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915049

ND-2900 D1748

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE I INVESTIGATION

SNYDER TANK CORP., SITE NUMBER: 915049
TOWN OF HAMBURG, ERIE COUNTY

August 1989

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

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1. EXECUTIVE SUMMARY

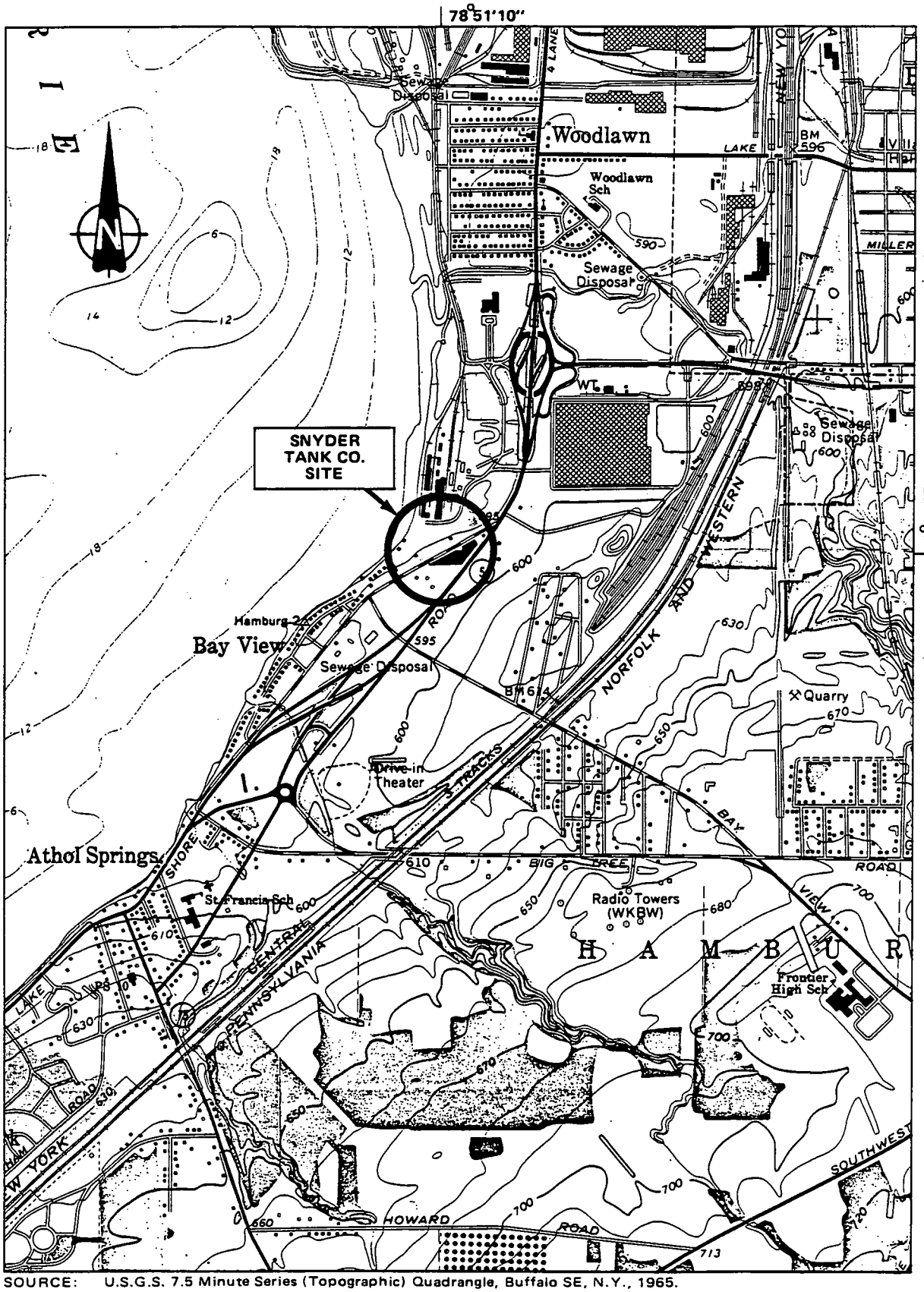
1.1 SITE BACKGROUND

The Snyder Tank Corporation site has been used by Snyder Tank for the past disposal of automobile fuel tank manufacturing process wastes. The property occupies approximately 10 acres located on Lake Shore and Hoover roads, on the eastern shore of Lake Erie in the Town of Hamburg, Erie County, New York (see Figure 1-1). The site consists of an office, production buildings, gravel parking and loading areas, and a 100-foot-wide beach area.

The disposal areas of concern at the site include the gravel parking and loading areas and the westerly adjacent beach. The plant property grades gently toward the west and the beach, and serves as a route for surficial and storm-drain runoff. The beach serves as the discharge location for the plant's permitted State Pollutant Discharge Elimination System (SPDES), which drains directly into Lake Erie (see Figure 1-2). Aside from this discharge, all other wastes are reportedly put into containers and disposed of off site.

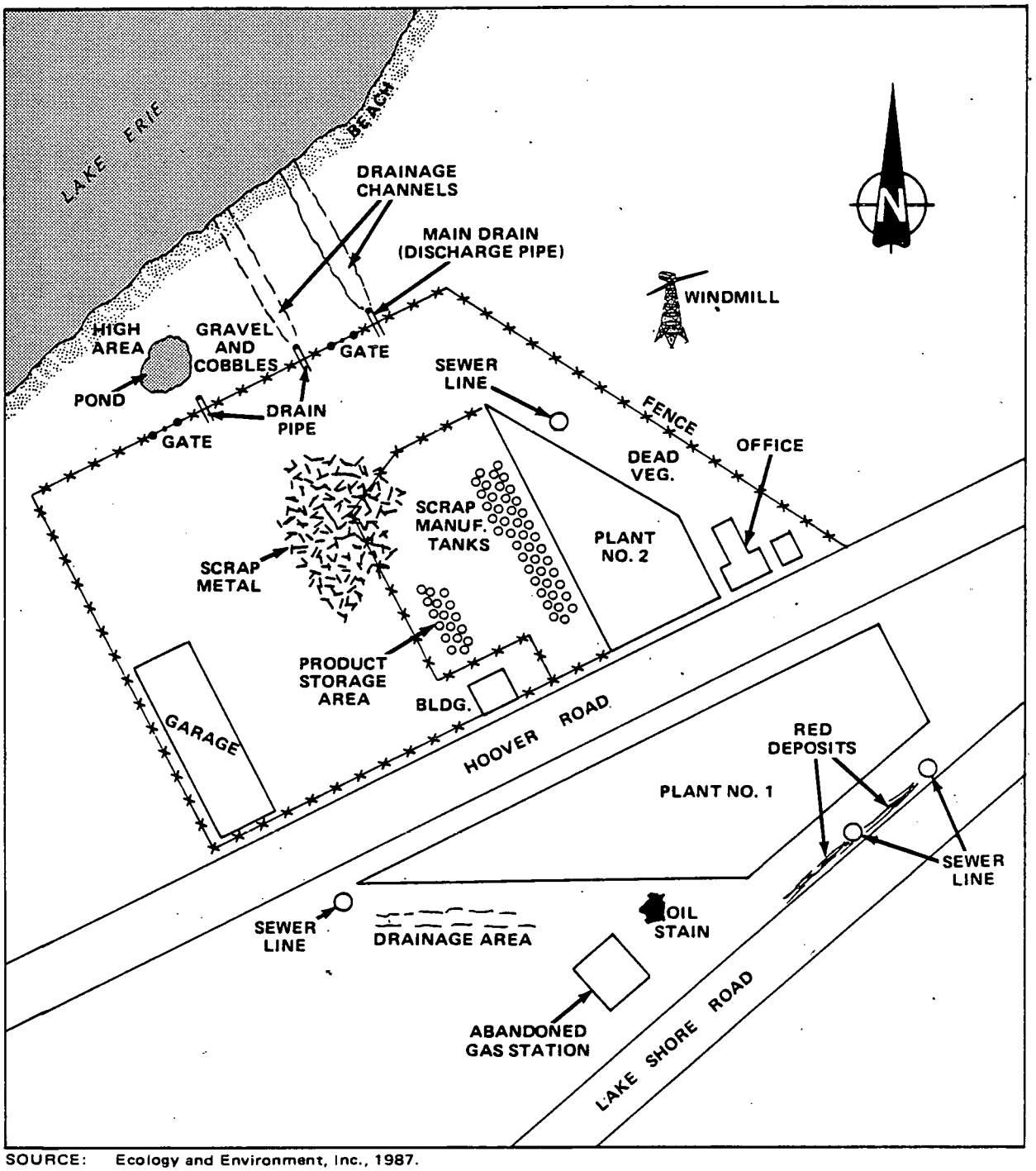
1.2 PHASE I EFFORTS

On July 29, 1987, Ecology and Environment, Inc. (E & E) conducted a site inspection in support of this investigation. Prior to the inspection, available federal, state, county, and municipal files were reviewed. The site inspection consisted of a visual survey of the property that included:



SOURCE: U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle, Buffalo SE, N.Y., 1965.

Figure 1–1 LOCATION MAP



SOURCE: Ecology and Environment, Inc., 1987.

NOT TO SCALE

Figure 1–2 SITE MAP - SNYDER TANK

- Overall site conditions;
- Description of vegetation and a survey for stressed vegetation;
- Presence of structures on the site;
- Distance to nearest residence;
- Location of nearest agricultural land;
- Location of nearest surface water and wells, and type of use;
- Visual delineation of waste disposal areas;
- Air quality survey using an HNu photoionizer; and
- Photodocumentation of the site.

All observations were recorded in a field logbook and reported in the United States Environmental Protection Agency (EPA) Site Inspection Report form.

1.3 ASSESSMENT

The walk-over inspection of the site and adjacent areas revealed that maintenance practices at the site have improved relative to past reports. No leaking tanks, improperly drummed waste, or staining of the beach were observed. No readings above background were noted on the photoionization detector while on site.

The site inspection team identified some points of concern, including stressed vegetation on the northwest side of Plant No. 2, between the building and the fence. Additionally, the gravelled lot on the southwest side of Plant No. 2 is presently being used for outdoor storage of various scrap metals, racks, and tanks. Other concerns noted included a 7-foot x 3-foot oily stain adjacent to the south side of Plant No. 1, and the presence of rust-colored sediments between the eastern wall of Plant No. 1 and Route 5 (New Lake Shore

Road). An above-ground sulfuric acid storage tank (approximately 1,000-gallon), which is apparently no longer in use, was also observed east of Plant No. 1. This tank is visible from Route 5.

Three effluent discharges were observed at the property beach. The northernmost discharge is the site-permitted SPDES location. This conduit transports spent manufacturing cooling water with Route 5 and Hoover Road storm sewer drainage to the beach area. The other two drainage pipes are considerably smaller and are thought to be used for surficial drainage of gravelled areas to the southwest of Plants Nos. 1 and 2.

1.4 HRS SCORE

A preliminary application of the Hazard Ranking System (HRS) has been made to quantify the risk associated with this site. As the Phase I investigation is limited in scope, not all the information needed to fully evaluate the site is available. An HRS score was completed on the basis of the available data. Absence of necessary data may result in an unrealistically low HRS score.

Under the HRS, three numerical scores are computed to express the site's relative risk or damage to the population and the environment. The three scores are:

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

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

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

The preliminary score was:

S_M = 14.73 (S_{GW} = 23.59; S_{SW} = 9.65; S_A = 0)
S_{FE} = Not scored
S_{DC} = 37.50

2. PURPOSE

This Phase I investigation was conducted under contract to the NYSDEC Superfund Program. The purpose of the investigation was to provide a preliminary evaluation of the potential hazardous waste present at the site, to estimate the potential pollutant migration pathways leading off site, and to determine the natural resources or extent of the human population that might be affected by the pollutants. This initial investigation consisted of conducting a detailed file review of available information and a site inspection. The evaluation includes preparation of a narrative site description, initial characterization of the hazardous substances on site, and calculation of a preliminary HRS score. This assessment will be used to determine what additional actions, if any, should be conducted at the site.

3. SCOPE OF WORK

The Phase I effort involved the following tasks:

- A review of available information from state, county, municipal, and private files;
- Interviews with individuals knowledgeable of the site; and
- Physical inspection of the site that included review of USGS 7.5-minute topographic maps. No samples were collected, although air monitoring was performed using an HNu photoionizing organic vapor detector.

Photographs were taken during the site inspection and are included in Appendix A. Table 3-1 lists sources contacted for the Phase I investigation. References are included in Section 7.

Table 3-1

SOURCES CONTACTED FOR THE NYSDEC PHASE I
INVESTIGATION AT THE SNYDER TANK CORPORATION SITE

Agencies Contacted

U.S. Environmental Protection Agency
Region II Office
26 Federal Plaza, Room 900
New York, New York 10278
Contact: Ben Conetta
Telephone No.: (212) 264-6696
Date: 5/20/87
Information Gathered: File search for Snyder Tank Corporation

New York State Department of Environmental Conservation
Division of Solid and Hazardous Waste
50 Wolf Road
Albany, New York 12233-0001
Contact: Raymond Lupe
Telephone No.: (518) 457-9538
Date: 6/22/87
Information Gathered: File search for Snyder Tank Corporation

New York State Department of Environmental Conservation, Region 9
Solid and Hazardous Waste Division and Permitting Division
600 Delaware Avenue
Buffalo, New York 14202
Contact: Lawrence Clare
Telephone No.: (716) 847-4585
Date: 4/29/87
Information Gathered: File search for Snyder Tank Corporation

New York State Department of Environmental Conservation, Region 9
600 Delaware Avenue
Buffalo, New York, 14202
Contact: Richard A. Rink
Telephone No.: (716) 847-4551
Date: 9/23/87
Information Gathered: Waste generation and SPDES discharge information

New York State Department of Environmental Conservation, Region 9
Division of Water, Fish, and Wildlife
600 Delaware Avenue
Buffalo, New York 14202
Contact: Rebecca Anderson, James Batchellor, Jim Farquar, Jeff Dietz
Telephone No.: (716) 847-4551
Date: 6/13/87; 8/26/87; 7/18/87
Information Gathered: Floodplains, significant habitats, fisheries, plant species of concern, stream classifications, wetlands in vicinity of Snyder Tank Corporation

Table 3-1 (Cont.)

New York State Department of Health, Corning Tower
The Governor Nelson A. Rockefeller Empire State Plaza
Albany, New York 12237
Contact: Lani Rafferty
Telephone No.: (518) 458-6310
Date Contacted: April 5,6, 1989
Information: File search for site history, correspondence, background information

New York State Department of Health
Regional Toxic Program Office
584 Delaware Avenue
Buffalo, New York 14202
Contact: Linda Rusin, Cameron O'Connor
Telephone No.: (716) 847-4365
Date: May 5, 1987, June 4, 1987, April 13, 1989
Information Gathered: Contact with NYSDOH on May 5, 1987, indicated that files were being transferred from Albany to Buffalo so the files were not accessible. Further correspondence in June 1987 indicated that the office was newly established and file information was extremely limited; therefore, the county health deparments were visited in lieu of NYSDOH. NYSDOH files were searched on April 13, 1989.

Erie County Department of Environmental Planning
95 Franklin Avenue
Buffalo, New York 14202
Contact: Kermit Studley
Telephone No.: (716) 846-6716
Date: 6/8/87
Information Gathered: File search for Snyder Tank Corporation, FEMA FIRM Maps

Lackawanna Water District
Engineering Division
714 Ridge Road
Lackawanna, New York 14218
Contact: Allen Strycharz, Senior Engineering Aide
Telephone No.: (716) 827-6425
Date: 9/3/87
Information Gathered: Location and information on municipal and private wells in the Town of Lackawanna

Hamburg Water District
Engineering Division
6100 South Park Avenue
Hamburg, New York 14075
Contact: Jack Gilbert, Town Engineer
Telephone No.: (716) 649-4953
Date: 9/3/87
Information Gathered: Location and information on municipal and private wells in the Township of Hamburg

Table 3-1 (Cont.)

Interviews

Contact: Jim Snyder
Agency: Snyder Tank Corporation, Vice President
3773 Lake Shore Road
Hamburg, New York 14219
Telephone No.: (716) 827-5353
Date: 7/27/87; 7/28/87
Information Gathered: Schedule site inspection

Contact: Ted Pieczonka, Jr., P.E.
Agency: Pieczonka Engineering
P.O. Box 206
Orchard Park, New York 14127-0206
Telephone No.: (716) 835-0530
Date: 9/10/87
Information Gathered: Waste characteristics and generation at Snyder Tank Corporation

Contact: Cynthia Rados
Agency: Resident
3742 Mile Strip Road
Woodlawn, New York 14219
Telephone No.: (716) 824-7744
Date: 9/21/87
Information Gathered: Private groundwater well information

Contact: Patricia Hutchinson
Agency: Wanakah Water Company
S4968 Lake Shore Road
Wanakah, New York 14075
Telephone No.: (716) 627-3500
Date: 9/18/87
Information Gathered: Location of drinking water intakes

4. SITE ASSESSMENT

4.1 SITE HISTORY

This company originated in 1939 as Snyder Welding Service. The business acquired and moved to its present site in 1941, where it successively became Snyder Manufacturing Company and Snyder Tank Corporation (Nussbaumer and Clark 1975). The plant manufactures truck fuel tanks and accessories from aluminum and steel sheet metal. This fabrication process involves acid pickling, passivating, alkaline pickling (etching), degreasing, fabricating, welding, testing, and painting. These manufacturing operations generate diverse liquid wastes including: spent pickling acid, spent phosphates, spent acid rinse, cleaning and etching rinses, painting booth curtain waste, spent test tank water, and spent cooling water (Nussbaumer and Clark 1975). Prior to 1972, waste acid pickling solution was mixed with other plant wastes (non- sanitary) and was drained into Lake Erie at the present permitted SPDES location on the beach. The estimated volume of spent pickle liquor discharge is 98,000 gallons per year (NYSDEC 1986). This highly acidic waste reportedly formed a visible, red-colored plume in the lake due to the oxidation of the dissolved iron constituents, or milky colored plume due to precipitated phosphates (Nussbaumer and Clark 1975). Pressure by the Erie County Health Department (ECHD) led to the discontinuation of pickling and phosphate waste disposal at the current permitted discharge point. These wastes were then transported off site for disposal.

ECHD inspections conducted between 1976 and 1979 noted a leaking tank, improperly drummed waste, and a rust-colored stain on the beach.

An Erie County Department of Environment and Planning (ECDEP) inspection report of March 1984 indicates that onsite disposal of plant wastes was no longer occurring and that all wastes were put into containers and disposed of off site (NYSDEC 1986). Sampling events as recent as spring of 1986 have determined that the facility exceeded SPDES permit maximum daily discharge limitations for 1,1,1-trichloroethane and total suspended solids (TSSs) (NYSDEC 1986).

Six soil and two soil/sediment samples were collected by NUS Corporation during a July 1986 site inspection for the EPA. Laboratory results indicated the presence of a number of organic and inorganic compounds on the Hazardous Substance List (HSL). Twenty-five organic compounds were found in soil samples collected from the facility's northwest border. Nineteen organic compounds were found in soil/sediment samples collected from the beach area. Inorganic HSL compounds were also detected in above normal concentrations for natural soil. Seven were detected in soil samples collected on the facility property and one was detected in the soil/sediment samples collected on the beach (NUS 1986).

4.2 SITE TOPOGRAPHY

The Snyder Tank Corporation is located within the Erie-Ontario lowland topographic province in the Town of Hamburg, New York. This province includes areas lying south of Lake Erie and Lake Ontario and extends up the Black River Valley in Central New York. The province is bordered to the south by the Appalachian Uplands. The Erie-Ontario Lowlands are characterized by a low, flat-lying topography resulting from pre-glacial erosion of the bedrock and subsequent topographic modification by glaciation. Consequently, the topography exhibits a variety of glacial depositional features as well as localized shoreline deposits.

The facility is located in Zones A3 and C of the Flood Insurance Rate Map (FIRM), prepared by the Federal Emergency Management Agency (FEMA). Zone A3 represents areas of the 100-year flood, and Zone C represents areas outside of the 500-year flood. Therefore, portions of the parking lot on site appear to be located in the 100-year floodplain.

4.2.1 Soils

Three soil types have been identified within the Snyder Tank Corporation property. These include the Brockport silty clay loam (BrA), beach (Be), and urban land (Ud). The Brockport silty clay loam occupies the relatively open southwest area of the site. This nearly level soil consists of glacial till with a high percentage of clay. This soil exhibits moderate to very slow permeability (Owens, et al. 1986). Sparse vegetation was observed in this area. The beach area is located directly west of the facility fence and is the present location of the SPDES discharge pipe. This area consists of sand, gravel material, and cobbles. The beach area is devoid of vegetation, and various lake debris (driftwood, refuse, etc.) was observed. Urban land located on the northern portion of the property is covered by asphalt, concrete, buildings, and other structures. (Identification of the soils underlying this area was beyond the scope of this investigation.) Prime agricultural lands are located greater than 2 miles away from this facility (Owens, et al. 1986).

4.2.2 Wetlands

There are two state-designated wetlands located close to the Snyder Tank Corporation site (NYSDEC 1987a):

- State Wetland No. BU-4 is located approximately 1 mile northeast of the site. This wetland occupies approximately 50 acres and cover types include emergent marsh, deciduous swamp, and shrub swamp.

- Procknal and Katra Wetland (State No. BU-14) is located approximately 2 miles northeast of the site. This 35-acre wetland consists primarily of deciduous shrub interspersed with wet meadow.

There are also three federally designated wetlands within a 1 mile radius to the site (NYSDEC 1987a):

- A Palustrine-forested (broad-leaved deciduous)/seasonally saturated wetland north of the site (less than 10 acres);

- o A Lacustrine-Littoral, cobble/gravel beach with intermittent flooding wetland north of the site. Dimensions of this wetland are unspecified.

- o A Palustrine-open water/unknown bottom, intermittently exposed/permanent wetland northeast of the site (less than 10 acres).

4.2.3 Surface Waters

The Snyder Tank Corporation site is located directly adjacent to the western shoreline of Lake Erie. Tributary E-4 is located 0.5 mile south of the site and drains directly into Lake Erie at Bay View. This tributary is classified as Class D (Department of State 1983). Class D waters are suitable for secondary contact recreation, but are not conducive to propagation of game fishery or streambed conditions; the waters will not support the propagation of fish (Official Codes, Rules, and Regulations of New York 1985). Smokes Creek is located 0.6 mile north of the site and also drains directly into Lake Erie. This creek is also classified as Class D except at its mouth where it is Class B (Department of State 1983). Class B waters are suitable for primary contact recreation and any other uses except as a source of water supply for drinking, culinary, or food processing purposes.

Water intakes from Lake Erie in closest proximity to the site include (New York State Department of Health 1982):

- o Buffalo City Division of Water is located approximately 7 miles northwest of the site. This source serves a population of approximately 357,870; and

- o Wanakah Water Company is located approximately 3 miles southwest of the site. This source serves a population of approximately 12,000.

4.2.4 Land Use

The Snyder Tank Corporation site is located within a primarily industrial area, although the Hoover Beach residential section of Bay

View is located adjacent to the property to the southwest. The nearest residence is less than 1,000 feet from the property boundary. The total population within 1 mile of the site is estimated at 2,978, and 42,444 within a 3-mile radius (General Sciences Corporation 1986). Industries to the north, east, and south include the closed Bethlehem Steel plant, a Ford Motor Corporation plant, and a wastewater treatment plant. There are no historical sites within view of the site (Murtagh 1976).

4.3 SITE HYDROLOGY

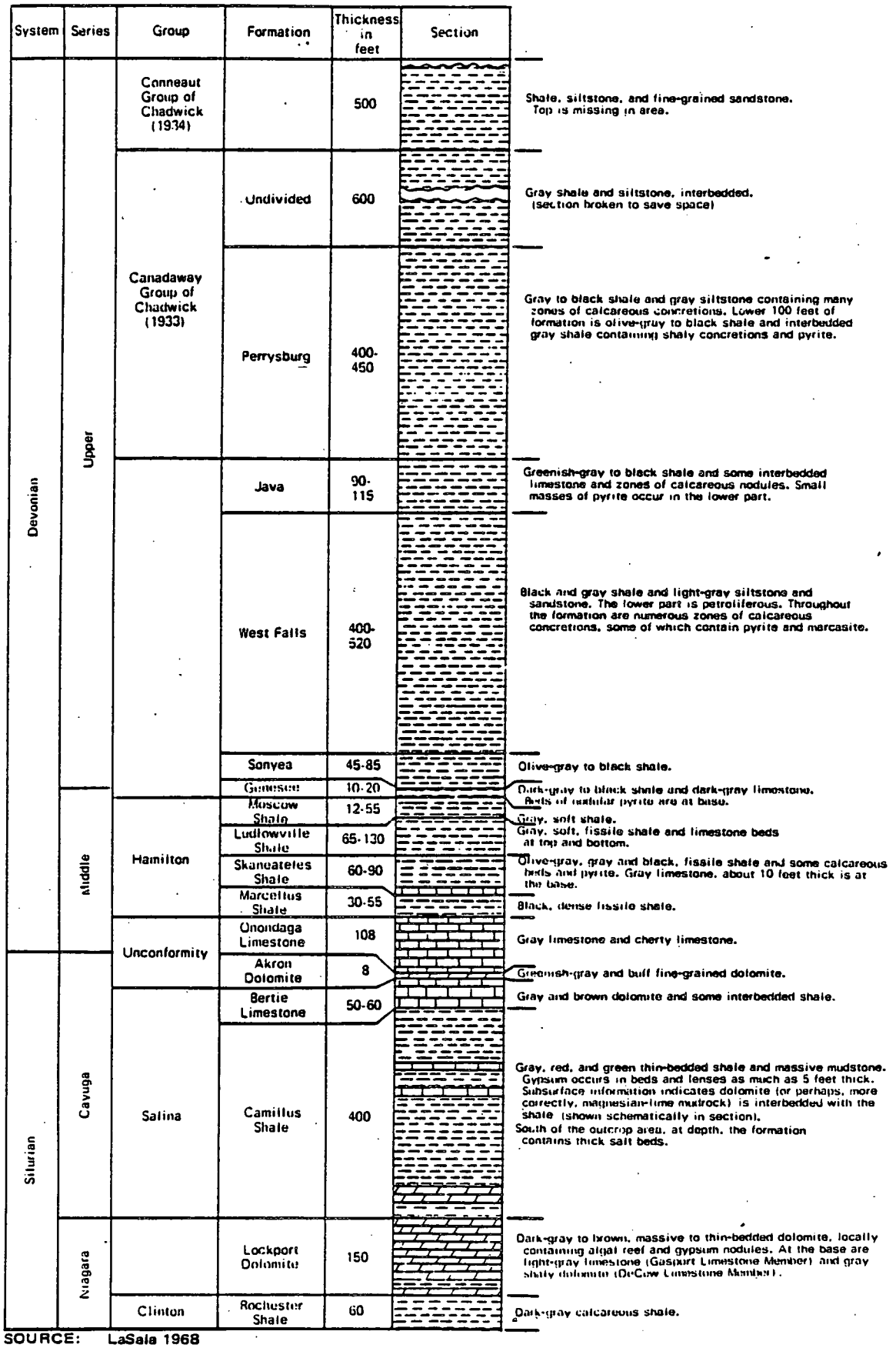
4.3.1 Regional Geology and Hydrogeology

The Snyder Tank Corporation site lies within the Erie-Niagara basin and the Erie-Ontario lowland physiographic province. The overburden consists mainly of glacial till, an unconsolidated poorly sorted mix of clay, silt, and/or sand. It forms a thin mantle over the bedrock and exhibits low permeability. The region between the Onondaga Escarpment to the north and the hilly areas to the south also received lacustrine clay and silt deposits during late Pleistocene time from the larger ancestral Great Lakes. These deposits exhibit very low permeabilities. As the ancestral lakes retreated, sandy beach sediments were also deposited in this region. These deposits exhibit relatively high permeabilities.

The bedrock in the region is exclusively sedimentary. The shale, limestone, and dolomite units dip gently southward approximately 40 feet per mile. Although the bedrock dips southward, the land surface is flat or actually increases in elevation to the south. Therefore, the further south the location, the younger the underlying bedrock.

Up to 32 distinct bedrock members have been identified in Erie County (see Figure 4-1). The oldest unit, Silurian in age, underlying the northern part of the county is the Camillus Shale. This member, which is 30 to 100 feet thick, contains significant reserves of groundwater in cavities formed by the dissolution of gypsum.

Several limestone members also of Silurian age overlie the Camillus Shale. The Bertie limestone, approximately 50 feet thick, overlies the Camillus Shale and is in turn overlain by the Akron Dolomite, which is about 8 feet thick. Little record of latest Silurian or Early Devonian history is preserved in Western New York. However,



SOURCE: LaSala 1968

Figure 4–1 BEDROCK UNITS OF THE ERIE-NIAGARA BASIN

the Middle and Late Devonian record is well preserved beginning with the Onondaga Limestone unconformably overlying the Akron Dolomite. The unit comprises three distinct members that cumulatively are approximately 140 feet thick.

The Marcellus Shale member overlies the limestone units. This dense, black, fissile shale is approximately 30 to 55 feet thick. This shale, unlike the Camillus Shale, is impermeable. It confines the limestone and Camillus Shale aquifers below.

The Skaneateles Formation overlies the Marcellus Shale. This 60- to 90-foot-thick formation is represented by the Stafford Limestone and Levanna Shale. The black, fissile shale is expected to be impermeable and will therefore confine groundwater found in the lower limestone units.

Overlying the Skaneateles is the Ludlowville formation represented by the Centerfield Limestone, Ledyard Shale, Wanakah Shale, and Tichenor Limestone members. The shale members contain numerous limestone beds. The Ludlowville Formation is followed by the Moscow Formation represented by the Kashong shale and Windom shale. The Moscow Formation is followed by 2,500 feet of upper Devonian rocks in southwestern New York State consisting of the Genesee, Sonyea, West Falls, Java, Canadaway, Chodakoin, and Cattaraugus formations. These consist almost exclusively of shale members. The Canadaway formation is by far the thickest (up to 1,000 feet) and underlies the southern third of Erie County.

Significant amounts of groundwater occur only in the overburden and in the lower bedrock units. The Camillus shale contains numerous cavities formed by the dissolution of gypsum and is thus a very productive aquifer. The Onondaga, Akron, and Bertie Dolomite and limestones contain water in bedding joints widened by dissolution. Vertical fractures in the limestone provide hydraulic connections among the many bedding planes.

Very little groundwater is found in the formations above the limestone unit. These formations, principally shale, are impermeable. Some water transmission occurs in small fractures in the bedrock, but no wells of significant yield are found in these units. Groundwater in these regions is obtained mainly from glacial overburden deposits (LaSala 1968).

4.3.2 Site Hydrogeology

Surficial materials found at the Snyder Tank Corporation site include glacial till, beach, and unknown soils beneath a variety of man-made materials.

The glacial till overburden is located in the southern area of the site. This till exhibits moderate to moderately low permeability in the surface layer of silty clay loam. The firm, plastic subsoil exhibits very low permeability. The available water capacity of this overburden is moderate and runoff is slow (Owens et al. 1986). This material exhibits a 1.5% slope on site, and has a perched seasonal high water table during December through May (Owens et al. 1986).

The beach area is located on the western site margin and is approximately 100 feet x 1,500 feet. This area consists of sand, gravel, and cobble-size materials deposited by lake wave action. Also deposited on the beach are driftwood, stick, bark, refuse, etc. Permeability is high within this unconsolidated material (Barret, et al. 1982). The beach is void of vegetation and exhibits a 1.5% slope.

The northern area of the site is covered by asphalt, concrete, and buildings. It was considered beyond the scope of this inspection to identify the soils underlying this impervious urban land area.

The glacial till overburden on the site forms a thin mantle over the Tichenor Limestone Member of Ludlowville rock formation. This formation is of Middle Devonian age. The Tichenor limestone member is resistant and is approximately 12.5 feet thick within the site vicinity (Buehler, et al. 1963). This limestone is moderately permeable and overlies subsequent shale and limestone layers which exhibit low permeability. The fracture zone at the top of the Ludlowville formation is directly connected to the glacial deposits and, therefore, is most advantageously positioned to receive water (LaSala 1968). Little specific information on the site hydrology is presently available. There are no groundwater wells on site. One residential drinking well is known to exist approximately 1 mile northeast of the site (Rados 1987).

4.3.3 Hydraulic Connections

Presently, insufficient background data exist on which to define site hydraulic connections with absolute certainty. However, hydrological principles can be applied to the site topography and subsurface geology to speculate as to the nature of the hydraulic gradients. The proximity and lower elevation of Lake Erie suggest probable hydraulic connections between the lake, the zones of saturation within the glacial till and beach materials, and the aquifers likely present within the Ludlowville formation. Hydraulic gradient and dominant flow patterns would trend toward Lake Erie. Surficial drainage follows this same direction. This migration route represents the primary path subsurface waters from the facility would potentially follow.

4.4 SITE CONTAMINATION

Recent soil/sediment, and SPDES discharge sampling and analyses indicate the presence of organic and inorganic Hazardous Substance List (HSL) compounds on site (NUS 1986). This contamination is believed to be the result of past and present disposal practices. Prior to 1972, the plant reportedly disposed of pickling acid and phosphate wastes at the current SPDES discharge point. Painting booth water curtain waste and etch rinse were also reportedly discharged to the ground surface on site. Erie County Health Department site inspections between 1976 and 1979 noted a leaking tank, improperly drummed waste, and a rust-colored stain on the beach (NUS 1986).

The plant presently discharges non-contact cooling and process water through a SPDES discharge to the beach of Lake Erie. Allegedly, the plant no longer generates any hazardous substances and all storage tanks have been removed.

Laboratory results for samples collected by NUS for the EPA during a July 9, 1986 inspection indicated the presence of a number of Hazardous Substance List (HSL) compounds. Twenty-five HSL organic compounds were found in soil samples collected from the plant's northwest border. Nineteen HSL organic compounds were found in soil/sediment samples collected from the beach area. A number of inorganic HSL contaminants were detected at concentrations exceeding the normal

ranges found in natural soils. Seven were detected in soil samples collected on the plant's property and one was detected in soil/sediment samples collected on the beach. Detailed organic and inorganic analytical data is included in Appendix C of this report (NUS 1986).

NYSDEC compliance sampling reports indicate that the facility exceeded the daily maximum SPDES permit limitation of 0.010 mg/L for 1,1,1-trichloroethane during October 1985, February 1986, and on March 21, 1986. Additional NYSDEC compliance sampling on May 30, 1986 showed the facility in violation of the maximum daily limit for total suspended solids (TSSs). Reportedly, the production system contributing to the TSSs violation noted above were to be shut down as of July 31, 1986 (NYSDEC Division of Water 1986).

Recent NYSDEC compliance sampling events have also indicated various elevated SPDES discharge parameters including oil and grease. These violations are considered to be the result of careless handling of materials within the plant (Rink 1987).

During the site inspection the area between the northwest side of Plant No. 2 and the property fence line showed visible signs of stressed vegetation. Scrap metal storage on the southwest side of Plant No. 2, a small volume of red sediment on the pavement between Plant No. 1 and Route 5, and an old 1,000-gallon sulfuric acid storage tank were noted. Samples were not collected for analysis during this site inspection, therefore, the presence of contamination at these locations is unknown. Leaking tanks, improperly drummed wastes, and staining of the beach area noted during past site inspections were not observed (E & E 1987).

5. PRELIMINARY APPLICATION OF HAZARD RANKING SYSTEM

5.1 NARRATIVE SUMMARY

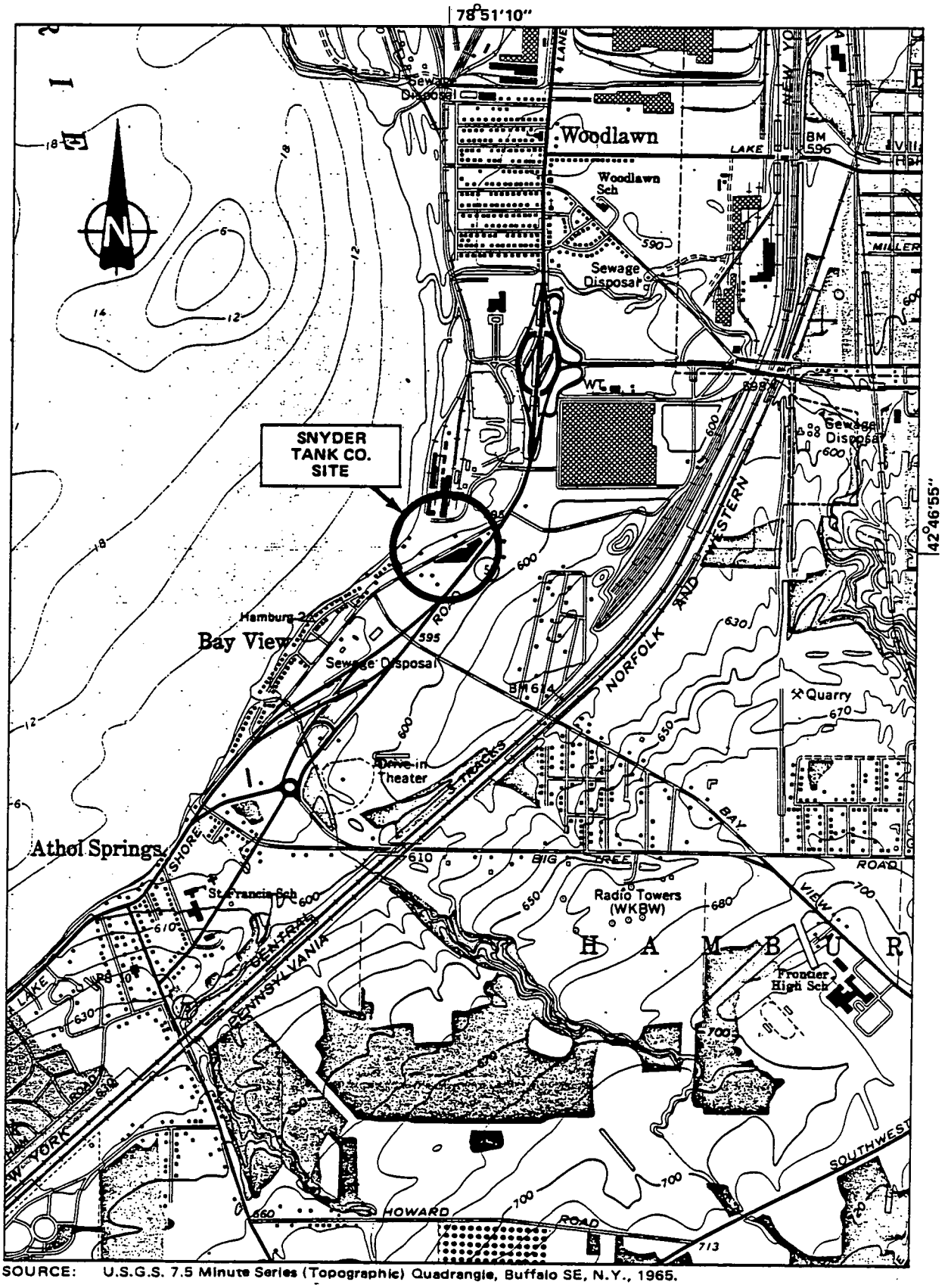
The Snyder Tank Corporation site occupies a 10-acre industrial lot located on the eastern shore of Lake Erie within the Town of Hamburg, Erie County, New York. This facility is located approximately 5 miles from the City of Buffalo and 2 miles from the City of Lackawanna, New York. The Town of Orchard Park lies approximately 4 miles to the east. The site is located in a commercial/industrial/residential area. Permanent and summer residences are located south of the site in the town of Bay View, a beach community. A sewage disposal facility, a waste treatment facility, a New York Central Railyard, Northfork and Western rail track, Woodlawn Community, and an automobile stamping facility are located within one mile of the site. The site and surrounding areas are essentially flat lying and located on the Erie-Ontario Lake Plain (see Figure 5-1).

The site was previously owned and used by Snyder Welding and Snyder Manufacturing Co., successively. Currently, the plant manufactures fuel tanks and accessories from aluminum and steel sheet metal. These manufacturing operations generate diverse liquid wastes which include pickling liquor, spent phosphates, spent acid rinse, cleaning and etching rinses, painting booth waste, spent test tank water, and spent cooling water (Nussbaumer and Clark 1975). Prior to 1972, waste acid pickling solution was mixed with other plant wastes (non-sanitary) and was drained into Lake Erie at the present SPDES discharge location on the beach. The estimated volume of the spent pickle liquor discharged is 98,000 gallons/year (NYSDEC 1986).

Other suspect operations noted throughout the site's history include a leaking tank, improperly drummed waste, a rust-colored staining of the beach area, and other various staining of property grounds (NUS 1986). NYSDEC compliance sampling events during the spring of 1986 have shown that the facility exceeded the SPDES permit maximum daily discharge limitations for 1,1,1- trichloroethane and total suspended solids (TSSs). NYSDEC reports that the facility continues to intermittently exceed discharge limitations for various parameters at the SPDES outfall location.

Analysis of soil and soil/sediment samples collected by NUS Region II Fit personnel from the plant's northwest border and beach area (July 1986) revealed a number of organic and inorganic Hazardous Substance List (HSL) compounds.

Due to the site's proximity to Lake Erie, which is used for drinking water and recreation, there is concern regarding public contact with site contamination. One residential drinking well is known to exist approximately 1 mile northeast of the site (Rados 1987). The nearest drinking water surface intake is located in Lake Erie, 4 miles southwest of the site.



SOURCE: U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle, Buffalo SE, N.Y., 1965.

SCALE

0 ½ 1 MILE

0 .5 1 KILOMETER

Figure 5–1 LOCATION MAP

FIGURE 1

HRS COVER SHEET

Facility Name: Snyder Tank Corporation

Location: 3773 Lake Shore Road, Hamburg, New York 14219

EPA Region: II

Person(s) in Charge of Facility: Jim Snyder (V.P. Snyder Tank Corp.)

3773 Lake Shore Road

Hamburg, New York 14219

Name of Reviewer: Donald A. Johnson Date: 9-3-87

General Description of the Facility:

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

The Snyder Tank Corporation occupies a 10-acre industrial lot located in the Town of Hamburg, on the eastern shore of Lake Erie in Erie County, New York. A small residential community is located directly to the southwest of the site. The plant manufactures steel and aluminum automobile fuel tanks. The plant presently operates a permitted State Pollutant Discharge Elimination System (SPDES) in order to dispose of manufacturing cooling liquids and surface runoff indirectly to an adjacent Lake Erie beach located approximately 100 feet west of the SPDES discharge conduit. NYSDEC found the plant violating the daily maximum SPDES permit limitation on several occasions. Prior to being permitted in 19874, the (SPDES) discharge point was used for the disposal of pickle liquor and process rinse resulting in precipitation of iron and discoloration of the beach. This practice was discontinued in 1972. ECHD inspections conducted between 1976 and 1979 noted a leaking tank, improperly drummed wast, and a rust-colored stain on the beach. On-site waste disposal was reportedly discontinued by 1984 and all wastes were put into containers and disposed of off site. The primary concern is the migration of contaminants from site surface soil and beach areas to adjacent Lake Erie and groundwater. The potential of direct contact with contaminants in beach soil and discharge water also exists.

Scores: S = 14.73 S_{gw} = 23.59 S_{sw} = 9.65 S_a = 0)

S_{FE} = Not scored

S_{DC} = 37.50

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Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			14	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
Total Waste Characteristics Score			23	28	
5 Targets					3.5
Ground Water Use	0 1 (2) 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 (8) 10 / 12 16 18 20 / 24 30 32 35 40	1	8	40	
Total Targets Score			14	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			13,524	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = 23.59			

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
Total Waste Characteristics Score			23	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			6,210	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{SW} =	9.65		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

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

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	23.59	556.49
Surface Water Route Score (S_{sw})	9.65	93.12
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		649.61
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		25.49
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		14.73

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Containment	1 3	1		3	7.1	
2 Waste Characteristics					7.2	
Direct Evidence	0 3	1		3		
Ignitability	0 1 2 3	1		3		
Reactivity	0 1 2 3	1		3		
Incompatibility	0 1 2 3	1		3		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8		
Total Waste Characteristics Score				20		
3 Targets					7.3	
Distance to Nearest Population	0 1 2 3 4 5	1		5		
Distance to Nearest Building	0 1 2 3	1		3		
Distance to Sensitive Environment	0 1 2 3	1		3		
Land Use	0 1 2 3	1		3		
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Total Targets Score				24		
4 Multiply 1 x 2 x 3				1,440		
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} = Not scored				

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 (3) 4 5	4	12	20	
Distance to a Critical Habitat	(0) 1 2 3.	4	0	12	
Total Targets Score			12	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			8,100	21,600	
7 Divide line 6 by 21,600 and multiply by 100	S_{DC} = 37.50				

FIGURE 12
DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

Instructions: As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

Facility Name: Snyder Tank Corporation

Location: Hamburg, New York

Date Scored: September 11, 1987

Person Scoring: Donald A. Johnson

Primary Source(s) of Information (e.g., EPA region, state, FIT, etc.):

NUS FIT II Site Inspection Report, 10-30-86
Ecology and Environment Site Inspection Logbook, 7-29-87
NYSDEC Files

Factors Not Scored Due to Insufficient Information:

Comments or Qualifications:

Fire and explosion not scored as site has not been delcared a fire hazard by a state or local fire marshal.

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1. OBSERVED RELEASE

Contaminants detected (3 maximum):

None reported.

Rationale for attributing the contaminants to the facility:

NA

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Unconsolidated till deposits and bedrock shale members of the Ludlowville, Marcellus and Skaneateles formulations.
Ref. No. 2

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

Water was encountered at 2.5 feet in a boring located on the Snyder Tank Corporation property.
Ref. No. 3

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

Depth from ground surface to the lowest point of waste disposal/storage is not known. However, because the saturated zone is within the beach, and glacial till materials (depth = 2.5 ft) represent migration route concerns, this section was scored accordingly.
Ref. No. 3

Net Precipitation

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

36 inches
Ref. No. 4

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

27 inches
Ref. NO. 4

Net precipitation (subtract the above figures):

36-27 = 9 inches

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Gravel, sand; highly fractured and weathered igneous and metamorphic erratics.
Ref. No. 5

Permeability associated with soil type:

$>10^{-3}$ cm/sec
Ref. No. 4

Physical State

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

Pickle liquor (liquid) was discharged onto the beach along with various rinse waters.
Ref. Nos. 4, 5

* * *

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Liquid pickling waste was discharged to the beach at the present SPDES discharge location. No liner or containment system for this discharge area is known to exist.
Ref. Nos. 1, 6

Method with highest score:

Waste was discharged to the beach with no liner or containment system existing.
Ref. Nos. 1, 6

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene and other PAHs.
Ref. Nos. 7, 12

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene
Ref. Nos. 4, 7, 12

Hazardous Waste Quantity

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

98,000 gal/yr prior to issuance of SPDES permit
Ref. No. 12

Basis of estimating and/or computing waste quantity:

Yearly discharge volume
Ref. No. 12

* * *

5. TARGETS

Groundwater Use

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

The only documented well currently used by a private well owner is 0.85 mile from the site. There are no other uses of groundwater within 3 miles of the site.
Ref. Nos. 9, 10, 11

Distance to Nearest Well

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

The only documented well drawing from any aquifer within a 3-mile radius of the site is located on Mile Strip Road in Hamburg, 0.85 mile away.
Ref. Nos. 9, 10, 11

Distance to above well or building:

0.85 mile
Ref. No. 9

Population Served by Groundwater Wells Within a 3-Mile Radius

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

The above-referenced well is the only documented water supply well within a 3-mile radius of the site. Less than 100 people use this well.
Ref. Nos. 9, 10, 11

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

There are no irrigation wells within 3 miles of the site.
Ref. No. 12

Total population served by groundwater within a 3-mile radius:

80 people
Ref. No. 16

SURFACE WATER ROUTE

1. OBSERVED RELEASE

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

1,1,1-trichloroethylene, total suspended solids, oil and grease.
Ref. No. 7

Rationale for attributing the contaminants to the facility:

Contaminants found in waste water discharge stream during SPDES permit monitoring.
Ref. No. 7

* * *

2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

1.5%
Ref. No. 13

Name/description of nearest downslope surface water:

The nearest downslope surface water is Lake Erie.
Ref. No. 13

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

5.6%
Ref. Nos. 3, 12, 4

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

No.
Ref. No. 13

Is the facility completely surrounded by areas of higher elevation?

No.
REf. No. 13

1-Year 24-Hour Rainfall in Inches

2.1 inches
Ref. No. 4

Distance to Nearest Downslope Surface Water

Lake Erie is approximately 100 feet west of the facility.
Ref. Nos. 12, 13

Physical State of Waste

Liquid.
Ref. Nos. 4, 5

* * *

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastes were discharged to the ground surface without means of containment. These wastes drained down the beach directly into Lake Erie.
Ref. No. 6

Method with highest score:

There is no containment of waste at the facility.
Ref. Nos. 1, 6

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene and other PAHs.
Ref. Nos. 7, 12

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene.
Ref. Nos. 4, 7, 12

Hazardous Waste Quantity

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

98,000 gal/yr
Ref. No. 12

Basis of estimating and/or computing waste quantity:

(see groundwater route)
Yearly discharge rate
Ref. No. 12

* * *

5. TARGETS

Surface Water Use

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

There are no drinking water uses of Lake Erie within 3 miles of the site. Lake Erie is used for sport fishing and recreation.
Ref. Nos. 4, 8, 12

Is there tidal influence?

There is no tidal influence.
Ref. No. 13

Distance to a Sensitive Environment

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

There are no coastal wetlands in this region.
Ref. No. 14

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

Greater than 1 mile.
Ref. No. 14

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

There are no critical habitats of endangered species or national wildlife refuges within 1 mile of the site.
Ref. No. 15

Population Served by Surface Water

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

There are no water-supply intakes in Lake Erie within 1 mile of the site.
Ref. No. 8

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

There are no irrigational uses of Lake Erie within 1 mile of the site. The area of the site is primarily industrial with no nearby farmland.
Ref. No. 12

Total population served:

Zero.

Name/description of nearest of above water bodies:

Lake Erie is the nearest water body. This lake is located approximately 0.02 mile down slope of the site.
Ref. No. 13

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

There are no water-supply intakes in Lake Erie within 1 mile of the site. The closest intake is the Wanakah Water Company intake located more than 3 miles away.
Ref. No. 8

A I R R O U T E

1. OBSERVED RELEASE

Contaminants detected:

None
Ref. No. 1

Date and location of detection of contaminants:

Not Applicable; not observed.

Methods used to detect the contaminants:

An HNu was used during the E & E site inspection on 7/29/87.
Ref. No. 1

Rationale for attributing the contaminants to the site:

Not Applicable

* * *

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Not Applicable; air samples not collected

Most incompatible pair of compounds:

Not Applicable; air samples not collected

Toxicity

Most toxic compound:

Not Applicable; air samples not collected

Hazardous Waste Quantity

Total quantity of hazardous waste:

98,000 gal
Ref. No. 12

Basis of estimating and/or computing waste quantity:

Yearly discharge rate
Ref. No. 12

* * *

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3. TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

(0 to 4 mi) 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

65,259
Ref. No. 16

Distance to a Sensitive Environment

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

No coastal wetlands in the region
Ref. No. 13

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

Not Applicable
Ref. No. 14

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

No critical habitats within 1 mile of the site.
Ref. No. 15

Land Use

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

Less than 1 mile
Ref. No. 13

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

None within 2 miles
Ref. No. 13

Distance to residential area, if 2 miles or less:

0.1 mile
Ref. No. 13

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

None within 1 mile
Ref. No. 13

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

None within 2 miles
Ref. No. 13

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

None within view.
Ref. Nos. 1, and 13

FIRE AND EXPLOSION

1. CONTAINMENT

Not scored.

