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ASSESSMENT

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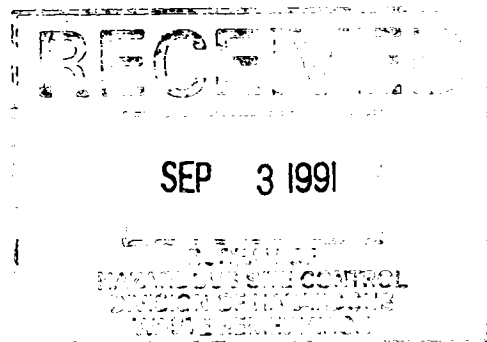
ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

DRAFT

PRELIMINARY SITE ASSESSMENT

Spaulding Fibre Company Site No. 915050C

Town of Tonawanda Erie County



Prepared for:

**New York State
Department of
Environmental Conservation**

50 Wolf Road, Albany, New York 12233
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Division of Hazardous Waste Remediation
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By:

DUNN GEOSCIENCE ENGINEERING COMPANY, P.C.

In association with

TAMS CONSULTANTS, INC.

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

DATA RECORDS SEARCH AND ASSESSMENT
SPAULDING FIBRE COMPANY

NYS Site Number 915050C
Town of Tonawanda
Erie County
New York State

Prepared for:

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Hazardous Waste Remediation
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August 1991

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APPENDICES

Appendix

- A EPA Form 2070-13
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- C Photography
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EXECUTIVE SUMMARY

Introduction

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of a Data Records Search and Assessment (DRSA) for a Preliminary Site Assessment of the Spaulding Fibre Company, Inc., "asbestos landfill" (herein called Site), NYS Number 915050C, EPA Site Number NYD000848440, located in the City of Tonawanda, Erie County, New York (Figure ES-1).

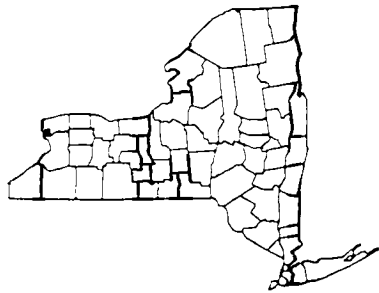
Site Description

The Spaulding Fibre Company, Inc., Industrial Plastics Division, is a privately owned facility located at 310 Wheeler Street, Tonawanda, Erie County, New York. The 50-acre facility, located in a mixed residential/commercial/industrial section of Tonawanda, has been in operation since 1911 (Figure ES-2). The Industrial Plastics Division manufactures plastic laminate boards used as circuit boards and insulation primarily for the electronics industry. Wastes currently generated at the facility include a mixture of phenolic resins, solvents, and solid/powdery grinding and cutting wastes.

