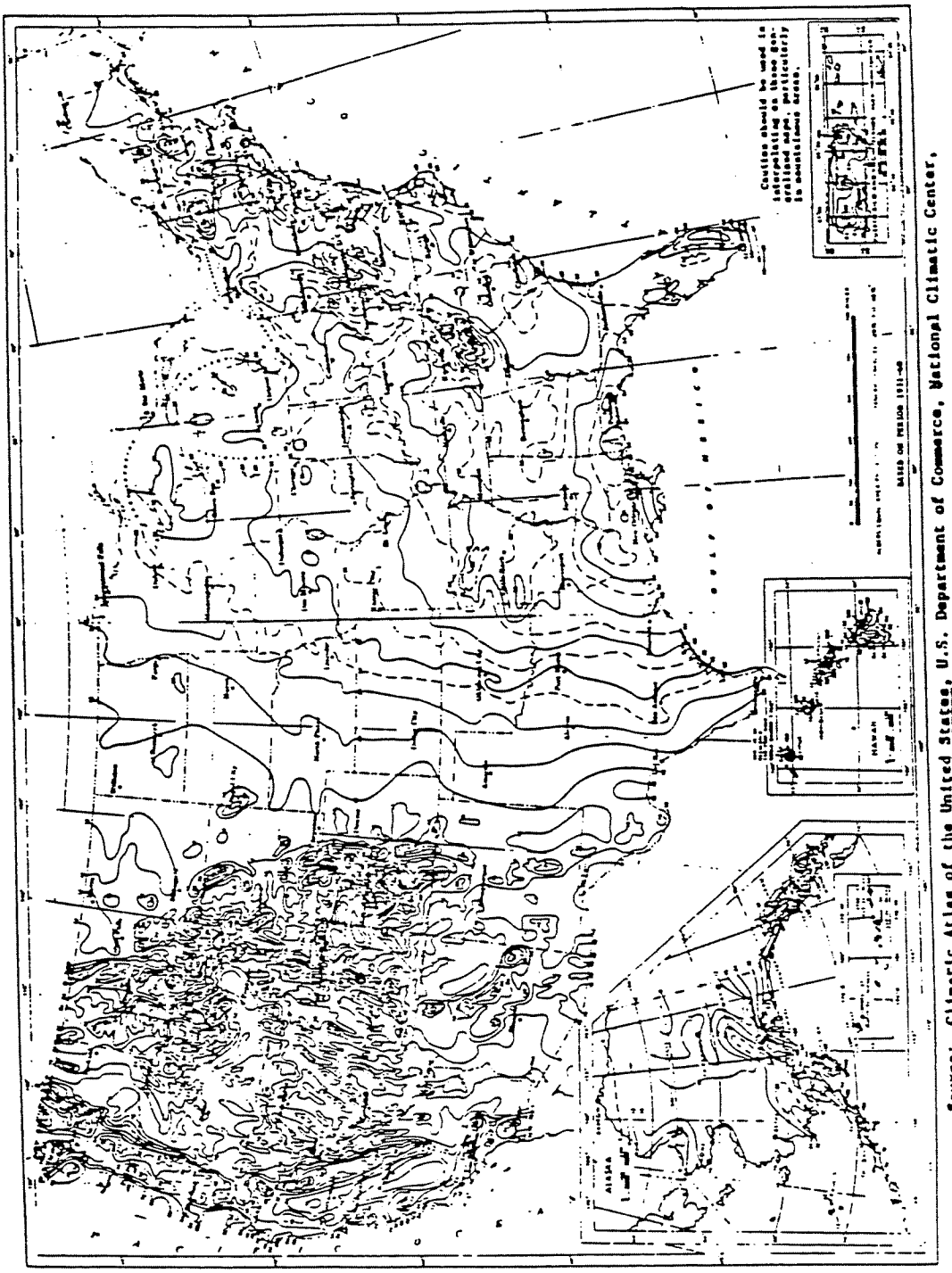
REF- 19

US Census, 1580

US CENSUS DATA, 1980

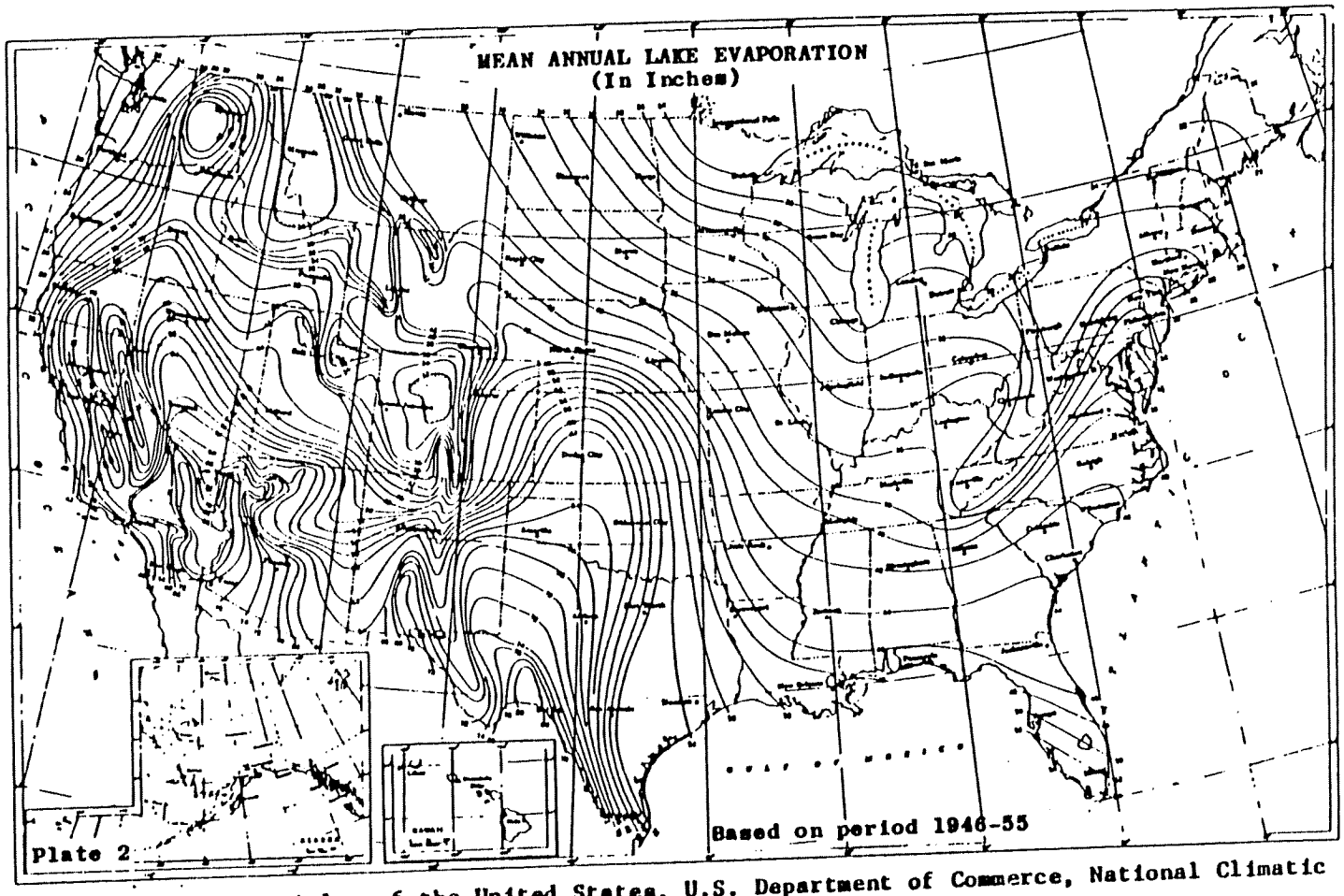
US Census Data used in the HRS scoring was obtained from various County Planning Offices. This data was not obtained from a report. The raw census data combined with County Planning Maps was used to estimate the population within 1, 2, 3, and 4 miles of the Phase I site being investigated. Because of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

REF - 20
USDOC, 1979



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)

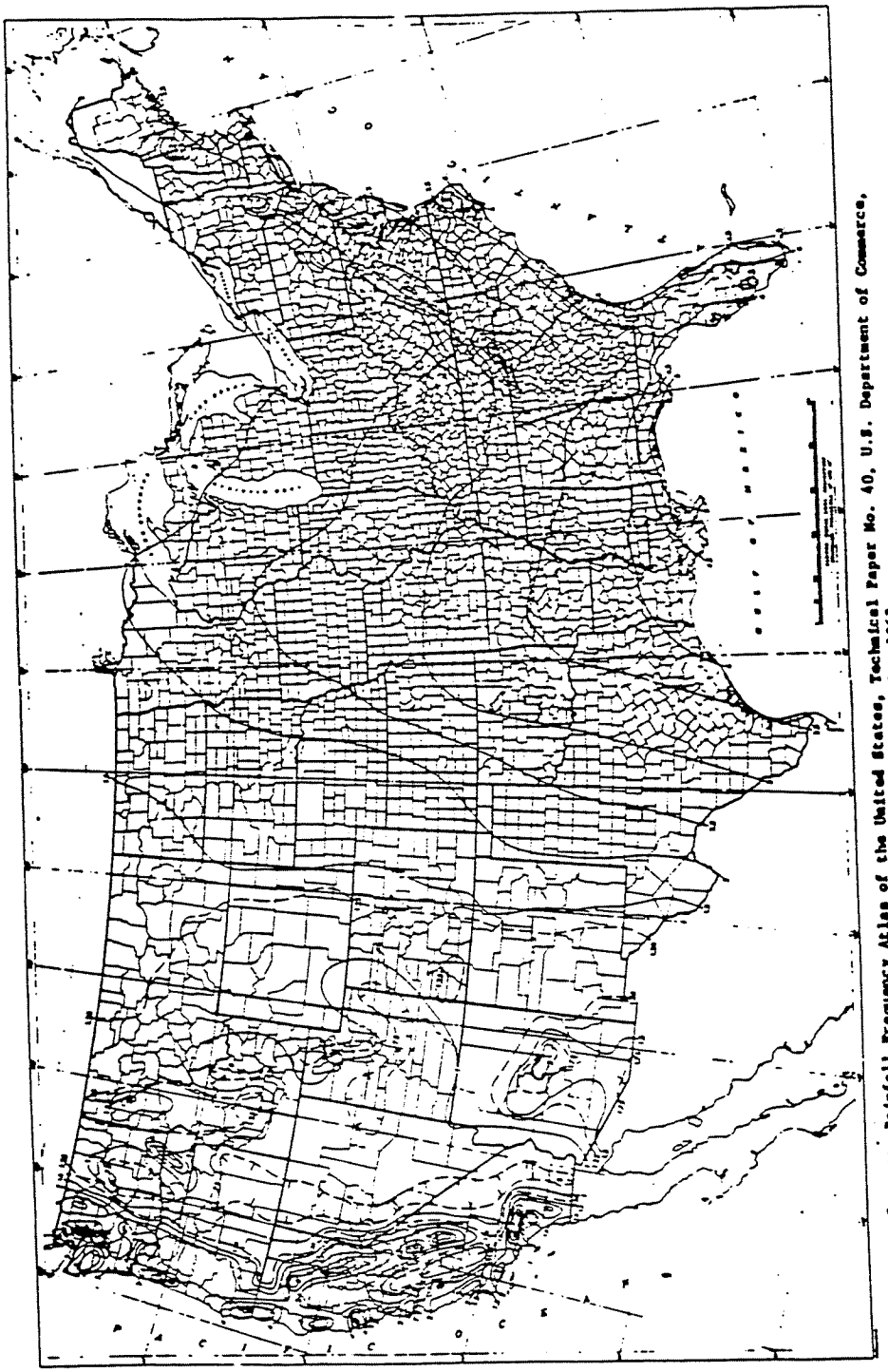


Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)

REF- 20
USDC, 1979

REF- 21
USOC, 1963



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

FIGURE 8
1-YEAR 24-HOUR RAINFALL
(INCHES)

USDOI, 1983

Tuesday
March 1, 1983

(22)

Federal Register

Part III

Department of the Interior

National Park Service

National Registry of Natural Landmarks

USDOI, 1983

(22)

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

REF- 23
USEPA, 1995

"Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste-Disposal Sites"

By

Edward J. Koszalka, James E. Paschal, Jr.,

Todd S. Miller and Philip B. Duran

Prepared by the U.S. Geological Survey

in cooperation with the

New York State Department of Environmental Conservation

for the

U.S. ENVIRONMENTAL PROTECTION AGENCY

88. 64TH STREET SITE (USGS field reconnaissance) NYSDEC 932085

General information and chemical-migration potential.--The 64th Street site, in the city of Niagara Falls, was used by the city to dispose of an unknown quantity of garbage and refuse. Industrial waste may also have been buried. The site consists of a north and a south area.

