932085-A

DRAFT
SB-5322 D3422

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

PRELIMINARY SITE ASSESSMENT

64th Street-North Site
Site Number 932085A
City of Niagara Falls, Niagara County

June 1991

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, Jr., P.E., Director

Prepared by:

Ecology and Environment Engineering, P.C.

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368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

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1. EXECUTIVE SUMMARY

The 64th Street-North site (Site I.D. No. 932085A), an approximately 20-acre site, is located north of Niagara Falls Boulevard (Pine Avenue) in the City of Niagara Falls, Niagara County, New York. The site is traversed by Interstate I-190 (north-south) (see Figures 1-1 and 1-2), and is bounded to the north by the Niagara Mohawk easement, Sabre Park Trailer Court, and the CECOS Landfill. The site also extends several hundred feet west of Connecting Road and more than 1,000 feet east of Interstate I-190 (Refs. 13, 16, 24, 29).

Numerous commercial and industrial areas are located on or adjacent to the site along Niagara Falls Boulevard, Mooradian Drive, 70th Street, 66th Street (3rd Avenue), and Connecting Road. Commercial properties on site are either owned or leased by the Walter S. Johnson Company, Inc., Anderson Electric Supply Company, R.B. U'Ren Equipment Rental, Inc., Orszulak Trucking and Contract Paving Company, J & J Construction Company, and Wizard Method, Inc. Approximately 60% to 70% of the site is now covered by either pavement or buildings. Sections intersected by Interstate I-190 have been graded and asphalt covered (Ref. 29).

Remaining open and undeveloped areas exist east of Interstate I-190 to the north of Mooradian Drive, north and east of the Walter S. Johnson building, and east of 70th Street near Mooradian Drive. A smaller area exists on the inside (southwest) corner of the intersection of Mooradian Drive and 70th Street (see Figure 1-2).

The history of waste disposal at the 64th Street-North site is uncertain. Domestic and commercial wastes were allegedly disposed of on site by the City of Niagara Falls from the 1930s to 1950s and demolition debris and fly ash from a Department of Defense civilian housing project may have also been disposed of (Refs. 16, 23, 29). The quantities of wastes disposed of on site during those years are unknown.

A number of environmental investigations related to areas on or near the site have been conducted. These include: United States Geological Survey (USGS) investigations of soils, subsurface soils, and groundwater in 1982 and 1983; Niagara County Health Department (NCHD) site profile in 1982; NUS Corporation investigations of surface and subsurface soils in 1985; Woodward-Clyde investigations of soils for the Texas Brine Corporation in 1986; Environmental Protection Agency (EPA) investigation of the LaSalle area groundwater in May 1986; Engineering-Science, Inc./Dames & Moore Phase I investigation for New York State Department of Environmental Conservation (NYSDEC) in January 1988; and the Waste Resource Associates, Inc. (WRA) environmental property assessments for the Tops Markets (Tops)/P.J. Schmidt properties in November 1989 and January 1990 (Refs. 13, 16, 23, 25, 29, 31, 32). Several of these investigations have indicated the presence of solid wastes and hazardous substances including polycyclic aromatic hydrocarbons (PAHs), mercury, isomers of benzene hexachloride, and PCBs. Documentation of disposal of hazardous wastes, however, has not been determined.

New York State Thruway Authority personnel were not aware of any wastes encountered during the Interstate I-190 construction in the late 1950s and early 1960s (Ref. 7). No record was found of buried wastes encountered by contractors during on-site building construction.

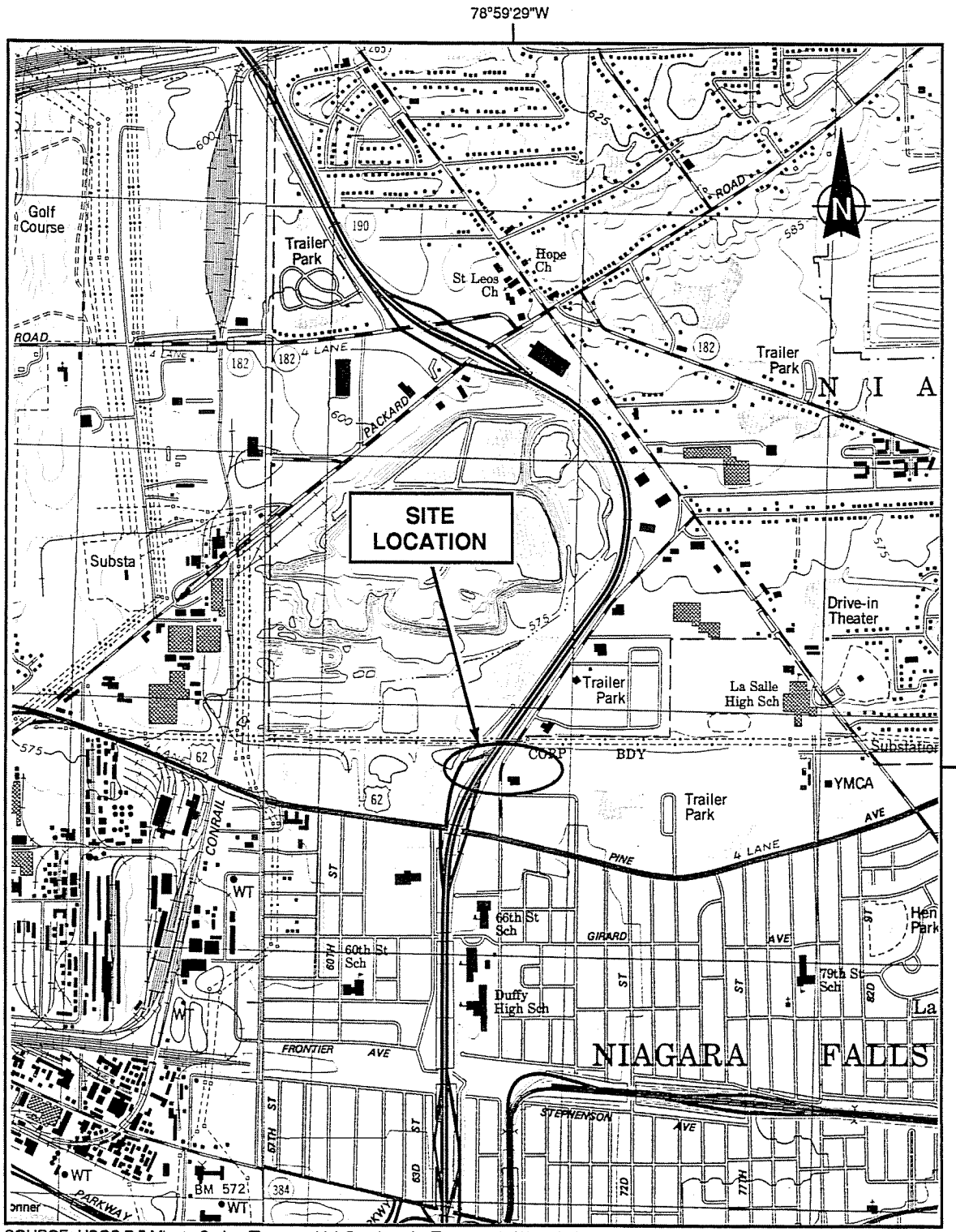
Excavation for the Texas Brine Pipeline north of the site in the late 1980s uncovered refuse, but no suspicion of hazardous wastes was reported (Ref. 25).

One documented suspicion of hazardous waste deposition was found in the form of a letter from Mrs. Martha Reed, who claims that her husband helped to truck top soil to the former drainage swale area to cover the suspected "chemicals or hazardous waste products" (Ref. 36). This is the only record found during the investigation and file search alleging that hazardous wastes are present on site.

A site inspection was conducted on April 30, 1991 by Ecology and Environment Engineering, P.C. (E & E) personnel and New York State Department of Environmental Conservation (NYSDEC) representative Yavuz Erk. It was determined that site boundaries were uncertain and that portions of the site west of Interstate I-190 had undergone unrestricted development relative to potential environmental problems. At the time of the inspection, monitoring wells were observed on the Tops and P.J. Schmidt properties and surface debris, refuse, and industrial scrap were noted in the open, undeveloped areas north and east of Mooradian Drive and the Walter S. Johnson building. A site photographic log is presented as Figure 1-3.

Presently, there is no documentation that hazardous wastes, as described in 6 NYCRR Part 371, are present on site; therefore, it is recommended that this site be delisted.

However, the presence of hazardous substances on site has been documented. Therefore, it is recommended that additional soil, groundwater, and surface water samples be obtained and analyzed to assess whether a significant threat to public health or the environment exists.



SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Tonawanda West, NY, 1980; Niagara Falls, NY-ONT, 1980.

SCALE 1:25,000

0 ½ 1 Mile

0 .5 1 Kilometer

Figure 1-1
LOCATION MAP, 64TH STREET-NORTH SITE

SB5SECOS-SITE-68

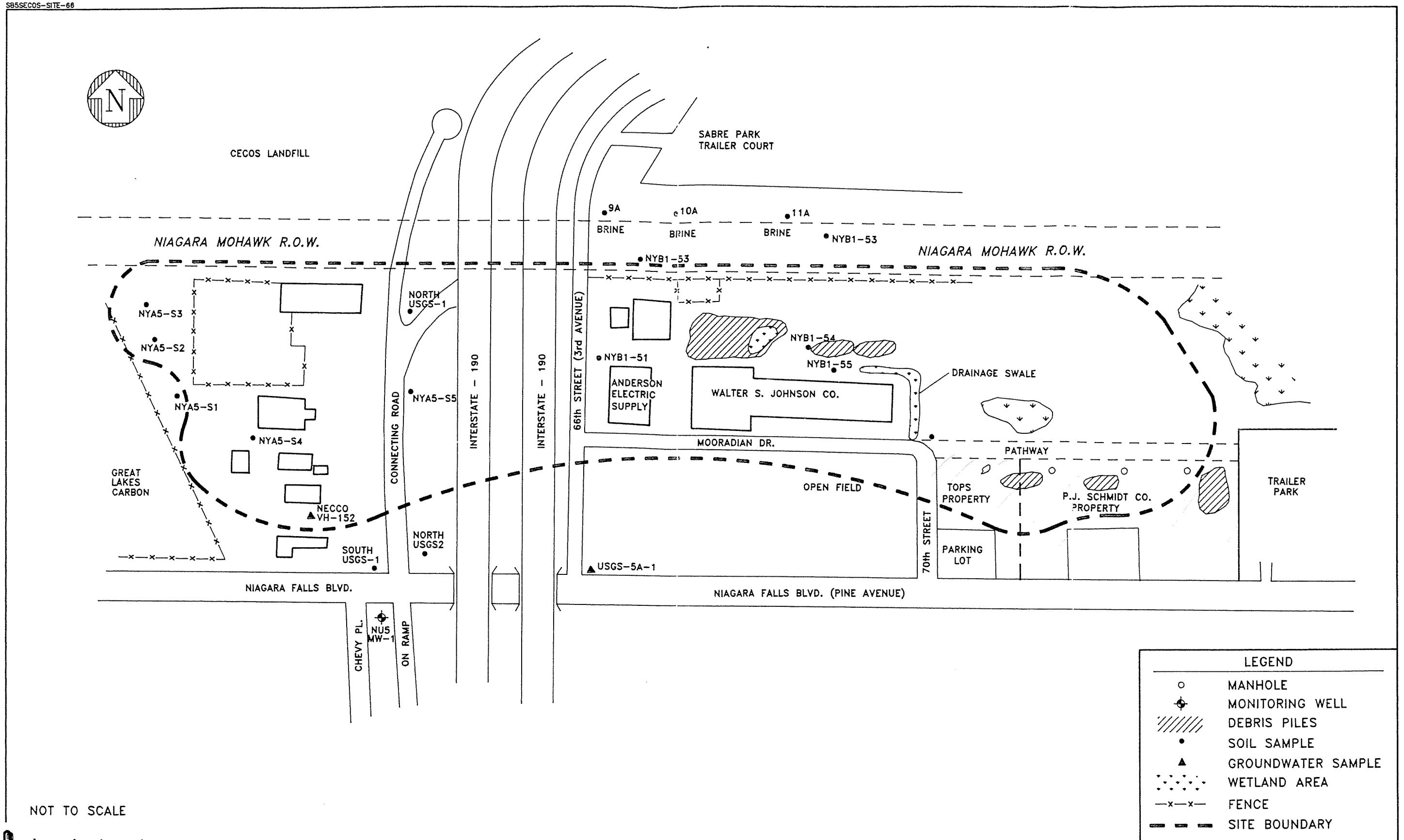


Figure 1-2 SITE MAP, 64th STREET-NORTH SITE

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

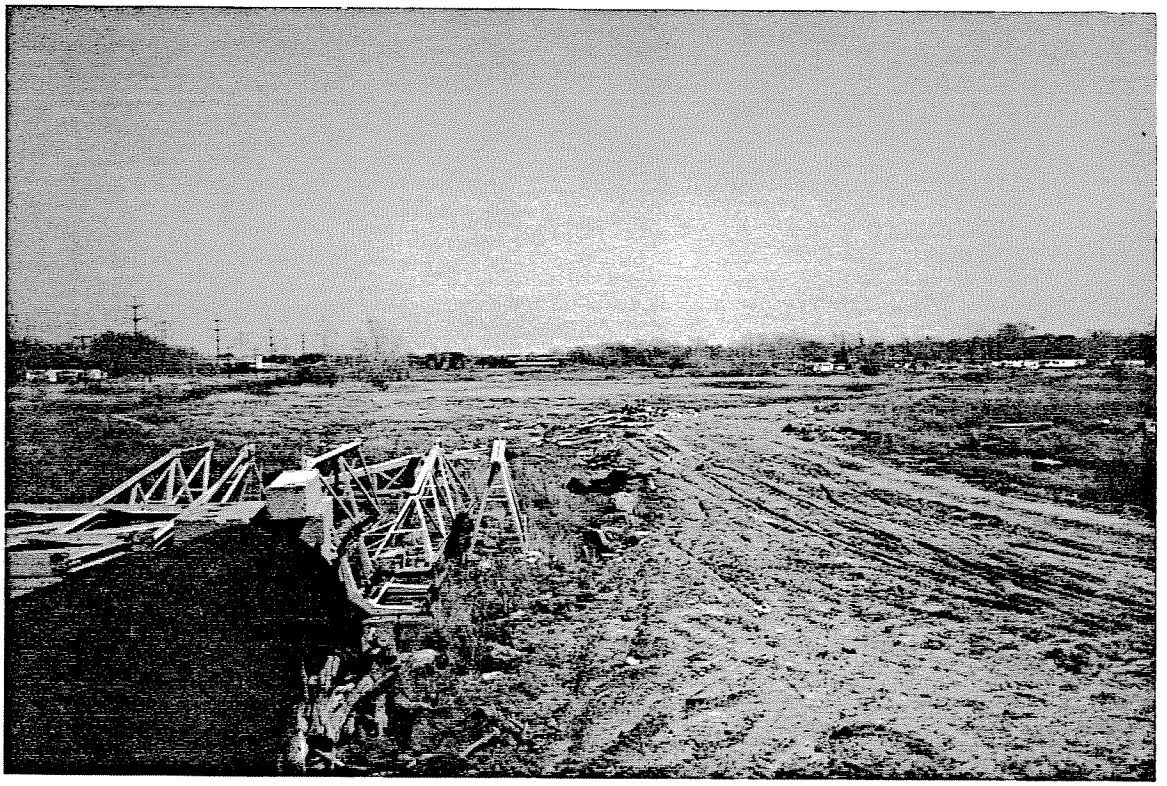
Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 14:30 Frame No.: 0
	Comments*: On east end of site, looking southeast at berms piled with concrete slabs, wood, and some domestic debris. Note trailer homes, east of site on Niagara Falls Boulevard.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 14:45 Frame No.: 1
	Comments*: One of four open manholes found along dirt path (on south side of path) running east-west, on the east side of Mooradian Drive.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 14:50 Frame No.: 2
	Comments*: Looking east from top of pile of earth/ gravel fill pile north of Walter S. Johnson building. Note powerline ROW, trailer homes, flat (alleged) dumping area.
	*Comments to include location.



ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 14:52 Frame No.: 4
	Comments*: Looking west from top of earth/fill pile behind Walter S. Johnson building. Equipment, scrap wood, metal, etc. in standing water assumed to belong to Johnson Construction. CECOS Landfill is visible at the right.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 14:55 Frame No.: 5
	Comments*: On Mooradian Drive looking north on east end of long multi-business building. This drainage swale runs from west to east around the back (north) of building, and turns south, apparently draining here to the sewer. Swale ends here.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 15:00 Frame No.: 6
	Comments*: Standing at corner of Mooradian Drive and 70th Street, looking south at alleged disposal (swale-filled) area. No visible swale or wetlands, all grass with few trees.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 15:00 Frame No.: 7
	Comments*: Standing at corner of Mooradian Drive and 70th Street, looking southwest at alleged disposal (swale-fill) area, (western portion of land from previous frame). No visible swale or wetlands.
	*Comments to include location.

ecology and environment engineering, p.c.
PHOTOGRAPHIC RECORD

Client: NYSDEC	E & E Job No.: SB5320
Site: 64th Street-North Site	
Camera: Make Olympus Jr. (Infinity)	SN --
Lens Type --	SN --
	Photographer: S. Lare Date: 4-30-91
	Time: 15:09 Frame No.: 8
	Comments*: Standing on 70th Street (near corner of Mooradian Drive and 70th Street) looking southeast at wetlands area and monitoring well. This is a section of the land on which Tops Markets wants to build.
	*Comments to include location.

DRAFT

47-15-25 (11/90)-9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Original - BHSC
Copy - REGION
Copy - DEE
Copy - DOH
Copy - PREPARER

1. Site Name	2. Site Number	3. Town	4. County
64th Street- North	932085A	City of Niagara Falls	Niagara

5. Region	6. Classification	7. Activity
9	Current 2a /Proposed 2a	[ ] Add [ ] Reclassify [ ] Delist [ ] Modify _____

8a. Describe location of site (attach USGS topographic map showing site location).
This site encompasses approximately 20 acres north of Niagara Falls Boulevard (Pine Avenue) and is intersected by Interstate I-190. This site is bounded on the north by the Niagara Mohawk easement, Sabre Park Trailer Court and CECOS (NECCO) landfill. The site extends several hundred feet west of Connecting Road and 1,000 feet east of Interstate I-190.

b. Quadrangle Tonawanda West, NY c. Site latitude 43° 05' 32" N Longitude 78° 59' 29" W d. Tax Map Number 160.07

9a. Briefly describe the site (attach site plan showing disposal/sampling locations).
A number of commercial and industrial businesses exist on or near the site, particularly the Walter S. Johnson Construction Company, trailer courts exist to the north and east of the site and Interstate I-190 cuts the site north-south just west of the center of the site. Large relatively flat open fields also compose much of the undeveloped portions of the site. Some of this is NYSDEC classified level II wetlands.

b. Area approximately 20 acres c. EPA ID number _____ d. PA/SI [ ] Yes [ ] No
e. Completed: [ ] Phase I [ ] Phase II [X] PSA [X] Sampling (limited)

10. Briefly list the type and quantity of the hazardous waste and the dates that it was disposed of at this site.
The history of the site and site boundaries are uncertain. Domestic and commercial wastes disposed of from 1930s to 1950s. Demolition debris and fly ash also possible. Deposition of mercury-contaminated soil occurred to the north along the Sabre Park Trailer Court area and unknown industrial wastes possible along the western portions of the site.

11a. Summarized sampling data attached
[ ] Air [X] Groundwater [ ] Surface Water [X] Soil [X] Waste [ ] EP Tox [ ] TCLP
b. List contravened parameters and values.
GWs - Volatile Priority Pollutants - methylene chloride, toluene, dibutylphthalate, lead
Soils - Pesticides (trace), tetrachloroethylene, PAHs, iron
Wastes - Tops Markets, Inc. property - discovery of waste lime (parameters unknown)

12. Site impact data

a. Nearest surface water: Distance 0 ft. Direction on site Classification Wetland II
b. Nearest groundwater: Depth 1.5 ft. Flow direction southerly [ ] Sole source [ ] Primary [ ] Principal
c. Nearest water supply: Distance >25,000 ft. Direction southwest Active [X] Yes [ ] No
d. Nearest building: Distance 0 ft. Direction on site Use commercial
e. Crops/livestock on site? [ ] Yes [X] No
f. Exposed hazardous waste? [ ] Yes [X] No
g. Controlled site access? [ ] Yes [X] No
h. Documented fish or wildlife mortality? [ ] Yes [X] No
i. Impact on special status fish or wildlife resource? [ ] Yes [X] No
j. Within a State Economic Development Zone? [ ] Yes [X] No
k. For Class 2A: Code _____ Health model score _____
l. For Class 2: Priority category III
m. HRS Score NA
n. Significant threat [ ] Yes [ ] No [X] Unknown

13. Site owner's name	14. Address	15. Telephone Number
Johnson and Johnson		( ) -

16. Preparer
Scott Thorsell — Ecology and Environment Engineering, P.C.
Name, title, and organization

May 30, 1991 (Date) — Naomi Cohen for Scott Thorsell (Signature)

17. Approved
_____
Name, title, and organization

_____ (Date) _____ (Signature)

IHWS PRIORITY RANKING FORM (TEST)

6-22-90

SITE NO. 932085A SITE NAME 64th Street-North

- **PRIORITY I** - Top Priority Sites; supersede all others. Priority I can be assigned if any of the following criteria is met:

  a) A sole source of primary aquifer, or public or private water supply is being contaminated or threatened; or ☐

  b) Human exposure to contaminants has been identified that represents significant health risk as determined by NYSDOH; or ☐

  c) There is a bioaccumulation of site contaminants in flora or fauna that results in a health advisory; or ☐

  d) Site contaminants are at levels that are acutely toxic to fish or wildlife or have caused documented fish or wildlife mortality; or ☐

  e) An expedient response could measurably reduce the scope of a corrective action, reduce potential remedial costs, or reduce the threat to health or the environment. ☐

- **PRIORITY II** - Important Sites. Priority II can be assigned if any of the following criteria is met:

  a) A Class AA or a Class A surface water body or principal aquifer is being contaminated or threatened; however, no existing water supply has been contaminated; or ☐

  b) There is a bioaccumulation of site contaminants in flora or fauna that results in advisory or actionable levels but below levels necessitating a health advisory; or ☐

  c) Site contaminants are at levels chronically toxic to fish or wildlife; or ☐

  d) Endangered, threatened or rare species, significant habitats, designated coastal zone areas or regulated wetlands are being impacted by releases from the site; or ☐

  e) The site is within a State Economic Development Zone or is strongly supported by local government, and an economic development project is proposed for the site for which the developer has expressed a willingness to enter into a consent order with NYSDEC to finance investigation and remediation; or ☐

  f) The site is identified by the International Joint Commission (IJC) as a component in a Remedial Action Plan (RAP). ☐

- **PRIORITY III** - General Site Category. Priority III will be assigned unless one or more of the site prioritization criteria, specified above, apply to a site. When resources become available, after remedial needs for Priority I and II sites have been accommodated, remediation of sites under this category can be considered. ☒ X

COMMENTS: Wastes possible on site, quantities unknown, documentation of disposal not determined.

Undeveloped areas have open access and are unmanaged. Disposal of solid wastes observed.

2. PURPOSE

Task 1 of the Preliminary Site Assessment (PSA), Data Records Search and Assessment, was conducted by Ecology and Environment Engineering, P.C. (E & E) under contract to the New York State Department of Environmental Conservation (NYSDEC) Superfund Standby Contract (Contract No. D002526).

The purpose of the PSA is to provide the information for NYSDEC to reclassify the site according to the following classifications:

- **Class 2.** Hazardous waste sites presenting a significant threat to the public health or the environment;
- **Class 3.** Hazardous waste sites not presenting a significant threat to the public health or the environment; and
- **Delist.** Sites where hazardous waste disposal cannot be documented.

The 64th Street-North site has been classified as 2a (and not the above classifications) because of insufficient information to document hazardous waste disposal and/or assess the significance of potential risks to public health or the environment.

3

3. SCOPE OF WORK

Task 1 of the PSA of the 64th Street-North site comprised several interrelated tasks as follows:

File Reviews and Data Search

An extensive data search was conducted utilizing state, county, municipal, and site-specific sources. This information was compiled from existing data as well as new sources, and a preliminary characterization of the site was developed after review.

Sources contacted during the PSA are listed in Table 3-1.

Site Inspection

A site inspection was conducted by E & E on April 30, 1991. NYSDEC representative Yavuz Erk, present during the inspection, confirmed that the exact site boundaries were unknown and aided in attempting to delineate the site.

The suspected filled-in swale area in the portion east of Interstate I-190 between Mooradian Drive and Niagara Falls Boulevard bounded by 66th and 70th streets, was observed as a grassy, lawn-like area supporting a few trees. No wetlands vegetation or any sign of a drainage swale was observed (see Figure 1-3).

The area north of Mooradian Drive, the Walter S. Johnson Construction Company property, was observed to be a storage area for

numerous materials associated with construction operations. A rocky, crushed brick and stone fill was present on the driveway, which leads through areas of heavy construction equipment; outside storage of ladders, pipes, and wooden platforms; large and small brick, stone, asphalt, and dirt fill piles; scattered old liquid storage tanks; empty oil drums; a flammable liquid and paint storage area; a small area of ponded water containing scrap wood, metal and other debris; and gasoline pumps (see Figure 1-3).

A depressed drainageway with stone-fill banks runs parallel and adjacent to the Walter S. Johnson Construction building, leading from the north side of the building around the east side, apparently terminating at the Mooradian Drive sewer line. Manholes noted along the dirt road extension east of Mooradian Drive were uncovered and illegal dumping of debris in manholes was observed.

Trailer home parks were noted to the north and east of the site, and extensive commercial development was observed on site and in the vicinity. The western portion of the site contained several commercial businesses, including companies offering equipment rental, trucking, paving, industrial cleaning, asbestos abatement, and demolition services. The northeast portion of the site is an open field with shrubs and some tall reedy wetlands vegetation. A small area of ponded water was noted in this area, and a duck was seen in the pond during the inspection. A person on a motorbike was also observed riding on site. Various scattered areas of illegal dumping were also observed on the northeast portion of the site. Interstate I-190 is elevated at a steep grade and runs north-south, dividing the site. The remainder of the site is flat, with some piles of stone, dirt, debris, and scant grassy cover scattered on the eastern portion.

All HNu and minirad readings in the breathing zone were at normal background levels throughout the site inspection.