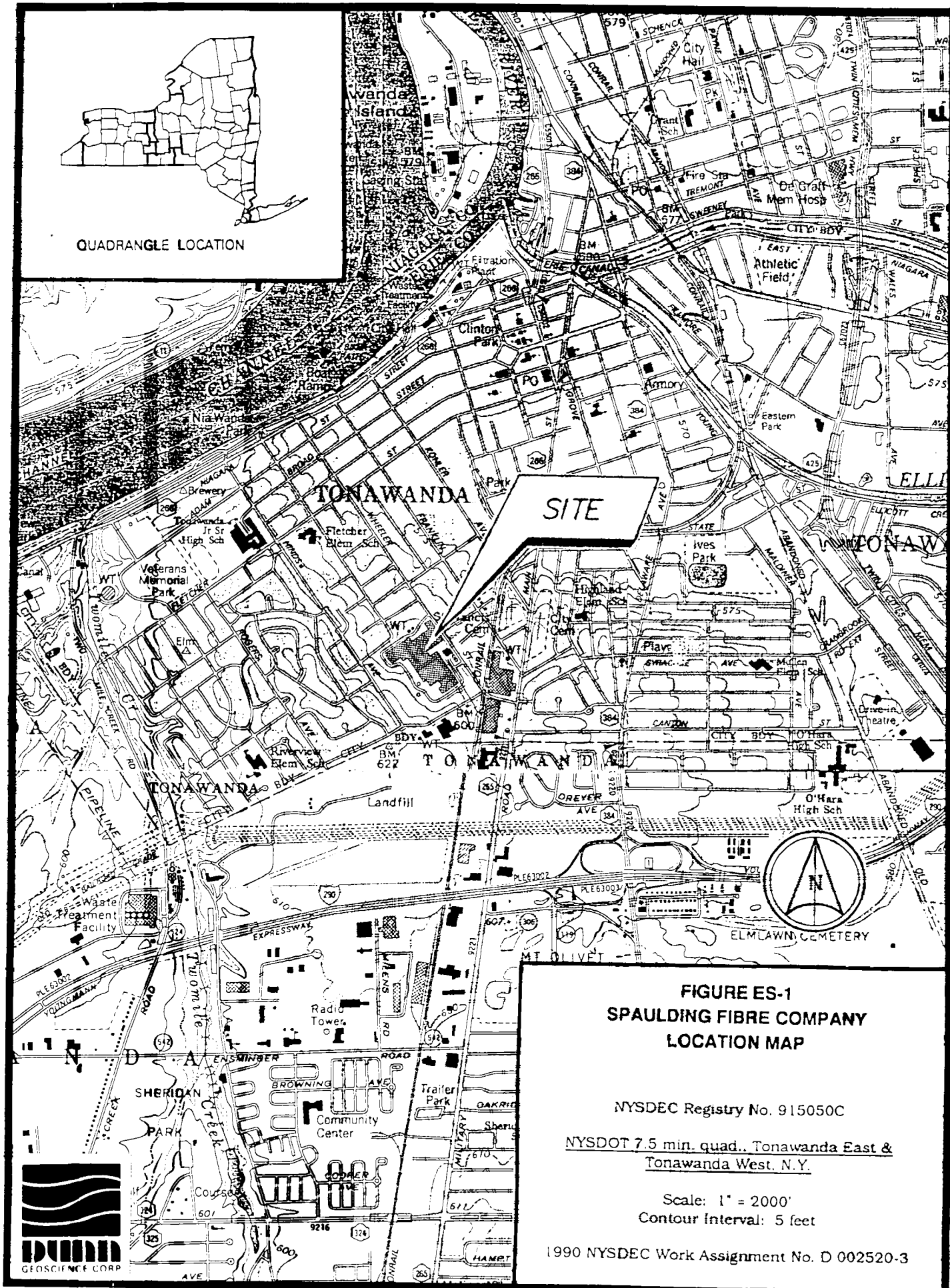
At least three areas on the Wheeler Street property have been or are listed on the NYSDEC Registry of Inactive Hazardous Waste Sites. Site 915050A is a former lagoon area which has been closed and is classified by the NYSDEC as a "5" site. Classification 5 sites are defined as registered hazardous waste sites which are properly closed and no further action is required. Site 915050B is a landfill which reportedly may contain up to 750 drums of solvents and phenolic resin wastes and is classified by the NYSDEC as a "2" site. Classification 2 sites are defined as registered hazardous waste sites which pose a significant threat to the public health or environment and action is required. These two sites are not currently being investigated as part of the scope of this report.

Site 915050C, known as the "asbestos landfill", is the object of this DRSA and is currently classified by the NYSDEC as a "2A" site. Classification 2A sites are defined as registered hazardous waste sites for which there is inadequate data to assign them a NYSDEC classification. This Site allegedly contains approximately 40 tons of waste Spauldite[®] dust grindings and cuttings. Spauldite[®] is a laminate made of asbestos, glass or phenolic resin and zinc chloride.

During the DUNN/TAMS site reconnaissance in August, 1990, the Site was observed to be completely capped and seeded.