The potential for contaminant migration at this site is indeterminable. Preliminary chemical data suggest that migration is not taking place, but additional sampling would be needed to confirm this.

Geologic information.--The site consists of a clay unit interbedded with sand stringers overlying bedrock of Lockport Dolomite. In 1982 the U.S. Geological Survey drilled two test borings in the southern part of the site (fig. C-47), and two auger holes in the northern part. The geologic logs of the southern part of the site are on page 394; the auger holes at the northern part of the site both encountered fill overlying the clay within 2 ft of land surface.

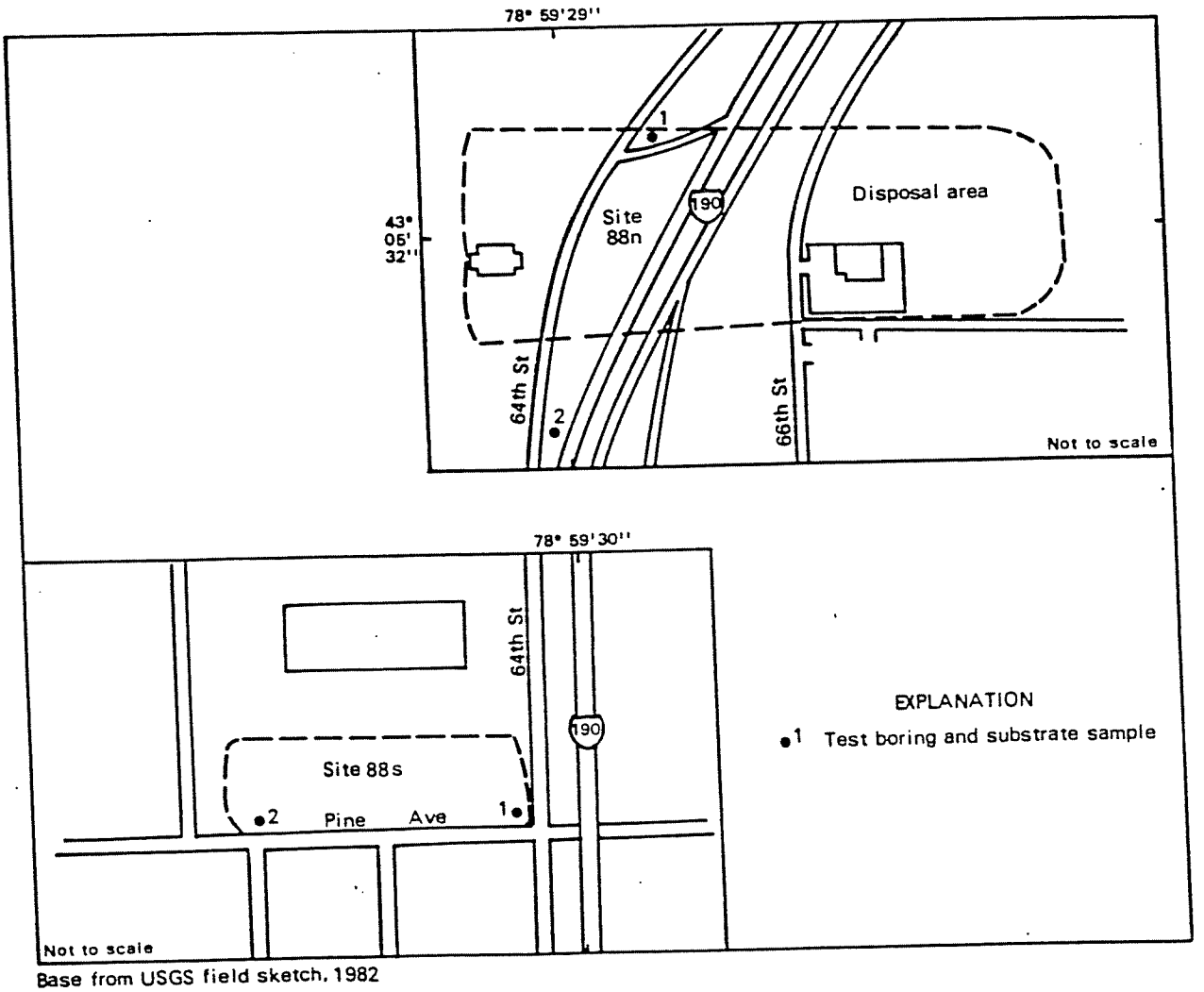


Figure C-47. Location of sampling holes at 64th Street, site 88, Niagara Falls.

REF-23

Boring no.	Depth (ft)	Description
1	0 - 2.0	Topsoil.
	2.0 - 3.5	Clay, sandy, dry.
	3.5 - 5.0	Sand, yellow brown, wet.
	5.0 - 6.0	Clay, red.
		SAMPLE: 5 ft.
2	0 - 2.0	Topsoil.
	2.0 - 3.5	Sand, fine, dry.
	3.5 - 5.0	Clay, sandy, yellow.
	5.0 - 6.0	Sand, fine, wet.
	6.0 - 6.5	Clay, red.
		SAMPLE: 3.5 ft.

Hydrologic information.--Ground water was encountered in both test holes in the southern part of the site at a depth of approximately 6 ft, but no water was encountered in the northern test holes.

Chemical information.--The U.S. Geological Survey collected soil samples at all four test holes for iron, mercury, and organic-compound analyses; results from the south site are given in table C-27, those from the north site are in table C-28. No mercury was detected, but the samples contained 13 organic priority pollutants, seven organic nonpriority pollutants, and some unknown hydrocarbons.

Table C-27.--Analyses of substrate samples from south site, 64th Street, site 88, Niagara Falls, N.Y., August 11, 1982.
[Locations shown in fig. C-47. Concentrations are in µg/kg; dashes indicate that constituent or compound not found.]

	Sample number and depth below land surface (ft)	
	1 (5.0)	2 (3.5)
Inorganic constituents		
Iron	33,000	1,300,000
Mercury	--	--
Organic compound	***	
Nonpriority pollutant		
N,N-Dimethyl-1-dodecanamine	--	12,000

[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.

***Sample analyzed at detection limit above that required by this study. No compounds detected.

REF-23

Table C-28.--Analyses of substrate samples from north site, 64th Street, site 88, Niagara Falls, N.Y.
[Locations shown in fig. C-47. Concentrations are in µg/kg; dashes indicate that constituent or compound was not found.]

	Sample number and depth below land surface (ft)	
	1	2
First sampling (07-02-82)	(3.3)	(2.7)
Inorganic constituents		
Iron	4,200,000	2,600,000
Mercury	--	--
	Sample number	
Second sampling (05-29-83)	1A	2A
Inorganic constituent		
Molecular sulfur[1]	*	--
Organic compounds		
Priority pollutants		
Acenaphthene	*	--
Fluoranthene	* **	--
Naphthalene	*	--
N-nitrosodidiphenylamine	*	--
Benzo(a)anthracene	* **	*
Benzo(a)pyrene	* **	*
Benzo(b)fluoranthene and benzo(k)fluoranthene	* **	--
Chrysene	--	*
Benzo(ghi)perylene	* **	--
Fluorene	*	--
Phenanthrene	* **	--
Indeno(1,2,3-cd)pyrene	* **	*
Pyrene	* **	--
Nonpriority pollutants		
Benzoic acid	*	--
Dibenzofuran	*	--
2-Methylnaphthalene	*	--
Benzaldehyde[1]	*	--
Trans-1,2-dichlorocyclohexane[1]	*	--
O-anilinephenyl-thiocyanate[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.

** Surrogate recoveries were outside the acceptance limits.

in well NFB-7. The hexane may have been introduced when used as a solvent to wash the sampling bailer.

Three substrate samples were collected in the Niagara Falls area at localities not affected by waste-disposal sites to compare their concentration of heavy metals with those in substrate samples from waste-disposal sites. Results are given in table 20.

Table 17.--Analyses of ground-water samples from wells in unconsolidated deposits along the Niagara River, Niagara Falls, N.Y., November 10, 1983.

[Locations are shown in pl. 3. Concentrations are in µg/L, dashes indicate that constituents or compound was not found, LT indicates it was found but at less than the quantifiable detection limit.]

	Well number and depth below land surface (ft)		
	(SA-1) I190-I62 Interchange (24.0)	(SA-2) Griffon Park	(SA-3) Airport Triangle (20.0)
pH	7.2		
Specific conductance (µmho/cm)	480		
Inorganic Constituents			
Antimony	--	--	4
Arsenic	1	2	4†
Beryllium	--	--	--
Cadmium	13†	17†	100†
Chromium	1	1	8
Copper	39	31	800
Lead	230†	130†	2,200†
Mercury	--	--	--
Nickel	28	14	980
Selenium	--	--	--
Zinc	3,300	8,900†	640,000†

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

† Exceeds USEPA criterion for maximum permissible concentration in drinking water or NYS standards for maximum concentration in ground water.

REF-23

Table 17.--Analyses of ground-water samples from wells in unconsolidated deposits along the Niagara River, Niagara Falls, N.Y., November 10, 1983 (continued)

[Locations are shown in pl. 3. Concentrations are in µg/L, dashes indicate that constituents or compound was not found, LT indicates it was found but at less than the quantifiable detection limit.]