Hazardous substances present:

None observed
Ref. No. 1

Type of containment, if applicable

No containment
Ref No. 6

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Not Applicable
Ref. No. 17

Ignitability

Compound used:

Not Applicable
Ref. No. 17

Reactivity

Most reactive compound:

Not Applicable
Ref. No. 17

Incompatibility

Most incompatible pair of compounds:

Not Applicable
Ref. No. 17

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

98,000 gal
Ref. 12

Basis of estimating and/or computing waste quantity:

Yearly discharge rate
Ref. No. 12

* * *

3. TARGETS

Distance to Nearest Population

0.1 mile
Ref. No. 13

Distance to Nearest Building

Building on site
Ref. No. 1

Distance to a Sensitive Environment

Distance to wetlands:

No wetlands near site
Ref. No. 14

Distance to critical habitat:

No critical habitats near site
Ref. No. 15

Land Use

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

Site is in commercial/industrial area
Ref. No. 13

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

None within 2 miles
Ref. No. 13

Distance to residential area, if 2 miles or less:

0.1 mile
Ref. No. 13

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

None within 1 mile
Ref. No. 13

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

None within 2 miles
Ref. No. 13

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

None within view
Ref. No. 13

Population Within 2-Mile Radius

14,894
Ref. No. 16

Buildings Within 2-Mile Radius

5,294
Ref. No. 16

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

There is no record of an observed incident of direct contact with hazardous waste on this site.

* * *

2. ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the facility. The plant areas are surrounded by fencing but the beach area and SPDES outfall are accessible to the public. This beach area is known to be used for recreation.
Ref. Nos. 1, 12

* * *

3. CONTAINMENT

Type of containment, if applicable:

Direct contact to wastes discharged onto the beach is possible by persons using the beach for recreation.
Ref. No. 1, 12

* * *

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene and other PAHs
Ref. No. 7, 12

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene.
Ref. No. 4, 7

* * *

5. TARGETS

Population within one-mile radius

2,978
Ref. No. 16

Distance to critical habitat (of endangered species)

There is no critical habitat of endangered species within 1 mile of the site.
Ref. No. 15

REFERENCES

If the entire reference is not available for public review in the EPA regional files on this site, indicate where the reference may be found:

Reference Number	Description of the Reference
1	Ecology and Environment, Inc., July 29, 1987, Site Inspection Logbook, Buffalo, New York. Document location: Ecology and Environment, Inc., Buffalo, New York.
2	LaSala, A.M., Jr., 1968, July 16, 1982, Groundwater Resources of the Erie-Niagara Basin, New York, New York State Department of Conservation, Water Resources Commission, Albany, New York.
3	Nussbaumer and Clarke, Inc., 1961, Partial Survey Exhibit No. 1, Boring Log for HB No. 1, Empire Soils Investigations. Document location: NUS Corporation, Edison, New Jersey.
4	Barrett, K.W., S.S. Chang, S.A. Haus, A.M. Platt, 1982, Uncontrolled Hazardous Waste Site Ranking System Users Manual, Mitre Corporation. Document location: Ecology and Environment, Inc., Buffalo, New York.
5	New York State Department of Environmental Conservation, Division of Solid and Hazardous Waste, Inactive Hazardous Waste Disposal Report, 1986. Document location: Ecology and Environment, Inc., Buffalo, New York.
6	Snyder, G.J., personal communication, President, Snyder Tank Corporation, letter to the Interagency Task Force on Hazardous Wastes, New York, December 5, 1978. Document location: NUS Corporation, Edison, New Jersey.
7	Contract Laboratories Analytical Results, EPA Contract Laboratory Program Analytical Results Case No. 671. Document location: NUS Corporation, Edison, New Jersey.
8	New York State Department of Health, New York State Atlas of Community Water System Sources, 1982. Document location: Ecology and Environment, Buffalo, New York.
9	Rados, C., personal communication, Resident of 3742 Mile Strip Road. Document location: Ecology and Environment, Buffalo, New York.
10	Gilbert, J., personal communication, Town Engineer for Hamburg Water District Engineering Division. Document location: Ecology and Environment, Buffalo, New York.
11	Strycharz, A., personal communication, September 3, 1987, Senior Engineering Aide for Lackawanna Water District, Engineering Division.
12	NUS Corporation, Superfund Division, Site Inspection Report and Hazard Ranking System Model for Snyder Tank Corporation, 1986, Edison, New Jersey. Document location: NUS Corporation, Edison, New Jersey.
13	U.S. Geological Survey, 1965, 15-Minute Quadrangle, (Topographic Series), Buffalo SE. Document location: Ecology and Environment, Inc., Buffalo, New York.
14	New York State Department of Environmental Conservation, wetlands maps, Region 9 offices, Buffalo, New York. Document location: Ecology and Environment, Inc., Buffalo, New York.

References (Cont.)

Reference Number	Description of the Reference
15	Moore, Terry, L., 1987, personal communication, Regional Wildlife Manager, New York Department of Environmental Conservation, Region 9. Document location: Ecology and Environment, Inc., Buffalo, New York.
16	Graphical Exposure Modeling System, June 1987, Environmental Protection Agency, Office of Pesticides and Toxic Substances, Federal Plaza, New York, New York. Document location: Ecology and Environment, Inc., Buffalo, New York.
17	Miller, J., 1989, personal communication, Erie County Environmental Compliance Service. Document Location: Ecology and Environment, Inc., Lancaster, New York.

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REFERENCE NO. 1

LABORATORY NOTEBOOK

ECOLOGY & ENVIRONMENTAL ING

Project No.______
Book No.______ TITLE ____________

Pieczonka Engineering
(716) 835-0
Ted Pieczonka Jr., P.E.
P.O. Box 206 Orchard Park, New York 14127-020

ge No.__

uly 29, 1987 Snyder TANK CORP.

Arrived onsite at 1245
Gene Florentino Team Leader
Dennis Sutton - site Safety Officer

Meeting with Jim Snyder and Ted Pieczonka Jr. P.E.
Larry Clare also attended meeting

Larry Clare explained reason for Phase I Investigation

Jim Snyder does not recall the use or storage of Coal products onsite, however, a trucking Co. onsite may have spilled something on the property.

Discharge into Lake Erie, city water was used to cool 500 ton press
- discharge Permit raw water ~~500 ton~~ OF
- cooling water (non-contact) in from a ~~press~~ OF roller leveler Drive
pprox. gal/hr 8 hr/day - storm water discharge - reducing water
- monthly & Quarterly Monitoring discharge with Air cooling
- discharge of sulfuric acid 15 years ago

Do not generate any hazardous substances now

All storage tanks have been removed
- last tank removed approx. 1 yr ago
- gas, ~~toluene~~ toluall OF

Most of information in NUS Report

Previous ownership as remembered by Jim Snyder
- vacant land from Bethlehem Steel - EAST side of road 1930's
West side of road - residential

recycled paper ecology and environment To Page No.

ed & Understood by me. | Date | Invented by 5-27 | Date

7/29/87 SNYDER TANK CORP (CONT.)

Aquired Residential area in 60's & 70's

Aerial Photo's in the report

Heavy metals found
- explainable due to storage of metals

they do use some solvents - To Lucall

Jim Snyder stated that there is a problem beca the discharge pipe takes storm water from Rt 5.

Requested copy of NUS PA & Quarterly sampling, and list of chemicals used onsite & permits.

Spill of waste oil at outfall zone a few months ag No legal action taken. Late February or early March Amount of spill unknown - approx. one pint as stated by Ted Pietronka.

No monitoring wells onsite.

Past hauling of Pickle liquor & acid iron phosphate SCA - CECOS

Drums have been removed from the site
- drums contained hydraulic oil

Larry Clare suggested that ETE should obtain neces information from the DEC, not Snyder Tank Corp.

Snyder Tank's Long Term plan is to discharge into sewer sy

Gene Florentine 7/29/87

To Page

Witnessed & Understood by me:	Date	Invented by 5-28	Date
		Recorded by	

7/29/87 Snyder TANK CORP. (cont.)

1400 Calibrated HNU to .58 PPM · Span setting 9.4

Site Investigation conducted by ~~Gene~~ Florentine
Dennis Sutton
Jim Snyder and Larry Clare

Photos ~~1415~~ GF
Frames 9, 10, 11, 12, 13, ~~14~~ Panoramic View of site taken from
GF ~~SW~~ NW Corner of Property

Can not locate Black spot in ~~SW~~ NW GF Corner of Property

Property GF ~~SW~~ west of the office and other buildings consists of a lot containing scrap manufactured Tanks on pallets, and scrap metal. Surface gently slopes to the lake and is graded with gravel

One Drain near GF ~~SW~~ NW section adj. to openning on gate. It is a 6 inch PVC drain extending from 5 foot slope. There is a wet area approximately 20 feet from the drain On the ~~beach~~ GF back beach berm

Photo's
Frames 14, 15, ~~16~~ GF ~~SW~~ western-most drain and beach area
GF

The GF ~~SW~~ western-most drain collects surface runoff in vicinity of Garage (~~southern~~ western GF most Bldg.)

Frame 16 Asphalt pile - center / ~~West~~ North GF side of lot 4'x
GF ~~16~~ 17 Natural drainage ditch to lake near main discharge line
19 Main discharge line

5-29

nessed & Understood by me. Date Interviewed by Date

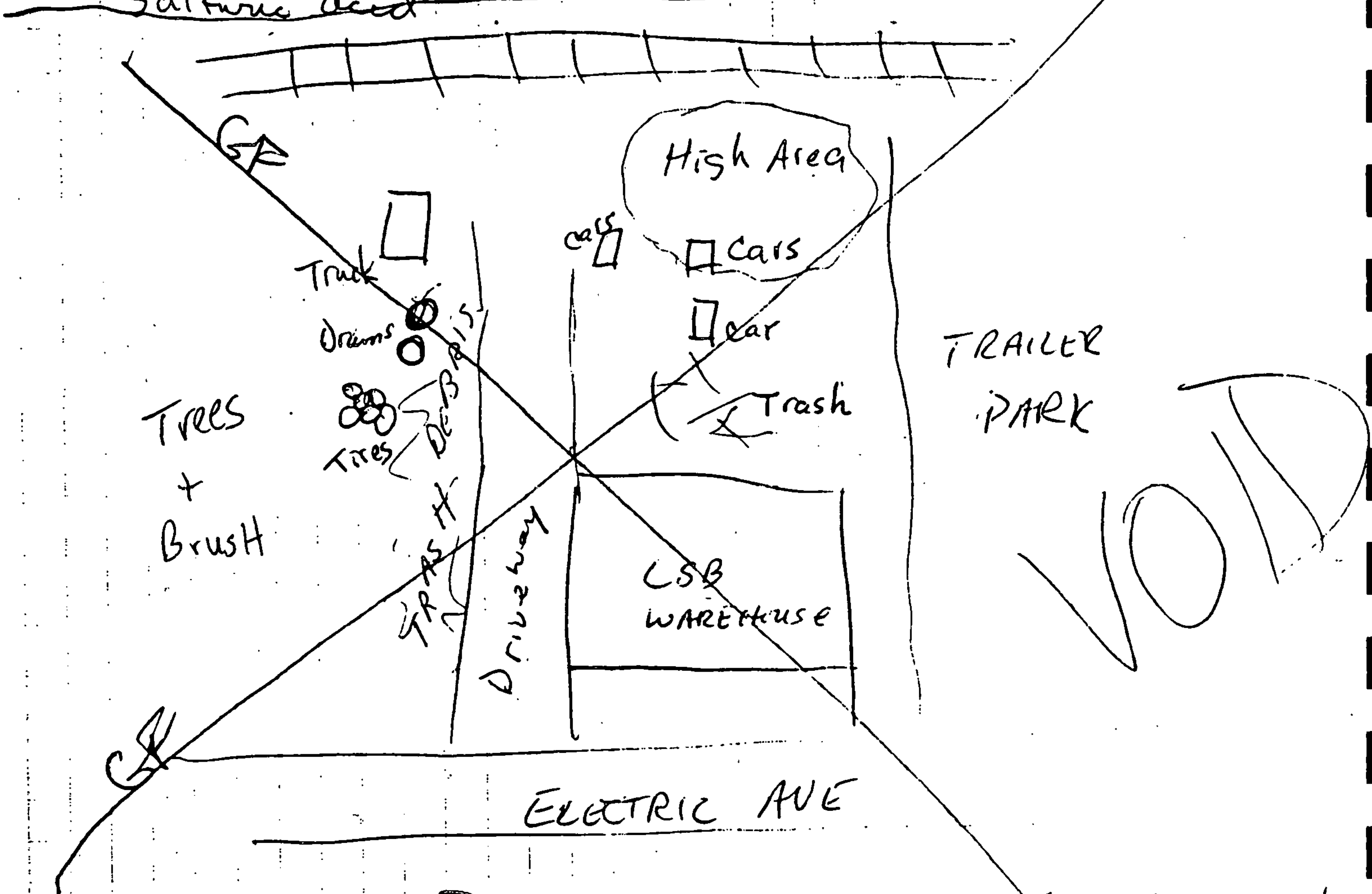
7/29/87 Snyder Tank Corp. (Cont.)

Storm drains along sidwalk & street on Lake Shore Drive

S3 Photo's
Frame ~~25~~ 24 GF along Plant #1 (Lake shore Drive) Facing ~~North~~ EAST GF
Frame ~~26~~ 25 GF Tank in front of Plant #1

Oily stain on ~~North~~ West GF side of plant #1 approx 7' x 3'

TANK in front of Bldg. (Plant #1) used to contain Sulfuric acid



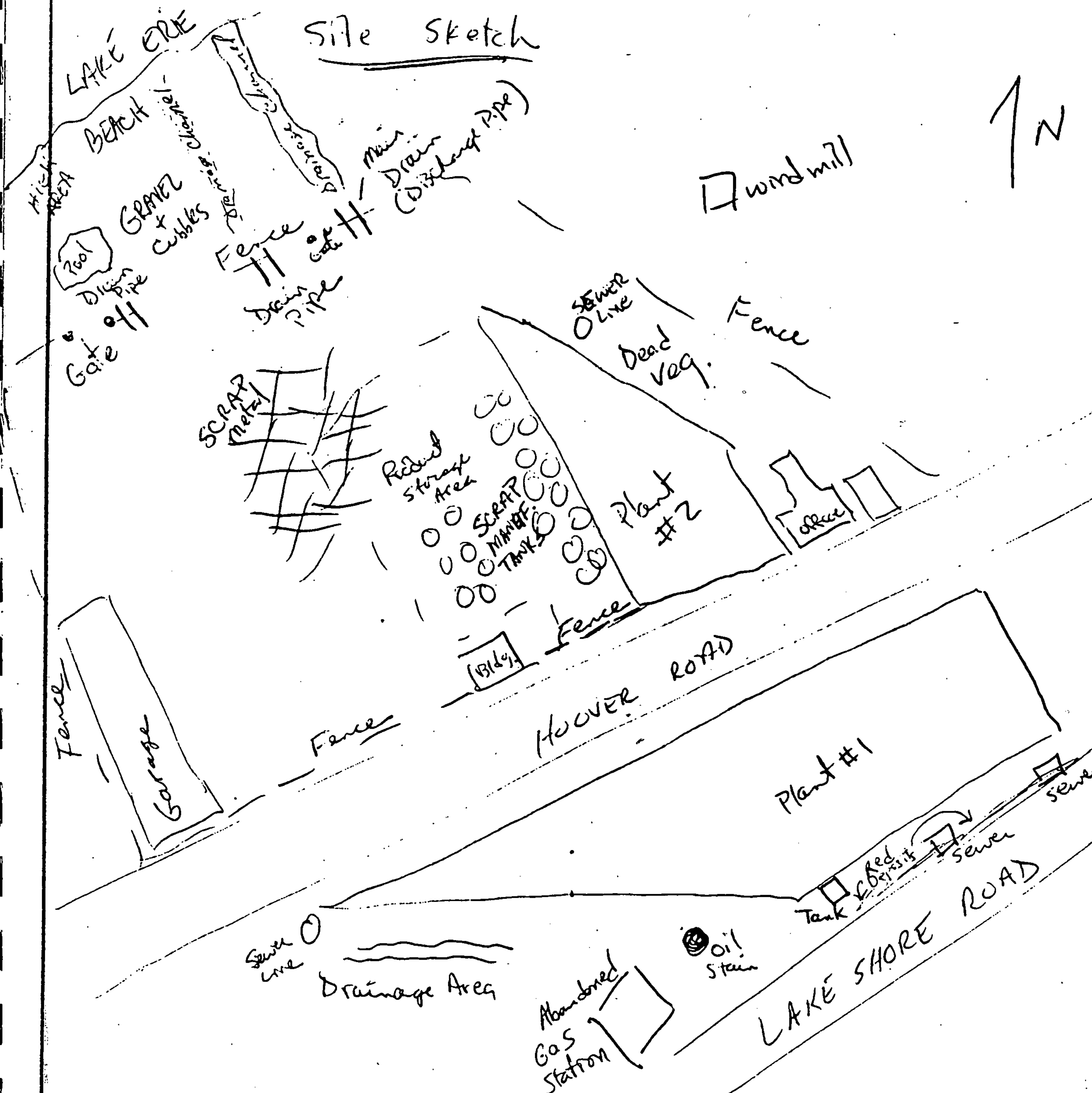
SEE PAGE 21 FOR SITE SKETCH

Departed site at 1515

Project No.
Book No.

7/29/87 Snyder TANK CORP. (cont.)

Site Sketch



To Page No.

Witnessed & Understood by me	Date	Invented by	ecology and environment	Date
[signature] 7/29/87		Recorded by		

recycled paper

REFERENCE NO. 2

Erie-Niagara Basin

Ground-Water Resources

ERIE-NIAGARA BASIN REGIONAL WATER RESOURCES PLANNING BOARD

THE NEW YORK STATE WATER RESOURCES COMMISSION

CONSERVATION DEPARTMENT • DIVISION OF WATER RESOURCES

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

5-34

CONTENTS

CONTENTS (Continued)

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.

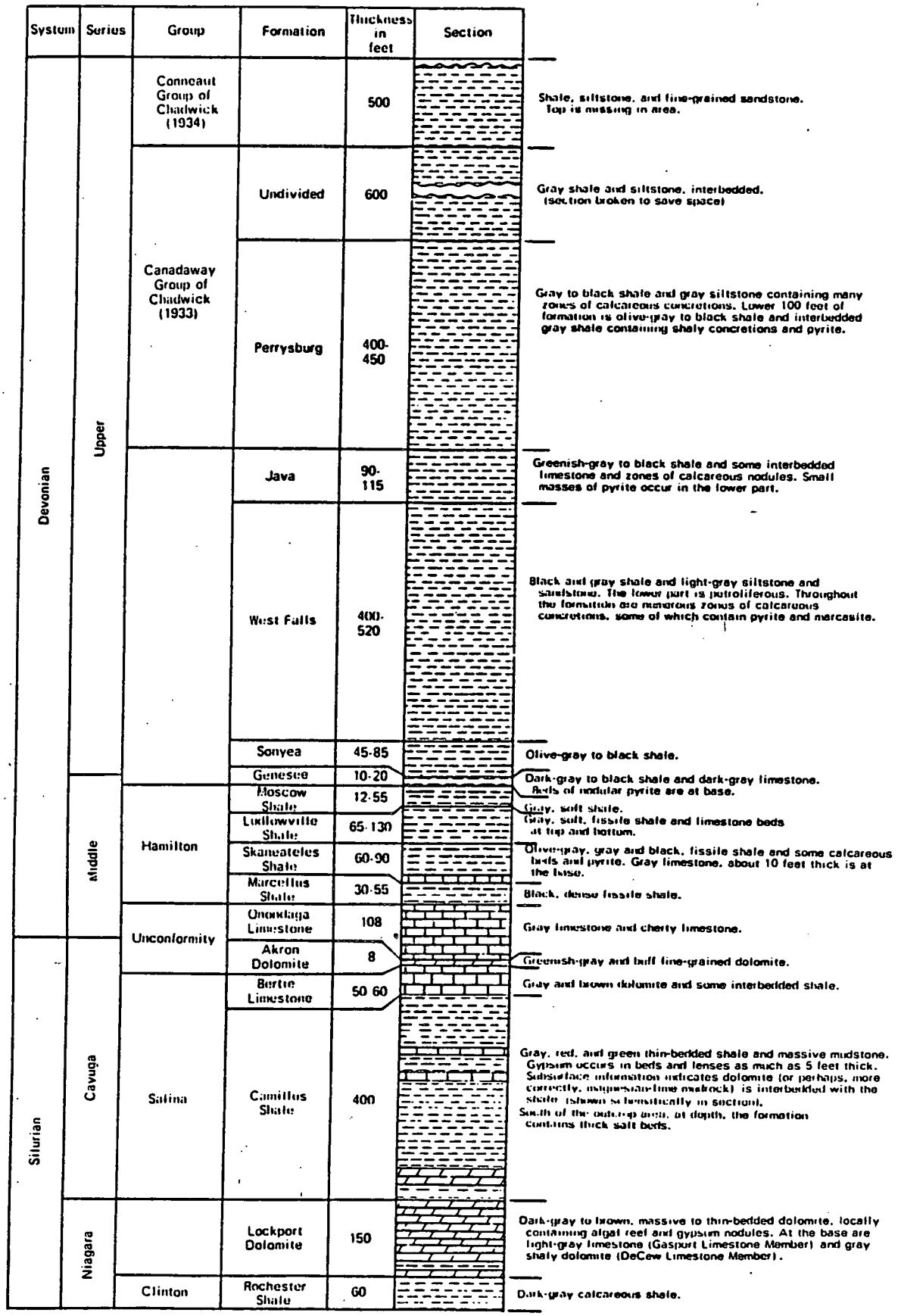
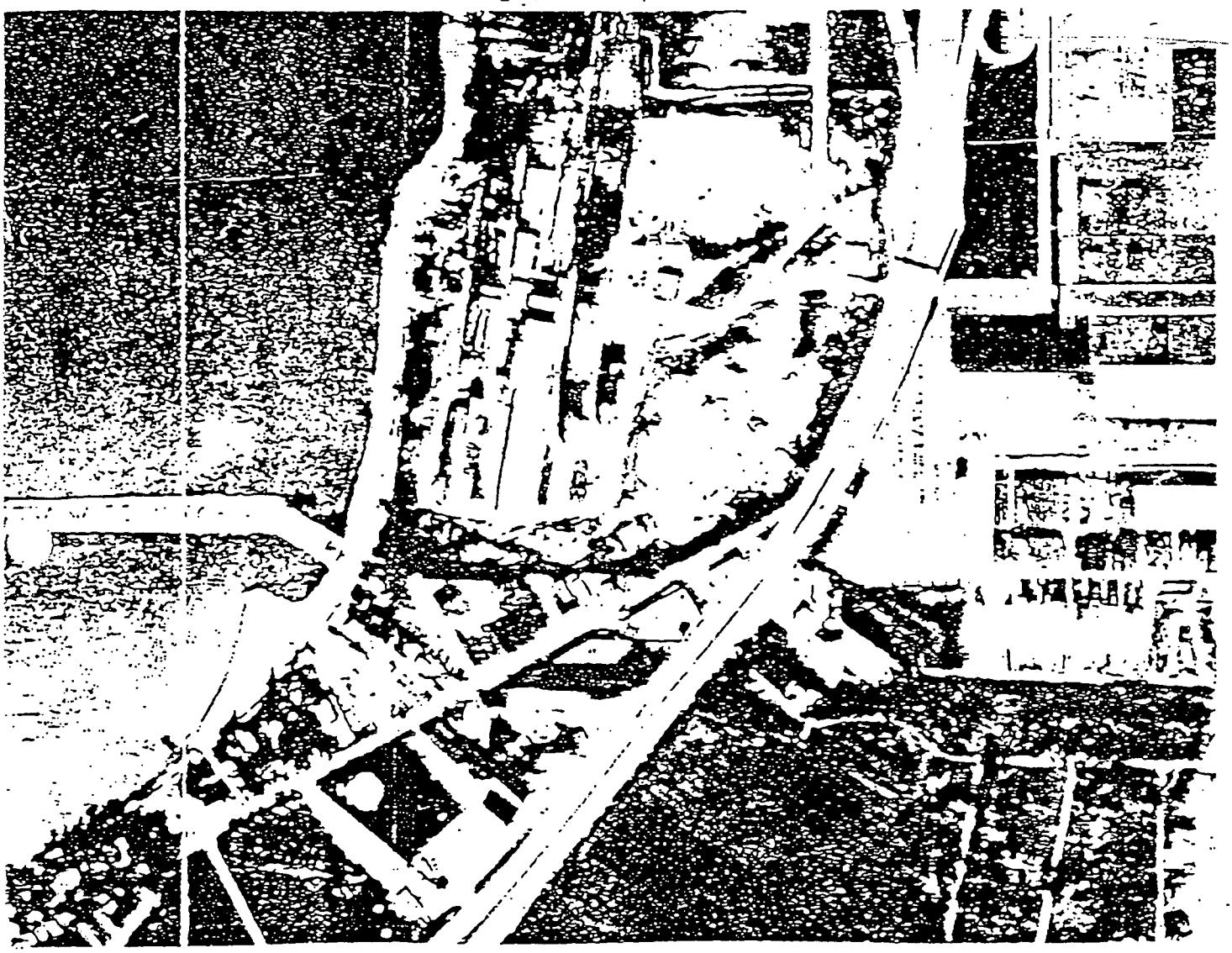


Figure 2.--Bedrock units of the Erie-Niagara basin.

REFERENCE NO. 3



INC.

SNYDER TANK CORP.

HAMBURG, N.Y.

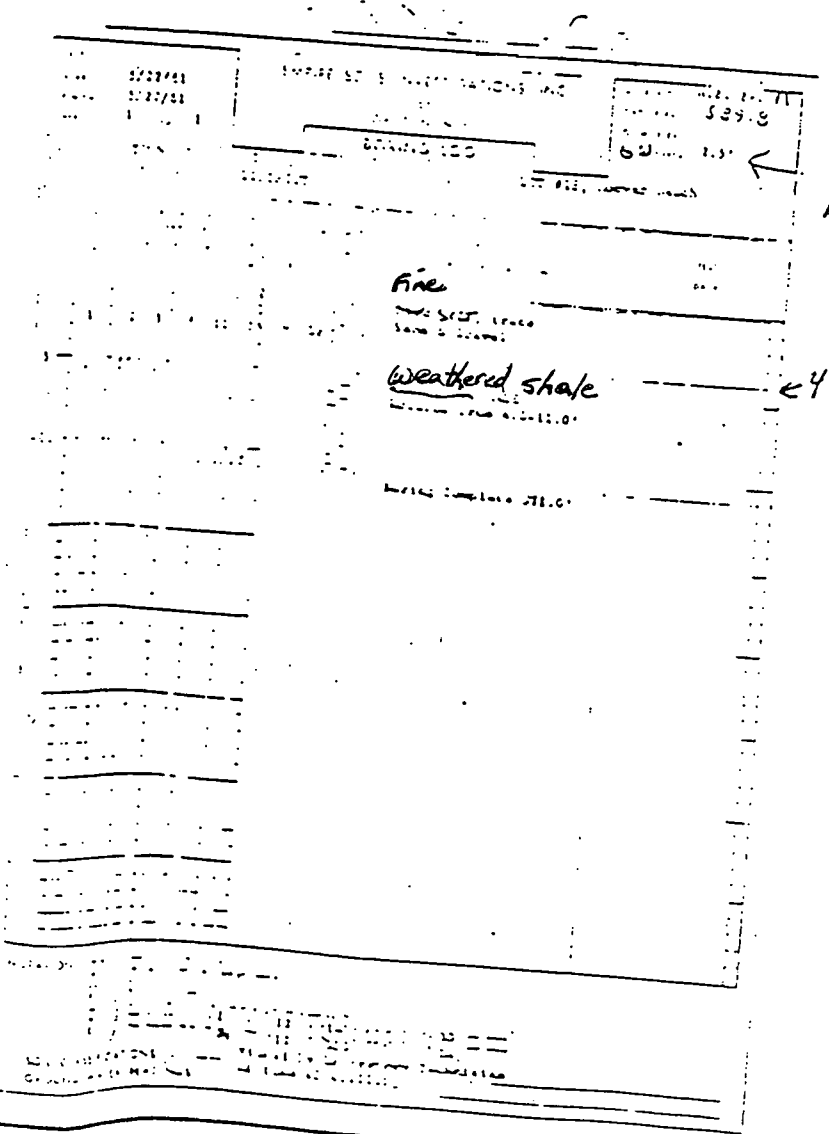
PARTIAL SURVEY

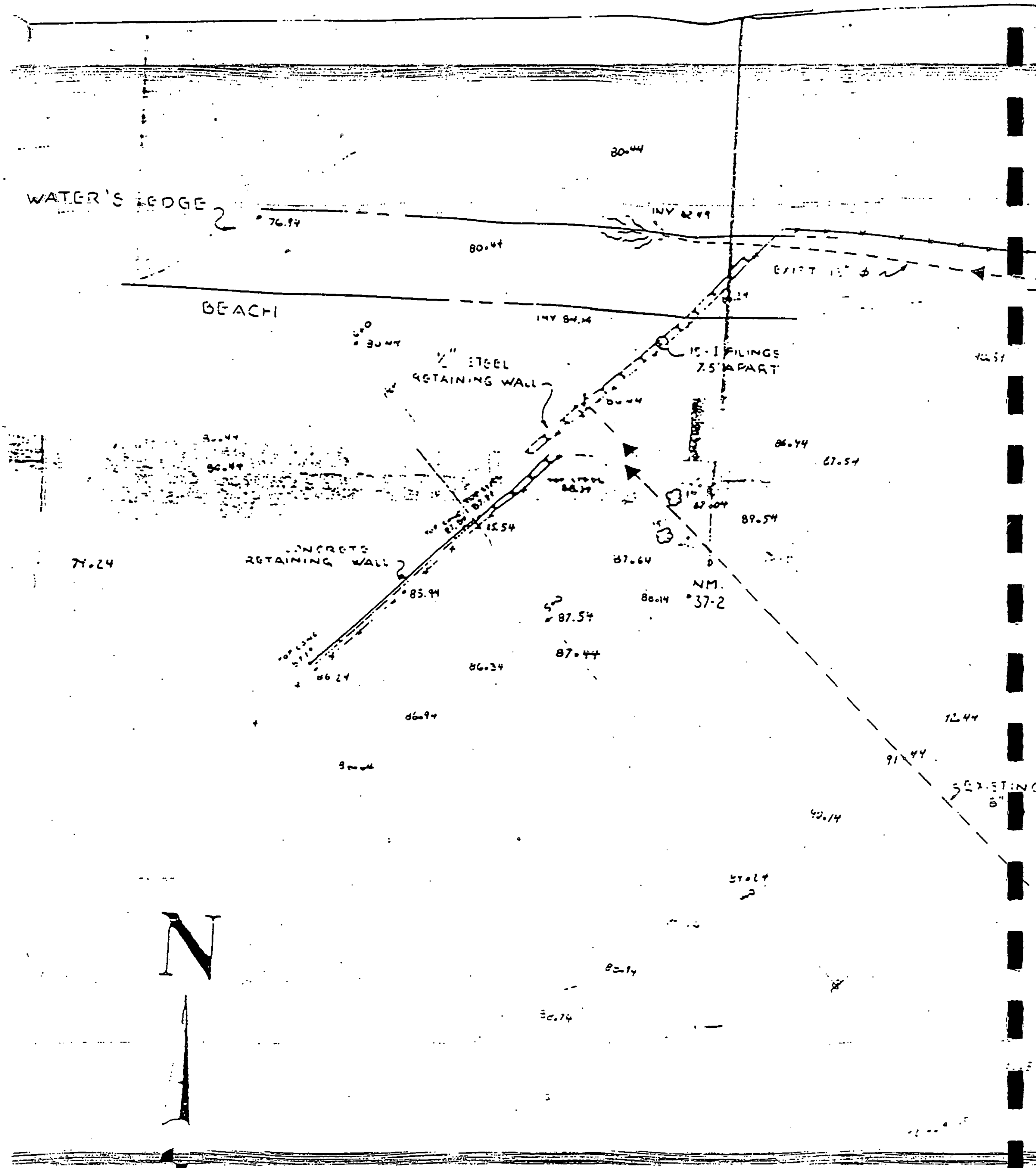
SHEET NO. EXH.

OF 1

CHAIN LINK FENCE

S DISCHARGE ELEV.
103.77
104.00
103.34
103.31
103.56
103.48
102.28
102.48
102.1
102.26
102.21
102.21
102.48




WATER'S EDGE
76.94
80.44
BEACH
INY 84.14
15-1 PILINGS
7.5' APART
RETAINING WALL
CONCRETE
RETAINING WALL
86.44
89.54
87.64
85.94
NM.
37-2
87.54
87.44
86.34
N

REFERENCE NO. 4

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

Kris W. Barrett
S. Steven Chang
Stuart A. Haus
Andrew M. Platt

August 1982

MTR-82W111

SPONSOR:
U.S. Environmental Protection Agency
CONTRACT NO.:
68-01-6278

The MITRE Corporation
Metrek Division
1820 Dolley Madison Boulevard
McLean, Virginia 22102

REFERENCE NO. 5

Rec'd from J. Pietraszek 4/24/87 DEC

DEC
PUBLICATION

Division of Solid and Hazardous Waste

Inactive Hazardous Waste Disposal Sites in New York State

Site List by Counties; Volume 9

- Allegeny
- Cattaraugus
- Chautauqua
- Erie
- Niagara
- Wyoming

December 1986

5-46

A Joint Report
of the New York State Department of Environmental Conservation and Health

New York State/Department of Environmental Conservation

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

CLASSIFICATION CODE: 2a REGION: 9 SITE CODE: 915049
EPA ID:

NAME OF SITE : Snyder Tank Company
STREET ADDRESS: Lake Shore Road
TOWN/CITY: COUNTY: ZIP:
Hamburg Erie 14219

SITE TYPE: Open Dump-X, Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: N/A Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Snyder Tank Company
CURRENT OWNER ADDRESS.: S-3774 Lake Shore Rd, Blasdell, NY 14219
OWNER(S) DURING USE...: Snyder Tank Corp.
OPERATOR DURING USE...: Same
OPERATOR ADDRESS.....: Same as above
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1941 To Unknown

SITE DESCRIPTION:
Prior to 1972, pickle liquor was discharged onto a beach along with rinse water resulting in precipitation of iron and discoloration of the beach. An Erie County (DEP) inspection report of March 1984 indicates that on site disposal of the wastes was no longer occurring and all wastes were put into containers and disposed of off-site.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-X	Suspected- QUANTITY (units)
Spent pickle liquor		98,000 gal/yr
Precipatated iron salts		Unknown

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil- Sediment- None-X

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

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

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

GEOTECHNICAL INFORMATION:
SOIL TYPE: Not known
GROUNDWATER DEPTH: Not known

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Inadequate data is available to assess environmental problems at this time.

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigation
Air	Unlikely	Unlikely	Yes	Low
Surface Soil	Likely	Unlikely	Yes	Medium
Groundwater	Likely	Unlikely	No	Low
Surface Water	Likely	Unlikely	Yes	Medium

Health Department Site Inspection Date : 7/85

MUNICIPAL WASTE ID:

REFERENCE NO. 6

Snyder TANK CORPORATION

P. O. BOX 1914 · S-3774 LAKE SHORE ROAD · BUFFALO, NEW YORK 14219 · AREA CODE 716 827-5353

December 11, 1978

Interagency Task Force On Hazardous Wastes
M.P.O. Box 561
Niagara Falls, New York 14302

Attention: Mr. Fredrik A. Muller

Dear Mr. Muller:

In response to your letter of 12/5/78, I wish to advise you that we were in error when we reported that our acid pickling solution at one time was passed thru a leach bed on our property. What actually happened was that when sewers were installed for our plant, we then used the no longer needed leach bed system for passing surface water thru. Prior to 1970 having our acid pickling solution hauled away for disposal by others, our acid pickling solution was merely mixed with other plant wastes (other than sewage) and drained directly into Lake Erie.

At no time did we have an on site filtering system for our acid pickle wastes.

Very truly yours,

SNYDER TANK CORP.

Gerald J. Snyder
President

GJS/djg

RECEIVED
DEC 12 1978

REFERENCE NO. 7

TABLE 1

SNYDER TANK CORPORATION
HAMBURG, NEW YORK
7/9/86
CASE #6171

Sample I.D. #	Sample Type	Traffic Report #
NYU4-S1	Organic Soil Inorganic Soil	BG633 MBE365
NYU4-S2	Organic Soil Inorganic Soil	BG634 MBE366
NYU4-S3	Organic Soil Inorganic Soil	BG635 MBE367
NYU4-S4	Organic Soil Inorganic Soil	BG636 MBE368
NYU4-S5	Organic Soil Inorganic Soil	BG637 MBE369
NYU4-S6	Organic Soil Inorganic Soil	BG638 MBE370
NYU4-SED1	Organic Soil Inorganic Soil	BG639 MBE371
NYU4-SED2	Organic Soil Inorganic Soil	BG640 MBE372
NYU4-BL1	VOA Aqueous	BG642

Note: Water for VOA Aqueous Blank was obtained from U.S. EPA Laboratories, Edison, New Jersey.

ORGANIC DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags must be explicit.

Value -If the result is a value greater than or equal to the detection limit, report the value.

U -Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J -Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J)

C -This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract should be confirmed by GC/MS.

B -This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other -Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Footnotes:

NR - not required by contract at this time.

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]. Indicate the analytical method used with P (for ICP/Flame AA) or F (for furnace).

U - Indicates elemant was analyzed for but not detected. Report with the detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

R - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis in not within control limits.

\+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

ANALYTICAL DATA
NAME: SNYDER TANK CORPORATION
SAMPLING DATE: 7/9/86
CASE: 6171

INORGANICS									
SAMPLE NUMBER	NYU4-S1	NYU4-S2	NYU4-S3	NYU4-S4	NYU4-S5	NYU4-S6	NYU4-SED1	NYU4-SED2	NYU4-BL1
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	NA
Aluminum	7000	15700	6930	8120	9760	4910	3770	2260	
Antimony	32J	32J	33J	32J	34J	33J	38J	56J	
Arsenic	9.7	11	12	52	5.0	6.0			
Barium	E	E	E	E	E	E	E		
Beryllium	2.3J	3.7	2.7	4.1	1.1J			2.4J	
Cadmium	24	7.9	4.3	4.6	6.2		9.3		
Calcium	77100	92800	59200	40900	68000	31100	51700	40900	
Chromium	113	96	230	39	21	11	14	6.3	
Cobalt	35				17J				
Copper	1030	43	58	68	29	26	26	17	
Iron	40400	30600	60300	27500	25900	11800	10500	10800	
Lead	678	116	92	103	22	17	58	20	
Magnesium	18600	14700	12100	6750	7910	5740	10200	3370	
Manganese	1070	4770	10400	1480	718	492	366	409	
Mercury			0.07J	0.19	0.07J				
Nickel	70	42	27	31	56			28	
Potassium	900J	1620J	897J	965J	1480J	598J	383J	348J	
Selenium				3.1					
Silver	4.7J	2.1J	2.7J		2.2J				
Sodium	514J	464J	179J	227J	124J	180J	192J	87J	
Thallium									
Tin	25J	22J	22J	21J	22J	22J	25J	37J	
Vanadium		62J	143J	31J					
Zinc	1010	351	366	377	93	60	135	484	

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~~

ANALYTICAL DATA
NAME: SNYDER TANK CORPORATION
SAMPLING DATE: 7/9/86
CASE: 6171

VOLATILES

SAMPLE NUMBER	NYU4-S1	NYU4-S2	NYU4-S3	NYU4-S4	NYU4-S5	NYU4-S6	NYU4-SED1	NYU4-SED2	NYU4-BL1
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloroethane									
Bromoethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride	B	E	E	B	E	E	E	E	E
Acetone	B	E	E	B	E	E	E	E	E
Carbon Disulfide		0.6J	0.7J	0.8J			0.8J		
1,1-Dichloroethene									
1,1-Dichloroethane							1.4J	42.5	
Trans-1,2-Dichloroethene									
Chloroform	B	E	B	E	E	E	E	E	E
1,2-Dichloroethane									
2-Butanone	B	E	E	E	E	E	E	E	B
1,1,1-Trichloroethane						1.4J		39.4	
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									2.3J
4-Methyl-2-Pentanone									1.5J
Tetrachloroethene									
Toluene	3672.6		E	E					2.2J
Chlorobenzene									
Ethylbenzene									
Styrene									
Total Xylenes	8051.1								

459

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

ANALYTICAL DATA
NAME: SNYDER TANK CORPORATION
SAMPLING DATE: 7/9/86
CASE: 6171

SEMI-VOLATILES

SAMPLE NUMBER	NYU4-S1	NYU4-S2	NYU4-S3	NYU4-S4	NYU4-S5	NYU4-S6	NYU4-SED1	NYU4-SED2	NYU4-SL1	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	NA	
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			21.7J	248.5J						33.78
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene	87845.8		15.7J	162.6J						11003
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethyl Phthalate										
Acenaphthylene		25.2J		29.4J						6.83
3-Nitroaniline										
Acenaphthene	15166.3J	28.4J		560.6			6392.8J	41.9J		2777.5
2,4-Dinitrophenol										
4-Nitrophenol										471
Dibenzofuran		26.7J		361.8			3385.5J	21.5J		
2,4-Dinitrotoluene										
2,6-Dinitrotoluene										
Diethylphthalate		51.1J	34.6J		18.1J			45.4J		12.9
4-Chlorophenylphenyl ether										
Fluorene	33616.9J	53.7J		698.8			7877.1J	50.5J		5,287
4-Nitroaniline										

ANALYTICAL DATA
NAME: SNYDER TANK CORPORATION
SAMPLING DATE: 7/9/86
CASE: 6171

SEMI-VOLATILES

SAMPLE NUMBER	NYU4-S1	NYU4-S2	NYU4-S3	NYU4-S4	NYU4-S5	NYU4-S6	NYU4-SD1	NYU4-SD2	NYU4-BK1	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	NA	
4,6-Dinitro-2-Methylphenol										
N-Nitrosodiphenylamine										
4-Bromophenylphenyl ether										
Hexachlorobenzene										
Pentachlorophenol										
Phenanthrene	82730.1	636.3	259.7J	6008.2	31.4J	80.9J	53816.9	1074.6		180797
Anthracene	89103.6	113.7J	273.7J	1146.5	33.0J	15.1J	15633.0J	148.8J		13,311
Di-n-Butylphthalate		59.2J			15.6J					9.35
Fluoranthene	9698.8J	1256.5	483.6	8200.6	57.5J	148.8J	81091.6	3058.4		
Benzidine										
Pyrene	13445.8J	813.1	312.1J	5280.4	43.5J	111.2J	59284.3	2017.7		10,164
Butylbenzylphthalate	4438.6J									555
3,3'-Dichlorobenzidine										
Benzo(a)Anthracene		536.8	174.6J	3215.1		49.1J	24590.4J	980.4		3693
Bis(2-Ethylhexyl)Phthalate	96087.8				161.2J	87.0J		139.9J		12056
Chrysene		536.8	229.3J	3144.9			26922.9J	1172.3		4003
Di-n-Octyl Phthalate										
Benzo(b)Fluoranthene		462.4	170.9J	2421.1		55.6J	19125.3J	928.6		2895
Benzo(k)Fluoranthene		532.6	232.6J	3019.4		75.7J	18773.5J	1161.6		2974
Benzo(a)Pyrene		500.1		2723.7		51.4J	17903.6J	1066.8		2780
Indeno(1,2,3-cd)Pyrene		394.1		1887.7			5792.8J	851.8		1116
Dibenzo(a,h)Anthracene		98.5J		761.4				276.2J		142
Benzo(ghi)Perylene		415.1	158.9J	1818.8			14575.9J	913.9		2235

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

ANALYTICAL DATA
NAME: SNYDER TANK CORPORATION
SAMPLING DATE: 7/9/86
CASE: 8171

PESTICIDES/PCBs

SAMPLE NUMBER	NYU4-S1	NYU4-S2	NYU4-S3	NYU4-S4	NYU4-S5	NYU4-S6	NYU4-SED1	NYU4-SED2	NYU4-BL1
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	NA
Alpha-BHC									
Beta-BHC									
Delta-BHC									
Gamma-BHC (Lindane)									
Heptachlor									
Aldrin									
Heptachlor Epoxide									
Endosulfan I									
Dieldrin									
4,4'-DDE									
Endrin									
Endosulfan II									
4,4'-DDD									
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

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE 365

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-1 QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water ____ Soil X Sludge ____ Other ____

ug/L or (mg/kg dry weight) (Circle One)

1.	Aluminum	7000 P*	13.	Magnesium	18600 P
2.	Antimony	38 U F 'R'	14.	Manganese	1070 P 'R'
3.	Arsenic	9.7 F	15.	Mercury	0.06 U
4.	Barium	~~1730 P~~ *	16.	Nickel	70 P
5.	Beryllium	[2.3] P	17.	Potassium	[900] P
6.	Cadmium	24 P	18.	Selenium	3.1 U F
7.	Calcium	77100 P	19.	Silver	[4.7] P
8.	Chromium	113 P *	20.	Sodium	[514] P
9.	Cobalt	35 P	21.	Thallium	6.3 U F
10.	Copper	1030 P	22.	Tin	25 U F 'R'
11.	Iron	40400 P	23.	Vanadium	31 U F 'R'
12.	Lead	678 P *	24.	Zinc	1010 P *
	Cyanide			Percent Solids (%)	80

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager [signature]

Form I

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EPA Sample No.
MBE 364

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-2 QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium _____

Matrix: Water _____ Soil Y Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1.	Aluminum	15700 P *	13.	Magnesium	14700 P
2.	Antimony	32UF'R'	14.	Manganese	4770 P'R'
3.	Arsenic	11 F	15.	Mercury	0.05U
4.	Barium	232 P *	16.	Nickel	42 P
5.	Beryllium	3.7 P	17.	Potassium	[1620]P
6.	Cadmium	7.9P	18.	Selenium	2.7UF
7.	Calcium	92800 P	19.	Silver	[2.1] P
8.	Chromium	96P *	20.	Sodium	[4643] P
9.	Cobalt	16U P	21.	Thallium	5.4UF
10.	Copper	43P	22.	Tin	22UF'R'
11.	Iron	30600 P	23.	Vanadium	82 F'R'
12.	Lead	116P *	24.	Zinc	351 P *
	Cyanide			Percent Solids (%)	93

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: _____

Lab Manager Cathy Irvine

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.: MBE 367

Date: 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME: ACCU-LABS RESEARCH CASE NO.: 6171

SOW NO.: 784

LAB SAMPLE ID. NO.: 65-6171-9-3 QC REPORT NO.: 65

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water ____ Soil X Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	6930 P *	13.	Magnesium	12100 P
2.	Antimony	33 U F 'R'	14.	Manganese	10400 P 'R'
3.	Arsenic	12 F	15.	Mercury	[0.07]
4.	Barium	[60] P *	16.	Nickel	27 P
5.	Beryllium	2.7 P	17.	Potassium	[897] P
6.	Cadmium	4.3 P	18.	Selenium	2.7 U F
7.	Calcium	59200 P	19.	Silver	[2.7] P
8.	Chromium	230 P *	20.	Sodium	[179] P
9.	Cobalt	16 U P	21.	Thallium	5.4 U F
10.	Copper	58 P	22.	Tin	22 U F 'R'
11.	Iron	60300 P	23.	Vanadium	143 F 'R'
12.	Lead	92 P *	24.	Zinc	366 P *
	Cyanide			Percent Solids (%)	92

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager: Cathy Evans

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE 368

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-4 QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water ____ Soil Y Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	8120 P *	13.	Magnesium	6750 P
2.	Antimony	32 U F R'	14.	Manganese	1480 P 'R'
3.	Arsenic	52 F	15.	Mercury	0.19
4.	Barium	114 P *	16.	Nickel	31 P
5.	Beryllium	4.1 P	17.	Potassium	[965] P
6.	Cadmium	4.6 P	18.	Selenium	3.1 F
7.	Calcium	10900 P	19.	Silver	2.1 U P
8.	Chromium	39 P *	20.	Sodium	[227] P
9.	Cobalt	16 U P	21.	Thallium	5.3 U F
10.	Copper	68 P	22.	Tin	21 U F 'R'
11.	Iron	27500 P	23.	Vanadium	31 F 'R'
12.	Lead	103 P *	24.	Zinc	377 P *
	Cyanide			Percent Solids (%)	95

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager Cynthia Cousins

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE 369

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH

CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-5

QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium _____

Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or ~~ug~~/kg dry weight (Circle One)

1. Aluminum	9760 P *	13. Magnesium	7910 P
2. Antimony	34 U F R'	14. Manganese	718 P R'
3. Arsenic	5.0 F	15. Mercury	[0.07] P
4. Barium	~~56 U P *~~	16. Nickel	56 P
5. Beryllium	[1.1] P	17. Potassium	[1480] P
6. Cadmium	6.2 P	18. Selenium	2.8 U F
7. Calcium	68000 P	19. Silver	[2.2] P
8. Chromium	21 P *	20. Sodium	[124] P
9. Cobalt	[17] P	21. Thallium	5.6 U F
10. Copper	29 P	22. Tin	22 U F R'
11. Iron	25900 P	23. Vanadium	28 U F R'
12. Lead	22 F *	24. Zinc	93 P *
Cyanide		Percent Solids (%)	89

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: _____

Lab Manager Cathy Cairns

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE 370

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-6 QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium _____

Matrix: Water _____ Soil Y Sludge _____ Other _____

ug/L or ~~ug~~/kg dry weight (Circle One)

1.	Aluminum	4910 P *	13.	Magnesium	5740 P
2.	Antimony	33 U F 'R'	14.	Manganese	492 P 'R'
3.	Arsenic	6.0 F	15.	Mercury	0.05 U
4.	Barium	~~55 U~~ P *	16.	Nickel	16 U P
5.	Beryllium	1.1 U P	17.	Potassium	[598] P
6.	Cadmium	2.7 U P	18.	Selenium	2.7 U F
7.	Calcium	31100 P	19.	Silver	2.2 U P
8.	Chromium	11 P *	20.	Sodium	[180] P
9.	Cobalt	16 U P	21.	Thallium	5.5 U F
10.	Copper	26 P	22.	Tin	22 U F 'R'
11.	Iron	11800 P	23.	Vanadium	27 U F 'R'
12.	Lead	17 F	24.	Zinc	60. P *
	Cyanide			Percent Solids (%)	91

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: _____

Lab Manager [signature]

SEQ-6

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE371

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-7 QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium _____

Matrix: Water _____ Soil Y Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1.	Aluminum	3770 P *	13.	Magnesium	10200 P
2.	Antimony	38U F 'R'	14.	Manganese	366 P 'R'
3.	Arsenic	6.3U F	15.	Mercury	0.06U
4.	Barium	~~63~~ P *	16.	Nickel	19U P
5.	Beryllium	1.3U P	17.	Potassium	[383] P
6.	Cadmium	9.3 P	18.	Selenium	3.2U F
7.	Calcium	51700 P	19.	Silver	2.5U P
8.	Chromium	14 P *	20.	Sodium	[192] P
9.	Cobalt	19U P	21.	Thallium	6.3U F
10.	Copper	26 P	22.	Tin	25U F 'R'
11.	Iron	10500 P	23.	Vanadium	32U F 'R'
12.	Lead	58 P *	24.	Zinc	135 P *
	Cyanide			Percent Solids (%)	79

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: _____

Lab Manager Cathy Cusino

SED-2

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MBE 372

Date 8/6/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME ACCU-LABS RESEARCH, CASE NO. 6171

SOW NO. 784

LAB SAMPLE ID. NO. 65-6171-9-S, QC REPORT NO. 65

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water ____ Soil X Sludge ____ Other ____

ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	2260 P *	13. Magnesium	3370 P
2. Antimony	56 U F 'R'	14. Manganese	409 P 'R'
3. Arsenic	9.3 U F	15. Mercury	0.09 U
4. Barium	92 U P *	16. Nickel	28 P
5. Beryllium	[2.4] P	17. Potassium	[348] P
6. Cadmium	4.6 U P	18. Selenium	4.6 U F
7. Calcium	40900 P	19. Silver	3.7 U P
8. Chromium	6.3 P *	20. Sodium	[87] P
9. Cobalt	28 U P	21. Thallium	9.3 U F
10. Copper	17 P	22. Tin	37 U F 'R'
11. Iron	10800 P	23. Vanadium	46 U F 'R'
12. Lead	20 F	24. Zinc	484 P *
Cyanide		Percent Solids (%)	54

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager Cathy Cairns

Laboratory Name: Pacific Analytical, Inc.
Case No. 5171

Sample Number
86037

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: Low MEDIUM (Circle One)
Date Extracted/Prepared: 07/13/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 0.1000
Percent Moisture: (Decanted)