QUADRANGLE LOCATION



**FIGURE ES-1
SPAULDING FIBRE COMPANY
LOCATION MAP**

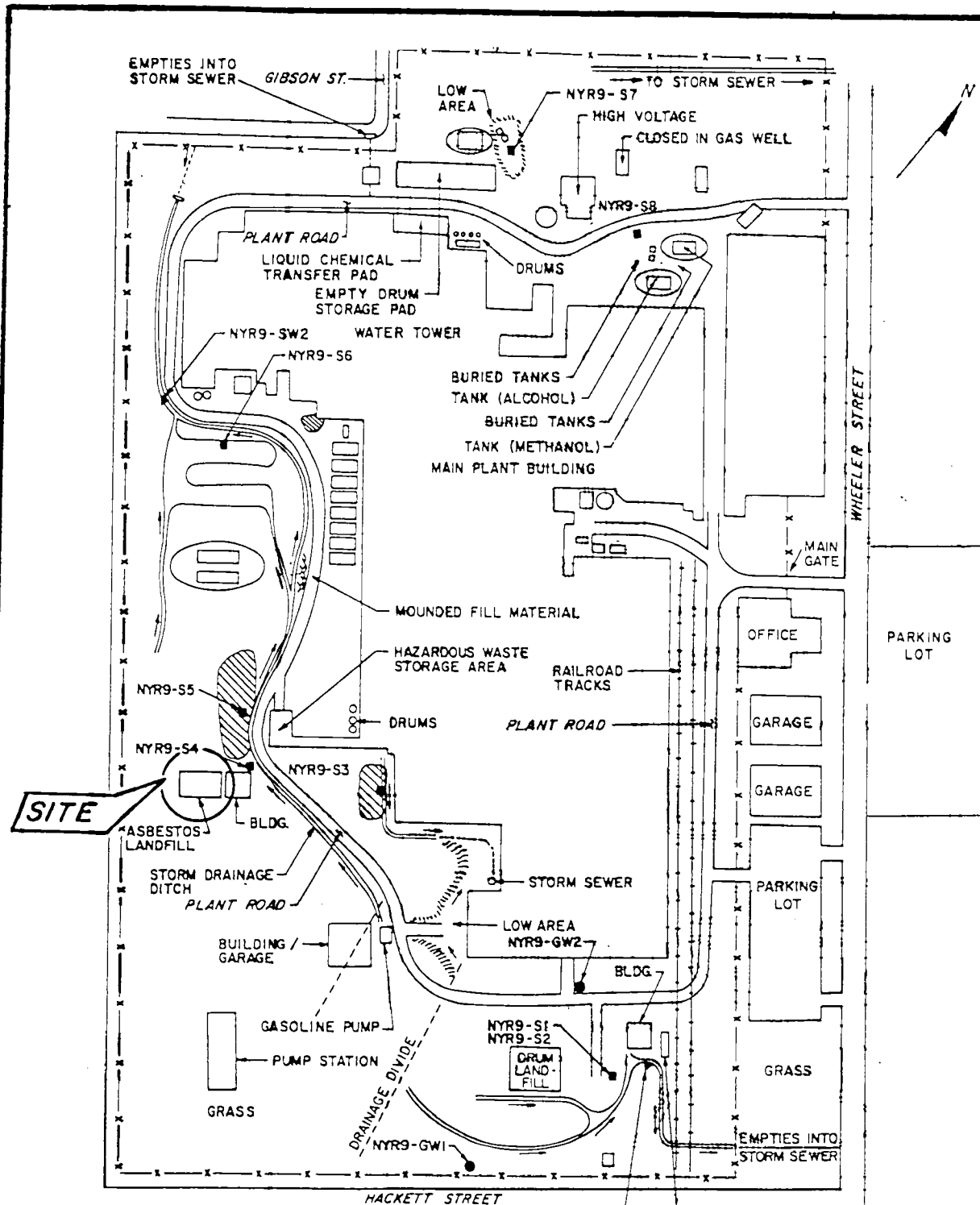
NYSDEC Registry No. 915050C

NYS DOT 7.5 min. quad., Tonawanda East &
Tonawanda West, N.Y.

Scale: 1" = 2000'
Contour Interval: 5 feet

1990 NYSDEC Work Assignment No. D 002520-3





SITE

LEGEND:

- ▲ SURFACE WATER SAMPLE
- GROUNDWATER SAMPLE
- SOIL SAMPLE
- BERMED COLLECTION POND
- ▨ FILLED-IN LAGOONS
- DRAINAGE DIRECTION

(NOT TO SCALE)



**FIGURE ES-2
SPAULDING FIBRE COMPANY
SITE LAYOUT**

Source: NUS Corporation Site Investigation Report of 5/31/88

Assessment

Hazardous waste has been and is currently being generated at the Wheeler Street facility. Other areas on the property have been found, in previous studies, to contain hazardous materials. It is possible that hazardous materials may also have been disposed in the "asbestos landfill" Site. However, there are no specific analytical data characterizing the waste material disposed of at this Site. There is insufficient groundwater data from wells located near the Site to adequately characterize an impact from the Site to this medium, if any.

There are inadequate data to properly score the "asbestos landfill" Site using the Hazard Ranking System (HRS) to reclassify or delist this particular area of the Site. Therefore, it is recommended that Tasks 2 through 6, as defined in the State Superfund Standby Contract Work Assignment No. D002520-3, be conducted at the Site. A suggested work plan to include a surface and subsurface investigation is outlined in Section 5.3 of this report.

1.0 INTRODUCTION

This report, prepared for the New York State Department of Environmental Conservation (NYSDEC), presents the results of a Data Record Search and Assessment (Task 1 of the State Superfund Standby Contract, Work Assignment No. D002520-3) of the Spaulding Fibre Company, Inc., "asbestos landfill" (herein called Site), NYS Site Number 915050C, EPA Site Number NYD000848440, located in the City of Tonawanda, Erie County, New York (Figure ES-1).