Table 3-1

SOURCES CONTACTED FOR THE NYSDEC PSA
64TH STREET-NORTH SITE
NIAGARA FALLS, NEW YORK

New York State Department of Environmental Conservation Division of Hazardous and Solid Waste 584 Delaware Avenue Buffalo, New York 14202 Contact: Yavuz Erk Telephone: 716/847-4585 Date: April 22, 1991 Information Gathered: File search.
New York State Department of Environmental Conservation Bureau of Hazardous Site Control 50 Wolf Road Albany, New York 12233 Contact: Valerie Lauzze Telephone: 518/457-9538 Date: April 17-18, 1991 Information Gathered: File search.
New York State Department of Health Bureau of Environmental Exposure 11 University Plaza Room 205 Albany, New York 12203 Contact: Andy Carlson Telephone: 518/458-6306 Date: April 16-17, 1991 Information Gathered: File search.
Niagara County Environmental Management Council County Courthouse, Lockport, New York 14094 Contact: Joanne Ellsworth Telephone: 716/439-6170 Date: April 25, 1991 Information: Information on land use, wetlands, flood plains, zoning, waterlines.
Niagara County Department of Health 10th and Falls Streets Niagara Falls, New York Contact: Paul Dicky Telephone: 716/284-3128 Date: April 25, 1991 Information Gathered: File information.

Table 3-1

SOURCES CONTACTED FOR THE NYSDEC PSA 64TH STREET-NORTH SITE NIAGARA FALLS, NEW YORK

Niagara County Highway Department 225 South Niagara Street Lockport, New York 14094 Contact: Gary Hinton Telephone: 716/439-6066 Date: April 26, 1991 Information Gathered: Aerial photographs from 1938, 1951, 1955, 1966, 1982.
Niagara County Department of Planning County Office Building Lockport, New York Contact: Rick Seekins Telephone: 716/439-6033 Date: April 25, 1991 Information Gathered: 1990 Census data.
Niagara County Real Property Tax Director County Courthouse, Lockport, New York 14094 Contact: Hazel Hasley, Sue Simon Telephone: 716/439-6111 Date: April 25, 1991 Information Gathered: Tax maps and site ownership history.
United States Department of Agriculture Soil Conservation Service Cornell Cooperative Extension 4487 Lake Avenue Lockport, New York 14094 Contact: Darcy Tone Telephone: 716/434-4949 Date: April 30, 1991 Information Gathered: Soil survey, agriculture districts, and prime farmland.

4. SITE ASSESSMENT

4.1 SITE HISTORY

The 64th Street-North site encompasses approximately 20 acres north of Niagara Falls Boulevard (Pine Avenue) along Interstate I-190 in the City of Niagara Falls, Niagara County, New York. The exact location of the site boundary is unknown. Portions of the site are owned by Jack Johnson of Walter S. Johnson 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 (Refs. 14, 29). Presently, Interstate I-190 traverses the site. This road is elevated from 5 to 12 feet above grade with clean fill (Refs. 8, 29). The 64th Street-North site is located approximately 0.25 mile southeast of the CECOS Park Landfill site (Refs. 24, 29).

Domestic and commercial wastes were suspected to be disposed of on site by the City of Niagara Falls from 1930 to the 1950s, and demolition debris from a Department of Defense civilian housing project also may have been disposed of on site. The quantity of waste disposal is unknown. According to interviews with local residents conducted by NCHD, industrial wastes are not suspected of being disposed of on site. No information was found during the Phase I investigation or the PSA which confirms that industrial wastes were disposed of at the site (Refs. 6, 7, 14, 29).

Before the area was used for waste disposal, a forked drainage swale, several to possibly 10 feet deep in places, stretched across the site

(Ref. 29). Drainage apparently flowed westward. The surrounding area was largely wetlands.

During World War II, the area south of Niagara Falls Boulevard was developed as a Department of Defense civilian housing complex for aircraft construction workers. This development was demolished in the early 1950s. Simultaneously, the forked drainage swale from the center of the 64th Street-North 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 the area may have received municipal refuse or incinerator ash from the housing complex while it was populated.

Interstate I-190 was constructed in the late 1950s to early 1960s and the site was developed to near its present state by the mid 1960s.

Ownership of the 64th Street-North site disposal area during the late 1930s and 1950s, the time the site received wastes, is unknown. The site was most likely used as farmland prior to 1950 (Ref. 14). The western portion of the site (west of Interstate 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 (Ref. 29).

The majority of the area east of Interstate I-190 and north of Mooradian Drive is currently owned by Jack Johnson of the Walter S. Johnson Company. Some parcels of land have been developed and are leased to various businesses. Others, however, are undeveloped lands and wetland areas with visual areas of waste disposal and fill materials present.

During the April 30, 1991 E & E site inspection, disposal of municipal refuse and construction debris were noted at various locations on site east of Interstate I-190. Illegally dumped refuse and construction debris were prominent along the dirt road extension of Mooradian Drive. Construction debris and iron scrap were particularly concentrated north of the Walter S. Johnson building. Along the Niagara Mohawk right-of-way (ROW) and behind the Johnson building underground fuel storage tanks are currently in use and several pallets with old paint cans and 5-gallon containers with

various volatile solvents were observed. This is a low-lying wet area that contains a lot of wood and iron scrap.

Environmental investigations related to areas on or near the site include: USGS investigations of soils, subsurface soils, and groundwater in 1982 and 1983; NCHD site profile in 1982; NUS Corporation investigations of surface and subsurface soils in 1985; Woodward-Clyde investigations of soils for the Texas Brine Corporation in 1986; EPA investigation of the LaSalle area groundwater in May 1986; Engineering-Science, Inc./Dames & Moore Phase I investigation for NYSDEC in January 1988; and the WRA environmental property assessments for the Tops Markets/P.J. Schmidt properties in November 1989 and January 1990. Relative sampling efforts and sample results are discussed in Section 4.4.

New York State Thruway Authority personnel were not aware of any wastes encountered during the Interstate I-190 construction in the late 1950s and early 1960s (Ref. 7). No record was found of buried wastes encountered by contractors during on-site building construction.

Excavation for the Texas Brine Pipeline north of the site in the late 1980s uncovered refuse, but no suspicion of hazardous wastes was reported (Ref. 25).

One documented suspicion of hazardous waste deposition was found in the form of a letter from Mrs. Martha Reed, who claims that her husband helped to truck top soil to the former drainage swale area to cover the suspected "chemicals or hazardous waste products" (Ref. 36). This is the only record found during the investigation and file search alleging that hazardous wastes are present on site.

4.2 SITE TOPOGRAPHY

Niagara County lies within the Central Lowland physiographic province, specifically, it occupies part of the Huron and Ontario Plains (Refs. 26, 28). This area, known as the Niagara Frontier, is relatively flat and broken by two east-west trending escarpments: the Niagara Escarpment

and the Onondaga Escarpment. The site lies on the flat area between these escarpments called the Huron Plain (Refs. 26, 28). This was the site of the post-glacial Lake Tonawanda (Ref. 27).

The Huron Plain is nearly level and slopes gently westward from an altitude of approximately 600 feet above mean sea level (MSL) on the east to 570 feet above MSL along the Niagara River. The low-lying plain is broken in places by low, narrow, irregular ridges trending northeast-southwest. They extend up to 2 miles in length and are 20 to 50 feet above the general land surface (Ref. 26, 27).

The ground surface over the site is flat with a less than 1% slope and is at an elevation of approximately 575 feet above MSL (Ref. 24).

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 Landfill to the north, extends several hundred feet west of Connecting Road, and more than 1,000 feet east of Interstate I-190 (Refs. 13, 16, 24, 29).

The nearest residential area is the Sabre Park Trailer Court located less than 0.25 mile to the north of the site. Another trailer court also exists along what may be the eastern border of the site. Areas further to the north of the site are predominantly residential with some commercial property.

Commercial and industrial areas are located either on site or adjacent to the site along Niagara Falls Boulevard, Mooradian Drive, 70th Street, 66th Street (3rd Avenue) and Connecting Road. Commercial buildings on site are either owned or leased by the Walter S. Johnson Company, Inc., Anderson Electric Supply Company, R.B. U'Ren Equipment Rental, Inc., Orszulak Trucking and Contract Paving Company, J & J Construction Company, and Wizard Method, Inc. Approximately 60% to 70% of the site is now covered by either pavement or buildings. Interstate I-190 runs north-south through the site. Land use classifications listed for the site and adjacent areas are

Heavy Industrial (M-2) to the west, Light Industrial (M-1) to the north, Controlled Development (C-D) to the east, and Retail (C-1) on site and to the south (Niagara County Department of Planning, April 1991).

New York State-registered wetland TW-1 (a Class II wetlands) exists on site and extends eastward as observed during the April 30, 1991 E & E site inspection. Wetlands grasses, reeds, rushes, cattails, and ducks were observed. Various windblown refuse and illegal dumping were also observed in and around the wetlands area. New York State-registered wetland TW-3 (a Class II wetlands) was also identified approximately 1 mile to the north-northeast of the site. No critical habitats or endangered species have been located within a 1-mile radius of the site (Refs. 12, 17, 29, and Appendix C).

Surface runoff from the site enters storm sewers that empty into the Niagara River and Gill Creek; follows man-made drainage swales along Interstate I-190; or enters the ponded water wetland areas on and east of the site. Other than the drainage swales along Interstate I-190, no other direct avenues of surface runoff are apparent with the possible exception of a wet drainage area east of the Walter S. Johnson Company parking lot, which leads to a drainage sewer pipe (E & E site inspection 4/30/91, Refs. 16, 29). Runoff from the site will likely enter the Niagara River via storm sewers upstream of the City of Niagara Falls water intakes.

The nearest flowing surface waters are the Niagara River, approximately 1 to 3 miles south and Cayuga Creek, 1.2 miles to the east.

4.3 SITE HYDROLOGY

The bedrock underlying the 64th Street-North site is of the Lockport group. In this region, the Lockport is almost all dolostone. The formations are generally brownish-gray, medium to thick bedded, stylolitic, exhibiting parting (i.e., separations along planes), mineralized vugs, and poorly preserved fossils. The group is divided into four formations: Oak Orchard dolostone, Eramosa dolostone, Goat Island dolostone, and Gasport limestone

from youngest to oldest, respectively. The Oak Orchard dolostone is approximately 120 feet thick and forms the cap rock to the American Falls; the Eramosa dolostone is approximately 15 feet thick; the Goat Island dolostone is approximately 17 to 26 feet thick; and the Gasport limestone is approximately 15 to 45 feet thick. The Eramosa and Goat Island dolostones are mined for crushed stone and asphalt filler, and the Gasport limestone has been used as building stone (Ref. 27).

Boring data from the installation of monitoring wells on and near the site indicate that bedrock beneath the site is indeed Lockport dolomite and exists approximately 20 to 30 feet below ground surface (Ref. 29). These boring data also indicate clay interbedded with sand overlies the bedrock. Photographs of construction of the Walter S. Johnson building reviewed by Engineering-Science, Inc./Dames & Moore during the 1988 Phase I investigation indicate a clay zone extending 8 feet below grade.

As a result of the very low permeability of the overlying soils, it is believed that 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 (Ref. 15). A bedrock aquifer is found within the bedding joints of the dolomite, at depths of over 30 feet (Ref. 10). Groundwater depths of 1.5 feet have been reported by Woodward-Clyde (Ref. 25). Based on a 1985 groundwater monitoring program conducted by NUS Corporation the groundwater flow was observed to flow south (Ref. 13).

Soils within and around the 64th Street-North site have largely been disturbed and no longer represent native soils or their characteristics. The current United States Department of Agriculture (USDA) Soil Conservation Service classification of soils for the area is described as "cut and fill" (Cu). Soils surrounding the site are listed as Canandaigua Silt Loam (Ca) (Ref. 26). These soils generally consist of deep, nearly level, poorly drained to very

poorly drained soil. The Canandaigua soils are dominated by silt and may contain a medium to high lime content (Ref. 26).

As determined during the E & E April 1991 site inspection, these soils have a prolonged high water table with ponded water, unless artificial drainage is provided. These soils are also naturally too wet for cultivation unless drained (Ref. 26).

A generalization of soil boring findings for the 1989 to 1990 Tops/P.J. Schmidt Phase II Environmental property assessment (Refs. 31, 32) indicates the presence of brown sandy silt between 4 and 6 feet below fill material. Below this, silty clay and clay were sometimes encountered between 6 and 12 feet below ground surface (Refs. 31, 32).

Groundwater flow principally occurs in a widespread water-bearing zone of fractured bedrock (weathered zone) that exists in the upper 10 to 15 feet of the Lockport dolomite group. This zone conforms to the upper surface of the bedrock and is generally hydraulically connected to the overlying unconsolidated deposits (Ref. 33).

Fractures and bedding-plane joints are the primary water-bearing openings in the weathered zone and lower bedrock layers. Groundwater movement occurs within these joints and typically widens hydraulically connected flow paths due to solution of the rock by groundwater flow. Additionally, water-bearing zones or connections occur where gypsum has been dissolved out by groundwater movement (Ref. 33).

The coefficient of transmissivity for the Lockport dolomite group has been calculated to range from 300 to 2,100 gallons per day per foot (Ref. 33). Values for the natural unconsolidated surface deposits are much lower causing seasonal high water tables, perched water zones, and low-yield saturated zones. Groundwater movement for unconsolidated aquifers is generally toward major surface water bodies and along a downward topographic slopes (Ref. 23).

4.4 CONTAMINATION ASSESSMENT

During the late 1930s and 1950s, the City of Niagara Falls used the 64th Street-North site as a municipal landfill (Refs. 23, 29). Demolition wastes from a local United States Military civilian housing project were likely disposed of in the swales located on site (Ref. 16). 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 or hazardous waste at the site (Refs. 5, 6, 7, 13, 29). The quantity of wastes disposed of on site is unknown (Ref. 16). Leachate outbreaks were not observed during site inspections by NCHD (1982), Engineering-Science, Inc./Dames & Moore (1985), and E & E (1991).

In 1982, 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 samples indicated the presence of iron (2,600 to 4,200 ppm) at levels slightly exceeding the associated background sample values (1,000 to 2,000 ppm). These levels were not, however, significantly above expected background concentrations for soil and other surficial materials (Refs. 23, 34).

Additional soil samples (9A, 10A, and 11A on Figure 1-2) were collected from three locations north of the eastern portion of the site and south of Sabre Trailer Park in the Niagara Mohawk ROW. These samples were analyzed for priority pollutants, cyanide, and phenol. EP Toxicity extracts from these samples were also analyzed for isomers of benzene hexachloride (BHC) and RCRA metals (Refs. 25, 29).

Analyses of these samples detected a number of base/neutral priority pollutants. These compounds included anthracene, chrysene, fluoranthene, fluorene, phenanthrene, pyrene, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene. These compounds are among those categorically referred to as polycyclic aromatic hydrocarbons (PAHs). Studies of background concentrations of total PAHs have indicated that ranges occur at up to 580,000 ppb in urban soils and 2,300 ppb in agricultural soils (Ref.

35). Total PAH concentrations for the Woodward-Clyde samples were up to approximately 50,000 ppb.

No PCBs were detected in these samples and the only pesticides detected were isomers of BHC ranging from below detection limits to 1,300 μg/kg. Metals were reportedly not detected above background concentrations for the Niagara County area (Ref. 25). Slightly higher levels of total lead in surface soils were found not to be mobile as a result of EP Toxicity analyses of leachable lead.

In 1985, NUS Corporation collected numerous soil samples at various depths throughout the site (Ref. 29). 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 area soil background levels (1,400 to 2,000 ppm for iron and 0.08 to 0.28 ppm for mercury) as specified in the 1984 Niagara River Toxics Committee Report (Ref. 29).

Elevated concentrations of PCBs (6,200 ppb) and pesticides (720 ppb, chlordane) were also detected in the soils on site as were minor amounts of other organics (Ref. 13). No background data for organics were found to exist.

Groundwater monitoring in the vicinity of the site has been conducted by various firms including USGS, NUS Corporation, and NECCO. The NECCO samples were collected as part of a monitoring program for the CECOS 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 (Refs. 5, 6, 7). 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 (Refs. 5, 6, 7). 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 New York State Class GA groundwater standards. These concentrations were not significantly above the standards and cannot be attributed to the site for purposes of defining an observed release since results for hydraulically upgradient locations are not available. Soil and groundwater sampling locations are shown in Figure 1-2.

HNu meter readings were taken upwind and downwind of the site by Engineering-Science, Inc. and Dames & Moore in April 1986 and by E & E in April 1991. No HNu readings above background levels were recorded.

Environmental property assessment investigations conducted by Waste Resource Associates, Inc. in 1989 and 1990 for the Tops/P.J. Schmidt companies included the installation of monitoring wells and soil borings on these properties south and southeast of the site. Eleven soil borings were advanced through the fill material and into the natural soils below. Analyses of surface and subsurface soil samples for Extractable Organic Halides (EOXs) or chlorinated hydrocarbons revealed positive results for only two upper fill material samples. During drilling, fill material including municipal and industrial wastes (i.e., waste lime) were encountered. Analytical results for the waste lime were not available. Analyses of groundwater samples were not available.

5. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

5.1 HAZARDOUS WASTE DEPOSITION

The 64th Street-North site reportedly received municipal domestic and commercial wastes from the City of Niagara Falls from the 1930s to the 1950s. It is possible that demolition debris from a Department of Defense civilian housing complex demolished in the early 1950s was used to fill in the former drainage swale that traversed the site. The site may have received incinerated refuse and fly ash from this housing complex while it was populated, but this was not confirmed by the Department of Defense (Ref. 7).

New York State Thruway Authority personnel were not aware of any wastes encountered during the Interstate I-190 construction in the late 1950s and early 1960s (Ref. 7). No record was found of buried wastes encountered by contractors during on-site building construction.

Excavation for the Texas Brine Pipeline north of the site in the late 1980s uncovered refuse, but no suspicion of hazardous wastes was reported (Ref. 25).

One documented suspicion of hazardous waste deposition was found in the form of a letter from Mrs. Martha Reed, who claims that her husband helped to truck top soil to the former drainage swale area to cover the suspected "chemicals or hazardous waste products" (Ref. 36). This is the only record found during the investigation and file search alleging that hazardous wastes are present on site.

5.2 SIGNIFICANT THREAT DETERMINATION

Groundwater monitoring in the vicinity of the 64th Street-North site has been conducted as part of several environmental investigations including USGS, NUS Corporation, CECOS Landfill, and the Tops /P.J. Schmidt property assessment by WRA. Analytical data for these investigations, with the exception of the USGS study, were not available. Results from the USGS report indicate the presence of some metals (cadmium and lead) and volatile priority pollutant organics at low levels. One of the volatile organic compounds (methylene chloride) is considered a common laboratory contaminant and may not be a real value at low levels. Toluene (150 ppb) and ethylbenzene (6 ppb) were also found at low levels. The source of these possible contaminants, however, is difficult to determine considering the limited number of monitoring wells, lack of upgradient well analytical results, and the presence of the CECOS landfill and Sabre Park Trailer Court waste sites at potentially upgradient locations to the north.

Insufficient data is available determine the significant threat to the groundwater or surface water supplies. Groundwater has not been determined to be a potable water source locally and water intakes along the Niagara River are more than 5 miles away and not within a direct path for surface runoff (Refs. 14, 23, 24, 29). Groundwater flow is presumed to be to the south (Refs. 16, 23).

There is no critical habitat of endangered species located within 1 mile of the site although designated Class II wetlands exist on site (Ref. 17 and Appendix C).

The presence of potential contaminants in surface soils has been indicated in samples from various reports. The contaminants reported included iron, mercury, and up to seven PAHs (Refs. 13, 23, 25, 29). None of these, with the exceptions of mercury, chrysene, and possibly phenanthrene, exceeded expected concentrations for urban soils (Refs. 34, 35). The presence of low levels of chlorinated hydrocarbons in two surface

soil or upper fill material samples and waste lime in other subsurface locations has also been documented (Refs. 31, 32).

Surface water contamination may be of potential concern due to the presence of wastes disposed of on site and potential contamination of surface and subsurface soils. No analytical data were documented for surface waters. Although much of the area is paved and drained to local sewers, limiting the potential contamination of runoff water, open areas east and north, of the Walter S. Johnson building and south of Sabre Park Trailer Court are undrained and contain wetland areas.

5.3 RECOMMENDATIONS

Presently, there is no documentation that hazardous wastes, as described in 6 NYCRR Part 371, are present on site; therefore, it is recommended that this site be delisted.

However, the presence of hazardous substances on site has been documented. Therefore, it is recommended that additional soil, groundwater, and surface water samples be obtained and analyzed to assess whether a significant threat to public health or the environment exists.

E & E agrees with the recommendations made by the Engineering-Science, Inc. Phase I investigation for NYSDEC (Ref. 29). In addition, E & E recommends the advancement of soil borings in open, undeveloped areas believed to have received fill materials. Samples should be collected to visually characterize subsurface soils and fill materials until naturally occurring, undisturbed soil is encountered. Chemical analyses should be conducted on any soils suspicious in nature (i.e., visually contaminated, positive screen for volatile organics, chemical odor, etc.). The types of analyses required may be made specific to the type of suspected contamination. The number of soil borings should be sufficient to characterize all areas of concern and particularly those with the greatest potential for present or future human exposure.

Surface water and sediment samples should also be collected to determine the potential impact to on-site classified wetland areas and those extending to the east. These Class II regulated wetlands already contain some exposed solid wastes and may also potentially receive drainage or leachate from nearby fill areas.

With the completion of the installation of on-site monitoring wells, water levels in all available area monitoring wells can be surveyed to determine the regional groundwater flow and hydraulic gradient. This is required to verify the suspected southerly direction of groundwater flow and indicate potentially affected areas.

Appendix A

APPENDIX A

REFERENCES

REFERENCES

1. Bowers, R. and J. Johnson, April 23, 1986, owners of 64th Street-North site, interview for Phase I Investigation.

2. Engineering-Science, Inc. and Dames & Moore, December 2, 1985, Site Inspection.

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5. Hopkins, M., February 17, 1988, Niagara County Health Department, interview for Phase I Investigation.

6. Hopkins, M.E., February 4, 1988, Niagara County Health Department, Letter to C. Bosma, Engineering-Science, Inc.

7. Hopkins, M.E., February 23, 1988, Niagara County Health Department, Letter to C. Bosma, Engineering-Science, Inc.

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13. NUS Corporation, March 20, 1986, Superfund Division, presentation of analytical data from 64th Street-North Site, Niagara Falls, New York.

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29. Engineering-Science, Inc., January 1988, Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation of 64th Street-North Site.

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REFERENCE 1

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:

KEF — 1 DRAFT

Bowers et al, 1986

INTERVIEW FORM

INTERVIEWEE/CODE Russo Bowers / Jack Johnson 1

TITLE - POSITION Owner

ADDRESS 925 66th St

CITY Niagara Falls STATE NY ZIP 14304

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

LOCATION 64th St - N. INTERVIEWER CJ Bosma / 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 (about 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 1953 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 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 1/4 mile away.

I agree with the above interview summary:

Signature/Title:

Comments:

REFERENCE 2

REF DRAFT

ES and D&M

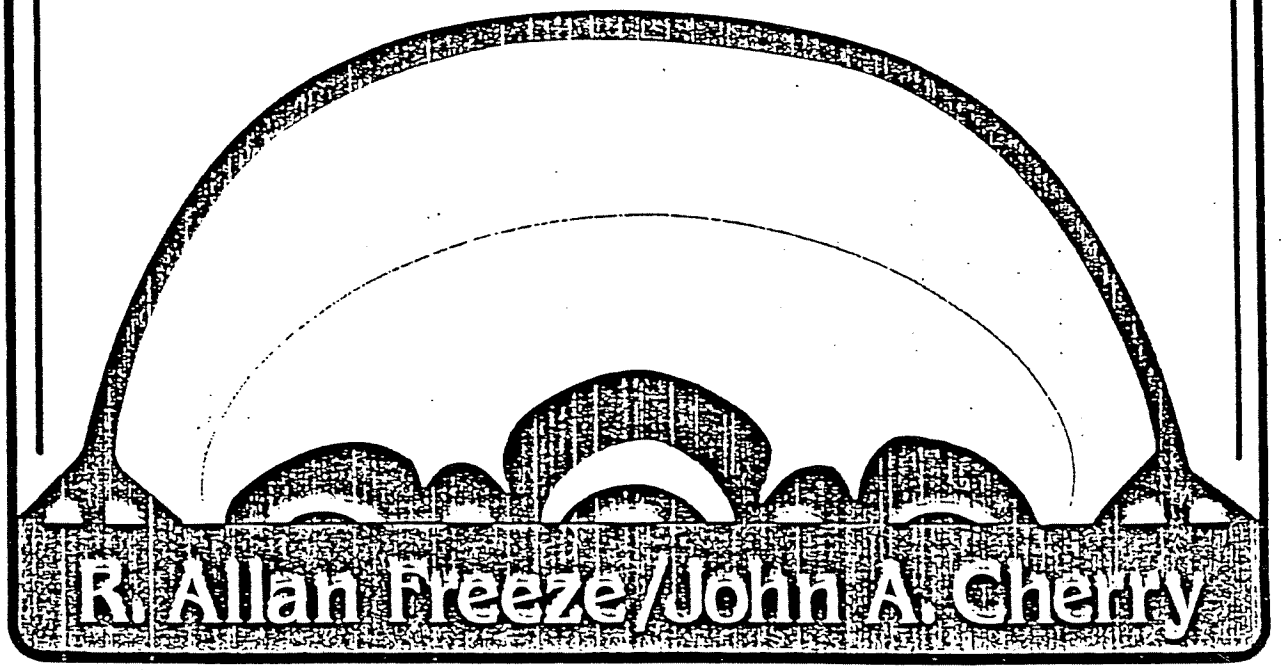
ES AND D&M SITE INSPECTION

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.

REFERENCE 3

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

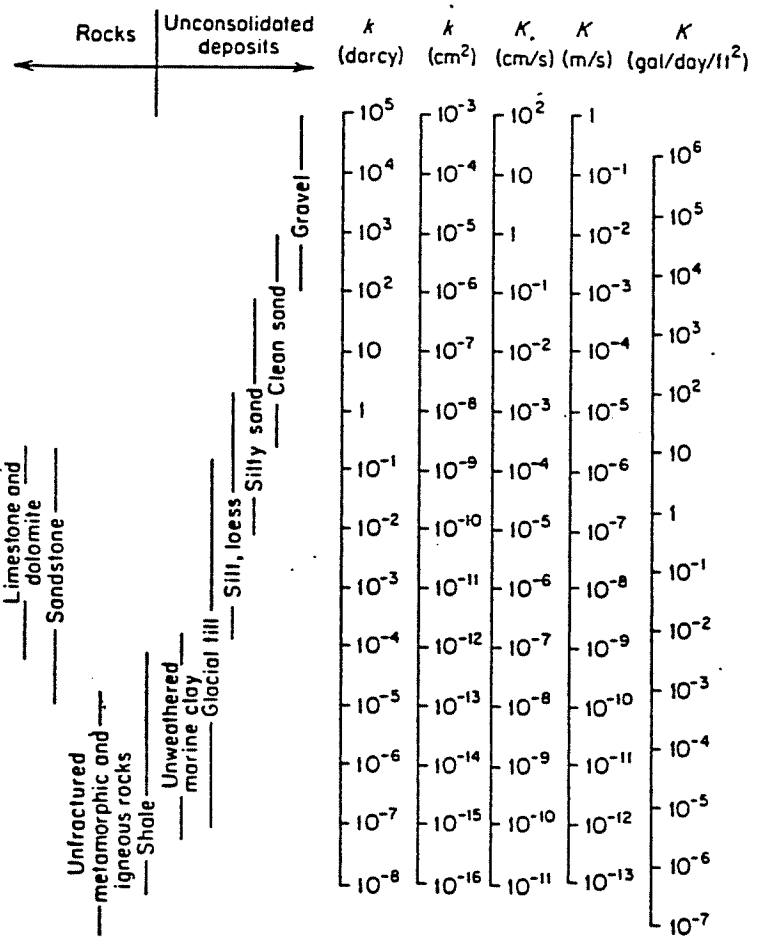


Table 2.3 Conversion Factors for Permeability and Hydraulic Conductivity Units

	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}.