GPC Cleanup: [ ] Yes [X] No
Seperatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	1445.78 U
319-85-7	Beta-BHC	1445.78 U
319-86-8	Delta-BHC	1445.78 U
58-89-9	Gamma-BHC (Lindane)	1445.78 U
76-44-8	Heptachlor	1445.78 U
309-00-2	Aldrin	1445.78 U
1024-57-3	Heptachlor Epoxide	1445.78 U
959-98-8	Endosulfan I	1445.78 U
60-57-1	Dieldrin	2891.57 U
72-55-9	4,4'-DDE	2891.57 U
72-20-8	Endrin	2891.57 U
33213-65-9	Endosulfan II	2891.57 U
72-54-8	4,4'-DDD	2891.57 U
1031-07-8	Endosulfan Sulfate	2891.57 U
50-29-3	4,4'-DDT	2891.57 U
72-43-5	Methoxychlor	14457.83 U
53494-70-5	Endrin Ketone	2891.57 U
57-74-9	Chlordane	14457.83 U
8001-35-2	Toxaphene	28915.66 U
12674-11-2	Arochlor-1016	14457.83 U
11104-28-2	Arochlor-1221	14457.83 U
11141-16-5	Arochlor-1232	14457.83 U
53469-21-9	Arochlor-1242	14457.83 U
12672-29-6	Arochlor-1248	14457.83 U
11097-69-1	Arochlor-1254	28915.66 U
11096-82-5	Arochlor-1260	28915.66 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 1 Vt: 10000 Vi: 1.0

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No. 6171-

Sample Number
86630

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: Low MEDIUM (Circle One)
Date Extracted/Prepared: 08/04/86
Date Analyzed: 08/06/86
CONC/Dil Factor: 0.5000
Percent Moisture: (Decanted)

SPC Cleanup: ( ) Yes (X) No
Seceratory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
108-95-2	Phenol	47710.8 U
111-44-4	bis(2-Chloroethyl)ether	47710.8 U
95-57-8	2-Chlorophenol	47710.8 U
541-73-1	1,3-Dichlorobenzene	47710.8 U
106-46-7	1,4-Dichlorobenzene	47710.8 U
100-51-6	Benzyl Alcanol	47710.8 U
95-50-1	1,2-Dichlorobenzene	47710.8 U
95-48-7	2-Methylphenol	47710.8 U
39638-32-9	bis(2-Chloroisopropyl)ether	47710.8 U
106-44-5	4-Methylphenol	47710.8 U
621-64-7	N-Nitroso-di-n-propylamine	47710.8 U
67-72-1	Hexachloroethane	47710.8 U
98-95-3	Nitrobenzene	47710.8 U
78-59-1	Isophorone	47710.8 U
88-75-5	2-Nitrophenol	47710.8 U
105-67-9	2,4-Dimethylphenol	47710.8 U
65-85-0	Benzoic Acid	231325.3 U
111-91-1	bis(2-Chloroethoxy)methane	47710.8 U
120-83-2	2,4-Dichlorophenol	47710.8 U
120-82-1	1,2,4-Trichlorobenzene	47710.8 U
91-20-3	Naphthalene	47710.8 U
106-47-8	4-Chloroaniline	47710.8 U
87-68-3	Hexachlorobutadiene	47710.8 U
59-50-7	4-Chloro-3-methylphenol	47710.8 U
91-57-6	2-Methylnaphthalene	87845.8
77-47-4	Hexachlorocyclopentadiene	47710.8 U
88-06-2	2,4,6-Trichlorophenol	47710.8 U
95-95-4	2,4,5-Trichlorophenol	231325.3 U
91-58-7	2-Chloronaphthalene	47710.8 U
88-74-4	2-Nitroaniline	231325.3 U
131-11-3	Dimethylphthalate	47710.8 U
208-96-8	Acenaphthylene	47710.8 U
99-09-2	3-Nitroaniline	231325.3 U

CAS Number		ug/kg
83-32-9	Acenaphthene	15166.3 J
51-28-5	2,4-Dinitrophenol	231325.3 U
100-02-7	4-Nitrophenol	231325.3 U
132-64-9	Dibenzofuran	47710.8 U
121-14-2	2,4-Dinitrotoluene	47710.8 U
606-20-2	2,6-Dinitrotoluene	47710.8 U
84-66-2	Diethylphthalate	47710.8 U
7005-72-3	4-Chlorophenylphenylether	47710.8 U
86-73-7	Fluorene	33616.9 J
100-01-6	4-Nitroaniline	231325.3 U
534-52-1	4,6-Dinitro-2-methylphenol	231325.3 U
86-30-6	N-Nitrosodiphenylamine (1)	47710.8 U
101-55-3	4-Bromophenylphenylether	47710.8 U
118-74-1	Hexachlorobenzene	47710.8 U
87-86-5	Pentachlorophenol	231325.3 U
85-01-8	Phenanthrene	82730.1
120-12-7	Anthracene	89103.6
84-74-2	Di-n-butylphthalate	47710.8 U
206-44-0	Fluoranthene	9698.8 J
129-00-0	Pyrene	13445.8 J
85-68-7	Butylbenzylphthalate	4478.6 J
91-94-1	3,3'-Dichlorobenzidine	95421.7 U
56-55-3	Benzo(a)anthracene	47710.8 U
117-81-7	bis(2-Ethylhexyl)phthalate	96057.8
218-01-9	Chrysene	47710.8 U
117-84-0	Di-n-octylphthalate	47710.8 U
205-99-2	Benzo(b)fluoranthrene	47710.8 U
207-08-9	Benzo(k)fluoranthrene	47710.8 U
50-32-8	Benzo(a)pyrene	47710.8 U
193-39-5	Indeno(1,2,3-cd)pyrene	47710.8 U
53-70-3	Dibenz(a,h)anthracene	47710.8 U
191-24-2	Benzo(g,h,i)perylene	47710.8 U

(1)-Cannot be seperated from diphenylamine

Form I

Sample Number
86633

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 86633
Sample Matrix: soil
Data Release Authorized By: JWB

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: low (MEDIUM) (Circle One)
Date Extracted/Prepared: 07/17/86
Date Analyzed: 07/17/86
CONC/Dil Factor: 0.9925 pH: 7.8
Percent Moisture: (Not Decanted) 17.0

CAS Number		ug/kg
74-87-3	Chloromethane	1213.9 U
74-83-9	Bromomethane	1213.9 U
75-01-4	Vinyl Chloride	1213.9 U
75-00-3	Chloroethane	1213.9 U
75-09-2	Methylene Chloride	3125.68
67-64-1	Acetone	2367.48
75-15-0	Carbon Disulfide	607.0 U
75-35-4	1,1-Dichloroethene	607.0 U
75-34-3	1,1-Dichloroethane	607.0 U
156-60-5	trans-1,2-Dichloroethene	607.0 U
67-66-3	Chloroform	612.78
107-06-2	1,2-Dichloroethane	607.0 U
78-93-3	2-Butanone	2594.28
71-55-6	1,1,1-Trichloroethane	607.0 U
56-23-5	Carbon Tetrachloride	607.0 U
108-05-4	Vinyl Acetate	1213.9 U
75-27-4	Bromodichloromethane	607.0 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	607.0 U
10061-02-6	trans-1,3-Dichloropropene	607.0 U
79-01-6	Trichloroethene	607.0 U
124-48-1	Dibromochloromethane	607.0 U
79-00-5	1,1,2-Trichloroethane	607.0 U
71-43-2	Benzene	607.0 U
10061-01-5	cis-1,3-Dichloropropene	607.0 U
110-75-8	2-Chloroethyl Vinyl Ether	1213.9 U
75-25-2	Bromoform	607.0 U
108-10-1	4-Methyl-2-pentanone	1213.9 U
591-78-6	2-Hexanone	1213.9 U
127-18-4	Tetrachloroethene	607.0 U
79-34-5	1,1,2,2-Tetrachloroethane	607.0 U
108-88-3	Toluene	3672.6
108-90-7	Chlorobenzene	607.0 U
100-41-4	Ethyl Benzene	607.0 U
100-42-5	Styrene	607.0 U
	Total Xylenes	8051.1

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

5-2

Sample Number 86634

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 86634
Sample Matrix: soil
Data Release Authorized By: [signature]

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 1.0020 pH: 8.4
Percent Moisture: (Not Decanted) 8.0

CAS Number		ug/kg
74-87-3	Chloromethane	10.8 U
74-83-9	Bromomethane	10.8 U
75-01-4	Vinyl Chloride	10.8 U
75-00-3	Chloroethane	10.8 U
75-09-2	Methylene Chloride	54.0B
67-64-1	Acetone	27.2B
75-15-0	Carbon Disulfide	0.6 J
75-35-4	1,1-Dichloroethene	5.4 U
75-34-3	1,1-Dichloroethane	5.4 U
156-60-5	trans-1,2-Dichloroethene	5.4 U
67-66-3	Chloroform	2.88J
107-06-2	1,2-Dichloroethane	5.4 U
78-93-3	2-Butanone	5.3BJ
71-55-6	1,1,1-Trichloroethane	5.4 U
56-23-5	Carbon Tetrachloride	5.4 U
108-05-4	Vinyl Acetate	10.8 U
75-27-4	Bromodichloromethane	5.4 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	5.4 U
10061-02-6	trans-1,3-Dichloropropene	5.4 U
79-01-6	Trichloroethene	5.4 U
124-48-1	Dibromochloromethane	5.4 U
79-00-5	1,1,2-Trichloroethane	5.4 U
71-43-2	Benzene	5.4 U
10061-01-5	cis-1,3-Dichloropropene	5.4 U
110-75-8	2-Chloroethyl Vinyl Ether	10.8 U
75-25-2	Bromoform	5.4 U
108-10-1	4-Methyl-2-pentanone	10.8 U
591-78-6	2-Hexanone	10.8 U
127-18-4	Tetrachloroethene	5.4 U
79-34-5	1,1,2,2-Tetrachloroethane	5.4 U
108-88-3	Toluene	5.4 U
108-90-7	Chlorobenzene	5.4 U
100-41-4	Ethyl Benzene	5.4 U
100-42-5	Styrene	5.4 U
	Total Xylenes	5.4 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No.: 5171

Sample Number
86624

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/10/86
Date Analyzed: 08/07/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

SPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
108-95-2	Phenol	358.7 U
111-44-4	bis(2-Chloroethyl)ether	358.7 U
95-57-8	2-Chlorophenol	358.7 U
541-73-1	1,3-Dichlorobenzene	358.7 U
106-46-7	1,4-Dichlorobenzene	358.7 U
100-51-6	Benzyl Alcohol	358.7 U
95-50-1	1,2-Dichlorobenzene	358.7 U
95-48-7	2-Methylphenol	358.7 U
39638-32-9	bis(2-Chloroisopropyl)ether	358.7 U
106-44-5	4-Methylphenol	358.7 U
621-64-7	N-Nitroso-di-n-propylamine	358.7 U
67-72-1	Hexachloroethane	358.7 U
98-95-3	Nitrobenzene	358.7 U
78-59-1	Isophorone	358.7 U
88-75-5	2-Nitrophenol	358.7 U
105-67-9	2,4-Dimethylphenol	358.7 U
65-85-0	Benzoic Acid	1739.1 U
111-91-1	bis(2-Chloroethoxy)methane	358.7 U
120-83-2	2,4-Dichlorophenol	358.7 U
120-82-1	1,2,4-Trichlorobenzene	358.7 U
91-20-3	Naphthalene	358.7 U
106-47-8	4-Chloroaniline	358.7 U
87-68-3	Hexachlorobutadiene	358.7 U
59-50-7	4-Chloro-3-methylphenol	358.7 U
91-57-6	2-Methylnaphthalene	358.7 U
77-47-4	Hexachlorocyclopentadiene	358.7 U
88-06-2	2,4,6-Trichlorophenol	358.7 U
95-95-4	2,4,5-Trichlorophenol	1739.1 U
91-58-7	2-Chloronaphthalene	358.7 U
88-74-4	2-Nitroaniline	1739.1 U
131-11-3	Dimethylphthalate	358.7 U
208-96-8	Acenaphthylene	25.2 J
99-09-2	3-Nitroaniline	1739.1 U

CAS Number		ug/kg
83-32-9	Acenaphthene	28.4 J
51-28-5	2,4-Dinitrophenol	1739.1 U
100-02-7	4-Nitrophenol	1739.1 U
132-64-9	Dibenzofuran	26.7 J
121-14-2	2,4-Dinitrotoluene	358.7 U
606-20-2	2,6-Dinitrotoluene	358.7 U
84-66-2	Diethylphthalate	51.1 J
7005-72-3	4-Chlorophenylphenylether	358.7 U
86-73-7	Fluorene	53.7 J
100-01-6	4-Nitroaniline	1739.1 U
534-52-1	4,6-Dinitro-2-methylphenol	1739.1 U
86-30-6	N-Nitrosodiphenylamine (1)	358.7 U
101-55-3	4-Bromophenylphenylether	358.7 U
118-74-1	Hexachlorobenzene	358.7 U
87-86-5	Pentachlorophenol	1739.1 U
85-01-8	Phenanthrene	636.3
120-12-7	Anthracene	113.7 J
84-74-2	Di-n-butylphthalate	59.2 J
206-44-0	Fluoranthene	1258.5
129-00-0	Pyrene	813.1
85-68-7	Butylbenzylphthalate	358.7 U
91-94-1	3,3'-Dichlorobenzidine	717.4 U
56-55-3	Benzo(a)anthracene	536.8
117-81-7	bis(2-Ethylhexyl)phthalate	358.7 U
218-01-9	Chrysene	556.8
117-84-0	Di-n-octylphthalate	358.7 U
205-99-2	Benzo(b)fluoranthrene	462.4
207-08-9	Benzo(k)fluoranthrene	532.6
50-32-8	Benzo(a)pyrene	500.1
193-39-5	Indeno(1,2,3-cd)pyrene	394.1
53-70-3	Dibenz(a,h)anthracene	98.5 J
191-24-2	Benzo(g,h,i)perylene	415.1

(1)-Cannot be seperated from diphenylamine

Form 1

Laboratory Name: Pacific Analytical, Inc.
Case No.: 5171

Sample Number
86634

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/11/96
Date Analyzed: 07/31/96
CONC/Dil Factor: 1.0000
Percent Moisture: Decanted

SPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	8.70 U
319-85-7	Beta-BHC	8.70 U
319-86-8	Delta-BHC	8.70 U
58-89-9	Gamma-BHC (Lindane)	8.70 U
76-44-8	Heptachlor	8.70 U
309-00-2	Aldrin	8.70 U
1024-57-3	Heptachlor Epoxide	8.70 U
959-98-8	Endosulfan I	8.70 U
60-57-1	Dieldrin	17.39 U
72-55-9	4,4'-DDE	17.39 U
72-20-8	Endrin	17.39 U
33213-65-9	Endosulfan II	17.39 U
72-54-8	4,4'-DDD	17.39 U
1031-07-8	Endosulfan Sulfate	17.39 U
50-29-3	4,4'-DDT	17.39 U
72-43-5	Methoxychlor	86.96 U
53494-70-5	Endrin Ketone	17.39 U
57-74-9	Chlordane	86.96 U
8001-35-2	Toxaphene	173.91 U
12674-11-2	Arochlor-1016	86.96 U
11104-28-2	Arochlor-1221	86.96 U
11141-16-5	Arochlor-1232	86.96 U
53469-21-9	Arochlor-1242	86.96 U
12672-29-6	Arochlor-1248	86.96 U
11097-69-1	Arochlor-1254	173.91 U
11096-82-5	Arochlor-1260	173.91 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: 20000 Vi: 1.0

Form I

Sample Number
BS635

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 86635
Sample Matrix: soil
Data Release Authorized By: [signature]

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 0.9940 pH: 8.3
Percent Moisture: (Not Decanted) 8.0

CAS Number		ug/kg
74-87-3	Chloromethane	10.9 U
74-83-9	Bromomethane	10.9 U
75-01-4	Vinyl Chloride	10.9 U
75-00-3	Chloroethane	10.9 U
75-09-2	Methylene Chloride	73.4B
67-64-1	Acetone	21.0B
75-15-0	Carbon Disulfide	0.7 J
75-35-4	1,1-Dichloroethene	5.5 U
75-34-3	1,1-Dichloroethane	5.5 U
156-60-5	trans-1,2-Dichloroethene	5.5 U
67-66-3	Chloroform	2.9BJ
107-06-2	1,2-Dichloroethane	5.5 U
78-93-3	2-Butanone	5.4BJ
71-55-6	1,1,1-Trichloroethane	5.5 U
56-23-5	Carbon Tetrachloride	5.5 U
108-05-4	Vinyl Acetate	10.9 U
75-27-4	Bromodichloromethane	5.5 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	5.5 U
10061-02-6	trans-1,3-Dichloropropene	5.5 U
79-01-6	Trichloroethene	5.5 U
124-48-1	Dibromochloromethane	5.5 U
79-00-5	1,1,2-Trichloroethane	5.5 U
71-43-2	Benzene	5.5 U
10061-01-5	cis-1,3-Dichloropropene	5.5 U
110-75-8	2-Chloroethyl Vinyl Ether	10.9 U
75-25-2	Bromoform	5.5 U
108-10-1	4-Methyl-2-pentanone	10.9 U
591-78-6	2-Hexanone	10.9 U
127-18-4	Tetrachloroethene	5.5 U
79-34-5	1,1,2,2-Tetrachloroethane	5.5 U
108-88-3	Toluene	1.0 J
108-90-7	Chlorobenzene	5.5 U
100-41-4	Ethyl Benzene	5.5 U
100-42-5	Styrene	5.5 U
	Total Xylenes	5.5 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No. 6171

Sample Number
86035

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One:
Date Extracted/Prepared: 07/10/86
Date Analyzed: 08/05/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted:

SPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
108-95-2	Phenol	358.7 U
111-44-4	bis(2-Chloroethyl)ether	358.7 U
95-57-8	2-Chlorophenol	358.7 U
541-73-1	1,3-Dichlorobenzene	358.7 U
106-46-7	1,4-Dichlorobenzene	358.7 U
100-51-6	Benzyl Alcohol	358.7 U
95-50-1	1,2-Dichlorobenzene	358.7 U
95-48-7	2-Methylphenol	358.7 U
39638-32-9	bis(2-Chloroisopropyl)ether	358.7 U
106-44-5	4-Methylphenol	358.7 U
621-64-7	N-Nitroso-di-n-propylamine	358.7 U
67-72-1	Hexachloroethane	358.7 U
98-95-3	Nitrobenzene	358.7 U
78-59-1	Isophorone	358.7 U
88-75-5	2-Nitrophenol	358.7 U
105-67-9	2,4-Dimethylphenol	358.7 U
65-85-0	Benzoic Acid	1739.1 U
111-91-1	bis(2-Chloroethoxy)methane	358.7 U
120-83-2	2,4-Dichlorophenol	358.7 U
120-82-1	1,2,4-Trichlorobenzene	358.7 U
91-20-3	Naphthalene	21.7 J
106-47-8	4-Chloroaniline	358.7 U
87-68-3	Hexachlorobutadiene	358.7 U
59-50-7	4-Chloro-3-methylphenol	358.7 U
91-57-6	2-Methylnaphthalene	15.7 J
77-47-4	Hexachlorocyclopentadiene	358.7 U
88-06-2	2,4,6-Trichlorophenol	358.7 U
95-95-4	2,4,5-Trichlorophenol	1739.1 U
91-58-7	2-Chloronaphthalene	358.7 U
88-74-4	2-Nitroaniline	1739.1 U
131-11-3	Dimethylphthalate	358.7 U
208-96-8	Acenaphthylene	358.7 U
99-09-2	3-Nitroaniline	1739.1 U

CAS Number		ug/kg
83-32-9	Acenaphthene	358.7 U
51-28-5	2,4-Dinitrophenol	1739.1 U
100-02-7	4-Nitrophenol	1739.1 U
132-64-9	Dibenzofuran	358.7 U
121-14-2	2,4-Dinitrotoluene	358.7 U
606-20-2	2,6-Dinitrotoluene	358.7 U
84-66-2	Diethylphthalate	34.0 J
7005-72-3	4-Chlorophenylphenylether	358.7 U
86-73-7	Fluorene	358.7 U
100-01-6	4-Nitroaniline	1739.1 U
534-52-1	4,6-Dinitro-2-methylphenol	1739.1 U
86-30-6	N-Nitrosodiphenylamine (1)	358.7 U
101-55-3	4-Bromophenylphenylether	358.7 U
118-74-1	Hexachlorobenzene	358.7 U
87-86-5	Pentachlorophenol	1739.1 U
85-01-8	Phenanthrene	259.7 J
120-12-7	Anthracene	273.7 J
84-74-2	Di-n-butylphthalate	358.7 U
206-44-0	Fluoranthene	483.6
129-00-0	Pyrene	312.1 J
85-68-7	Butylbenzylphthalate	358.7 U
91-94-1	3,3'-Dichlorobenzidine	717.4 U
56-55-3	Benzo(a)anthracene	174.6 J
117-81-7	bis(2-Ethylhexyl)phthalate	358.7 U
218-01-9	Chrysene	229.3 J
117-84-0	Di-n-octylphthalate	358.7 U
205-99-2	Benzo(b)fluoranthrene	170.9 J
207-08-9	Benzo(k)fluoranthrene	232.6 J
50-32-8	Benzo(a)pyrene	358.7 U
193-39-5	Indeno(1,2,3-cd)pyrene	358.7 U
53-70-3	Dibenz(a,h)anthracene	358.7 U
191-24-2	Benzo(g,h,i)perylene	158.9 J

(1)-Cannot be seperated from diphenylamine

Form 1

Laboratory Name: Pacific Analytical, Inc.
Case No. 6171

Sample Number
3Go-25

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: LOW Medium (Circle One)
Date Extracted/Prepared: 07/11/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: X Yes [] No
Seperatory Funnel Extraction: [] Yes
Continuous Liquid - Liquid Extraction [] Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	8.70 U
319-85-7	Beta-BHC	8.70 U
319-86-8	Delta-BHC	8.70 U
58-89-9	Gamma-BHC (Lindane)	8.70 U
76-44-8	Heptachlor	8.70 U
309-00-2	Aldrin	8.70 U
1024-57-3	Heptachlor Epoxide	8.70 U
959-98-8	Endosulfan I	8.70 U
60-57-1	Dieldrin	17.39 U
72-55-9	4,4'-DDE	17.39 U
72-20-8	Endrin	17.39 U
33213-65-9	Endosulfan II	17.39 U
72-54-8	4,4'-DDD	17.39 U
1031-07-8	Endosulfan Sulfate	17.39 U
50-29-3	4,4'-DDT	17.39 U
72-43-5	Methoxychlor	86.96 U
53494-70-5	Endrin Ketone	17.39 U
57-74-9	Chlordane	86.96 U
8001-35-2	Toxaphene	173.91 U
12674-11-2	Arochlor-1016	86.96 U
11104-28-2	Arochlor-1221	86.96 U
11141-16-5	Arochlor-1232	86.96 U
53469-21-9	Arochlor-1242	86.96 U
12672-29-6	Arochlor-1248	86.96 U
11097-69-1	Arochlor-1254	173.91 U
11096-82-5	Arochlor-1260	173.91 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: 20000 Vi: 1.0

Form I

Sample Number
B6636

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: B6636
Sample Matrix: soil
Data Release Authorized By: _____

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 1.0040 pH: 8.4
Percent Moisture: (Not Decanted) 5.0

CAS Number		ug/kg
74-87-3	Chloromethane	10.5 U
74-83-9	Bromomethane	10.5 U
75-01-4	Vinyl Chloride	10.5 U
75-00-3	Chloroethane	10.5 U
75-09-2	Methylene Chloride	77.2B
67-64-1	Acetone	27.1B
75-15-0	Carbon Disulfide	0.8 J
75-35-4	1,1-Dichloroethene	5.2 U
75-34-3	1,1-Dichloroethane	5.2 U
156-60-5	trans-1,2-Dichloroethene	5.2 U
67-66-3	Chloroform	2.9BJ
107-06-2	1,2-Dichloroethane	5.2 U
78-93-3	2-Butanone	5.2BJ
71-55-6	1,1,1-Trichloroethane	5.2 U
56-23-5	Carbon Tetrachloride	5.2 U
108-05-4	Vinyl Acetate	10.5 U
75-27-4	Bromodichloromethane	5.2 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	5.2 U
10061-02-6	trans-1,3-Dichloropropene	5.2 U
79-01-6	Trichloroethene	5.2 U
124-48-1	Dibromochloromethane	5.2 U
79-00-5	1,1,2-Trichloroethane	5.2 U
71-43-2	Benzene	5.2 U
10061-01-5	cis-1,3-Dichloropropene	5.2 U
110-75-8	2-Chloroethyl Vinyl Ether	10.5 U
75-25-2	Bromoform	5.2 U
108-10-1	4-Methyl-2-pentanone	10.5 U
591-78-6	2-Hexanone	10.5 U
127-18-4	Tetrachloroethene	5.2 U
79-34-5	1,1,2,2-Tetrachloroethane	5.2 U
108-88-3	Toluene	4.2 J
108-90-7	Chlorobenzene	5.2 U
100-41-4	Ethyl Benzene	5.2 U
100-42-5	Styrene	5.2 U
	Total Xylenes	5.2 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No.: 5171

Sample Number
86638

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/10/86
Date Analyzed: 08/07/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: (X) Yes [ ] No
Seperatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
108-95-2	Phenol	347.4 U
111-44-4	bis(2-Chloroethyl)ether	347.4 U
95-57-8	2-Chlorophenol	347.4 U
541-73-1	1,3-Dichlorobenzene	347.4 U
106-46-7	1,4-Dichlorobenzene	347.4 U
100-51-6	Benzyl Alcohol	347.4 U
95-50-1	1,2-Dichlorobenzene	347.4 U
95-48-7	2-Methylphenol	347.4 U
39638-32-9	bis(2-Chloroisopropyl)ether	347.4 U
106-44-5	4-Methylphenol	347.4 U
621-64-7	N-Nitroso-di-n-propylamine	347.4 U
67-72-1	Hexachloroethane	347.4 U
98-95-3	Nitrobenzene	347.4 U
78-59-1	Isophorone	347.4 U
88-75-5	2-Nitrophenol	347.4 U
105-67-9	2,4-Dimethylphenol	347.4 U
65-85-0	Benzoic Acid	1684.2 U
111-91-1	bis(2-Chloroethoxy)methane	347.4 U
120-83-2	2,4-Dichlorophenol	347.4 U
120-82-1	1,2,4-Trichlorobenzene	347.4 U
91-20-3	Naphthalene	248.5 J
106-47-8	4-Chloroanailine	347.4 U
87-68-3	Hexachlorobutadiene	347.4 U
59-50-7	4-Chloro-3-methylphenol	347.4 U
91-57-6	2-Methylnaphthalene	162.6 J
77-47-4	Hexachlorocyclopentadiene	347.4 U
88-06-2	2,4,6-Trichlorophenol	347.4 U
95-95-4	2,4,5-Trichlorophenol	1684.2 U
91-58-7	2-Chloronaphthalene	347.4 U
88-74-4	2-Nitroanailine	1684.2 U
131-11-3	Dimethylphthalate	347.4 U
208-96-8	Acenaphthylene	29.4 J
99-09-2	3-Nitroanailine	1684.2 U

CAS Number		ug/kg
83-32-9	Acenaphthene	560.6
51-28-5	2,4-Dinitrophenol	1684.2 U
100-02-7	4-Nitrophenol	1684.2 U
132-64-9	Dibenzofuran	381.9
121-14-2	2,4-Dinitrotoluene	347.4 U
606-20-2	2,6-Dinitrotoluene	347.4 U
84-66-2	Diethylphthalate	347.4 U
7005-72-3	4-Chlorophenylphenylether	347.4 U
86-73-7	Fluorene	698.8
100-01-6	4-Nitroanailine	1684.2 U
534-52-1	4,6-Dinitro-2-methylphenol	1684.2 U
86-30-6	N-Nitrosodiphenylamine (1)	347.4 U
101-55-3	4-Bromophenylphenylether	347.4 U
118-74-1	Hexachlorobenzene	347.4 U
87-86-5	Pentachlorophenol	1684.2 U
85-01-8	Phenanthrene	6008.2
120-12-7	Anthracene	1146.5
84-74-2	Di-n-butylphthalate	347.4 U
206-44-0	Fluoranthene	8200.6
129-00-0	Pyrene	5280.4
85-68-7	Butylbenzylphthalate	347.4 U
91-94-1	3,3'-Dichlorobenzidine	694.7 U
56-55-3	Benzo(a)anthracene	3215.1
117-81-7	bis(2-Ethylhexyl)phthalate	347.4 U
218-01-9	Chrysene	3144.9
117-84-0	Di-n-octylphthalate	347.4 U
205-99-2	Benzo(b)fluoranthrene	2421.1
207-08-9	Benzo(k)fluoranthrene	3019.4
50-32-8	Benzo(a)pyrene	2723.7
193-39-5	Indeno(1,2,3-cd)pyrene	1887.7
53-70-3	Dibenz(a,h)anthracene	761.4
191-24-2	Benzo(g,h,i)perylene	1818.9

(1)-Cannot be seperated from diphenylamine

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No. 6171-

Sample Number
36036

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/11/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: [X] Yes [ ] No
Seperatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	8.42 U
319-85-7	Beta-BHC	8.42 U
319-86-8	Delta-BHC	8.42 U
58-89-9	Gamma-BHC (Lindane)	8.42 U
76-44-8	Heptachlor	8.42 U
309-00-2	Aldrin	8.42 U
1024-57-3	Heptachlor Epoxide	8.42 U
959-98-8	Endosulfan I	8.42 U
60-57-1	Dieldrin	16.84 U
72-55-9	4,4'-DDE	16.84 U
72-20-8	Endrin	16.84 U
33213-65-9	Endosulfan II	16.84 U
72-54-8	4,4'-DDD	16.84 U
1031-07-8	Endosulfan Sulfate	16.84 U
50-29-3	4,4'-DDT	16.84 U
72-43-5	Methoxychlor	84.21 U
53494-70-5	Endrin Ketone	16.84 U
57-74-9	Chlordane	84.21 U
8001-35-2	Toxaphene	168.42 U
12674-11-2	Arochlor-1016	84.21 U
11104-28-2	Arochlor-1221	84.21 U
11141-16-5	Arochlor-1232	84.21 U
53469-21-9	Arochlor-1242	84.21 U
12672-29-6	Arochlor-1248	84.21 U
11097-69-1	Arochlor-1254	168.42 U
11096-82-5	Arochlor-1260	168.42 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: = 20000 Vi: 1.0

Form 1

Sample Number
86637

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 86637
Sample Matrix: soil
Data Release Authorized By: _____

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 1.0000 pH: 8.4
Percent Moisture: (Not Decanted) 12.0

CAS Number		ug/kg
74-87-3	Chloromethane	11.4 U
74-83-9	Bromomethane	11.4 U
75-01-4	Vinyl Chloride	11.4 U
75-00-3	Chloroethane	11.4 U
75-09-2	~~Methylene~~ Chloride	32.3B
67-64-1	~~Acetone~~	22.1B
75-15-0	Carbon Disulfide	5.7 U
75-35-4	1,1-Dichloroethene	5.7 U
75-34-3	1,1-Dichloroethane	5.7 U
156-60-5	trans-1,2-Dichloroethene	5.7 U
67-66-3	~~Chlorofor~~	3.0BJ
107-06-2	1,2-Dichloroethane	5.7 U
78-93-3	2-~~Butanone~~	4.5BJ
71-55-6	1,1,1-Trichloroethane	5.7 U
56-23-5	Carbon Tetrachloride	5.7 U
108-05-4	Vinyl Acetate	11.4 U
75-27-4	Bromodichloromethane	5.7 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	5.7 U
10061-02-6	trans-1,3-Dichloropropene	5.7 U
79-01-6	Trichloroethene	5.7 U
124-48-1	Dibromochloromethane	5.7 U
79-00-5	1,1,2-Trichloroethane	5.7 U
71-43-2	Benzene	5.7 U
10061-01-5	cis-1,3-Dichloropropene	5.7 U
110-75-8	2-Chloroethyl Vinyl Ether	11.4 U
75-25-2	Bromoform	5.7 U
108-10-1	4-Methyl-2-pentanone	11.4 U
591-78-6	2-Hexanone	11.4 U
127-18-4	Tetrachloroethene	5.7 U
79-34-5	1,1,2,2-Tetrachloroethane	5.7 U
108-88-3	Toluene	5.7 U
108-90-7	Chlorobenzene	5.7 U
100-41-4	Ethyl Benzene	5.7 U
100-42-5	Styrene	5.7 U
	Total Xylenes	5.7 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No. 5171

Sample Number
36637

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/10/86
Date Analyzed: 08/05/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
108-95-2	Phenol	375.0 U
111-44-4	bis(2-Chloroethyl)ether	375.0 U
95-57-8	2-Chlorophenol	375.0 U
541-73-1	1,3-Dichlorobenzene	375.0 U
106-46-7	1,4-Dichlorobenzene	375.0 U
100-51-6	Benzyl Alcohol	375.0 U
95-50-1	1,2-Dichlorobenzene	375.0 U
95-48-7	2-Methylphenol	375.0 U
39638-32-9	bis(2-Chloroisopropyl)ether	375.0 U
106-44-5	4-Methylphenol	375.0 U
621-64-7	N-Nitroso-di-n-propylamine	375.0 U
67-72-1	Hexachloroethane	375.0 U
98-95-3	Nitrobenzene	375.0 U
78-59-1	Isophorone	375.0 U
88-75-5	2-Nitrophenol	375.0 U
105-67-9	2,4-Dimethylphenol	375.0 U
65-85-0	Benzoic Acid	1818.2 U
111-91-1	bis(2-Chloroethoxy)methane	375.0 U
120-83-2	2,4-Dichlorophenol	375.0 U
120-82-1	1,2,4-Trichlorobenzene	375.0 U
91-20-3	Naphthalene	375.0 U
106-47-8	4-Chloroaniline	375.0 U
87-68-3	Hexachlorobutadiene	375.0 U
59-50-7	4-Chloro-3-methylphenol	375.0 U
91-57-6	2-Methylnaphthalene	375.0 U
77-47-4	Hexachlorocyclopentadiene	375.0 U
88-06-2	2,4,6-Trichlorophenol	375.0 U
95-95-4	2,4,5-Trichlorophenol	1818.2 U
91-58-7	2-Chloronaphthalene	375.0 U
88-74-4	2-Nitroaniline	1818.2 U
131-11-3	Dimethylphthalate	375.0 U
208-96-8	Acenaphthylene	375.0 U
99-09-2	3-Nitroaniline	1818.2 U

CAS Number		ug/kg
83-32-9	Acenaphthene	375.0 U
51-28-5	2,4-Dinitrophenol	1818.2 U
100-02-7	4-Nitrophenol	1818.2 U
132-64-9	Dibenzofuran	375.0 U
121-14-2	2,4-Dinitrotoluene	375.0 U
606-20-2	2,6-Dinitrotoluene	375.0 U
84-66-2	Diethylphthalate	18.1 J
7005-72-3	4-Chlorophenylphenylether	375.0 U
86-73-7	Fluorene	375.0 U
100-01-6	4-Nitroaniline	1818.2 U
534-52-1	4,6-Dinitro-2-methylphenol	1818.2 U
86-30-6	N-Nitrosodiphenylamine (1)	375.0 U
101-55-3	4-Bromophenylphenylether	375.0 U
118-74-1	Hexachlorobenzene	375.0 U
87-86-5	Pentachlorophenol	1818.2 U
85-01-8	Phenanthrene	31.4 J
120-12-7	Anthracene	33.0 J
84-74-2	Di-n-butylphthalate	15.6 J
206-44-0	Fluoranthene	57.5 J
129-00-0	Pyrene	43.5 J
85-68-7	Butylbenzylphthalate	375.0 U
91-94-1	3,3'-Dichlorobenzidine	750.0 U
56-55-3	Benzo(a)anthracene	375.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	161.2 J
218-01-9	Chrysene	375.0 U
117-84-0	Di-n-octylphthalate	375.0 U
205-99-2	Benzo(b)fluoranthrene	375.0 U
207-08-9	Benzo(k)fluoranthrene	375.0 U
50-32-8	Benzo(a)pyrene	375.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	375.0 U
53-70-3	Dibenz(a,h)anthracene	375.0 U
191-24-2	Benzo(g,h,i)perylene	375.0 U

(1)-Cannot be seperated from diphenylamine

Form 1

Laboratory Name: Pacific Analytical, Inc.
Case No. A171

Sample Number
36037

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: LOW Medium (Circle One)
Date Extracted Prepared: 07/11/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

SPC Cleanup: [X] Yes [ ] No
Separatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	9.09 U
319-85-7	Beta-BHC	9.09 U
319-86-8	Delta-BHC	9.09 U
58-89-9	Gamma-BHC (Lindane)	9.09 U
76-44-8	Heptachlor	9.09 U
309-00-2	Aldrin	9.09 U
1024-57-3	Heptachlor Epoxide	9.09 U
959-98-8	Endosulfan I	9.09 U
60-57-1	Dieldrin	18.18 U
72-55-9	4,4'-DDE	18.18 U
72-20-8	Endrin	18.18 U
33213-65-9	Endosulfan II	18.18 U
72-54-8	4,4'-DDD	18.18 U
1031-07-8	Endosulfan Sulfate	18.18 U
50-29-3	4,4'-DDT	18.18 U
72-43-5	Methoxychlor	90.91 U
53494-70-5	Endrin Ketone	18.18 U
57-74-9	Chlordane	90.91 U
8001-35-2	Toxaphene	181.82 U
12674-11-2	Arochlor-1016	90.91 U
11104-28-2	Arochlor-1221	90.91 U
11141-16-5	Arochlor-1232	90.91 U
53469-21-9	Arochlor-1242	90.91 U
12672-29-6	Arochlor-1248	90.91 U
11097-69-1	Arochlor-1254	181.82 U
11096-82-5	Arochlor-1260	181.82 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: 20000 Vi: 1.0

Form I

Sample Number
36838

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 36838
Sample Matrix: soil
Data Release Authorized By: _____

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/19/86
Date Analyzed: 07/19/86
CONC/Dil Factor: 1.0100 pH: 8.3
Percent Moisture: (Not Decanted) 11.0

CAS Number		ug/kg
74-87-3	Chloromethane	11.1 U
74-83-9	Bromomethane	11.1 U
75-01-4	Vinyl Chloride	11.1 U
75-00-3	Chloroethane	11.1 U
75-09-2	~~Methylene~~ Chloride	57.68
67-64-1	~~Acetone~~	24.79
75-15-0	Carbon Disulfide	5.6 U
75-35-4	1,1-Dichloroethene	5.6 U
75-34-3	1,1-Dichloroethane	5.6 U
156-60-5	trans-1,2-Dichloroethene	5.6 U
67-66-3	~~Chloroform~~	3.3BJ
107-06-2	1,2-Dichloroethane	5.6 U
78-93-3	2-Butanone	4.7BJ
71-55-6	1,1,1-Trichloroethane	1.4 J
56-23-5	Carbon Tetrachloride	5.6 U
108-05-4	Vinyl Acetate	11.1 U
75-27-4	Bromodichloromethane	5.6 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	5.6 U
10061-02-6	trans-1,3-Dichloropropene	5.6 U
79-01-6	Trichloroethene	5.6 U
124-48-1	Dibromochloromethane	5.6 U
79-00-5	1,1,2-Trichloroethane	5.6 U
71-43-2	Benzene	5.6 U
10061-01-5	cis-1,3-Dichloropropene	5.6 U
110-75-8	2-Chloroethyl Vinyl Ether	11.1 U
75-25-2	Bromoform	5.6 U
108-10-1	4-Methyl-2-pentanone	11.1 U
591-78-6	2-Hexanone	11.1 U
127-18-4	Tetrachloroethene	5.6 U
79-34-5	1,1,2,2-Tetrachloroethane	5.6 U
108-88-3	Toluene	5.6 U
108-90-7	Chlorobenzene	5.6 U
100-41-4	Ethyl Benzene	5.6 U
100-42-5	Styrene	5.6 U
	Total Xylenes	5.6 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

Laboratory Name: Pacific Analytical, Inc.
Case No. 5171

Sample Number
36638

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted Prepared: 07/10/86
Date Analyzed: 08/05/86
COMC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
108-95-2	Phenol	370.8 U
111-44-4	bis(2-Chloroethyl)ether	370.8 U
95-57-8	2-Chlorophenol	370.8 U
541-73-1	1,3-Dichlorobenzene	370.8 U
106-46-7	1,4-Dichlorobenzene	370.8 U
100-51-6	Benzyl Alcohol	370.8 U
95-50-1	1,2-Dichlorobenzene	370.8 U
95-48-7	2-Methylphenol	370.8 U
39638-32-9	bis(2-Chloroisopropyl)ether	370.8 U
106-44-5	4-Methylphenol	370.8 U
621-64-7	N-Nitroso-di-n-propylamine	370.8 U
67-72-1	Hexachloroethane	370.8 U
98-95-3	Nitrobenzene	370.8 U
78-59-1	Isophorone	370.8 U
88-75-5	2-Nitrophenol	370.8 U
105-67-9	2,4-Dimethylphenol	370.8 U
65-85-0	Benzoic Acid	1797.8 U
111-91-1	bis(2-Chloroethoxy)methane	370.8 U
120-83-2	2,4-Dichlorophenol	370.8 U
120-82-1	1,2,4-Trichlorobenzene	370.8 U
91-20-3	Naphthalene	370.8 U
106-47-8	4-Chloroaniline	370.8 U
87-68-3	Hexachlorobutadiene	370.8 U
59-50-7	4-Chloro-3-methylphenol	370.8 U
91-57-6	2-Methylnaphthalene	370.8 U
77-47-4	Hexachlorocyclopentadiene	370.8 U
88-06-2	2,4,6-Trichlorophenol	370.8 U
95-95-4	2,4,5-Trichlorophenol	1797.8 U
91-58-7	2-Chloronaphthalene	370.8 U
88-74-4	2-Nitroaniline	1797.8 U
131-11-3	Dimethylphthalate	370.8 U
208-96-8	Acenaphthylene	370.8 U
99-09-2	3-Nitroaniline	1797.8 U

CAS Number		ug/kg
83-32-9	Acenaphthene	370.8 U
51-28-5	2,4-Dinitrophenol	1797.8 U
100-02-7	4-Nitrophenol	1797.8 U
132-64-9	Dibenzofuran	370.8 U
121-14-2	2,4-Dinitrotoluene	370.8 U
606-20-2	2,6-Dinitrotoluene	370.8 U
84-66-2	Diethylphthalate	370.8 U
7005-72-3	4-Chlorophenylphenylether	370.8 U
86-73-7	Fluorene	370.8 U
100-01-6	4-Nitroaniline	1797.8 U
534-52-1	4,6-Dinitro-2-methylphenol	1797.8 U
86-30-6	N-Nitrosodiphenylamine (1)	370.8 U
101-55-3	4-Bromophenylphenylether	370.8 U
118-74-1	Hexachlorobenzene	370.8 U
87-86-5	Pentachlorophenol	1797.8 U
85-01-8	Phenanthrene	80.9 J
120-12-7	Anthracene	15.1 J
84-74-2	Di-n-butylphthalate	370.8 U
206-44-0	Fluoranthene	148.8 J
129-00-0	Pyrene	111.2 J
85-68-7	Butylbenzylphthalate	370.8 U
91-94-1	3,3'-Dichlorobenzidine	741.6 U
56-55-3	Benzo(a)anthracene	49.1 J
117-81-7	bis(2-Ethylhexyl)phthalate	87.0 J
218-01-9	Chrysene	370.8 U
117-84-0	Di-n-octylphthalate	370.8 U
205-99-2	Benzo(b)fluoranthrene	55.6 J
207-08-9	Benzo(k)fluoranthrene	75.7 J
50-32-8	Benzo(a)pyrene	51.4 J
193-39-5	Indeno(1,2,3-cd)pyrene	370.8 U
53-70-3	Dibenz(a,h)anthracene	370.8 U
191-24-2	Benzo(g,h,i)perylene	370.8 U

(1)-Cannot be seperated from diphenylamine

Form I

5-6

Laboratory Name: Pacific Analytical, Inc.
Case No. 5121

Sample Number
86833

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/11/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted):

GPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	8.99 U
319-85-7	Beta-BHC	8.99 U
319-86-8	Delta-BHC	8.99 U
58-89-9	Gamma-BHC (Lindane)	8.99 U
76-44-8	Heptachlor	8.99 U
309-00-2	Aldrin	8.99 U
1024-57-3	Heptachlor Epoxide	8.99 U
959-98-8	Endosulfan I	8.99 U
60-57-1	Dieldrin	17.98 U
72-55-9	4,4'-DDE	17.98 U
72-20-8	Endrin	17.98 U
33213-65-9	Endosulfan II	17.98 U
72-54-8	4,4'-DDD	17.98 U
1031-07-8	Endosulfan Sulfate	17.98 U
50-29-3	4,4'-DDT	17.98 U
72-43-5	Methoxychlor	89.89 U
53494-70-5	Endrin Ketone	17.98 U
57-74-9	Chlordane	89.89 U
8001-35-2	Toxaphene	179.78 U
12674-11-2	Arochlor-1016	89.89 U
11104-28-2	Arochlor-1221	89.89 U
11141-16-5	Arochlor-1232	89.89 U
53469-21-9	Arochlor-1242	89.89 U
12672-29-6	Arochlor-1248	89.89 U
11097-69-1	Arochlor-1254	179.78 U
11096-82-5	Arochlor-1260	179.78 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: 20000 Vi: 1.0

Form I

SED 1

Sample Number
96609

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 96609
Sample Matrix: soil
Data Release Authorized By: _____

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: LOW Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 1.0040 pH: 7.9
Percent Moisture: (Not Decanted) 17.0

CAS Number		ug/kg
74-87-3	Chloromethane	12.0 U
74-83-9	Bromomethane	12.0 U
75-01-4	Vinyl Chloride	12.0 U
75-00-3	Chloroethane	12.0 U
75-09-2	Methylene Chloride	46.6B
67-64-1	Acetone	23.3B
75-15-0	Carbon Disulfide	0.8 J
75-35-4	1,1-Dichloroethene	6.0 U
75-34-3	1,1-Dichloroethane	1.4 J
156-60-5	trans-1,2-Dichloroethene	6.0 U
67-66-3	Chloroform	3.1BJ
107-06-2	1,2-Dichloroethane	6.0 U
78-93-3	2-Butanone	7.9BJ
71-55-6	1,1,1-Trichloroethane	6.0 U
56-23-5	Carbon Tetrachloride	6.0 U
108-05-4	Vinyl Acetate	12.0 U
75-27-4	Bromodichloromethane	6.0 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	6.0 U
10061-02-6	trans-1,3-Dichloropropene	6.0 U
79-01-6	Trichloroethene	6.0 U
124-48-1	Dibromochloromethane	6.0 U
79-00-5	1,1,2-Trichloroethane	6.0 U
71-43-2	Benzene	6.0 U
10061-01-5	cis-1,3-Dichloropropene	6.0 U
110-75-8	2-Chloroethyl Vinyl Ether	12.0 U
75-25-2	Bromoform	6.0 U
108-10-1	4-Methyl-2-pentanone	12.0 U
591-78-6	2-Hexanone	12.0 U
127-18-4	Tetrachloroethene	6.0 U
79-34-5	1,1,2,2-Tetrachloroethane	6.0 U
108-88-3	Toluene	6.0 U
108-90-7	Chlorobenzene	6.0 U
100-41-4	Ethyl Benzene	6.0 U
100-42-5	Styrene	6.0 U
	Total Xylenes	6.0 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

SED-1

Laboratory Name: Pacific Analytical, Inc.
Case No.: 6171

Sample Number
86639

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: low (MEDIUM) (Circle One)
Date Extracted/Prepared: 08/13/86
Date Analyzed: 08/26/86
CONC/Dil Factor: 0.5000
Percent Moisture: (Decanted)

GPC Cleanup: [ ] Yes [X] No
Seperatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
108-95-2	Phenol	47710.8 U
111-44-4	bis(2-Chloroethyl)ether	47710.8 U
95-57-8	2-Chlorophenol	47710.8 U
541-73-1	1,3-Dichlorobenzene	47710.8 U
106-46-7	1,4-Dichlorobenzene	47710.8 U
100-51-6	Benzyl Alcohol	47710.8 U
95-50-1	1,2-Dichlorobenzene	47710.8 U
95-48-7	2-Methylphenol	47710.8 U
39638-32-9	bis(2-Chloroisopropyl)ether	47710.8 U
106-44-5	4-Methylphenol	47710.8 U
621-64-7	N-Nitroso-di-n-propylamine	47710.8 U
67-72-1	Hexachloroethane	47710.8 U
98-95-3	Nitrobenzene	47710.8 U
78-59-1	Isophorone	47710.8 U
88-75-5	2-Nitrophenol	47710.8 U
105-67-9	2,4-Dimethylphenol	47710.8 U
65-85-0	Benzoic Acid	231325.3 U
111-91-1	bis(2-Chloroethoxy)methane	47710.8 U
120-83-2	2,4-Dichlorophenol	47710.8 U
120-82-1	1,2,4-Trichlorobenzene	47710.8 U
91-20-3	Naphthalene	47710.8 U
106-47-8	4-Chloroanailine	47710.8 U
87-68-3	Hexachlorobutadiene	47710.8 U
59-50-7	4-Chloro-3-methylphenol	47710.8 U
91-57-6	2-Methylnaphthalene	47710.8 U
77-47-4	Hexachlorocyclopentadiene	47710.8 U
88-06-2	2,4,6-Trichlorophenol	47710.8 U
95-95-4	2,4,5-Trichlorophenol	231325.3 U
91-58-7	2-Chloronaphthalene	47710.8 U
88-74-4	2-Nitroanailine	231325.3 U
131-11-3	Dimethylphthalate	47710.8 U
208-96-8	Acenaphthylene	47710.8 U
99-09-2	3-Nitroanailine	231325.3 U

CAS Number		ug/kg
83-32-9	Acenaphthene	6392.8 J
51-28-5	2,4-Dinitrophenol	231325.3 U
100-02-7	4-Nitrophenol	231325.3 U
132-64-9	Dibenzofuran	3385.5 J
121-14-2	2,4-Dinitrotoluene	47710.8 U
606-20-2	2,6-Dinitrotoluene	47710.8 U
84-66-2	Diethylphthalate	47710.8 U
7005-72-3	4-Chlorophenylphenylether	47710.8 U
86-73-7	Fluorene	7877.1 J
100-01-6	4-Nitroanailine	231325.3 U
534-52-1	4,6-Dinitro-2-methylphenol	231325.3 U
86-30-6	N-Nitrosodiphenylamine (1)	47710.8 U
101-55-3	4-Bromophenylphenylether	47710.8 U
118-74-1	Hexachlorobenzene	47710.8 U
87-86-5	Pentachlorophenol	231325.3 U
85-01-8	Phenanthrene	52816.9
120-12-7	Anthracene	15653.0 J
84-74-2	Di-n-butylphthalate	47710.8 U
206-44-0	Fluoranthene	81091.6
129-00-0	Pyrene	59284.3
85-68-7	Butylbenzylphthalate	47710.8 U
91-94-1	3,3'-Dichlorobenzidine	95421.7 U
56-55-3	Benzo(a)anthracene	24590.4 J
117-81-7	bis(2-Ethylhexyl)phthalate	47710.8 U
218-01-9	Chrysene	26922.9 J
117-84-0	Di-n-octylphthalate	47710.8 U
205-99-2	Benzo(b)fluoranthrene	19125.3 J
207-08-9	Benzo(k)fluoranthrene	18773.5 J
50-32-8	Benzo(a)pyrene	17903.6 J
193-39-5	Indeno(1,2,3-cd)pyrene	5792.8 J
53-70-3	Dibenz(a,h)anthracene	47710.8 U
191-24-2	Benzo(g,h,i)perylene	14575.9 J

(1)-Cannot be seperated from diphenylamine

Form 1

SED-1

Laboratory Name: Pacific Analytical, Inc.
Case No. 5171

Sample Number
36659

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: Low (MEDIUM) Circle One

Date Extracted/Prepared: 07/23/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 0.1000
Percent Moisture: (Decanted)