2.0 PURPOSE

Dunn Geoscience Engineering Company, P.C. (DUNN), in association with TAMS Consultants, under contract with the New York State Department of Environmental Conservation (NYSDEC), performed this investigation in order to classify this site as defined by Article 27, Title 13 of the Environmental Conservation Law (ECL). The proper classification of the Site requires the following:

- Documentation of hazardous waste disposal on-site as defined by 6NYCRR Part 371 and
- Documentation of the Site's significance as to the threat to public health and environment.

The goal of the Task 1 assessment is to determine if the Site should be delisted from the New York State Registry of Inactive Hazardous Waste Disposal Sites, or if the Site should be reclassified and nominated for the National Priorities List (NPL). If the Site warrants the collection of additional data to make this decision, then an subsequent investigation as defined by Tasks 2 through 6 in the State Superfund Standby Contract, Work Assignment No. D002520-3, will be recommended.

3.0 SCOPE OF WORK

In order to achieve the goals of the Data Record Search and Assessment (DRSA), a review of the following information regarding the Site was performed:

- History of use;
- Topography;
- Geology and hydrology;
- Demographics of surrounding area;
- Proximity to possible receptors;
- Previously noted contamination or regulatory actions; and
- Data adequacy to properly score the HRS and to reclassify the Site.

Sources used to obtain the above listed information include the following:

- New York State Department of Environmental Conservation (NYSDEC), and NYSDEC Region 9 office;
- New York State Department of Health (NYSDOH) and NYSDOH Region 9 office;
- Aerial photographs;
- Local Historical Society files;
- Topographic maps;
- Drilling logs for local wells;
- Interviews with present Site employees;
- Company records;
- The previously completed Phase I report (1983); and
- The previously completed USEPA NUS Corporation Site Inspection Report (May 1988).

In addition, the following individuals and agencies were contacted:

- Mr. Mark Mateunas, NYSDEC, Bureau of Hazardous Site Control;
- Mr. Michael Rivera, NYSDOH, Bureau of Environmental Exposure Investigation; and
- Mr. Gregory Stubbs, Spaulding Fibre Company, Environmental Engineer;
- Mr. Gregory Ecker, NYSDEC, Region 9;
- Mr. Glen May, NYSDEC, Region 9; and
- NYSDOH Region 9.

On August 14, 1990, a Site reconnaissance was performed by Mr. George Moretti (DUNN) and Mr. Ted Yen (TAMS). A site inspection report (EPA Form 2070-13) is included in Appendix A.

Appendix B contains a proposed NYS Updated Registry Form. Site photographs are located in Appendix C. Specific references used in the support of the text are presented in Appendix D of this document. Literature sources used to complete this report are listed in the reference section, Appendix E.

4.0 SITE ASSESSMENT

4.1 Site History

The Spaulding Fibre Company, Inc., Industrial Plastics Division, is a subsidiary of Monogram Industries of California. The privately owned company, located at 310 Wheeler Street, City of Tonawanda, Erie County, New York, has been in operation since 1911 (Reference D-7) (Figure ES-1). Manufacturing processes at this plant have included paper making, condensation, polymerization, resin carrier saturating, high pressure laminating, vulcanizing filament (1960-1977) and fabrication (1939-1973). Products from this company are manufactured largely for the electronics industry (Reference E-1).

Wastes generated at this facility have, at times, included scrap vulcanized fibre, vulcanized fibre sheet, thermosetting plastic, zinc sulphate, zinc hydroxide filter cake, waste oil, asbestos, glass dust, waste varnishes, fabrication grindings, and "waters of reaction" which reportedly contain phenol, formaldehyde, solvents, cresylic and water (Appendix D-1 and Reference E-8).

All combustible waste was incinerated at the plant up until 1969. Grinding waste, which consisted of phenolic resin (50%) and asbestos or glass dust (50%), was collected in a series of lagoons located in the rear of the plant (Figure ES-2). These lagoons (NYSDEC site #915050A) were excavated and closed in 1972 (Reference E-1). The NYSDEC lists this site as a classification "5" site, defined as properly closed, requiring no further action. The excavated lagoon materials were reportedly hauled offsite (Reference D-1), though the names of the haulers and disposal sites are not known.

From 1969-1974, several wastes including scrap vulcanized fibre, vulcanized fibre sheet and thermosetting plastic was hauled by Wheatfield Warehouse, Inc., of North Tonawanda and disposed at Seaway Industrial Park and an unspecified area of what is now known as the LaSalle Expressway in Niagara Falls, New York (Reference E-1). According to a 1979 report, since 1972, Niagara Sanitation has hauled solid wastes and Booth Oil Company has hauled waste oils off site. Waters of reaction are incinerated on the facility property (Appendix D-1).