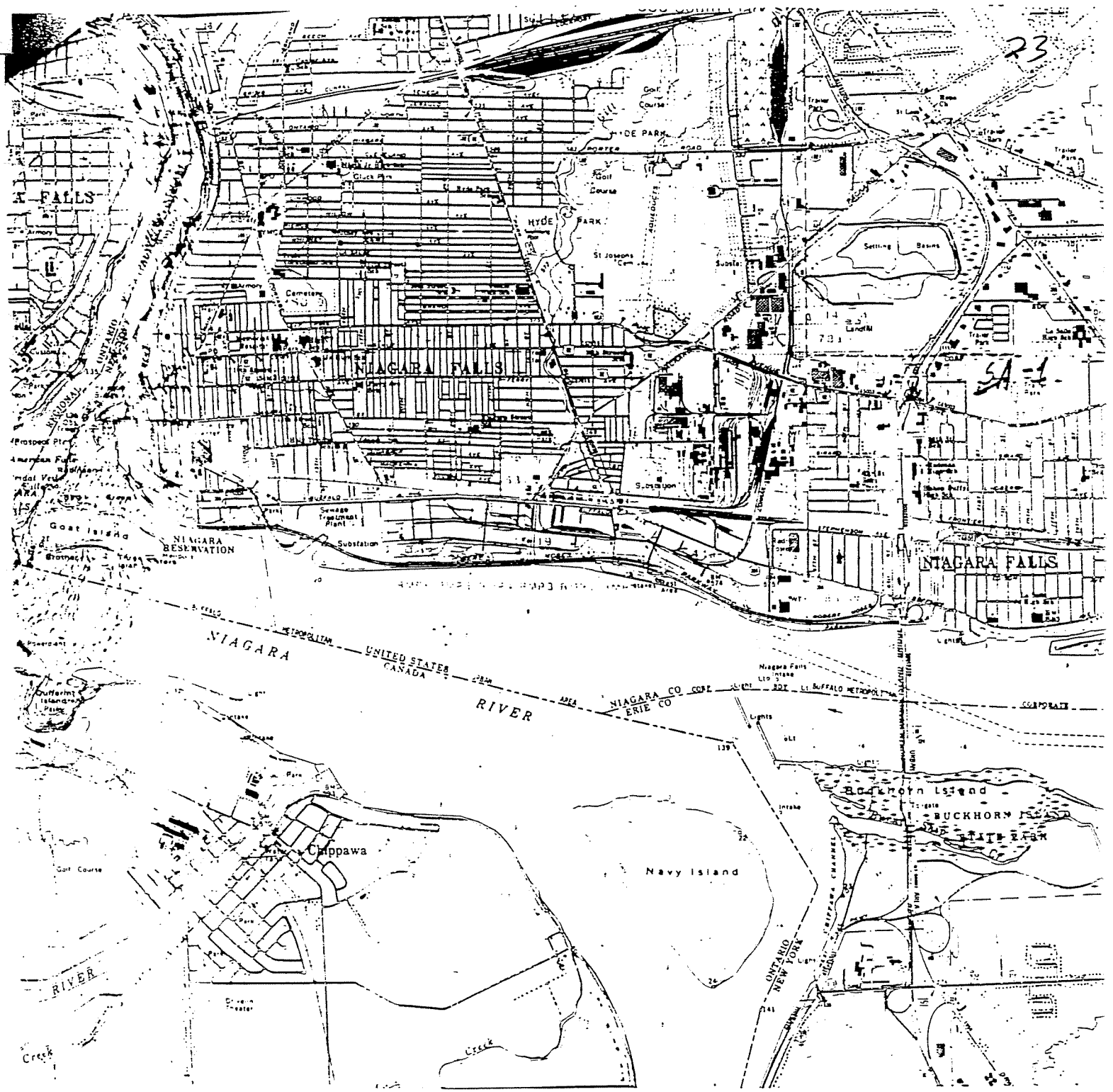
	Well number and depth below land surface (ft)		
	(SA-1) I190-I62 Interchange	(SA-2) Griffon Park	(SA-3) Airport Triangle
Organic Compounds			
Priority pollutants			
Methylene chloride	140	7.1	375
Toluene	150	10	230
Ethylbenzene	5.9	LT	4.5
Chloroform	4.2	--	--
Dibutylphthalate	12	0	2.05
Mirex	--	0.21	--
Trans-1,2-dichloroethylene	--	--	23
Nonpriority pollutants			
Diethylphthalate	LT	7.7	2.5
Methylcyclopentane[1]	4.2	5.6	3.7
1-Methylpentylhydroperoxide[1] (or 1-butanol)	2.0	2.0	--
Hexane	--	12	--
Chlordene	--	--	0.08
1,1-Ethanediol, diacetetate[1]	--	--	44
heptane[1]	--	--	240
(2,2-Dimethylpropyl)oxirane[1]	--	--	LT
Methylcyclohexane[1]	--	--	17
Ethylcyclopentane[1]	--	--	7.7
2,3,5-Trimethylpentane[1]	--	--	14
1,2,3-Trimethylcyclopentane[1]	--	--	LT
3-Methyl-2,4-hexadiene[1]	--	--	LT
2,3-Dimethylhexane[1]	--	--	5.8
2-Methylheptane[1]	--	--	44
3,3-Dimethylhexanol[1]	--	--	21
1,4-Dimethyl,cis-cyclohexane[1]	--	--	LT
2,5-Dimethyl-1-hexene[1]	--	--	5.2
2,3,4-Trimethylhexane[1]	--	--	14
(1,1-Dimethylbutyl)oxirane[1]	--	--	2.3
2-Bromohexane[1]	--	--	14
2,6-Dimethylheptane	--	--	18
1,2-Dimethylbenzene[1]	11	--	46
1,4-Dimethylbenzene[1]	5.1	--	15
2,2,4,4-Tetramethyl-3-pentanone[1]	10	--	21

REF 23

Table 17.--Analyses of ground-water samples from wells in unconsolidated deposits along the Niagara River, Niagara Falls, N.Y., November 10, 1983 (continued)

[Locations are shown in pl. 3. Concentrations are in µg/L, dashes indicate that constituents or compound was not found, LT indicates it was found but at less than the quantifiable detection limit.]

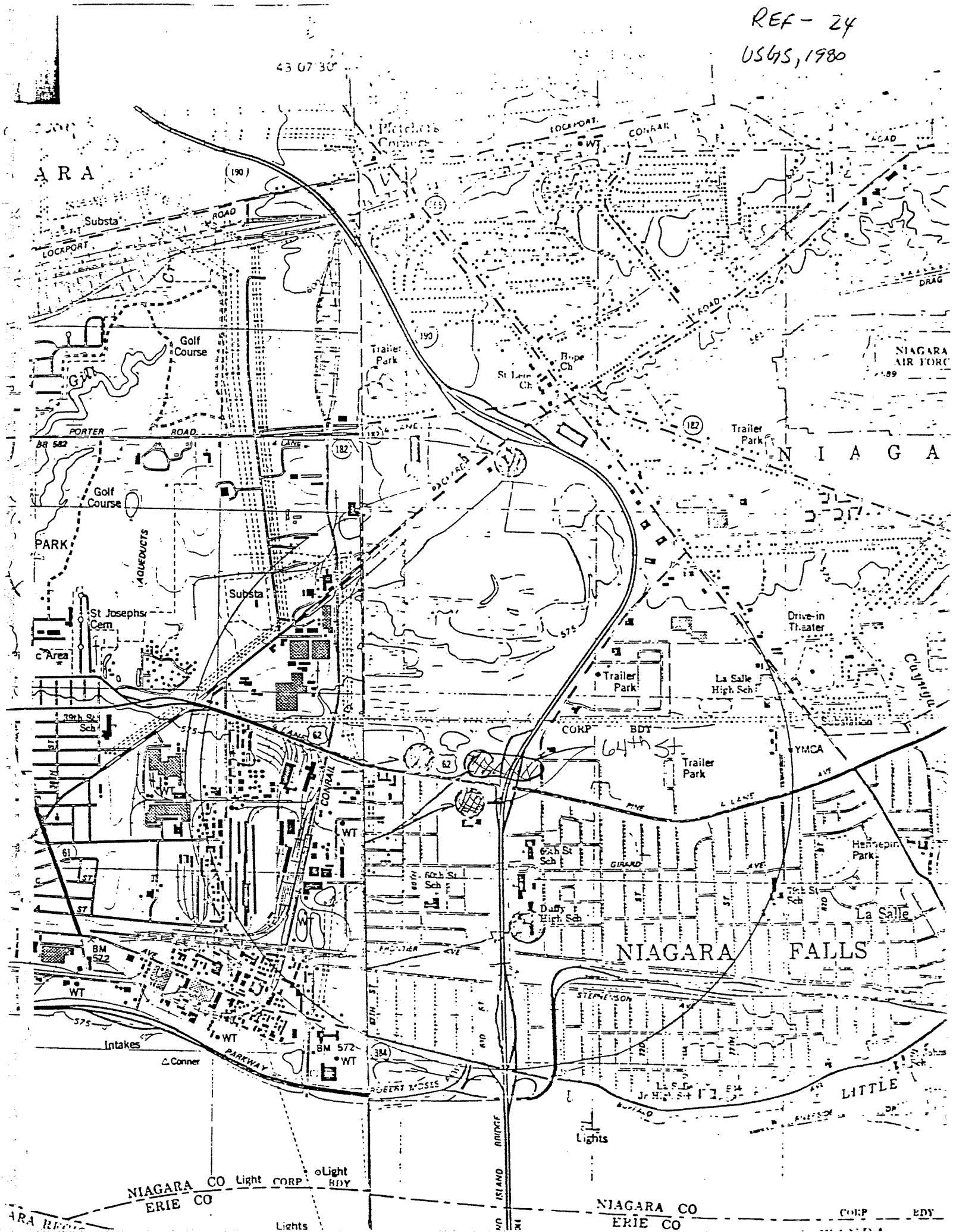
	Well number		
	(SA-1) I190-I62 Interchange	(SA-2) Griffon Park	(SA-3) Airport Triangle
Organic compounds (continued)			
Nonpriority pollutants (continued)			
2-Decanone	--	--	57
2-Ethoxybutane[1]	290	--	270
2-Pentanone[1]	--	--	9.1
4-Chloro-trans-cyclohexanol[1]	--	--	LT
1-chloro-2-ethenyl-1-methylcyclopropane	--	--	LT
3-Ethylhexane[1]	11	--	--
2-Chloronaphthalene[1]	LT	--	--
2,6-Bis(1,1-dimethylpropyl)-2,5-cyclohexadiene,1,4-dione[1]	5.9	--	--
5-Ethyldihydro-2(3H)-furanone[1]	2.8	--	--
3,5,5-Trimethylhexanoic acid[1]	5.1	--	--
2-(2-Butoxyethoxy)ethanol[1]	93	--	--
Nonanoic acid[1]	85	--	--
1,2-Benzenedicarboxylic acid[1]	LT	--	--
Decanoic acid[1]	29	--	--
2,5-Bis(1,1-dimethylpropyl)-2,5-cyclohexadiene-1,4-dione[1]	LT	--	--
2-Ethylhexanoic acid[1]	--	31	--
Benzoic anhydride[1]	--	59	--
4-Chlorobenzoic acid[1]	--	13	--
3-Ethylpentene[1]	--	6.7	--
Methylcyclodecane[1]	--	LT	--
2-Methylundecane[1]	--	LT	--
4,11-Dimethyltetradecane[1]	--	LT	--
5-Propyltridecane[1]	--	LT	--
1-(2-Butoxyethoxy)ethanol	--	--	8.0
mpounds potentially of natural origin			
Hexanoic acid[1]	13	--	--



PRELIMINARY EVALUATION OF HYDROGEOLOGY AND CHEMICAL MIGRATI

AT SELECTED WASTE-DISPOSAL SITES WITHIN 3 MILE

OF THE NIAGARA RIVER IN ERIE AND NIAGARA COUNTIES, N


REF - 24
USGS, 1980
43 07 30
Substa
LOCKPORT ROAD
Golf Course
Trailer Park
PORTER ROAD
BR 582
Golf Course
PARK
AQUEDUCTS
Substa
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c Area
39th St Sch
CONRAIL
61
BM 572
WT
Intakes
Conner
PARKWAY
ROBERT MOSES
Trailer Park
St Lawr Ch
Hope Ch
NIAGARA AIR FORC
Trailer Park
NIAGA
Drive-in Theater
Trailer Park
La Salle High Sch
CORP
BDY
64th St
Trailer Park
YMCA
PINE AVE
GIRARD AVE
60th St Sch
60th St Sch
Duffy High Sch
Hennepin Park
La Salle
NIAGARA FALLS
STEPHENSON AVE
LITTLE
Lights
NIAGARA CO
ERIE CO
Light CORP
Light BDY
Lights
NIAGARA CO
ERIE CO
CORP
BDY

REF- 25

Woodward & Clyde, 1986

TEXAS BRINE CORP. BRINE PIPELINE

SOIL EXCAVATION AND DISPOSAL PLAN

COVERING

EXCAVATION ACTIVITIES IN POTENTIALLY CONTAMINATED AREAS

July 29, 1986

I. INTRODUCTION

The Niachlor brine pipeline will pass through or adjacent to a number of areas where the New York Department of Environmental Conservation has indicated that soil contamination could be present. Soil samples were obtained from locations along the pipeline route and analyzed for the presence of pollutants of concern.