REFERENCE 4

DRAFT

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 DRAFT

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 KEEFE (DAMES & MOORE)

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

SUBJECT: GROUNDWATER USAGE IN THE NIAGARA FALLS AREA

REMARKS: REGARDING THE FOLLOWING SITES; 1GREAT LAKES CARBON, 2WURLITZER, 3DIBACCO #2, 4ADAMS GENERATING PLANT, 5HYDRAULIC CANAL, 6 64TH ST, 7ST. MARY'S & BISHOP DUFFY SCHOOLS, 8SILBERFELD BOULEVARD, AND 9TAM 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 ~~PROCESS~~ Cooling WATER USAGE ONLY.

I agree with the above interview summary as corrected:

Signature/Title: Michael E Hopkins, NCHD

Comments:

REFERENCE 5

KEF DRAFT
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:

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: 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 - Nor 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:

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 trailor 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:

REFERENCE 6

REF-9 DRAFT
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,

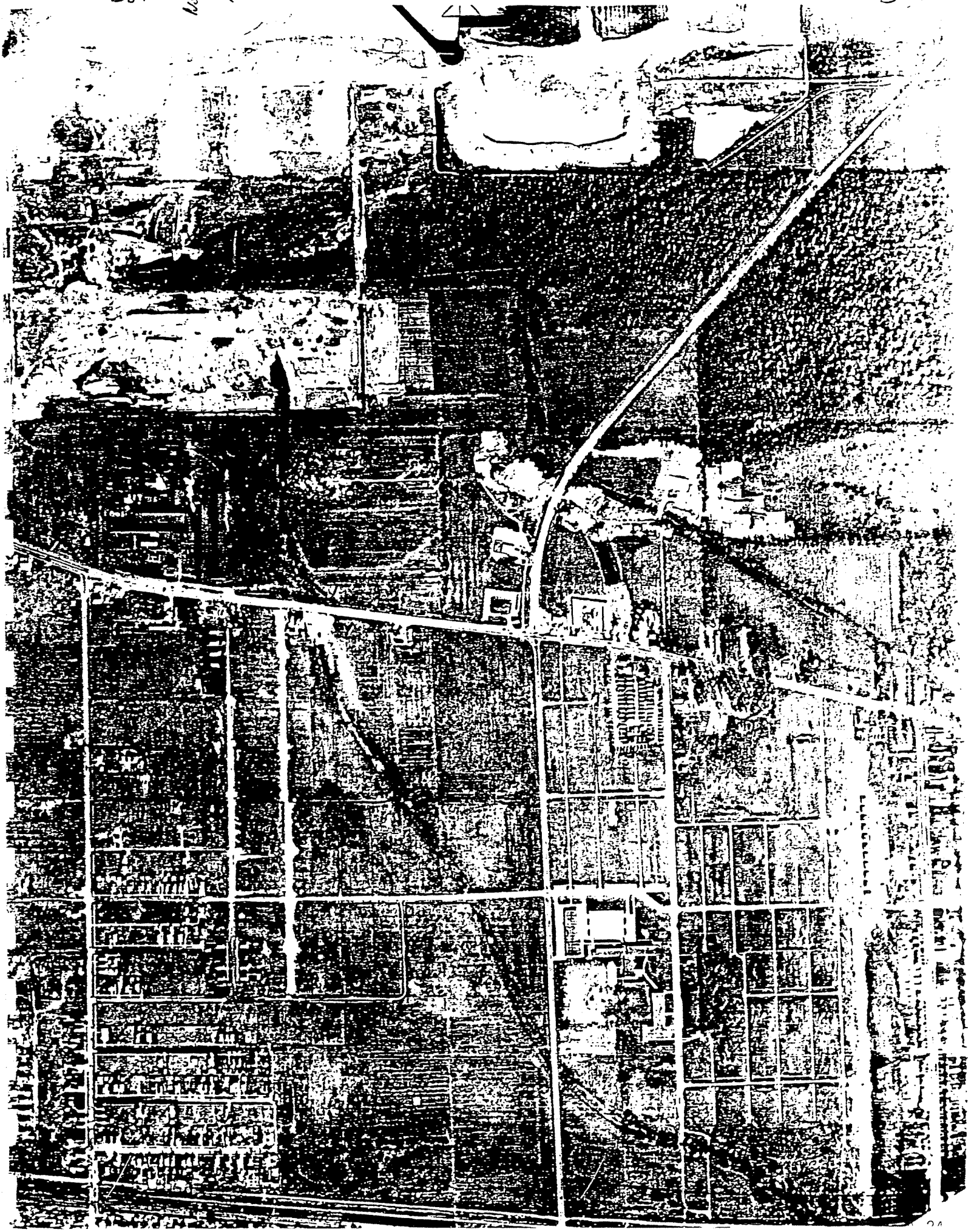
Michael E. Hopkins
Assistant Public Health Engineer

MEH:cs
Attach.

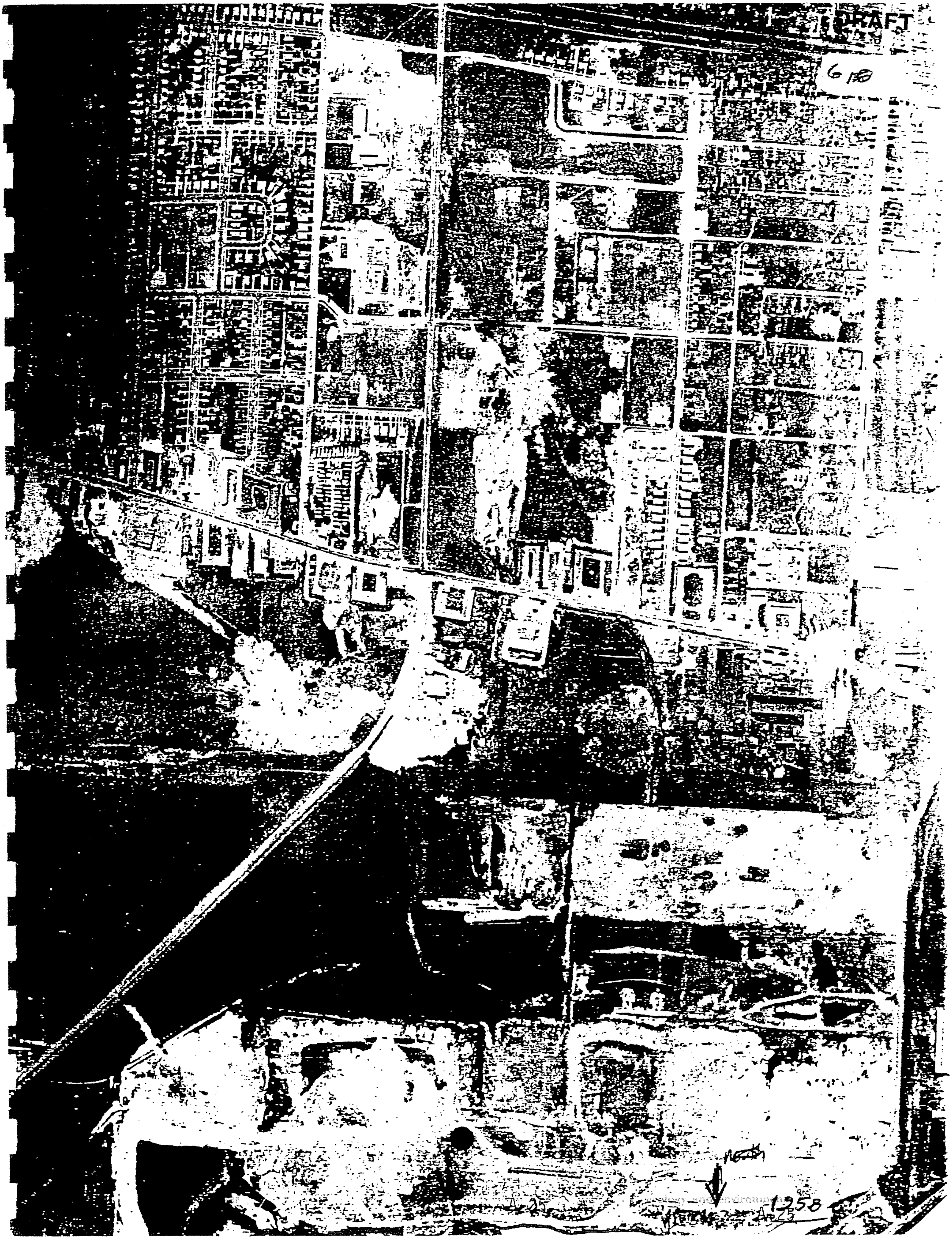
cc: Mr. J. Tygert/DEC-9 w/o attach.

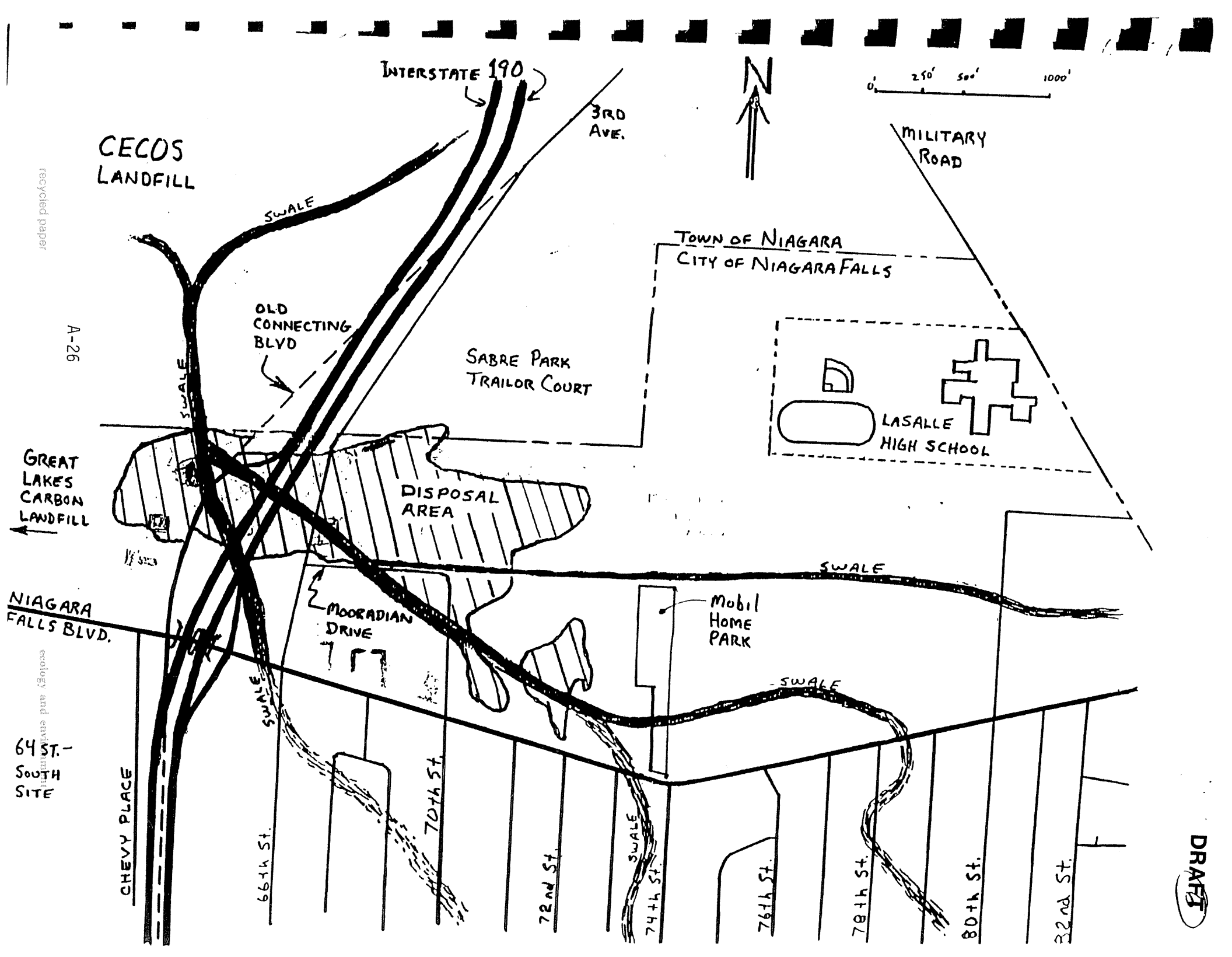
T561 North

DRAFT



DRAFT





DRAFT

REFERENCE 7

Ref: [redacted] DRAFT

ACW

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

932085A

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 64th 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 64th 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 64th 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 64th 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 - Necco 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. Tusin
R. Tramantano

1.0 EXECUTIVE SUMMARY

This report includes the following items:

- A characterization of the hydrogeology underlying the LaSalle Residential Area.
- 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.
- A presentation of the results of the May sampling of the groundwater monitoring wells located in the LaSalle Residential Area.
- 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:

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

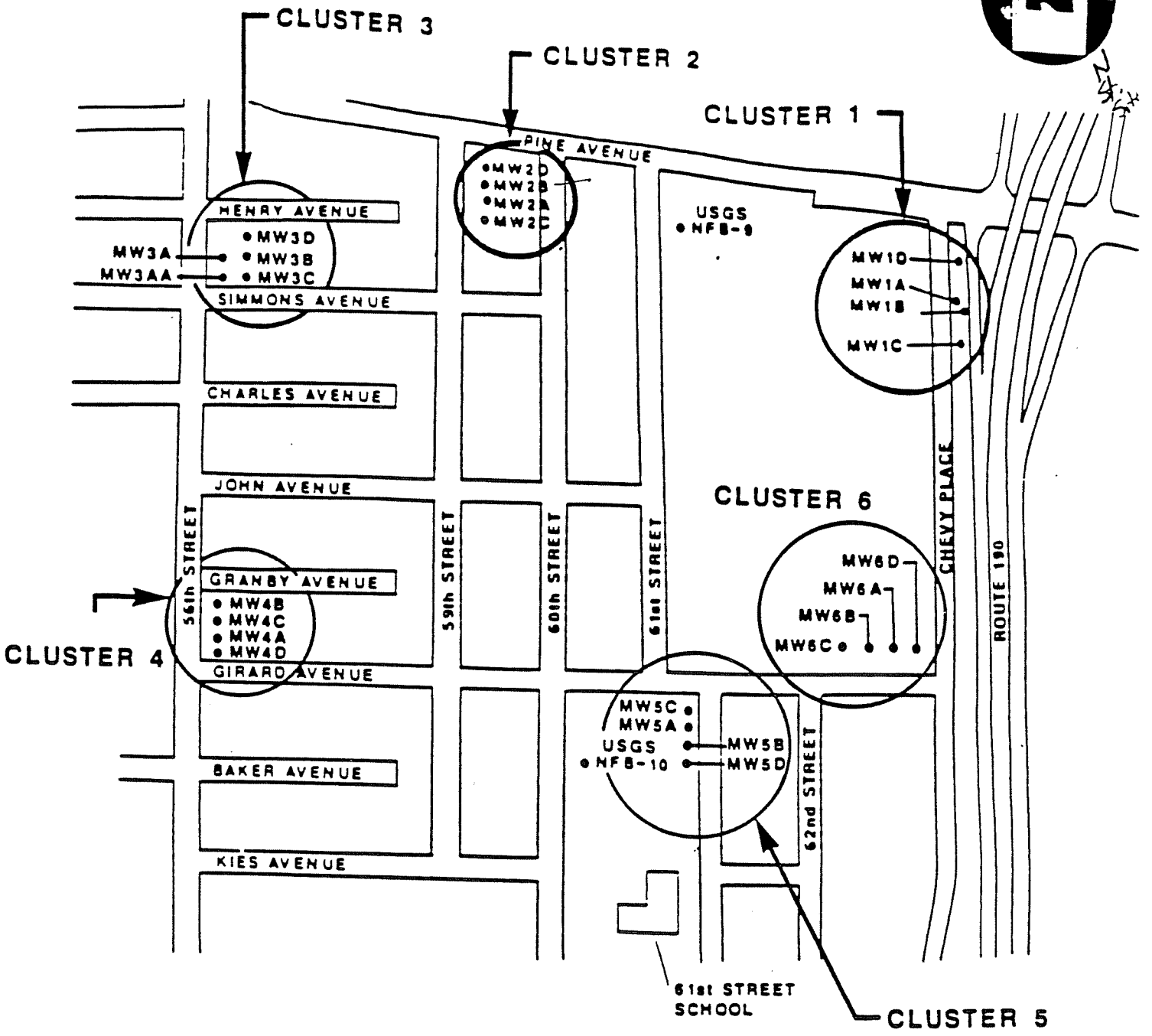
During installation of the EPA monitoring wells a soil sample was collected from each borehole. A total of 24 soil samples were collected. The only organic contaminant detected in these samples was toluene. Concentrations of toluene ranged from trace amounts to 210 ug/l. Toluene was not present in most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

DRAFT



LEGEND

● SAMPLED EPA AND USGS WELLS

FIGURE 1-3

MONITORING WELL LOCATION MAP

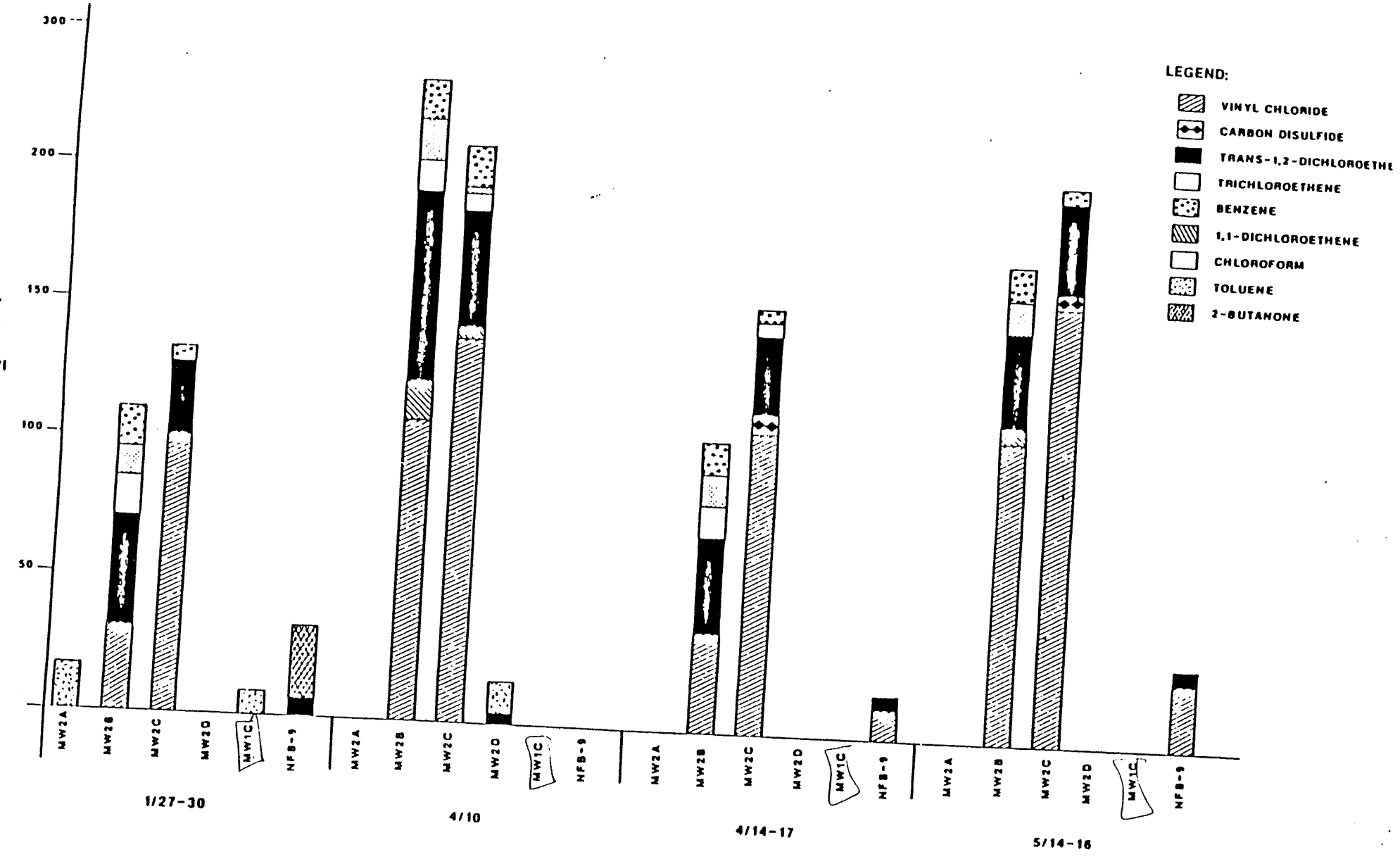
LASALLE AREA GROUNDWATER MONITORING PROGRAM

NIAGARA FALLS, N.Y.

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company



VARIATIONS OF VOLATILE ORGANIC CONCENTRATIONS PER SAMPLING EVENT

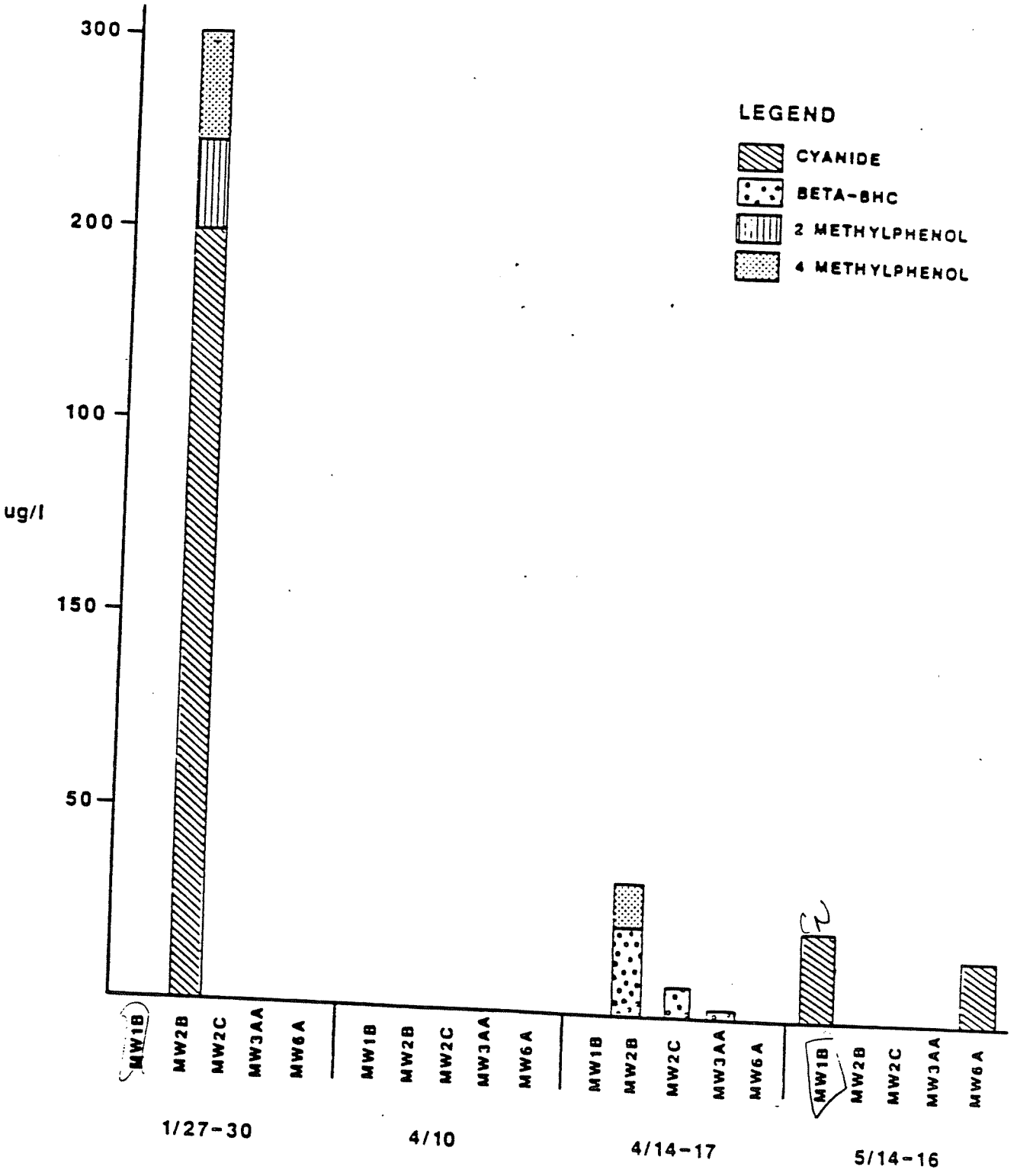
LaSALLE AREA GROUNDWATER MONITORING PROGRAM

NIAGARA FALLS, N.Y.