GPC Cleanup: ( ) Yes (X) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	1445.78 U
319-85-7	Beta-BHC	1445.78 U
319-86-8	Delta-BHC	1445.78 U
58-89-9	Gamma-BHC (Lindane)	1445.78 U
76-44-8	Heptachlor	1445.78 U
309-00-2	Aldrin	1445.78 U
1024-57-3	Heptachlor Epoxide	1445.78 U
959-98-8	Endosulfan I	1445.78 U
60-57-1	Dieldrin	2891.57 U
72-55-9	4,4'-DDE	2891.57 U
72-20-8	Endrin	2891.57 U
33213-65-9	Endosulfan II	2891.57 U
72-54-8	4,4'-DDD	2891.57 U
1031-07-8	Endosulfan Sulfate	2891.57 U
50-29-3	4,4'-DDT	2891.57 U
72-43-5	Methoxychlor	14457.83 U
53494-70-5	Endrin Ketone	2891.57 U
57-74-9	Chlordane	14457.83 U
8001-35-2	Toxaphene	28915.66 U
12674-11-2	Arochlor-1016	14457.83 U
11104-28-2	Arochlor-1221	14457.83 U
11141-16-5	Arochlor-1232	14457.83 U
53469-21-9	Arochlor-1242	14457.83 U
12672-29-6	Arochlor-1248	14457.83 U
11097-69-1	Arochlor-1254	28915.66 U
11096-82-5	Arochlor-1260	28915.66 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 1 Vt: 10000 Vi: 1.0

Form I

SED-2

Sample Number
86640

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 86640
Sample Matrix: soil
Data Release Authorized By: _____

Case No. 6171
SC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/16/86
Date Analyzed: 07/16/86
CONC/Dil Factor: 0.9920 pH: 8.0
Percent Moisture: (Not Decanted) 37.0

CAS Number		ug/kg
74-87-3	Chloromethane	16.0 U
74-83-9	Bromomethane	16.0 U
75-01-4	Vinyl Chloride	16.0 U
75-00-3	Chloroethane	16.0 U
75-09-2	Methylene Chloride	114.3B
67-64-1	Acetone	45.2B
75-15-0	Carbon Disulfide	8.0 U
75-35-4	1,1-Dichloroethene	8.0 U
75-34-3	1,1-Dichloroethane	42.5
156-60-5	trans-1,2-Dichloroethene	8.0 U
67-66-3	Chloroform	4.3BJ
107-06-2	1,2-Dichloroethane	8.0 U
78-93-3	2-Butanone	7.6BJ
71-55-6	1,1,1-Trichloroethane	39.4
56-23-5	Carbon Tetrachloride	8.0 U
108-05-4	Vinyl Acetate	16.0 U
75-27-4	Bromodichloromethane	8.0 U

CAS Number		ug/kg
78-87-5	1,2-Dichloropropane	8.0 U
10061-02-6	trans-1,3-Dichloropropene	8.0 U
79-01-6	Trichloroethene	8.0 U
124-48-1	Dibromochloromethane	8.0 U
79-00-5	1,1,2-Trichloroethane	8.0 U
71-43-2	Benzene	8.0 U
10061-01-5	cis-1,3-Dichloropropene	8.0 U
110-75-8	2-Chloroethyl Vinyl Ether	16.0 U
75-25-2	Bromoform	8.0 U
108-10-1	4-Methyl-2-pentanone	16.0 U
591-78-6	2-Hexanone	16.0 U
127-18-4	Tetrachloroethene	8.0 U
79-34-5	1,1,2,2-Tetrachloroethane	8.0 U
108-88-3	Toluene	8.0 U
108-90-7	Chlorobenzene	8.0 U
100-41-4	Ethyl Benzene	8.0 U
100-42-5	Styrene	8.0 U
	Total Xylenes	8.0 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form I

SED-2

Laboratory Name: Pacific Analytical, Inc.
Case No: 5171

Sample Number
86e40

Organic Analysis Data Sheet
(Page 2)

SEMIVOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/10/86
Date Analyzed: 08/0e/8e
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: [X] Yes [ ] No
Seperatory Funnel Extraction: [ ] Yes
Continuous Liquid - Liquid Extraction [ ] Yes

CAS Number		ug/kg
108-95-2	Phenol	523.8 U
111-44-4	bis(2-Chloroethyl)ether	523.8 U
95-57-8	2-Chlorophenol	523.8 U
541-73-1	1,3-Dichlorobenzene	523.8 U
106-46-7	1,4-Dichlorobenzene	523.8 U
100-51-6	Benzyl Alcohol	523.8 U
95-50-1	1,2-Dichlorobenzene	523.8 U
95-48-7	2-Methylphenol	523.8 U
39638-32-9	bis(2-Chloroisopropyl)ether	523.8 U
106-44-5	4-Methylphenol	523.8 U
621-64-7	N-Nitroso-di-n-propylamine	523.8 U
67-72-1	Hexachloroethane	523.8 U
98-95-3	Nitrobenzene	523.8 U
78-59-1	Isophorone	523.8 U
88-75-5	2-Nitrophenol	523.8 U
105-67-9	2,4-Dimethylphenol	523.8 U
65-85-0	Benzoic Acid	2539.7 U
111-91-1	bis(2-Chloroethoxy)methane	523.8 U
120-83-2	2,4-Dichlorophenol	523.8 U
120-82-1	1,2,4-Trichlorobenzene	523.8 U
91-20-3	Naphthalene	523.8 U
106-47-8	4-Chloroaniline	523.8 U
87-68-3	Hexachlorobutadiene	523.8 U
59-50-7	4-Chloro-3-methylphenol	523.8 U
91-57-6	2-Methylnaphthalene	523.8 U
77-47-4	Hexachlorocyclopentadiene	523.8 U
88-06-2	2,4,6-Trichlorophenol	523.8 U
95-95-4	2,4,5-Trichlorophenol	2539.7 U
91-58-7	2-Chloronaphthalene	523.8 U
88-74-4	2-Nitroaniline	2539.7 U
131-11-3	Dimethylphthalate	523.8 U
208-96-8	Acenaphthylene	523.8 U
99-09-2	3-Nitroaniline	2539.7 U

CAS Number		ug/kg
83-32-9	Acenaphthene	41.9 J
51-28-5	2,4-Dinitrophenol	2539.7 U
100-02-7	4-Nitrophenol	2539.7 U
132-64-9	Dibenzofuran	21.5 J
121-14-2	2,4-Dinitrotoluene	523.8 U
606-20-2	2,6-Dinitrotoluene	523.8 U
84-66-2	Diethylphthalate	45.4 J
7005-72-3	4-Chlorophenylphenylether	523.8 U
86-73-7	Fluorene	50.5 J
100-01-6	4-Nitroaniline	2539.7 U
534-52-1	4,6-Dinitro-2-methylphenol	2539.7 U
86-30-6	N-Nitrosodiphenylamine (1)	523.8 U
101-55-3	4-Bromophenylphenylether	523.8 U
118-74-1	Hexachlorobenzene	523.8 U
87-86-5	Pentachlorophenol	2539.7 U
85-01-8	Phenanthrene	1074.6
120-12-7	Anthracene	148.3 J
84-74-2	Di-n-butylphthalate	523.8 U
206-44-0	Fluoranthene	2058.4
129-00-0	Pyrene	2017.7
85-68-7	Butylbenzylphthalate	523.8 U
91-94-1	3,3'-Dichlorobenzidine	1047.6 U
56-55-3	Benzo(a)anthracene	980.4
117-81-7	bis(2-Ethylhexyl)phthalate	139.9 J
218-01-9	Chrysene	1172.3
117-84-0	Di-n-octylphthalate	523.8 U
205-99-2	Benzo(b)fluoranthrene	928.6
207-08-9	Benzo(k)fluoranthrene	1161.5
50-32-8	Benzo(a)pyrene	1066.8
193-39-5	Indeno(1,2,3-cd)pyrene	851.3
53-70-3	Dibenz(a,h)anthracene	278.2 J
191-24-2	Benzo(g,h,i)perylene	913.9

(1)-Cannot be seperated from diphenylamine

SEP-2

Laboratory Name: Pacific Analytical, Inc.
Case No. 5171

Sample Number
36040

Organic Analysis Data Sheet
(Page 3)

PESTICIDES/PCB's

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/11/86
Date Analyzed: 07/31/86
CONC/Dil Factor: 1.0000
Percent Moisture: (Decanted)

GPC Cleanup: (X) Yes ( ) No
Seperatory Funnel Extraction: ( ) Yes
Continuous Liquid - Liquid Extraction ( ) Yes

CAS Number		ug/kg
319-84-6	Alpha-BHC	12.70 U
319-85-7	Beta-BHC	12.70 U
319-86-8	Delta-BHC	12.70 U
58-89-9	Gamma-BHC (Lindane)	12.70 U
76-44-8	Heptachlor	12.70 U
309-00-2	Aldrin	12.70 U
1024-57-3	Heptachlor Epoxide	12.70 U
959-98-8	Endosulfan I	12.70 U
60-57-1	Dieldrin	25.40 U
72-55-9	4,4'-DDE	25.40 U
72-20-8	Endrin	25.40 U
33213-65-9	Endosulfan II	25.40 U
72-54-8	4,4'-DDD	25.40 U
1031-07-8	Endosulfan Sulfate	25.40 U
50-29-3	4,4'-DDT	25.40 U
72-43-5	Methoxychlor	126.98 U
53494-70-5	Endrin Ketone	25.40 U
57-74-9	Chlordane	126.98 U
8001-35-2	Toxaphene	253.97 U
12674-11-2	Arochlor-1016	126.98 U
11104-28-2	Arochlor-1221	126.98 U
11141-16-5	Arochlor-1232	126.98 U
53469-21-9	Arochlor-1242	126.98 U
12672-29-6	Arochlor-1248	126.98 U
11097-69-1	Arochlor-1254	253.97 U
11096-82-5	Arochlor-1260	253.97 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of total extract (uL)

Vs: or Ws: 30 Vt: 20000 Vi: 1.0

Form I

Field Blank

61-1

Sample Number
96642

Organic Analysis Data Sheet
(Page 1)

Laboratory Name: Pacific Analytical, Inc.
Lab Sample ID No: 96642
Sample Matrix: Water
Data Release Authorized By: JCK

Case No. 6171
QC Report No:
Contract No. 68-01-7276
Date Sample Received: 07/10/86

VOLATILE COMPOUNDS

Concentration: (LOW) Medium (Circle One)
Date Extracted/Prepared: 07/14/86
Date Analyzed: 07/14/86
CONC/Dil Factor: 1.0000 pH:
Percent Moisture: (Not Decanted)

CAS Number		ug/L
74-87-3	Chloromethane	10.0 U
74-83-9	Bromomethane	10.0 U
75-01-4	Vinyl Chloride	10.0 U
75-00-3	Chloroethane	10.0 U
75-09-2	Methylene Chloride	7.6B
67-64-1	Acetone	8.9BJ
75-15-0	Carbon Disulfide	5.0 U
75-35-4	1,1-Dichloroethene	5.0 U
75-34-3	1,1-Dichloroethane	5.0 U
156-60-5	trans-1,2-Dichloroethene	5.0 U
67-66-3	Chloroform	2.6BJ
107-06-2	1,2-Dichloroethane	5.0 U
78-93-3	2-Butanone	7.5BJ
71-55-6	1,1,1-Trichloroethane	5.0 U
56-23-5	Carbon Tetrachloride	5.0 U
108-05-4	Vinyl Acetate	10.0 U
75-27-4	Bromodichloromethane	5.0 U

CAS Number		ug/L
78-87-5	1,2-Dichloropropane	5.0 U
10061-02-6	trans-1,3-Dichloropropene	5.0 U
79-01-6	Trichloroethene	5.0 U
124-48-1	Dibromochloromethane	5.0 U
79-00-5	1,1,2-Trichloroethane	5.0 U
71-43-2	Benzene	5.0 U
10061-01-5	cis-1,3-Dichloropropene	5.0 U
110-75-8	2-Chloroethyl Vinyl Ether	10.0 U
75-25-2	Bromoform	5.0 U
108-10-1	4-Methyl-2-pentanone	1.5 J
591-78-6	2-Hexanone	2.3 J
127-18-4	Tetrachloroethene	5.0 U
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U
108-88-3	Toluene	2.2 J
108-90-7	Chlorobenzene	5.0 U
100-41-4	Ethyl Benzene	5.0 U
100-42-5	Styrene	5.0 U
	Total Xylenes	5.0 U

Data Reporting Qualifiers

U - Compound was analyzed for but not detected. Reported value is the minimum detection limit for the sample.
J - Reported concentration is estimated based on a 1:1 response or is between 0 and the D.L.
C - Pesticide identification confirmed by GC/MS.
B - Analyte was also detected in the blank so reported value may be due to contamination.
Other qualifiers descriptions are attached to the data summary report

Form 1

REFERENCE NO. 8

5-94

New York State Atlas of Community Water System Sources 1982

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

New York State Atlas of
mmunity Water System Sources
1982

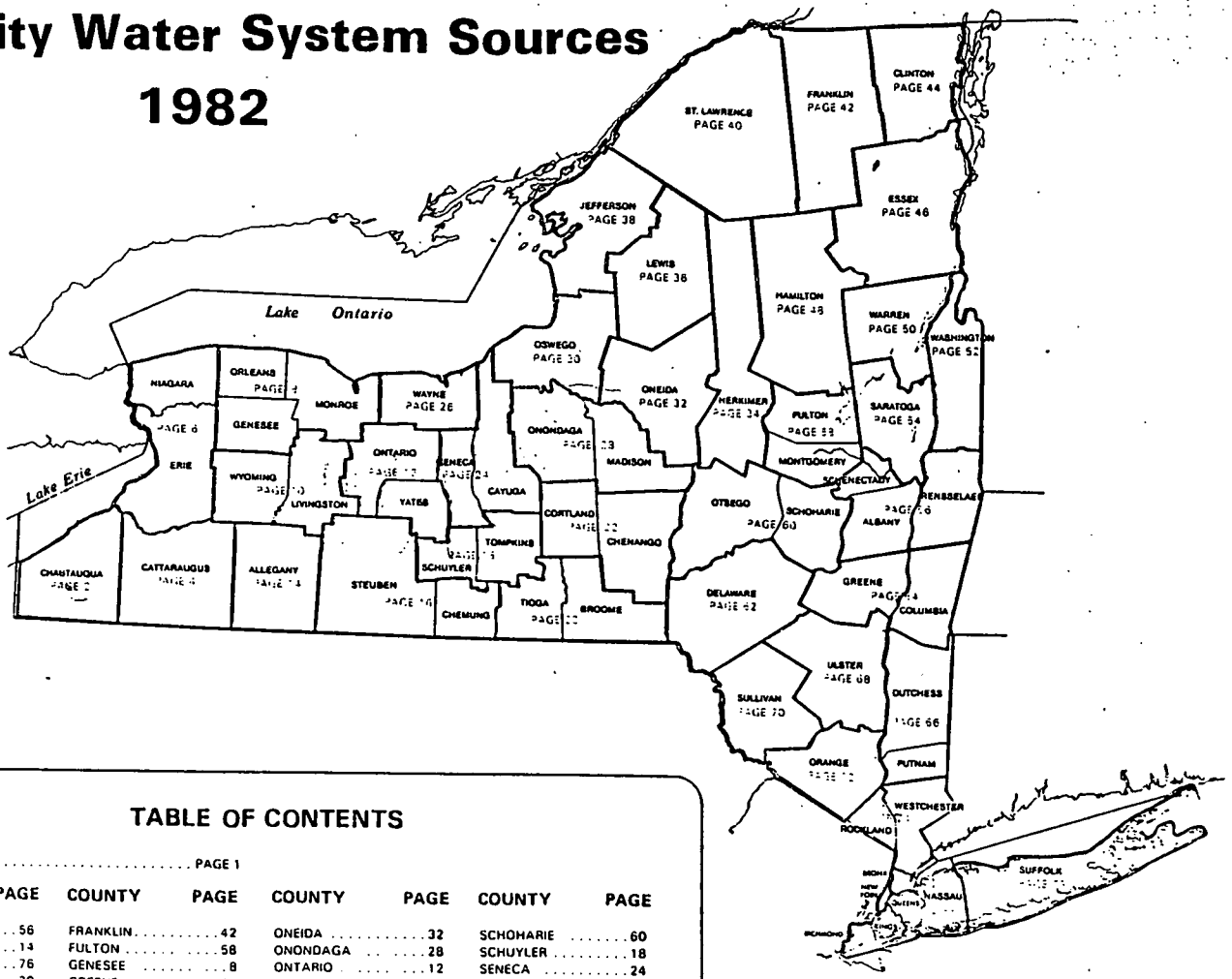


TABLE OF CONTENTS

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 — Corson

TRANSPORTATION

Highways
- Divided Highways
  - Full Control of Access
  - Partial or No Control of Access
- Undivided Highway
- Interchange
- 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

FOREWARD

SOURCE LOCATIONS

this atlas show the locations of surface water intakes and groundwater
ty water systems in New York State. A community water system is defin-
w York State Sanitary Code as a public water system which serves at least
ons used by year round residents or regularly serves at least 25 year round
erent types of water systems are therefore included. Community water
ase 100 percent of their water and have no sources of their own are not

ccompanied by a list of the county's community water systems, popula-
e names. Systems are separated into MUNICIPAL COMMUNITY (program
ON-MUNICIPAL COMMUNITY (all other program codes) and listed
each. MUNICIPAL COMMUNITY water systems are operated by a city,
or water authority or the water system may be a water district or privately
PAL COMMUNITY systems are primarily mobile home parks but also in-
ndominiums, resident health care facilities, resident institutions, and

96-5

EXPLANATION OF SYMBOLS

Suface water intakes are designated on the county maps by a triangle (▲) accompanied by the corresponding water supply number.

Groundwater sources are designated by a dot (•) followed by the supply number. Multiple wells separated by less than 1000' and supplying the same water system are shown with one dot. Springs and infiltration galleries are shown as groundwater sources unless the local health unit has designated it a surface source. Therefore, springs and infiltration galleries are listed as wells (springs) or wells (infiltration galleries).

If a Community Water System has source(s) located outside the county, these sources are shown in the county list and show in parentheses the system number, county and page number. Conversely, when a county contains source(s) which supply community water systems located outside the county, the name of the system is also shown in that county's list of sources.

ACKNOWLEDGEMENT

Data compiled in this Atlas is based on location of community water system sources from visits, in 1979, to every county health unit in the State by technicians working for the Bureau of Public Water Supply Protection. This data was updated in 1982 through use of the Department of Health's SAFWATER computer inventory and through limited field review. The Bureau of Public Water Supply Protection wishes to acknowledge the following organizations who have made the Atlas possible:

To the United States Environmental Protection Agency for funding this Atlas as a part of the Underground Injection Control Program.

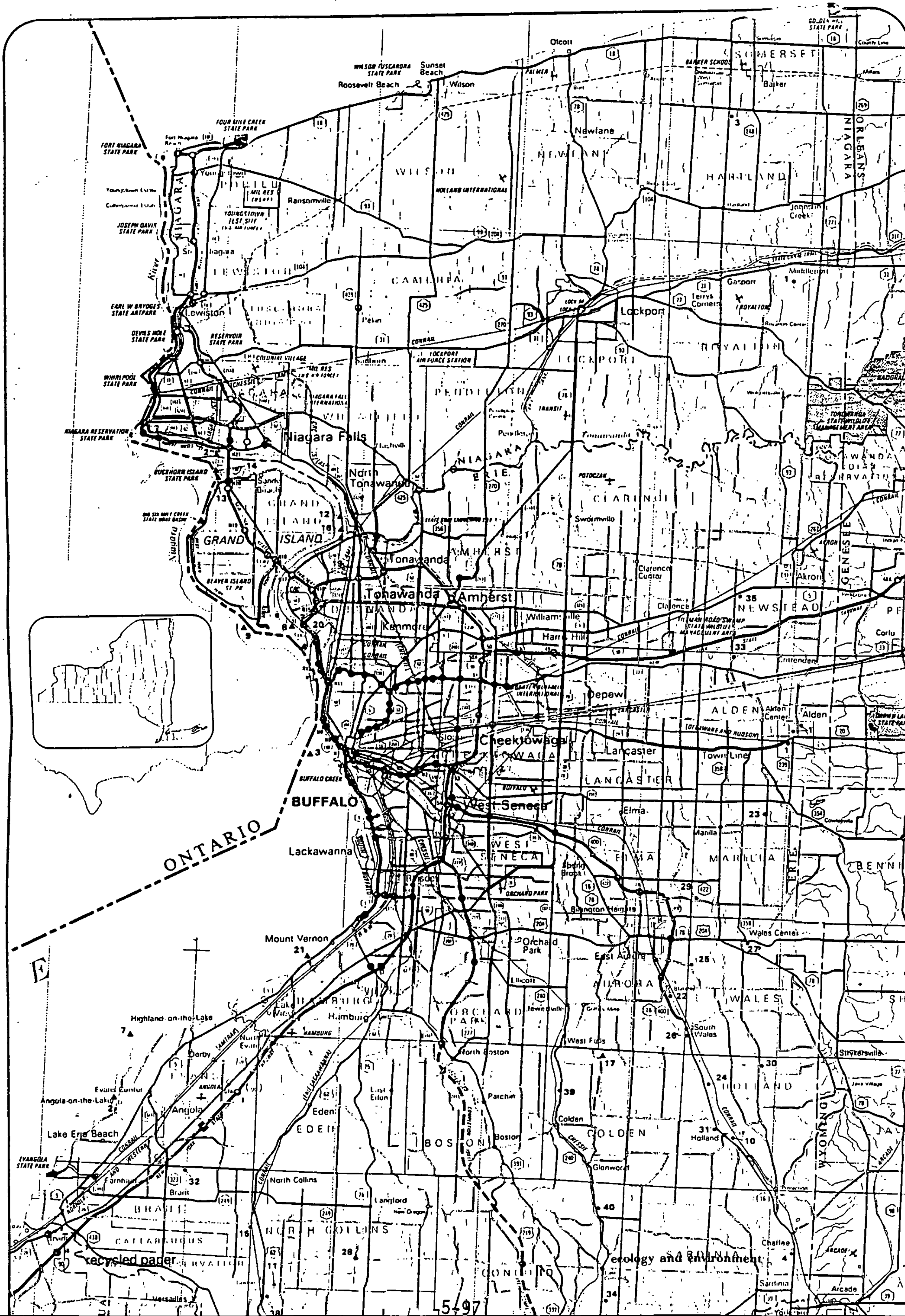
To the Cartography Section of the New York State Department of Transportation for providing the talent, time and effort in performing the necessary cartographic work to produce this Atlas.

To the engineers and technicians of the Bureau of Public Water Supply Protection of the New York State Department of Health for the painstaking work of gathering the basic data and cross-checking it, and for leading this project through to completion.

LOCATION OF COMMUNITY WATER SYSTEM SOURCES-1982

ERIE and NIAGARA COU

DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION



Olcott
SOMERSET
Barker
Wilson
Sunset Beach
Roosevelt Beach
WILSON TUSCARORA STATE PARK
FOUR MILE CREEK STATE PARK
FORT NIAGARA STATE PARK
Youngstown
Ransomville
Newfane
NEWFANE
HARTLAND
ORLEANS
NIAGARA
WILSON
HOLLAND INTERNATIONAL
JOSEPH DAVIS STATE PARK
LEWISTON
CAMBRIA
Lewiston
Gasport
Middleport
Terrys Corners
Lockport
ROYALTON
LOCKPORT
LOCKPORT AIR FORCE STATION
EARL W BRYDGES STATE ARTPARK
DEVILS HOLE STATE PARK
RESERVOIR STATE PARK
WHIRLPOOL STATE PARK
NIAGARA RESERVATION STATE PARK
Niagara Falls
PENDLETON
NIAGARA
ERIE
North Tonawanda
BUCKHORN ISLAND STATE PARK
GRAND ISLAND
CLARENCE
Swormville
TONAWANDA WILDLIFE MANAGEMENT AREA
BEAVER ISLAND ST PK
Tonawanda
AMHERST
Clarence Center
Akron
GENESEE
Tonawanda
Amherst
NEWSTEAD
Clarence
Kenmore
Williamsville
Harris Hill
Corfu
Crittenden
Depew
ALDEN
Alden Center
Alden
Cheektowaga
Lancaster
Town Line
LANCASTER
BUFFALO
West Seneca
Elma
ONTARIO
Lackawanna
WEST SENECA
ELMA
MARILLA
Marilla
Spring Brook
Orchard Park
Mount Vernon
East Aurora
Wales Center
AURORA
WALES
Hamburg
Highland-on-the-Lake
ORCHARD PARK
North Evans
Derby
South Wales
West Falls
North Boston
Evans Center
Angola-on-the-Lake
Angola
Eden
EDEN
Patchin
Colden
Lake Erie Beach
BOSTON
Boston
COLDEN
Holland
HOLLAND
EVANGOLA STATE PARK
Farnham
Brant
Glenwood
North Collins
Langford
BRANT
NORTH COLLINS
CATTARAUGUS
SARDINIA
Chaffee
recycled paper
ecology and environment
CONCORD
Sardinia
Arcade
Versailles

TY

WATER SYSTEM	POPULATION	SOURCE
age (See No 1 Wyoming Co,		
	3640	
age	3460	Wells
lage	8500	Lake Erie
ty Division of Water	357870	Lake Erie
er Company	210	Wells
ter District #3	704	Wells
ter Districts #1 and #2	1384	Wells
y Water Authority		
n Point Intake)	375000	Lake Erie
y Water Authority		
ater Intake)	NA	Niagara River - East Branch
nd Water District #2	9390	Niagara River
ter District	1670	Wells
ter Company	138	Wells
ity (Niagara Co)		Niagara River - East Branch
unty Water District (Niagara Co)		Niagara River - West Branch
lls City (Niagara Co)		Niagara River - West Branch
ins Village	1500	Wells
anda City (Niagara Co)		Niagara River - West Branch
rk Village	3671	Pipe Creek Reservoir
e Village	4169	Wells
City	18538	Niagara River - East Branch
Water District #1	91269	Niagara River
ter Company	10750	Lake Erie
ity		
le Park	125	Wells
s Mobile Home Park	270	Wells
railer Court	50	Wells
t Mobile Park	125	Wells
Mobile Home Park	120	Wells
Mobile Home Court	99	Wells
te Hospital	NA	Clear Lake
tates	160	Wells
ek Mobile Home Park	150	Wells
ents	NA	Wells
Trailer Court	72	Wells
obile Park	100	Wells
iler Park	75	Wells
Estates	400	Wells
Mobile Park	114	Wells
Mobile Village	132	Wells
ve Trailer Park	39	Wells
Mobile Court	42	Wells
artments	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

REFERENCE NO. 9

ecology and environment, inc.
195 SUGG ROAD, P.O. BOX D, BUFFALO, NEW YORK 14225, TEL. 716-632-4491, TELEX 91-9183
International Specialists in the Environment

Ms. Cynthia Rados
3742 Mile Strip Road
Blasdell, New York 14219

Dear Ms. Rados,

During the course of Ecology & Environment's work for the New York State Department of Environmental Conservation, it was necessary to contact you for information regarding your residential well water supply. This information provided useful demographic data which will be utilized to assess and protect tht quality of the environment in Erie County. The D.E.C. requires that all information in our report be fully documented. E&E requests that you please take a moment to confirm that the information we have is accurate. Please review the following and sign in the space provided if it is accurate. Please return the letter to us using the posted, pre-addressed envelope provided.

- A residential well supplies drinking water to your home.
- The address of your residence is 3742 Mile Srtip Road, Blasdell, New York, 14219.
- Alternative water supply(municipal hook-up) can be acquired only at unreasonable expense to you. In this case > $5,000 (greater than).

The preceeding information is correct to the best of my my knowledge.

Signature _____ Date _____

Thankyou very much for your time and cooperation in our environmental research. If you have any questions regarding the

above, please do not hesitate to contact me at 633-9881, extension 448.

Sincerely,

Donald A. Johnson

Donald A. Johnson

recycled paper

ecology and environment

REFERENCE NO. 10

CONTACT REPORT

AGENCY : HAMBURG WATER DISTRICT, ENGINEERING DIVISION

ADDRESS : 6100 S. PARK AVE., HAMBURG, NY

PHONE NO. : 649-6111

PERSON CONTACTED : JACK GILBERT, TOWN ENGINEER

TO : F. MCKOSKY

FROM : P. GUNTHER

DATE : 9/3/87

SUBJECT : LOCATION AND INFORMATION ON MUNICIPAL AND PRIVATE WELLS IN THE TOWNSHIP OF HAMBURG

CC : G. FLORENTINO, ND-2000, D. JOHNSON

Most ~~persons~~ everyone living in Blasdell and Hamburg utilizes ~~City of Buffalo municipal water~~ water from Erie County Water Authority or Wanakah Water Company. The closest private well that I know about to either LSB Warehousing or Snyder Tank is a family residence at ~~the intersection of South Park and~~ 3742 Mile Strip Road.

Alan J. Gilbert, P.E., L.S.
Town Engineer
1/19/89

db

ecology and environment, inc.
BUFFALO CORPORATE CENTER
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
International Specialists in the Environment

January 12, 1989

Jack Gilbert
Town Engineer
Hamburg Water District
Engineering Division
6100 S. Park Ave.
Hamburg, NY 14075

Dear Mr. Gilbert:

On September 3, 1987, you were contacted by Pamula Gunther of Ecology and Environment, Inc. (E & E) for the purpose of gathering information in support of a Phase 1 investigation for the New York State Department of Environmental Conservation (NYSDEC), see attached contact report.

Since the NYSDEC requires that all references for their reports be fully documented, I would like to request that you review the report and sign it to indicate you agree with its contents.

Please make any corrections or revisions necessary for accuracy and return a signed copy to me as soon as conveniently possible.

If you have any questions regarding the above, please contact me at (716) 684-8060, ext. 2250.

Thank you very much for your time and assistance.

Sincerely,

Dennis Sutton

Dennis Sutton

DS/wj/XA602
Att.

REFERENCE NO. 11

CONTACT REPORT

AGENCY	:	LACKAWANNA WATER DISTRICT, ENGINEERING DIVISION
ADDRESS	:	714 RIDGE RD., LACKAWANNA, NY 14218
PHONE NO.	:	827-6425
PERSON CONTACTED	:	ALLEN STRYCHARZ, SENIOR ENGINEERING AIDE
TO	:	F. MCKOSKY
FROM	:	P. GUNTHER
DATE	:	9/3/87
SUBJECT	:	LOCATION AND INFORMATION ON MUNICIPAL AND PRIVATE WELLS IN THE TOWN OF LACKAWANNA
XC	:	G. FLORENTINO, D. JOHNSON, ND-2000

Everyone in the city of Lackawanna utilizes municipal water. The water source is Lake Erie at Sturgen Pt. - 15 miles south of Lackawanna.

db

REFERENCE NO. 12

FINAL DRAFT

SITE INSPECTION REPORT
AND HAZARD RANKING SYSTEM MODEL
SNYDER TANK CORPORATION
HAMBURG, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8612-14
CONTRACT NO. 68-01-7346
(CONTINUATION OF CONTRACT 68-01-6699 AND TDD# 02-8603-25A)

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

OCTOBER 30, 1986

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY

STEPHEN E. MAYBURY
PROJECT MANAGER

REVIEWED/APPROVED BY

RONALD M. NAMAN
FIT OFFICE MANAGER

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

our 25th year

C-584-12-86-74

December 17, 1986

Ms. Diana Messina
U.S. Environmental Protection Agency
Region II
Edison, New Jersey 08817

Dear Diana:

Enclosed are the Site Inspection Report (EPA Form 2070-13) and the Hazard Ranking System (HRS) documents for Snyder Tank Corporation, Hamburg, New York. The site inspection was originally authorized under TDD #02-8603-25A and finished under TDD #02-8612-14.

Very truly yours,

Stephen E. Maybury

Reviewed and Approved:

SEM/ci

Enclosures

Contents

SECTION 1

SITE INSPECTION REPORT EXECUTIVE SUMMARY

NUS CORPORATION

A Halliburton Company

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Snyder Tank Corporation Site Name	NYD002114197 EPA Site ID Number
3773 Lake Shore Rd. Hamburg, New York Address	02-8612-14 TDD Number

SITE DESCRIPTION

The Snyder Tank Corporation is an active, ten acre industrial site located on Lake Shore and Hoover Roads on the eastern shore of Lake Erie in Erie County, New York. The plant manufactures steel and aluminum automobile fuel tanks. Since 1939, the plant has been owned successively by Snyder Tank Corporation, Snyder Manufacturing Company and Snyder Welding Service.

The area surrounding the plant is primarily industrial with some private residences to the southwest. Adjacent to the plant's western border is a 100 feet wide beach area, consisting of rock, sand, gravel, and debris.

The plant has a State Pollution Discharge Elimination System (SPDES) Permit for industrial wastewater discharge to the beach of Lake Erie which is presently used for cooling water and surface runoff disposal. This outfall consists of a pipe ending at the plant's fenceline where wastewater flows toward Lake Erie via an open ditch. Prior to being permitted in 1974, this discharge point was used for the disposal of acid pickling and spent phosphate wastes. A drainage pipe, which is allegedly used for surface runoff disposal, is located approximately 100 feet west of the permitted discharge pipe. Painting booth water curtain waste, and etch rinse are known to have been routinely discharged to the ground surface on-site.

Complaints by the Erie County Health Department (ECHD) in 1972 led to the discontinuation of pickling and phosphate waste discharge at the current permitted discharge point. Site inspections conducted between 1976 and 1979 by the ECHD noted a leaking tank, improperly drummed waste, and a rust colored stain on the beach area.

SEE ATTACHMENT A

HAZARD RANKING SCORE: S_M=17.06 (Sgw=28.65, Ssw=7.08, Sa=0.00)
S_{FE}=0.00, S_{DC}=37.50

Prepared by: Stephen Maybury Date: 10/30/86
of NUS Corporation

ATTACHMENT A

SITE DESCRIPTION

A site inspection was performed on July 9, 1986 by FIT II personnel. During that inspection six (6) soil and two (2) sediment samples were collected. Laboratory results of samples collected from the plant and beach area indicated the presence of a number of Hazardous Substance List (HSL) compounds.

Of the organic compounds detected, twenty-five (25) were found in soil samples collected from the plant's northwest border and nineteen (19) were found in soil/sediment samples collected from the beach area. A number of inorganic HSL constituents were detected at concentrations exceeding the normal ranges found in natural soils. Seven (7) were detected in soil samples collected on the plant's property and one (1) was detected in soil/sediment samples collected on the beach.

SECTION 2

ENVIRONMENTAL PROTECTION AGENCY FORM 2070-13

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Synder Tank Corporation	3773 Lake Shore Rd.				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST.
Hamburg	NY	14219	Erie	029	38

09 COORDINATES

LATITUDE	LONGITUDE
42° 46' 55" N	078° 51' 10" W

10 TYPE OF OWNERSHIP (Check one)

X 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	
7 / 9 / 86	X ACTIVE _ INACTIVE	Unknown / 1973	_ UNKNOWN
MONTH - DAY - YEAR		BEGINNING YEAR / ENDING YEAR	

AGENCY PERFORMING INSPECTION (Check all that apply)

_ A. EPA X B. EPA CONTRACTOR NUS Corporation (Name of firm) _ C. MUNICIPAL _ D. MUNICIPAL CONTRACTOR _____ (Name of firm)

_ E. STATE _ F. STATE CONTRACTOR _____ (Name of firm) _ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Stephen E. Maybury	Environmental Scientist	NUS Corp.	(201) 225-6160
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
David Grupp	Biologist	NUS Corp.	(201) 225-6160
Dennis Sutton	Geologist	NUS Corp.	(201) 225-6160
Scott Engle	Environmental Scientist	NUS Corp.	(201) 225-6160
Frank Lawson	Field Technician	NUS Corp.	(201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
J. Snyder	Vice-President Snyder Tank Corp.	3773 Lake Shore Rd. Hamburg, NY	(716) 827-5353

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION _ WARRANT	0805 - 1455	Morning - Cloudy humid, wind from the east air temperature approximatley 70°F. Afternoon - Wind is out of the north, partly sunny, air temperature low 80°F range.

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Diana Messina	U.S. EPA, Edison, NJ	(201) 321-6685

PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Stephen E. Maybury		U.S. EPA NUS Corp.	(201) 225-6160	10 /30 /86
				MONTH - DAY YEAR

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ___ A. SOLID
- ___ B. POWDER, FINES
- X C. SLUDGE
- ___ D. OTHER (Specify)
- X E. SLURRY
- ___ F. LIQUID
- ___ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS ___
CUBIC YARDS ___
NO. OF DRUMS 1960

03 WASTE CHARACTERISTICS (Check all that apply)

- ___ A. TOXIC
- X B. CORROSIVE
- ___ C. RADIOACTIVE
- ___ D. PERSISTENT
- X 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	1960	Drums/Year	Pickling waste discharged to beach.
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			A leaking tank was observed onsite by the Erie County Health Department.
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	Unknown		A constituent of the pickling waste.
BAS	BASES			
MES	HEAVY METALS			

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

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
ACD	Sulfuric Acid (Pickling Waste)	7664-9-37	Prior to 1973 discharged to beach, presently hauled off-site.		Unknown
OCC	Carbon Disulfide	75-15-0	Unknown	0.6J - 0.8J	ug/kg
OCC	1,1 Dichloroethene	75-35-4	Unknown	42-5	ug/kg
OCC	1,1,1 Trichloroethane	71-55-6	Unknown	1.4J - 39.4	ug/kg
OCC	Toluene	108-88-3	Unknown	3672.6	ug/kg
OCC	Total Xylene	100-42-5	Unknown	8051.1	ug/kg
OCC	Naphthalene	91-20-3	Unknown	21.7J-248J	ug/kg
OCC	2-Methylnaphthalene	91-57-6	Unknown	15.7J-87845.8	ug/kg
OCC	Acenaphthylene	208-96-8	Unknown	25.2J-29.4J	ug/kg
OCC	Acenaphthene	83-32-9	Unknown	28.4J-15165.3J (560.6)	ug/kg
OCC	Dibenzofuran	132-64-9	Unknown	21.5J-3385.5J (361.8)	ug/kg
OCC	Diethylphthalate	84-66-2	Unknown	18.1J-51.1J	ug/kg
OCC	Fluorene	86-73-7	Unknown	50.5J-33616.9J (698.8)	ug/kg
OCC	Phenanthrene	85-01-8	Unknown	31.4J-82730.1	ug/kg
OCC	Anthracene	120-12-7	Unknown	15.7-89103.6	ug/kg
OCC	Di-n-Butylphthalate	84-74-2	Unknown	15.6J-59.2J	ug/kg
OCC	Fluoranthene	206-44-0	Unknown	57.5J-9698.8J (8200.6)	ug/kg
OCC	Pyrene	129-00-0	Unknown	43.5J-13445.8J (5280.4)	ug/kg
OCC	Butylbenzylphthalate	85-68-7	Unknown	4438.6J	ug/kg
OCC	Benzo(a) Anthracene	56-55-3	Unknown	49.1J - 3215.1	ug/kg
OCC	Bis(2-Ethylhexyl) Phthalate	117-81-7	Unknown	87.0J - 96057.8	ug/kg
OCC	Chrysene	218-01-9	Unknown	229.3J - 3144.9	ug/kg
OCC	Benzo(b) Fluoranthene	205-99-2	Unknown	55.6J-2421.1	ug/kg
OCC	Benzo(k) Fluroanethene	207-08-9	Unknown	75.7J-3019.4	ug/kg
OCC	Benzo(a) Pyrene	50-32-8	Unknown	51.4J-2723.7	ug/kg
OCC	Ideno (1,2,3-cd) Pyrene	193-89-5	Unknown	394.1-1887.7	ug/kg
OCC	Dibenzo (a,h) Anthracene	53-70-3	Unknown	98.5J-278.2J (761.4)	ug/kg
OCC	Benzo(ghi) Perylene	191-24-2	Unknown	415.1-1818.8	ug/kg

SEE ATTACHMENT B

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Toluene	108883	FDS	Sulfuric Acid	7664937
FDS	Oils	999	FDS	Phosphoric Acid	7664382
FDS	Naphtha	8030305	FDS	Aluminum	7429905
FDS	Ketone	999	FDS	Paints	999

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

NY State Hazardous Waste Survey, NYDEC, 1/20/79
NUS Field Notebook #1669, 7/9/86, Re: Interview On-site.
Telecon between Richard Seaman of NYDEC and Stephen Maybury of NUS Corp. 7/29/86. Re: NPDES Permit.

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
MES	Cadmium	7440-4-39	Unknown	2*	mg/kg
MES	Copper	7440-5-08	Unknown	1030	mg/kg
MES	Lead	7439-9-21	Unknown	678	mg/kg
MES	Manganese	7439-9-65	Unknown	4770-10400	mg/kg
MES	Selenium	7782-24-92	Unknown	3.1	mg/kg
MES	Tin	7440-03-15	Unknown	21.J-37J	mg/kg
MES	Zinc	7440-66-6	Unknown	351-1010	mg/kg

*Values with a J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J)

*Bracketed Values( ) - The highest confirmed value

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 80 — 04 NARRATIVE DESCRIPTION

There is potential of contaminated soil on the beach or plant contaminating groundwater. Wastewater and drainage discharged to the beach was observed sinking into the beach before reaching Lake Erie. There are some private wells in the Town of Hamburg used for drinking. The majority of the population is on municipal water from Lake Erie.

01. X B. SURFACE WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

There is potential. Lake Erie is approximately 100 feet from the plant. The practice of pickling waste discharge to the beach was stopped prior to 1973. Wastewater and runoff from the plant are discharged to the beach area. The site of the former pickling waste discharge is currently a permitted SPDES discharge. Contaminants in soil on the plant or beach area could migrate to Lake Erie by surface runoff or through possible groundwater discharge to the lake. Lake Erie is not used for drinking within three miles of the site.

01 X C. CONTAMINATION OF AIR — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2279 — 04 NARRATIVE DESCRIPTION

There is potential. Although no observed release was recorded, air readings on the HNu above background were recorded within 3 feet of the SPDES discharge pipes outfall on the beach at Lake Erie. The beach area is used for recreation.

01 _ D. FIRE/EXPLOSIVE CONDITIONS — 02 _ OBSERVED (DATE: _____) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

There is no potential. There were no hazardous conditions noted during the FIT site inspection on 7/9/86.

_ X E. DIRECT CONTACT — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
POPULATION POTENTIALLY AFFECTED: 2279 — 04 NARRATIVE DESCRIPTION

There is potential for contact with soils and wastewater on the beach. The plant site is fenced but the beach area is open to the public and is used for recreation.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 7/9/86) — _ POTENTIAL — _ ALLEGED
03 AREA POTENTIALLY AFFECTED: 10 (ACRES) — 04 NARRATIVE DESCRIPTION

Soil samples collected on the plants northern most border were found to contain seven (7) metals above normal background levels ranging from dection limit values to 10,400 mg/kg and twenty five organic chemicals ranging from detection limit values to 96,057.8 ug/kg. Soil and sediment from a drain pipe on the beach was found to contain tin above normal background and nineteen (19) organic chemicals ranging from detection limit values to 5058.4 ug/kg. The beach area is mostly coarse sand and gravel. No staining was observed on the beach. A black tar like stain was observed in the southwest corner of the plant. Analytical results of the tar-like substance indicated five (5) inorganics and eleven (11) organics HSL compounds above normal background.

01 X G. DRINKING WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 80 — 04 NARRATIVE DESCRIPTION

There is potential due to the possibility of private wells within three miles of the site. There are homes in the Town of Hamburg which have been reported not to have access to municipal water. It is most likely that groundwater movement is toward Lake Erie and therefore away from private wells in the area. Lake Erie is not used for drinking water within three miles of the site.

01 X H. WORKER EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 150 - 200 — 04 NARRATIVE DESCRIPTION

There is potential due to contact with contaminated soil, or contaminated air near the discharge pipe.

01 X I. POPULATION EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2279 — 04 NARRATIVE DESCRIPTION

There is potential due to possible air contamination around the outfall pipe or contact with contaminated soil. Lake Erie and the beach are used for recreation. There is potential due to groundwater contamination. Groundwater is used by private residences within three miles of the site.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

There is minimal potential. The area is primarily industrial. There is no vegetation on the beach area. Aquatic flora could be affected by contaminants migrating to nearby Lake Erie by possible groundwater or surface runoff to the lake. There are no endangered species in the area.

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

There is minimal potential due to the nature of the area surrounding the site. Aquatic fauna could be affected by contaminants migrating to Lake Erie. There are no endangered species in the area.

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

There is potential. Contaminants on the site could migrate to Lake Erie via surface runoff or groundwater discharge. A fisherman was observed during the FIT II site inspection of 7/9/86.

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 X OBSERVED (DATE: 5/76) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2279
04 NARRATIVE DESCRIPTION

The site of the former pickling waste discharge, which is the current SPDES discharge point is on the beach area located approximately 100 feet from the water line of Lake Erie. Leaking tanks were noted during a 5/76 inspection by the Erie County Health Department and again in a 9/79 memorandum noted an estimated 20 drums of improperly drummed waste on the plant. A black tar like stained area was sampled during the FIT II site inspection on 7/9/86 and found to contain eleven (11) organic chemicals and five (5) metals above normal background.

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

A sediment sample collected from a drain pipe flowing from the plant property to the beach was found to contain seventeen (17) organic chemicals and one metal above normal background.

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

There is potential. Storm water either flows to Lake Shore Road or overland toward Lake Erie. Some storm water is reported to be discharged through the SPDES wastewater discharge pipe and the other drain pipe located to the west of permitted discharge.

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 X OBSERVED (DATE: 7/9/86) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

A black tar like stained area was observed in the southeast corner of the plant during the FIT II site inspection.

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

There is underground toluene, gasoline and waste oil tanks on the plant property. At one time diesel fuel and naptha tanks existed but have since been removed.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 2279

IV. COMMENTS

On December 2, 1985 Lake Erie flooded the Snyder Tank Property approximately up to the buildings. The entire beach area had been regraded as evidenced by bulldozer tracks noted by FIT II personnel during the 7/9/86 site inspection. The site of former pickling waste discharge on the beach is currently a permitted SPDES discharge. Painting booth curtain and etching rinse waste water is known to have been discharged to the ground surface between the plant and the beach area.

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

NUS Field Notebook #1669, 7/9/86.
Telecon between Jack Gilbert of the Town of Hamburg and Stephen Maybury of NUS Corp., 7/28/86, Re: Groundwater Use.
Telecon between T.J. Snyder of Snyder Tank Corp. and Stephen Maybury of NUS Corp., 6/30/86, Re: Future site inspection.
Memorandum from Erie County to J. Tygert of NYDEC, 9/27/86. Re: Transmittal of Inspection Report and notation of improperly drummed waste.

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				
X G. STATE (Specify) SPDES	NYD0073636			A NYDEC Inspection on 3/21/86 found the facility not in compliance with its discharge standard for 1,1,1 trichloroethane.
_ 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 Pickling		
X I. OTHER Wastewater Discharge (Specify)	98,000	Gallon/year

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

05 OTHER
- X A. BUILDINGS ON SITE — 6
- 06 AREA OF SITE — 10.0 (Acres)

07 COMMENTS

There are underground tanks for waste oil, gasoline, and toluene on-site which hold approximatlely 3000 gallons. Most of the plant is located on the north side of Hoover Rd, however there is a large plant building on the south side of Hoover Road which is mostly surrounded by pavement. Four 55 gallon drums of allegedly non-hazardous cleaners were observed in the northwest corner of the plant building located near Lake Erie.

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.

Drums were observed on the plant site during the FIT II off-site reconnaissance on 4/10/86. These same drums were not on-site during the 7/9/86 site inspection. A leaking tank was noted during a 1976 inspection by the Erie County Health Department. A black tar like stain in the soil was noted by FIT II personnel and is located in the northwest corner of the plant. There is no containment for contaminated soil found on the plant and beach area.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES _ NO

02 COMMENTS

The beach area is open to the public. FIT II personnel noted fishermen on the beach. The plant area is fenced.

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

NUS Logbook #1559, 7/9/86.
Telecon between T.J. Snyder of Snyder Tank Corporation and Stephen Maybury of NUS Corp., 8/8/86, Re: Miscellaneous Plant Information.
gineering Report on Industrial Waste Control at Snyder Tank Corporation, Hamburg, New York by Nussbauner & Clarke, Inc. anuary, 1975.

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL	02 STATUS ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. X	B.	A. _	B. _	C. X	A. > 3 (mi)
NON-COMMUNITY	C. _	D. X	D. _	E. _	F. _	B. 0.85 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

_ A. ONLY SOURCE FOR DRINKING (Other sources available) X B. DRINKING (Limited other sources available) _ C. COMMERCIAL, INDUSTRIAL, IRRIGATION _ D. NOT USED, UNUSEABLE

COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)

02 POPULATION SERVED BY GROUND WATER: 80 03 DISTANCE TO NEAREST DRINKING WATER WELL: 0.85 (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
2.5 (ft)	Unknown	2.5 (ft)	10^4 (gpd)	_ YES X NO

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

There are homes in the Town of Hamburg that do not have access to public water and therefore are assumed groundwater users. The closest known private well is 0.85 miles from the site and is owned by C. Rados.

10 RECHARGE AREA

X YES
_ NO

COMMENTS

11. DISCHARGE AREA

YES
X NO

COMMENTS

SURFACE WATER

SURFACE WATER USE (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
Lake Erie		0.02 (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. 2279 NO. OF PERSONS	B. 14,894 NO. OF PERSONS	C. 41,019 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: < 0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 5294

04 DISTANCE TO NEAREST OFF-SITE BUILDING: < 0.1

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)

Area of the site is primarily industrial. There are residences located adjacent to the plant to the west. A Ford Motor Operation Plant and a wastewater treatment plant are located nearby.

V. 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 X D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (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)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
4 (ft)	6 (assumed) (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 (in)	1.5 %	Northwest	5.5 %

09 FLOOD POTENTIAL 10

SITE IS IN 100 YEAR FLOODPLAIN _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. >2 (mi)	B. >1 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>1 (mi)

ENDANGERED SPECIES: N/A

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS: NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS	
		PRIME AG LAND	AG LAND
A. <0.1 (mi)	B. Residential <0.1 other >3 (mi)	C. >2 (mi)	D. >2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The area of the site is a relatively flat area along Lake Erie. The plant site generally slopes toward the lake. There is a drop of approximately 3 feet between the plant and the beach area. The beach is approximately 100 ft. wide and consists of sand, gravel and rock.

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

Erie - Niagara Basin Groundwater Resources, LaSala, 1968.
Significant Habitat Map, NYDEC, Buffalo Quad. Topographic Map for Buffalo S.E.
Master Area Reference File (MARF) of 1980 Census. General Software Corporation, Landover, MD 6/25/84.
Partial Survey for Snyder Tank Corporation, 1/7/75. Re: Empire Soils Investigations.

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER		Organic Samples sent to:	
WASTE		Pacific Analytical 1989-B Palomar Oaks Way Carlstadt, CA 92008	
AIR			
RUNOFF			
SPILL		Inorganics Samples sent to:	
SOIL	6	Accu-Labs 11485 W. 48th Avenue Wheat Ridge, CO 80033	10/9/86
VEGETATION			
OTHER	Sediment 2		10/9/86

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Air Monitoring	Air monitoring was conducted on-site using an OVA and HNu. Readings above background were obtained in the immediate area around the SPDES permitted discharge pipe on the beach area of Lake Erie. No observed releases were recorded on-site.

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND _ AERIAL 02 IN CUSTODY OF NUS Corporation
(Name of organization or individual)

03. MAPS 04 LOCATION OF MAPS

X YES
_ NO

Site and Sampling Maps, NUS Corporation FIT II Project Files

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Field Notebook with Photolog, Filed under TDD #02-8603-25A; written and photographic documentation of all field activities.

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

NUS Logbook #1669, 7/9/86.
Snyder Tank Sampling Trip Report, 7/14/86.