II. SUMMARY

The Niachlor pipeline will traverse six areas within Niagara County which the NYSDEC has indicated may be contaminated with pollutants which pose a threat to the environment. These areas include

A. Adjacent to the Niagara Sanitation Company Nash Road site (NASH ROAD)

B. The Charles Gibson - Pine and Tuscarora site (GIBSON SITE)

C. Adjacent to the 64th Street North site (64th STREET)

D. The area south of CECOS sanitary landfill and secure landfill and north of Basic Carbon Company and Great Lakes Carbon Company (the NIAGARA FALLS BOULEVARD Area) and

E. The area south of the Airco/Speer area.

F. Adjacent to the Niagara Falls DuPont Plant site.

Samples were collected within the pipeline right-of-way within each of these areas and were analyzed for priority pollutants, EPTOX extractable metals and BHC isomers, and subjected to a library search of their mass spectra. These analyses indicate that the pipeline right-of-way is substantially free of contaminants which would present a threat to the environment. The soil in the areas of the Gibson site, the 64th Street site, and the Niagara Falls Boulevard areas contains quantities of polynuclear

25

II. SUMMARY (Cont'd)

aromatic compounds. While it is feasible to excavate these materials without special precautions, Niachlor excavation work will be controlled such that dust levels around the excavations are maintained below a 5 mg/m^3 respirable dust nuisance level and damp or wet surfaces will be maintained on all soil piles in these areas in order to minimize airborne dust. There will be no need for specialized personnel protective equipment for construction workers. Excess soil, although not expected, can be disposed in a sanitary land fill.

The area adjacent to the DuPont plant site contains locations where volatile organic pollutants exceed 10 ppm in soil, the NIACHLOR project criteria for special handling. In these locations the top 1 foot of backfill will be clean fill and excess soil, if any, will be disposed in a secure landfill. Safety and health precautions are presented in the report "Health and Safety Plan Brine Pipeline Construction Niachlor Project" which has been submitted separately to the New York State Department of Environmental Conservation.

III. SOIL SAMPLING AND ANALYSIS

During April, 1986, soil samples were collected at locations along the pipeline route and within the nominal boundaries of the areas of possible concern. Twenty two center-line and seven surface, flank samples were collected. The details of collection methodology are described Exhibit II.

Each center-line soil sample was analyzed for particle size distribution. In addition, the soil samples were analyzed for the following priority pollutants

- volatile organic compounds
- acid extractable compounds
- base/neutral compounds
- pesticide/PCB compounds
- metals.

Each sample was further analyzed for the presence of the conventional pollutants phenols and cyanides. EPTOX extracts of each sample were further analyzed for the presence of RCRA characteristic metals and the isomers of BHC. Finally, a mass spectra library was searched in an attempt to match mass spectra for non-priority pollutants with the mass spectra of known compounds.

C. 64TH STREET NORTH SITE

Three center-line sample locations were established at the 64th Street North site. These locations were designated as Locations 9A, 10A,and 11A. Composite samples over the depth 0.5 to 4 feet were obtained from each location. A field duplicate was obtained at Location 10A. In addition, a composite of surface samples from the flank (B-C locations) was obtained. The locations of the Nash Road samples are shown in Figure 3.

1. Physical Characterization

Samples from each center-line location were subjected to grain size analysis by WCC. The results of these analyses are summarized in Table 7. Test pit logs and details of the grain size analyses are included in Exhibit III.

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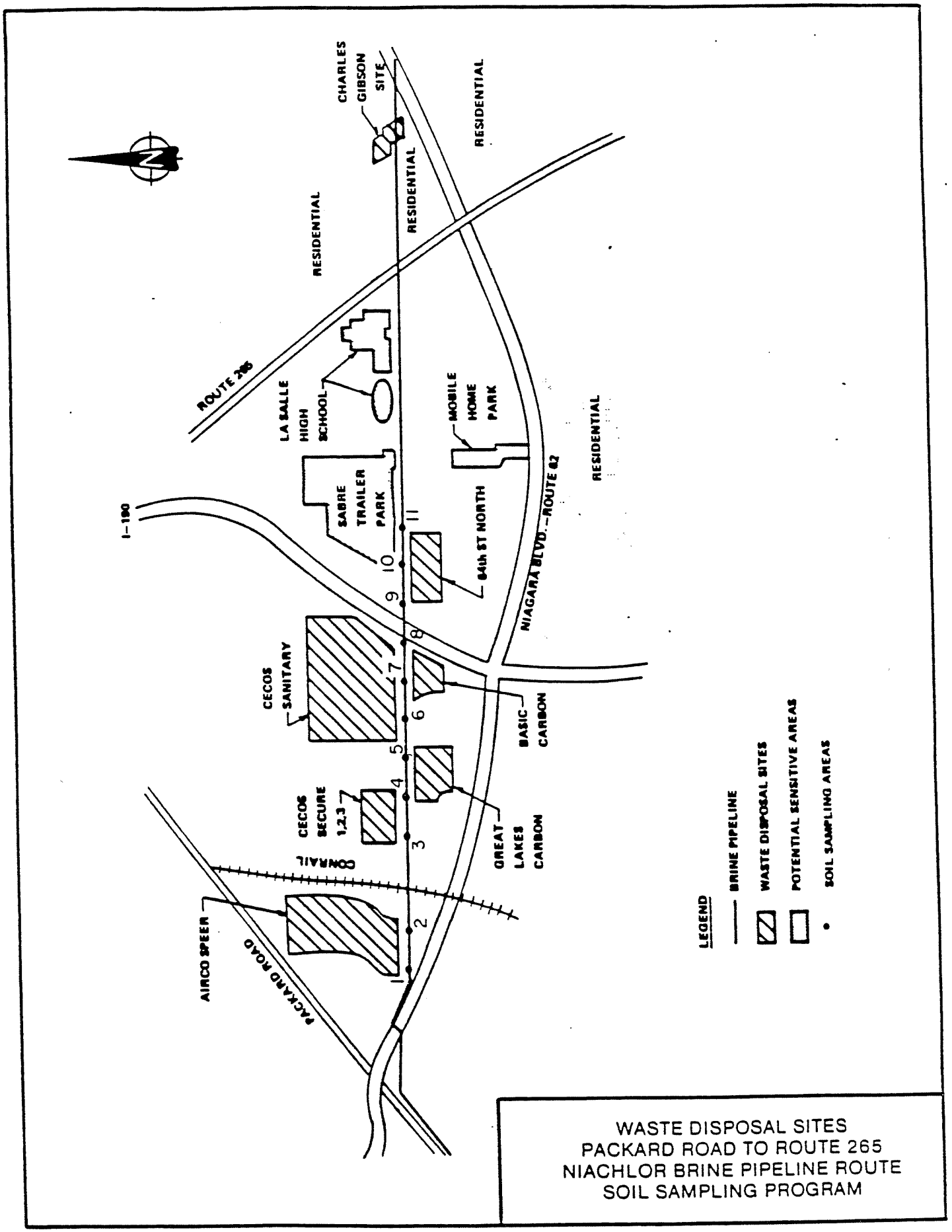
CHARLES GIBSON SITE
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
ROUTE 265
LA SALLE HIGH SCHOOL
MOBILE HOME PARK
I-190
SABRE TRAILER PARK
84th ST NORTH
NIAGARA BLVD. - ROUTE 62
CECOS SANITARY
BASIC CARBON
CECOS SECURE 1,2,3
GREAT LAKES CARBON
CONRAIL
AIRCO SPEER
PACKARD ROAD
1
2
3
4
5
6
7
8
9
10
11
LEGEND
BRINE PIPELINE
WASTE DISPOSAL SITES
POTENTIAL SENSITIVE AREAS
SOIL SAMPLING AREAS
WASTE DISPOSAL SITES
PACKARD ROAD TO ROUTE 265
NIACHLOR BRINE PIPELINE ROUTE
SOIL SAMPLING PROGRAM

FIGURE 3

IV. ANALYTICAL RESULTS

C. 64TH STREET NORTH SITE

1. Physical Characterization

The soil at the three 64th Street sample locations was fill to a depth of 4 ft. At location 9A, the fill consisted of a clayey silt with traces of rock fragments and debris. Water was encountered at 3 feet. Moving eastward, the fill remained a clayey silt, with debris, but became peaty at 3 feet . Water entered the test pit at the 1.5 feet depth. Finally, at location 11A, the pattern found at location 10 was repeated. Clayey silt and silty clay, interspersed with debris, were found to a depth of over 3.5 feet. Below that level, an organic rich silty clay (peat) was encountered.

2. Chemical Characterization

Each of the samples from the 64th Street site was analyzed for priority pollutants and the conventional pollutants cyanide and phenols. In addition, EPTOX extracts were analyzed for the isomers of BHC and the RCRA metals. Finally, a library search was conducted for matches to the non-priority pollutant GC/MS spectra for the soil samples. The results of all positive conventional and priority pollutant analyses are tabulated in Table 8. Compounds tentatively identified from their mass spectra through library search and their approximate concentrations are listed in Table 9. A more complete listing of the peaks isolated during GC/MS analysis is included in Exhibit I-3.

Volatile Organics

The only volatile organic priority pollutant consistently detected in 64th street samples was methylene chloride, a common laboratory contaminant. Methylene chloride concentrations were reported between the method detection limit and 38 ug/kg. In addition to the methylene chloride detections, tetrachloroethylene was found in the samples from location 9A and the flank sample, at concentrations of 32 ug/kg and BMDL, respectively. Total volatile organic priority pollutant concentrations were well below the project special handling criteria of 10 mg/kg.

Acid Extractable Compounds

No acid extractable priority pollutant was consistently found in the 64th street samples. A trace of phenol (210 ug/kg) was found in the field duplicate, but not in sample 10A. Similarly, 2,4,6-trichlorophenol was found in sample 10A, but not in the field duplicate.

IV. ANALYTICAL RESULTS

C. 64TH STREET NORTH SITE

2. Chemical Characterization

Base/Neutral Compounds

A number of base/neutral priority pollutants, primarily polynuclear aromatics, were found in the 64th Street site samples. The analyses indicate that these compounds are uniformly distributed along the pipeline right-of-way within the site. Total base/neutral priority pollutant concentrations ranged from 16 to 38 mg/kg. The predominant base/neutral compounds included anthracene, chrysene, fluoranthene, fluorene, phenanthrene, and pyrene. Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)-fluoranthene contributed significantly, as well.

Pesticides/PCBs

Pesticide and PCB analyses indicated that PCBs were not present in the 64th Street samples, and that the only pesticide present in detectable amounts was BHC. BHC isomers were detected at locations 10A and in the flank composite samples. The concentrations which were noted were low and detections were not consistent. For example, Sample Q2, the field duplicate analyzed positive (BMDL) for the alpha- and gamma- isomers, and 220 ug/kg for the Beta isomer of BHC. On the other hand, sample 10A was analyzed to contain 1300 ug/kg of alpha-BHC (vs BMDL). The remaining isomers were not detected in this sample. The flank sample was reported to contain only beta-BHC, and at a concentration of 900 ug/kg.

Metals

The 64th Street site samples were analyzed for the ten priority pollutant metals. While most priority pollutant metals were present, concentrations were generally low and were not at levels of concern. While lead levels were somewhat elevated, the lack of lead in the EPTOX extract indicates that the lead is not mobile, and would not be expected to pose a threat to the environment. Note also the low, or not detectable, concentrations of other metals in EPTOX extracts (below).

Conventional Pollutants

Neither cyanide nor phenols were detected in any 64th Street site samples.