Spaulding Fibre Company operated two landfills on-site between 1977 and 1978. These two landfills are inactive at present and are listed by NYSDEC as sites #915050B and #915050C. Landfill #915050B, referred to as the "drum landfill", reportedly contains approximately 750 drums of liquid waste consisting of phenol, formaldehyde, dibutyl phthalate, aniline oil, cresol, toluol methanol, ethyl alcohol, butyloctal phthalate and toluene (Reference E-1). This landfill is presently being monitored by Spaulding Fibre Company. The NYSDEC has

reclassified the Site as a "2", defined as a threat to the public health or environment, and further action is required. The "drum landfill" is not part of the scope of this report.

The second landfill, operated between October, 1977 and September, 1978, is the subject of this report and is referred to as the "asbestos landfill", Site #915050C. This Site reportedly contains approximately 40 tons (7,500 cubic yards) of solid waste generated from the Spauldite^R grinding operation. Spauldite^R consists of phenolic resin, asbestos glass and zinc hydroxide (Appendix D-8). Spauldite^R is a laminate made of a reinforcing web dipped into a resin mix to produce sheets of various sizes and thickness. These sheets were sanded and/or sawed producing the waste dusts and cuttings. The Spauldite^R product reportedly produced during the time the "asbestos landfill" Site was open included cellulose paper, asbestos paper, woven cotton fabric, woven asbestos and woven glass fabric. The resin mix reportedly was approximately 95% phenolic, 2% epoxy and 3% melamine laminate (Appendix D-2).

The Spauldite^R dust was reportedly double bagged and placed in two trenches excavated to a depth of 10 feet; one trench is 6x40 feet and the other is 6x20 feet. The bags were placed in layers and covered with soil. Four feet of cover was placed over the Site and the whole area capped (Appendix D-2).

According to NYSDEC Correspondence, the asbestos landfill site contained plastic bags of asbestos and glass waste, zinc hydroxide and diatomaceous earth, and phenolic resin (Appendix D-8).

In April, 1987, NUS Corporation FIT 2 personnel performed a site inspection of the Wheeler Street property which included the collection and analysis of a surface soil sample within a few hundred feet of the "asbestos landfill" Site. This sample (NYR9-S4/BF 428) (Figure ES-2) was analyzed for semi-volatile organic compounds, metals, and pesticides/PCBs (Reference E-7). No significant concentrations of these were noted, although the raw data were not reviewed.

In August of 1990, Spaulding Fibre Company had a sample of Spauldite^R dust collected from the facility analyzed for Toxicity Characteristic Leaching Procedure (TCLP) semi-volatile organic compounds. Two compounds were detected including 2-methyl phenol (0.70 mg/l) and phenol (43 mg/l) (Appendix D-5). Although this material may be very similar to the material in the landfill, the leaching potential of the material in the landfill may be significantly different because that material is over 13 years old.

During the DUNN/TAMS site reconnaissance in August, 1990, the area of the "asbestos landfill" was observed to be completely capped and seeded.

4.2 Site Topography

The topography in the local area of Spaulding Fibre Co. can generally be characterized as flat; typical of a glacial lake plain environment and modified as a result of urban development. The slope of the area has been determined, from the USGS Tonawanda West Quadrangle Map, to be approximately 0.5% (10 ft/2000 ft) to the north. The nearest downslope water surface is the Niagara River northwest of the Site. Runoff may, however, enter Two Mile Creek west of the Site before reaching the Niagara River. Storm sewers for Tonawanda would most likely prevent surface runoff of any distance (Reference E-1).

The Site is located in Zone C as designated by the Federal Emergency Management Agency (FEMA) flood zone insurance map (Reference E-2). Zone C includes areas outside the 500 year flood plain.

4.3 Proximity to Potential Receptors

4.3.1 Surface Water

The Site is located about 3/4 of a mile east of Two Mile Creek and about one mile southeast of the Niagara River. Two Mile Creek is designated as a New York State Class B waterway (Reference E-5). Class B waterbodies are suitable for primary contact recreation and any other uses except as a source of drinking water. The Niagara River is designated as a New York State Class A Special (international boundary waters). Class A waterbodies are suitable as a source of drinking water (Reference E-5).

There are no Federally designated endangered or threatened species in the immediate vicinity of the Site; however, according to NYSDEC records, there is a NYSDEC Significant Coastal Fish and Wildlife Habitat 1.9 miles from the Site. In addition, the small white ladyslipper, *Cypripedium candidum*, has been reported 2.6 miles from the Site. This plant is a State designated endangered species (Appendix D-3).