FIGURE 1-4

NUS CORPORATION

DRAFT Rev-7

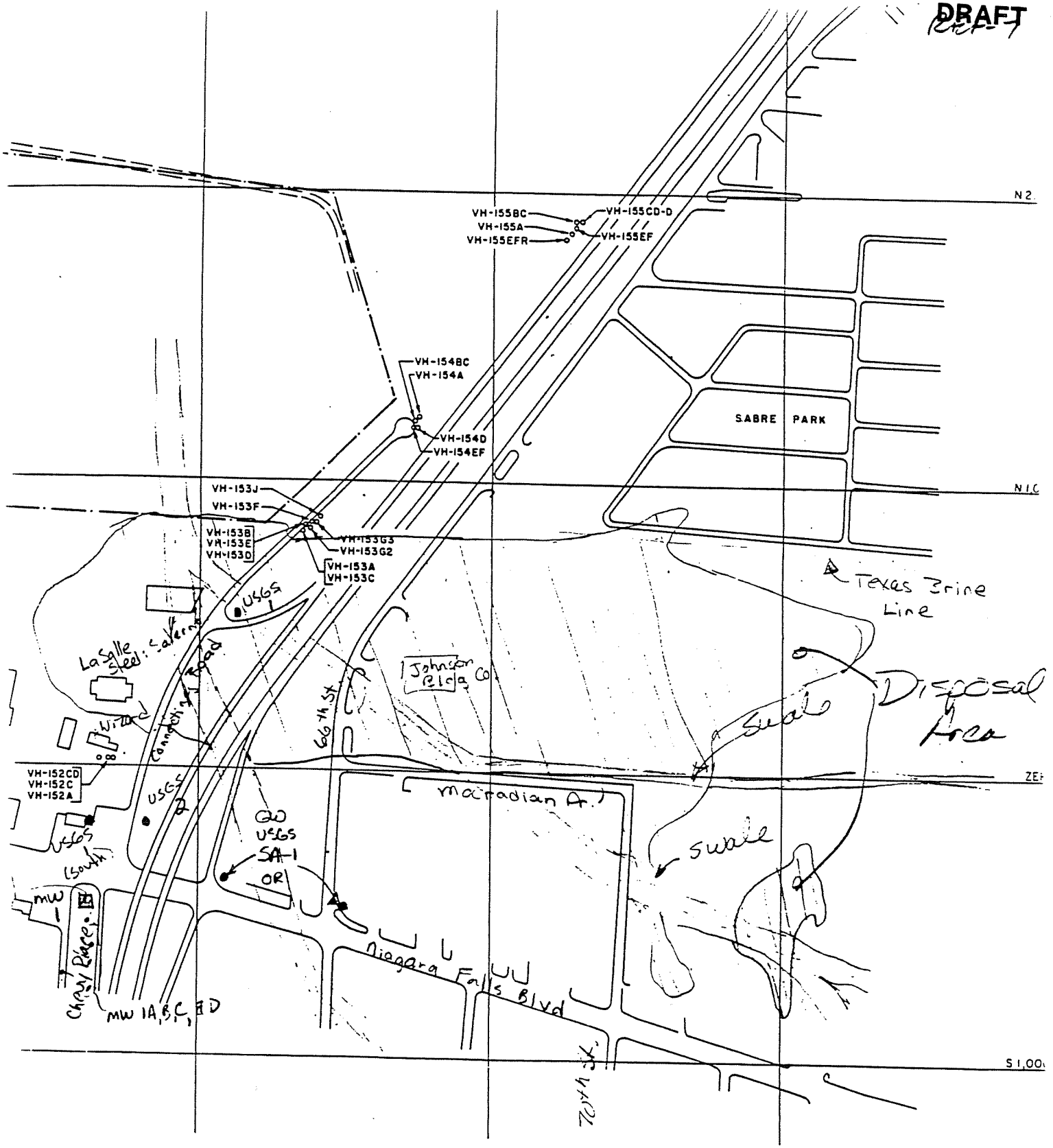


VARIATIONS OF SEMI-VOLATILES, PESTICIDES AND CYANIDE PER SAMPLING EVENT
LaSALLE AREA GROUNDWATER MONITORING PROGRAM
NIAGARA FALLS, N.Y.

FIGURE 1-5

NUS CORPORATION
A Halliburton Company

DRAFT



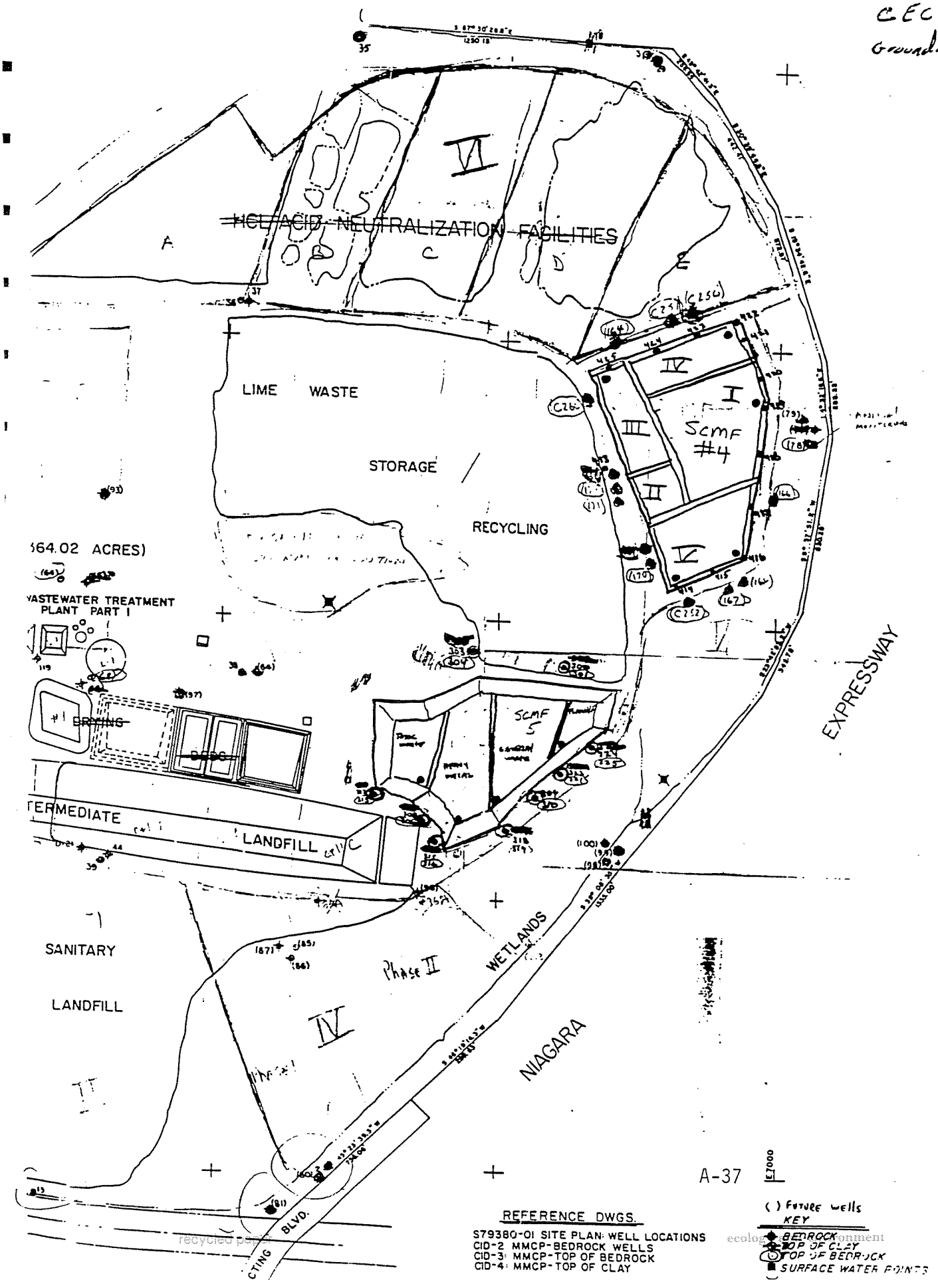
MONITORING WELL LOCATION PLAN
NECCO PARK
E. I. du PONT de NEMOURS & CO.
NIAGARA FALLS, NEW YORK

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

DRAFT

Ref. 7

CECOS/Niagara Groundwater wells



REFERENCE DWGS.

S79380-01 SITE PLAN: WELL LOCATIONS
CID-2 MMCP-BEDROCK WELLS
CID-3: MMCP-TOP OF BEDROCK
CID-4: MMCP-TOP OF CLAY

( ) Future wells

KEY

BEDROCK
TOP OF CLAY
TOP OF BEDROCK
SURFACE WATER POINTS

REFERENCE 8

DRAFT

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:

DRAFT

(8)

HOPKINS, 11/20/85

INTERVIEW FORM

INTERVIEWEE/CODE Mike Hopkins /

TITLE - POSITION

ADDRESS

CITY STATE ZIP

PHONE ( )

RESIDENCE PERIOD TO

LOCATION

INTERVIEWER Cathy J. Reamer

DATE/TIME 11-20-85 /

SUBJECT: 64th St.

Check Walter S. Johnson Bldg Co Inc. 925 60th St 283-87

decd 23

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

Recent Info - 100,000 - 70,000 ppb of various PNA = Mike has analytical data.

As of 1987 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 sanitary landfill ...) through 64th St. Approx. Date of Sewer Install. : 1930. Next summer they may test the pipe.

42" line

60" Sewer goes to Niag. R: Air monitoring outfall is not monitored.

Mike will get me a profile report. 1$

I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE: M. Hopkins

COMMENTS:

Niagara Falls City Assessors Office 278-8144

REFERENCE 9

DRAFT

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:

Interview Form

REF DRAFT

HUDSON, 1985

Interveiwee: 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. ~~[illegible]~~

Remarks: Notes from NYSDOH site inspection report. *

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 people ?

also used for swimming & fishing.

Facility Slope - 0-2%

Population targets - See Notes on 64th Street Site

I agree with the above summary:

Signature: [signature]

Comments:

REFERENCE 10

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

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.

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

REFERENCE 11

REF DRAFT
Kapsteina, 2/2/3

INTERVIEW FORM

INTERVIEWEE/CODE Al Kapsteina /

TITLE - POSITION Laboratory Technician

ADDRESS Olin Chemical

CITY C Niagara Falls STATE NY ZIP

PHONE ( ) RESIDENCE PERIOD TO

LOCATION INTERVIEWER Cathy J. Bosma

DATE/TIME 2-2-88 / 2:00 p.m.

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

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

Response:. Al said they have 2 GW 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 ground water 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 ground water.

I agree with the above interview summary:

Signature/Title:

Comments:

DRAFT

REF-11

INTERVIEW FORM

INTERVIEWEE/CODE Al Kapteina /

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 Engineering-Science

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

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

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

Response: Al said they have 2 ~~#~~ 6" 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:

REFERENCE 12

DRAFT

KEF

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:

DRAFT

McMurry, 1986

INTERVIEW FORM

~~Mc Murry~~ Mc Murry

INTERVIEWEE/CODE MIKE ~~MACMURRY~~ /

TITLE - POSITION ENVIRONMENTAL ANALYST

ADDRESS 600 Delaware Ave

CITY Buffalo STATE N.Y. ZIP 14202

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

LOCATION DEC REGULATORY AFFAIRS, BUFFALO INTERVIEWER ERIC NYE - DHM

DATE/TIME 1/3/86 /

SUBJECT: WETLANDS & FLOOD INFO - REGION 9

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

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

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

I agree with the above interview summary:

Signature/Title: Michael J McMurry, Environmental Analyst

Comments:

REFERENCE 13

REF DRAFT
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

DRAFT

(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

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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-584-09-85-05, 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.

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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.

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

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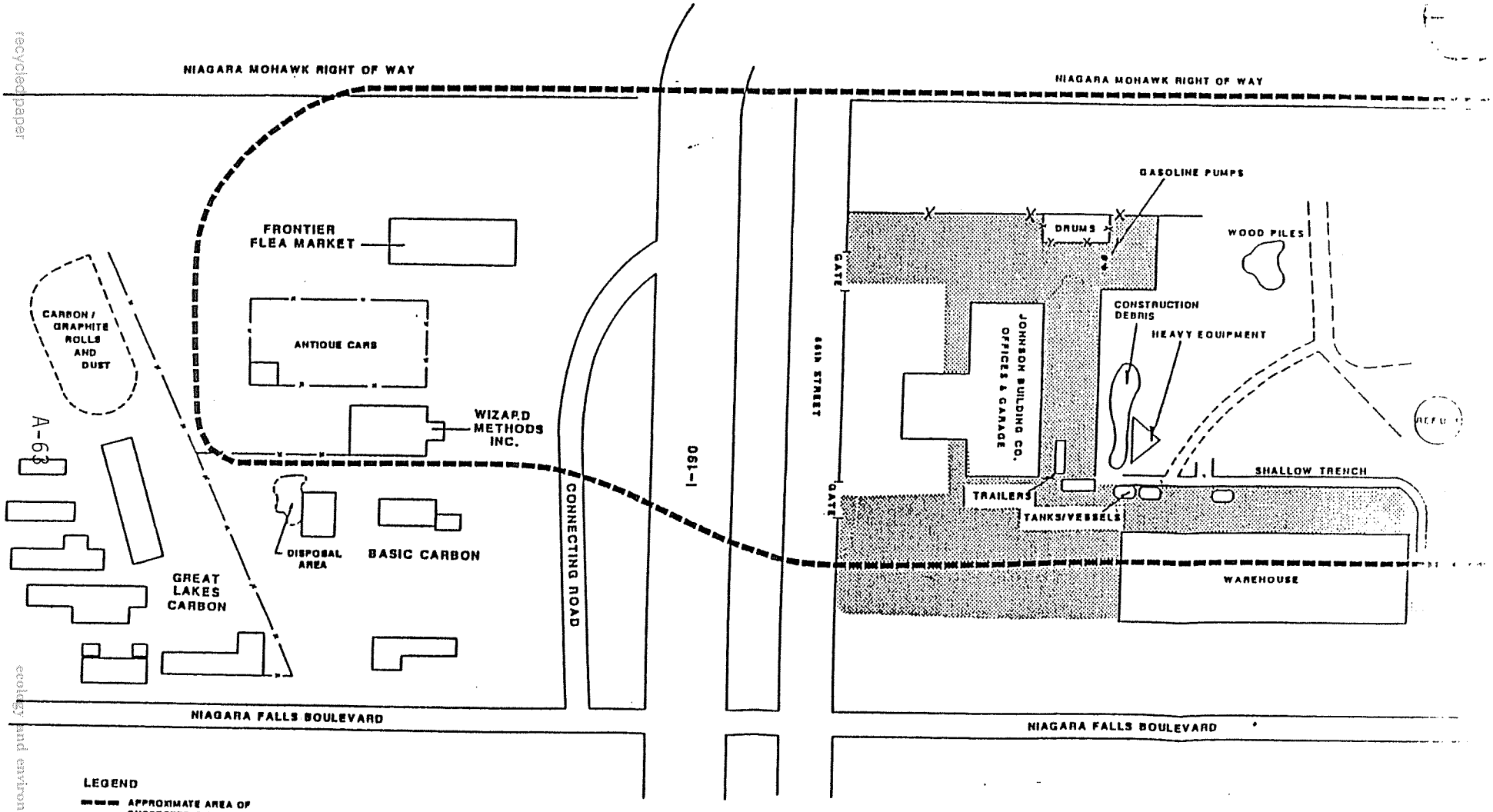
activities at the 64th Street Dump North site. All samples collected during the Basic Carbon site inspection have been included as part of the 64th Street Dump North sampling as a result of information provided by the historical photos. The locations sampled during the Basic Carbon Company site inspection 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)

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METHODOLOGY

Sampling on the western portion of the 64th Street Dump North site (Basic Carbo-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, partially [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.

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

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

TABLE 4-2 (Cont'd)

Sample Descriptions

64th Street Dump North, Western Portion

EPA Case #5363

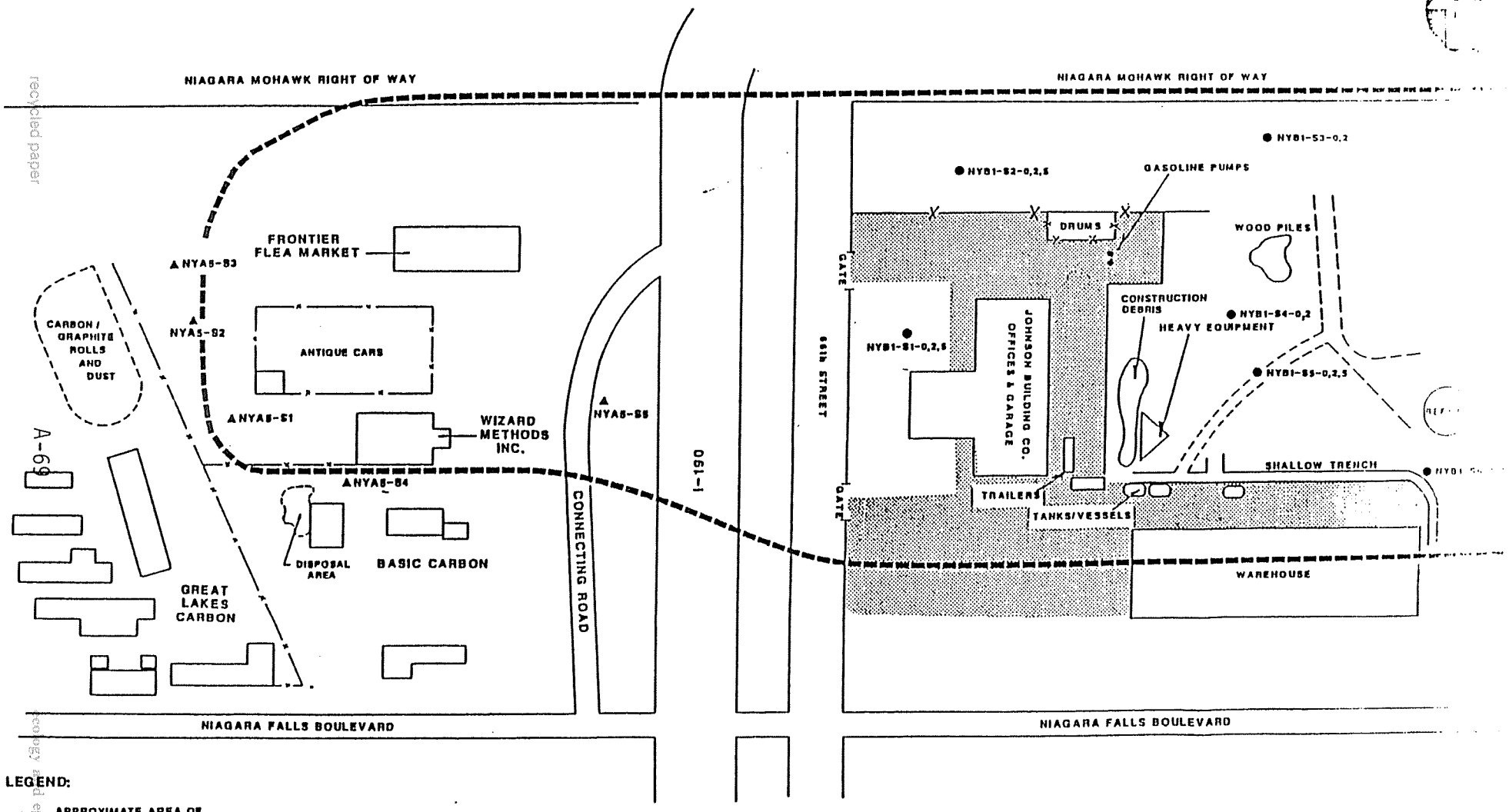
12/19/85

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: 4449/1725B

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						
Chloroform						J
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						
Toluene	6	21			34	
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 5-1 (cont'd)
ROME (60TH STREET DUMP NORTH - WESTERN PORTION
OCCIDENTAL CHEMICAL COMPANY)
SAMPLING DATE: 06/12/85
CASE: 1449/17250

SEMI-VOLATILES

0-4 inches

SAMPLE NUMBER	NYA5-B1	NYA5-B2	NYA5-B3	NYA5-B4	NYA5-B5
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	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					
Bis(2-Chloroisopropyl)Ether					J
4-Methylphenol					
N-Nitroso-Di-n-Propylamine					
Hexachloroethane					
Nitrobenzene					
Isophorone					
2-Nitrophenol					
2,4-Dimethylphenol					
Benzoic Acid					J
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-Chlorophenyl-phenyl 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-B1 UG/KG	NYA5-B2 UG/KG	NYA5-B3 UG/KG	NYA5-B4 UG/KG	NYA5-B5 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

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

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: 44TH STREET DUMP NORTH - WESTERN PORTION
(OAKITE CARBON COMPANY)
SAMPLING DATE: 06/12/85
CASE: 1449/17250

INORGANICS

SAMPLE NUMBER	NYA5-B1	NYA5-B2	NYA5-B3	NYA5-B4	NYA5-B5
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	27600	7880	9930	7040	7830
Antimony					
Arsenic	25	12	12	J	9
Barium	487	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

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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.

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.

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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
HAHET 64TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

VOLATILES

SAMPLE NUMBER MATRIX UNITS	NYD1-B1-0 SOIL UG/KG	NYD1-B1-2 SOIL UG/KG	NYD1-B1-5 SOIL UG/KG	NYD1-B2-0 SOIL UG/KG	NYD1-B2-2 SOIL UG/KG	NYD1-B2-5 SOIL UG/KG	NYD1-B3-0 SOIL UG/KG	NYD1-B3-2 SOIL UG/KG
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride	E	E	E	E	E	E	E	
Acetone	E	E	E	1600B	E	2800B	120B	31000B
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	NYD1-S4-01	NYD1-S4-2	NYD1-S5-01	NYD1-S5-2	NYD1-S5-5	NYD1-S6-01	NYD1-S6-2	NYD1-S6-5	NYD1-BLI
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	BLANK
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride	E	E		E	E		E	E	E
Acetone	E	6900B				E	E	E	I
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-Tetrachloroethene									
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
HOMER 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								
Acenaphthylene						J		
3-Nitroaniline								
Acenaphthene		J	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: 12/19/05
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-B1-0	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
4,6 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-Octyl Phthalate								
Benzo(b)Fluoranthene		2000	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

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TABLE 6-1 (cont'd)
ANALYTICAL DATA
HONEY 44TH 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
4,6-Dinitro-2-Methylphenol		E						
N-Nitrosodiphenylamine		200000				J		
4-Bromophenylphenyl ether								
Hexachlorobenzene								
Pentachlorophenol		E						
Phenanthrene	J		J	4400	1300	1200	870	J
Anthracene	J			J	J	J	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								
Benzo(a)Anthracene			J	1400	J	J	J	J
Bis(2-Ethylhexyl)Phthalate	5300B		3200B	E			JB	JB
Chrysene			J	1500	J	J	J	J
Di-n-Octyl Phthalate								
Benzo(b)Fluoranthene			J	1300	J	J	J	
Benzo(k)Fluoranthene				J		J	J	
Benzo(a)Pyrene				J		J	J	
Indeno(1,2,3-cd)Pyrene						J		
Dibenzo(a,h)Anthracene								
Benzo(ghi)Perylene						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

BLE (cont.)
ANALYTICAL DATA
NAME: 64TH 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: 44TH STREET DUMP NORTH - EASTERN PORTION
SAMPLING DATE: 12/19/85
CASE: 5363

PESTICIDES/PCBs									
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
Alpha-BHC	56		20	11		14	9.7	
Beta-BHC								
Delta-BHC								
Gamma-BHC (Lindane)								
Heptachlor								
Aldrin		91						
Heptachlor Epoxide								
Endosulfan I								
Dieldrin								150
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

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TABLE 6-1 (cont'd)
ANALYTICAL DATA
NAME: 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	
Calcium	12600	58000	65900	101000	98800	54400		50200
Chromium	19	43	36	16	18	25	15	14
Cobalt		J						
Copper	25	77	75	26	25	58	18	28
Iron	20600	17500	21700	12800	14900	29500	18000	17300
Lead		219	179	79	73	91	107	219
Magnesium	6600	23600	12400	49600	48100	22100	J	23100
Manganese	897	692	537	805	609	625	113	479
Mercury	0.25	E	E	1.4	1.2	0.31	0.39	1.2
Nickel	J	31	26			26		
Potassium	J	J	J	J	J	J	J	J
Selenium								
Silver								
Sodium								
Thallium	J	J	J	J	J	J	J	J
Tin								
Vanadium	J	31	32	J	J	J	J	J
Zinc	139	387	508	209	220	174	24	605

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

INORGANICS

SAMPLE NUMBER	NYB1-B4-0	NYB1-B4-2	NYB1-B5-0	NYB1-B5-2	NYB1-B5-5	NYB1-B6-0	NYB1-B6-2	NYB1-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	182	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	72	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	18100	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	147	349

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.

DRAFT

File ...