IV. ANALYTICAL RESULTS

C. 64TH STREET NORTH SITE

2. Chemical Characterization

EPTOX Extract Analyses

EPTOX extracts of the samples from locations 9A, 11A (and Q2), and the flank sample contained between 0.35 mg/l and 0.74 mg/l of selenium. This concentration is below the RCRA hazardous waste criteria of 1 mg/l. The extract from the location 9A sample also contained a trace (BMDL) of alpha-BHC. Again the concentration was below the RCRA hazardous waste criteria.

Other Constituents Tentatively Identified

A library search of the mass spectra of the priority pollutant extracts was conducted in an effort to determine whether gross contamination from any non-priority pollutant was present and to identify any common pollutants which may be present, but not contained on the priority pollutant list. Approximate concentrations, as indicated from the libraries, were also reported. The compounds tentatively identified via this procedure are listed in Table 9.

No peak was noted which would indicate gross contamination from any source. Furthermore, no contaminant was identified which is identifiable as a pollutant of concern. Only 3,4-dimethyl-2-pentene was found to occur in more than two samples. The field duplicate sample from location 10A (sample Q2) was reported to contain 1900 ug/kg of the compound, while the other sample from the same test pit was not reported to contain dimethyl-2-pentene. The flank sample was reported to contain nearly 1 mg/kg of the material, while sample 9A was reported to contain approximately 300 ug/kg. The maximum estimated concentration of any compound tentatively identified through the library search procedure was 4800 ug/kg, for 4-metyl-3-pentene-2-one.

TABLE 7. 64TH STREET NORTH SITE

GRAIN SIZE CHARACTERIZATION

Test Pit Number	Mean Grain Size	% Finer Than 200 Mesh	Description
9A	1 mm	15%	Clayey SILT with trace rock fragments, decaying wood, and general debris. Water at 3 ft.
10A	2.8 mm	12%	Clayey SILT with debris. Becomes peaty at 3-4 ft. Water flowing into test pit from 1.5 ft.
11A	1.5 mm	9%	Fill to 3 ft. Clayey SILT with rock fragments, etc 0-1.5 ft. Clayey SILT/silty CLAY with fragments 1.5-3 ft. Silty CLAY (PEAT) 3-3.8 ft. Clayey SILT 3.8-4 ft.

TABLE 8. 64TH STREET NORTH SITE

POSITIVE PRIORITY POLLUTANT ANALYSES
(All results in ug/kg, unless noted)

COMPOUND	SAMPLE LOCATION 9A	10A	10A FIELD DUPLICATE Q2	11A	FLANK COMPOSITE
VOLATILE ORGANICS					
Methylene Chloride	BMDL	20	26	38	32
Tetrachloroethylene	32	-	-	-	BMDL
ACID EXTRACTABLE COMPOUNDS					
Phenol	-	-	210	-	-
2,4,6-Trichlorophenol	-	BMDL	-	-	-
BASE/NEUTRALS					
Acenaphthene	920	600	400	400	370
Acenaphthylene	230	200	180	BMDL	380
Anthracene	3100	1300	500	530	970
Benzo(a)anthracene	-	4800	1300	1300	2800
Benzo(a)pyrene	-	13000	300	1500	1400
Benzo(b)fluoranthene	-	14000	1100	5300	1700
Benzo(ghi)perylene	-	1300	230	BMDL	990
Benzo(k)Fluoranthene	-	-	-	-	1100
Bis(2-ethylhexyl)phthalate	-	560	BMDL	490	390

'-' = Not Detected.
'BMDL' = Below Method Detection Limit.

TABLE 8. 64TH STREET NORTH SITE

POSITIVE PRIORITY POLLUTANT ANALYSES
(All results in ug/kg, unless noted)

COMPOUND	SAMPLE LOCATION 9A	10A	10A FIELD DUPLICATE Q2	11A	FLANK COMPOSITE
Butyl Benzyl Phthalate	-	BMDL	BMDL	-	-
Chrysene	-	5500	2000	-	2600
Dibenzo(ah)anthracene	-	640	BMDL	-	470
1,2-Dichlorobenzene	160	90	BMDL	-	-
1,3-Dichlorobenzene	260	-	-	-	-
1,4-Dichlorobenzene	280	210	BMDL	-	-
Fluoranthene	13000	4500	5200	3000	8300
Fluorene	1300	620	660	210	370
Hexachlorobenzene	560	280	330	-	570
Hexachlorobutadiene	290	40	210	-	-
Hexachloroethane	280	-	-	-	-
Indeno(1,2,3,-c,d)pyrene	-	1400	190	220	920
Naphthalene	420	540	360	220	190
N-Nitrosodiphenylamine	-	-	-	BMDL	-
Phenanthrene	10000	4200	2200	1800	3300
Pyrene	9900	3700	4600	2300	6600
1,2,4-Trichlorobenzne	650	450	340	BMDL	190

' - ' = Not Detected.
'BMDL' = Below Method Detection Limit.

TABLE 8. 64TH STREET NORTH SITE

POSITIVE PRIORITY POLLUTANT ANALYSES
(All results in ug/kg, unless noted)

COMPOUND	SAMPLE LOCATION 9A	10A	10A FIELD DUPICATE Q2	11A	FLANK COMPOSITE
PESTICIDES/PCB's					
Alpha-BHC	-	1300	BMDL	-	-
Beta-BHC	-	-	220	-	900
Gamma-BHC	-	-	BMDL	-	-
PCB1248	-	-	BMDL	-	-
METALS - RESULT IN MG/KG					
Antimony	7.2	BMDL	BMDL	-	BMDL
Arsenic	4	6	5	3	7
Beryllium	0.57	0.54	0.55	0.53	0.51
Cadmium	BMDL	0.92	BMDL	-	0.45
Chromium	63	75	36	30	51
Copper	63	75	50	36	110
Lead	340	320	170	38	350
Mercury	6.8	1	2	0.50	5.8
Nickel	25	24	25	21	22
Selenium	-	BMDL	BMDL	-	-
Silver	BMDL	-	-	-	BMDL
Thallium	BMDL	BMDL	BMDL	-	BMDL
Zinc	260	380	250	160	320

' - ' = Not Detected.
'BMDL' = Below Method Detection Limit.

TABLE 8. 64TH STREET NORTH SITE

POSITIVE PRIORITY POLLUTANT ANALYSES
(All results in ug/kg, unless noted)

COMPOUND	SAMPLE LOCATION 9A	10A	10A FIELD DUPLICATE Q2	11A	FLANK COMPOSITE
CONVENTIONAL POLLUTANTS					
none detected					
RCRA EPTOX EXTRACT ANALYSES -- expressed in mg/l					
Selenium	0.35	-	0.74	0.38	0.56
Alpha-BHC	BMDL	-	-	-	-

' - ' = Not Detected.
'BMDL' = Below Method Detection Limit.

V
5

TABLE 9. 64TH STREET NORTH SITE

COMPOUNDS TENTATIVELY IDENTIFIED IN SOIL

RESULTS OF MASS SPECTRA LIBRARY SEARCHES
(All results in ug/kg)

	SAMPLE LOCATION				
COMPOUND	9A	10A	10A FIELD DUPLICATE Q2	11A	FLANK COMPOSITE
VOLATILE COMPOUNDS					
1,1,2,3,4,4-hexachloro-1,3 Butadiene	120	-	-	-	-
ACID EXTRACTABLE COMPOUNDS					
4-Methyl-3-Pentene-2-one	-	1300	-	4800	-
BASE/NEUTRAL COMPOUNDS					
3,4-Dimethyl-2-Pentene	290	-	1900	-	930
Chloro-methyl Benzene	-	2700	-	-	-
Dichloromethyl-benzene	290	-	-	-	-
Dichloro-chloromethyl Benzene	610	-	-	-	-
Tetrachlorobenzene	1070	-	-	-	-
Trichlorobenzamine	-	-	1500	-	-
Dimethyl Naphthalene	-	3290	-	-	-
Dibutyl-2-Butenedioicacid	-	-	-	200	-
Methyl Phenanthrene	270	-	-	-	-
Benzothiazolethione	-	-	-	-	1300
Hexadecanal	-	-	-	200	-
Benzo(b)fluorene	-	-	-	-	2500
Benzo(a)fluorene	-	-	-	-	910
Dioctyl Hexandioic acid	-	-	-	350	-

"--" = Not Detected

25

V. RIGHT-OF-WAY CONTAMINATION ASSESSMENT

C. 64TH STREET NORTH SITE

- Base/neutral priority pollutants were present in all the 64th Street site samples. The compounds which were identified were the polynuclear aromatics associated with incomplete combustion. Total base/neutral compound concentrations ranged from 16 to 38 mg/kg. Organic compounds of this type are highly insoluble and not expected to be mobile in the environment. The U.S. EPA has evaluated the hazard associated with disposal of several industrial wastes with similar concentrations of polynuclear aromatics and concluded that disposal to a secure landfill is not required and that those wastes would not require management as hazardous wastes. (See Federal Register notice on two delisting petitions attached as Exhibit IV.)

  While polynuclear aromatic compounds are not expected to be mobile in the groundwater, at the concentrations encountered at the site, the potential for airborne transport of these materials during construction has been evaluated. Airborne particulate containing 40 mg/kg of polynuclear aromatic compounds, if present at the nuisance dust concentration of 5 mg/m^3, would result in ambient air polynucluear aromatic concentrations of 5×10^{-8} gm/m^3. This ambient concentration would be 1/1000 of the TLV for coal tar pitch volatiles (0.2 mg/m^3). However, polynuclear aromatics, such as benzo(a)pyrene, are suspect carcinogens. Minimization of the amount of such materials carried with airborne dusts is desirable. Consequently, basic dust supression techniques, such as maintaining a damp or wet surface on all open soil piles, will be practiced.

- Part per million concentrations of priority pollutant metals were detected. However, none were detected in sufficient concentration to represent a threat to the environment or the neighboring population.

- Analyses of EPTOX extracts of the site soil samples for metals and BHC isomers were all below the detection limits of the analytical methods.

- Library searches of the GC/MS mass spectra did not identify the presence of any pollutants of concern. Several compounds which are structurally similar to the polynuclear aromatic priority pollutants were tentatively identified.

V. RIGHT-OF-WAY CONTAMINATION ASSESSMENT

C. 64TH STREET NORTH SITE

Based on the above analyses, the soil in the pipeline right-of-way across the 64th Street North site will be considered to be free of contamination for the purposes of disposal. Disposal of any excess soil from excavation will be to a sanitary landfill. Dust from construction activities will be controlled within the nuisance dust criteria of 5 mg/m^3 and dust will be supressed by keeping all soil piles wetted. It will not be necessary for construction personnel to employ extra personnel protective equipment. Finally, it will not be necessary to monitor the off- site environment for pollutant migration during construction.

D. NIAGARA FALLS BOULEVARD: I-190 TO CONRAIL OVERPASS

Priority pollutant analyses of soil samples obtained along Niagara Falls Boulevard, between I-190 and the Conrail Overpass indicate that while soil within the pipeline right-of-way contains compounds from the base/neutral priority pollutant family, all other priority pollutants are present only in very low amounts.

- No RCRA hazardous waste criteria were exceeded in the EPTOX analyses.

- The volatile organic priority pollutant content of all samples was well below the project criteria of 10 mg/kg. The maximum observed concentration of volatile organic priority pollutants was less than 0.50 mg/kg.

- One sample contained 2,4-dimethylphenol in the acid extractable fraction. The concentration of this material was below the method detection limit of 89 ug/kg. This concentration is not believed to pose a threat to the environment.