4.3.2 Wells

There are no wells used as a source of drinking water within three miles of the Site. Drinking water for the Buffalo/Tonawanda area is supplied from the Niagara River (Reference E-12). Drinking water intakes in the Niagara River are located within approximately two miles of the Site (Reference E-6).

There are three "industrial wells" located within a three mile radius of the Site. The nearest well is located at the Linde Division, Union Carbide Corporation, approximately two miles south of the Site (Reference E-4 and Reference E-7).

Two Spaulding Fibre Company groundwater monitoring wells are located on the Wheeler Street property adjacent to the "drum landfill" (Site #915050B) located several hundred feet west of the "asbestos landfill" (Site #915050C). These wells (NYR9-GW1 and NYR9-GW2) (Figure ES-2) are reportedly completed at a depth of approximately 34 feet below ground surface and are screened in glacial till. They are used to monitor the overburden groundwater potentially impacted by the "drum landfill" (Appendix D-2).

4.3.3 Population

The Site is located in a mixed residential/commercial/industrial neighborhood. Residential homes are located across Wheeler Street from the facility. The distance from the Site to the nearest home is approximately 750 feet. Since the facility is active, the nearest human populations may be considered on the facility property itself. The City and Town of Tonawanda is a highly developed urbanized area with both residential and commercial properties in the surrounding community. It is estimated that approximately 97,800 people reside within a three mile radius of the Site (Appendix D-4).

4.3.4 Agricultural Land

In addition to the site reconnaissance, a review of topographical maps and aerial photographs indicate that Tonawanda is a highly urbanized area. No agricultural land is located within three miles of the Site (Reference E-7).

4.3.5 Commercial Land

A variety of commercial and industrial enterprises (along Military Road, for example) exist within a three mile radius of the Site.

4.4 Geology

4.4.1 Physiography

New York State may be subdivided into nine distinct physiographic provinces on the basis of topographic relief and geology (Reference E-9). The Spaulding Fibre Company is located within the Erie-Ontario Lowlands which is characterized as a relatively low, flat lying area

south of Lake Erie and Lake Ontario ranging in width from two to five miles. Maximum elevations for the province are to the east and south, where elevations rise to 1,000 to 1,500 feet above mean sea level. The Site is situated at an approximate elevation of 600 feet with topography gently sloping towards the Niagara River, located one mile northwest of the Site.

4.4.2 Surficial Deposits

Unconsolidated deposits of clay, sand and till of Pleistocene and Holocene age underlie the Spaulding Fibre Company Site. These materials consist of glacially derived material deposited during the latter part of the Pleistocene, as well as lacustrine material (clay and silt) deposited during the Holocene. The United States Department of Agriculture (USDA) - Soils Conservation Service has classified the soils as Urban Land - Schoharie (Reference E-10). The soils are well-drained and moderately well-drained clayey soils and are predominantly lake-laid sediments dominated by clay and silt. Permeability of these soils is low ranging from $<10^{-5}$ to $\geq 10^{-7}$ cm/sec.

Borings drilled by the USGS in 1982 during the closing of the Site lagoons indicated that the underlying soil consists of about one-half foot of topsoil underlain by approximately five feet of red clay intermixed with gravel, and subsequently underlain by a tight dry red clay (Reference D-2). Water levels measured in the wells around the drum landfill indicate the water table to be only a few feet below the surface.

4.4.3 Bedrock

Bedrock underlying the Site consists of the Camillus Shale of the Salina Group of Upper Silurian age (Reference E-11). The Camillus Shale varies in thickness from thin-bedded shale to massive mudstone; it is gray to brownish gray with some reddish or greenish beds (Reference E-3). Studies of the Camillus Shale indicate the presence of gray limestones and dolostones interbedded with the shales. Gypsum has also been noted as a significant part of the Camillus Shale with beds being as thick as five feet (Reference E-3). The Camillus Shale is estimated to be approximately 400 feet thick with a southward dip of approximately 40 feet per mile.

Two wells at the Linde Division, Union Carbide Corporation, approximately two miles south of the Site, encountered the Camillus Shale at approximately 86 feet below the ground surface; the water level within these wells is reportedly 115 feet and 82 feet below grade, measured in 1944, but these levels are suspected of being under the influence of pumping at the time of measurement (Reference E-4).

Yields of wells constructed within the Camillus Shale have high productivity with specific capacities of up to 83 gallons per minute per foot (Reference E-4).

4.5 Hydrogeology

4.5.1 Surface Water

Topography in the vicinity of the Site is gently sloping towards the Niagara River, approximately one mile to the northwest. Two Mile Creek is located approximately one mile west of the Site, however, a drainage divide exists between the creek and the Site preventing westerly flow. Surface drainage and run-off from the Site is believed to be collected by storm sewers and drainage ditches located adjacent to the Site.