I. IDENTIFICATION
01 STATE NY 02 SITE NUMBER 0002114197

CURRENT OWNER(S)

NAME	02 D + B NUMBER	08 NAME (PARENT COMPANY (If applicable))	09 D + B NUMBER
vder Tank Corporation			

STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
73 Lake Shore Rd.	3714		

CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
nburg	NY	14219			

NAME | 02 D + B NUMBER | 08 NAME | 09 D + B NUMBER
STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 10 STREET ADDRESS (P.O. Box, RFD#, etc.) | 11 SIC CODE
CITY | 06 STATE | 07 ZIP CODE | 12 CITY | 13 STATE | 14 ZIP CODE

NAME | 02 D + B NUMBER | 08 NAME | 09 D + B NUMBER
STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 10 STREET ADDRESS (P.O. Box, RFD#, etc.) | 11 SIC CODE
CITY | 06 STATE | 07 ZIP CODE | 12 CITY | 13 STATE | 14 ZIP CODE

NAME | 02 D + B NUMBER | 08 NAME | 09 D + B NUMBER
STREET ADDRESS (P.O. Box, RFD#, etc.) | 04 SIC CODE | 10 STREET ADDRESS (P.O. Box, RFD#, etc.) | 11 SIC CODE
CITY | 06 STATE | 07 ZIP CODE | 12 CITY | 13 STATE | 14 ZIP CODE

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

NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
yder Manufacturing Company			
STREET ADDRESS (P.O. Box, RFD#, etc.)	**04 SIC CODE**	**03 STREET ADDRESS (P.O. Box, RFD#, etc.)**	**04 SIC CODE**
73 Lake Shore Rd.			

CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
nburg	NY	14219			

NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
yder Welding Service			
STREET ADDRESS (P.O. Box, RFD#, etc.)	**04 SIC CODE**	**03 STREET ADDRESS (P.O. Box, RFD#, etc.)**	**04 SIC CODE**
73 Lake Shore Rd.			

CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
nburg	NY	14219			

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

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

te Hazardous Waste Survey, NYDEC, 1/20/77.

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	0002114197

II. CURRENT OPERATOR(S)

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			

OPERATOR'S PARENT COMPANY (If applicable)

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

PREVIOUS OPERATOR'S 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			
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			
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			

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

NY State Hazardous Waste Survey, NYDEC, 1/20/77.

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY 0002114197

II ON-SITE GENERATOR

01 NAME	02 D + B NUMBER
Snyder Tank Corporation	
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
3773 Lake Shore Road	3714
05 CITY	06 STATE / 07 ZIP CODE
Hamburg	NY 14219

III OFF-SITE GENERATOR(S)

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

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

IV. TRANSPORTER(S)

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

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

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

New York State Hazardous Waste Survey 1/20/77, NYDEC Division of Solid Waste Management.

II. PAST RESPONSE ACTIVITIES

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

No Past History.

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

NUS Field Notebook #1659, 7/9/86.

PAST RESPONSE ACTIVITIES

R. BARRIER WALLS CONSTRUCTED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
S. CAPPING/COVERING — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
T. BULK TANKAGE REPAIRED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
U. GROUT CURTAIN CONSTRUCTED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
V. BOTTOM SEALED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
W. GAS CONTROL — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
X. FIRE CONTROL — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
Y. LEACHATE TREATMENT — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
Z. AREA EVACUATED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
1. ACCESS TO SITE RESTRICTED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
2. POPULATION RELOCATED — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.
3. OTHER REMEDIAL ACTIVITIES — 02 DATE: _____ — 03 AGENCY: _____
DESCRIPTION

Past History.

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

S Field Notebook #1669, 7/9 16.

The Following Image(s) are the Best Copy Available

BIEL'S

ENFORCEMENT INFORMATION

AST REGULATORY/ENFORCEMENT ACTION X YES NO

DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

e County Health Officials cited the Snyder Tank Corporation for discharge of industrial wastes to the beach of Lake Erie in 1. This resulted in the wastes being hauled off-site instead of being discharged to the beach area.

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

yder Tank Report by Erie County Dept. of Environmental Planning, January, 1984.

SECTION 3

MAPS AND PHOTOGRAPHS

MAPS AND PHOTOGRAPHS

SNYDER TANK CORPORATION
HAMBURG, NEW YORK
TDD# 02-8603-25A

Figure 1 provides a Site Location Map

Figure 2 provides a Site Map

Figure 3 provides a Sample Location Map

Exhibit 1 provides photographs of the site

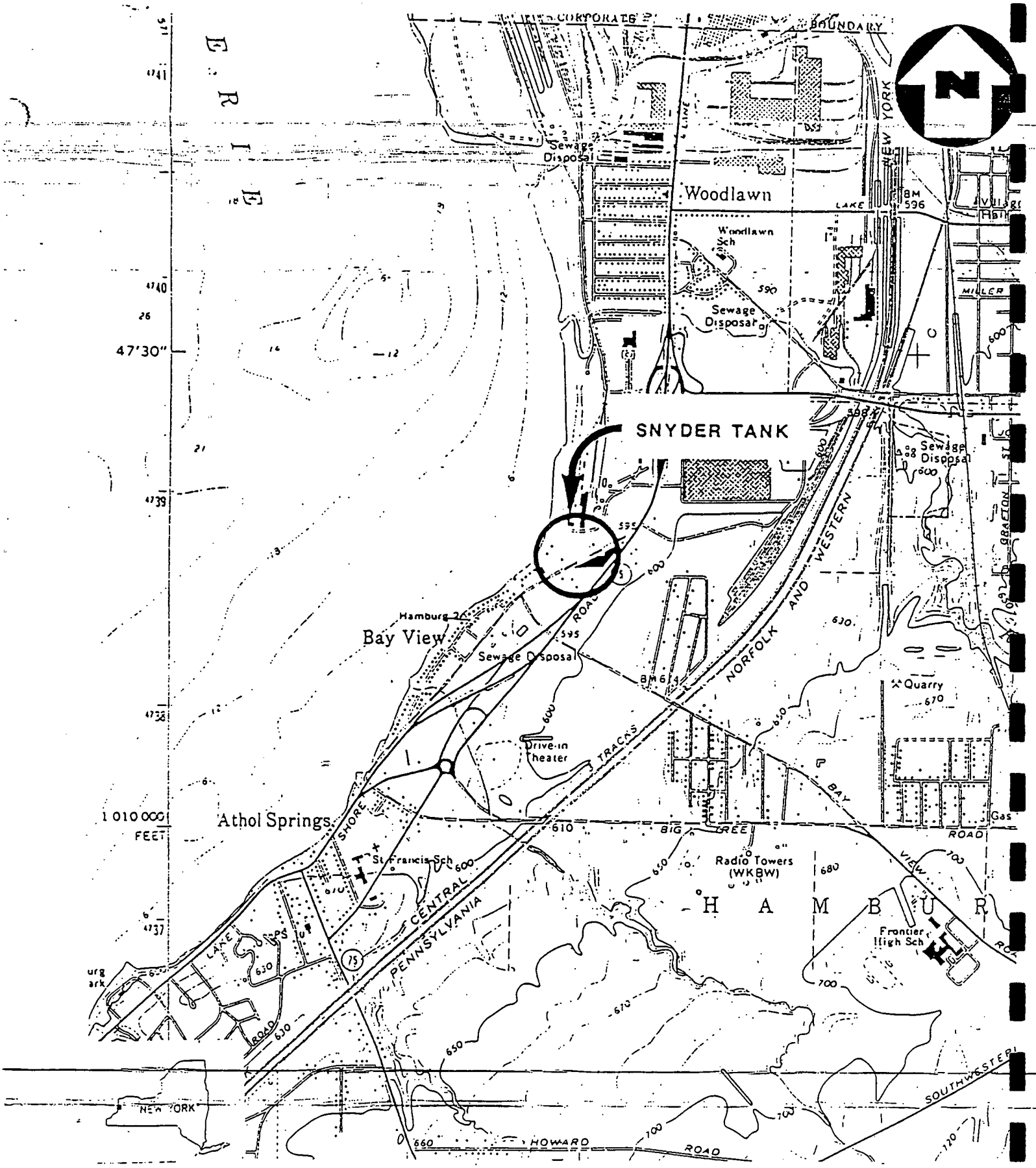


FIGURE 1

SITE LOCATION MAP

SNYDER TANK, HAMBURG, N.Y.

SCALE: 1"=2000'

NUS CORPORATION

A Halliburton Company

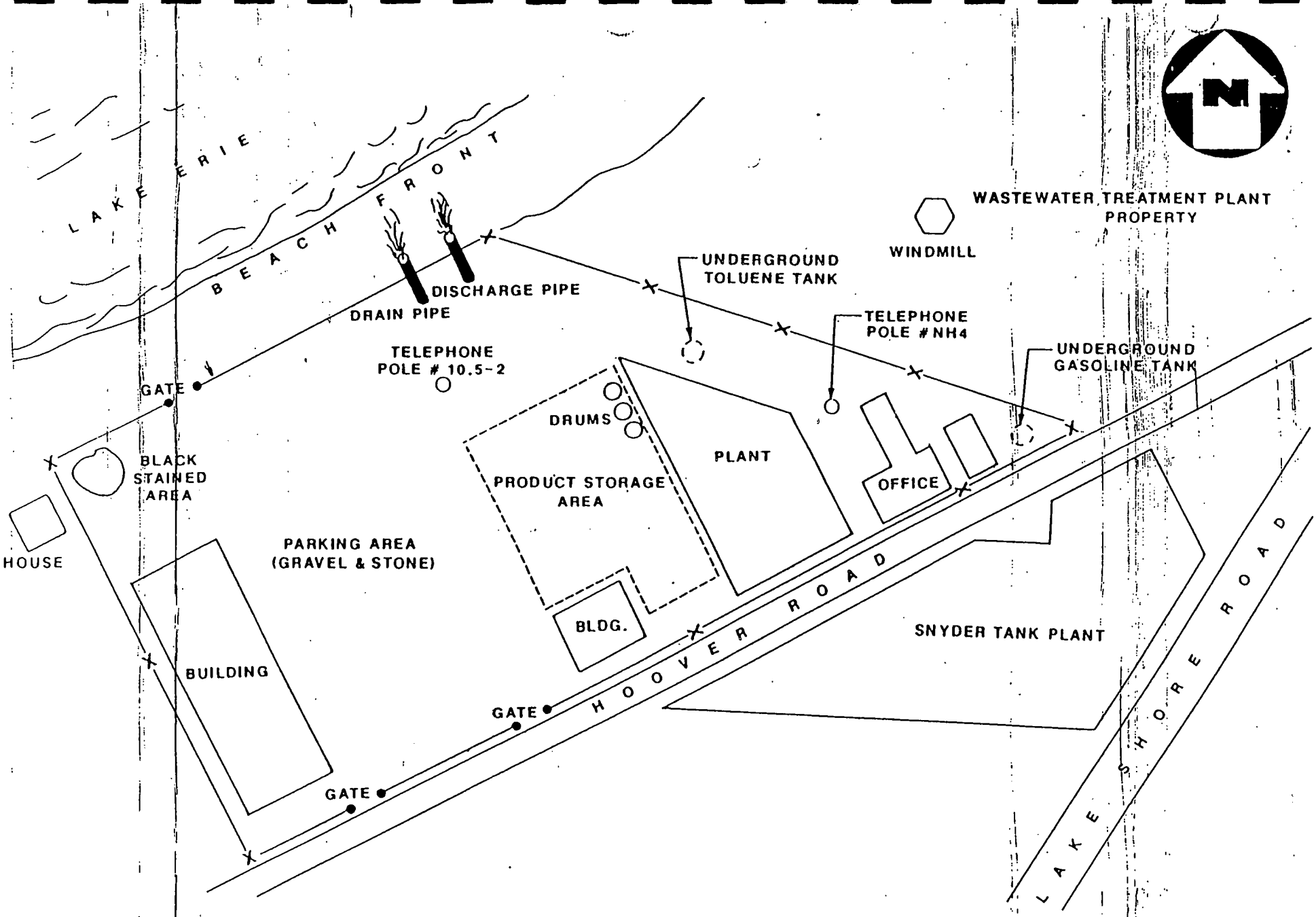


FIGURE 2

SITE MAP

SNYDER TANK, HAMBURG, N.Y.

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company

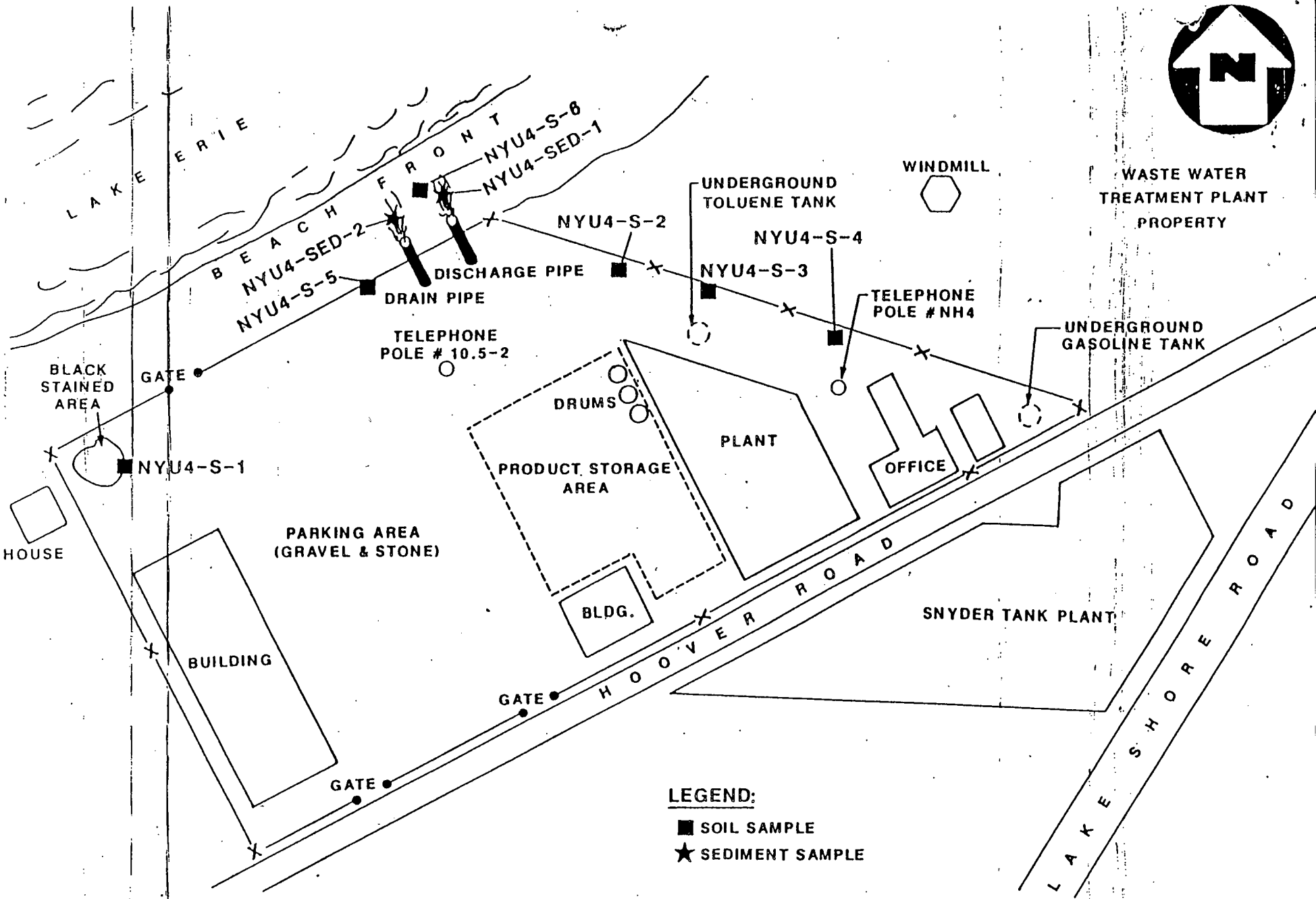


FIGURE 3

SAMPLE LOCATION MAP

SNYDER TANK, HAMBURG, N.Y.

(NOT TO SCALE)

NUS CORPORATION

A Halliburton Company

EXHIBIT 1

SNYDER TANK CORPORATION
TOWN OF HAMBURG, NEW YORK
TDD# 02-8603-25A
JULY 9, 1986

PHOTOGRAPH INDEX

SNYDER TANK CORPORATION
TOWN OF HAMBURG, NEW YORK
TDD# 02-8603-25A
JULY 9, 1986

PHOTOGRAPH INDEX

Photo Number	Description	Time
1.	Looking east at sampler Scott Engle collecting sample NYU4-SED1 from below the plants outfall pipe located on the beach area. Ref: 1P1. Photographer: Frank Lawson.	1036
2.	Looking east at sampler Frank Lawson collecting sample NYU4-SED2 from drainage pipe located on the beach. Ref: 1P3. Photographer: Steve Maybury.	1046
3.	Sampler Scott Engle collecting sample NYU4-S1 in the northwest corner of the plant near black stained area. Ref: 1P5. Photographer: Steve Maybury.	1116
4.	Sampler Frank Lawson collecting sample NYU4-S2 at the northeast fence line just north of the west corner of the plant building. Ref: 1P7. Photographer: Steve Maybury.	1200
5.	Sampler Frank Lawson collecting sample NYU4-S3 at the northeast fence line upgradient of sample NYU4-S2. Ref: 1P9. Photographer: Steve Maybury.	1215
6.	Sampler Frank Lawson collecting sample NYU4-S4 at the northeastern fence line north of the plant office parking area. Ref: 1P11. Photographer: Steve Maybury.	1230
7.	Sampler Frank Lawson collecting sample NYU4-S5 at north fence line, just above the beach area. The beach and Lake Erie are in the background. Ref: 1P13. Photographer: Steve Maybury.	1303
8.	Looking northeast at sampler Frank Lawson collecting sample NYU4-S6 on the beach area. Ref: 1P15. Photographer: Steve Maybury.	1335

SNYDER TANK CORPORATION
TOWN OF HAMBURG, NEW YORK
TDD# 02-8603-25A
JULY 9, 1986

PHOTOGRAPH INDEX

Photo Number	Description	Time
9.	Looking east at the beach area with Snyder Tank property and an off-site windmill in the background. Ref: 1P18. Photographer: Steve Maybury.	1340
10.	The gravel area at the northwest corner of Snyder Tank property. A house is located just behind the trees in the background. Ref: 1P20. Photographer: Steve Maybury.	1343
11.	Looking northeast at the corner of the Snyder Tank building and drums located on the north side of Hoover Road. Ref: 1P21. Photographer: Steve Maybury.	1350
12.	Looking east at plant buildings on the north side of Hoover Road. Ref: 2P1. Photographer: Steve Maybury.	1420
13.	The house located along the western border of the plant property. Ref: 2P3. Photographer: Steve Maybury.	1430
14.	Looking north at the plant gravel parking area located above the beach area at Lake Erie. Ref: 2P4. Photographer: Steve Maybury.	1435
15.	Looking south at the plant buildings located on the south side of Hoover Road. Ref: 2P5. Photographer: Steve Maybury.	1440
16.	Looking north along the northeast fence line between Snyder Tank property and the adjacent wastewater treatment plant to the east. Ref: 2P7. Photographer: Steve Maybury.	1447
17.	Looking west down Hoover Road at Snyder Tank Corporation property on both sides of Hoover Road. Ref: 2P9. Photographer: Steve Maybury.	1455

SECTION 4

DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

Facility name: Snyder Tank Corporation

Location: Hamburg, New York

EPA Region: II

Persons(s) in charge of the facility: Snyder Tank Corporation

Name of Reviewer: Stephen E. Maybury Date: 10/30/86

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

The Snyder Tank Corporation occupies a ten acre industrial site located on Lake Shore and Hoover Roads on the eastern shore of Lake Erie in Erie County, New York. The area is primarily industrial with private residences to the west. The plant manufactures steel and aluminum automobile fuel tanks.

The plant is known to have discharged its acid pickling and phosphate waste onto the beach of Lake Erie, with most of the waste flowing down the beach into the lake. An industrial discharge permit was issued by the New York Department of Environmental Conservation in 1974 for the discharge to the beach. The discharge to the beach is presently used for cooling water and surface runoff disposal. Painting booth water curtain waste and etch rinse are known to have been discharged to the ground surface on-site.

The primary concern is migration of contaminants found in soil on the plant and beach to nearby Lake Erie and groundwater. There is also a possibility of direct contact with contaminants in soil on the beach. Groundwater is believed to be used by fewer than 100 people in the area. Municipal water supplies the majority of the population but there are instances where municipal water is not available to residents. The probable direction of groundwater flow is toward Lake Erie. Lake Erie, which is used for recreational purposes, is downslope of the outfall pipe, approximately 100 feet.

Score: $S_M = 17.06$ ($S_{gw} = 28.65$ $S_{sw} = 7.08$ $S_a = 0.00$)

$S_{FE} = 0.00$

$S_{DC} = 37.50$

HRS COVER SHEET

FIT QUALITY ASSURANCE TEAM

DOCUMENTATION RECORDS

FOR

HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: Snyder Tank Corporation

LOCATION: Hamburg, New York

DATE SCORED: October 28, 1986

PERSON SCORING: Stephen Maybury

PRIMARY SOURCE(S) OF INFORMATION (e.g., EPA region, state, FIT, etc.):
FIT II files.
FIT II library.
Contract Laboratory Results.
NYDEC

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:
None.

COMMENTS OR QUALIFICATIONS:
The air route scored zero. An OVA and HNu used during the 7/9/86 FIT II site inspection did not indicate an observed release. The fire and explosion route was also scored zero. Observations during the FIT II site inspection revealed no threat of fire or explosion.

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

An observed release to groundwater was not recorded during the FIT II site inspection on 7/9/86. Groundwater samples were not collected.

Ref: #7

Rationale for attributing the contaminants to the facility:

Not applicable.

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

The aquifer of concern is the bedrock shale which consists of the Ludlowville, Moscow, Marcellus, and Skaneateles formations. A thin layer of glacial till and clay covers the shale in the lake plain area. Water is available in these formations in the fractured zone which may lie at the top of the bedrock, or, if fractures are absent, in the joints deeper in the shale. Yields of wells from these units are generally low but are capable of supplying private residential supplies.

Ref: #1

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

Water was encountered at 2.5 feet in a boring located on the Snyder Tank Property.

Ref: #10

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

Waste was discharged on the surface of the beach. A six foot depth may be assumed according to MITRE Corporation documentation.

Ref: #5, #3

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):
36 inches.
Ref: #3

Mean annual lake or seasonal evaporation (list months for seasonal):
27 inches.
Ref: #3

Net precipitation (subtract the above figures):
9 inches.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:
The beach area consists of sand, gravel and rock. Above the beach, on the plant is a fine silt with a trace sand and gravel.
Ref: #7, #10

Permeability associated with soil type:
The permeability associated with the beach is greater than 10^{-3} cm/sec. Wastewater presently disposed of on the beach area was noted by FIT II as sinking into the beach prior to reaching Lake Erie.
Ref: #3, #7

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):
Liquid pickling waste was disposed of on the beach area. Liquid from a tank on-site is also alleged to have leaked into Lake Erie.
Ref: #5, #11

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Liquid pickling waste was discharged to the beach approximately 100 feet from Lake Erie. There was no liner or containment system in the area of the discharge.

Ref: #7, #11, #20

Method with highest score:

Waste was discharged to the beach with no liner or containment system.

Ref: #7, #20

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene were detected in soil on the plant and on the beach area.

Ref: #24

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene score an 18.

Ref: #24

Hazardous Waste Quantity

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

Prior to becoming a SPDES permitted discharge, 98,000 gallons/year of pickling waste is reported to have been discharged to the beach.

Ref: #4, #5, #11

Basis of estimating and/or computing waste quantity:

The quantity of waste and the time period that waste was discharged is unknown. A conservative estimate of 98,000 gallons is used based on the yearly discharge volume.

$$\frac{98{,}000 \text{ gallons}}{50 \text{ gallons/drum}} = 1{,}960 \text{ drums}$$

Ref: #5

5 TARGETS

Groundwater Use

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

Groundwater is used for domestic use by private well owners within 3 miles of the site. The only documented well currently used is 0.85 miles from the site. There are no other uses of groundwater within 3 miles of the site.

Ref: #12, #14, #18, #25

Distance to Nearest Well

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

The nearest occupied building not served by public water supply is 0.85 miles from the site on Mile Strip Road, Hamburg.

Ref: #13

Distance to above well or building:

0.85 miles.

Ref: #13

Population Served by Groundwater Wells Within a 3-Mile Radius

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

There are less than 100 people within 3 miles of the site that do not have access to public drinking water and therefore assumed to use groundwater. One well is documented as completed in the aquifer of concern.

21 houses x 3.8 people/house = 79.8

Ref: #12, #13, #14, #22, #23

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

There are no irrigation wells within 3 miles of the site.

Ref: #19

Total population served by groundwater within a 3-mile radius:

80 people.

Ref: #13

1 OBSERVED RELEASE

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

Fluoranthene, pyrene, benzo(a)anthracene, chrysene and benzo(b)fluoranthene were detected in soil that was flooded by Lake Erie.

Ref: #24

Rationale for attributing the contaminants to the facility:

An observed release to surface water was recorded during the FIT II site inspection on 7/9/86. On December 2, 1985, Lake Erie is reported to have flooded the area where contaminated soil was found on-site.

Ref: #7

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

The average facility slope is 1.5%.

$$\frac{580 \text{ feet} - 595 \text{ feet}}{1000 \text{ feet}} = 1.5\%$$

Ref: #6

Name/description of nearest downslope surface water:

The nearest downslope surface water is Lake Erie.

Ref: #6

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

The slope of the beach between the plant and Lake Erie is 5.5%.

$$\frac{82.49 \text{ feet elevation} - 76.94 \text{ feet elevation}}{100 \text{ feet}} = 5.5\%$$

Ref: #10

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

The site is presently not in surface water. The area where contaminated soil was found during the 7/9/86 FIT II Site Inspection is reported to have been flooded in December of 1985.

Ref: #6

Is the facility completely surrounded by areas of higher elevation?

The facility is not surrounded by areas of higher elevation. The site slopes toward Lake Erie.

Ref: #6

1-Year 24-Hour Rainfall in Inches

2 inches.

Ref: #3

Distance to Nearest Downslope Surface Water

Lake Erie is approximately 100 feet away from the Snyder Tank Corporation property.

Ref: #6, #20

Physical State of Waste

The waste discharged to the beach was a liquid.

Ref: #5

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Waste was discharged to the ground surface with no containment. Waste flowed down the beach directly into Lake Erie.

Ref: #5

Method with highest score:

There was no containment of waste. Waste was discharged to the beach with the intent of surface water disposal.

Ref: #5

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene were detected in soil on the plant and on the beach area.

Ref: #24

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene score an 18.

Ref: #24

Hazardous Waste Quantity

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

Prior to becoming a SPDES permitted discharge, 98,000 gallons/year of pickling waste is reported to have been discharged to the beach.

Ref: #5

Basis of estimating and/or computing waste quantity:

98,000 gallons/year = 1,960 drums
50 gallons/drum

Ref: #5

* * *

5 TARGETS

Surface Water Use

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

Lake Erie is used for recreational purposes. There is no drinking water uses of Lake Erie within 1 mile of the site. Lake Erie is considered a static water body, therefore 1 mile criteria is used.

Ref: #7, #8

Is there tidal influence?

There is no tidal influence.

Ref: #6

Distance to a Sensitive Environment

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

There are no coastal wetlands in the region.

Ref: #6

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

There are no wetlands within 1 mile of the site.

Ref: #6

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

There are no critical habitats of endangered species or national wildlife refuges within 1 mile of the site.

Ref: #8, #9

Population Served by Surface Water

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

There are no intakes for public water supplies within 1 mile of the site in Lake Erie. The closest intake is the Wanakah Water Company located over three miles away.

Ref: #18

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

There are no irrigational uses of Lake Erie within 1 mile of the site. The area of the site is primarily industrial with no nearby farm land.

Ref: #18, #19

Total population served:

Zero.

Name/description of nearest of above water bodies:

Lake Erie is the nearest water body which is located 0.02 miles downslope of the site.

Ref: #6

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

There are no intakes within 1 mile of the site in Lake Erie.

Ref: #18, #19

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

There were no observed releases detected in the air during the 7/9/86 FIT II site inspection.

Ref: #7

Date and location of detection of contaminants

Not applicable.

Methods used to detect the contaminants:

An HNu and OVA were used during the 7/9/86 FIT II site inspection. No specific compound analysis were performed on-site.

Ref: #7

Rationale for attributing the contaminants to the site:

Not applicable.

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Not applicable.

Most incompatible pair of compounds:

Not applicable.

Toxicity

Most toxic compound:

Not applicable.

Hazardous Waste Quantity

Total quantity of hazardous waste:

Prior to becoming a SPDES permitted discharge 98,000 gallons/year of pickling waste is reported to have been discharged to the beach.

Ref: #5, #21

Basis of estimating and/or computing waste quantity:

98,000 gallons = 1,960 drums

50 gallons/drum

Ref: #5, #21

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi	0 to 1 mi	0 to 1/2 mi	0 to 1/4 mi
65,259	2,279	948	927

Ref: #16

Distance to a Sensitive Environment

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

There are no coastal wetlands in the region.

Ref: #6

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

There are no freshwater wetlands within 1 mile of the site.

Ref: #6

Distance to critical habitat of an endangered species, if 1 mile or less:
There are no critical habitats of endangered species within 1 mile of the site.
Ref: #8, #9

Land Use

Distance to commercial/industrial area, if 1 mile or less:
Less than 0.1 mile. The area of the site and most of the surrounding area is industrial/commercial. The Ford Motor Corporation Plant and an Erie County Sewage Plant are located nearby.
Ref: #6

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:
There are no national, state parks or wildlife reserves within two miles of the site.
Ref: #6

Distance to residential area, if 2 miles or less:
Less than 0.1 mile. There is a private residence immediately adjacent to the property.
Ref: #7, #13

Distance to agricultural land in production within past 5 years, if 1 mile or less:
There is no agricultural land within 1 mile of the site.
Ref: #19

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:
There is no agricultural use of land within two miles of the site.
Ref: #19

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?
There are no historic landmarks in view of the site.
Ref: #7

1 CONTAINMENT

Hazardous substances present:

Not applicable.

Type of containment, if applicable:

Not applicable.

* * *

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

An HNu and OVA were used on-site. Observations during the FIT II site inspection on 7/9/86 did not reveal any quantity of hazardous waste present to cause a fire or explosion hazard.

Ignitability

Compound used:

Not applicable.

Reactivity

Most reactive compound:

Not applicable.

Incompatibility

Most incompatible pair of compounds:

Not applicable.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Not applicable.

Basis of estimating and/or computing waste quantity:

Not applicable.

* * *

3 TARGETS

Distance to Nearest Population

Less than 0.1 mile. There is a residence located immediately adjacent to the plant site.

Ref: #7

Distance to Nearest Building

Less than 0.1 mile. The nearest building is on the plant site.

Ref: #7

Distance to Sensitive Environment

Distance to wetlands:

There are no wetlands in the area of the site.

Ref: #8, #9

Distance to critical habitat:

There is no critical habitat of endangered species in the area of the site.

Ref: #8, #9

Land Use

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

The site is in an industrial/commercial area.

Ref: #7

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:
There are no national, state park, or wildlife reserves within two miles.
Ref: #6

Distance to residential area, if 2 miles or less:
There is a residential area within 0.1 mile of the site.
Ref: #6

Distance to agricultural land in production within past 5 years, if 1 mile or less:
There are no agricultural lands within 1 mile of the site. The nearest farmland is located over 3 miles from the site.
Ref: #19

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:
There are no agricultural lands within 1 mile of the site.
Ref: #19

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?
There are no historical landmarks in view of the site.
Ref: #7

Population Within 2-Mile Radius
14,894 people.
Ref: #16

Buildings Within 2-Mile Radius
5,294 buildings.
Ref: #16

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

There is no observed incident of direct contact with hazardous wastes on this site.

* * *

2 ACCESSIBILITY

Describe type of barrier(s):

There are no barriers around the beach area. The beach is used by the public for recreation. The plant site is completely fenced.

Ref: #7

* * *

3 CONTAINMENT

Type of containment, if applicable:

Waste was discharged onto the ground and easily contacted. People were observed on the beach during the 7/9/86 FIT II site inspection.

Ref: #7, #20

* * *

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene were detected in soil on the plant and on the beach area.

Ref: #24

Compound with highest score:

Fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene score an 3.

Ref: #24

5 TARGETS

Population Within One-Mile Radius

2,279 people.

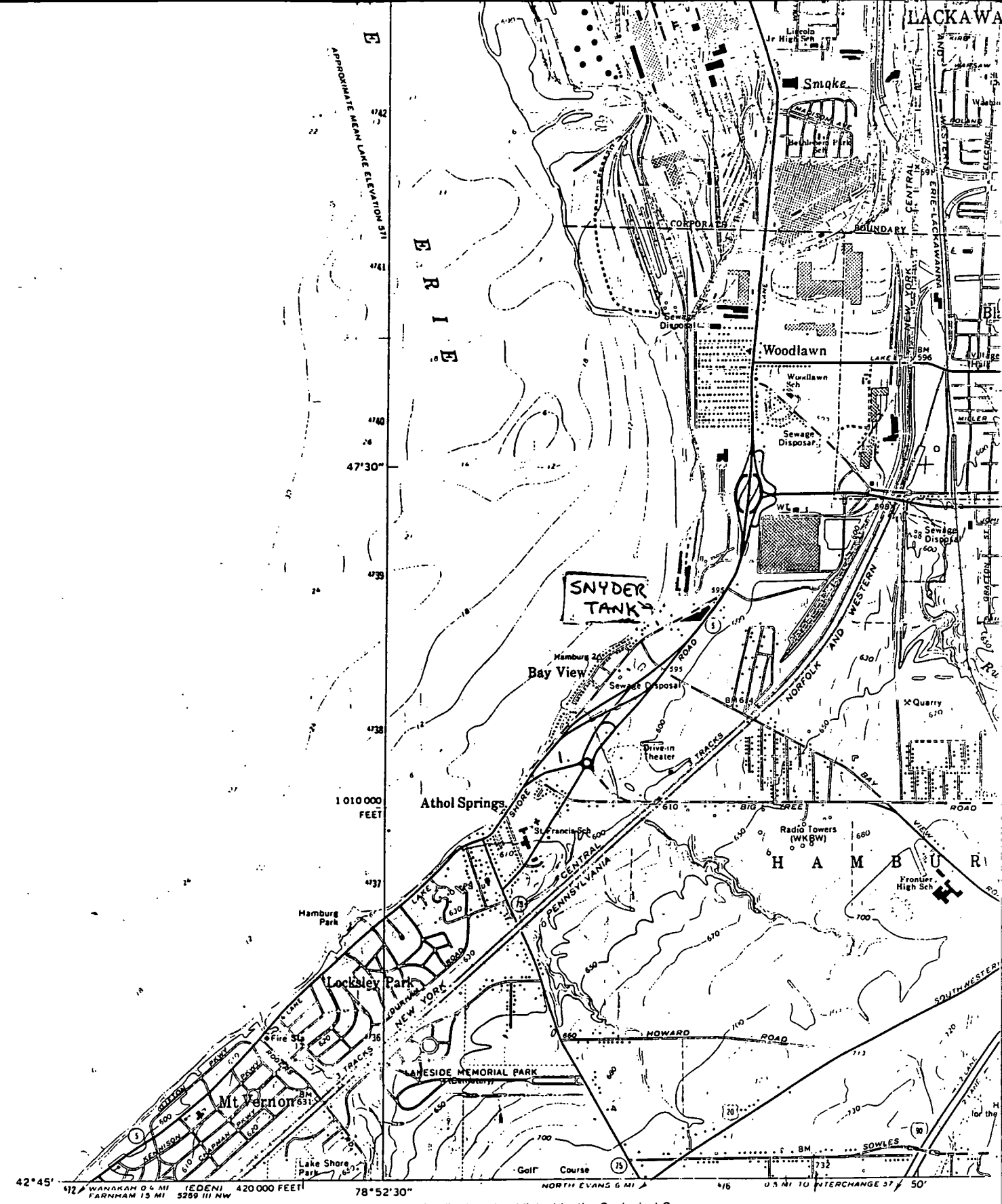
Ref: #16

Distance to Critical Habitat (of Endangered Species)

There is no critical habitat of endangered species within 1 mile of the site.

Ref: #8, #9

REFERENCE NO. 13



U.S. Geological Survey
Buffalo SE
1965

Mapped, edited, and published by the Geological Survey in cooperation with New York Department of Public Works

Control by USGS, USC&GS, USCE, and U. S. Lake Survey

Planimetry compiled by U. S. Corps of Engineers from aerial photographs taken 1942. Topography by planetable surveys 1948. Revised 1965

Selected hydrographic data compiled from U.S. Lake Survey Charts 31 and 314 (1965). This information is not intended for navigational purposes

Polyconic projection. 1927 North American datum
10,000-foot grid based on New York coordinate system, west zone
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Red tint indicates areas in which only landmark buildings are shown

UTM GRID AND 1965 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

1000

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FO
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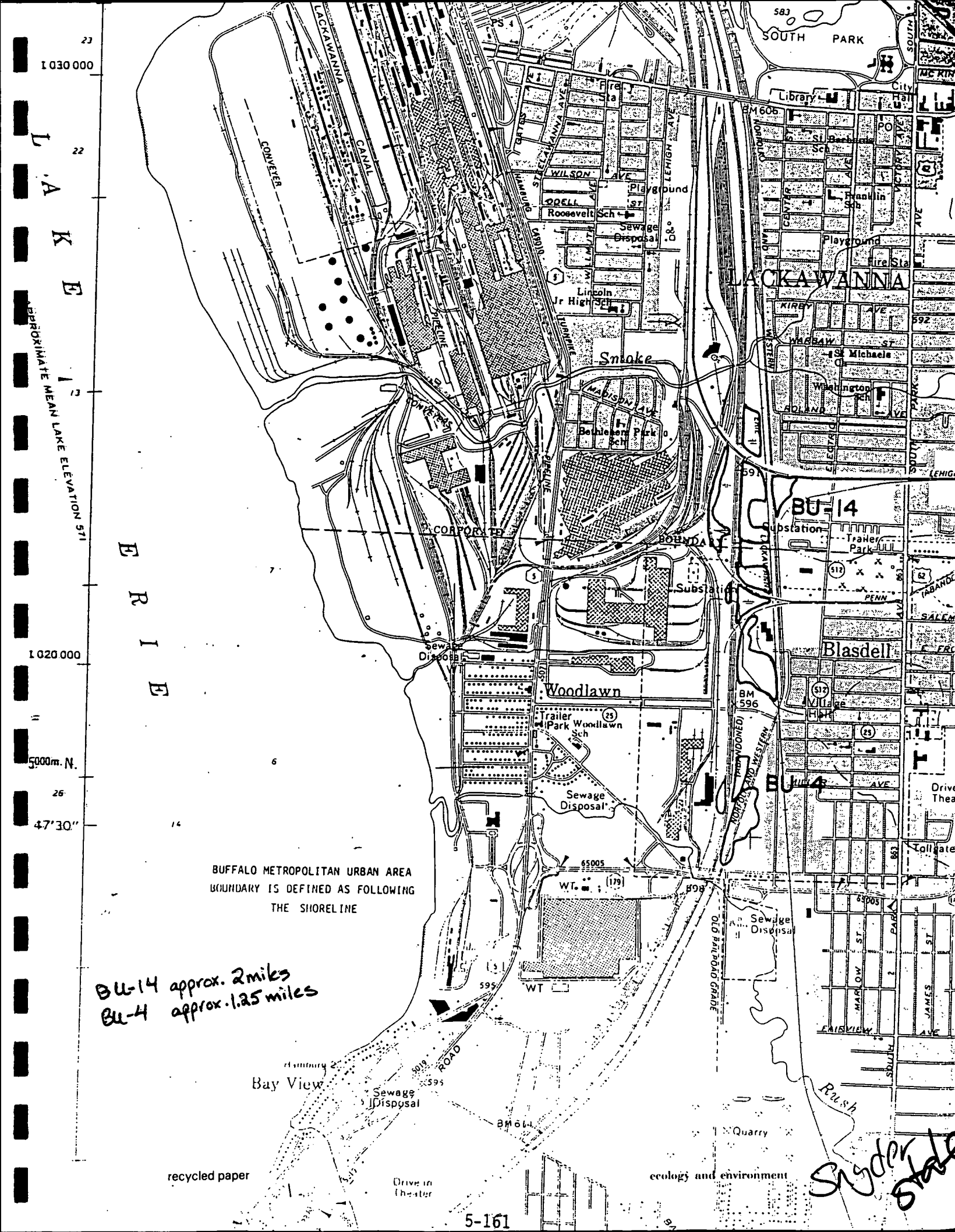
ecology and environment

REFERENCE NO. 14


LAKE ERIE
APPROXIMATE MEAN LAKE ELEVATION 571
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47'30"
SOUTH PARK
LACKAWANNA
Blasdell
Woodlawn
Bay View
Smoke
BU-14
BU-4
BUFFALO METROPOLITAN URBAN AREA
BOUNDARY IS DEFINED AS FOLLOWING
THE SHORELINE
BU-14 approx. 2miles
BU-4 approx. 1.25 miles
recycled paper
ecology and environment
5-161

REFERENCE NO. 15

The key below is to be used for interpreting significant habitat overlays at the scale of 1:250,000.

15-10-

- Significant for plants
- Significant for wildlife
- Significant for both plants and wildlife
- Potentially significant for plants
- Potentially significant for wildlife
- Potentially significant for both plants and wildlife
- Known deer concentration areas
- Known deer concentration areas not in-use
- Aerial survey yards - not field checked
- Other - such as unique geological formations

A potentially significant habitat is one that once was occupied, where the potential exists for reestablishing the species. It also applies to unconfirmed sightings in a given area.

The numbers identify significant habitats. The digits preceding the hyphen are county code numbers (with counties listed aplphabetically). A county code sheet is attached. Numbers following the hyphen ranging from 1 to 99 were assigned to significant habitats as reports were received for each county. Numbers of 101 or more denote deer concentration areas.

* * *

The significant habitat locations on this map represent initial reports of areas from a variety of people, but usually from those affiliated with a governmental agency (including Department of Environmental Conservation), university, local conservation organization, bird club, etc., and occasionally just knowledgeab individuals. Most locations have not been verified as to exact boundaries, confirmation of data reported, etc., and at this stage the map (overlay) is meant only as an early alert or "red-flag" system strictly for the purpose of identifying potential conflicts. If a potential conflict with a development project is determined from a map location, more information should be obtained from DEC, and a field check may be warranted to resolve the situation. As more accurate informatio is obtained, and/or locations are verified, the maps will be refined.

The map locations represent only information on hand and are by no means compl Because an area does not appear on a map, doesn't mean it isn't significant, it probably just hasn't been reported.

20/// - New York State Department of Environmental Conservation
Bureau of Wildlife - Wildlife Habitat Section - Significant Habitat Program

ERIE COUNTY (15)

* * *

☐	1.	Huckleberry Swamp	
~~☐~~	~~1.~~	~~Lower Niagara River Duck Wintering Area~~	~~Aerial Survey~~
☐	2.	Grand Island & Vicinity of Upper River	Wayne Hadley
☐	3.	*Strawberry Island	Wayne Hadley & Robert F
☐	4.	Tillman Road Swamp	Erie County EMC
☐	5.	Spring Brook	Gordon Deitrich III
☐	6.	Spooner Creek Valley	Gordon Deitrich III
☐	7.	Times Beach Diked Dredge Disposal Site	Robert F. Andrle (Dr.)
☐	8.	Buckhorn Island Control Dike Gull and Tern Colony	Robert F. Andrle
☐	9.	Donnelley's Pier (North Breakwater) & North End Light Breakwater Gull and Tern Colonies	Robert F. Andrle
☐	10.	Source of the Niagara River Waterfowl, Gull and Tern Concentration Area (International)	Robert F. Andrle
☐	11.	Pinehurst Raptor Migration Observation Site	Robert F. Andrle
☐	12.	Dead Man's Lake Bog	Terry Moore (DEC) and Alan Seidman
☐	13.	Burnt Ship Creek Waterfowl and Marsh Bird Habitat	Dr. Robert F. Andrle
☐	14.	Hemstreet Road Site	Alan Seidman
☐	15.	Vail Road Site	Alan Seidman
☐	16.	Buffalo Bridge to Cattaraugus Creek Duck Wintering Area	Aerial Survey
☐	17.	Onondaga Limestone Escarpment - Harris Hill - Clarence	

The Following Image(s) are the Best Copy Available

BIEL'S

7. Hoopers Corners Bog - Towns of Machias and Yorkshire. Bog contains at least two rare plant species.

C. Chautauqua County:

1. Chautauqua Creek Gorge - Towns of Westfield and Chautauqua. Scenic gorge with unusual geologic and vegetative interest. Also, historic nest sites for Ospreys and Eagles.

2. Canadaway Creek Gorge - Towns of Arkwright and Pomfret. Unique geologic area with several waterfalls. Also, historic nest sites of Endangered Raptors.

3. Twenty Mile Gulf - Town of Ripley. Scenic, unique geology and vegetation. Historic nest sites of Endangered Raptors.

D. Erie County:

1. Strawberry Island - Town of Tonawanda. This area provides a major waterfowl feeding and resting area, as well as important game fish spawning habitat. This horseshoe-shaped island has been degraded over the years by gravel removal. Although this activity has stopped, there is potential that natural erosion could continue to degradate the island.

15-3

2. Huckleberry Swamp - Town of Holland. This unique area (15 acres±) has rare plants such as Sphagnum Moss, and Larch. The area is part of Erie County Forest #5, so it has a certain degree of protection. The main potential problem is lack of appreciation on the part of Erie County; thereby, it may be improperly managed.

15-1

3. Grand Island Shoreline - Town of Grand Island. This shallow water habitat provides excellent fish habitat and is a major wintering habitat for 10-20,000 ducks. The major species of waterfowl are the rather uncommon Canvasback, common Merganser and Scaup. The shoreline is very vulnerable to degradation by dock and bulkhead construction.

15-2

4. Times Beach - City of Buffalo. This partially filled, shallow-diked disposal site provides an extensive littoral zone. Therefore, waterfowl and shorebirds utilize the area. A total of 186 species of birds have been identified here. The fact that it is located within walking distance of downtown Buffalo gives great potential for high human use. While the area is owned by the City and leased to the Army Corps of Engineers, the area

15-7

is destined to be filled with dredge material. However, the area is very valuable to local and migratory birds and should be maintained in its present state. It has the potential of being lost if the Corps continues its plans to fill the site.

5. Gull and Tern Colony - Buckhorn Island - Town of Grand Island. This man-made (rock) dike is the site of one of the few and largest Gull and Tern nesting colonies in the area. While the area itself will tend to remain, it is subject to visitation by humans. Disturbance during nesting could be disastrous to the reproduction of Gulls and Terns. 15-8

6. Donnelley's Pier and North End Light Breakwater Gull and Tern Colonies - City of Buffalo. These breakwaters provide the only two major Gull and Tern nesting sites in the Buffalo area. Even though these piers are permanent, there is the chance of rehabilitation of the piers which would destroy the nest sites. Also, human disturbance during the nesting period could be detrimental to the reproduction of Gulls and Terns. 15-9

7. Burnt Ship Canal and Buckhorn Island - Town of Grand Island. This large cattail, rush and marsh habitat supports a large variety of aquatic life which provides feeding and nesting habitat for a variety of waterfowl and shorebirds. The area also hosts a large number and variety of migratory waterfowl. In fact, the area serves as the southern terminus of a large number of diving ducks. Buckhorn Island is under control of the Niagara Frontier State Park Commission and should be relatively safe from degradation. 15-13

8. Hempstead Road Site - Town of Marilla - 10 acres. This bog contains rare and unique flora characteristics of the boreal forest. Since the area is on private land, it is subject to filling or draining unless protected under the Freshwater Wetlands Protection Act. Also, the area could be subject to degradation by National Fuel Gas by the laying of a large diameter gas line. 15-14

9. Onondaga Limestone Escarpment - Harris Hill - Clarence. This 27 acre calcareous rock outcrop provides a unique area for calciphilic plants. Due to the rare occurrence of such sites, the area is unique. The site could be degradated by removing rock and/or building sites for residences. 15-17

10. Eighteen Mile Creek - Towns of Evans and Hamburg. This scenic gorge area between Old Lake Shore Boulevard and Lake Erie has remained essentially undisturbed from human and commercial development. The only indiscriminate use is by fishermen. The land is protected by a restrictive clause in the deed to prevent any commercial development. The area has lush growth of ferns, and large Eastern Cottonwoods dominate the gorge. Eighteen Mile Creek diffuses into several channels at this delta... Large scale human use and/or pollutants could have a devastating effect on this pristine lakeshore habitat due to its close proximity to Metropolitan Buffalo. Details of the area can be found in the fishing rights acquisition file located in the Olean office.

11. Counterfeiters Ledge - Town of Newstead. This 27 acre area also extends into the County of Genesee. This area is similar to the Onondaga Limestone Escarpment. Calciphilic plants occur here. Wood cutting and residential development represent the only major threats to this area.

12. Newstead Sink - Town of Newstead. The area (200 acres±) is in two parcels located on either side of the New York State Thruway. The Spring flooding provides a stopover for several thousand ducks, geese and swans. It is probably the most highly used waterfowl area in Erie County. The area provides nesting habitat for some resident waterfowl. The most important threat is due to agricultural drainage and encroachment.

E. Niagara County:

Niagara Gorge (Hydroelectric Gull Concentration Area) - Town of Lewiston, Town of Niagara on the Lake. This is one of the largest Gull concentration (10,000+) areas in the Region. They are attracted by the "chumming" of small fish at the hydroelectric plants. The rocky, nearly vertical walls are quite safe from disturbance, except a potential threat exists from additional expansion of power projects by the U.S. or Canada.

F. Wyoming County:

Beaver Meadows Nature Sanctuary - Town of Java. This 226 acre diverse, ecological area is owned by the Buffalo Audubon Society. The area is used as an outdoor laboratory and educational center. The area is unique in providing several diverse communities in close proximity to each other.

Terry L. Moore ecology and environment
Regional Wildlife Manager
Region 9

REFERENCE NO. 16

DRAFT

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 3. GRAPHICS AND GEODATA HANDLING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION
Task No. 3-2
Contract No. 68023970
Project Officer: Russell Kinerson
Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION
8401 Corporate Drive
Landover, Maryland 20785

Submitted: December 1, 1986

REFERENCE NO. 17

CONTACT REPORT

Meeting [ ] Telephone [X] Other [ ]

CLIENT: Erie County Environmental Compliance Service

ADDRESS: 95 Franklin Street, Room 1077
Buffalo, New York

CONTACT: Mr. Jerry Miller

PHONE NO.: 846-7583

FROM: D. Sutton

TO: P. Farrell

DATE: 1/12/89

SUMMARY: Snyder Tank

Mr. Miller informed me that, to the best of his knowledge, the Snyder Tank Corp. site was not considered a fire or explosion hazard.

wj/XA602

1-17-89
The following is an accurate summary of my conversation with Mr. Sutton.