- Base/neutral priority pollutants were present in all the samples in this area. The compounds which were identified were the polynuclear aromatics associated with incomplete combustion. Total base/neutral compound concentrations ranged from 0.2 to 270 mg/kg. The higher concentration is believed to be non-representative, and a practical upper bound of 90 mg/kg is believed to exist. Organic compounds of this type are highly insoluble and not expected to be mobile in the environment. The U.S. EPA has evaluated the hazard associated with disposal of several industrial wastes with similar concentrations of polynuclear aromatics and concluded that such wastes would not require management as hazardous wastes or disposal to a secure landfill. (See Federal Register notice on two delisting petitions attached as Exhibit IV).

EPA

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

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

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
64th Street (North	

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE
C. Niagara Falls	NY	14302	Niagara	063

09 COORDINATES LATITUDE	LONGITUDE
43 05.	78 59.

10 DIRECTIONS TO SITE (Starting from nearest public road)
From Interstate 190 head north from Grand Island, take Niagara Falls Blvd. Exit (US 62). The site is located on Connecting Ave., at Vince Saleno, and Jack Johnsons. Property and underneath I 190.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Several Owners — C. of Niagara Falls	

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
			( )

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
C. of Niagara Falls (suspected at time of disposal)	

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

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

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

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO
DATE Dec 85, Apr 86 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): Engineering Science and Daines & Moore (Dec 1985)

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

03 YEARS OF OPERATION
late 1930s | 1950 (BEGINNING YEAR | ENDING YEAR)
☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Domestic and commercial wastes are known to be landfilled at the site. Industrial waste disposal is not expected. Quantities are unknown of waste disposal.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Heavy metal, polyaromatic hydrocarbon, PCB's, & resticides were detected in soil samples obtained on site. Iron & mercury concentrations significantly exceeded local soil background levels. No municipal drinking water wells are located within 3 miles of site.

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency Organization)	03 TELEPHONE NUMBER
Cathy J. Bosma	Engineering-Science (ES)	(703) 591-7575

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Cathy J. Bosma		same	( )	4 30 86 (MONTH DAY YEAR)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

EPA

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

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
- ☐ 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)
- ☒ 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			Unknown Quantity
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Benzo(a) anthracene	999	OD - Soils	610 - 27,000	ppb
	Benzo(a) pyrene	999	"	1500 - 13,000	ppb
	Benzo(b) fluoranthene	999	"	620 - 45,000	ppb
	Chrysene	999	"	630 - 30,000	ppb
	Fluoranthene	206-44-0	"	1000 - 52,000	ppb
	Indeno(1,2,3-cd) Pyrene	999	"	440 - 16,000	ppb
	N-Nitrosodiphenylamine	999	"	200,000	ppb
	Phenanthrene	85-01-8	"	840 - 46,000	ppb
OCC	Pyrene	999	"	800 - 46,000	ppb
	PCB	1336-36-3	"	6200	ppb
PSD	Pesticide - chlordane	999	"	720	ppb
MES	Iron	999	"	12,800 - 98,000	ppm
MES	Mercury	7439-97-6	OD - Soils	0.12 - 8.3	ppm
MES	Lead	999	OD - GW	230	ppb
OCC	Toluene	108-88-3	OD - GW	150	ppb
OCC	Methylene chloride	999	OD - GW	140	ppb

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 Sampling Results, 1985 and 1986
USGS/EPA, 1985
Woodward Clyde sampling for Texas Brine Corp.

EPA

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

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

II. HAZARDOUS CONDITIONS AND INCIDENTS

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

Groundwater sampling conducted by USGS, Necco, and NUS Corp.; however only results from USGS well (downgradient) were available. Results show presence of contamination but not significantly high. No observed release. Groundwater may be contaminated as a result of soil contamination.

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

No data available, however potential exists due to potential surface runoff routes. Targets are Niagara River • Bird Creek

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

No record of test. Low potential since no exposed wastes reported.

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

No record of incidence.

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

Potential due to unrestricted access although no exposed wastes are reported.

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: 12/19/85) ☐ POTENTIAL ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: 20 (Acres) — 04 NARRATIVE DESCRIPTION

Soil samples collected by NUS (1985) and USGS (1981) and Woodward Clyde indicate varying levels of contaminants only iron and mercury were found in levels significantly exceeding local soil background levels

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

No data available; Low potential due to route and distance to surface water runoff to intakes on the Niagara River.

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

No record of incidence.

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

No record of incidence.

EPA

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

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

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

None reported. Low potential since there are no agricultural areas within 2 miles 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

No data available.

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

None reported, although potential surface water runoff routes include storm sewers which could be contaminated

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: 1982) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Scavenger dumping reported in the northern area of the site

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)

NCHD, Site Profile, 1982
USGS, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste Disposal Sites, 1985
NYSDEC, Site Inspection Report, Draft, 1985
NUS, Remedial Investigation of Hazardous Substance Facilities, 1986
Woodward-Clyde for Texas Brine Corp.

EPA

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

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

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
64th Street (North	

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	CONG DIST
C. Niagara Falls	NY	14302	Niagara	063	33

09 COORDINATES: LATITUDE 43 05. | LONGITUDE 78 59.

10 DIRECTIONS TO SITE (Starting from nearest public road): From Interstate 190 head north from Grand Island, take Niagara Falls Blvd. Exit (US 62). The site is located on Connecting Ave., at Vince Salerno, and Jack Johnson's property and underneath I 190.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Several Owners — C. of Niagara Falls	

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
			( )

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
C. of Niagara Falls (suspected at time of disposal)	

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

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

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

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO
DATE Dec 85, Apr 86 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): Engineering Science and Dames & Moore (Dec 1985)

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

03 YEARS OF OPERATION
late 1930's / 1950 (BEGINNING YEAR / ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Domestic and commercial wastes are known to be landfilled at the site. Industrial waste disposal is not expected. Quantities are unknown of waste disposal.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Heavy metal, polyaromatic hydrocarbon, PCB's, & resticides were detected in soil samples obtained on site. Iron & mercury concentrations significantly exceeded local soil background levels. No municipal drinking water wells are located within 3 miles of site.

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency Organization)	03 TELEPHONE NUMBER
Cathy J. Bosma	Engineering-Science (ES)	(703) 591-7575

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Cathy J. Bosma		same	( )	4 30 86 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

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

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

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
64th Street (North and South)	Pine Ave. and Connecting Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
C. of Niagara Falls	NY	14302	Niagara	063	33

09 COORDINATES: LATITUDE 43 05. | LONGITUDE 78 59.

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: 12,12,85 (4/21/86) MONTH DAY YEAR
02 SITE STATUS: ☐ ACTIVE ☒ INACTIVE
03 YEARS OF OPERATION: late 1930s 1950 (BEGINNING YEAR / ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ______ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ______ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ______ (Name of firm) ☒ G. OTHER Engineering-Science and Dames & Moore (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) 638-2572
Mike Hopkins	Niagara Co. Health Dept.	NCHD	(716) 284-3124
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
			(716) 694-354
Vince Salerno		Lasalle Steel and Antique Automobiles	(716) 731-47
David Brooks	Planning Dept.	C. of Niagara Falls	(716) 282-884
			( )
Jack Johnson	President	Walter S. Johnson Building Co.	(716) 283-87
Russ Bowers for Jack Johnson		"	(716) 283-87

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☒ WARRANT	1:30 pm	Overcast, light flurries. Snow covered ground (12-12-85); Sunny, clear skies: 4-21-86

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Cathy J. Bosma	Engineering-Science	(703) 591-75

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Cathy J. Bosma		same		4,30,8 MONTH DAY YEAR

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	—

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			Unknown Quantity
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Benzo(a)anthracene	999	OD - Soils	610 - 27,000	ppb
	Benzo(a)pyrene	999	"	1500 - 13,000	
	Benzo(b)fluoranthene	999	"	620 - 45,000	
	Chrysene	999	"	630 - 30,000	
	Fluoranthene	206-44-0	"	1000 - 52,000	
	Indeno(1,2,3-cd)Pyrene	999	"	440 - 16,000	
	N-Nitrosodiphenylamine	999	"	200,000	
	Phenanthrene	85-01-8	"	840 - 46,000	
OCC	Pyrene	999	"	800 - 46,000	
	PCB	1336-36-3	"	6200	
PSD	Pesticide - chlordane	999	"	720	ppb
MES	Iron	999	"	12,800 - 98,000	ppm
MES	Mercury	7439-97-6	OD - Soils	0.12 - 8.3	ppm
MES	Lead	999	OD - GW	230	ppb
OCC	Toluene	108-88-3	OD - GW	150	ppb
OCC	Methylene Chloride	999	OD - GW	140	ppb

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 Sampling Results, 1985 & '86
USGS/EPA, 1985
Woodward Clyde sampling for Texas Brine Corp.

64th St

EPA

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

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

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
Groundwater sampling was conducted by USGS, Occo and NUS Corp., however, only results from USGS well (downgradient) were available. Results show presence of contamination but not significantly high. No observed release. Groundwater may become contaminated as a result of soil contamination.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No data available, potential exists due to surface runoff. Primary targets are Niagara River & Bird Creek.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No record of contamination. No HNu reading detected above background. (ES & Dm, 1986)

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No record of incidence due to spontaneous ignition, although deliberately set fires have been reported.

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No exposed wastes noticed, however soil contamination has been confirmed and site has unrestricted access

01 ☒ F. CONTAMINATION OF SOIL — 02 ☒ OBSERVED (DATE: 12/19/85) ☐ POTENTIAL ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: 20 (Acres) — 04 NARRATIVE DESCRIPTION
Significantly high concentrations of iron and mercury found above local soil background level. Soil samples collected by NUS show varying concentration of volatile and semi-volatile compounds and pesticides in northern portion of site. USGS samples revealed the presence of N,N-Dimethyl-1-dodecanamine.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No data available, low potential due to route and distance of surface water runoff to intakes on the Niagara River.

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

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

EPA

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

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

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

J. DAMAGE TO FLORA — 02 ☒ OBSERVED (DATE: 4/23/86) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Only damage noticed was due to "trail bikes" and grading on both the northern and southern areas.

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

None noticed/reported.

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

Not likely since there are no agricultural areas within 2 miles 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

Insufficient data to rate potential.

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

No record of sampling. Potential exist due to surface runoff routes including sewers and storm drains.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: 4/23/86) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Scavenge dumping noticed at northern section of site, primarily domestic refuse.

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

None known

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

ES & DOM Site Inspection, 1986
Project for Performance of Remedial Response activities at Uncontrolled Hazardous Substance Facilities, NUS, 1986
Preliminary Evaluation of Chemical Migration to Groundwater and the Mojave River from Selected Waste Disposal Sites, USGS, 1985
Woodward-Clyde for Texas Brine Corp

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

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

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	None			
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

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

04 TREATMENT (Check all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify) None

05 OTHER
- ☑ A. BUILDINGS ON SITE

06 AREA OF SITE
20 (Acres)

07 COMMENTS
North area of site - 20 acres, Owners: NYS Dept. of Transp., Vince Salerno & Jack Johnson.

Quantity of wastes disposed is unknown. Material is commercial and domestic with no suspected industrial wastes.

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.
The fill is not lined and does not have adequate cover. No diking. North area is partially fenced, and partially underneath I190. Disposal of drums at site is unknown.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☑ YES ☐ NO
02 COMMENTS
See above.

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

ES and D&M Site Inspection, 1985.
NCHD, 1982 and NCHD, 1988

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	

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. 2.5 (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) None contact process water ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER _____

03 DISTANCE TO NEAREST DRINKING WATER WELL 7 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 5-10 (ft)	assumed South	~230 (ft)	unknown (gpd)	unknown ☐ YES ☐ NO

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

Industrial wells located approximately 2 miles south west of site on Pomfuller Ave. (Olin) This wells is used for non-contact cooling water.