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C-584-09-85-15

FIELDCREST AVENUE

Messina
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

Neil Myers

Approved: ______________________

Enclosure

DRAFT

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

VOLATILES									
SAMPLE NUMBER	NYA1-S1A	NYA1-S1B	NYA1-S1C	NYA1-S2A	NYA1-S2B	NYA1-S2C	NYA1-S3A	NYA1-S3B	NYA1-S3
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
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride	50B	38B	29B	82B	32B	30B	40B	38B	69B
Acetone	E	E	E	30					
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

[illegible] DATA
[illegible] STREET DUMP BOOTH
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[illegible] 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									
2-Methylnaphthalene	J						J	J	
Hexachlorcyclopentadiene									
2,4,6-Trichlorophenol									
2,4,5-Trichlorophenol									
2-Chloronaphthalene									
2-Nitroaniline									
Dimethyl Phthalate									
Acenaphthylene									
3-Nitroaniline									
Acenaphthene	J			E			J	J	
2,4-Dinitrophenol									
4-Nitrophenol									
Dibenzofuran	J			J			J		
2,4-Dinitrotoluene									
2,6-Dinitrotoluene									
Diethyl Phthalate									
4-Chlorophenyl-phenylether									
Fluorene	J			J			J		
4-Nitroaniline									

ANALYTICAL DATA
66TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/87
CASE: 4460/1730D

SEMI-VOLATILES									
SAMPLE NUMBER	NYA1-S1A	NYA1-S1B	NYA1-S1C	NYA1-S2A	NYA1-S2B	NYA1-S2C	NYA1-S3A	NYA1-S3B	NYA1-S
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOI
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/
4,6-Dinitro-2-Methylphenol									
N-Nitrosodiphenylamine									
4-Bromophenyl-Phenylether									
Hexachlorobenzene									
Pentachlorophenol									
Phenanthrene	1100	J		1200			1400	590	140
Anthracene	J	J		J			J	J	41
Di-n-Butylphthalate									
Fluoranthene	1300	320		1700			1800	610	130
Benzidine									
Pyrene	1300	410		1900			1600	760	130
Butylbenzylphthalate									
3,3'-Dichlorobenzidine									
Benzo(a)Anthracene	850	J		910			1100	390	110
Bis(2-Ethylhexyl)Phthalate	J			J			J		260
Chrysene	980	J		1000			1200	450	120
Di-n-Octyl Phthalate									
Benzo(b)Fluoranthene	1000	J		1400			1600	570	150
Benzo(k)Fluoranthene	830	J		1000			1100	380	140
Benzo(a)Pyrene	E	J		1200			1200	410	130
Indeno(1,2,3-cd)Pyrene		J		840			810	J	91
Dibenzo(a,h)Anthracene							J		
Benzo(ghi)Perylene		J		740			E	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

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

PESTICIDES/PCBs									
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
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

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

INORGANICS

SAMPLE NUMBER MATRIX UNITS	NYA1-S1A SOIL MG/KG	NYA1-S1B SOIL MG/KG	NYA1-S1C SOIL MG/KG	NYA1-S2A SOIL MG/KG	NYA1-S2B SOIL MG/KG	NYA1-S2C SOIL MG/KG	NYA1-S3A SOIL MG/KG	NYA1-S3B SOIL MG/KG	NYA1 S3C SOIL MG/KG
Aluminum	9160	9320	9290	7900	4780	8940	9730	12900	5390
Antimony									
Arsenic	8.2	10	9.6	7.4	J	6.7	12	15	[illegible]
Barium	119	J	J	J	J	J	J	J	[illegible]
Beryllium	J	J	J	J	J	J	J	J	J
Cadmium									4.4
Calcium	11800	20600	19100	J	21800	15600	25100	22900	12200
Chromium	65	34	20	18	9.1	15	53	47	52
Cobalt	J	J	J	J	J	J	J	J	J
Copper	25	26	24	10	15	21	48	43	74
Iron	16500	17800	18400	13700	12100	10600	27300	23000	47600
Lead	J	J	12	14	6.1	8.5	J	J	J
Magnesium	6530	8450	7220	J	8300	6840	8650	7090	3500
Manganese	685	425	245	185	249	291	782	597	407
Mercury	0.59	0.40		0.19			0.38	0.20	0.65
Nickel	30	J	J	J	J	J	37	28	45
Potassium	J	J	J	J	J	J	3000	3170	J
Selenium									
Silver		J	J	J			J	J	J
Sodium	E	E		E				E	E
Thallium									
Tin									62
Vanadium	31	J	J	J	J	J	36	34	
Zinc	92	94	69	62	48	55	147	100	17

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
GAITH SUPERFUND SITE
SAMPLING DATES: 6/10/85
CASE: 9460/12308

VOLATILES

SAMPLE NUMBER	NYA1-S4B	NYA1-S4C	NYA1-S5A	NYA1-S5B	NYA1-S5C	NYA1-S6A	NYA1-S6B	NYA1-S6
LOCATION	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	40 E	39	14	63 E	600 E	60 E	350 E	1000
Acetone	360	39	17					
Carbon Disulfide								
1,1-Dichloroethene								
1,2-Dichloroethene								
Total 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 spaces - Compound analyzed for but not detected
J - analysis did not pass QA/QC requirements
E - 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-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-S SOI UG/K
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									
4-Chloroaniline				400		J			
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								
2,4-Dinitrophenol				490					
4-Nitrophenol									
Dibenzofuran									
2,4-Dinitrotoluene				J					
2,6-Dinitrotoluene									
Diethyl Phthalate									
4-Chlorophenyl-phenylether									
Fluorene									
4-Nitroaniline				J					

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ANALYTICAL DATA
74TH STREET DUMP-SOUTH
SAMPLING DATES 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-S6 SOI 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

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

PESTICIDES/PCBs

SAMPLE NUMBER	NYA1-S4A	NYA1-S4B	NYA1-S4C	NYA1-S5A	NYA1-S5B	NYA1-S5C	NYA1-S6A	NYA1-S6B	NYA1-S
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				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

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

INORGANICS

SAMPLE NUMBER	NYA1-S4A	NYA1-S4B	NYA1-S4C	NYA1-S5A	NYA1-S5B	NYA1-S5C	NYA1-S6A	NYA1-S6B	NYA1-
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOI
UNITS	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/
Aluminum	13100	7400	8750	10100	8980	9610	7010	7230	604
Antimony									
Arsenic	14	10	10	13	18	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	45000	434
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	10000	25500	21500	14000	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	304	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

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VOLATILES

SAMPLE NUMBER	NYA1-S7A	NYA1-S7B	NYA1-S7C	NYA1-S8	NYA1-S9	NYA1-S10	NYA1-S11	NYA1-SB
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	67	37B	E	20B	E	34B	23B	9.3B
Acetone	12	E	E	290B	E	E	E	
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	E	6.9						
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
Cis-1,3-Dichloropropene								
2-Chloroethylvinylether								
Bromoform								
2-Hexanone								
4-Methyl-2-Pentanone								
Tetrachloroethene	J							
Toluene	J							
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

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

SEMI-VOLATILES

SAMPLE NUMBER	NYA1-67A	NYA1-67B	NYA1-67C	NYA1-68	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
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	450	
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			

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

SEMI-VOLATILES

SAMPLE NUMBER	NYA1-676	NYA1-677	NYA1-678	NYA1-68	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	61000	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
44TH STREET DUMP SOUTH
SAMPLING DATE: 6/10/05
CASE: 4460/17300

PESTICIDES/PCBs

SAMPLE NUMBER	NYA1-87A	NYA1-87B	NYA1-87C	NYA1-68	NYA1-69	NYA1-510	NYA1-511
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							
Endosulfan II							
4,4'-DDD						E	
Endrin Aldehyde							
Endosulfan sulfate							180
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

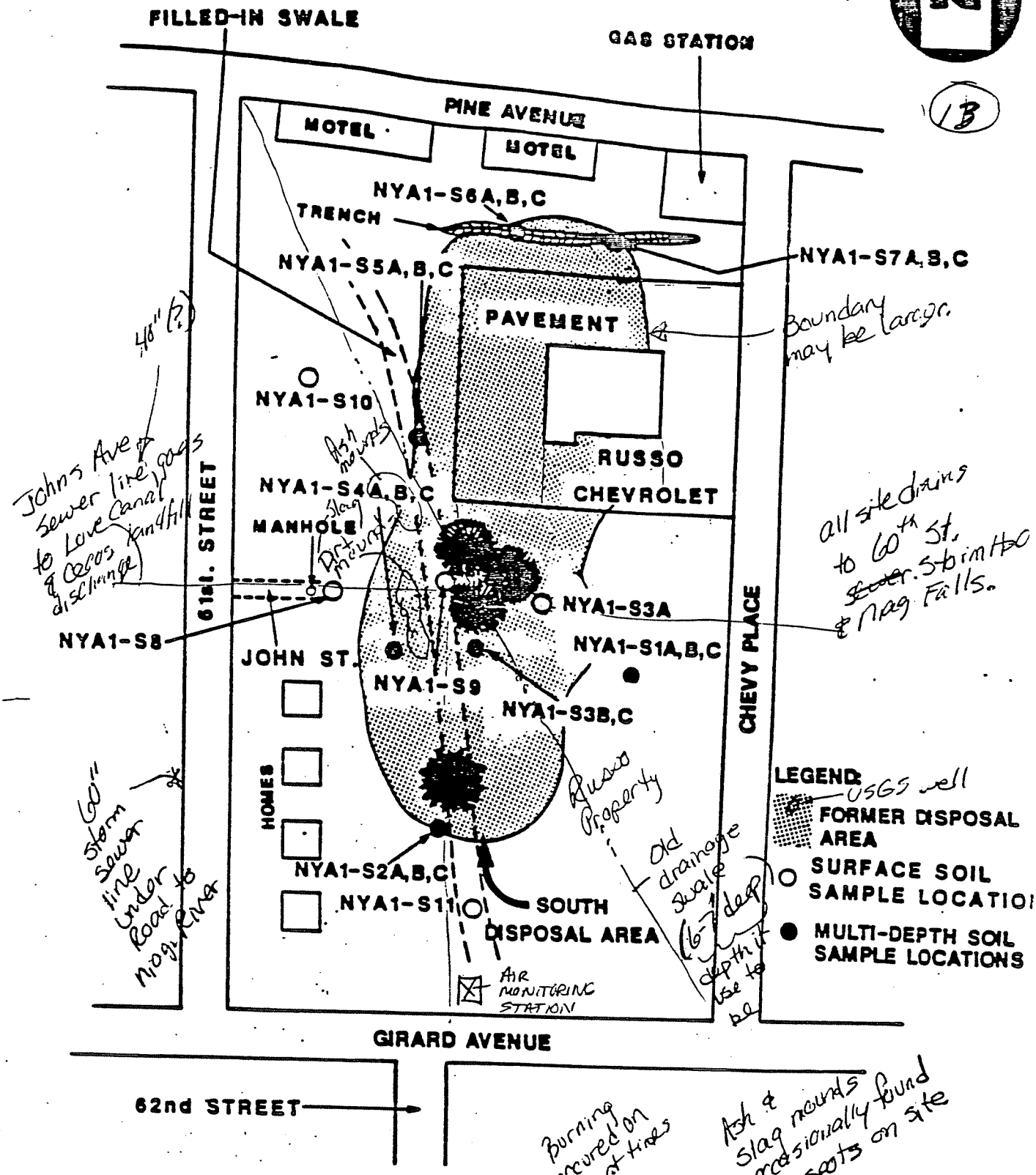
ANALYTICAL DATA
64TH STREET DUMP-SOUTH
SAMPLING DATE: 6/10/85
CASE: 4460/17300

INORGANICS							
SAMPLE NUMBER	NYA1-S76	NYA1-S7B	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	14800	11600	6850	6980
Antimony							
Arsenic	14	9.6	J	16	15	12	11
Barium	457	228	J	J	125	109	115
Beryllium	J	J	J	J	J	J	J
Cadmium	5						
Calcium	28000	45200	15500	46600	21600	62900	14900
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

DRAFT

(B)



John's Ave sewer line goes to Love Canal & Cesos landfill & discharge

all site drains to 60th St. storm sewer & Niag. Falls.

FIGURE 2

SAMPLE LOCATION MAP

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

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company

DRAFT

13

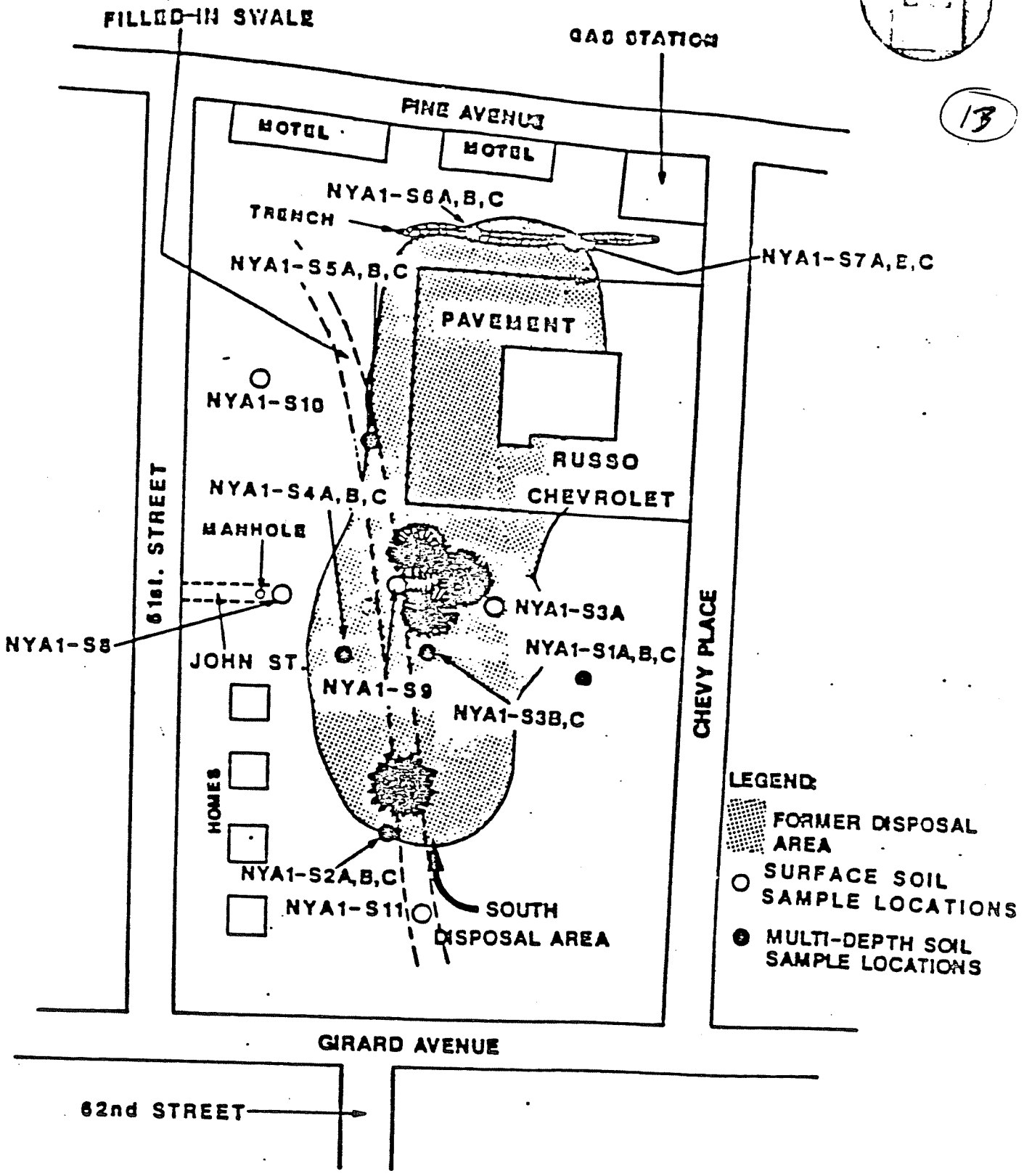


FIGURE 2

SAMPLE LOCATION MAP

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

(NOT TO SCALE)

NUS CORPORATION
A Halliburton Company

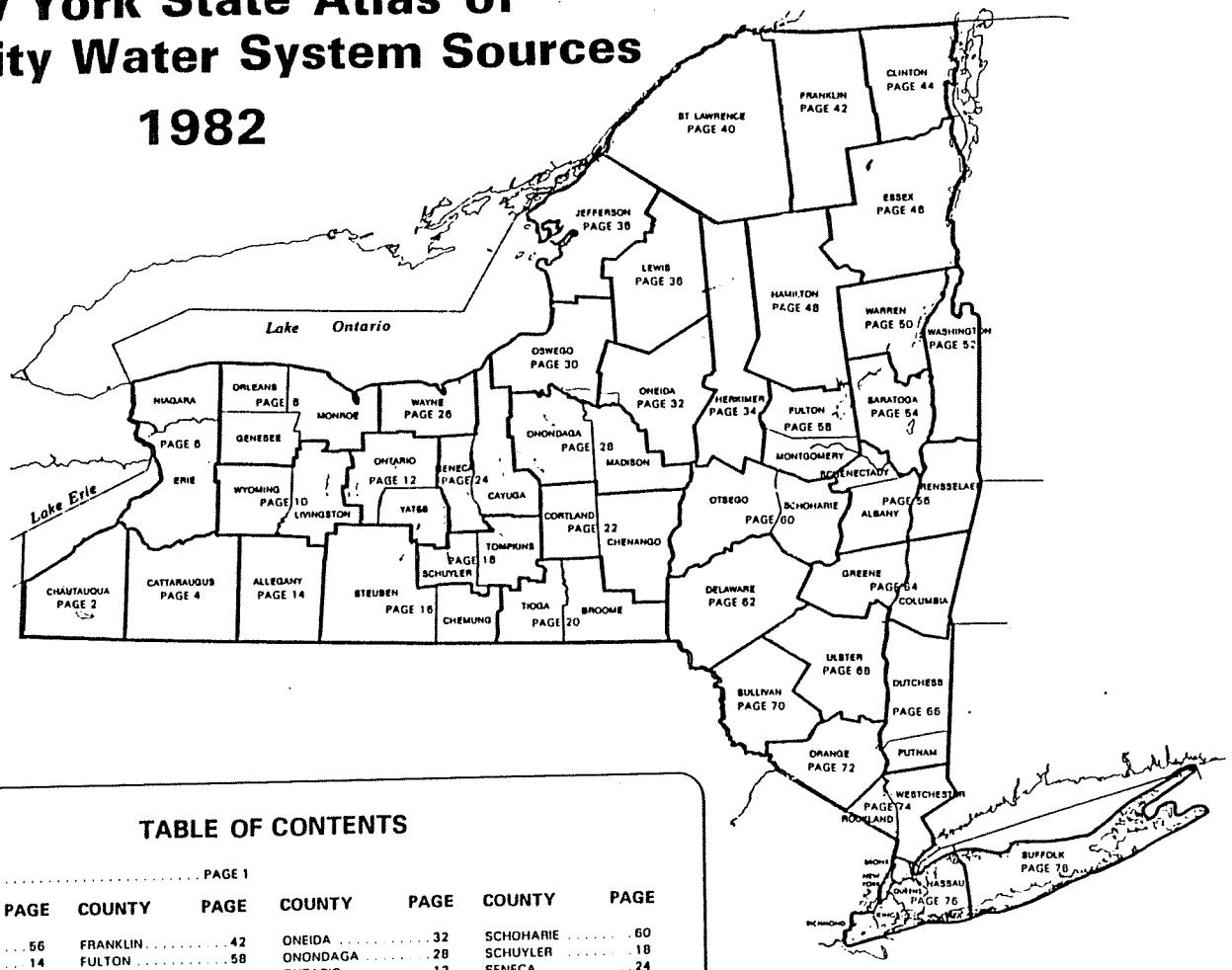
REFERENCE 14

New York State Atlas of Community Water System Sources

1982

NEW YORK STATE
DEPARTMENT OF HEALTH

8



A-109

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 (23 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

DRAFT
11/5/82

DRAFT

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

A-110

DRAFT

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

REFERENCE 15

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

DRAFT Ref 3/79

CLASSIFICATION CODE: 2a REGION: 9 SITE CODE: 932085A
EPA ID:

NAME OF SITE : 64th Street - North
STREET ADDRESS: North of Pine Ave.
TOWN/CITY: COUNTY: ZIP:
Niagara Falls Niagara

SITE TYPE: Open Dump- Structure-X Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 20 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: ** Multi - Owner Site **
CURRENT OWNER ADDRESS.: * * * * *
OWNER(S) DURING USE...: Several Parties
OPERATOR DURING USE...: City of Niagara Falls
OPERATOR ADDRESS.....: City Bldg. 745 Main Street, Niagara Falls,
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1940's To 1950's

SITE DESCRIPTION:
This site is 20 Acres on the north side of Pine Ave. Prior to land-filling, this area was farmland. The City of Niagara Falls operated a municipal landfill on this site during the 1940's and 1950's and possibly the 1960's. Domestic and commercial refuse are suspected to be the principal wastes, although the disposal of industrial wastes is a possibility. A Phase I investigation was completed in 1989. NUS Corp., EPA's contractor, conducted a site soil investigation in 1985. Varying amounts of polynuclear aromatic hydrocarbons (PNA's), BHC, and PCB's were detected. Concentrations of a number of inorganic compounds (mercury, lead, and zinc) were in excess of that normally found in soil. A Phase II investigation is planned.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-	Suspected-X QUANTITY (units)
Unknown		

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil-X Sediment-

CONTRAVENTION OF STANDARDS:
Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

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

GEOTECHNICAL INFORMATION:
SOIL TYPE: Unknown
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Sampling of soils has shown that possible problems may exists at this site. Additional information is needed to assess the extent of environmental problems at this site.

ASSESSMENT OF HEALTH PROBLEMS:

Access to this area is not restricted, however the site is occupied by several businesses and NYSDOT and parts of the site are paved. Exposure by direct contact would be limited to people who work in the area. Surface water run-off is collected into storm sewers, which discharge into the Pike Creek conduit. This eventually drains into the Niagara River where bioaccumalation in fish may occur. There are no drinking water wells within 3 miles of the site. Soil samples have revealed the presence of some metals {iron (98,000ppb), mercury (8.3ppm)}, PCBs (6200ppb), and pesticides (720ppb). Limited ground water sampling has shown cadmium, lead, methylene chloride, and toluene were found in concentrations slightly exceeding NYS groundwater standards. Further investigation of this site is needed to better define the extent of contamination.

REFERENCE 16

Ref. (16) NIA. CO. HEALTH DEPT.

DRAFT

33.

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 1960'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-62 (1958) and ARE-2GC-27 (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 Poygam 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

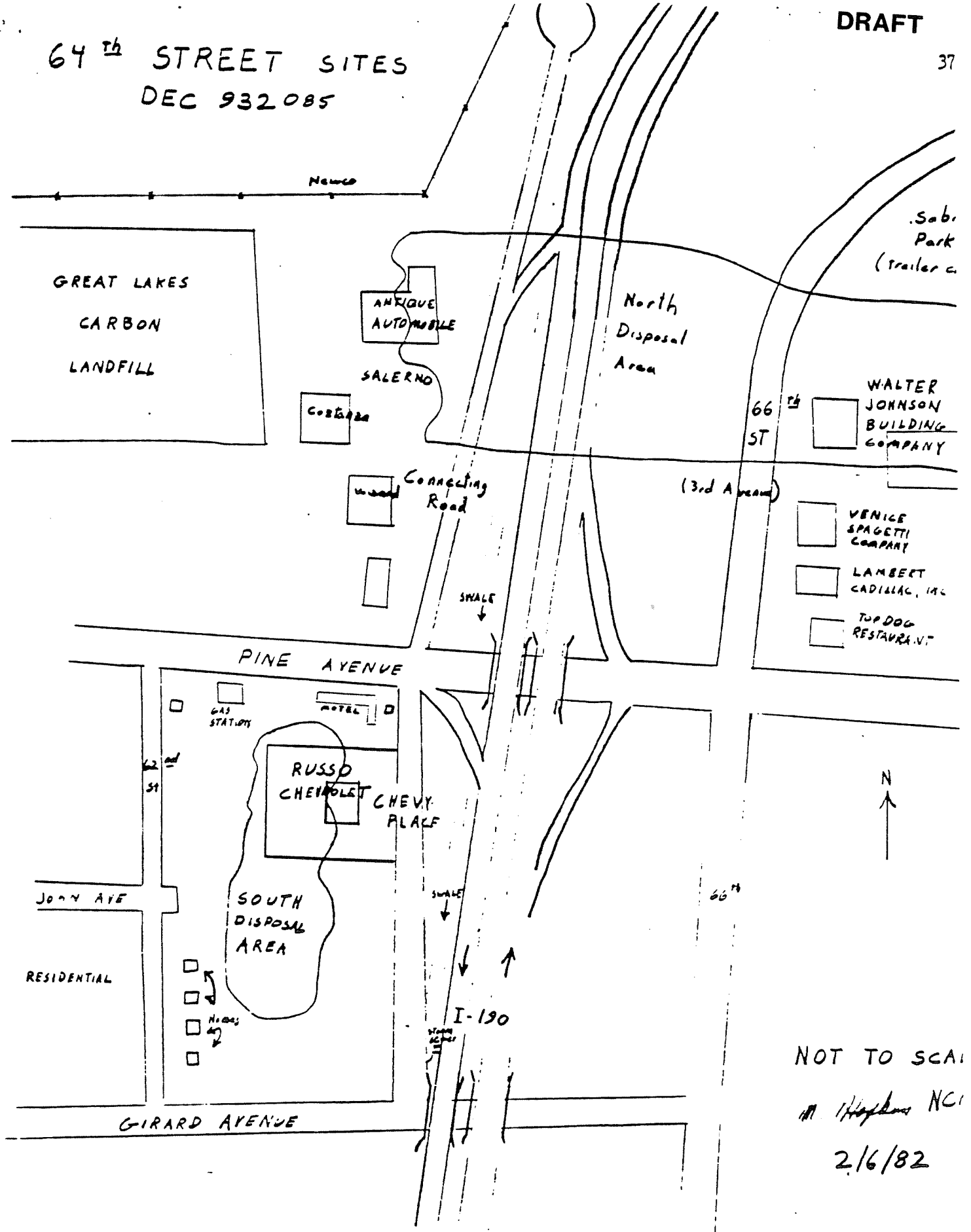
There is no sign of any exposed material at this site. The I-190 Right-of-Way is fenced. Other areas are on private property, but not totally fenced.

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.