Jerry Miller

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION	
01 State: NY	02 Site Number: 915049

II. SITE NAME AND LOCATION

01 Site Name (Legal, common, or descriptive name of site)	02 Street, Route No., or Specific Location Identifier				
Snyder Tank Corporation	3773 Lake Shore Road				
03 City	**04 State**	**05 Zip Code**	**06 County**	**07 County Code**	**08 Cong. Dist.**
Hamburg	NY	14219	Erie	029	38

09 Coordinates		10 Type of Ownership (Check one)
Latitude	Longitude	[X] A. Private [ ] B. Federal _____ [ ] C. State [ ] D. County
42° 46' 55.N	078° 51' 10.W	[ ] E. Municipal [ ] F. Other _____ [ ] G. Unknown

III. INSPECTION INFORMATION

01 Date of Inspection	02 Site Status	03 Years of Operation		
7 / 29 / 87 (Month Day Year)	[ ] Active [X] Inactive	1941 (Beginning Year)	Present (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 [X] F. State Contractor E & E* (Name of Firm) [ ] G. Other _____ (Specify)

05 Chief Inspector	06 Title	07 Organization	08 Telephone No.
Gene Florentino	Geologist	Ecology and Environment, Inc.	(716) 684-8060
09 Other Inspectors	10 Title	11 Organization	12 Telephone No.
Dennis Sutton	Geologist	Ecology and Environment, Inc.	(716) 684-8060
			( )
			( )
			( )
			( )

13 Site Representatives Interviewed	14 Title	15 Address	16 Telephone No.
Jim Snyder	V.P. Snyder Tank Corp.	3773 Lake Shore Road Hamburg, New York 14219	(716) 827-5333
Ted Pieczonka, Jr.	P.E.	P.O. Box 206, Orchard Park, New York 14127	(716) 835-0530
			( )
			( )
			( )

17 Access Gained By (Check one)	18 Time of Inspection	19 Weather Conditions
[X] Permission [ ] Warrant	14:00	75° - 85° F, sunny, clear, winds 5-10 mph

IV. INFORMATION AVAILABLE FROM

01 Contact	02 Of (Agency/Organization)	03 Telephone No.
Walter Demick	NYSDEC	(518) 457-9538

04 Person Responsible for Site Inspection Form	05 Agency	06 Organization	07 Telephone No.	08 Date
M.J. Farrell		Ecology and Environment, Inc.	(716) 684-8060	9 / 03 / 87 (Month Day Year)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States (Check all that apply)

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

02 Waste Quantity at Site (Measure of waste quantities must be independent)

Tons _____
Cubic Yards _____
No. of Drums 1,960/yr

03 Waste Characteristics (Check all that apply)

[ ] A. Toxic
[X] B. Corrosive
[ ] C. Radioactive
[ ] D. Persistent
[X] 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	1,820	Drums/year	Pickling waste discharged to beac
OLW	Oily waste			of Lake Erie
SOL	Solvents			
PSD	Pesticides			ECHD 1976-79, noted a leaking tan
OCC	Other organic chemicals			improperly drummed waste, and a
IOC	Inorganic chemicals			rust-colored stain on the beach
ACD	Acids	Unknown		A constituent of pickling waste
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 In soils	06 Measure o Concentrat
ACD	Sulfuric Acid (Pickling Waste)	7664-9-37	Prior to 1973 discharged to beach, presently hauled off-site		Unknown
OCC	Carbon Disulfide	75-15-0	Unknown	0.6J - 0.8J	ug/kg
OCC	1,1-Dichloroethene	75-35-4	Unknown	42.5	ug/kg
OCC	1,1,1-Trichloroethane	71-55-6	Unknown	1.4J - 39.4	ug/kg
OCC	Toluene	108-88-3	Unknown	3,672.6	ug/kg
OCC	Total Xylene	100-42-5	Unknown	8,051.1	ug/kg
OCC	Napthalene	91-20-3	Unknown	21.7J - 248J	ug/kg
OCC	2-Methylnaphthalene	91-57-6	Unknown	15.7J - 87845.8	ug/kg
OCC	Acenaphthylene	208-96-8	Unknown	25.2J - 29.4J	ug/kg
OCC	Acenaphthene	7664-9-37	Unknown	28.4J -15,166.3J (560.6)	ug/kg
OCC	Dibenzofuran	132-64-9	Unknown	21.5J -3,385.5J (361.8)	ug/kg
OCC	Diethylphthalate	84-66-2	Unknown	18.1J - 51.1J	ug/kg
OCC	Fluorene	86-73-7	Unknown	50.5J - 33,616.9J (698.8)	ug/kg
OCC	Phenanthrene	85-01-8	Unknown	31.4J - 82,730.1	ug/kg
OCC	Anthracene	120-12-7	Unknown	15.7 - 89,103.6	ug/kg

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 State NY	02 Site Number 915049

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 in soils	06 Measure of Concentration
OCC	Anthracene	120-12-7	Unknown	15.7 - 89,103.6	ug/kg
OCC	Di-n-Butylphthalate	84-74-2	Unknown	15.6J - 59.2J	ug/kg
OCC	Fluoranthene	206-44-0	Unknown	57.5J - 9,698.8J (8,200.6)	ug/kg
OCC	Pyrene	129-00-0	Unknown	43.5J - 13,445.8J (5,280.4)	ug/kg
OCC	Butylbenzylphthalate	85-68-737	Unknown	4,438.6J	ug/kg
OCC	Benzo(a)anthracene	56-55-3	Unknown	49.1J - 3,215.1	ug/kg
OCC	Bis(2-Ethylhexyl) Phthalate	117-81-7	Unknown	87.0J - 96,057.8	ug/kg
OCC	Chrysene	218-01-9	Unknown	229.3J -3,144.9	ug/kg
OCC	Benzo(b)Fluoranthene	205-99-2	Unknown	55.6J - 2,421.1	ug/kg
OCC	Benzo(k)Fluoranethene	207-08-9	Unknown	75.7J - 3,019.4	ug/kg
OCC	Benzo(a)Pyrene	50-32-8	Unknown	51.4J - 2,723.7	ug/kg
OCC	Ideno(1,2,3-cd)Pyrene	50-32-8	Unknown	394.1 - 1,887.7	ug/kg
OCC	Dibenzo(a,h)Anthracene	53-70-3	Unknown	98.5J - 278.2J (761.4)	ug/kg
OCC	Benzo(ghi)Perylene	191-24-2	Unknown	415.1 - 1,818.8	ug/kg
MES	Cadmium	7440-4-39	Unknown	24	mg/kg
MES	Copper	7440-5-08	Unknown	1,030	mg/kg
MES	Lead	7439-9-21	Unknown	678	mg/kg
MES	Manganese	7439-9-65	Unknown	4,770 - 10,400	mg/kg
MES	Selenium	7782-24-92	Unknown	3.1	mg/kg
MES	Tin	7440-03-15	Unknown	21.J - 37J	mg/kg
MES	Zinc	7440-66-6	Unknown	351 - 1,010	mg/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

Category	01 Feedstock Name	02 CAS Number	Category	01 Feedstock Name	02 CAS Number
FDS	Toluene (Toluol)	108-88-3	FDS	Paints	999
FDS	Ketone	999	FDS	Chromium	7440-47-3
FDS	Naphtha	8030-30-6	FDS	Aluminum	7429-90-5
FDS	Oils	999	FDS	Lead	1335-25-7

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

Telecon between Ted Pieczonka, Jr., P.E., Pieczonka Engineering and Don Johnson, E & E, 9-10-87
NUS FIT II Site Inspection Report, 10-19-86
Snyder Tank Corporation MSDS Forms

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*Values with a J - indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J).
**Bracketed Values( ) - The highest confirmed value.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 State: NY	02 Site Number: 915049

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. Groundwater Contamination
02 [ ] Observed (Date _____) [X] Potential [ ] Alleged
03 Population Potentially Affected: 0
04 Narrative Description:

The potential is low; ground water used for drinking is drawn from a well located 0.85 miles upgradient from the site.

01 [X] B. Surface Water Contamination
02 [X] Observed (Date 1972) [ ] Potential [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

Due to the admitted discharge of pickling liquor wastes into Lake Erie prior to 1973, the population (size unknown) utilizing the area recreationally would be potentially affected.

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

Elevated HNu real time air readings recorded by NUS within 3 feet of the SPDES discharge pipe outfall (July 9, 1986) indicate the potential for air contamination.

01 [ ] D. Fire/Explosive Conditions
02 [ ] Observed (Date _____) [ ] Potential [ ] Alleged
03 Population Potentially Affected: _____
04 Narrative Description:

None expected.

01 [X] E. Direct Contact
02 [ ] Observed (Date 7-9-86) [X] Potential [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

The potential for direct contact with soils and wastewater exists along the beach (SPDES discharge area). The plant site is fenced but the beach area is open to public recreational use.

01 [X] F. Contamination of Soil
02 [X] Observed (Date 7/9/86) [ ] Potential [ ] Alleged
03 Area Potentially Affected: 10 (Acres)
04 Narrative Description:

Soil samples were collected for analysis by FIT II team on 7/9/86 on the site's northernmost border and at and around the SPDES discharge pipe. Elevated values of metals and organic chemicals were shown present in both these sample areas. A black tar-like stain observed in the southwest corner of the site on 7/9/86 was not observed during the 7/29/87 site inspection.

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

There is one known drinking well within 2 miles of the site. The potential is low since the well is located upgradient from the site.

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

Possible worker exposure or contact with contaminated soil or air on site is the basis for potential worker exposure/injury.

01 [X] I. Population Exposure/Injury
02 [ ] Observed (Date _____) [ ] Potential [ ] Alleged
03 Population Potentially Affected: Unknown
04 Narrative Description:

The potential for public contact with contaminated soil and/or air around the SPDES discharge pipe on the beach exists. The plant site is fenced but the beach area is open to public recreational area.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

II. HAZARDOUS CONDITIONS AND INCIDENTS (Cont.)

01 [X] J. Damage to Flora — 02 [ ] Observed (Date _____) [X] Potential [ ] Alleged
04 Narrative Description:

The potential damage to flora is limited. The area is primarily industrial, and there is little or no vegetation on the beach area. Aquatic flora could be affected by wastewater discharge, groundwater, or surface runoff to Lake Erie. There are no endangered species in the area.

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

The potential damage to fauna is limited due to the nature of the area surrounding the site. Aquatic fauna could be affected by wastewater discharge, groundwater, or surface runoff to Lake Erie. There are no endangered species in the area.

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

There is potential for contamination of the food chain. Contaminants may migrate to Lake Erie via wastewater discharge, groundwater, or surface runoff. Fishing in the immediate area was observed by a FIT II team 7-9-86.

01 [X] M. Unstable Containment of Wastes (Spills/Runoff/Standing liquids, Leaking drums) — 02 [X] Observed (Date 5/76) [ ] Potential [ ] Alleged
03 Population Potentially Affected Unknown — 04 Narrative Description:

Discharge of pickling waste at the current SPDES discharge into Lake Erie until 1973. Leaking tanks were noted during a 5/76 inspection by the Erie County Health Department and again in a 9/79 memorandum noting an estimated 20 drums of improperly drummed waste on the site. A black tar like stain noted during a 7/9/86 FIT II site inspection was not observed during the 7/29/87 site inspection.

01 [X] N. Damage to Offsite Property — 02 [ ] Observed (Date _____) [X] Potential [ ] Alleged
04 Narrative Description:

A sediment sample collected from the SPDES discharge pipe area on the beach by a FIT II team 7/86, contained elevated organic compounds and a metal above detection limit.

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

The potential for contamination of sewers, storm/drains lies in the event that the direction of water from Route 5, the wastewater discharge, and/or surface runoff is altered. A flooding situation along Lake Erie could produce these results.

01 [X] P. Illegal/Unauthorized Dumping — 02 [X] Observed (Date 7/9/86) [X] Potential [ ] Alleged
04 Narrative Description:

A black, tar-like stained area was observed in the southeast corner of the plant during a FIT II site inspection dated above.

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

As per Jim Snyder 7-29-87 all underground tanks containing gas, oil, and toluol were removed by the preceeding year. There is potential for soil and/or groundwater contamination in the pre-existing tank locations.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

III. TOTAL POPULATION POTENTIALLY AFFECTED Unknown

IV. COMMENTS

Although waste generation prior to 1973 was considerable, disposal practices appear to have improved and waste generation appears minimized. Focus should be on past disposal practicing and a detailed look at present practices. SPDES permitted 1974-current.

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

Lackawanna Water District, Engineering Division, 9-3-87, Hamburg Water District, Engineering Division, 9-3-87
NUS FIT II Site Inspection Report, 10-19-86
Ecology and Environment, Inc., 7-29-87, Scientific Notebook No. ND-2021
LaSala, A.M., Jr., 1968 Ground Water Resources of the Erie-Niagara Basin, New York, State of New York Conservation Department, Water Resource Commission.

D1748

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

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				
[X] G. State - SPDES	NYD0073636			A NYSDEC inspection on 3/21/86 found the facility not in compliance with its discharge standard for 1,1,1-trichloroethane.
[ ] H. Local (Specify)				
[ ] I. Other (Specify)				
[ ] J. None				

III. SITE DESCRIPTION

01 Storage Disposal (Check all that apply)	02 Amount	03 Unit of Measure	04 Treatment (Check all that apply)	05 Other
[ ] A. Surface Impoundment			[ ] A. Incineration	[X] A. Buildings On Site
[ ] B. Piles			[ ] B. Underground Injection	
[ ] C. Drums, Above Ground			[ ] C. Chemical/Physical	
[ ] D. Tank, Above Ground			[ ] D. Biological	
[ ] E. Tank, Below Ground			[ ] E. Waste Oil Processing	6
[ ] F. Landfill			[ ] F. Solvent Recovery	06 Area of Site
[ ] G. Landfarm			[ ] G. Other Recycling Recovery	
[ ] H. Open Dump			[ ] H. Other (Specify)	10.0 Acres
[X] I. Other Wastewater Discharge (Specify)	98,000	gal/yr.		

07 Comments

IV. CONTAINMENT

01 Containment of Wastes (Check one)

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

02 Description of Drums, Diking, Liners, Barriers, etc.: Site inspection of 7/29/87 revealed no drummed waste or stained soil as reported earlier. There is no containment for contaminated soil found on the plant or beach area.

V. ACCESSIBILITY

01 Waste Easily Accessible: [X] Yes [ ] No

02 Comments:
The beach area is open to the public. An NUS investigation 7/9/86 noted fishermen on the beach. The plant area is fenced.

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

Ecology and Environment, Inc., Field Notebook No. ND-2021-Erie County, 7/29/87
NUS FIT II Site Inspection report, 10-19-86
Telecon between Ted Pieczonka, Jr., P.E. of Pieczonka Engineering and Donald Johnson of E & E, 9-10-87, RE: Waste Generation Type and Volume

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

II. DRINKING WATER SUPPLY

01 Type of Drinking Supply (Check as applicable)	Surface	Well
Community	A. [X]	B. [ ]
Non-community	D. [ ]	D. [X]

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

03 Distance to Site
A 3.2 (mi)
B 0.90 (upgradient) (mi)

III. GROUNDWATER

01 Groundwater Use in Vicinity (Check one)

[ ] A. Only Source for Drinking
[X] B. Drinking (Other sources available) Commercial, Industrial, Irrigation (No other water sources available)
[ ] C. Commercial, Industrial, Irrigation (Limited other sources available)
[ ] D. Not Used, Unuseable

02 Population Served by Groundwater: Limited

03 Distance to Nearest Drinking Water well: 0.90 (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
2.5 (ft)	SSW	2.5 (ft)	250-10,000 (gpd)	[ ] Yes [X] No

09 Description of Wells (including usage, depth, and location relative to population and buildings)
The city of Lackawanna utilizes municipal water. Most of Blasdell and Hamburg utilizes City of Buffalo municipal water. The closest private well to Snyder Tank (0.90 mi.) is a family residence at the intersection of South Park Avenue and Mile Strip Road. This well is used for drinking supply.

10 Recharge Area		11 Discharge Area	
[X] Yes	Comments: Sand and gravel prevalent in local overburden (glacial till). Aquifer recharged by precipitation.	[X] Yes	Comments: Adjacent to Lake Erie
[ ] No		[ ] No	

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
Lake Erie	[ ]	0.02 (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. 2,978 No. of Persons	B. 16,502 No. of Persons	C. 42,444 No. of Persons

02 Distance to Nearest Population: <0.1 (mi)

03 Number of Buildings Within Two (2) Miles of Site: 5,834

04 Distance to Nearest Off-Site Building: <0.1 (mi)

05 Population Within Vicinity of Site (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area): The residential population within the vicinity of the site is located adjacent to the plant (to the SSW). Otherwise, the area surrounding the site is primarily industrial and includes the active Ford Motor Corporation plant and a wastewater treatment plant located nearby.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

VI. ENVIRONMENTAL INFORMATION

01 Permeability of Unsaturated Zone (Check one)

[ ] A. 10^{-6} - 10^{-8} cm/sec [ ] B. 10^{-4} - 10^{-6} cm/sec [ ] C. 10^{-4} - 10^{-3} cm/sec [X] D. Greater Than 10^{-3} cm/sec

02 Permeability of Bedrock (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)

03 Depth to Bedrock	04 Depth of Contaminated Soil Zone	05 Soil pH
4 (ft)	Unknown (ft)	Unknown

06 Net Precipitation	07 One Year 24-Hour Rainfall	08 Slope Site Slope	Direction of Site Slope	Terrain Average Slope
9 (in)	2.1 (in)	1.5 %	Northwest	5.6 %

09 Flood Potential

Site is in 100 Year Floodplain

10

[ ] Site is on Barrier Island, Coastal High Hazard Area, Riverine Floodway

11 Distance to Wetlands (5 acre minimum)

ESTUARINE: A. _____ (mi)

OTHER: B. 1.25 (mi)

12 Distance to Critical Habitat (of Endangered Species)

>1 (mi)

Endangered Species: N/A

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. <0.1 (mi)	B. Residential <0.1 Other >3 (mi)	C. >2 (mi)	D. >2 (mi)

14 Description of Site in Relation to Surrounding Topography

The site and areas surrounding the site are of low relief and are located on the eastern shore of Lake Erie. Land within and surrounding the site slopes gently toward the lake (NW), and surficial drainage within close proximity to the site follows this topography. The beach area is approximately 100 feet wide and consists of sand, gravel, and rock.

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

General Sciences Corporation, 1986, Graphical Exposure Modeling System (GEMS) Volume 3
Terry L. Moore, Regional Wildlife Manager - NYSDEC, Region 9
FIRM-FEMA Maps
NUS FIT II Site Inspection Report 10-19-86
USGS SE/4 BUFFALO 15' Quandrangle 1965

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT -

PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 State	02 Site Number
NY	915049

II. SAMPLES TAKEN: None

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
Air Monitoring	Air monitoring with an HNu was conducted on-site and in close proximity to the SPDES discharge pipe. No readings above normal background values were observed.

IV. PHOTOGRAPHS AND MAPS

01 Type [X] Ground [ ] Aerial

02 In Custody of Ecology and Environment, Inc.
(Name of organization or individual)

03 Maps
[X] Yes
[ ] No

04 Location of Maps
General Site Sketch included on page 21 of Ecology and Environment Scientific Notebook No. ND-2021 (7-29-87)

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

Ecology and Environment, Inc., Scientific Notebook No. ND-2021; written and photographic documentation of all field information and activities.

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

Ecology and Environment, Inc., 7-29-87, Scientific Notebook No. ND-2021

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 State	02 Site Number
NY	915049

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

01 Name	02 D+B Number	08 Name	09 D+B Number
Snyder Tank Corporation			

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)	11 SIC Code
3773 Lake Shore Road	3714		

05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code
Hamburg	NY	14219			

01 Name	02 D+B Number	08 Name	09 D+B Number

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)	11 SIC Code

05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

01 Name	02 D+B Number	08 Name	09 D+B Number

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)	11 SIC Code

05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

01 Name	02 D+B Number	08 Name	09 D+B Number

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	10 Street Address (P.O. Box, RFD #, etc.)	11 SIC Code

05 City	06 State	07 Zip Code	12 City	13 State	14 Zip Code

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

01 Name	02 D+B Number	01 Name	02 D+B Number
Snyder Manufacturing Company			

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code
3773 Lake Shore Road			

05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
Hamburg	NY	14219			

01 Name	02 D+B Number	01 Name	02 D+B Number
Snyder Welding Service			

03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code	03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code
3773 Lake Shore Road			

05 City	06 State	07 Zip Code	05 City	06 State	07 Zip Code
Hamburg	NY	14219			

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)

NY State Hazardous Waste Survey, 1/20/77, NYSDEC Division of Solid Waste Management.

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 8 - OPERATOR INFORMATION	I. IDENTIFICATION	
	01 State NY	02 Site Number 915049

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 only 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)

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POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 State: NY	02 Site Number: 915049

II. ON-SITE GENERATOR

01 Name	02 D+B Number
Snyder Tank Corporation	
03 Street Address (P.O. Box, RFD #, etc.)	04 SIC Code
3773 Lake Shore Road	3714
05 City	06 State / 07 Zip Code
Hamburg	NY / 14219

III. OFF-SITE GENERATOR(S)

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

IV. TRANSPORTER(S)

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

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

NY State Hazardous Waste Survey, 1/20/77, NYSDEC Division of Solid Waste Management.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 State NY	02 Site Number 915049

II. PAST RESPONSE ACTIVITIES

01 [ ] A. Water Supply Closed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] B. Temporary Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] C. Permanent Water Supply Provided — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] D. Spilled Material Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] E. Contaminated Soil Removed — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] F. Waste Repackaged — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] G. Waste Disposed Elsewhere — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] H. On Site Burial — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] I. In Situ Chemical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] J. In Situ Biological Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] K. In Situ Physical Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] L. Encapsulation — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] M. Emergency Waste Treatment — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] N. Cutoff Walls — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] O. Emergency Diking/Surface Water Diversion — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] P. Cutoff Trenches/Sump — 02 Date _____ — 03 Agency _____
04 Description:

01 [ ] Q. Subsurface Cutoff Wall — 02 Date _____ — 03 Agency _____
04 Description:

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 State NY	02 Site Number 915049

II. PAST RESPONSE ACTIVITIES (Cont.)

01 [ ] R. Barrier Walls Constructed 02 Date _____ 03 Agency _____
04 Description:

01 [ ] S. Capping/Covering 02 Date _____ 03 Agency _____
04 Description:

01 [ ] T. Bulk Tankage Repaired 02 Date _____ 03 Agency _____
04 Description:

01 [ ] U. Grout Curtain Constructed 02 Date _____ 03 Agency _____
04 Description:

01 [ ] V. Bottom Sealed 02 Date _____ 03 Agency _____
04 Description:

01 [ ] W. Gas Control 02 Date _____ 03 Agency _____
04 Description:

01 [ ] X. Fire Control 02 Date _____ 03 Agency _____
04 Description:

01 [ ] Y. Leachate Treatment 02 Date _____ 03 Agency _____
04 Description:

01 [ ] Z. Area Evacuated 02 Date _____ 03 Agency _____
04 Description:

01 [ ] 1. Access to Site Restricted 02 Date _____ 03 Agency _____
04 Description:

01 [ ] 2. Population Relocated 02 Date _____ 03 Agency _____
04 Description:

01 [ ] 3. Other Remedial Activities 02 Date _____ 03 Agency _____
04 Description:

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

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 State NY	02 Site Numbe 915049

II. ENFORCEMENT INFORMATION

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

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

Erie County Health Department (ECHD) complaints (1972) led to the discontinuation of pickling and phosphate waste discharge at the current SPDES permitted discharge point. ECHD site inspections conducted between 1976 and 1979 noted a leaking tank, improperly drummed waste, and a rust-colored stain on the beach area. Although no recorded action was taken, these situations were not observed during the 7/29/86 site inspection.

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

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6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

Analytical data presently available from past sampling events by the NUS Corporation Superfund Division and the NYSDEC Division of Water provide evidence of the presence of HSL contaminants on site ground surfaces and at the current SPDES discharge location on the beach. The handling and disposal of materials by the Snyder Tank Corporation is potentially the source site contamination (Rink 1987).

The extent of surface and effluent migration is not presently known. Assessment of Lake Erie contamination originating from site surface runoff, groundwater, and/or effluent sources is recommended. The basis of this recommendation is the potential for direct contact by an unknown recreational population, potential contamination of the food chain, and the potential for the contamination of Buffalo City Division of Water intakes to the north. The installation of down-gradient groundwater monitoring wells is not recommended due to the localized potentiometric surface effects of adjacent Lake Erie.

Contaminated surface and beach materials which pose a significant threat of migration away from the site should be contained or removed.

Frequent monitoring of the site SPDES discharge, and stringent compliance with daily average and maximum discharge limitations are recommended, if the facility is to continue discharging to Lake Erie.

Additional sampling is recommended to determine the extent of contamination at this site since prior to 1972, the facility reportedly disposed of pickling acid and phosphate wastes at the current SPDES discharge point and painting booth water curtain waste and etch rinse directly to the ground surface.

7. REFERENCES

Barret, K.W., S.S. Chang, S.A. Hans, A.M. Platt, 1982, Uncontrolled Hazardous Waste Site Ranking System Users Manual, Mitre Corporation, Virginia.

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

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Federal Emergency Management Agency, 1980, Town of Hamburg, New York, Erie County, Floodway Map, National Flood Insurance Program.

General Sciences Corporation, 1986, Graphical Exposure Modeling System (GEMS), Volume 3, Graphics and Geodata Handling, Prepared for USEPA Office of Pesticides and Toxic Substances Exposure Evaluation Division, Laurel, Maryland.

Gilbert, J., 1987, personal communication, Town of Hamburg Water District, Engineering Division, Hamburg, New York.

LaSala, A.M., 1968, Ground Water Resources in the Erie-Niagara Basin, New York State Conservation Department, Water Resources Commission, Erie County, New York.

Murtagh, W.J., 1976, The National Register of Historical Places, USDI National Park Service, Washington, D.C., with updates from the Federal Register in 1979, 1980, 1981, and 1982.

New York State Department of Environmental Conservation, Division of Solid and Hazardous Waste, 1986, Inactive Hazardous Waste Disposal Report, Buffalo, New York.

New York State Department of Environmental Conservation, Division of Wildlife, 1987a, New York State Region 9 and Federal Regulated Wetlands, Critical Habitats, and File Information, Buffalo, New York.

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

New York State Department of State, 1983, Official Compilation of Codes, Rules and Regulations, Albany, New York.

NUS Corporation, Superfund Division, October 11, 1985, Site Inspection Report and Hazardous Ranking System Model, Snyder Tank Corporation, Final Draft prepared for the Environmental Services Division, USEPA.

Nussbaumer and Clarke, Inc., 1975, Engineering Report on Industrial Waste Control at the Snyder Tank Corporation, Hamburg, New York.

Owens, D.W., W.L. Pittman, J.P. Wulforst, and W.E. Hanna, 1986, Soil Survey of Erie County, New York, United States Department of Agriculture Soil Conservation Service, Ithaca, New York.

Rink, R.A., personal communication, September 23, 1987, NYSDEC, Region 9, Buffalo, New York.

Rados, C., September 14, 1987, personal communication, resident of 3742 Mile Strip Road, Woodlawn, New York.

State of New York, Official Codes, Rules, and Regulations of the State of New York, Chapter X, 1985, New York Water Classifications and Quality Standards, Article 2, Part 609 and Parts 700-704; Title 6, Chapter X, Parts 700-705, New York, New York.

APPENDIX A

PHOTOGRAPHIC RECORD

ecology and environment, inc.

PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661

Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 9
Comments*: 1 of 5. Panoramic view of site taken from northwest corner of property.

Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 10
Comments*: 2 of 5. Panoramic view of site taken from northwest corner of property.

*Comments to include location

D1748

ecology and environment, Inc.

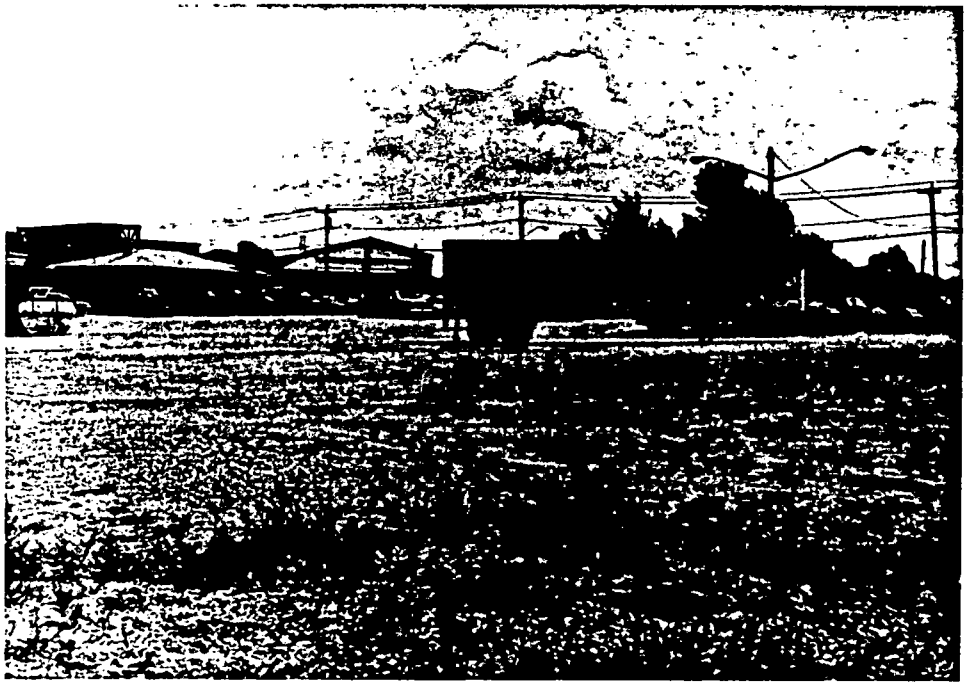
PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661



Photographer: G. Florentino

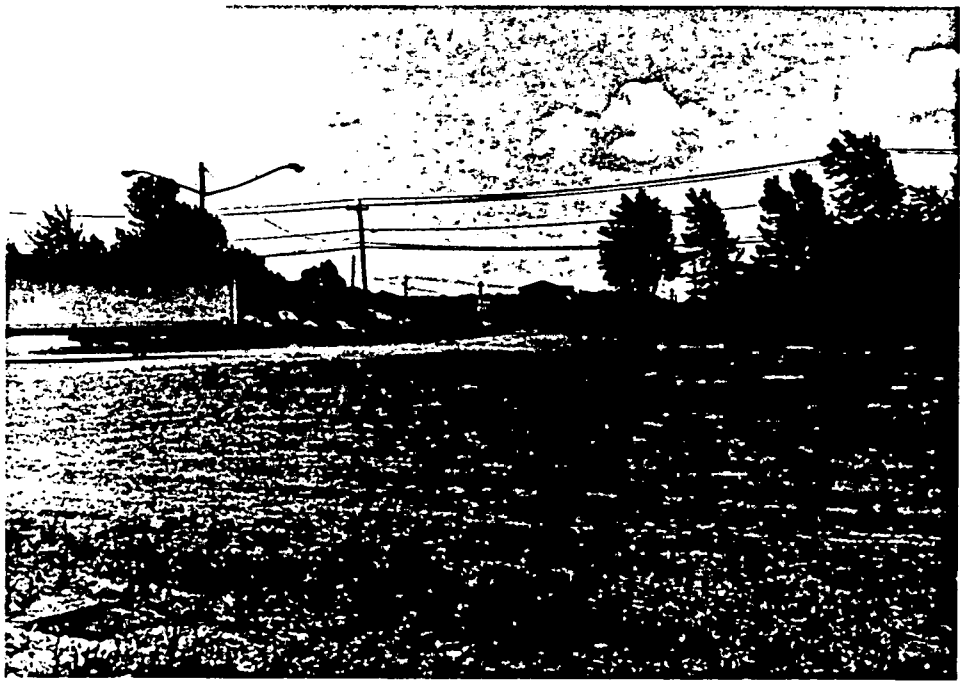
Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 11

Comments*: 3 of 5. Panoramic view of site taken from northwest corner of property.



Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 12

Comments*: 4 of 5. Panoramic view of site taken from northwest corner of property.

*Comments to include location

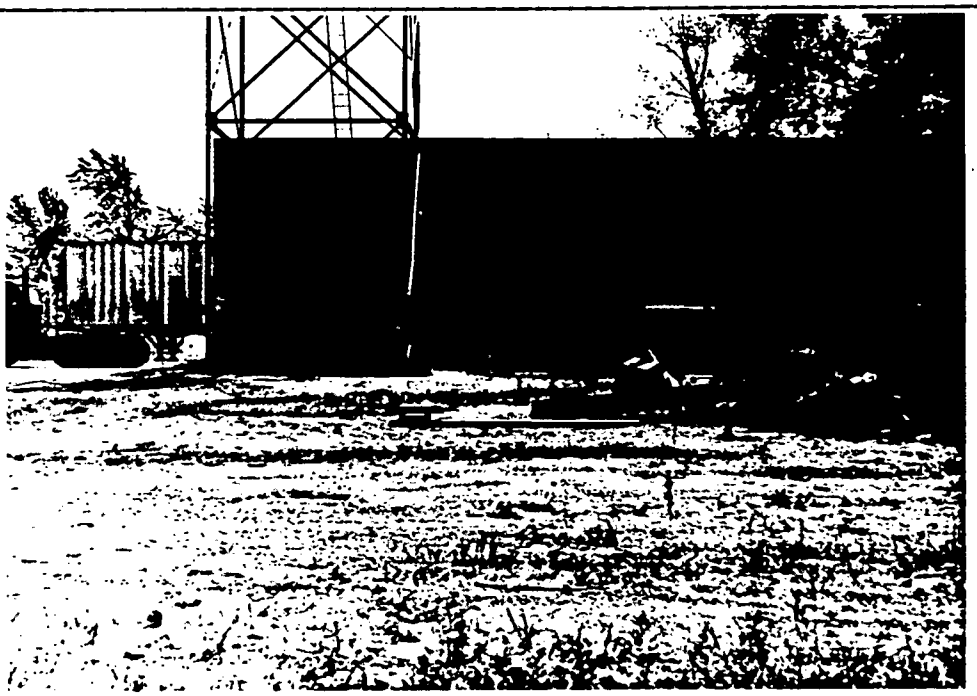
D1748

ecology and environment, inc.

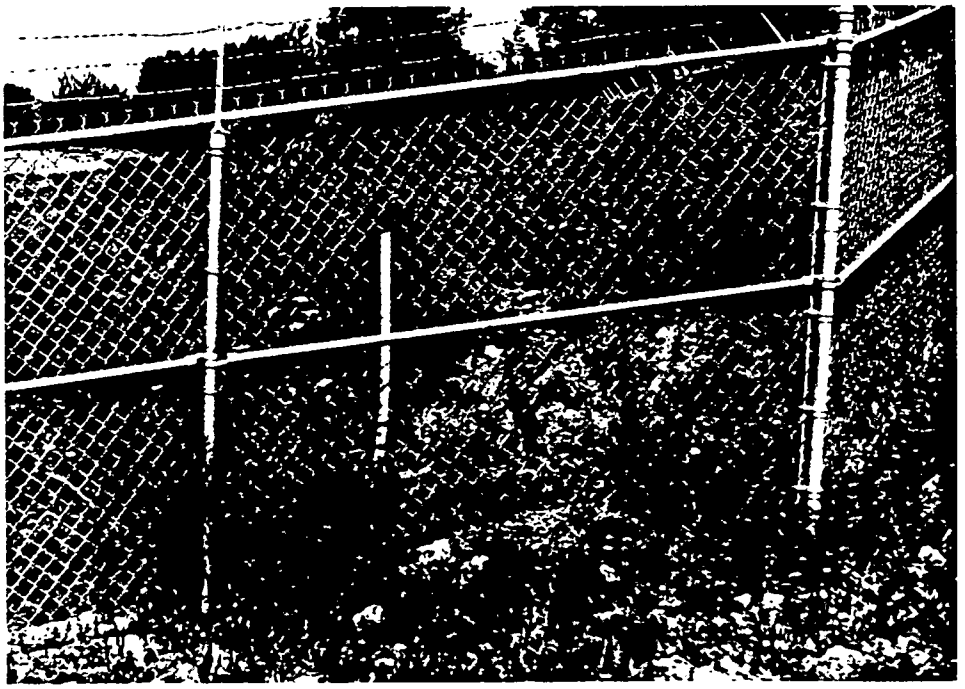
PHOTOGRAPHIC RECORD

Client: NYSDEC | E & E Job No.: ND-2021

Camera: Make Minolta XG1 | SN: 7042661



Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 13
Comments*: 5 of 5. Panoramic view of site taken from northwest corner of property.



Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 14
Comments*: Westernmost drain at ground level at PVC marker.

*Comments to include location

D1748

ecology and environment, inc.

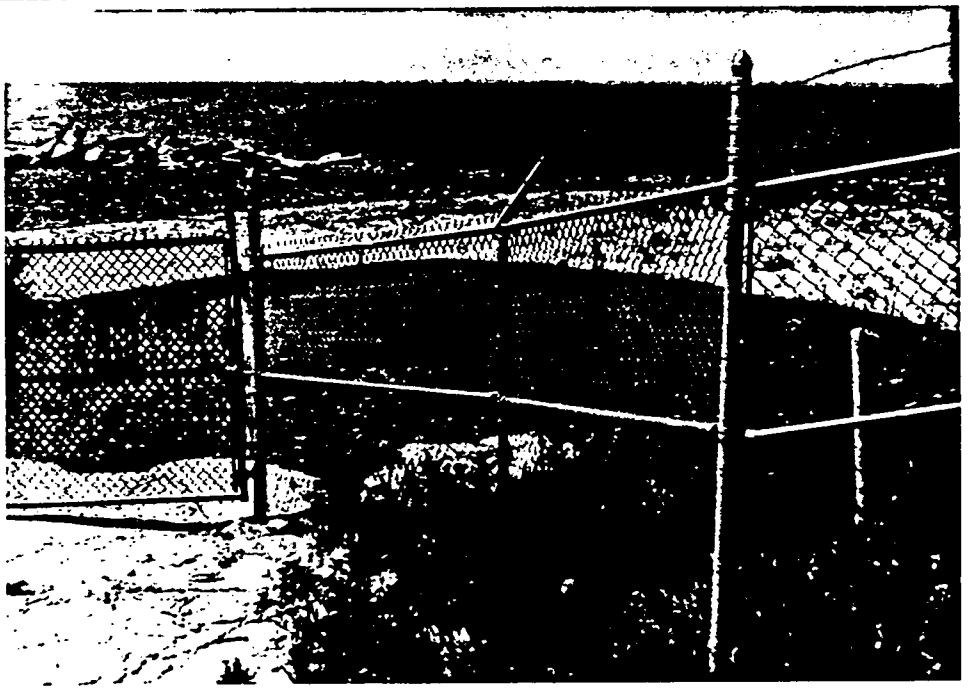
PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661



Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 15

Comments*: Westernmost drain at PVC market on right side, and drainage pool on back beach berm.

Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 16

Comments*: Asphalt pile approximately 4' x 25' x 1' in the center, north side of lot.

*Comments to include location

D1748

ecology and environment, Inc.

PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661

Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 17

Comments*: Natural drainage ditch (foreground) sloping north to Lake Erie near main drainage pipe.

Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 18

Comments*: Main discharge line.

*Comments to include location

D1748

ecology and environment, inc.

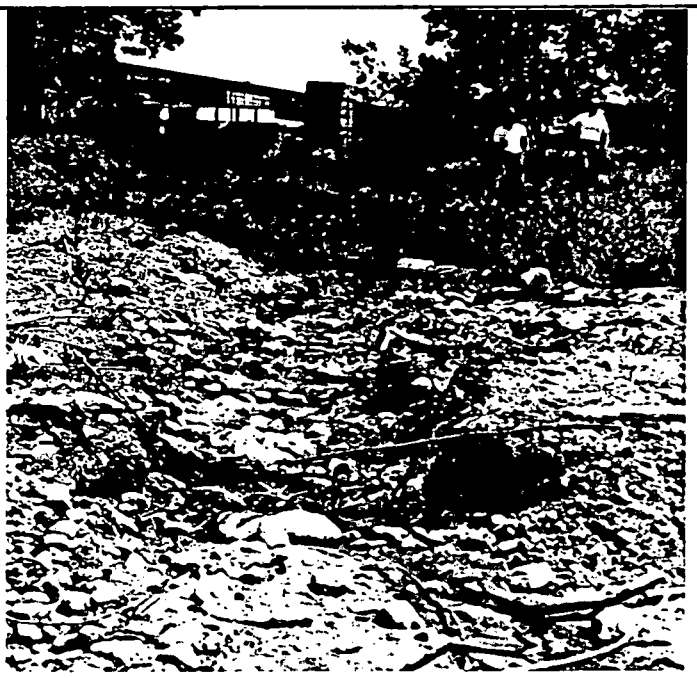
PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661



Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 19

Comments*: Drainage channel from main drain.

Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 20

Comments*: Secondary drain (middle drain).

*Comments to include location

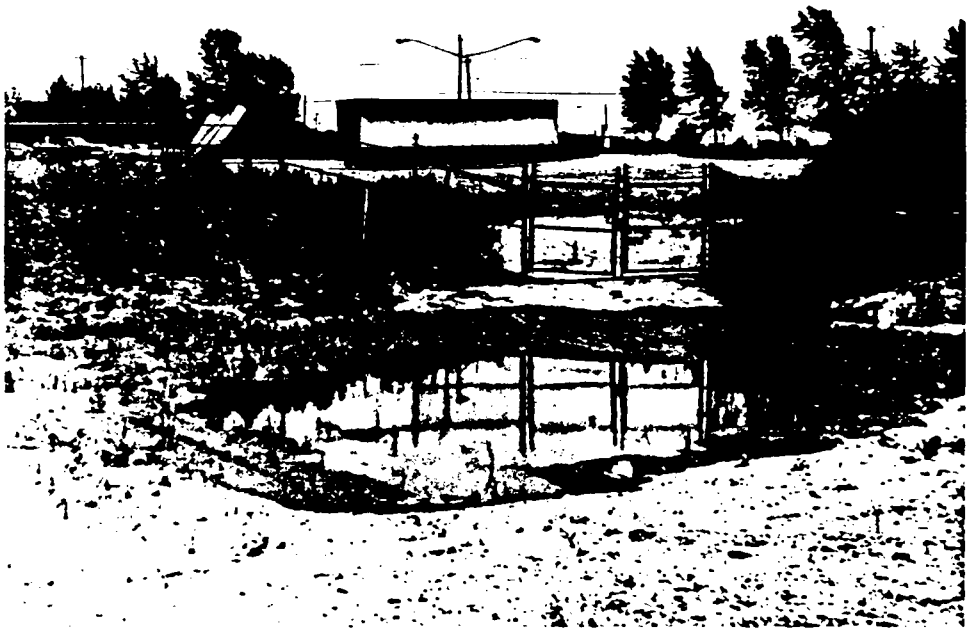
D1748

ecology and environment, inc.

PHOTOGRAPHIC RECORD

Client: NYSDEC | E & E Job No.: ND-2021

Camera: Make Minolta XG1 | SN: 7042661



Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 21
Comments*: Westernmost drain at PVC market and drainage pool on back beach berm.

Photographer: G. Florentino
Date/Time: 7/29/87; 14:15
Lens: Type: 50 mm 1:1.7
SN: 2792181
Frame No.: 22
Comments*: Sampling station for main drain - north side of lot.

*Comments to include location

D1748

ecology and environment, inc.

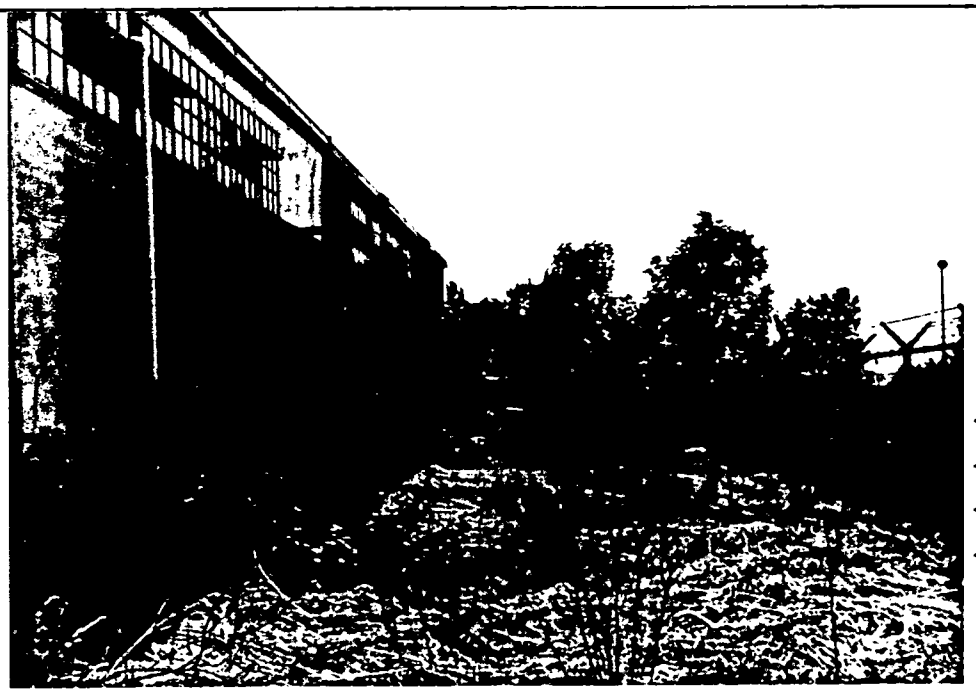
PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661



Photographer: G. Florentino

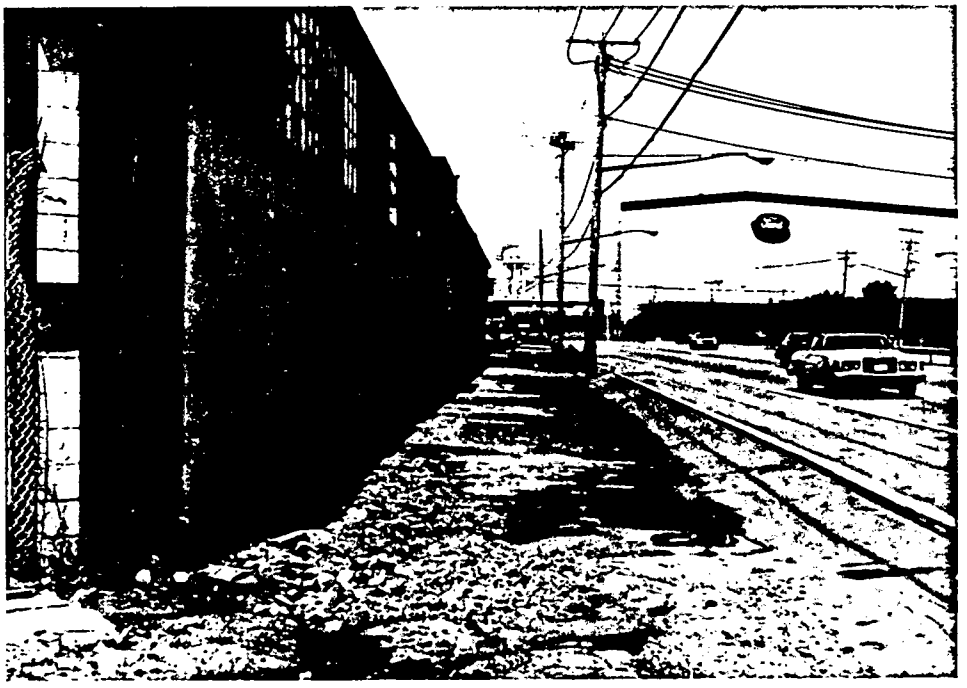
Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 23

Comments*: Behind Plant No. 2 facing west. Note: stressed vegetation.



Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 24

Comments*: Plant No. 1 on Lake Shore Drive facing east. Note: Red sediment on pavement.

*Comments to include location

D1748

ecology and environment, inc.

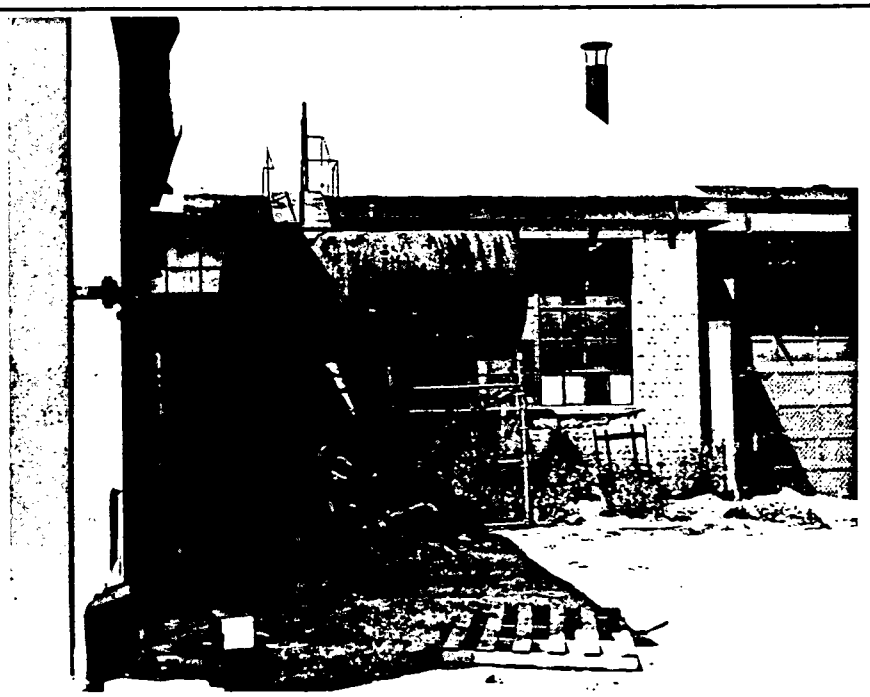
PHOTOGRAPHIC RECORD

Client: NYSDEC

E & E Job No.: ND-2021

Camera: Make Minolta XG1

SN: 7042661



Photographer: G. Florentino

Date/Time: 7/29/87; 14:15

Lens: Type: 50 mm 1:1.7

SN: 2792181

Frame No.: 25

Comments*: Tank used for sulfuric acid in front of Plant No. 1 on Lake Shore Drive.

Photographer:

Date/Time:

Lens: Type:

SN:

Frame No.:

Comments*:

*Comments to include location

D1748

APPENDIX B

UPDATED NYSDEC INACTIVE HAZARDOUS WASTE DISPOSAL REGISTRY FORM

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

Priority Code: 2a Site Code: 915049

Name of Site: Snyder Tank Corporation Region: 9

Street Address: 3773 Lake Shore Road

Town/City: Hamburg County: Erie

Name of Current Owner of Site: Snyder Tank Corporation

Address of Current Owner of Site: 3773 Lake Shore Road, Hamburg, New York 14219

Type of Site: [ ] Open Dump [ ] Structure [ ] Lagoon
[ ] Landfill [ ] Treatment Pond [X] None of the above

Estimated Size: 10 acre(s)

Site Description:

Plant presently manufactures tanks and accessories from aluminum and steel sheet metal. A variety of wastes were reportedly disposed of by direct discharge into Lake Erie at the present SPDES location on the beach and on the ground surface. Extent of contamination has not been fully assessed.

Hazardous Waste Disposed: [X] Confirmed [ ] Suspected

Type and Quantity of Hazardous Wastes Disposed:

Type	Quantity (Pounds, Drums, Tons, Gallons)
Spent pickling acid, spent phosphates, spent acid rinse, cleaning and etching rinses, painting booth curtain waste, and spent cooling waters.	Approximately 98,000 gal/yr.
PAHs	Unknown

Time Period Site was Used for Hazardous Waste Disposal:

Unknown, 19___ To Present, 19 87

Owner(s) During Period of Use: Snyder Tank Corporation

Site Operator During Period of Use: Snyder Tank Corporation

Address of Site Operator: 3773 Lake Shore Road, Hamburg, New York 14219

Analytical Data Available: [ ] Air [ ] Surface Water [ ] Groundwater
[X] Soil [X] Sediment [ ] None

Contravention of Standards: [ ] Groundwater [ ] Drinking Water
[ ] Surface Water [ ] Air

Soil Type: Brockport silty clay loam, Beach, Urban land

Depth to Groundwater Table: 2.5 feet to subsurface zone of saturation

Legal Action: Type: _____ [ ] State [ ] Federal

Status: [ ] In Progress [ ] Completed

Remedial Action: [ ] Proposed [ ] Under Design
[ ] In Progress [ ] Completed

Nature of Action: _____

_____

Assessment of Environmental Problems:

Assessment of Health Problems:

Person(s) Completing This Form:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Name: _____
Title: _____
Name: _____
Title: _____
Date: _____

NEW YORK STATE DEPARTMENT OF HEALTH

Name: _____
Title: _____
Name: _____
Title: _____
Date: _____

APPENDIX C

PHOTOCOPIED REFERENCES

GEOLOGY
OF
ERIE COUNTY
New York

BY

EDWARD J. BUEHLER
Professor of Geology
State University of New York at Buffalo

AND

IRVING H. TESMER
Professor of Geology
State University College at Buffalo

BUFFALO SOCIETY OF NATURAL SCIENCES
BULLETIN

C-2

York unless one so regards the Onondaga Limestone. The Early Devonian sea was narrowly restricted to the Appalachian trough and did not extend into the western part of the state, which at that time was undergoing erosion. Thus, an unconformity (disconformity) represents the Early Devonian and part of the Late Silurian in Erie County.

The Onondaga Limestone begins the Devonian record in western New York. The sea returned and the environment was one of warm, clear salt water teeming with animal life; coral reefs flourished. An exceptionally fine reef was displayed in a former quarry at Main Street and Kensington Avenue in Williamsville, prior to expressway construction.