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

SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE Niagara River ☐ 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	☐	1.0 (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. 5902 NO. OF PERSONS	B. 36,756 NO. OF PERSONS	C. 72,452 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

< 1/4 (mi)

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

9673

04 DISTANCE TO NEAREST OFF-SITE BUILDING

< 1/4 (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)

Residential areas are located to the extreme north and south of the site. Areas along Pine Ave are primarily industrial and commercial (Niagara Falls Blvd)

Nearest residences are expected to be atop or adjacent to southern portion of the site

EPA

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

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER: —

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	
assumed 20-30 (ft)	estimated 2-5 (ft)	unknown	

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)	0-2 %	S	0-2 %

09 FLOOD POTENTIAL	10
SITE IS IN 7506 YEAR FLOODPLAIN	☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)		12 DISTANCE TO CRITICAL HABITAT (of endangered species)
ESTUARINE	OTHER	> 3 (mi)
A. — (mi)	B. 0.25 (mi)	ENDANGERED SPECIES: —

13 LAND USE IN VICINITY

DISTANCE TO: COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 0 (mi)	B. > 1 (mi)	C. — (mi)	D. > 2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located in the City of Niagara Falls. Surrounding area is primarily residential to the north & south, with commercial properties to the east and west. Majority of the site is either covered with buildings or houses or paved. NEWCO landfill is located north west of site.

Undeveloped areas are essentially roughly graded with some mounding and depressions. Some occasional dumping occurs on site. Area has unrestricted access.

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

ES & DOH Site Inspection, 1986
NYSDOH, Site Inspection Report - Draft, 1985
NYSDEC, Region 9, Regulatory Affairs, 1986
NCHD, Site Profile, 1982

EPA

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

I. IDENTIFICATION

01 STATE: NY | 02 SITE NUMBER:

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03. ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER		None	
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu	No air contamination was detected upwind or downwind of the site. An air monitoring station is located on south area of site. Results are not available

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF: Engineering - Science (ES) (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS: Site map of site was updated resulting from site investigation.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

NUS Corporation 1985 Report and Sampling Data.

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

ES and D&M Site Visit, Dec. 1985 and Apr. 1986.

EPA FORM 2070-13 (7-81)

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

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

II. CURRENT OWNER(S)

01 NAME: Jack Johnson | 02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 925 66th St. | 04 SIC CODE:
05 CITY: N. Niagara Falls | 06 STATE: NY | 07 ZIP CODE: 14302

01 NAME: George (or Vince) Salerno | 02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 1100 Connecting Road | 04 SIC CODE:
05 CITY: N. Niagara Falls | 06 STATE: NY | 07 ZIP CODE: 14304

01 NAME: New York State Dept. of Transp. | 02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): | 04 SIC CODE:
05 CITY: | 06 STATE: NY | 07 ZIP CODE:

PARENT COMPANY (If applicable)

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

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

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

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

01 NAME: C. of Niagara Falls | 02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 745 Main St. | 04 SIC CODE:
05 CITY: C. of Niagara Falls | 06 STATE: NY | 07 ZIP CODE:

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

01 NAME: Actually owners at time of disposal/ | 02 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): side is unconfirmed. | 04 SIC CODE:
05 CITY: | 06 STATE: | 07 ZIP CODE:

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

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

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

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

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

NCHD, 1982 and NCHO, 1988
ES and D&M Site Interview, Dec 1985

EPA FORM 2070-13 (7-81)

EPA

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

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

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
See Previous Page Vince Salerno	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1100 Connecting Road	

05 CITY	06 STATE	07 ZIP CODE
C. Niagara Falls	NY	14304

08 YEARS OF OPERATION	09 NAME OF OWNER
1954 - Date	Same

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

01 NAME	02 D+B NUMBER
(suspected) C. of Niagara Falls	

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

05 CITY	06 STATE	07 ZIP CODE
C. Niagara Falls	NY	

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
1940s & 1950s	

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

Site is not used for dumping to date. C. of Niagara Falls was responsible for landfilling.

ES and DEM Site Interviews, Dec. 1985 and Apr 1986.

NCHD, 1982

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
None (Possibly Wizard Methods Inc)	

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

05 CITY	06 STATE	07 ZIP CODE
	NY	

III. OFF-SITE GENERATOR(S)

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

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

NCHD, 1982 and NCHD, 1988

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES (Continued)

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

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

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

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

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

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

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

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

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

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

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

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

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

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

Jack Johnsons property: EPA obtained search warrant for his property so NUS could conduct there studies

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

ES and D&M ~~Site~~ Interview - Mike Hopkins, 1985

EPA FORM 2070-13 (7-81)

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 (Not applicable to site)
Air	Adequate - no observed release
Route Characteristics	
Groundwater	Adequate for HRS score; monitoring data from upgradient wells are needed
Surface Water	Adequate for HRS score
Air	Adequate for HRS score
Containment	Adequate for HRS score
Waste Characteristics	Adequate for HRS score; waste quantity data inadequate
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:

Review groundwater analytical results from monitoriong wells installed in the vicinity of the 64th Street North site.

Groundwater - A groundwater monitoring system consisting of 2 wells is recommended. Borings will be drilled to a maximum depth of 50 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 HSL metals. Subsurface soil samples will be analyzed for HSL organics and HSL metals. In addition, sieve and hydrometer analyses will be performed on representative samples. Figure VI-1 shows the location of the proposed groundwater wells.

Surface Water and Sediment - A surface water and sediment monitoring system is not recommended.

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.

PHASE II 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.

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. Obtain and analyze results form Necco and NUS Corporation groundwater monitoring.
II-B	Conduct Geophysical Studies	No further studies necessary.
II-C	Conduct Boring/Install Monitoring Wells	Install 1 upgradient and 1 downgradient well. The wells are to be located at a depth of approximately 50 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	2 groundwater samples are to be collected and analyzed for HSL organics and HSL 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

TABLE VI-3

SITE ID #: 932085A
SITE NAME: 64TH STREET-NORTH
CONSULTANT: ENGINEERING SCIENCE

TASK DESCRIPTION	ESTIMATED HOURS OF DIRECT TECHNICAL LABOR (DTL)										TOTAL	
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	HOURS	COST
II-A UPDATE WORKPLAN	8	30	8	24	8	100	50	60	30	65	383	5550.00
II-B CONDUCT GEOPHYSICAL STUDIES	0	0				0		0	0	0	0	0.00
II-C CONDUCT BORING/INSTALL MONITORING WELLS	4	4				80		12	10	14	124	1802.80
II-D CONSTRUCT TEST PITS/ AUGER HOLES											0	0.00
II-E SAMPLING AND ANALYSIS											0	0.00
Soil samples from borings											0	0.00
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		4			38		38				80	1252.20
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						54	1249.60
TOTAL HOURS	26	124	20	26	78	308	168	96	108	187		
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 $	868.40	3124.80	440.00	512.20	1326.00	4650.80	2234.40	1152.00	1036.80	1608.20		

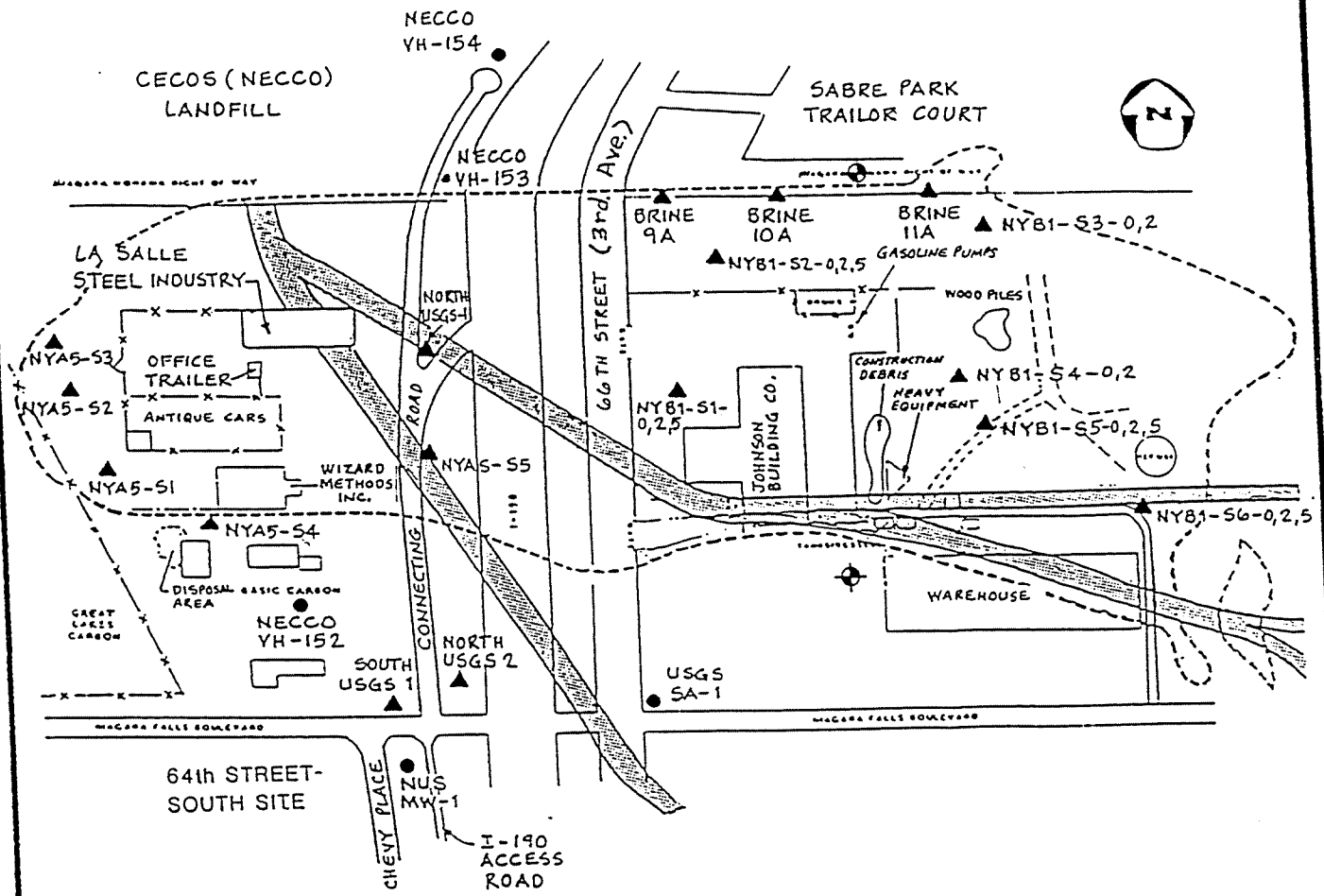
TOTAL DTL COSTS	16953.60
INDIRECT LABOR COSTS	20005.25
TOTAL LABOR COSTS	36958.85
PROFIT (15%)	5543.83
TOTAL PRICE	42502.68

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

TABLE VI-4

SITE ID #: 932065A
SITE NAME: 64TH STREET-NORTH
CONSULTANT: ENGINEERING SCIENCE

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST($)	SUBCONTR. COSTS $	SUPP.& EQUIP. $	MISC. $	TRAVEL & PER DIEM $	TOTALS $
II-A UPDATE WORKPLAN	383	5550.00		237	210	260	6257.00
II-B CONDUCT GEOPHYSICAL STUDIES	0	0.00		0	0	0	0.00
II-C CONDUCT BORING/INSTALL MONITORING WELLS	124	1802.80	24000	1000	100	1000	27902.80
II-D CONSTRUCT TEST PITS/ AUGER HOLES	0	0.00					0.00
II-E SAMPLING AND ANALYSIS	0	0.00	29400	450	50	450	30350.00
Soil samples from borings	0	0.00					0.00
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	80	1252.20					1252.20
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	54	1249.60		350	40		1639.60
SUBTOTAL	1141	16953.60	53400.00	2837.00	1475.00	1875.00	
INDIRECT LABOR (118% DTL)		20005.25					
PROFIT (%)		15	5	5	5	0	
PROFIT ($)		5543.83	2670.00	141.85	73.75		
TOTAL COSTS ($)		42502.68	56070.00	2978.85	1548.75	1875.00	104975.28



64TH STREET – NORTH SITE

NOT TO SCALE

LEGEND:

—x—x— FENCE

APPROXIMATE AREA OF SUSPECTED DISPOSAL

ORIGINAL DRAINAGE SWALE

▲ SOIL SAMPLE

0 SURFACE SAMPLES

2 SAMPLE TAKEN AT 2 ft. DEPTH

5 SAMPLES TAKEN AT DEPTHS GREATER THAN 2 ft.

● GROUND WATER SAMPLES

PROPOSED GROUNDWATER MONITORING WELLS

NOTE:

SAMPLES LABELLED BRINE WERE OBTAINED DURING CONSTRUCTION OF THE BRINE PIPELINE.
SAMPLES LABELLED NY WERE TAKEN BY NUS CORP.