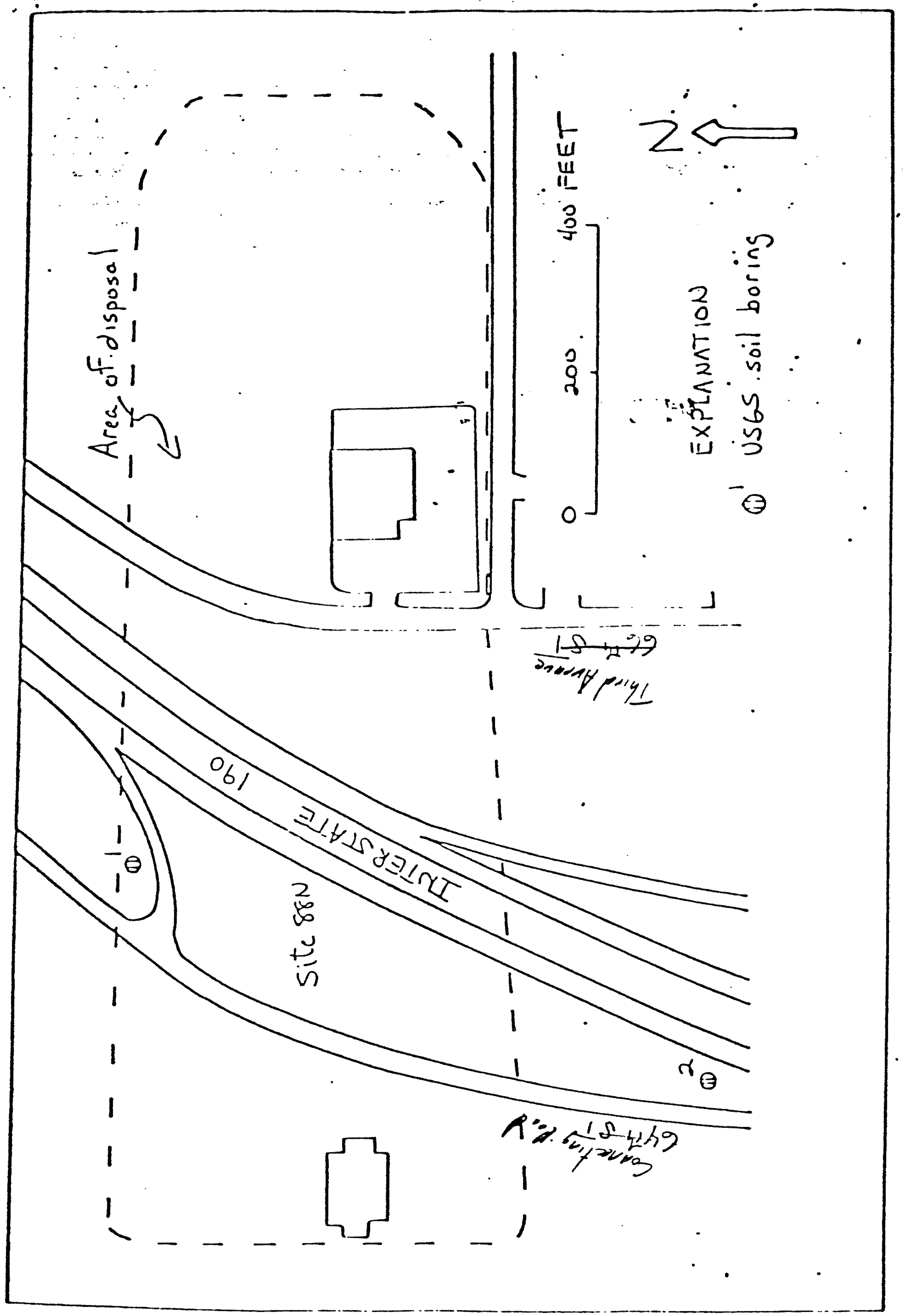
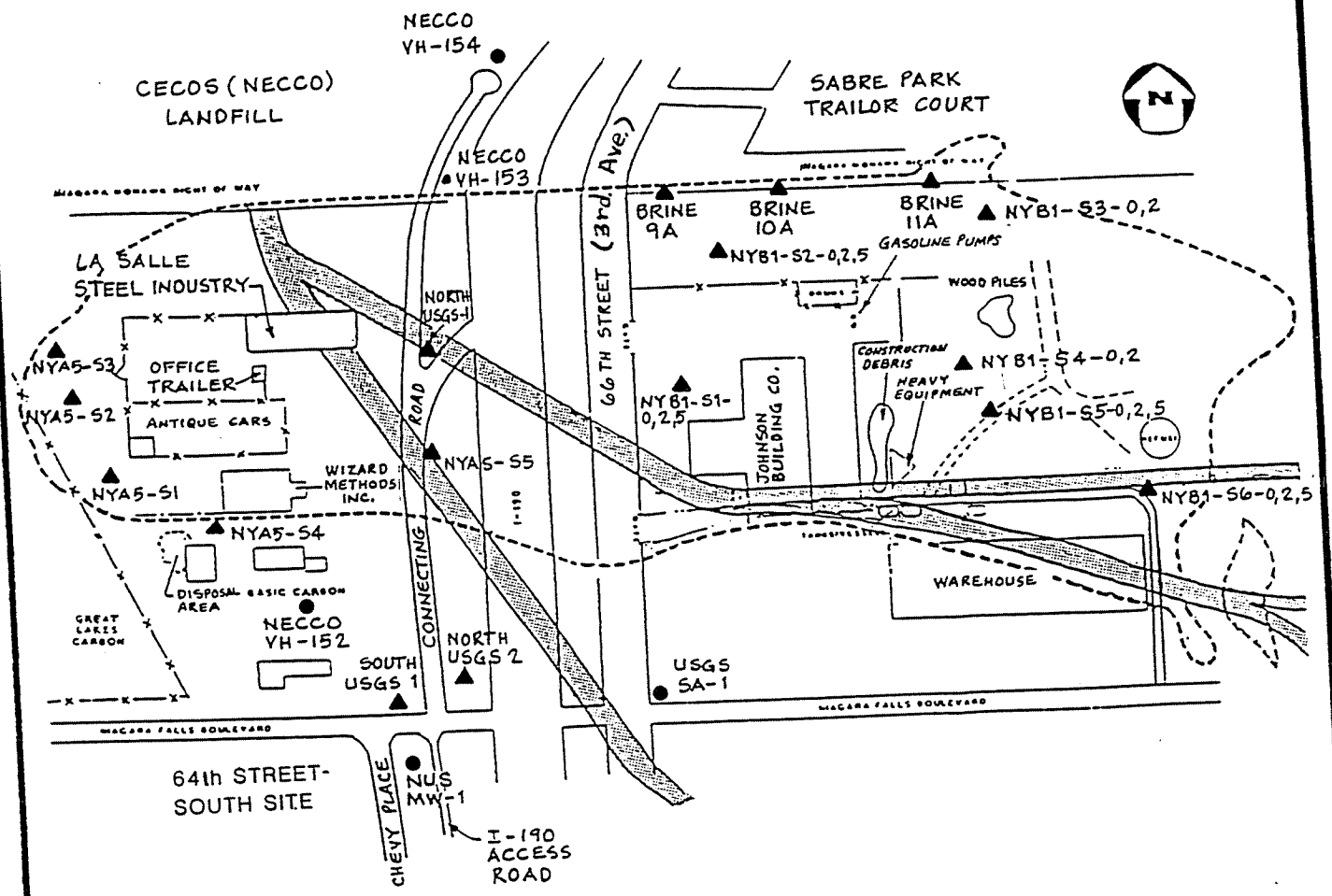


Figure 1 - Location of sampling sites, 64th St North USGS



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.

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

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PHASE I REPORT

PLOT PLAN
64th STREET-NORTH

FIGURE I-2

A-122

REFERENCE 17

DRAFT

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.

DRAFT

REF 17

INTERVIEW FORM

INTERVIEWEE/CODE John Oglesby /

TITLE - POSITION Senior Wildlife Biologist, Significant Habitat Unit

ADDRESS NYSDEC Wildlife Resources Center, Building 8

CITY Delmar STATE N.Y. ZIP 12054

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

LOCATION phone conversation INTERVIEWER Lisa A. Ryan

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I AGREE WITH THE ABOVE SUMMARY OF THE INTERVIEW:

SIGNATURE:

COMMENTS:

REFERENCE 18

DRAFT
SAX, 1994

Dangerous Properties of Industrial Materials

Fifth Edition

N. IRVING SAX

Assisted by:

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

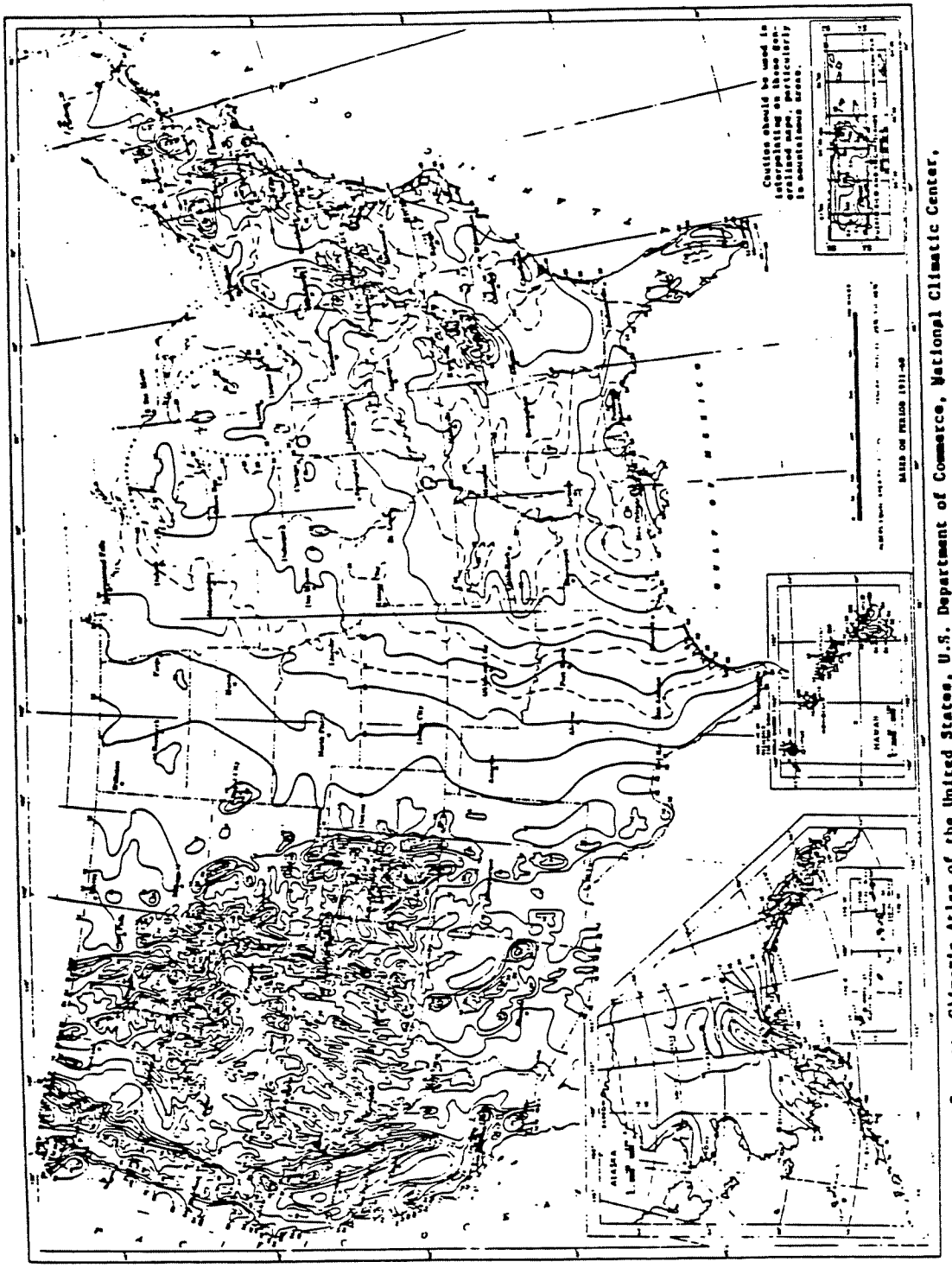
VAN NOSTRAND REINHOLD COMPANY
NEW YORK CINCINNATI TORONTO LONDON MELBOURNE

REFERENCE 19

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.

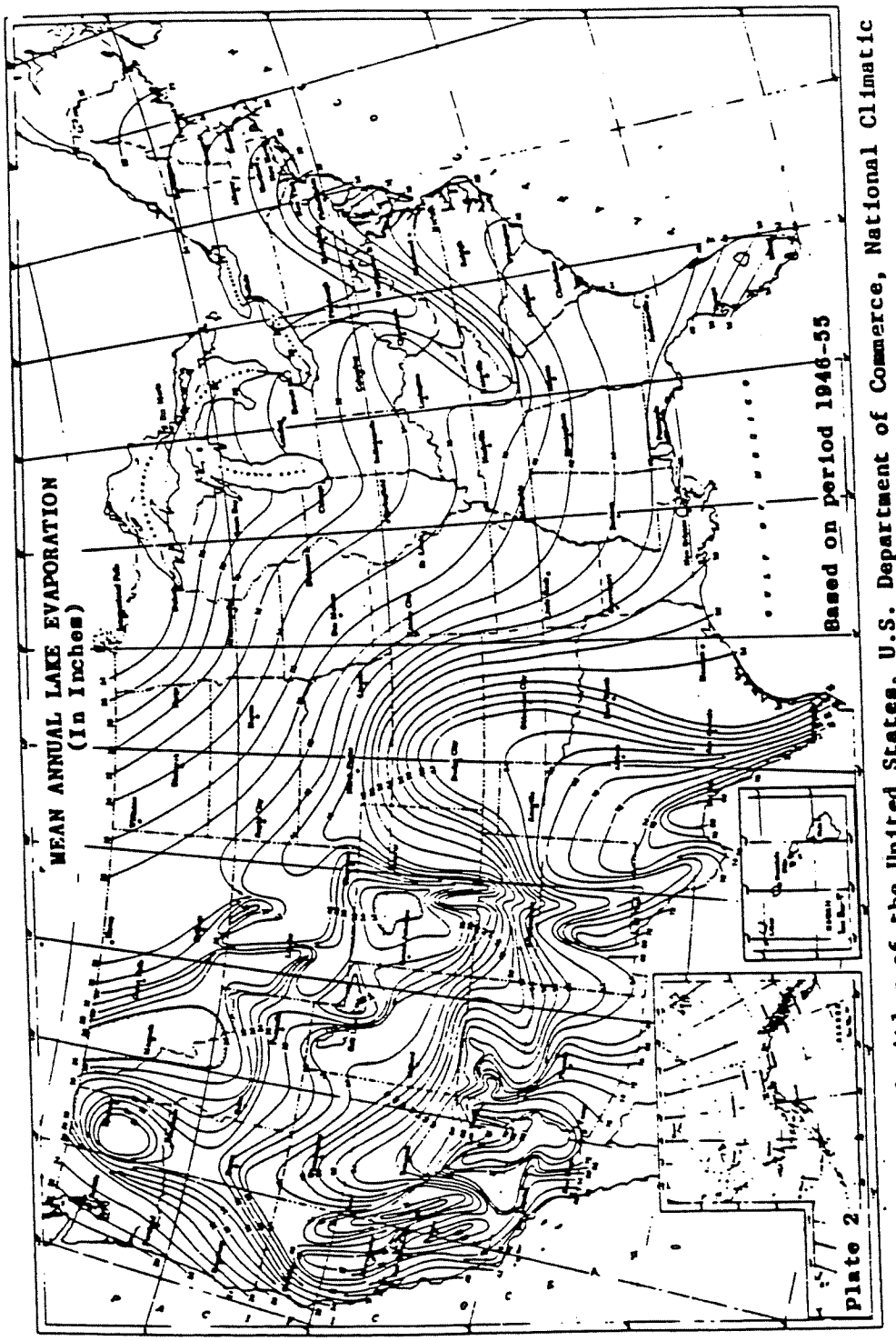
REFERENCE 20



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)

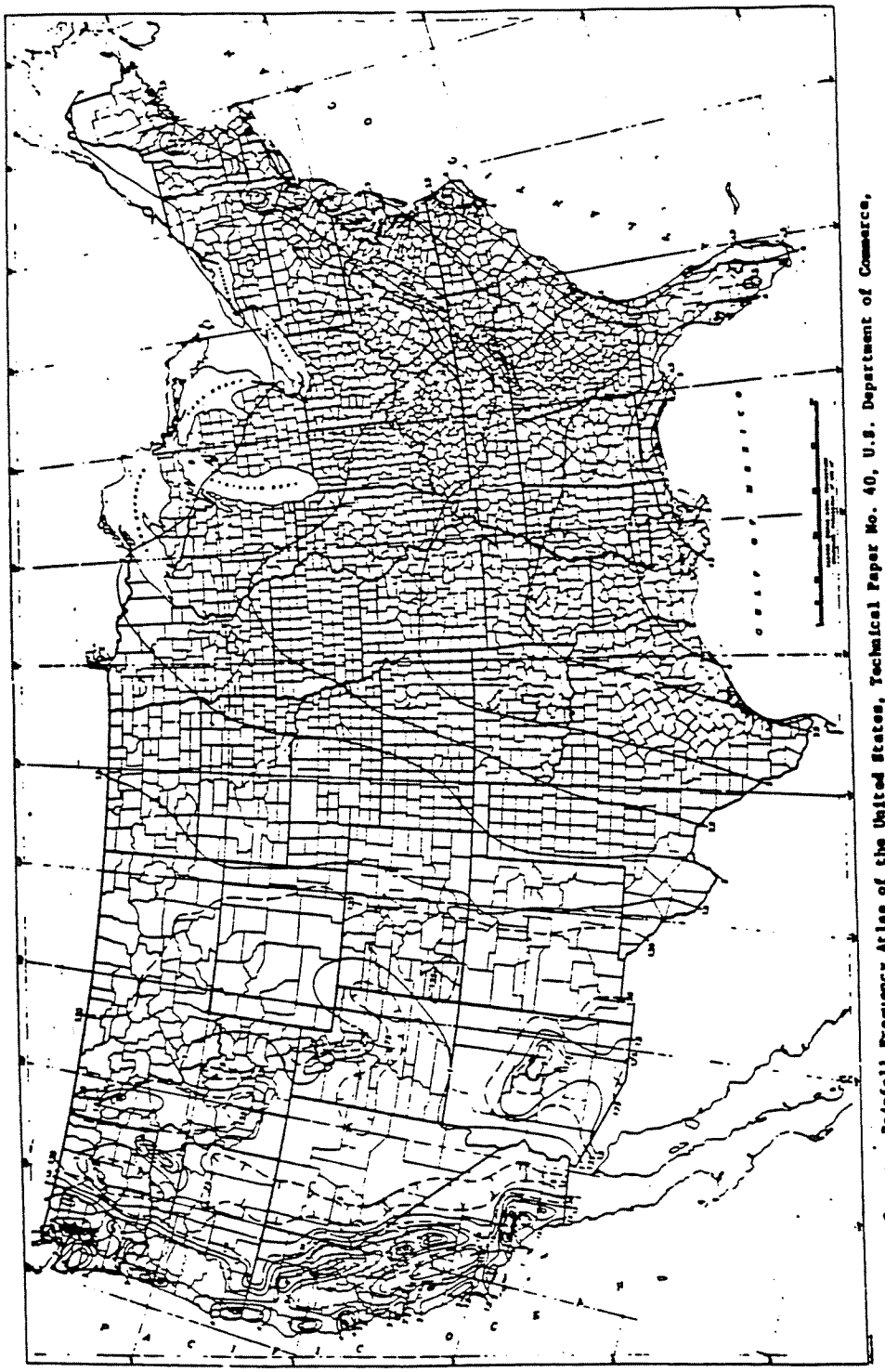
REF—DRAFT
USOC, 1979



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)

REFERENCE 21



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)

REFERENCE 22

Tuesday
March 1, 1983

(22)

Part III

Department of the Interior

National Park Service

National Registry of Natural Landmarks

DRAFT

(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

REFERENCE 23

USEPA DRAFT

"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.

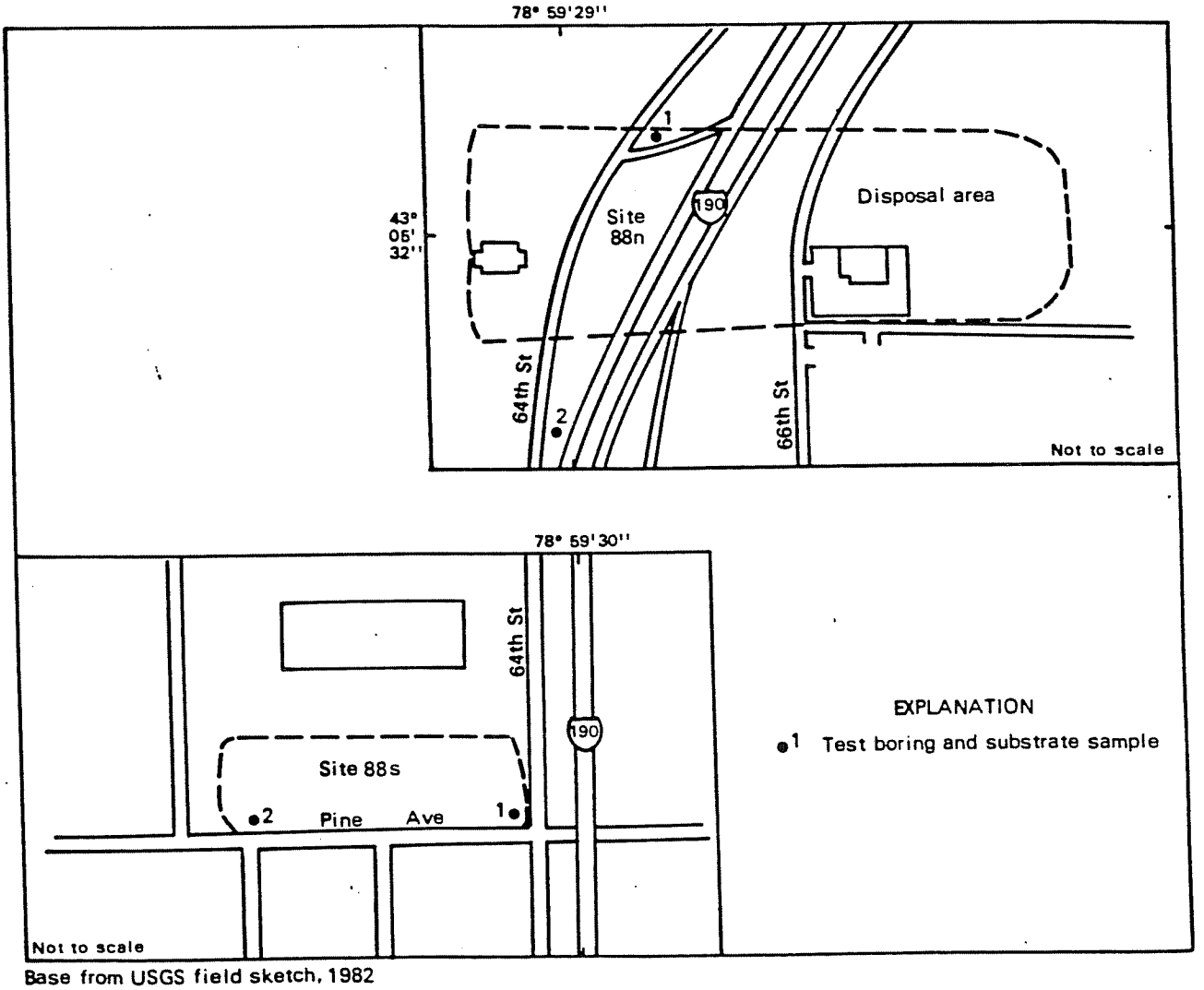


Figure C-47. Location of sampling holes at 64th Street, site 88, Niagara Falls.

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.

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.

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.]

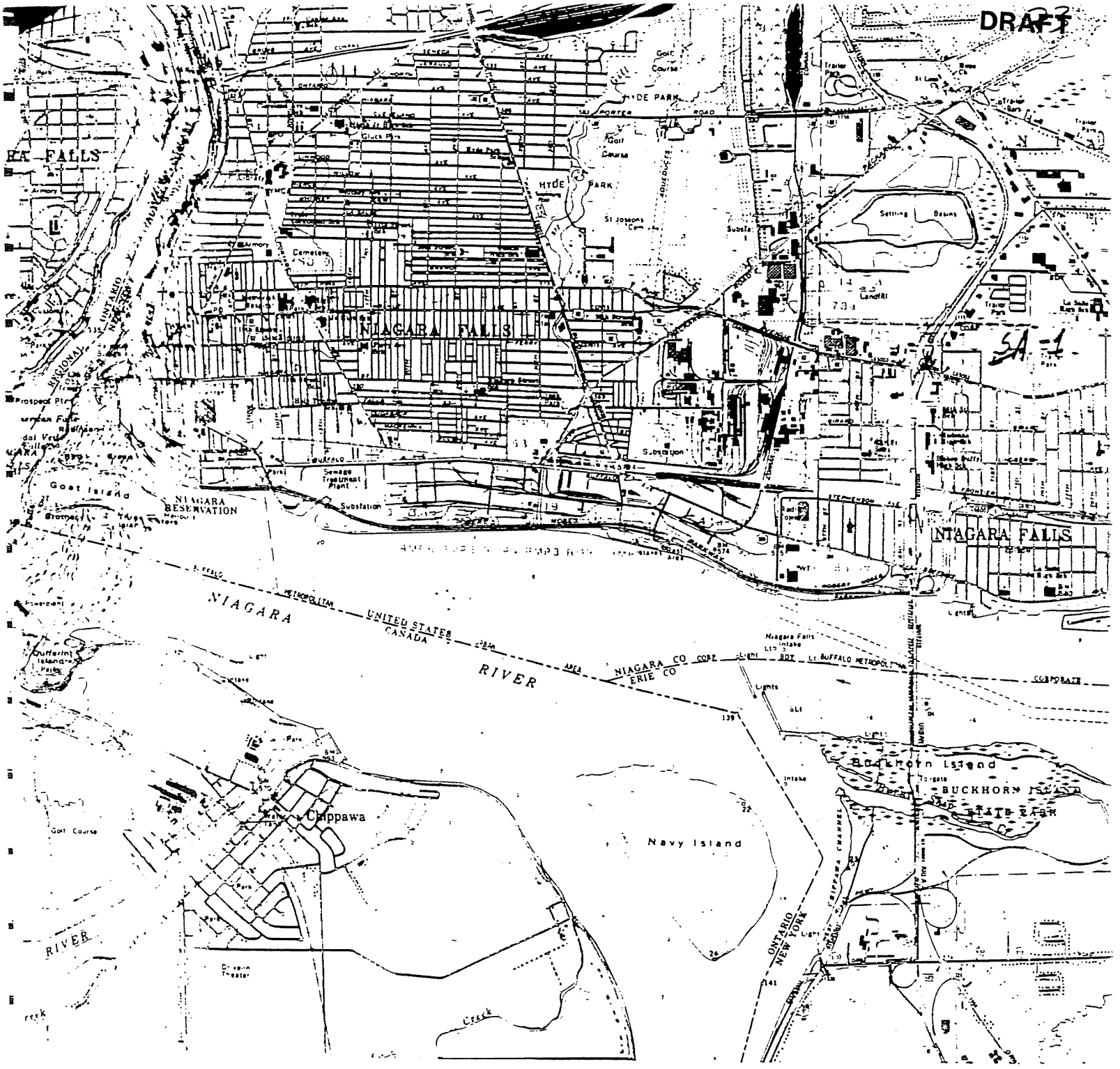
	Well number and depth below land surface (ft)		
	(SA-1) I190-I62 Interchange	(SA-2) Griffon Park	(SA-3) Airport Triangle
Organic Compounds			
Priority pollutants			
Methylene chloride	140	7.1	375
Toluene	150	10	230
Ethylbenzene	5.9	LT	4.5
Chloroform	4.2	--	--
Dibutylphthalate	12	0	2.05
Mirex	--	0.21	--
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
rganic 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			
exanoic acid[1]	13	--	--

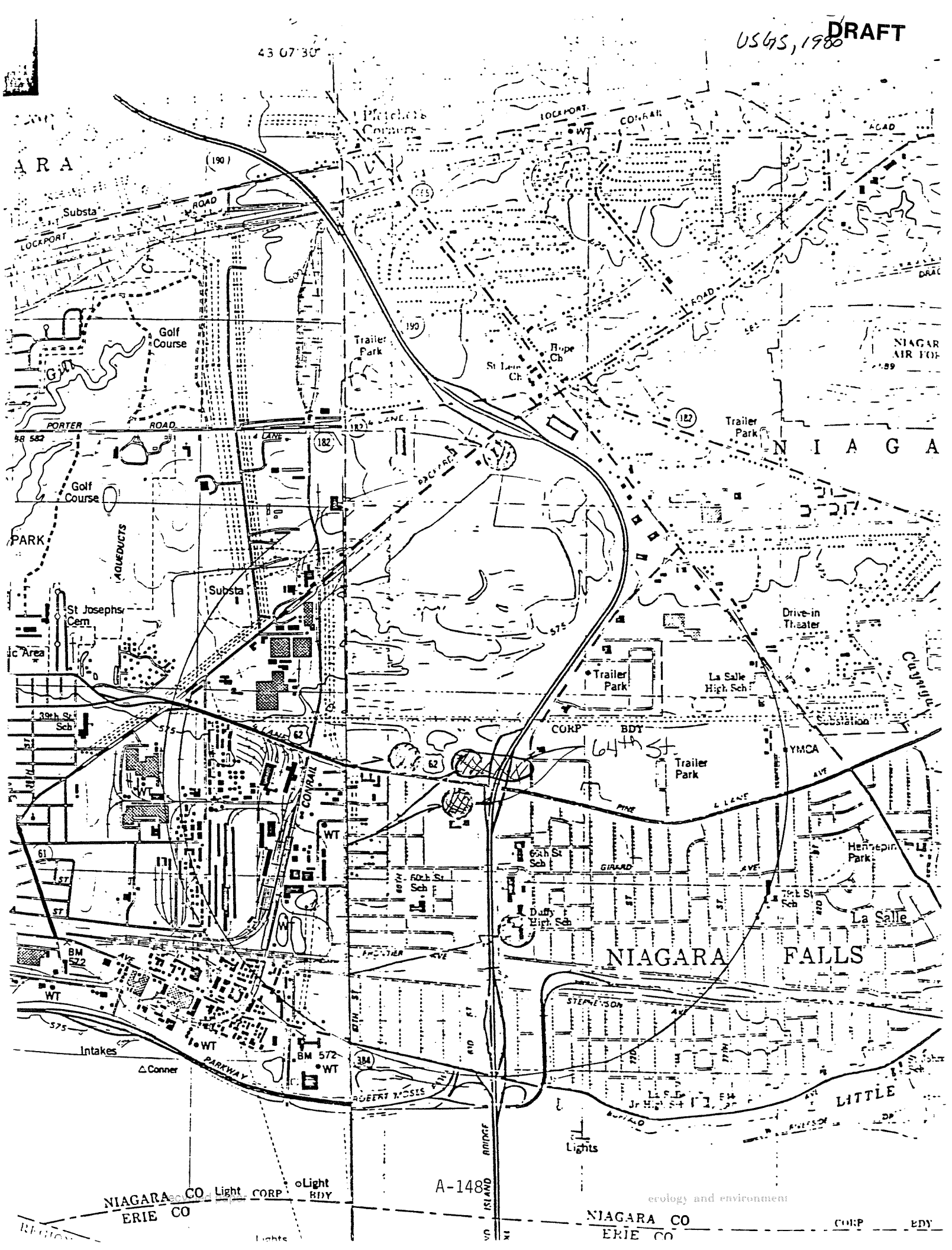


PRELIMINARY EVALUATION OF HYDROGEOLOGY AND CHEMICAL MIGRATIC

AT SELECTED WASTE-DISPOSAL SITES WITHIN 3 MILE

OF THE NIAGARA RIVER IN ERIE AND NIAGARA COUNTIES, N

REFERENCE 24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NIAGARA FALLS
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ecology and environment

REFERENCE 25

RD1 - DRAFT
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

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.