Two Mile Creek is a Class B water, its best usage being for primary contact recreation and all other uses except as a source of drinking water and culinary purposes. The Niagara River is considered a Class A Special (international boundary waters) and is a source of water supply for drinking, culinary and food processing purposes, recreational and other usage (Reference E-5).

4.5.2 Groundwater

Depth to groundwater within the overburden deposits underlying the Site is unknown, but it is believed to be between two (2) and twenty-six (26) feet based on water level measurements from on-site borings (Reference D-2). During test borings conducted by the U.S. Geological Survey in 1982 in the Tonawanda area, groundwater was encountered at various depths within permeable sand stringers (Reference E-12). Groundwater flow within the overburden at the Site is unknown but is presumed to be in a northwesterly direction towards the Niagara River.

The Camillus Shale bedrock of the region is a very productive aquifer due to the extensive network of joints, fractures, and over-enlarged solution cracks within the rock. The highest yielding zones of the Camillus Shale are the zones where there is a high percentage of gypsum which has undergone dissolution by groundwater flow. Two wells completed in the Camillus Shale of the Union Carbide Corporation property reportedly encountered groundwater at 115 feet and 82 feet; the variation in levels is thought to be due to pumping of the wells during measurement (Reference E-4). Groundwater flow within the bedrock is believed to be controlled by secondary features such as fractures and solution channels. (and is most likely flowing in a westerly direction towards the Niagara River.)

4.6 Hydraulic Connections

The degree to which the Site may be hydraulically connected to the underlying bedrock is uncertain at this point due to the limited site information. However, due to the high clay content and associated low permeability of the surficial deposits, the degree of hydraulic connection may be limited. Potential pathways may exist for groundwater movement into the fractured Camillus Shale if the lateral extent of the low permeability overburden materials is limited. Further investigation is required at the Site to better define any potential hydraulic connections between the surficial deposits and the underlying bedrock.

4.7 Assessment of Site Contamination

The "asbestos landfill" Site (#915050C) was in operation from the Fall of 1977 to September, 1978. During that period, approximately 40 tons of waste Spaldite[®] dust in double polyethylene bags were disposed on-site (Reference E-1).

According to NYSDEC Correspondence, the asbestos landfill contained plastic bags of asbestos and glass waste, zinc hydroxide and diatomaceous earth, and phenolic resins (Appendix D-8).

In 1983, a sample of Spaldite[®] dust was collected by Spaulding Fibre Company and analyzed by ACTS Testing Labs, Inc., for EP-TOX metals. The extract from the EP-TOX extraction procedure was also analyzed for a group of organic compounds including solvents and phthalate esters commonly used in the resin. Several solvents were found at very low concentrations. The two phthalate esters, dibutyl phthalate and butyloctyl phthalate, were detected at low parts-per-million levels (PPM). No EP-TOX regulatory limits were set at that time for the organic parameters. Several of the compounds including methyl ethyl ketone and cresols are now included in the toxicity characteristic leaching procedure (TCLP) which replaces the EP-TOX test (Appendix D-2).

It has been documented that hazardous materials have been disposed of at other NYSDEC registered sites located on the Wheeler Street facility. It is uncertain whether any hazardous materials were disposed of in the asbestos landfill site. Available data are insufficient to adequately characterize the nature and extent of the Site's contamination.

5.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

5.1 Assessment of Data Adequacy

It is reported that the "asbestos landfill" Site was used for the disposal of waste Spauldite^R dust contained in double polyethylene bags. There is insufficient data to assess the extent of impact, if any, caused by prior waste disposal practices at the Site. No Site specific monitoring wells exist to assess the impact of the Site, if any, to groundwater.

There is insufficient analytical data to indicate the nature and extent of contamination. Additional information is needed to determine if contamination has occurred and to document the Site's significance as a threat to the public health and the environment.

5.2 Preliminary Application of Hazard Ranking System

Data, at present, are inadequate to properly score the Site using the EPA Hazard Ranking System (HRS).

5.3 Recommendations

It is recommended that a surface and subsurface investigation, as outlined in Tasks 2 through 6 of the State Superfund Standby Contract, Work Assignment No. D002520-3, be conducted at the Spaulding Fibre Company. This recommendation is based on the following:

- Additional information is required to complete the HRS and reclassify the Site;
- It is reported that waste Spauldite^R dust has been disposed on-site. The characteristics of this material has not been adequately defined.
- There is no Site specific groundwater data documenting the impact to this medium, if any, by the Site; and
- The Site is located in close proximity to sensitive fish and wildlife habitats and human population.
- Other areas on the property have received hazardous materials in the past. There is no documentation to indicate that the "asbestos landfill" did not also receive materials other than Spauldite^R dust.