REFERENCES: BASE FROM NUS 1986 STUDY. REVISED BASED ON INFORMATION OBTAINED FROM NCHD, 1988 AND ES AND D&M SITE YISIT, 1985.

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

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
PHASE I REPORT

PLOT PLAN
64th STREET-NORTH

FIGURE VI-1

APPENDIX A

REFERENCES

SOURCES CONTACTED DOCUMENTATION

SOURCES CONTACTED DOCUMENTATION

SOURCES CONTACTED SUMMARY SHEET
64th STREET

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)
64th STREET

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)
64th STREET

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.
David Brooks City of Niagara Falls Planning Department 745 Main Street Niagara Falls, NY 14302	716-282-8846	12-12-85	Site interview: history, disposal.
Joe Russo Russo Chevrolet 750 Chevy Place Niagara Falls, NY 14302	716-694-3545	12-12-85	Site interview: history.

SOURCES CONTACTED SUMMARY SHEET (Continued)
64th STREET

Person Contacted/ Location	Telephone	Date	Information Collected
Vince Salerno LaSalle Steel 1100 Connecting Road Niagara Falls, NY 14304	716-731-4781	12-12-85	Site interview: history.
Jack Johnson Russ Bowers Walter S. Johnson Building Co. 925 66th Street Niagara Falls, NY 14302	716-283-8733	4-21-86	Site interview: history.

GENERAL REFERENCES

GENERAL REFERENCES*

26) Barolo, D.M., New York State Department of Environmental Conservation, Memorandum Concerning Ambient Water Quality Standards and Guidance Values, 7/24/85.

27) LaSala, A.M., Ground-Water Resources of the Erie-Niagara Basin, New York, State of New York, Conservation Department, Water Resources Commission, 1968.

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

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

Henry G. Williams
Commissioner

July 24, 1985

MEMORANDUM

TO: Bureau Directors, Regional Water Engineers, Section Chiefs

SUBJECT: Division of Water Technical and Operational Guidance Series (85-W-38)

Ambient Water Quality Standards and Guidance Values
(Originator: John Zambrano)

I. Purpose

The purpose of this document is to provide a compilation of water quality standards and guidance values for toxic and non-conventional pollutants to be used in the Department's regulatory programs, including the SPDES permit program.

II. Discussion

This substantial revision of TOGS 85-W-38 is the result of the promulgation of amendments to 6 NYCRR Part 701-702, effective on August 2, 1985, governing the development and use of surface water quality standards and guidance values. This revision uses a new format in the tabulation and does not include the methodologies for the development of standards and guidance values. The user is referred to the regulations for a description of the methodologies.

III. Guidance

The Quality Evaluation Section will use the attached list in developing SPDES permit water quality-based effluent limits. The Criteria and Standards Section will maintain and revise the list on a regular basis.

for Daniel M. Barolo, P.E.
Director
Division of Water

Attachments
cc: Dr. Banks
Mr. Pagano
Mr. Mt. Pleasant
Regional Engineers for Environmental Quality
Ms. Chrimes

REF (37)

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

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

by

A. M. La Sala, Jr.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

in cooperation with

THE NEW YORK STATE CONSERVATION DEPARTMENT
DIVISION OF WATER RESOURCES

STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION

Basin Planning Report ENB-3

1968

GEOLOGY AND TOPOGRAPHY

The Erie-Niagara basin is underlain by layers of sedimentary bedrock which are largely covered with unconsolidated deposits. Descriptions of the various bedrock units are given in figure 2. The bedrock consists mainly of shale, limestone, and dolomite; the Camillus Shale contains a large amount of interbedded gypsum. All the bedrock units were built up by fine-grained sediments deposited in ancient seas during the Silurian and Devonian Periods and, therefore, are bedded or layered. The dip of the rocks (inclination of the bedding planes) is gently southward at from 20 to 60 feet per mile, but the average dip is between 30 and 40 feet per mile. The dip is so gentle that it is hardly perceptible in outcrops.

The unconsolidated deposits are mostly glacial deposits formed during Pleistocene time about 10,000-15,000 years ago when an ice sheet covered the area. The glacial deposits consist of: (1) till, which is a nonsorted mixture of clay, silt, sand, and stones deposited directly from the ice sheet; (2) lake deposits, which are bedded clay, silt, and sand that settled out in lakes fed by the melting ice; and (3) sand and gravel deposits, which were laid down in glacial streams. The glacial sand and gravel deposits are of both the ice-contact and outwash types, as will be explained later in the report. The glacial deposits generally are less than 50 feet thick in the northern part of the basin. They are considerably thicker in some valleys in the southern part and reach a maximum known thickness of 600 feet near Chaffee. Other unconsolidated deposits are alluvium formed by streams in Recent times and swamp deposits formed by accumulation of decayed plant matter in poorly drained areas.

Relief of the present land surface is due to preglacial erosion of the bedrock and subsequent topographic modification by glaciation. In contrast to the southward dip of the rocks, the land surface rises to the south largely because preglacial erosion was more vigorous in the northern part of the basin. The shale in the southern part of the basin is somewhat more resistant to erosion than the rocks in the northern part of the basin but not significantly so. Figure 3 shows the relationship of the topography and rock structure and delineates the two topographic provinces of the basin: the Erie-Ontario Lowlands and the Appalachian Uplands. The rocks crop out in belts which trend generally east-west. The bedrock geologic map, plate 2, shows that the outcrop belts bend around to the southwest near Lake Erie. They assume this direction mainly because relatively intense erosion in the Erie-Ontario Lowland near Lake Erie has exposed the rock at lower elevations than farther east. The Lockport Dolomite and the Onondaga Limestone, because they are relatively resistant to erosion, form low ridges in the northern part of the basin. Tonawanda, Murder, and Ellicott Creeks descend the escarpment of the Onondaga at falls and cataracts.

In the hilly southern half of the basin (the Appalachian Uplands), preglacial valleys, deepened by glacial erosion, are cut into the shale. The valleys are partly filled with glacial deposits so that some of the present streams flow 200 to 600 feet above the bedrock floors of the valleys as shown in figure 3.

OCCURRENCE OF GROUND WATER

Ground water is commonly thought of as water that comes from wells and springs. This definition makes the essential point and distinguishes ground water from other subsurface water. Water wells provide the most easily obtainable information on ground-water resources, but the information can be misleading. A casual inspection of a body of random data on wells in the area may lead to the notion that ground water occurs in a haphazard fashion. For example, it is apparent from the data in table 6 that wells vary greatly in depth and yield. Depths range from about 10 to 500 feet, and yields from a few gallons per day to more than 1,000 gpm. What is more, wells of large yield are interspersed with wells of low yield. A more careful study of the data shows that some of the variations in well characteristics reflect differences in well construction rather than in the availability of ground water. A carefully planned and constructed public-supply well gives a more complete picture of water availability than does a driven well constructed for lawn watering. But after accounting for variations in well construction, profound differences in the availability of ground water are still apparent. These differences arise mainly from the geologic and topographic features of the basin.

Ground water occurs in the saturated zone of the earth's crust. The water in the saturated zone (ground water) fills the interconnected openings in the rocks and is under hydrostatic pressure. As shown in figure 4, ground water will flow through the zone of saturation following a course that takes it from a point of higher head to a point of lower head. In this way water entering the ground on a hill may discharge through a spring on the side of the hill, into a nearby stream, or into a river many miles away. When the water standing in a well is pumped out, the head (water level) in the well is lowered. Water from the saturated zone can then move toward the well in the same manner it moves toward points of natural discharge. Where the saturated zone is not overlain by impermeable materials, its upper surface is the water table. The depth to the saturated zone in the area varies from 0 feet in some swamps to possibly more than 75 feet along the edges of some glacial terraces.

The unsaturated materials over the saturated zone make up the zone of aeration, the zone in which the openings are partly filled with air (fig. 4). Water in the zone of aeration is held to the walls of the openings by molecular forces. This prevents the free movement of water in the zone of aeration; water in this zone drains slowly downward but not laterally. Wells and springs, therefore, cannot obtain water from the zone of aeration. The zone is important, however, because water must pass through it to reach the saturated zone.

The unconsolidated deposits and the bedrock differ markedly in the types of water-bearing openings they contain (fig. 4). The unconsolidated deposits are composed of grains packed together with open spaces, or pore spaces, between the grains. Water truly permeates the unconsolidated deposits because it can fill the myriad of tiny pore spaces between the grains.

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: 932085A

NAME OF SITE : 64th Street North
STREET ADDRESS: Niagara Falls Blvd. and I-190 (North of Niagara Falls Blvd.)
TOWN/CITY: COUNTY: ZIP:
Niagara Falls (c) Niagara

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 20 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: owned by several parties
CURRENT OWNER ADDRESS.: various
OWNER(S) DURING USE...: unknown
OPERATOR DURING USE...: City of NF (unconfirmed) and others
OPERATOR ADDRESS.....: various
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From late 1930s To 1950s

SITE DESCRIPTION:
The site includes an area of 20 acres on the north of Niagara Falls Blvd. Prior to land filling, this area was farm land. The City of Niagara Falls is suspected to have operated a municipal landfill on this site during the late 1930s. Domestic and commercial refuse are suspected to be the principal wastes; disposal of industrial wastes is not suspected. It is also expected that demolition wastes from a civilian housing complex may also be buried on-site.

USGS, in July 1982, took 2 soil samples from the site. Results indicate the presence of minor pollutants; however, the results do not exceed soil background limits.

NUS Corporation collected soil samples at this site as part of an EPA study. Soil samples were taken in June 1985. Polyaromatic hydrocarbons and phthalates were detected as well as pesticides in varying concentrations in the north site. Results indicated high concentrations of organics above 10,000 ppb and concentrations of iron and mercury which exceeded the local background soil levels.

Woodward-Clyde also analyzed the soil for Texas Brine Corp. Results indicated high concentrations of organics above 10,000 ppb. It is unknown if concentrations above 10,000 ppb are significant since there are no background levels for organics.

Groundwater monitoring was conducted by NUS Corp., USGS, and NECCO(CECOS Landfill). Data were available only for the USGS well which is downgradient of the site. Results indicated the presence of cadmium, lead, methylene chloride, and toluene above NYS Class GA groundwater standards, but these concentrations were not significantly above the standards.

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected -X

TYPE	QUANTITY (units)
Unknown	Unknown

SITE CODE: 932085A

ANALYTICAL DATA AVAILABLE:

Air- Surface Water- Groundwater- X 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: Clay interbedded with sand overtopping bedrock
GROUNDWATER DEPTH: 3 ft

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Iron and mercury found in soils significantly above local background levels. High concentrations of organics were also detected in site soils. These soils have the potential to impact the groundwater.

ASSESSMENT OF HEALTH PROBLEMS:

Insufficient information

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME.: Abul Barkatr.
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