Eventually the clear water of the Onondaga sea was replaced by muddy water giving rise to the shales of the Middle Devonian Hamilton Group. This mud was carried from highlands to the east which were uplifted during the period of mountain building known as the Acadian orogeny. They constitute part of the Catskill delta which is described on page 19.

The Hamilton deposits began with black shales of the Marcellus Formation which accumulated in a stagnant water environment. This was followed by thick deposits of gray shale. Some of these gray shale beds are quite barren of fossils, whereas others, especially the more calcareous ones, record a sea bottom teeming with corals, brachiopods, bryozoans, and other Paleozoic marine animals. Several thin but persistent limestone beds represent brief clearing of the water. At these times the crinoids or sea lilies must have formed immense undersea communities, for their dissociated stem segments are an important component of the limestone. The uppermost Hamilton shale is succeeded by a very thin and discontinuous bed of iron sulphide. The remarkable dwarfed animals which are preserved are attributed to a stagnant water environment that was unfavorable for normal growth.

Late Devonian time marked a return to black shale deposition in western New York. Deposits of black and gray shale alternate through a thickness of several hundred feet. The organic-rich black mud environment to the west and the gray mud environment to the east oscillated back and forth with time, causing an intertonguing of these two facies. Fossils are relatively scarce in these Upper Devonian shale beds. The area was largely inhabited by certain brachiopods and mollusks, and by an occasional armored fish. The uppermost Devonian in Erie County consists of beds of shale and siltstone. This coarsening of sediment from mud to silt marks the westward migration of the Devonian shoreline.

The remainder of the Paleozoic Era, as well as all of the Mesozoic and most of the Cenozoic Eras, have left no record in western New York. This area was probably above sea level during most or all of that time, and subject to erosion. The record resumes in the latter part of the Pleistocene Epoch. These glacial deposits and their related history are described in the following section on SURFICIAL GEOLOGY.

Surficial Geology

PHYSIOGRAPHY

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

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

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

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

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

from Hamburg through the village of Orchard Park, past East Aurora, across Buffalo Creek between East Elma and Porterville, and thence to Williston. This moraine generally consists of sharp knolls enclosing distinct basins (Pl. 1). The knolls are from 20 to 50 feet in height and are at 900 to 1100 feet elevation.

The Gowanda and Hamburg Moraines are correlated with the Whittlesey Stage of Great Lakes development.

Niagara Falls Moraine

Kindle and Taylor (1913, p. 10) describe a moraine which trends east-west across northern Erie County, from Grand Island through the towns of Tonawanda, Amherst, Clarence, and Newstead. The topographic expression is slight.

Glacial Lakes and Beaches

Lake Erie Basin

Early stages in the history of the Lake Erie basin are recorded by sandy beach ridges and bottom deposits. The latter are commonly of red clay. Varved clay deposits occur in the vicinity of Cheektowaga. The beaches are no longer horizontal but show the effects of post-glacial upwarp. Hough (1958) gives the most recent general history of the Great Lakes.

Although glacial Lake Maumee occupied part of the Lake Erie basin it was largely confined to the western half at an elevation of 760 to 800 feet above sea level. No evidence of Maumee beaches has been found east of Erie, Pennsylvania. Lake Arkona extended into western New York, but Arkona beaches have not been positively identified in Erie County. The highest beaches in Erie County are those of Lake Whittlesey which stood at 740 feet above sea level. Post-glacial uplift causes the Whittlesey (Belmore) beach to now range in elevation from 850 feet near North Collins to approximately 900 feet near Marilla. The beach can be observed immediately east of North Collins and traced northward to a point east of Eden Center. It can then be traced northeastward through Orchard Park to Marilla where it appears to terminate. According to radiocarbon dating Lake Whittlesey existed about 13,000 years ago.

Lake Warren, which existed approximately 11,000 to 12,000 years ago, is divided into High Lake Warren (elevation 690 feet) and Low Lake Warren (elevation 675 feet) which were separated in time by the Two Creeks interval. Low Lake Warren left prominent beaches in Erie County. At present the beach varies in elevation from 760 feet in southern Erie County to about 850 feet at Alden. A beach may be traced from Brant Center past Pontiac and Eden to Hamburg. It continues northeastward through Orchard Park, Springbrook, and Elma to Alden at which point it divides into two distinct beaches

which continue eastward. Prominent Warren beaches are displayed at Buffalo Creek near Bullis Road. Blackmon (1956) provides an excellent account of strand lines on the East Aurora quadrangle.

Lake Grassmere which stood at an elevation of 640 feet and Lake Lundy which stood at 620 feet extended into Erie County. The beaches of these lakes, however, are scattered and difficult to correlate. Lake Lundy existed approximately 10,000 years ago.

Lake Tonawanda

As glacial ice retreats it inevitably leaves a train of small lakes. These become extinct as their outlets cut low enough to drain them. One of the largest of these in western New York was Lake Tonawanda, described by Kindle and Taylor (1913, p. 19). This lake occupied much of the area in Niagara and Erie counties which lies between the Niagara and Onondaga escarpments. It was formed as the level of Lake Lundy dropped and it drained northward over the Niagara escarpment at Lewiston, Lockport, Gasport, Medina, and Holley. The lake extended eastward from the Niagara River for a distance of about 50 miles to Holley. It was about 8 miles wide in a north-south direction and the maximum depth is estimated as approximately 35 feet. The present Oak Orchard Swamp is regarded as a remnant.

The shore line of Lake Tonawanda was traced by D'Agostino (1958). In Erie County the southern shore extended from Tonawanda through Brighton Village to Ellicott Creek just north of the junction of Forest Road and Millersport Highway. It continued eastward 1 mile north of Clarence Center and approximately 2.5 miles north of Akron.

In southern Erie County, Cuthbert (1937) by studies of topography and sedimentation outlined Lake Zoar which occupied part of the valley of Cattaraugus Creek.

Glacial Pavement and Striae

Glacial pavement and glacial striations are preserved on several outcrops of the Onondaga Limestone. The best displays are in the Federal Crushed Stone Company quarry, Cheektowaga. No systematic study of the orientation of striae has been made in this area.

THICKNESS: The Levanna thickens eastward from about 45 feet at Lake Erie to 80 feet at the eastern edge of the county.

LITHOLOGY: The Levanna is a fissile shale, dark gray or black near the bottom, and lighter olive gray near the top. There are some calcareous beds and some pyritiferous concretions.

PROMINENT OUTCROPS: Lake Erie shore between Bayview and Hamburg Town Park; Cazenovia Creek west of Ebenezer; Buffalo Creek between Gardenville and Blossom.

CONTACTS: The contact with the underlying Stafford Limestone Member is usually fairly sharp. The upper contact with the Centerfield Limestone Member of the Ludlowville Formation cannot be seen in Erie County.

PALEONTOLOGY: Most of the following species were listed by Grabau (1898) and Wood (1901, pp. 139-181) from beds termed "Upper Marcellus" by them and now recognized as Levanna:

PLANTS

various spores

COELENTERATES

Aulocystis dichotoma (Grabau)

BRACHIOPODS

Ambocoelia umbonata (Conrad)
Atrypa reticularis (Linnaeus)
Chonetes lepidus Hall
C. mucronatus Hall
C. setigerus (Hall)
Leiorhynchus limitare (Vanuxem)
Meristella barrisi Hall
Mucrospirifer mucronatus (Conrad)
Spinulicosta spinulicosta Hall
Truncalosia truncata (Hall)

MOLLUSKS

Gastropods

Paracyclas lirata (Conrad)
Serpulospira laxus (Hall)

Cephalopods

Centroceras marcellense (Vanuxem)
Protokionoceras fenestrulatum (Clarke)
Spyroceras aegea (Hall)

Pelecypods

Conocardium curtum Hall
Nuculites triqueter Conrad
Pterochaenia fragilis (Hall)

Cricoconarida

Styliolina fissurella (Hall)
Tentaculites gracilistriatus (Hall)

ARTHROPOD

Trilobite

Phacops rana (Green)

LUDLOWVILLE FORMATION

TYPE REFERENCE: Hall (1839, p. 298).

TYPE LOCALITY: The original type locality at Ludlowville, Tompkins County, New York (Genoa quadrangle) is incomplete and Cooper (1930) recommends that a reference section be established at Paines Creek in Aurora, Cayuga County, New York; Auburn quadrangle.

TERMINOLOGY: In western New York, four members of the Ludlowville Formation are recognized: the Centerfield Limestone (oldest), Ledyard Shale, Wanakah Shale, and Tichenor Limestone Members. See Cooper (1930) and Cooper *et al.* (1942, p. 1788).

AGE AND CORRELATION: Middle Devonian (Erian).

THICKNESS: 65 - 130 feet.

LITHOLOGY: The Ludlowville consists of gray limestone and fissile gray shale.

PROMINENT OUTCROPS: Lake Erie shore from Hamburg Town Park to Pike Creek; Eighteenmile Creek near Old Lake Shore Road; south branch of Smoke Creek near Windom; Cazenovia Creek in the town of West Seneca; Buffalo Creek in the town of Elma; Spring Creek near Alden.

CONTACTS: The lower contact, at the base of the Centerfield Limestone Member, cannot be seen in Erie County. The contact with the overlying Moscow Formation is usually fairly sharp and is considered to be at the top of the Tichenor Limestone Member.

PALEONTOLOGY: The Ludlowville Formation contains an abundant fauna including coelenterates, sponges, bryozoans, brachiopods, gastropods, pelecypods, cephalopods, worms, trilobites, ostracods, blastoids, crinoids, etc. Some plants are also preserved.

Centerfield Limestone Member

TYPE REFERENCE: Clarke (1903, p. 22).

TYPE LOCALITY: Shaffer Creek, one mile north of Centerfield, Ontario County, New York; Canandaigua quadrangle.

TERMINOLOGY: See Cooper (1930).

AGE AND CORRELATION: Middle Devonian (Erian), Hamilton Group, base of the Ludlowville Formation. B. Smith (1935) suggested that the Centerfield be placed at the top of the Skaneateles Formation. The Centerfield Limestone Member is widespread and is an important key horizon in the Hamilton Group.

THICKNESS: 4.5 feet.

N. lineata var. *emarginata* Grabau
Platyceras (Orthonychia) attenuatum (Hall)
P. carinatum Hall

P. erectum Hall
P. symmetricum Hall
P. thetis Hall

Cephalopods

Cryptorthoceras productum Flower
Dolorthoceras exile (Hall)
D. revertum Flower
D. sp.
Fusicoceras eriense Flower
Geisonocerodes aulax (Hall)
Michelinoceras aldenense Flower
M. (?) *subulatum* (Hall)
Nephriticeras magister (Hall)
Spyroceras nuntium (Hall)
S. sp.
Tornoceras (Tornoceras) uniangulare (Conrad)

Pelecypods

Actinopterella boydi (Conrad)
Actinopteria decussata Hall
Aviculopecten exacutus Hall
Buchiola speciosa (Hall)
Cornellites flabella (Conrad)
Cypricardella tenuistriata (Hall)
Cypricardinia indenta Hall
Grammysia arcuata (Conrad)
Leiopteria rafinesqui Hall
Modiella pygmaea (Conrad)
Modiomorpha alta (Conrad)
M. concentrica (Conrad)
M. subalata (Conrad)
Nucula bellistriata (Conrad)
Nuculites nyssa Hall
N. oblongatus Conrad
Orthonota parvula Hall
Palaeoneilo constricta (Conrad)
P. (Koenenia) emarginata (Conrad)
P. fecunda Hall
P. muta Hall
Parallelodon hamiltoniae (Hall)
Pholadella radiata (Conrad)
Pterinopecten conspectus Hall
P. hermes Hall
P. undosus Hall
P. (Pseudaviculopecten) princeps (Conrad)
Pterochaenia fragilis (Hall)
Sphenotus truncatus (Conrad)
Tellinopsis subemarginata (Conrad)

C-6

Cricoconarida

Styliolina fissurella (Hall)
Tentaculites bellulus Hall
T. gracilistriatus Hall

ARTHROPODS

Trilobites

Dechenella (Basidechenella) rowi (Green)
Greenops boothi (Green)
G. boothi var. *calliteles* (Green)
Phacops rana (Green)
Proetus curvimarginatus Hall
Trimerus (Dipleura) dekayi Green

Phyllocarids

Echinocaris punctata (Hall)
Rhinocaris columbina (Clarke)—horizon uncertain
mandibles of *Phyllocaris*

Ostracods

Amphizona asceta Kesling and Copeland
A. pseudocarinata Smith
Bairdia siliqmacuminata Coryell and Malkin
Birdsallella deronica Coryell and Malkin
Bollia kinderi Jones
Boursella trilobata Turner
Bufina bicornuta (Ulrich)
B. elongata Coryell and Malkin
Bythocypris cf. *lucasensis* Stewart
Chesconomus cophus Kesling
Cladonella plana Stewart
Ctenobolbina teindomensis Swartz and Oriel
Ctenoloculina acanthophora Swartz and Oriel
Euglyphella cf. *compressa* Coryell and Malkin
E. primitiva Warthin
E. projecta Coryell and Malkin
E. sigmoidalis (Jones)
Healdia arkonensis Coryell and Malkin
Hibbardia lacrimosa (Swartz and Oriel)
Hollina hamiltonensis (Jones)
Jenningsina divaricata Swartz and Oriel

Kirkbyella bellipuncta transversa Stewart and Hendrix
K. verticalis Coryell and Cuskley
Macrocypris acutula Stewart
Menoeidina arcuata Turner
M. cristata (Swartz and Oriel)
M. scopeli Coley
Onchotechmonus chemotus Kesling
Parabufina convexa Smith
P. postruncata Smith
Ponderodictya bispinulata (Stewart)
P. punctulifera (Hall)
Punctoprimitia subaequalis Swartz and Oriel
Quasillites angulatus Smith
Q. lobatus Swartz and Oriel
Richina truncata Coryell and Malkin
Roundyella tenua (Warthin)
Tetrasacculus minimus (Ulrich)
Tubulibairdia windomensis Swartz and Oriel
Ulrichia conradi Jones
U. fragilis Warthin
Welleria bisulcata Smith

ECHINODERMS

Acanthocrinus spinosus (Hall)
Ancyrocrinus bulbosus Hall
Bactrocrinites reimanni Goldring
Botryocrinus crassus (Whiteaves)
B. reimanni Goldring
Cyttarocrinus jewetti Goldring
Deltacrinus cf. *clarus* (Hall)
Dorycrinus (?) sp.
Eleutherocrinus sp.
Eutaxocrinus whiteavesi Springer
Gennaeocrinus carinatus Wood
G. eucharis (Hall)
G. nyssa (Hall)
G. similis Goldring
Gilbertsocrinus cf. *greeni* Miller and Gurley
G. spinigerus (Hall)
Hyperoblastus cummingsi (Reimann)
H. eriensis (Reimann)
H. goldringae (Reimann)
H. juvenis (Reimann)
H. latus (Reimann)
H. obesus (Reimann)
Kolpidocrinus eriensis Goldring
Logocrinus geniculatus Goldring
Megistocrinus depressus (Hall)
Melocrinites breviradiatus Hall
Nucleocrinus priebei Reimann
Poteriocrinites multicosta Goldring
Synaptocrinus nuntius (Hall)
Taxocrinus lobatus (Hall)
stelleroid

From Kopf Collection:
Arachnocrinus knappi (Wachsmuth and Springer)
Codaster cf. *canadensis* (Billings)
Decadocrinus multidodosus (Goldring)
D. nereus (Hall)
Pentremitidia whitei (Hall)
Pleuroschisma hibbardi (Reimann)

GRAPTOLITES

Dictyonema hamiltoniae Hall

FISH

Machaeracanthus longaevus Eastman

INCERTAE SEDIS

Turrilepas n. sp.

Tichenor Limestone Member

TYPE REFERENCE: Clarke (1903, p. 22).

TYPE LOCALITY: Tichenor Point Ravine, Canandaigua Lake, Ontario County, New York; Canandaigua quadrangle.

TERMINOLOGY: See Cooper (1930). Grabau (1898, pp. 30-32) called this unit the "Encrinal limestone".

AGE AND CORRELATION: Middle Devonian (Erian). Early workers identified the Tichenor with the Menteth Limestone Member further to the east until Cooper (1930) indicated distinction between the two.

THICKNESS: 1-4 feet; 1.5 feet at Lake Erie.

LITHOLOGY: The Tichenor is a thick-bedded, gray crinoidal limestone with a crystalline texture. At the Lake Erie shore it consists of one limestone bed, but in the eastern part of the county, some thin shale beds are also present. The limestone contains megascopic pieces of pyrite and is slightly petroliferous.

PROMINENT OUTCROPS: Lake Erie shore from vicinity of Pinehurst to Pike Creek; Eighteenmile Creek near Old Lake Shore Road (Frontispiece); south branch of Smoke Creek near Windom; Cazenovia Creek at Northrup Road; Buffalo Creek north of Bullis Road.

CONTACTS: The contact with the underlying Wanakah Shale Member is quite sharp. The upper contact with the Kashong Shale Member of the Moscow Formation is also fairly distinct.

PALEONTOLOGY: The abundant fauna of the Tichenor consists predominantly of crinoid fragments, corals, bryozoans and brachiopods. Cooper (1930) speaks of the Tichenor fauna as a recurrence of that of the Centerfield.

The following faunal list has been compiled chiefly from Grabau (1898; 1899) but also from papers by Goldring (1923; 1935), Flower (1938; 1939), Reimann (1935a; 1945a; 1945c), Bassler (1939; 1950), Ehlers and Stumm (1953), Ross (1953), Boardmann (1960) and Fay (1961):

COELENTERATES

Barrandeophyllum simplex Busch
Billingsastraea ingens (Davis)
Eridophyllum archiaci (Billings)
E. subcaespitosum (Nicholson)
Favosites emmonsi (Hall)
F. hamiltoniae Hall
F. milne-edwardsi Ross
F. turbinatus Billings
Heliophyllum confluens (Hall)
Heterophrentis simplex (Hall)
Platyaxum fischeri (Billings)
Pleurodictyum dividua (Hall)
P. favositoides Ross
P. insigne (Rominger)
Striatopora parvula Ross
Trachypora elegantula Billings
T. vermiculosa (Lesueur)

BRYOZOANS

Hederella obesa Bassler
Leptotrypella (Leptotrypella) magniporta Boardman
Loxophragma lechrium Boardman
Sulcoretipora incisurata (Hall)

BRACHIOPODS

Ambocoelia umbonata (Conrad)
Athyris spiriferoides (Eaton)
Brachyspirifer audaculus (Conrad)
Camarotoechia dotis Hall
C. horsfordi Hall
C. sappho (Hall)
Centronella impressa Hall
Chonetes coronatus (Conrad)
C. scitulus Hall
C. vicinus (Castelnau)
Ceyptonella planiconvexa (Hall)
Delthyris sculptilis Hall
Douvillina inaequistriata (Conrad)
Elytha fimbriata (Conrad)
Leiorhynchus dubium Hall
Longispina mucronatus (Hall)
Megastrophna concava (Hall)
Meristella haskinsi Hall
M. dispansa Reimann
M. rostrata Hall
Mucrospirifer mucronatus (Conrad)
Nucleospira concinna (Hall)
Pholidops hirsutoides Hall
P. obtata Hall
Pholidostrophia nacrea (Hall)
Protoleptostrophia perplana (Conrad)
Pustulatia pustulosa (Hall)
Rhipidomella idonea Hall
R. leucosia Hall
R. penelope Hall
R. vanuxemi Hall
Spinocyrtia granulosa (Conrad)
S. granulosa var. *cimtoni* Hall
Spinulicosta navicella (Hall)
S. spinulicosta (Hall)
Spirifer macronotus Hall
Stropheodonta demissa (Conrad)
Tropidoleptus carinatus (Conrad)

MOLLUSKS

Gastropods

Loxonema (?) coapta Hall
Mourlonia lucina (Hall)
Naticonema lineatum (Conrad)
Platyceras (Orthonychia) attenuatum (Hall)
P. bucculentum Hall
P. carinatum Hall
Straparolus (Serpulispira) laxus (Hall)
S. (Straparolus) rudis (Hall)

Cephalopods

Cyrtogomphus curvatus Flower
Geisonoceroides cf. *cylindricum* Flower
Michelinoceras (?) subulatum (Hall)
M. (?) telamon (Hall)

Pelecypods

Actinopteria decussata Hall
Conocardium eboraceum Hall
C. normale Hall
Cypricardella bellistriata (Conrad)
Goniophora modiomorphoides Grabau
Lyriopecten orbiculatus (Hall)
Modiomorpha concentrica (Conrad)
Nuculites oblongatus Conrad
Plethomytilus oviformis (Conrad)
Ptermopecten (Pseudaviculopecten) princeps (Conrad)

ARTHROPODS

Halliella seminulum (Jones)
Leperditia hudsonica Hall

Trilobites

Dechenella (Monodechenella) macrocephala (Hall)
Greenops boothi (Green)
G. boothi var. *calliteles* (Green)
Phacops rana (Green)
Phillipsia ? (Brachymetopus ?) ornata Hall

ECHINODERMS

Botryocrinus crassus (Whiteaves)
Codaster cf. *canadensis* (Billings)
C. curtus Reimann
Cyttarocrinus eriensis (Hall)
C. (?) jewetti Goldring
Deltacrimus cf. *clarus* (Hall)
Devonoblastus leda (Hall)
D. whitearesi Reimann
Dolatocrinus glyptus (Hall)
Gennaeocrinus eucharis (Hall)
Gilbertsocrinus spinigerus (Hall)
G. spinonodosus Goldring
Hyperoblastus cummingsi (Reimann)
H. eriensis (Reimann)
H. preciosus (Reimann)
Megistocrinus depressus Hall
M. ontario Hall
Placoblastus angularis (Lyon)
P. eriensis (Reimann)
Pleuroschisma lycornas (Hall)

MOSCOW FORMATION

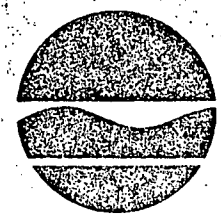
TYPE REFERENCE: Hall (1839, p. 298).

TYPE LOCALITY: Little Beards Creek near the village of Leicester (formerly Moscow), Livingston County, New York: Caledonia quadrangle.

WATER QUALITY REGULATIONS

SURFACE WATER AND GROUNDWATER CLASSIFICATIONS AND STANDARDS –

New York State
Codes, Rules and Regulations
Title 6, Chapter X
Parts 700-705



New York State Department of Environmental Conservation

(b) *Methods for Chemical Analysis of Water and Wastes* (see section 705.2 of this Title);

(c) *Water Standards of the American Society for Testing and Materials* (see section 705.2 of this Title); or

(d) by other methods approved by the commissioner as giving results equal to or superior to methods listed above.

Historical Note

Sec. filed March 20, 1967; repealed, new filed: April 28, 1972; Aug. 2, 1978; amd. filed Nov. 5 1984 eff. Nov. 5, 1984.

703.5 Classes and quality standards for ground waters. (a) *Class GA.*

(1) The best usage of class GA waters is as a source of potable water supply. Class GA waters are fresh ground waters found in the saturated zone of unconsolidated deposits and consolidated rock or bed rock.

(2) Quality standards for class GA waters shall be the most stringent of:

(i) the items and specifications applicable to such waters found in this section;

(ii) the maximum contaminant levels for drinking water promulgated by the Commissioner of Health as found in 10 NYCRR Subpart 5-1, Public Water Supplies or any subsequent revision thereto or replacement thereof;

(iii) the maximum contaminant levels for drinking water promulgated by the administrator under the Safe Drinking Water Act (see section 705.1 of this Title) and 40 CFR Part 141, effective July 1, 1978 (see section 705.1); and

(iv) the standards for raw water quality promulgated by the Commissioner of Health as found in 10 NYCRR Part 170, Sources of Water Supply or any subsequent revision thereto or replacement thereof.

(3) The following quality standards shall be applicable to class GA waters:

Items	*Specifications*
(*a*) Sewage, industrial waste or other wastes, taste or odor producing substances, toxic pollutants, thermal discharges, radioactive substances or other deleterious matter.	None which may impair the quality of the ground waters to render them unsafe or unsuitable for a potable water supply or which may cause or contribute to a condition in contravention of standards for other classified waters of the State.
(*b*) The concentration of the following substances or chemicals:	Shall not be greater than the limit specified, except where exceeded due to natural conditions:
(1) Arsenic (As)	0.025 mg/l
(2) Barium (Ba)	1.0 mg/l
(3) Cadmium (Cd)	0.01 mg/l
(4) Chloride (Cl)	250 mg/l
(5) Chromium (Cr) Hexavalent	0.05 mg/l
(6) Copper (Cu)	1.0 mg/l
(7) Cyanide (Cn)	0.2mg/l
(8) Fluoride (F)	1.5 mg/l
(9) Foaming Agents[1]	0.5 mg/l
(10) Iron (Fe)[2]	0.3 mg/l
(11) Lead (Pb)	0.025 mg/l
(12) Manganese (Mn)[2]	0.3 mg/l
(13) Mercury (Hg)	0.002 mg/l
(14) Nitrate (as N)	10.0 mg/l
(15) Phenols	0.001 mg/l
(16) Selenium (Se)	0.02 mg/l
(17) Silver (Ag)	0.05 mg/l
(18) Sulfate (SO_4)	250 mg/l
(19) Zinc (Zn)	5 mg/l
(20) pH Range	6.5-8.5
(21) Aldrin, or 1, 2, 3, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-*endo*-1, 4-exc-5, 8-dimethanonaphthalene.	not detectables
(22) Chlordane, or 1, 2, 4, 5, 6, 7, 8, 8-octachloro-2, 3, 3a, 4, 7, 7a-hexahydro-4, 7-methanoindene.	0.1 ug/l
(23) DDT, or 2, 2-bis- (p-chlorophenyl)-1, 1, 1-trichloroethane and metabolites.	not detectables
(24) Dieldrin, or 6, 7-epoxy aldrin.	not detectables
(25) Endrin, or 1, 2, 3, 4, 10, 10-hexachloro-6, 7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-endo-1, 4-*endo*-5, 8-dimethanonaphthalene.	not detectables
(26) Heptachlor, or 1, 4, 5, 6, 7, 8, 8-heptachloro-3a, 4, 7, 7a-tetrahydro-4, 7-methanoindene and metabolites.	not detectables
(27) Lindane and other Hexachlorocyclohexanes or mixed isomers of 1, 2, 3, 4, 5, 6-hexachlorocyclohexane.	not detectables
(28) Methoxychlor, or 2, 2-*bis*-(p-methoxyphenyl)-1, 1, 1-trichloroethane.	35.0 ug/l
(29) Toxaphene (a mixture of at least 175 chlorinated camphene derivatives).	not detectables
(30) 2, 4-Dichlorophenoxyacetic acid (2, 4-D)	4.4 ug/l
(31) 2, 4, 5-Trichlorophenoxypropionic acid (2, 4, 5-TP) (Silvex)	0.26 ug/l
(32) Vinyl chloride (chloroethene)	5.0 ug/l
(33) Benzene	not detectables
(34) Benzo (a) pyrene	not detectables
(35) Kepone or decachlorooctahydro-1, 3, 4-metheno-2H-cyclobuta (cd) pentalen-2-one (chlordeone).	not detectables

The National Register of Historic Places

1976

	Items	*Specifications*
(77)	Simazine, or 2-chloro-4, 6-diethylamino-S-triazine	75.25 micrograms per liter
(78)	Di-n-butylphthalate	770 micrograms per liter
(79)	Di (2-ethylhexyl) phthalate (DEHP)	4.2 milligrams per liter
(80)	Hexachlorophene, or 2, 2'-methylene-bis (3,4, 6-trichlorophenol)	7 micrograms per liter
(81)	Methyl methacrylate	0.7 milligrams per liter
(82)	Pentachlorophenol (PCP)	21 micrograms per liter
(83)	Styrene	931 micrograms per liter

Notes: [1] Foaming agents determined as methylene blue active substances (MBAS) or other tests as specified by the commissioner.
[2] Combined concentration of iron and manganese shall not exceed 0.5 mg/l.
[3] *Not detectable* means by tests or analytical determinations referenced in section 703.4.

(b) *Class GSA.* (1) The best usage of class GSA waters is as a source of potable mineral waters, for conversion to fresh potable waters, or as raw material for the manufacture of sodium chloride or its derivatives or similar products. Such waters are saline waters found in the saturated zone.

(2) The following quality standards shall be applicable to class GSA waters:

Items	*Specifications*
Sewage, industrial wastes or other wastes, color, taste or odor producing substances, toxic pollutants, thermal discharges, radioactive substances or other deleterious matter.	None which may impair the waters for use as sources of saline waters for the best usage outlines above or as to cause or contribute to a condition in contravention of standards for other classified waters of the State.

(c) *Class GSB.* (1) The best usage of class GSB waters is as a receiving water for disposal of wastes. Such waters are those saline waters found in the saturated zone which have chloride concentration in excess of 1,000 milligrams per liter or a total dissolved solids concentration in excess of 2,000 milligrams per liter.

(2) The following quality standards shall be applicable to class GSB waters:

Items	*Specifications*
Sewage, industrial wastes or other wastes, color, taste or odor producing substances, toxic pollutants, thermal discharges, radioactive substances or other deleterious matter.	None which may be deleterious, harmful, detrimental or injurious to the public health, safety or welfare or which may cause or contribute to a condition in contravention of standards for other classified waters of the State.

(3) Class GSB shall not be assigned to any ground waters of the State unless the commissioner finds that adjacent and tributary ground waters and the best usage thereof will not be impaired by such classification.

Historical Note

Sec. filed March 20, 1967; repealed, new filed: April 28, 1972; Aug. 2, 1978; amd. filed Nov. 5, 1984 eff. Nov. 5, 1984. Amended (a)(2)(iii).

703.6 Effluent standards and/or limitations for discharges to class GA waters. (a) The effluent standards and/or limitations in schedules I and II of this section apply to a discharge from a point source or outlet or any other discharge within the meaning of Environmental Conservation Law, section 17-0501 which discharge will or may enter the unsaturated or saturated zones.

(b) The department may establish additional effluent standards and/or limitations as set forth in section 703.7 of this Part.

(c) The effluent standards and/or limitations shall be incorporated in SPDES permits (under Part 750 *et seq.* of this Title) for discharges to ground waters, where applicable.

Schedule I

Applicability. The following effluent standards and/or limitations shall apply to all class GA waters in New York State.

Biological organisms. Coliform and/or pathogenic organisms shall not be discharged in amounts sufficient to render fresh ground waters detrimental to public health, safety or welfare.

Chemical characteristics.

	Substance	*Maximum allowable concentration in mg/l (unless otherwise noted)*
(1)	Aluminum	2.0
(2)	Arsenic	0.05
(3)	Barium	2.0
(4)	Cadmium	0.02
(5)	Chloride	500
(6)	Chromium (Cr) (Hexavalent)	0.10
(7)	Copper	1.0
(8)	Cyanide	0.40
(9)	Fluoride	3.0
(10)	Foaming Agents[1]	1.0
(11)	Iron[2]	0.6
(12)	Lead	0.05
(13)	Manganese[2]	0.6
(14)	Mercury	0.004
(15)	Nickel	2.0
(16)	Nitrate (as N)	20
(17)	Oil and Grease	15
(18)	Phenols	0.002
(19)	Selenium	0.04
(20)	Silver	0.1
(21)	Sulfate	500
(22)	Sulfide	1.0
(23)	Zinc	5.0
(24)	pH Range[3]	6.5-8.5
(25)	Aldrin, or 1, 2, 8, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-*endo*-1, 4-exc-5, 8-dimethanonaphthalene	not detectable[4]
(26)	Chlordane, or 1, 2, 4, 5, 6, 7, 8, 8-octachloro-2, 3, 3a, 4, 7, 7a-hexahydro-4, 7-methanoindene	0.1 ug/l

	Items	Specifications
(36)	Polychlorinated biphenyls (PCB) (Aroclor)	0.1 ug/l
(37)	Ethylene thiourca (ETU)	not detectable[3]
(38)	Chloroform	100 ug/l
(39)	Carbon tetrachloride (tetrachloromethane)	5 ug/l
(40)	Pentachloronitrobenzene (PCNB)	not detectable[3]
(41)	Trichloroethylene	10 ug/l
(42)	Diphenylhydrazine	not detectable[3]
(43)	bis (2-chloroethyl) ether	1.0 ug/l
(44)	2, 4, 5-Trichlorophenoxyacetic acid (2, 4, 5-T)	35 ug/l
(45)	2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin (TCDD)	3.5×10^{-5} ug/l
(46)	2 - Methyl- 4 -chlorophenoxyacetic acid (MCPA)	0.44 ug/l
(47)	Amiben, or 3-amino-2, 5-dichlorobenzoic acid (chloramben)	87.5 ug/l
(48)	Dicamba, or 2-methoxy-3, 6-dichlorobenzoic acid	0.44 ug/l
(49)	Alachlor, or 2-chloro-2', 6'-diethyl-*N*- (meth oxymethyl)-acetanilide (Lasso)	35.0 ug/l
(50)	Butachlor, or 2-chloro-2', 6'-diethyl-N- (butoxymethyl)-acetanilide (Machete)	3.5 ug/l
(51)	Propachlor, or 2-chlor-N-isopropyl-N-acetanilide (Ramrod)	35.0 ug/l
(52)	Propanil, or 3', 4'-dichloropropionanilide	7.0 ug/l
(53)	Aldicarb, [2-methyl-2-(methylthio) propionaldehyde *O*-(methyl carbamoyl) oxime] and methomyl [1-methylthioacetaldhyde *O*-(methyl-carbamoyl) oxime]	0.35 ug/l
(54)	Bromacil, or 5-broma-3-sec-butyl-6-methluracil	4.4 ug/l
(55)	Paraquat, or 1, 1'-dimethyl-4, 4'-dipyridylium	2.98 ug/l
(56)	Trifluralin, or α, α, α-trifluoro-2, 6-dinitro-, N-dipropyl-p- toluidine (Trefian)	35.0 ug/l
(57)	Nitralin, or 4-(methylsulfonyl)-2, 6-dinitro-N, N-dipropylaniline (Planavin)	35.0 ug/l
(58)	Benefin, or N-butyl-N-ethyl-α, α, α-trifluoro-2, 6- dinitro-p-toluidine (Balan)	35.0 ug/l

	Items	Specifications
(59)	Azinphosmethyl, or *O, O*-dimethyl-S-4 oxo-1, 2, 3-benzotriazin-3 (4H)-ylmethylphosphorodithioate (Guthion)	4.4 micrograms per liter
(60)	Diazinon, or *O, O*-diethyl O-(2)- isopropyl-4-methyl-6- pyrimidinyl)-Phosphorothioate	0.7 micrograms per liter
(61)	Phorate (also for Disulfoton), or *O, O*-diethyl-*S*-[(ethylthio) methyl]-phosphorodithioate (Thimet R), and disulfoton, or *O, O*-diethyl-S-[(2-ethylthio) ethyl] phosphorodithioate (Di-System R)	not detectable[3]
(62)	Carbaryl, or 1-naphthyl-N-methylcarbamate	28.7 micrograms per liter
(63)	Ziram, or zinc salts of dimethyldithiocarbamic acid	4.18 micrograms per liter
(64)	Ferbam, or iron salts of dimethyldithiocarbamic acid	4.18 micrograms per liter
(65)	Captan, or *N*-trichloromethylthio-4-cyclohexene-1, 2-dicarboximide	17.5 micrograms per liter
(66)	Folpet, or *N*-trichloromethylthiophthalimide	56.0 micrograms per liter
(67)	Hexachlorobenzene (HCB)	0.35 micrograms per liter
(68)	Paradichlorobenzene (PDB) (Also orthodichlorobenzene)	4.7 micrograms per liter
(69)	Parathion (and Methl parathion), or (*O,-O*-diethyl-*O*-*p*-nitrophenylphosphorthioate, an methyl parathion, or *O,O*-dimethyl- *O*- *p*- nitrophenylphosphorothioate	1.5 micrograms per liter
(70)	Malathion, or *S*-1, 2-*bis* (ethoxycarbony 1) ethyl-*O,O*-dimethylphosphorodithioate	7.0 micrograms per liter
(71)	Maneb, or- manganese salt of ethylene- bis- dithiocarbamic acid	1.75 micrograms per liter
(72)	Zineb, or zinc salt of ethylene-bis-dithiocarbamic acid.	1.75 micrograms per liter
(73)	Dithane, or zincate of manganese ethylene-bis-dithiocarbemate	1.75 micrograms per liter
(74)	Thiram, or tetramethylthiuramdisulfide	1.75 micrograms per liter
(75)	Atrazine, or 2-chloro-4-ethylamino-6-isopropylamino-S-triazine	7.5 micrograms per liter
(76)	Propazine, or 2-chloro-4, 6-diissopropylamino-S-triazine	16.0 micrograms per liter

dows set in almost round recesses, decorative brickwork and bargeboards, stone quoins and trim, 1st-story window with stained glass transom. Original L-shaped structure enlarged and redecorated with Queen Anne elements, late-19th C. *Private.*

Poughkeepsie. **LOCUST GROVE (SAMUEL F. B. MORSE HOUSE)**, 370 South St., 1830. Frame, clapboarding; 2 stories, modified T shape, gabled roof, interior chimneys, bracketed cornice, projecting octagonal wings, 4-story stuccoed end tower with round arched windows, porch with latticework fascia and posts, carriage house extension with large round arched openings; substantially expanded during Morse's ownership. Italianate. Home after 1847 of Samuel F. B. Morse, inventor of the telegraph and a noted artist who had studied and traveled in England and Europe. *Private; not accessible to the public:* NHL.

Poughkeepsie. **MAIN BUILDING, VASSAR COLLEGE,** Vassar College campus, Mid-19th C., James Renwick, architect. Brick, 4 stories with 5-story pavilions, U-shaped, mansard roof punctuated by towers and central convex mansard section. One of the earliest Second Empire buildings in the U.S.; reputedly designed after 16th C. Tuileries Palace. School founded by Matthew Vassar, Poughkeepsie philanthropist who pioneered higher education for women. *Private.*

POUGHKEEPSIE. **MILL STREET-NORTH CLOVER STREET HISTORIC DISTRICT,** 19th–20th C.. Residential area containing primarily 2–3-story brick houses from post-Civil War period in styles ranging from Greek Revival to those of the Victorian period; notable are the numerous Second Empire structures and the Queen Anne Italian Center (see also Italian Center, NY). Eastern section became city's civic and cultural center under direction of the Vassar family. *Multiple public/private.*

Poughkeepsie. **POUGHKEEPSIE CITY HALL,** 228 Main St., 1831. Brick, 2 stories, rectangular, gabled roof, denticulated cornice, front open balustraded frame belfry with hipped roof, rear cupola with pyramidal roof, front center entrance with transom and side lights; brownstone trim including wide belt course between stories, lintels, and sills; 2 brick additions; altered. Greek Revival. Built as market and village hall, presumably with open 1st-floor market area; served as post office, 1865–1886. *Municipal.*

Poughkeepsie. **SECOND BAPTIST CHURCH,** 36 Vassar St., Mid-19th C.. Brick base, frame, flush siding; 1 1/2 stories over high basement, rectangular temple-form, gabled roof, interior end chimneys, entablature surrounding building; front tetrastyle Doric pedimented portico with balustrade, oculus in tympanum, and 2 entrances with shouldered architraves; side pilasters; side rectangular windows, each with cornice and shouldered architrave; altered. Greek Revival. Property originally purchased from Matthew Vassar's family; building has been used for Protestant and Jewish worship. *Private.*

Poughkeepsie. **UNION STREET HISTORIC DISTRICT,** About 8 blocks in downtown Poughkeepsie centered around Union St., 19th C.. Working class urban neighborhood containing 173 historical commercial and residential structures; features numerous 2 1/2-story brick buildings in styles from Federal to those of the Victorian period, long narrow lots, and backyards. City's oldest section; settled largely by German, Irish, Italian, and Slavic immigrants, and by Blacks. *Multiple public/private.*

Poughkeepsie. **VASSAR HOME FOR AGED MEN,** 1 Vassar St., 1880. Brick, 3 stories over high basement, rectangular, low hipped roof with deck, interior end chimney, gabled section rises above cornice line on each side, bracketed cornice with narrow arched corbel tables below, stairway leads to front entrance with transom; 1-story balustraded porch with slender columns, similar side and rear porches with entrances; granite banding connects granite architraves and sills. Italianate. Built on the site of Matthew Vassar's town residence as home for men 65 and over, as established by Matthew Vassar, Jr., and John Guy Vassar. *Public.*

Poughkeepsie. **VASSAR INSTITUTE,** 12 Vassar St., 1882, J. A. Wood, architect. Brick, 2 1/2 stories, rectangular, convex mansard and hipped roof sections, interior chimney, round arched dormers with raised ridge, bracketed cornice with decorative frieze, front center 3-story tower, entrance porch with paired columns, recessed brick paneling, segmental arched openings, granite trim, rear lower wing with round arched windows houses auditorium; tower dome removed. High Victorian Italianate with Second Empire elements. Built for Matthew Vassar Jr. and John Guy Vassar; contained natural history museum and library. *Private.*

Poughkeepsie. **VASSAR, MATTHEW, ESTATE (SPRINGSIDE),** Academy and Livingston Sts., 1850–1852. Andrew Jackson Downing, architect. Rural estate containing a 2-story cottage with board-and-batten siding, gabled roof, bay windows, and decorative bargeboards, shutter trim, and bracketing; a gatehouse in similar style; and the remains of an E-shaped barn complex. Picturesque Gothic Revival. Home of Matthew Vassar, Poughkeepsie brewer and Vassar College founder (see also Main Building, Vassar College, NY). Grounds also designed by early landscape architect Andrew Jackson Downing. *Private; not accessible to the public:* NHL; HABS.

Red Hook. **MAIZEFIELD,** 75 W. Market St., 18th–19th C.. Brick, 3 stories, rectangular main block with later additions, flat roof, 4 interior end chimneys, 1-story front entrance portico with Palladian window above, heavy cornice with block modillions. Federal. Only extant dependency–2-story, hipped roof board-and-batten cottage designed by Alexander Jackson Davis. Residence of Gen. David Van Ness, prominent military and political leader in the late-18th and early-19th C. *Private.*

Rhinebeck. **DELAMATER, HENRY, HOUSE,** 44 Montgomery St., 1844, Alexander Jackson Davis, architect. Frame, board-and-batten siding; modified rectangle; hipped roof with cross gable, each end with finial; interior chimneys, carved scalloped bargeboards; 3 front Tudor arched openings, 1-story 3-bay-wide porch with carved flat posts and brackets forming Tudor arches, balustraded deck; center 2nd story and attic, each with rectangular window under blind pointed arch with tracery; each side with bay window; interior designed by architect to harmonize with exterior design; rear veranda enclosed and extended; board-and-batten carriage house. Excellent example of Gothic Revival cottage design advocated by Alexander Jackson Davis and Andrew Jackson Downing. *Private.*

Sylvan Lake vicinity. **SYLVAN LAKE ROCK SHELTER,** 5000 B.C.–700 A.D.. Undisturbed stratified rock shelter; served as winter camp for Archaic hunters beginning c. 5000 B.C. Excavations between 1964 and 1966 revealed numerous remains of the Sylvan Lake Culture (c. 2500 B.C.), elements of the Susquehanna Tradition (c. 1500–1000 B.C.), and Middle and Late Woodland deposits. *Private.*

ERIE COUNTY

Buffalo. **ALBRIGHT-KNOX ART GALLERY,** 1285 Elmwood Ave., in Delaware Park, 1900–1905, Edward B. Green, architect. Partially marble faced, 2 stories, modified H shape, gabled roof sections; E pedimented Ionic entrance portico flanked by colonnaded wings ending in pavilions, each with caryatids by Augustus Saint Gaudens; W semielliptical Ionic porch flanked by colonnaded sections; interior sculpture courtyard. Neo-Classical Revival. Built to permanently house the collections of the Buffalo Fine Arts Academy. *Private.*

Buffalo. **BUFFALO STATE HOSPITAL,** 400 Forest Ave., 1871–1890, Henry Hobson Richardson, architect. Random rough ashlar sandstone, brick; 3 1/2 stories above high basement, main block with 5 W wards and 2 E wards, gabled and hipped roof sections, gabled and flared hipped dormers, front entrance recessed under 3-bay arcade flanked by projecting pavilion; 2 main-block towers with steeply hipped roofs, shed dormers, and corner turrets; machicolations, rectangular and segmental arched windows, wings with projecting cross-gable sections; 3 wards removed, 1960's; 4 service buildings; site plan by Frederick Law Olmsted. Richardsonian Romanesque elements. Early development example of Henry Hobson Richardson's work. *State:* HABS.

Buffalo. **DELAWARE AVENUE HISTORIC DISTRICT,** W side of Delaware Ave. between North and Bryant Sts., 19th–20th C.. Remaining section of elite residential area of predominantly turn-of-the-century grand dwellings. Era's Neo-Classical and Georgian Revival styles

represented in designs by noted architects such as McKim, Mead, and White. Reflects overwhelmingly successful economic development stimulated by Pan-American Exposition, 1901. Prominent residents included Anson C. Goodyear and Millard Fillmore. *Multiple public/private.*

Buffalo. **GUARANTY BUILDING (PRUDENTIAL BUILDING)**, Church and Pearl Sts., 1894–1895, Louis Sullivan, architect. Steel frame, terra cotta sheathing; 12 1/2 stories, U-shaped, flat roof; front and side entrances, each with large lunette at 2nd-story level; first 2 stories topped by narrow cornice form base for upper levels, upper-story fenestration organized in vertical bands under round arches, oculi in coved section below cornice, decorative terra cotta ornament in low relief covers entire building; interior lobby with cast iron and leaded glass skylight, mosaic frieze and cast iron stairway; 1st-story store windows altered 1970 to form flat plane behind piers. Sullivanesque. A milestone in modern skyscraper development by Louis Sullivan, building successfully integrates structural clarity with ornamentation. *Private:* NHL; HABS.

Buffalo. **MACEDONIA BAPTIST CHURCH**, 511 Michigan Ave., 1845. Brick, 1 story, rectangular, gabled roof, enclosed entrance vestibule flanked by round arched windows in recessed rectangular panels, rounded and inscribed stone plaque above entrance; modified meetinghouse plan with apse; 20th C. alterations. Social and religious center for Black community for 125 years. Parish of Dr. J. Edward Nash, a founder of the Buffalo Urban League and the local branch of the NAACP. *Private.*

Buffalo. **PIERCE ARROW FACTORY COMPLEX**, Elmwood and Great Arrow Aves., 1906, Albert Kahn, architect. Factory complex containing 14 major buildings mainly of reinforced concrete steel with brick and glass curtain walls; saw-tooth roof sections, large spans up to 60'; some Arts and Crafts decorative elements on Administration Building front. Represents synthesis of trends foreshadowing developments in factory design; owned and operated by Pierce Arrow Co. until 1938; buildings later converted for diversified commercial use. *Multiple private.*

Buffalo. **ST. PAUL'S EPISCOPAL CATHEDRAL**, 125 Pearl St., 1850–1851, Richard Upjohn, architect. Sandstone ashlar, 1 story, irregular shape, gabled roof sections; cornice sections, some with modillions, some with trefoil arcading; front 3-stage tower with tall spire, entrance porch, transept chapel with entrance and adjacent 3-stage bell tower with spire, nave lancet windows with label molds, buttresses; towers completed 1870's; 1888 fire destroyed interior; new interiors designed by English architect, Robert Gibson; clerestory added. Fine example of Gothic Revival building adapted to unusual triangular site. *Private:* HABS.

Buffalo. **THEODORE ROOSEVELT INAUGURAL NATIONAL HISTORIC SITE**, Delaware Ave., 1838. Site includes Ansley Wilcox house: brick, 2 1/2 stories, modified rectangle; gabled roof sections, some with end returns; interior end chimney; front full-width 2-story pedimented portico, center entrance with fanlight, Palladian window in tympanum; 1863 remodeling, portico moved; 1890's additions; 20th C. interior alterations; restored. Greek Revival. Built for officers' quarters as part of Poinsett Barracks; site of Theodore Roosevelt's inauguration Sept. 14, 1901 after William McKinley's assassination. Museum. *Federal/NPS.*

Buffalo. **U.S. POST OFFICE**, 121 Ellicott St., 1897–1901, James Knox Taylor, architect. Rock-faced granited base, granite ashlar; 4 1/2 stories over high basement, modified rectangle, gabled and pyramidal roof sections, numerous gabled dormers, modillion cornice; front center tall tower with corner turrets, gargoyles, and spire with crockets and finial; front 3 entrances recessed under 3-bay entrance porch with elaborate Gothic detailing, each side with 3-bay entry and 1–3 entrances; rear cast iron porte-cochere, string courses, windows grouped under pointed arches; molded and carved detail including foliate capitals and buffalo heads; 4-story-high central courtyard above 1st floor with steel and glass roof surrounded by galleries with rectangular, segmental, and pointed arched openings; 1936 remodeling included roofing of 1st floor of courtyard and skylight. Later Gothic Revival. Excellent example of late-19th C. dual-nature architecture combining revivalist style with technological innovations; designed by James Knox Taylor, Supervising Architect of the U.S. Treasury. *Federal/GSA:* HABS.

East Aurora. **FILLMORE, MILLARD, HOUSE**, 24 Shearer Ave., 1826. Frame, clapboarding; 1 1/2 stories, modified L shape, gabled roof sections, exterior end chimneys, 1-story full-width front tetrastyle Doric porch, front center entrance; moved, 1915 and 1930; altered, c. 1930. Greek Revival elements. Built by Millard Fillmore, lawyer, state and U.S. representative, and U.S. Vice President who became President upon the death of Zachary Taylor in 1850. *Private; not accessible to the public:* NHL.

East Aurora. **ROYCROFT CAMPUS**, Main and W. Grove Sts., Late-19th C.–1938. Complex containing approximately 9 structures, the majority of which feature crenelated towers, half-timbered gables, and stone or shingled exteriors. Built as part of Arts and Crafts artistic community established in late-19th C. by writer Elbert Hubbard after visiting a similar English community organized by Arts and Crafts movement leader William Morris; utilized Medieval organization and building concepts as inspired by the writings of John Ruskin; in operation until 1938. *Multiple public/private.*

Irving. **THOMAS INDIAN SCHOOL**, NY 438 on Cattaraugus Reservation, 1900, Barney and Chapman, architects. Educational complex consisting of 9 principal brick Georgian Revival buildings and 25 dependencies; notable is the elaborate Administration Building with its ornate stone trim and decorative use of Indian related motifs and subject matter. Built by NY on reservation as a self-sufficient educational facility; school began, mid-18th C., as the Thomas Asylum of Orphan and Destitute Indian Children and developed into a successful, accredited educational institution; in operation until 1958 when closed as result of centralization of the public school system. *Tribal.*

ESSEX COUNTY

ADIRONDACK FOREST PRESERVE, *Reference—see Clinton County*

Crown Point. **FORT ST. FREDERIC**, Jct. of NY 8 and 9N, 1731. Limestone ruins of fort established by French to guard Lake Champlain route into Canada. Abandoned in 1759 after Lord Jeffrey Amherst captured nearby Fort Carillon, which the British renamed Fort Ticonderoga (see also Fort Ticonderoga, NY), during the French and Indian War. *State:* NHL.

Crown Point vicinity. **FORT CROWN POINT**, Crown Point Reservation, SW of Lake Champlain Bridge and NY 8, 1760. Limestone walls of 5-sided fort containing 6.5-acre parade ground and 2 of 3 original barracks, and surrounded by dry moat. Constructed by British as Fort Crown Point or Amherst after Lord Jeffrey Amherst who drove French from area during the French and Indian War. Damaged in 1773 when powder magazine exploded; reconstruction interrupted by Revolution was never completed. Occupied alternately by Americans and British during Revolution. *State:* NHL.