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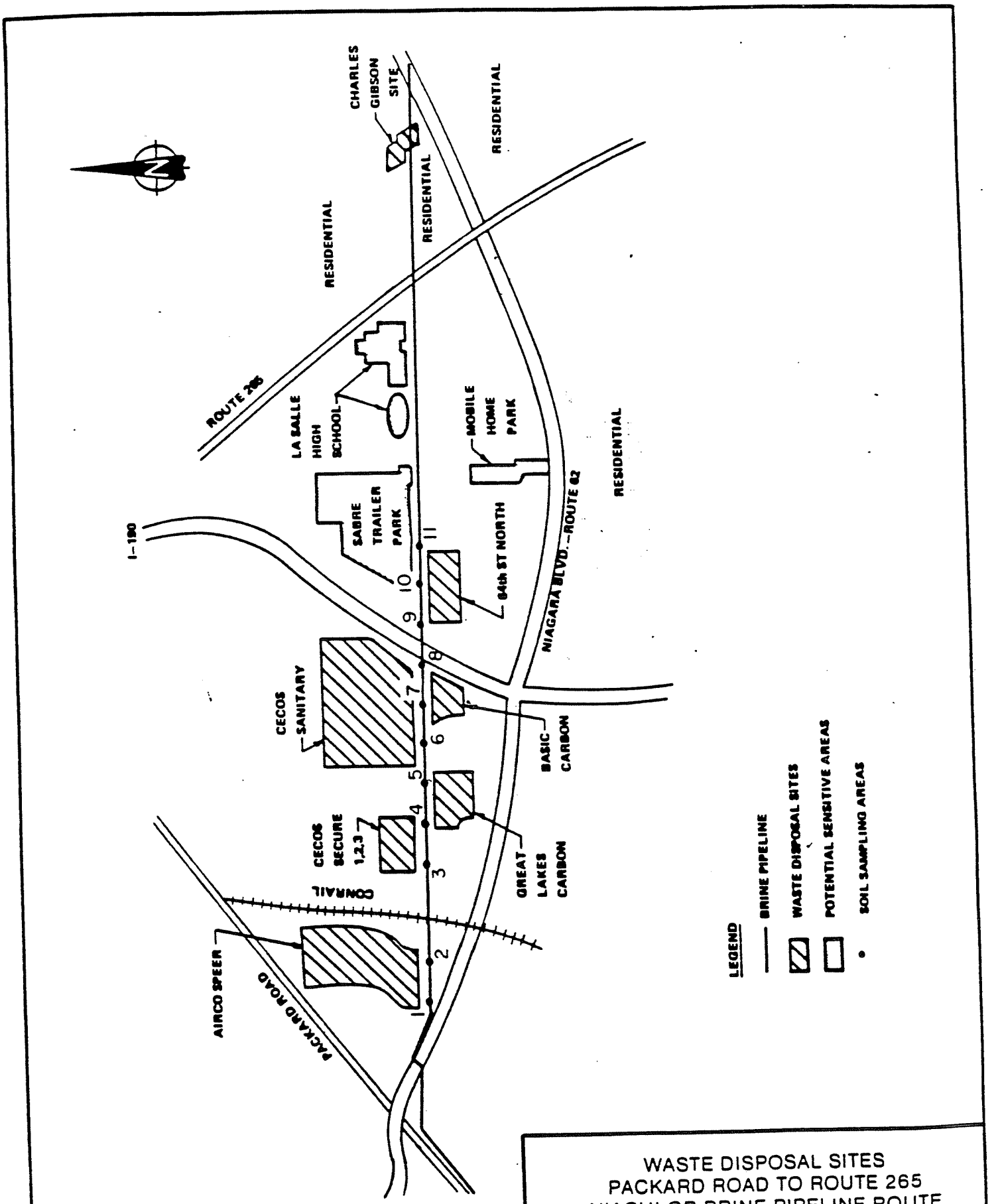
C. 64TH STREET NORTH SITE

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.



WASTE DISPOSAL SITES
PACKARD ROAD TO ROUTE 265
NIACHLOR BRINE PIPELINE ROUTE
SOIL SAMPLING PROGRAM

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.

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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.

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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.

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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.

1254P (323A)

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.

TABLE 9. 64TH STREET NORTH SITE

COMPOUNDS TENTATIVELY IDENTIFIED IN SOIL

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

COMPOUND	SAMPLE LOCATION 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

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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.

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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).

DRAFT

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	08 CONG. DIST.
C. Niagara Falls	NY	14302	Niagara	063	33

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 Salerno, 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 DATE Dec 85, Apr 86 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): Engineering Science and Dames & 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 backgroud 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
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

EPA

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 (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: 12/9/85) ☐ POTENTIAL ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: 20 (Acres) 04 NARRATIVE DESCRIPTION

and Woodward Clyde

Soil samples collected by NUS (1985) and USGS (1982) 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 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 record of incidence.

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

No record of incidence.

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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 3 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)

ACHD, Site Profile, 1982
USGS, Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste Disposal Sites, 1985
NYSDOH, Site Inspection Report - Draft, 1985
NUS, [illegible] Performance of [illegible] Response Activities at Uncontrolled Hazardous Substance Facilities, 1986
Woodward-Clyde for Texas Brine Corp.

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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	02 SITE STATUS	03 YEARS OF OPERATION
4/21/86 (MONTH DAY YEAR: 12,12,85)	☐ ACTIVE ☑ INACTIVE	Late 1930's 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) 284-324
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Vince Salerno		Lasalle Steel and Antique Automobiles	(716) 731-4781
David Brooks	Planning Dept.	C. of Niagara Falls	(716) 282-8846
			( )
Jack Johnson:	President	Walter S. Johnson Building Co.	(716) 283-873
Russ Bowers		11	(716) 283-873
for Jack Johnson			

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/ 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) 591-757

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Cathy J. Bosma		same		4,30,86 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

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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
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS
- ☒ D. OTHER Unknown (Specify)

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 - 37,000	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	
	4-Nitrosodiphenylamine	999	"	200,000	
	Phenanthrene	85-01-8	"	540 - 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	120	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.

EPA FORM 2070-13(7-81)

64th St

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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 & Gill 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 lev Soil samples collected by NUS show varying concentrations 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 intake 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 FORM 2070-13 (7-81)

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

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

☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
NARRATIVE DESCRIPTION
Not likely since there are no agricultural areas within 2 miles of site.

M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Insufficient data to rate potential.

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

☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
NARRATIVE DESCRIPTION
No record of sampling. Potential exist due to surface runoff routes including sewers and storm drains.

☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: 4/23/86) ☐ POTENTIAL ☒ ALLEGED
NARRATIVE DESCRIPTION
Scavenger dumping noticed at northern section of site, primarily domestic refuse.

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

IV. TOTAL POPULATION POTENTIALLY AFFECTED: _____

V. COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
ES & DOH 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	02 SITE NUMBER
NY	

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. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER None (Specify)

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 commerial 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

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

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

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	~30 (ft)	unknown (gpd)	☐ YES ☐ NO unknown

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

Industrial wells located approximately 2 miles south west of site on Buffalo 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	04 DISTANCE TO NEAREST OFF-SITE BUILDING
9673	< 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

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

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

II. 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: SITE IS IN 7500 YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. ____ (mi) OTHER: B. 0.25 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species): > 3 (mi)

ENDANGERED SPECIES: ____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	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 scavenger 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 FORM 2070-13 (7-81)

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	

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.

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	—

II. CURRENT OWNER(S) / PARENT COMPANY (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Jack Johnson			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
925 66th St.			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
C. Niagara Falls	NY	14302			

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
George (or Vince) Salerno			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
1100 Connecting Road			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
C. Niagara Falls	NY	14304			

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
New York State Dept. of Transp.			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
	NY				

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

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
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. of 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

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Actually owners at time of disposal of north			

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

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
ES and D&M Site Interview, Dec 1985

recycled paper

ecology and environment

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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) | **OPERATOR'S PARENT COMPANY** (If applicable)

01 NAME: See Previous Page Vince Salerno	02 D+B NUMBER:	10 NAME:	11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 1100 Connecting Road	04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.):	13 SIC CODE:
05 CITY: C. Niagara Falls / 06 STATE: NY / 07 ZIP CODE: 14304		14 CITY: / 15 STATE: / 16 ZIP CODE:	
08 YEARS OF OPERATION: 1954 – Date	09 NAME OF OWNER: Same		

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

01 NAME: (suspected) C. of Niagara Falls	02 D+B NUMBER:	10 NAME:	11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 745 Main St.	04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.):	13 SIC CODE:
05 CITY: C. Niagara Falls / 06 STATE: NY / 07 ZIP CODE:		14 CITY: / 15 STATE: / 16 ZIP CODE:	
08 YEARS OF OPERATION: 1940s & 1950s	09 NAME OF OWNER DURING THIS PERIOD:		

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

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

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling 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

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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

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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

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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, sampling analysis, reports)

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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

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.

[illegible] DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PHASE II INVESTIGATION
COST ESTIMATE

SITE ID #: 932085A
SITE NAME: 64TH STREET-NORTH
CONSULTANT: ENGINEERING SCIENCE

TABLE VI-3

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

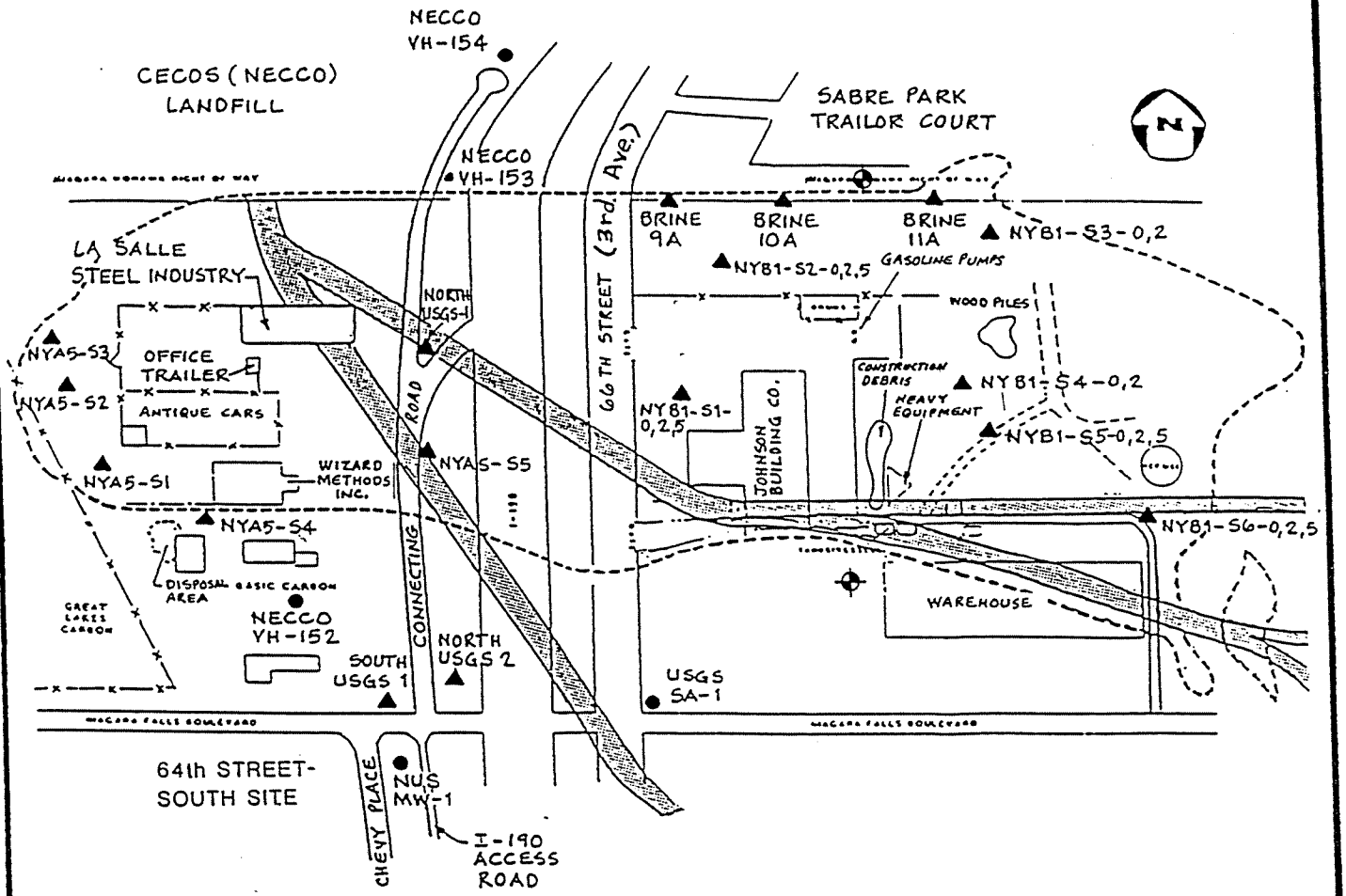
5/30/86

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

SITE ID #: 932085A
SITE NAME: 64TH STREET-NORTH
CONSULTANT: ENGINEERING SCIENCE

TABLE VI-4

TASK DESCRIPTION	DIRECT LABOR HOURS	DIRECT LABOR COST($)	SUBCONTR. COSTS $	SUPP.& EQUIP. $	MISC. $	TRAVEL & PER DIEM $	TOTALS $
II-A UPDATE WORKPLAN	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 VISIT, 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.

REFERENCE 26

REFERENCE 27

REFERENCE 28

REFERENCE 29

DRAFT

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

REFERENCE 30

DRAFT

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

FILE
1 - CRK
2 - file → 64th Street north site

Thomas C. Jorling
Commissioner

MEMORANDUM

TO: Steven Doleski

FROM: Peter Buechi

SUBJECT: TOPS Market Site, 70th & Pine Avenue, Niagara Falls

DATE: January 23, 1991

This is in response to Mike McMurray's request to review an environmental assessment package for the subject proposed major supermarket location. Please consider the following:

1. A concern has been raised by the City of Niagara Falls questioning whether the preliminary DEC determination that at least a portion of the proposed project will be located within a listed hazardous waste site is in fact correct. A review of aerial photos by the Niagara County Department of Health (map attached) shows approximate boundaries for the 64th Street-North hazardous waste site. The information we received subsequent to your last meeting with TOPS precisely defines the project boundaries. As you can see, disposal apparently occurred in the area north of Niagara Falls Blvd. and between 70th Street and 73rd Street. The Environmental Property Assessment done for the property owner by Waste Resource Associates Inc. (WRA) further confirms that waste disposal has occurred on this property. These reports also made recommendations (attached) on how to deal with the "contaminated fill material".

2. While waste disposal on this site has been confirmed by WRA a determination by the State must be made as to whether any waste disposed on this site was a RCRA hazardous waste and, if so, the site must be classified according to ECL 27-1305 criteria. This site has been assigned an interim code 2A. The site will remain in this category until scheduled follow-up study has been completed.

3. From review of recommendations made by WRA and the excavation plan prepared by DiDonato Associates, the firm is considering removal of at least the top four (4) feet of fill material for off-site disposal. Approximately 100,000 - 125,000 yd^3 of material would be removed under this scenario at a cost of $1,625,000 to $3,200,000. The cost appears to be related to the percentage of fill found to be contaminated. WRA has also prepared a technical assistance proposal. The purpose of this is to oversee the sampling/analysis for characterizing the fill for ultimate disposal. This activity will cost an additional $113,600.

The WRA reports do not indicate where waste material would be disposed. It is likely that prior approvals from the Solid Waste or Hazardous Substance Regulation section will be required, whether a municipal or secure landfill.

4. Section 27-1317 "New Use of Sites" requires both the Commissioner of Health and DEC be notified of substantial changes of use of hazardous waste disposal site. With the company's submission to DRA, notification to DEC should be considered adequate, however, DOH, apparently has not been advised. From a program perspective, the Division of Hazardous Waste Remediation (DHWR) would not be required to make any approval determination for the proposed excavation plan. Therefore, the firm could proceed with the project so long as other state requirements have been complied with including notification to DOH. As a practical matter though, this would be considered a major project from the standpoint of potential environmental problems that could arise (i.e. dust emissions, spills, encountering pressurized cylinders etc). It would therefore be prudent to encourage an integrated review of the project.

5. If the company proceeds without obtaining scientific data which confirms the extent of contamination removal, DHWR would not be in a position to make a decision on removal of the developed area from the registry until the completion of the DEC study mentioned previously. Should the firm desire DHWR oversight in this regard, guidance will be provided. Remedial projects handled by DHWR would require a remediation plan, health and safety plan, and confirmatory sampling/analysis plan, etc.

ad

REFERENCE 31

DRAFT

Environmental Property Assessment
(Phase II)
Niagara Falls Boulevard
(near 70th Street)

prepared for:

Tops Markets, Inc.
60 Dingens Street
Buffalo, NY 14206

prepared by:

Waste Resource Associates, Inc.
2576 Seneca Avenue
Niagara Falls, NY 14305

January 11, 1990

Recommendations

If the Peter J. Schmitt parcel represents an acquisition for Tops with particular strategic economic value to its business, the following are considerations which should somehow be factored into the cost of purchasing the property.

Contaminated Fill Material

Although the EOX (chlorinated hydrocarbon) contamination at the site is confined to the surface soils and upper portion of the fill material strata and the contamination level is minimal, that material would in all likelihood need to be disposed of at either a Part 360 - permitted Solid Waste Landfill Facility at a cost of approximately $50 per ton or at a Part 360 - permitted Construction and Demolition Debris Landfill at a somewhat lower cost. If all fill material must be moved from the site because of inadequate stability considerations which it may impose on future construction activities, the total volume of fill material which must be removed is approximately 100,000 - 125,000 cubic yards of material. If the contaminated fill material can effectively be separated and isolated from the non-contaminated fill material and if it represents only 10 - 25% of the expected total volume of fill material to be removed, the disposal charges associated with the contaminated fill would be between $625,000 - $2.0 million (assuming 1.25 tons per cubic yard and $50 per ton disposal charge). The remaining uncontaminated fill would cost approximately $1.0 million to $1.2 million to dispose of (assuming 1.25 tons per cubic yard and $10 per ton disposal charge).

Other Sub-surface Deposits

The waste lime identified in the Phase II - study indicates that if all contaminated/uncontaminated fill material is removed from the site as previously mentioned, there may be isolated pockets of additional unknown materials similar to the waste lime

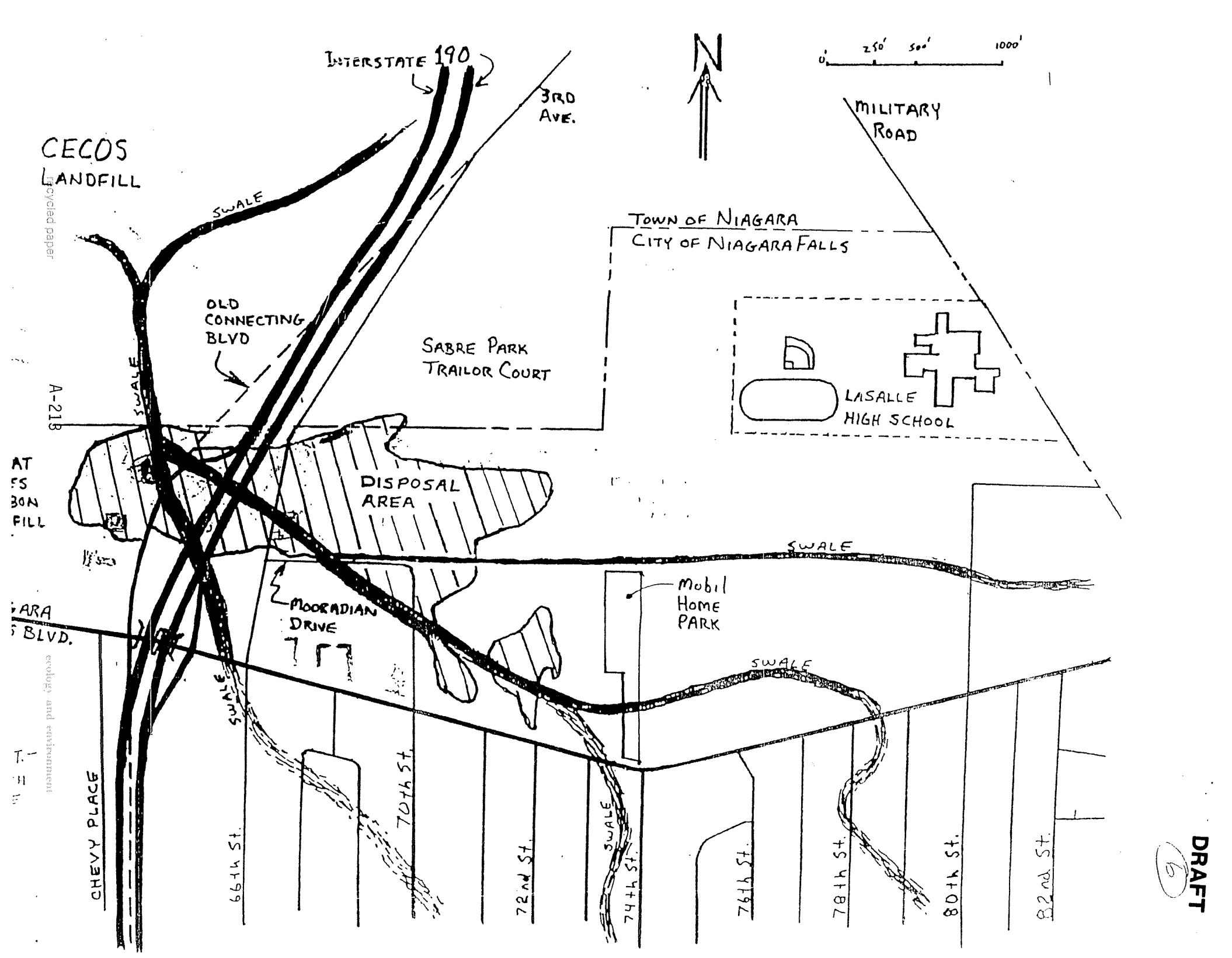
that will be uncovered and which will require special handling. The waste lime identified would in all likelihood be approved for disposal at a Part 360 - permitted Solid Waste Landfill Facility at a cost of approximately $50 per ton. There is the possibility however that the NYSDEC may require it to be handled at a Part 373 - permitted Hazardous Waste Landfill Facility at a cost that could range from as little as $150 per ton to as much as $250 per ton. There is also a slim possibility that if the organics present in the waste lime prohibit its disposal in a hazardous waste landfill facility because of existing or impending land ban restrictions, the waste lime would need to be sent to a hazardous waste incinerator to be treated. The charges at hazardous waste incinerator could be as much as $500 to $2,000 per ton.

Even though a substantial number of soil borings were taken (a boring for every 1.5 - 2.0 acres of property), it is not possible to accurately estimate the volume of waste lime or approximate total volume for waste lime and other miscellaneous sub-surface deposits which could be encountered once excavation and removal of the fill material proceeds. It is conceivable that during excavation, drums of industrial waste could possibly be encountered. If 55-gallons are encountered each and every drum would need to be sampled (if it still contains any material), at a cost for testing alone which could range from as little as $250 to as much as $1,500 per drum to identify the contents. If empty or deteriorated drums were found, the soils surrounding these areas would definitely need to be tested extensively to determine an appropriate disposition. At best, those soils may be allowed to be disposed of at a Part 360 - permitted Solid Waste Landfill Facility at approximately $50 per ton for disposal. At worst, they would require disposal at either a part 373 - permitted Hazardous Waste Landfill Facility at $150 - $250 per ton or at a Hazardous Waste Incinerator at $500 - $2,000 per ton, if prohibited from landfill disposal due to land ban restrictions.

Summary

As a result of the Phase II - study, there is definitely concern for potential liability exposure in the purchase of the property which is being contemplated. If however, the parcel presents a unique strategic opportunity for Tops, the development of the parcel could conceivably take place, but not without significant costs associated with necessary remedial action and clean-up activities. Unfortunately, at this time with the data that is available, it is impossible to determine the exact magnitude of the worst case scenario with regard to potential liability exposure.

It is certain however, that whatever current commercial market value is placed on the Peter J. Schmitt parcel, if were to proceed with the acquisition and assume a calculated risk associated with its future development, the acquisition cost for the parcel should be only a portion of what may be currently considered its fair market value.


INTERSTATE 190
3RD AVE.
CECOS LANDFILL
SWALE
MILITARY ROAD
TOWN OF NIAGARA
CITY OF NIAGARA FALLS
OLD CONNECTING BLVD
SABRE PARK TRAILOR COURT
A-218
LASALLE HIGH SCHOOL
DISPOSAL AREA
SWALE
MOORADIAN DRIVE
Mobil Home PARK
SWALE
SWALE
CHEVY PLACE
66th St.
70th St.
72nd St.
74th St.
76th St.
78th St.
80th St.
82nd St.
0'
250'
500'
1000'
N

DRAFT

REFERENCE 32

REFERENCE 33

DRAFT

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.