Essex vicinity. **CHURCH OF THE NAZARENE**, W of Essex on NY 22, 1855. Frame, board-and-batten siding; gabled roof with double pitch and end returns, front shoulder arched entrance, lancet windows, trefoil in gable; interior wooden arches spring from unengaged wooden posts to form primary roof support. Gothic Revival. Simple design apparently based upon small mission chapel prototype in Richard Upjohn's *Rural Architecture*, published 1852. *Private.*

Essex vicinity. **OCTAGONAL SCHOOLHOUSE**, On Rte. 22 in Bouquet, 1826, Benjamin Gilbert, builder. Rubble sandstone, 1 story, modified octagon, polygonal roof, octagonal open belfry with polygonal roof, front entrance with shed porch, rear entrance leads to frame vestibule addition; porch added. Octagon Mode. Probably state's oldest schoolhouse; served as school until 1952. *Municipal.*

Ironville. **IRONVILLE HISTORIC DISTRICT**, 19th C.. Rural residential area includes focal Penfield Homestead (1828), other houses, church, boardinghouse, Grange Hall, inn, schoolhouse, and ruinous remains of ironworks. Est. 1807; developed major iron industry; pioneered in industrial use of electricity. Museum. *Multiple private.*

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1986

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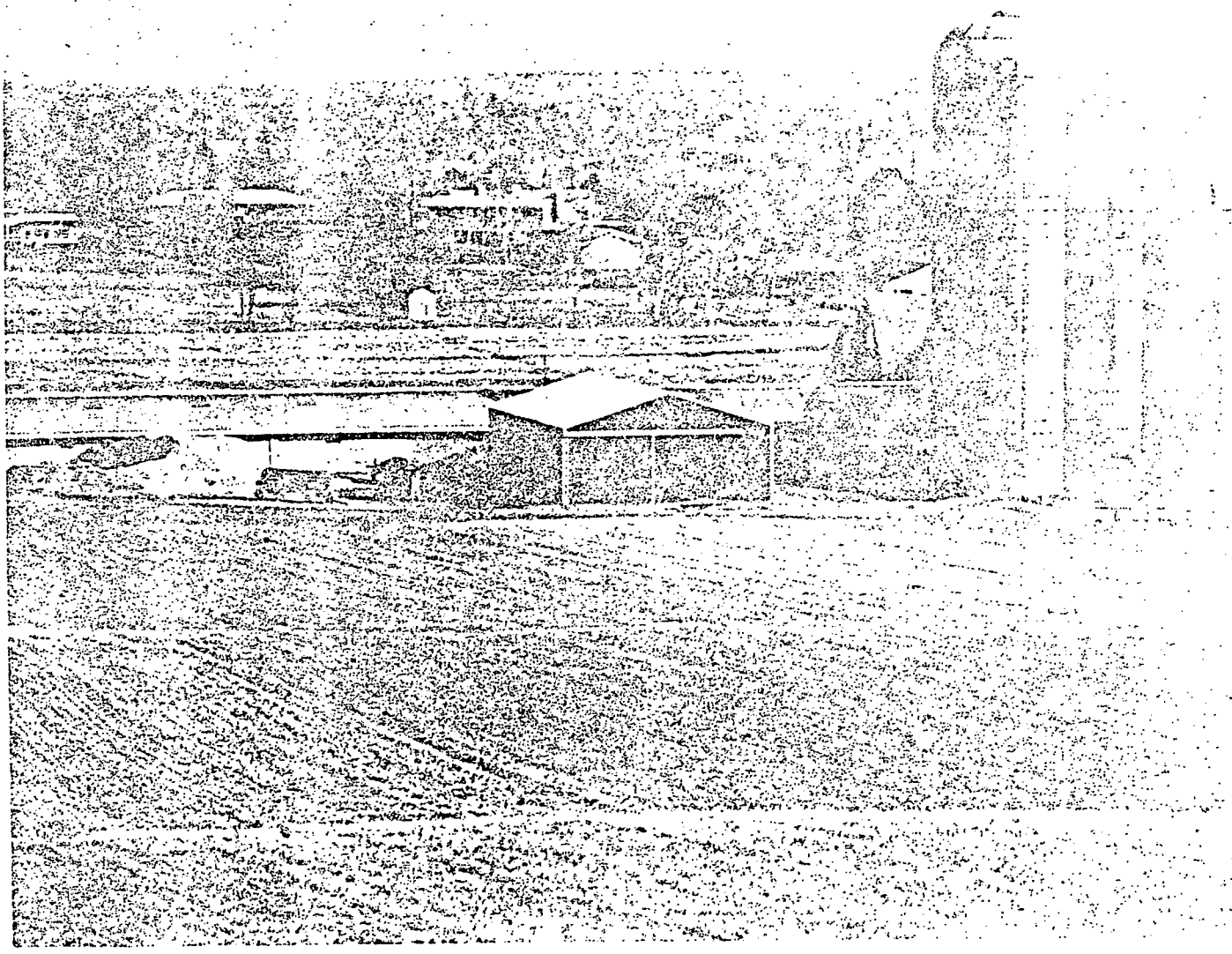
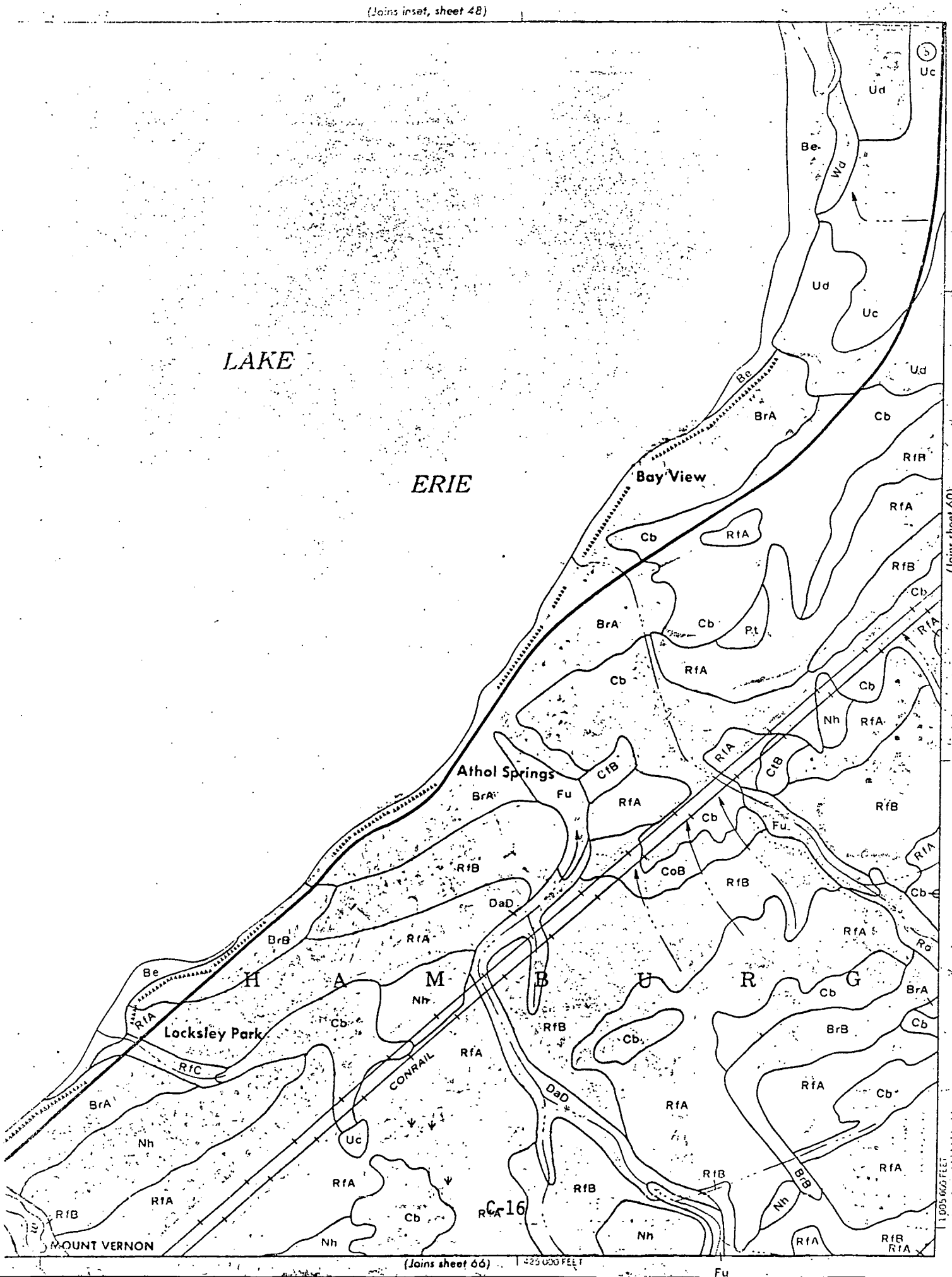
Soil Survey of Erie County, New York

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LAKE
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Bay View
Athol Springs
Locksley Park
MOUNT VERNON
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C-16

that are highly developed for commercial, industrial, or residential uses intermingled with small open areas of undisturbed soils. The urban land part consists of sites of houses, buildings, parking lots, streets, sidewalks, and other areas covered by asphalt or concrete. The open areas of relatively undisturbed soils consist mostly of small lawns, gardens, courtyards of apartments, undeveloped lots, small local parks, and traffic islands. The soils in these areas formed mostly in glacial till, lake-laid sediments, or alluvium. They occur mainly in and around the city of Buffalo. Most areas are nearly level, but a few areas are gently sloping or sloping. Further commercial or industrial development is limited by the small size of the remaining open areas.

11. Urban land

Dominantly nearly level urbanized areas and areas of well drained to poorly drained soils and disturbed soils; on lowland plains

This map unit is composed of areas that are highly developed for commercial, industrial, or residential uses. Most of the areas are in and around the city of Buffalo. They are on a low plain that gently tilts toward Lake Erie or the Niagara River shoreline. A limestone escarpment causes a slight rise in the landscape in the northeast part of this unit. Slope is mainly 0 to 3 percent but ranges up to 15 percent.

This map unit covers about 10 percent of the county. Urban land makes up 50 percent of the unit, and soils of minor extent make up the remaining 50 percent.

In the Urban land part of this map unit very little of the original undisturbed soil remains. Most areas are heavily developed residential blocks, roads, parking lots, shopping centers, business districts, and industrial complexes. The residential uses include foundations, driveways, sidewalks, streets, paved tennis courts, and playgrounds. In some areas where the soil surface is exposed, such as small lawns and gardens, traffic islands, and courtyards, the soil surface has been disturbed by cutting, filling, or grading.

Soils of minor extent include the Lima, Niagara, Odessa, Schoharie, Teel, Wassaic, Cayuga, and Churchville series. The moderately well drained Lima soils formed in deep glacial till deposits, and the well drained and moderately well drained Wassaic soils formed in a thin till mantle over bedrock. The somewhat poorly drained Niagara soils formed in silty lacustrine sediments. The moderately well drained and well drained Schoharie soils and the somewhat poorly drained Odessa soils formed in clayey deposits. The Teel soils are on flood plains along the major streams. The well drained and moderately well drained Cayuga soils and the somewhat poorly drained Churchville soils are on till plains mantled with clayey lake-laid sediments.

The margins of this map unit are slowly expanding into adjacent undisturbed soil areas. This is primarily a land use change from rural to residential areas and an occasional shopping complex or industrial park.

The open areas of undisturbed soils within this map unit are not well suited to further development because of their small size. Most new development is taking place where old buildings have been demolished. A few of the larger open areas are suitable for local parks or recreational areas depending on the limitations of the particular soil.

placed across the slope help eliminate trail gullying. Seedling mortality and uprooting of trees during windy periods are generally not serious hazards on this soil.

Slope, depth to bedrock, seasonal high water table, and slow permeability of the subsoil and substratum are serious limitations for many urban uses of this soil. Although excavations are costly, the shale bedrock usually is rippable with a backhoe. Foundations and basements are benefited by drains that reduce the wetness associated with the seasonal high water table and lateral seepage. Many areas are suitable for various recreational uses.

This Aurora soil is in capability subclass IIIe.

Be—Beaches. This is a miscellaneous area consisting of sandy or sandy and gravelly material deposited mostly by waves along beach fronts. Most areas are along the shores of Lake Erie. They are mostly narrow, long strips that conform to the shoreline. Some areas have been slightly altered by man to make them more useful for recreational purposes. Slope ranges from 0 to 8 percent.

Typically, these beach areas have a discontinuous layer of driftwood, sticks, and bark covering about 10 percent of the sandy surface. The sandy or gravelly material is usually light colored, and individual particles are rounded as the result of wave action. Beaches are usually devoid of live vegetation; however, some areas have coverings of washed-up algae, seaweeds, and other aquatic plants. Many areas are almost continually moist because of constant wave action.

Included in mapping are significant areas of riverwash, consisting mostly of gravel and cobblestones. These areas usually occur as fan deposits where large streams and creeks empty into lakes. Also included are areas where rock fill or railroad ties have been installed to control beach-front erosion.

Beaches are poorly suited to farming, urban uses, and woodland because they are inundated by waves during high water periods. Generally, the potential is poor for wildlife habitat, although sea gulls and some birds feed on dead prey and debris that wash up on the beach.

The suitability of these areas for recreational uses ranges from very good to poor. Most areas are suitable for swimming, sunbathing, and other beach activites. Other areas are not suitable because of location and variability of the soil material, especially in areas where streams and creeks empty into lakes. Onsite investigation is required for any proposed use.

Beaches are not assigned a capability subclass.

BfA—Benson very cherty loam, 0 to 3 percent slopes. This nearly level soil is somewhat excessively drained to excessively drained. It formed in glacial till that is underlain by bedrock 10 to 20 inches below the surface. This soil is on nearly flat benches at the edge of the upland plateau. Areas of this soil are irregular in shape and range from 5 to 100 acres or more.

Typically, this soil has a surface layer of friable, dark grayish brown very cherty loam 6 inches thick. The subsoil consists of friable, dark-yellowish brown very cherty loam about 6 inches thick. The substratum consists of porous, brown very cherty loam about 3 inches thick. Hard, grayish cherty limestone bedrock is at a depth of 15 inches.

Included with this soil in mapping are small areas where the layer of soil over the limestone bedrock is less than 10 inches thick. Also included are areas of Wassaic soils that are underlain by bedrock at a depth of 20 to 40 inches. In some areas the surface layer is a cherty loam or loam that has a lower content of rock fragments. Included quarries are indicated by a special symbol on the soil map. Areas of included soils range from 1/4 acre to 2 acres.

Bedrock is at a depth of 10 to 20 inches in this Benson soil. Rock fragments make up 35 to 55 percent of the surface layer. Rooting depth is limited by the underlying bedrock. Permeability is moderate throughout the soil. The available water capacity is very low or low, and runoff is slow. The surface layer is medium acid to neutral, and the subsoil is slightly acid to mildly alkaline.

This soil is poorly suited to farming and most urban uses. Most of the acreage is idle or wooded. A few areas are urbanized.

This Benson soil is poorly suited to cultivated crops because of the shallow depth to bedrock, droughtiness, and numerous small rocks. Productivity is generally low, except in years of high rainfall. Conservation practices that increase organic matter content and thus increase the available water capacity of the soil are growing sod crops in the cropping system, using cover crops, returning of crop residues to the soil, and keeping tillage to a minimum. The excessive amount of cherty fragments can be a problem in planting fine-seeded crops and may cause excessive wear of machinery.

This soil can be used for pasture, but droughtiness in midsummer keeps forage yields low. Overgrazing can cause the loss of the pasture grasses, especially in dry periods.

The potential of this soil for wood crops is poor. Droughtiness causes a high rate of seedling mortality. Planting early in the spring when the soil is moist improves seedling survival. Uprooting of trees during windstorms is a hazard because of the shallow rooting depth.

The shallow depth to bedrock is a serious limitation for most urban uses of this soil. Blasting of the bedrock may be required for excavations. Lawns are difficult to establish because of droughtiness and the many small rock fragments in the soil. Frequent irrigation helps maintain grass and shrubs. Some areas are suitable for such recreational uses as picnic areas and camp areas.

This Benson soil is in capability subclass IIIs.

Some areas are suitable for pasture. Overgrazing, particularly during dry periods, can cause the loss of the pasture plants and can lead to increased erosion hazard. Reseeding and applying fertilizer are somewhat difficult because of the moderately steep slopes.

The potential of this soil for wood crops is fair to good. Although seedling mortality is generally not a problem, seedlings should be planted very early in the spring when the soil is moist. Use of planting and harvesting equipment is somewhat limited because of the slope. Placing logging trails across the slope helps eliminate any hazard of trail gullying or erosion.

The moderately steep slopes are a serious limitation for most urban uses of this soil. Because erosion is a very serious hazard where vegetative cover is removed, the natural vegetation should be disturbed as little as possible during construction and areas revegetated as soon as possible. Reseeding areas can be difficult because of the high content of shale fragments and slope. Some areas are a source of shaly gravel.

This Blasdell soil is in capability subclass IVe.

BrA—Brockport silty clay loam, 0 to 3 percent slopes. This nearly level soil is somewhat poorly drained. It formed in glacial till having a high content of clay. Soft shale bedrock is at a depth of 20 to 40 inches. This soil is mostly in narrow bands on the lowland plain near Lake Erie. Individual areas range from 5 to 150 acres or more and are generally oblong.

Typically, this soil has a surface layer of dark grayish brown silty clay loam about 8 inches thick. The subsoil extends to a depth of about 23 inches. It is firm and plastic, olive brown silty clay in the upper part and firm and very plastic, dark grayish brown silty clay in the lower part. The substratum is firm, olive shaly silty clay about 8 inches thick. The underlying bedrock, at a depth of 31 inches, is calcareous shale.

Included with this soil in mapping are small areas of the deep Remsen soils and loamy Angola soils. Also included, where the underlying shale bedrock is at a depth of 40 inches or more, are small areas of Churchville and Canadice soils that have textures similar to this Brockport soil. Included wet spots, quarry pits, and drainageways are indicated by special symbols on the soil map. Areas of included soils range from 1/4 acre to 3 acres.

This Brockport soil has a perched seasonal high water table in the upper part of the subsoil during December through May. Bedrock is at a depth of 20 to 40 inches. Small rock fragments range from few to 10 percent in the surface layer and are mostly shale. Rooting depth is limited by the seasonal high water table and the moderate depth to bedrock. Permeability is moderate to moderately slow in the surface layer and very slow in the subsoil. The available water capacity is moderate, and runoff is slow. In unlimed areas, reaction ranges from medium acid to neutral in the surface layer and from medium acid to mildly alkaline in the subsoil.

The soil is moderately suited to farming and poorly suited to urban development. Most areas of this soil a idle, wooded, or in residential use.

If properly drained, this Brockport soil is moderately suited to cultivated crops; but without drainage, it is poorly suited to most crops. Drainage can be somew difficult because the subsoil is very slowly permeable and bedrock is at a moderate depth. Drains usually require close spacing to be effective. Because of the high clay content, maintaining tilth is an additional management concern. If this soil is cultivated, keepir tillage to a minimum, using cover crops, including soc crops in the cropping system, returning crop residues the soil, and plowing at the proper moisture content desirable for maintaining tilth and improving organic matter content. Increasing the organic matter conten improves the available water capacity of the soil. Clodding and crusting of the surface is a problem in areas where tilth has deteriorated.

This soil can be used for pasture, but grazing whe the soil is wet and overgrazing are the main concer pasture management. Grazing during wet periods ca compaction of the soil and trampling of pasture plar which can lead to reduced growth and the loss of ti pasture seedings.

Potential of this soil for wood crops is fair. Seaso wetness limits equipment use and increases seedlir mortality. Because root development is limited by ti seasonal high water table and depth to bedrock, uprooting of trees during windstorms is a hazard.

Moderate depth to bedrock, seasonal wetness, c texture, and very slow permeability in the subsoil ar serious limitations for most urban uses of this soil. Foundations need special protection from seepage water across the surface of the bedrock. Landscap and grading minimizes problems caused by season wetness. Some areas are suited to certain recreati uses, but wetness and the clayey nature of the soil restrict many recreational uses.

This Brockport soil is in capability subclass IIIw.

BrB—Brockport silty clay loam, 3 to 8 percen slopes. This gently sloping soil is somewhat poorly drained. It formed in glacial till that has a high cont clay. Soft shale bedrock is at a depth of 20 to 40 i This soil is on concave, mostly narrow bands on th lowland plain near Lake Erie. Individual areas rang 5 to 100 acres or more and are generally oblong.

Typically, the surface layer is dark grayish brown clay loam about 8 inches thick. The subsoil extend depth of 23 inches. It is firm and plastic, olive brov clay in the upper part and firm and very plastic, da grayish brown silty clay in the lower part. The subs is firm, olive shaly silty clay 8 inches thick. The underlying bedrock is calcareous shale.

...er crops and sod crops in the cropping system ...tect the surface from scour when flooding occurs. ...nearly level soil is well suited to special crops that ...e irrigation and a stone-free plow layer.
...is soil is also well suited to pasture and hay. ...grazing can restrict plant growth and cause the loss ...e pasture seeding. Proper stocking, rotation of ...ures, yearly mowing, and deferment of grazing when ...soil is wet are the main management concerns. ...cations of lime are needed for optimum growth of ...ure grasses.
...e potential of this soil for wood crops is good. Only ...small acreage is wooded. There are few limitations for ...er production. Trees that require acid conditions do ...on this soil.
...ooding is a serious limitation for most urban uses of ...soil. Where the soil is used for septic tank ...orption fields, pollution of the water supply can occur ...use of flooding and because the substratum is ...erately to rapidly permeable. Some areas are well ...ed to recreational uses, such as athletic fields that ...ate a gravel- and stone-free, nearly level site. This ...is an excellent source of topsoil.
...is Tioga soil is in capability class I.

...—Udorthents, smoothed. These soils formed in ...manmade cuts or fills. Most of these areas are ...industrial sites, urban developments, or construction ...These soils consist of various kinds of excavated ...material that has been stockpiled for use as fill or ...ressing, soil and rock material that has been trucked ...other areas and leveled, or soil deposits that are ...areas that have been excavated or deeply ...ed. Fill material is variable in composition, but ...y, earthy material is dominant. In some places, the ...is mixed with slag or cinders around abandoned ...ad yards. In other places, the earthy fill contains up ...0 percent concrete or asphalt and other trashy ...ials.
...is map unit is mainly nearly level or gently sloping. ...e areas are steeper, particularly at the edge of cuts ...along the sides of mounded fill. The areas are ...ible in shape, depending mostly on ownership ...daries. They range from 5 to 700 acres or more. ...larger areas are in the city of Buffalo and adjacent ...ts near the larger industrial complexes.
...dorthents are too variable to have a typical profile, ...in one of the more common profiles the surface layer ...wn or grayish brown very gravelly loamy sand to ...clay loam 1 to 8 inches thick. The substratum is ...monly light olive brown, brown, or dark yellowish ...wn and varies widely in texture from very gravelly ...y sand to silty clay.
...st areas are idle and support scattered weeds and ...sses. A few areas have reverted to brush and tree ...ngs. Some areas, particularly around railroad yards, ...sed for urban development.

These Udorthents are mostly excessively drained to moderately well drained. Often the fill has been placed on very poorly drained to moderately well drained soils. Texture, stone content, soil reaction, and depth to bedrock vary considerably from one area to another. Bedrock, however, is usually at a depth of more than 5 feet. Depth to the seasonal high water table and permeability are variable and depend on topography, degree of compaction, soil texture, and other related factors.

These cut and fill areas are usually poorly suited to farm or recreational uses. Onsite investigation is essential to determine the feasibility of using areas for any purpose.

These Udorthents have not been assigned a capability subclass.

Ud—Urban land. This map unit is a miscellaneous area in which 80 percent or more of the soil surface is covered by asphalt, concrete, buildings, or other impervious structures. It includes parking lots, shopping and business centers, and industrial parks—in the cities of Buffalo and Lackawanna but also the business districts and adjacent shopping centers of villages in the suburban area near Buffalo. These areas generally range from 3 to 500 acres or more and are mostly nearly level to sloping.

Included in mapping are some landfills that have not been built upon or covered with asphalt. In many of these, several feet of fill has been placed over marshes and flood plains. The included areas range up to 3 acres.

It was not practical to examine and identify the soils underlying these impervious Urban land areas. Careful onsite investigation is necessary to determine the suitability and limitations of any abandoned areas for any proposed use. Some abandoned areas are suitable for asphalt-covered playgrounds or other recreation uses requiring a hard, impervious surface.

These Urban lands have not been assigned a capability subclass.

UeB—Urban land-Benson complex, 3 to 6 percent slopes. This complex is made up of gently sloping areas of Urban land and excessively drained and somewhat excessively drained Benson soils. Some areas of the Benson soils have been graded, scalped, or filled during urbanization. This complex is underlain by shallow limestone bedrock. These areas are generally about 5 to 100 acres. Slopes are long and gradual and are occasionally interrupted by ledges of rock outcrop.

A typical area of this complex is about 60 percent Urban land that is covered by concrete, asphalt, buildings, or other impervious surfaces; about 25 percent undisturbed Benson soils; and 15 percent other soils. Urban land and Benson soils occur together in such an

OF

CODES, RULES AND REGULATIONS

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Governor

GAIL S. SHAFFER
Secretary of State

Published by
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Albany, New York 12231

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LINE INSTRUCTIONS

...ert or remove pages in binder plus ...
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TABLE I (contd.)

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
219	E-1-55-2	Tributary of Beaver Meadow Creek	Enters Beaver Meadow Creek from south approximately 4.6 miles above mouth.	12	C	C(T)
220	E-1-56,57 and 58 and tribs. as shown on reference map	Tributaries of Buffalo River	Enter Buffalo River from east and west between Beaver Meadow Creek, item no. 219, and Plato Creek, item no. 221.	12	D	D
221	E-1-59 and tribs. as shown on reference map	Plato Creek	Enters Buffalo River from south approximately 0.9 mile above Java Village.	12	D	D
222	E-1-60,61,62,63, 64,65,66,67 and 68 and tribs. as shown on reference map	Tributaries of Buffalo River	Enter Buffalo River from east and west between Plato Creek, item no. 221, and trib. 69, item no. 223.	12	D	D
223	E-1-69 and tribs. as shown on reference map	Tributary of Buffalo River	Enters Buffalo River from east approximately 0.2 mile below Sardinia-Holland town line.	12	C	C(T)
224	E-1-70	Tributary of Buffalo River	Enters Buffalo River from east approximately 1.0 mile above Erie-Wyoming county line.	12	D	D
225	E-2	Smoke Creek	Enters Lake Erie from east approximately 0.6 mile north of City of Lakawanna-Hamburg town line.	6,7,11	D	D

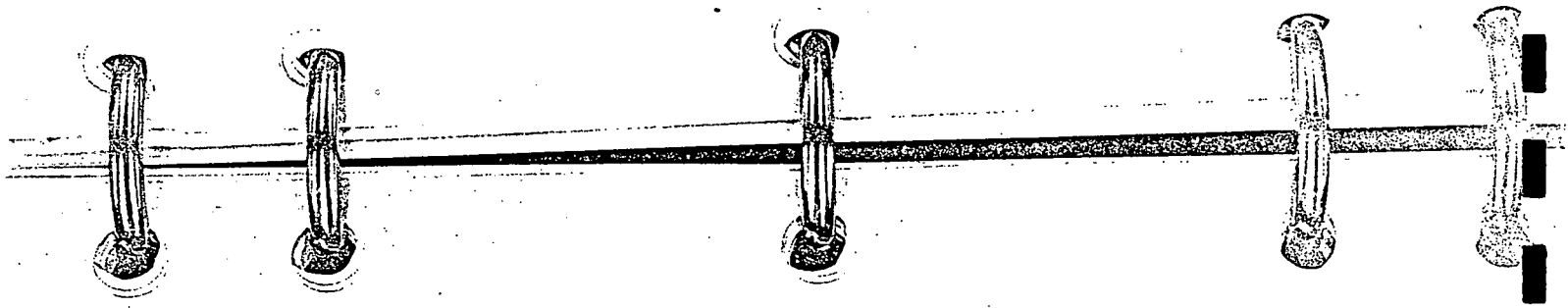


TABLE I *(cont'd)*

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
226	E-2-1 portion as described	South Branch	Enters Smoke Creek from southeast 1.5 miles above mouth. Mouth to Green Lake, item no. 227.	6,7	C	C
227		Green Lake	Located on South Branch just west of S. Buffalo Street, Orchard Park.	7	B	B
228	E-2-1 portion as described	South Branch	From Green Lake, item no. 227, to source.	7,11	B	B
229	E-2-1-1,2,4	Tributaries of South Branch	Enter South Branch between mouth and Green Lake, item No. 227	6,10	D	D
229.1	E-2-1-3	Trib. of South Branch	Mouth to source	6,10, 11	C	C

TABLE I *(cont'd)*

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
232	E-2-2 portion as described including P 80 and P 81 (Freeman Ponds) and tribs. as shown on reference map	Tributary of Smoke Creek	From outlet of P 80, easterly of Freeman Ponds to source.	7,11	C	C
233	E-2-3,4,5,6,7 and 8 and trib. as shown on reference map	Tributaries of Smoke Creek	Enter Smoke Creek above Orchard Park, East Aurora Road (Big Tree Road).	7,11	D	D
234	E-3 portion as described	Rush Creek	Enters Lake Erie from each approximately 1.1 miles south of City of Lackawanna-Hamburg town line. Mouth to a point 1/8 mile above mouth	6	B	B
235	E-3 portion as described and tribs. as shown on refererence map	Rush Creek	From 1/8 mile above mouth to 1.6 miles above mouth	6	D	D
235.1	E-3 portion as described	Rush Creek	From 1.6 miles above mouth to 6.5 miles above mouth	6,10	C	C
235.2	E-3 portion as described	Rush Creek	From 6.5 miles above mouth to source	10	D	D
236	E-4,5,6,7,8,9,10, 11, and 12 and trib. as shown on reference map	Tributaries of Lake Erie	Enter Lake Erie from east and southeast between Rush Creek, item no. 234, and Eighteen Mile Creek, item no. 237.	6,10	D	D

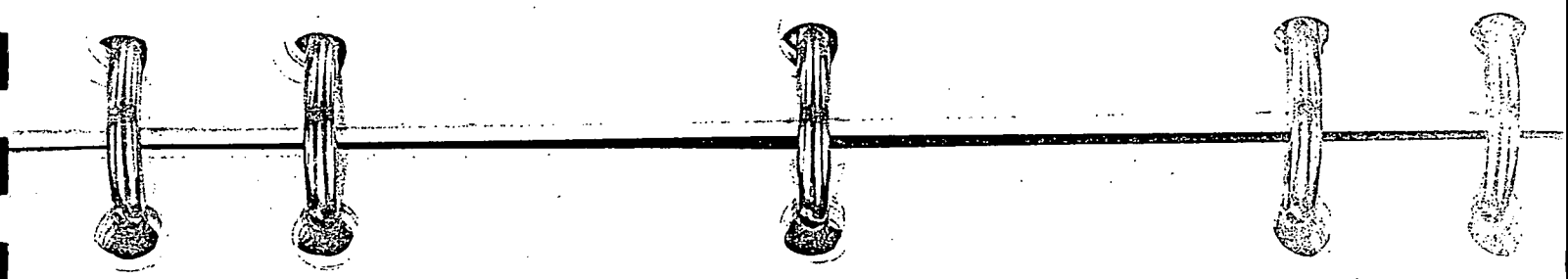
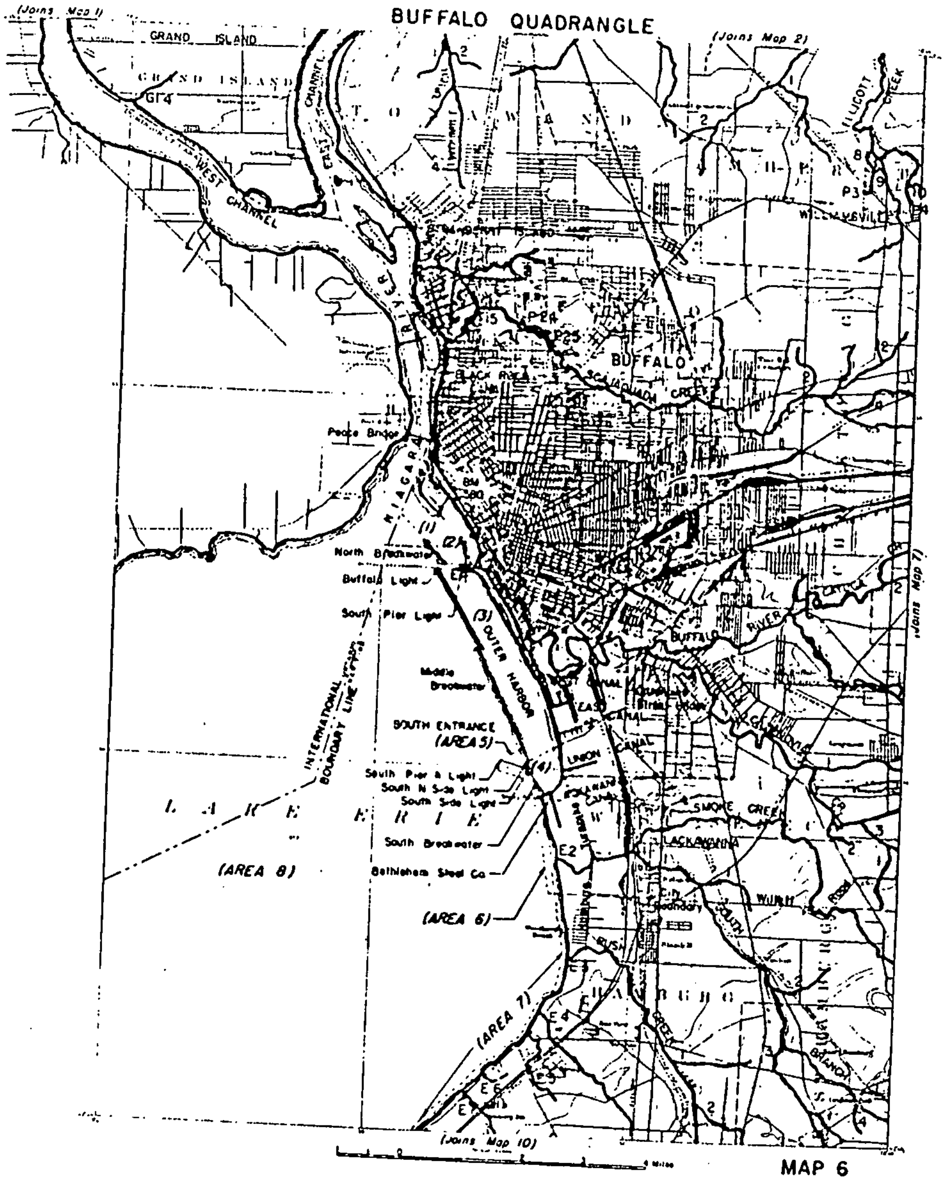
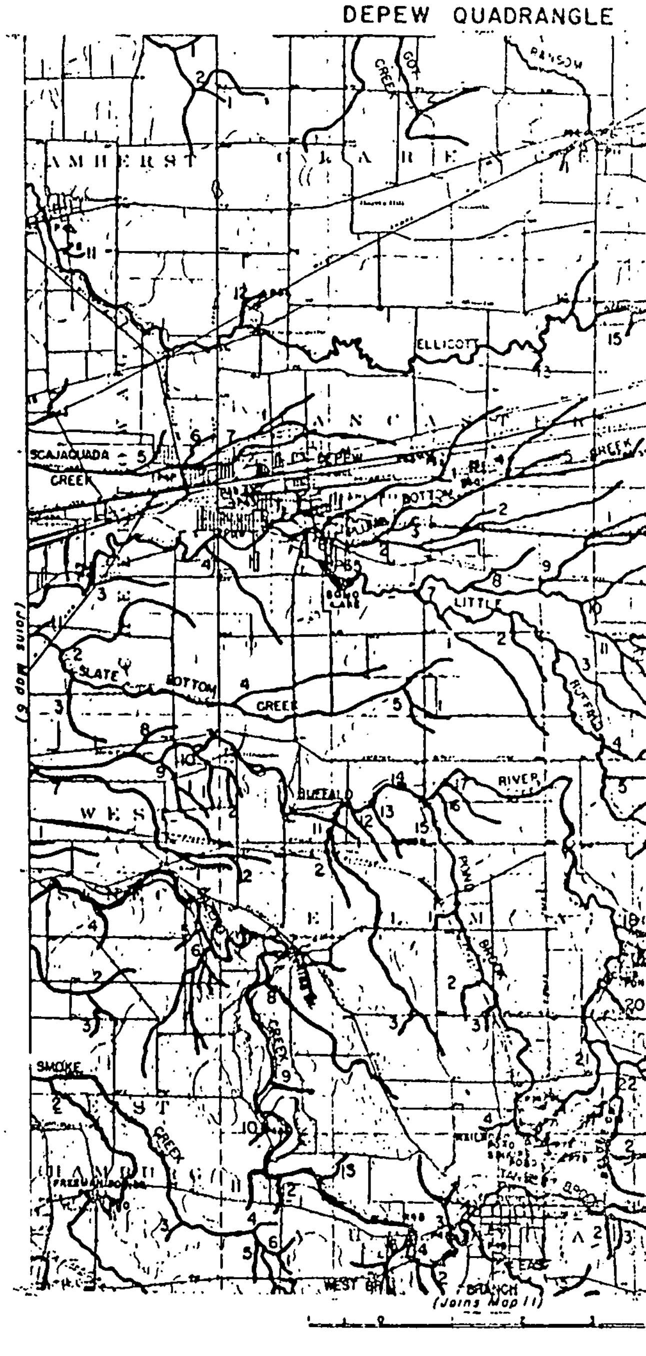


TABLE I *(cont'd)*

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standard
237	E-13 portion as described	Eighteen Mile Creek	Enters Lake Erie from southeast at Evans-Hamburg town line. Mouth to Village of Hamburg water supply dam.	10	B	B
238	E-13 portion as described	Eighteen Mile Creek	From Village of Hamburg water supply dam to trib. 41, item no. 253.	10,11	A	A
239	E-13 portion as described	Eighteen Mile Creek	From trib. 41, item no. 253, to source.	11	A	A(T)
240	E-13-1,2 and 3 and tribs. as shown on reference map	Tributaries of Eighteen Mile Creek	Enter Eighteen Mile Creek between mouth and Eden-Hamburg town line.	10	D	D


BUFFALO QUADRANGLE
(Joins Map 1)
(Joins Map 2)
(Joins Map 7)
(Joins Map 10)
GRAND ISLAND
WEST CHANNEL
ELLICOTT CREEK
WILLIAMSVILLE
BUFFALO
SCAJAQUADA CREEK
Peace Bridge
NIAGARA RIVER
North Breakwater
Buffalo Light
South Pier Light
OUTER HARBOR
Middle Breakwater
SOUTH ENTRANCE
(AREA 5)
South Pier & Light
South N Side Light
South Side Light
South Breakwater
Bethlehem Steel Co.
(AREA 6)
(AREA 7)
(AREA 8)
INTERNATIONAL BOUNDARY LINE
LAKE ERIE
BUFFALO RIVER
SMOKE CREEK
LACKAWANNA
UNION CANAL
MAP 6


DEPEW QUADRANGLE
(Joins Map 6)
(Joins Map 11)
AMHERST
ELLICOTT
SCAJAQUADA CREEK
SLATE BOTTOM CREEK
LITTLE
BUFFALO RIVER
SMOKE
WEST BR.
EAST BRANCH

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

CLASSIFICATION CODE: 2a | REGION: 9 | SITE CODE: 915049
EPA ID:

NAME OF SITE : Snyder Tank Company
STREET ADDRESS: Lake Shore Road
TOWN/CITY: Hamburg | COUNTY: Erie | ZIP: 14219

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: N/A Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Snyder Tank Company
CURRENT OWNER ADDRESS.: S-3774 Lake Shore Rd, Blasdell, NY 14219
OWNER(S) DURING USE...: Snyder Tank Corp.
OPERATOR DURING USE...: Same
OPERATOR ADDRESS.....: Same as above
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1941 To Unknown

SITE DESCRIPTION:
Prior to 1972, pickle liquor was discharged onto a beach along with rinse water resulting in precipitation of iron and discoloration of the beach. An Erie County (DEP) inspection report of March 1984 indicates that on site disposal of the wastes was no longer occurring and all wastes were put into containers and disposed of off-site.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-X	Suspected- QUANTITY (units)
Spent pickle liquor		98,000 gal/yr
Precipatated iron salts		Unknown

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil- Sediment- None-X

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

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

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

GEOTECHNICAL INFORMATION:
SOIL TYPE: Not known
GROUNDWATER DEPTH: Not known

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

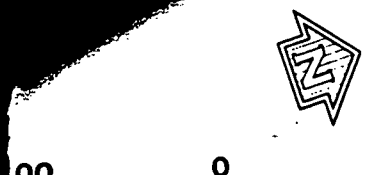
Inadequate data is available to assess environmental problems at this time.

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigati
Air	Unlikely	Unlikely	Yes	Low
Surface Soil	Likely	Unlikely	Yes	Medium
Groundwater	Likely	Unlikely	No	Low
Surface Water	Likely	Unlikely	Yes	Medium

Health Department Site Inspection Date : 7/85

MUNICIPAL WASTE ID:



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scale feet

NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND FLOODWAY MAP

TOWN OF

HAMBURG, NEW YORK

ERIE COUNTY

PANEL 23 OF 32

COMMUNITY-PANEL NUMBERS
360244 0023

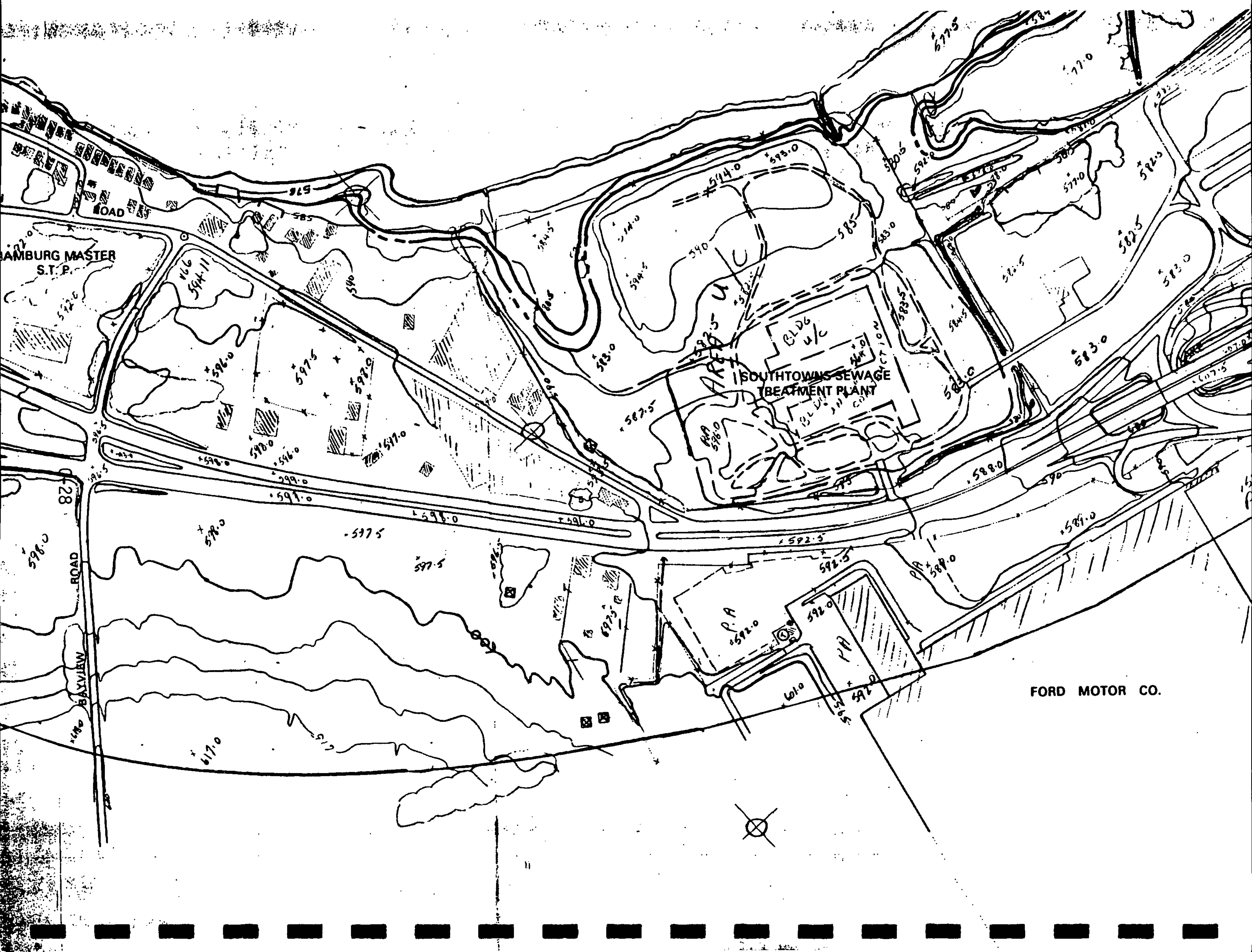
EFFECTIVE DATE:
NOVEMBER 19, 1980

C-27

aper

ecology and environment

Federal Emergency Management Agency


AMBURG MASTER
S.T.P.
ROAD
SOUTHTOWNS SEWAGE
TREATMENT PLANT
28
BAYVIEW
ROAD
FORD MOTOR CO.

ecology and environment, inc.
BUFFALO CORPORATE CENTER
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
International Specialists in the Environment

January 20, 1989

Mr. Richard A. Rink

Assistant Sanitary Engineer
New York State Region 9
Department of Environmental Conservation
600 Deleware Avenue
Buffalo, NY 14202-1073

Dear Mr. Rink:

During the course of Ecology and Environment's preparation of a Phase 1 Investigation Report for the Snyder Tank Corp. site in Hamburg, New York, it was necessary to contact your office for SPDES Discharge Monitoring Report(DMR) information. As you will recall, in our telecommunication you explained that: NYSDEC compliance sampling events (1987) had indicated various elevated SPDES discharge parameters, including oil and grease. These violations were considered to be the result of careless materials handling practices within the plant. It was also explained that HSL contaminants were found in the site ground surfaces and at the current SPDES discharge. Snyder Tank Corp. is the suspected origin of this contamination.

Please sign and date below to varify that the preceding information is correct to the best of your knowledge.

Richard A Rink 1/20/89

Signature Date

Thankyou for your time and cooperation in this matter. If you have any questions, please do not hesitate to call me at 684-8060, ext. 2612.

Sincerely,

Donald A. Johnson

New York State Department of Environmental Conservation
Division of Water
600 Delaware Avenue, Buffalo, New York 14202-1073

Thomas C. Jorling
Commissioner

December 24, 1987

Mr. T. James Snyder
Vice President
Snyder Tank Corporation
3774 Lakeshore Road
Buffalo, New York 14219

Dear Mr. Snyder:

SNYDER TANK CORPORATION
HAMBURG (T), ERIE COUNTY
SPDES PERMIT #NY 0073636

On December 14, 1987, representatives of this Department performed a routine compliance sampling inspection of the above cited facility. The purpose of the sampling inspection was to determine if the facility is in compliance with it's State Pollutant Discharge Elimination System (SPDES) Permit and associated General Conditions.

Based on the inspection and a review of recent Discharge Monitoring Reports (DMRs), the following problems were noted and warrant your attention:

1) A substantial amount of oil stained sand was observed along the discharge ditch at Outfall 001. This same condition was encountered earlier this year at our last inspection. Please remove the stained sand and dispose of it properly. Mr. Robert Mitrey of this office's Division of Solid Waste should be contacted for guidance on this item. He can be reached at 716/847-4585.

   Because this seems to be an on-going problem, an oil sorbent boom should be maintained at Outfall 001. Due to the large number of both interior and exterior drains on the Snyder Tank complex discharging to Outfall 001, there is concern for spilled material washing into the drainage system, improper disposal of materials, impurities in site runoff, etc. These types of problems are intermittent by nature and in all probability would not be noted in the quarterly sampling required by the Permit. We, therefore, request that the Snyder Tank Company develop a "Best Management Practices" (BMP) Plan. Some of this information may have already been informally put together or thought of, however, this document will formalize these ideas and provide a good overall working environmental plan. The requirements of a BMP plan are found in Table 1 (page 10) of the enclosed Guidance Document.

2) Equipment stored outside at the rear of the Northern Shop should not be placed on the sand filter. This can damage the sand filter and/or introduce pollutants into the discharge water depending on what materials can wash off the stored equipment or dissolve in rainwater.

3) The flow rates reported by Snyder Tank on the Discharge Monitoring Reports have been 20,000 gallons per day average and 30,000 gallons per day maximum for approximately the last year. Please supply us information regarding how these flow rates are derived and why there are no variations.

We would very much like to work with Snyder Tank in resolving the items noted above. As such, if you have any questions on the content of this letter or wish to meet to discuss any of the preceeding items, please contact me or Mr. Gerard Palumbo of this office at 716/847-4590.

Very truly yours,

Richard A Rink

Richard A. Rink
Assistant Sanitary Engineer

cc: Mr. Mitrey, Div. of Solid Waste, NYSDEC/Region 9
Mr. Palumbo, Division of Water, NSYDEC/Region 9
Mr. Maylath, Source Surveillance Section, NYSDEC/Albany

RAR:leh

Enclosure

Division of Water
600 Delaware Avenue, Buffalo, New York 14202-1073

January 28, 1988

Mr. T. James Snyder
Vice President
Snyder Tank Corporation
3774 Lakeshore Road
Buffalo, New York 14219

Dear Mr. Snyder:

SNYDER TANK CORPORATION
HAMBURG (T), ERIE COUNTY
SPDES PERMIT #NY 0073636

On December 14, 1987, representatives of this Department performed a routine compliance sampling inspection of the above cited facility. The purpose of the sampling inspection was to determine if the facility is in compliance with it's State Pollutant Discharge Elimination System (SPDES) Permit and associated General Conditions.

The December 24, 1987 letter from this office relates our concerns regarding problems noted during the inspection.

This letter will focus on the sampling results and associated problems. The chart below shows our test results compared to the Snyder Tank SPDES Permit Effluent Limits.

Snyder Tank - SPDES #NY 0073636
Outfall 001

Test Results from 12/14/87 Sampling	Permit Limit
1. pH -7.5	6 - 9
2. Total Supsended Solids (TSS) - 23 mg/l	30 mg/l
3. Ammonia (NH_3) - 0.18 mg/l	
4. Total Kjeldahl Nitrogen (TKN) - 0.60 mg/l	
5. Oil & Grease - 1.0 mg/l	15 mg/l
6. Phenols - 0.005 mg/l	0.5 mg/l
7. Chemical Oxygen Demand (COD) - Not Reportable	
8. Phosphorus (P) - - 0.37 mg/l	2 mg/l
9. Methylene Chloride - 0.002 mg/l	
10. 1,1 Dichloroethane - 0.028 mg/l	
11. Trans-1,2-Dichloroethene - 0.001 mg/l	
12. Chloroform - 0.002 mg/l	

Test Results from 12/14/87 Sampling	Permit Limit
(Con't)	
13. 1,1,1-Trichloroethane - 0.006 mg/l	0.01 mg/l
14. Trichloroethene - 0.001 mg/l	0.01 mg/l
15. Toluene - 0.062 mg/l	0.01 mg/l*
16. Aluminum - 14.35 mg/l	2 mg/l*
17. Arsenic - 0.0052 mg/l	0.15 mg/l
18. Chromium - 0.075 mg/l	0.50 mg/l
19. Copper - 0.0213 mg/l	0.50 mg/l
20. Iron - 3.215 mg/l	2 mg/l*
21. Lead - 0.0062 mg/l	0.6 mg/l
22. Nickel - 0.0476 mg/l	1.3 mg/l
23. Zinc - 0.103 mg/l	0.4 mg/l

*Denotes a SPDES Permit violation

As can be seen by this chart, three violations have been noted [Toluene, Aluminum, and Iron]. Future violations such as these must be prevented. As such, please provide this office with a letter report outlining the cause(s) of the violations, corrective actions to be implemented by the Snyder Tank Co., and a time frame to implement these actions. Please submit this report within 45 days of receipt of this letter. Note, that failure to properly address these violations within the time frame proposed above will be cause for the Division of Water to refer this matter to the Regional Attorney.

If you have any questions on the content of this letter or wish to meet to discuss the preceeding information and requirements, please call me or Mr. Gerard A. Palumbo of this office at 716/847-4590.

Very truly yours,

Richard A Rink

Richard A. Rink
Assistant Sanitary Engineer

cc: Mr. Palumbo, Dow, Region 9
Mr. Lacey, Regional Attorney
Mr. Maylath, Source Surveillance Section
Mr. Townsend, Compliance Section