REFERENCE 34

REFERENCE 35

Ref (35)

DRAFT

Toxicological Profile for

POLYCYCLIC AROMATIC HYDROCARBONS

ACENAPHTHENE
ACENAPHTHYLENE
ANTHRACENE
BENZO(a)ANTHRACENE
BENZO(a)PYRENE
BENZO(b)FLUORANTHENE
BENZO(g,h,i)PERYLENE
BENZO(k)FLUORANTHENE
CHRYSENE
DIBENZO(a,h)ANTHRACENE
FLUORANTHENE
FLUORENE
INDENO(1,2,3-cd)PYRENE
PHENANTHRENE
PYRENE

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

Comment Period Ends:

February 16, 1990

DRAFT

TABLE 5-5. Background Soil Concentrations of Polycyclic Aromatic Hydrocarbons (PAHS)

	Concentration (µg/kg)		
Compound	Rural Soil	Agricultural Soil	Urban Soil
Acenaphthene	1.7	6	
Acenaphthylene		5	
Anthracene		11-13	
Benzo(a)anthracene	5-20	56-110	169-59,000
Benzo(a)pyrene	2-1,300	4.6-900	165-220
Benzo(b)fluoranthene	20-30	58-220	15,000-62,000
Benzo(e)pyrene		53-130	60-14,000
Benzo(g,h,i)perylene	10-70	66	900-47,000
Benzo(k)fluoranthene	10-110	58-250	300-26,000
Chrysene	38.3	78-120	251-640
Fluoranthene	0.3-40	120-210	200-166,000
Fluorene		9.7	
Indeno(1,2,3-cd)pyrene	10-15	63-100	8,000-61,000
Phenanthrene	30.0	48-140	
Pyrene	1-19.7	99-150	145-147,000

Totals

≈3500

25,190 —

- 15,000

Conservatively 2,190

Sources:
- IARC (1973)
- White and Vanderslice (1980)
- Windsor and Hites (1979)
- Edwards (1983)
- Butler et al. (1984)
- Vogt et al. (1987)
- Jones et al. (1987)

REFERENCE 36

REFERENCE 37

Ref 37

DRAFT

600 Delaware Avenue, Buffalo, New York 14202-1073

February 26, 1985

Ms. Martha M. Reed
[illegible] Lindbergh Avenue
Niagara Falls, New York 14304

Dear [illegible]:

This is in response to your letter of February 7, 1985 regarding the disposal of wastes near 66th Street in Niagara Falls.

I requested one of our Environmental Conservation Officers to contact you and discuss this matter further. I believe Officer Donald Becker contacted you on February 14, 1985 to review the information you possess concerning disposal activities near 66th Street.

Although our records indicate that fly ash was disposed at the site of the Niagara Catholic High School in the 1950's, we have no specific information in our files regarding the disposal of wastes at the 66th Street School.

The Niagara County Health Department is currently reviewing historical information to determine if waste disposal occurred at the 66th Street School. We will review the results of their investigation to determine the need for follow-up investigative activities.

Thank you for providing us with background information on the 66th Street area.

Sincerely,

John J. Spagnoli
Regional Director

PJB/ad

bcc: Mr. John McMahon
Mr. Peter Buechi
Mr. Michael Hopkins (w/incoming)

DRAFT

John Spagnoli
New York State D.E.C
600 Delaware Ave.
Buffalo, N.Y. 14202

John Spagnoli:

This letter is coming to you [illegible] it is apparent that there is much concern and discussion about there being a Chemical Hazard in the 66th Street area.

I am Martha M Reed
8420 Lindbergh Ave.
Niagara Falls, N.Y. 14304
Phone (716) 283-9546

Rec'd 2/20/85

I am the fourth born child of Mr. Mrs. William Filsons who owned property and lived at 666-66th Street as far back as the early 20's. I remember one of our homes burning down in 1931. Someone of us children has always and still lives in the [illegible] surrounding areas. [illegible] the owner of [illegible] addressed [illegible] St. My one [illegible] lives at

723 - 66th Street and another sister lives at 680 - 66th Street.

In the 1930's early 40's there were approximately eight families [illegible] in the area from 66th St to 71st St [illegible] that [illegible] wooded and a deep creek running snakewize from 66th St to 71st St. and the high speed tracks.

In 1941 that land began to be filled in by various trucking firms but contracted by Walter Kazdronski. My knowledge of this comes from my husband Lee A Reed who owned and operated one of two trucks that in 1942 hauled topsoil to cover the [illegible] [illegible] waste products.

There was a tragic accident which occured because of the sight being left open and unguarded that [illegible]

[illegible] Brown

[illegible]

[illegible] Florida

33962

It is believed by me that there is a positive concern for the people living on the east side of 66th Street

It is unfortunate that for many years now it has been [illegible] my mind as to why so many in my own family have had serious health problems. It is not till we are made aware of various situations in which we may be a victum of untill it strikes home.

The Love Canal has opened a new direction for illiminating so many fears of continual unanswered questions about what might of happened just before we moved into the area or if always a resident, "What really was happening to those of us that were [illegible]"

[illegible]

[illegible]

[illegible] 1985 [illegible]

DRAFT

NOLD ● MILLER Troy, New York

CORRESPONDENT

Martha M. Reed

Addressed to [illegible]

Date: Feb 7 1985

Subject

66 [illegible]
(Niag. Falls)

ROUTE TO	DATE
[illegible]	2/8/85
P. [illegible]	2/12/85

Rec'd 2/22/85

☐ Reply for Assistant Commissioner's Signiture

☑ Reply for Director's Signiture

☐ Reply direct; return cc of reply

☐ Other [illegible]

Date Due 2/18

NEW YORK STATE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

10-17-4 (9/80) Formerly GA-54

A-229

Appendix B

APPENDIX B

SITE INSPECTION REPORT
(EPA FORM 2070-13)

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

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	North of Niagara Falls Boulevard (Pine Avenue)

03 City	04 State	05 Zip Code	06 County	07 County Code	08 Cong. Dist.
City of Niagara Falls	NY	14302	Niagara	063	33

09 Coordinates		10 Type of Ownership (check one)
Latitude	Longitude	[X] A. Private [ ] B. Federal _____ [X] C. State [ ] D. County
43° 05' 32" . N	78° 59' 29" . W	[ ] E. Municipal [ ] F. Other _____ [ ] G. Unknown

III. INSPECTION INFORMATION

01 Date of Inspection	02 Site Status	03 Years of Operation
04 / 30 / 91 (Month Day Year)	[ ] Active [X] Inactive	1940s (Beginning Year) | 1960s (Ending Year) [ ] Unknown

04 Agency Performing Inspection (check all that apply)

[ ] A. EPA [X] B. NYSDEC Contractor Ecology and Environment Engineering, P.C. (name of firm) [ ] C. Municipal [ ] D. Municipal Contractor _____ (name of firm)

[ ] E. State [X] F. State Contractor E & E (name of firm) [ ] G. Other _____ (specify)

05 Chief Inspector	06 Title	07 Organization	08 Telephone No.
Scott Thorsell	Hydrogeologist Associate Chemist	E & E	(716) 684-8060
09 Other Inspectors	10 Title	11 Organization	12 Telephone No.
Sandra Lare	Environmental Specialist	E & E	(716) 684-8060
Yavuz Erk	Senior Sanitary Engineer	NYSDEC, Region 9	(716) 847-4585
			( )
13 Site Representatives Interviewed	14 Title	15 Address	16 Telephone No.
R.B. U'Ren	Owner, R.B. U'Ren Equipment, Inc.	1120 Connecting Road	(716) 283-4466
			( )
			( )
			( )

17 Access Gained by (check one)	18 Time of Inspection	19 Weather Conditions
[ ] Permission [X] Unrestricted site [ ] Warrant	14:00	Sunny, clear skies, temperature 75°F, strong wind ≈40 mph from the west

IV. INFORMATION AVAILABLE FROM

01 Contact	02 Of (Agency/Organization)	03 Telephone No.
		( )

04 Person Responsible for Site Inspection Form	05 Agency	06 Organization	07 Telephone No.	08 Date
Scott Thorsell		E & E	(716) 684-8060	05 / 23 / 91 (Month Day Year)

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States (check all that apply)

[X] A. Solid
[X] B. Powder, Fines
[ ] C. Sludge
[ ] D. Other _____
[ ] E. Slurry
[ ] F. Liquid
[ ] G. Gas

02 Waste Quantity at Site (measure 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
[X] M. Not applicable

III. WASTE TYPE

Category	Substance Name	01 Gross Amount	02 Unit of Measure	03 Comments
SLU	Sludge	Unknown		suspected wastes include domestic and commercial refuse,
OLW	Oily waste			brick building demolition debris. Possible incinerator ash
SOL	Solvents			buried on site, also.
PSD	Pesticides			
OOC	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
	Fuel		UST		
	Flammable liquids		Small drums		
	Paints		Cans - rusted		
	Roof tar		Cans - rusted		

*Refers to items currently stored on-site, not items buried.

V. FEEDSTOCKS (see Appendix for CAS Numbers)

Category	01 Feedstock Name	02 CAS Number	Category	01 Feedstock Name	02 CAS Number
FDS	None		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Engineering-Science, Inc., 1988, Engineering Investigations at Inactive Hazardous Waste Sites Phase I Investigation, 64th Street North.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. Groundwater Contamination
03 Population Potentially Affected 0 within 3 miles
02 [X] Observed (date 1985 and 1986)
04 Narrative Description:
[X] Potential [ ] Alleged

Downgradient well sample indicated contravention of New York State Class GA groundwater standards for cadmium, lead, methylene chloride, and toluene. However, upgradient groundwater analytical data is not available.

01 [ ] B. Surface Water Contamination
03 Population Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

No surface water sampling has been conducted on site.

01 [ ] C. Contamination of Air
03 Population Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

No readings above background levels.

01 [ ] D. Fire/Explosive Conditions
03 Population Potentially Affected 5,902 residents within 1 mile, plus patrons of nearby businesses, motels, and shopping mall.
02 [X] Observed (date April 30, 1991)
04 Narrative Description:
[X] Potential [ ] Alleged

No incidences on record of fires resulting from spontaneous ignition; however, deliberately-set fires have been reported. Storage of flammable liquids was observed during site inspection.

01 [ ] E. Direct Contact
03 Population Potentially Affected 5,902 residents within 1 mile, plus patrons and employees of several (at least seven) businesses.
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

Evidence of illegal dumping was observed and dirt bikers were on site at time of E & E site inspection.

01 [X] F. Contamination of Soil
03 Area Potentially Affected 20 acres
02 [X] Observed (date 1982, 1983, 1985)
04 Narrative Description:
[ ] Potential [ ] Alleged

Concentrations of iron (to 4,200,000 µg/kg), PCBs (6,200 µg/kg) and mercury (to 8.3 mg/kg) found in 1985. Priority and nonpriority pollutants detected in 1982 and 1983.

01 [ ] G. Drinking Water Contamination
03 Population Potentially Affected 80,000
02 [ ] Observed (date _____)
04 Narrative Description:
[ ] Potential [ ] Alleged

None documented. Potential is low due to route and distance of surface water runoff to intakes on the Niagara River.

01 [X] H. Worker Exposure/Injury
03 Workers Potentially Affected _____
02 [ ] Observed (date _____)
04 Narrative Description:
[X] Potential [ ] Alleged

No reported incidents found in file search. An unknown total of workers for numerous businesses located within the site's boundaries are potentially in contact with site contaminants.

01 [X] I. Population Exposure/Injury
03 Population Potentially Affected 5,902 within one mile of site
02 [X] Observed (date unknown)
04 Narrative Description:
[X] Potential [ ] Alleged

One incident involving the death of a 3-year-old child was reported; this occurred as an accident during the site's filling-in/burial stage (in the 1940s). The nature of the accident is unreported. Potential injury due to falls is presented by several large open manholes on site.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. HAZARDOUS CONDITIONS AND INCIDENTS (Cont.)

01 [ ] J. Damage to Flora — 02 [X] Observed (date April 30, 1991) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Damage observed was limited to trail bike paths and general trampling of vegetation in eastern portion.

01 [ ] K. Damage to Fauna — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None observed, none on record.

01 [ ] L. Contamination of Food Chain — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None on record; not likely since no agricultural areas are located within 2 miles of site, and no surface waters directly connected with waters supporting fish are present on site.

01 [ ] M. Unstable Containment of Wastes (spills/ runoff/standing liquids, leaking drums) — 02 [ ] Observed (date _____) — [X] Potential — [ ] Alleged
03 Population Potentially Affected: unknown
04 Narrative Description:

Flammable liquids, rusty paint cans, old underground storage tanks, and old oil drums were observed being stored at Johnson Construction yard. However, no evidence of unstable containment of buried wastes was evident.

01 [ ] N. Damage to Off-site Property — 02 [ ] Observed (date _____) — [ ] Potential — [ ] Alleged
04 Narrative Description:

None observed, none on record.

01 [X] O. Contamination of Sewers, Storm Drains, WWTPs — 02 [X] Observed (date April 30, 1991) — [ ] Potential — [ ] Alleged
04 Narrative Description:

No sampling has been conducted. Illegal dumping of domestic trash in open manholes was noted during the E & E 1991 site inspection.

01 [X] P. Illegal/Unauthorized Dumping — 02 [X] Observed (date April 30, 1991) — [ ] Potential — [ ] Alleged
04 Narrative Description:

Illegal dumping noted in northeastern portion of site: mostly domestic refuse (old tables, chairs, carpet, plastic, etc.) and some C+D debris (bricks, concrete slabs, shingles).

05 Description of Any Other Known, Potential, or Alleged Hazards

Open, unlidded storm/sewer manholes (four) located along dirt road containing trash (junk car baby seat, sink, cans), present a potential "fall" hazard to people and animals accessing the site (observed 4-30-91).

III. TOTAL POPULATION POTENTIALLY AFFECTED ≈5,902

IV. COMMENTS

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

Engineering-Science, Inc., 1988, Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation, 64th Street-North. Letter from Mrs. M. Reed to J. Spagnoli, NYSDEC, Region 7, 1985. E & E Site Inspection, April 30, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. PERMIT INFORMATION

01 Type of Permit Issued (check all that apply)	02 Permit Number	03 Date Issued	04 Expiration Date	05 Comments
[ ] A. NPDES				
[ ] B. UIC				
[ ] C. AIR				
[ ] D. RCRA				
[ ] E. RCRA Interim Status				
[ ] F. SPCC Plan				
[ ] G. State (specify)				
[ ] H. Local (specify)				
[ ] I. Other (specify)				
[X] J. None				

III. SITE DESCRIPTION

01 Storage Disposal (check all that apply)	02 Amount	03 Unit of Measure
[ ] A. Surface Impoundment		
[ ] B. Piles		
[ ] C. Drum, Aboveground		
[ ] D. Tank, Aboveground		
[ ] E. Tank, Belowground		
[X] F. Landfill	unknown	
[ ] G. Landfarm		
[X] H. Open Dump	<1 acre of landsurface total	
[ ] 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 None (specify)

05 Other

[X] Buildings On Site
several businesses and buildings have been built on the filled land--six buildings and a few trailers.

06 Area of Site

≈20 Acres

07 Comments

Quantity of wastes disposed of is unknown. Material is domestic and commercial refuse, and there is no record of industrial waste disposal. There is active waste storage.

IV. CONTAINMENT

01 Containment of Wastes (check one)

[ ] A. Adequate, Secure [ ] B. Moderate [X] C. Inadequate, Poor [ ] D. Insecure, Unsound, Dangerous

02 Description of Drums, Diking, Liners, Barriers, etc.

Landfill has no liner, no diking. Some businesses have erected fences and Interstate I-190 traverses site, but the remainder of site is open and accessible to vehicles and pedestrians. Disposal of drums in landfill is unknown; however, drums were being "stored" north of (behind) Walter S. Johnson building.

V. ACCESSIBILITY

01 Waste Easily Accessible [X] Yes [ ] No

02 Comments

Buried wastes are covered; illegal dumping present on surface; waste storage area behind Walter S. Johnson building is also accessible.

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

Engineering-Science, Inc., 1988, Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation, 64th Street-North. E & E Site Inspection, April 30, 1991.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. DRINKING WATER SUPPLY

01 Type of Drinking Supply (check as applicable)

	Surface	Well
Community	A. [X]	B. [ ]
Non-community	C. [ ]	D. [ ]

02 Status

	Endangered	Affected	Monitored
Community	A. [ ]	B. [ ]	C. [ ]
Non-community	D. [ ]	E. [ ]	F. [ ]

03 Distance to Site

A. >3 (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)

[X] C. Commercial, Industrial, Irrigation (limited other sources available)

[ ] D. Not Used, Unusable

02 Population Served by Groundwater 0

03 Distance to Nearest Drinking Water Well >3 (mi)

04 Depth to Groundwater	05 Direction of Groundwater Flow	06 Depth to Aquifer of Concern	07 Potential Yield of Aquifer	08 Sole Source Aquifer
perched 5-10 (ft)	assumed south	≈30 (ft)	unknown (gpd)	[ ] Yes [ ] No [X] Unknown

09 Description of Wells (including usage, depth, and location relative to population and buildings)

Olin Corporation has industrial well on Buffalo Avenue, 2 miles southwest of site.

10 Recharge Area	11 Discharge Area
[ ] Yes [ ] No | Comments:	[ ] Yes [ ] No | Comments:

IV. SURFACE WATER

01 Surface Water (check one)

[X] A. Reservoir, Recreation, Drinking Water Source

[ ] B. Irrigation, Economically Important Resources

[ ] C. Commercial, Industrial

[ ] D. Not Currently Used

02 Affected/Potentially Affected Bodies of Water

Name:	Affected	Distance to Site
Niagara River	[ ]	1 (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. 5,902 No. of Persons	B. 36,756 No. of Persons	C. 72,452 No. of Persons

02 Distance to Nearest Population

<0.25 (mi)

03 Number of Buildings Within Two (2) Miles of Site

9,673

04 Distance to Nearest Off-Site Building

<0.25 (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)

Trailer park residential areas are located to north and east of site, and other residential areas are located approximately 0.5 mile south. Areas in the vicinity of the site along Niagara Falls Boulevard (Pine Avenue) are primarily commercial, and there is a shopping mall located ≈3,000 feet to the northwest.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

VI. ENVIRONMENTAL INFORMATION

01 Permeability of Unsaturated Zone (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [X] 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)

02 Permeability of Bedrock (check one)

[ ] A. Impermeable (less than 10^{-6} cm/sec) [ ] B. Relatively Impermeable (10^{-4} - 10^{-6} cm/sec) [X] C. Relatively Permeable (10^{-2} - 10^{-4} cm/sec) [ ] D. Very Permeable (greater than 10^{-2} cm/sec)

03 Depth to Bedrock	04 Depth of Contaminated Soil Zone	05 Soil pH
20-30 (ft)	estimated at 2 to 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 %	south	0-2 %

09 Flood Potential

Site is in >500 Year Floodplain

10 [ ] Site is on Barrier Island, Coastal High Hazard Area, Riverine Floodway No

11 Distance to Wetlands (5 acre minimum)

ESTUARINE OTHER

A. _____ (mi) B. 0 (mi)

12 Distance to Critical Habitat (of endangered species)

>3 (mi)

Endangered Species: _____

13 Land Use in Vicinity

Distance to:

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

14 Description of Site in Relation to Surrounding Topography

Site is located in the City of Niagara Falls, and is relatively flat with elevated areas along Interstate I-190; and several hills of dirt, stone, and concrete fill with a shrub-grass cover are present on site. CECOS Landfill is located adjacent to site to the north, and is much higher in elevation. Commercial development is present both on site and in the surrounding area, and residential development is also present in the vicinity.

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

Engineering-Science, Inc., 1988, Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation, 64th Street-North site.
E & E Site Inspection, April 30, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 6 - SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION	
	01 State NY	02 Site Number 932085A

II. SAMPLES TAKEN - No samples taken during S.I.

Sample Type	01 Number of Samples Taken	02 Samples Sent To	03 Estimated Date Results Available
Groundwater			
Surface Water			
Waste			
Air			
Runoff			
Spill			
Soil			
Vegetation			
Other			

III. FIELD MEASUREMENTS TAKEN

01 Type	02 Comments
HNu	No readings detected in breathing zone above background levels during E & E site inspection, April 30, 1991.
Minirad	No readings detected in breathing zone above background levels during E & E site inspection, April 30, 1991.

IV. PHOTOGRAPHS AND MAPS

01 Type [X] Ground [ ] Aerial	02 In Custody of Ecology and Environment Engineering, P.C. (name of organization or individual)

03 Maps	04 Location of Maps
[X] Yes [ ] No	E & E, Niagara County Real Property, Niagara County Environmental Management Council.

V. OTHER FIELD DATA COLLECTED (provide narrative description of sampling activities)

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

E & E Site Inspection, April 30, 1991

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	932085A

II. CURRENT OWNER(S)			PARENT COMPANY (if applicable)		
01 Name Johnson & Johnson	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 925 66th Street		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City Niagara Falls	06 State NY	07 Zip Code 14302	12 City	13 State	14 Zip Code
01 Name Vince Salerno	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 1100 Connecting Road		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City Niagara Falls	06 State NY	07 Zip Code 14304	12 City	03 State	14 Zip Code
01 Name New York State Department of Transportation	02 D&B Number		08 Name	09 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)		11 SIC Code
05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

III. PREVIOUS OWNER(S) (list most recent first)			IV. REALTY OWNER(S) (if applicable, list most recent first)		
01 Name Unknown/unconfirmed	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

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

Niagara County Real Property Tax Office, 1991 tax maps
Engineering-Science, Inc., 1988, Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation, 64th Street-North site*.

DRAFT

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 8 - OPERATOR INFORMATION	I. IDENTIFICATION 01 State: NY 02 Site Number: 932085A

II. CURRENT OPERATOR (provide if different from owner)			OPERATOR'S PARENT COMPANY (if applicable)		
01 Name	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State	07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner				
III. PREVIOUS OPERATOR(S) (list most recent first; provide if different from owner)			**PREVIOUS OPERATORS' PARENT COMPANIES** (if applicable)		
01 Name	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State	07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period				
01 Name	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State	07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period				
01 Name	02 D&B Number		10 Name	11 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	12 Street Address (P.O. Box, RFD #, etc.)		13 SIC Code
05 City	06 State	07 Zip Code	14 City	15 State	16 Zip Code
08 Years of Operation	09 Name of Owner During this Period				

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

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 9 - GENERATOR/TRANSPORTER INFORMATION	I. IDENTIFICATION	
	01 State NY	02 Site Number 932085A

II. ON-SITE GENERATOR			
01 Name	02 D&B Number		
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	
05 City	06 State	07 Zip Code	

III. OFF-SITE GENERATOR(S)					
01 Name City of Niagara Falls	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.) 745 Main Street		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City Niagara Falls, New York	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

IV. TRANSPORTER(S)					
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
01 Name	02 D&B Number		01 Name	02 D&B Number	
03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)		04 SIC Code
05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code

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

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION 01 State: NY	02 Site Number: 932085A

II. PAST RESPONSE ACTIVITIES

01 [ ] A. Water Supply Closed 04 Description:	02 Date _____	03 Agency _____
01 [ ] B. Temporary Water Supply Provided 04 Description:	02 Date _____	03 Agency _____
01 [ ] C. Permanent Water Supply Provided 04 Description:	02 Date _____	03 Agency _____
01 [ ] D. Spilled Material Removed 04 Description:	02 Date _____	03 Agency _____
01 [ ] E. Contaminated Soil Removed 04 Description:	02 Date _____	03 Agency _____
01 [ ] F. Waste Repackaged 04 Description:	02 Date _____	03 Agency _____
01 [ ] G. Waste Disposed Elsewhere 04 Description:	02 Date _____	03 Agency _____
01 [ ] H. On-Site Burial 04 Description:	02 Date _____	03 Agency _____
01 [ ] I. In Situ Chemical Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] J. In Situ Biological Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] K. In Situ Physical Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] L. Encapsulation 04 Description:	02 Date _____	03 Agency _____
01 [ ] M. Emergency Waste Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] N. Cutoff Walls 04 Description:	02 Date _____	03 Agency _____
01 [ ] O. Emergency Diking/Surface Water Diversion 04 Description:	02 Date _____	03 Agency _____
01 [ ] P. Cutoff Trenches/Sump 04 Description:	02 Date _____	03 Agency _____

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION	
	01 State NY	02 Site Number 932085A

II. PAST RESPONSE ACTIVITIES (Cont.)

01 [ ] Q. Subsurface Cutoff Wall 04 Description:	02 Date _____	03 Agency _____
01 [ ] R. Barrier Walls Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] S. Capping/Covering 04 Description:	02 Date _____	03 Agency _____
01 [ ] T. Bulk Tankage Repaired 04 Description:	02 Date _____	03 Agency _____
01 [ ] U. Grout Curtain Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] V. Bottom Sealed 04 Description:	02 Date _____	03 Agency _____
01 [ ] W. Gas Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] X. Fire Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] Y. Leachate Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] Z. Area Evacuated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 1. Access to Site Restricted 04 Description:	02 Date _____	03 Agency _____
01 [ ] 2. Population Relocated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 3. Other Remedial Activities 04 Description:	02 Date _____	03 Agency _____

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

All files, records, and reports searched in E & E PSA investigation, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION	
	01 State NY	02 Site Number 932085A

II. PAST RESPONSE ACTIVITIES (Cont.)

01 [ ] Q. Subsurface Cutoff Wall 04 Description:	02 Date _____	03 Agency _____
01 [ ] R. Barrier Walls Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] S. Capping/Covering 04 Description:	02 Date _____	03 Agency _____
01 [ ] T. Bulk Tankage Repaired 04 Description:	02 Date _____	03 Agency _____
01 [ ] U. Grout Curtain Constructed 04 Description:	02 Date _____	03 Agency _____
01 [ ] V. Bottom Sealed 04 Description:	02 Date _____	03 Agency _____
01 [ ] W. Gas Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] X. Fire Control 04 Description:	02 Date _____	03 Agency _____
01 [ ] Y. Leachate Treatment 04 Description:	02 Date _____	03 Agency _____
01 [ ] Z. Area Evacuated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 1. Access to Site Restricted 04 Description:	02 Date _____	03 Agency _____
01 [ ] 2. Population Relocated 04 Description:	02 Date _____	03 Agency _____
01 [ ] 3. Other Remedial Activities 04 Description:	02 Date _____	03 Agency _____

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

All files, records, and reports searched in E & E PSA investigation, 1991.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 11 - ENFORCEMENT INFORMATION	I. IDENTIFICATION	
	01 State NY	02 Site Number 932085A

II. ENFORCEMENT INFORMATION

01 Past Regulatory/Enforcement Action [ ] Yes [X] No

02 Description of Federal, State, Local Regulatory/Enforcement Action

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

Appendix C

APPENDIX C

INTERVIEW DOCUMENTATION FORMS

An unsigned Document of Interview indicates that person interviewed did not return the form as requested by the interviewer.

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INTERVIEW DOCUMENTATION FORMS

An unsigned Document of Interview indicates that person interviewed did not return the form as requested by the interviewer.