The following Site investigation tasks are recommended to address the above listed concerns:

1. A geophysical survey should be conducted and used to identify the possible presence of buried drums, tanks, cables, and other metallic objects. This survey is also intended to provide information for determining the locations of proposed monitoring wells and test pit locations; and
2. Collection of surface water, sediment and soil/fill samples to determine waste material characteristics. All samples to receive full ASP (CLP) analysis to include volatile, semi-volatiles, pesticides/PCBs, and metals. These samples should also receive TCLP metals analysis;
3. Installation of from three (3) to five (5) groundwater monitoring wells adjacent to the Site to determine the depth and flow direction of groundwater. Groundwater samples should be collected upgradient and downgradient for NYSDEC Analytical Services Protocol (ASP) Target Compound List (TCL) and Target Analyte List (TAL) parameters to determine if adverse impact has occurred.

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July 30, 1991

APPENDIX A
EPA FORM 2070-13

EPA

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

I. IDENTIFICATION

01 STATE NY	02 SITE NUMBER D000848440
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II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Spaulding Fiber Company		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 310 Wheeler Street			
03 CITY Tonawanda	04 STATE NY	05 ZIP CODE 14510	06 COUNTY Erie	07 COUNTY CODE 029	08 CONG DIST DIST
09 COORDINATES LATITUDE 43 00'20"N		LONGITUDE 078 53'11"W	10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN		

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 08 / 14 / 90 MONTH DAY YEAR	02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1911 _____ } N/A _____ BEGINNING YEAR ENDING YEAR	UNKNOWN
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04 AGENCY PERFORMING INSPECTION (Check all that apply)

<input type="checkbox"/> A. EPA	<input type="checkbox"/> B. EPA CONTRACTOR (Name of firm) _____	<input type="checkbox"/> C. MUNICIPAL	<input type="checkbox"/> D. MUNICIPAL CONTRACTOR (Name of firm) _____
<input type="checkbox"/> E. STATE	<input checked="" type="checkbox"/> F. STATE CONTRACTOR DUNN Geoscience/TAMS Consultants	<input type="checkbox"/> G. OTHER _____ (Specify)	

05 CHIEF INSPECTOR George Moretti	06 TITLE Environmental Scientist	07 ORGANIZATION Dunn Geoscience Engineering Co.	08 TELEPHONE NO. (716)691-3886
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09 OTHER INSPECTORS Ted Yen	10 TITLE Environmental Engineer	11 ORGANIZATION TAMS Consultants, Inc.	12 TELEPHONE NO. (201)338-6680
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13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
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Gregory Stubbs	Environmental Analyst	310 Wheeler Street Tonawanda, NY 14150	(716)692-0200
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			()
			()
			()
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17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION 0930	19 WEATHER CONDITIONS Partly cloudy, light breeze, 60-70 degrees Fahrenheit
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IV. INFORMATION AVAILABLE FROM

01 CONTACT Mark Matuenas	02 OF (Agency/Organization) NYSDEC	03 TELEPHONE NO. (518)457-0639
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04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Ted Yen	05 AGENCY	06 ORGANIZATION TAMS Consultants	07 TELEPHONE NO. (201)338-6680	08 DATE 08 / 28 / 90 MO. DAY YR.
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EPA

POTENTIAL HAZARDOUS WASTE SITE

SITE INSPECTION REPORT PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE
NY

02 SITE NUMBER
D000848440

II. WASTE STATE, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS _____ 40 _____
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- A. TOXIC H. IGNITABLE
 B. CORROSIVE I. HIGHLY VOLATILE
 C. RADIOACTIVE J. EXPLOSIVE
 D. PERSISTENT K. REACTIVE
 E. SOLUBLE L. INCOMPATIBLE
 F. INFECTIOUS M. NOT APPLICABLE
 G. FLAMMABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	40	tons	Solid waste: Spauldite dust consisting of asbestos, glass
ACD	ACIDS			or phenolic resins, and zinc chloride
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONC.

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Phenol	108-95-2	FDS		
FDS	Formaldehyde	50-0-0	FDS		
FDS	Aniline	62-53-3	FDS		
FDS	Toluene	108-88-3	FDS		

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

NYSDEC Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Report
USEPA FIT 2 site inspection conducted by NUS Corp - 4/28/88 and 4/29/88.
Dunn Geoscience Engineering Co./TAMS Consultants, Inc. site reconnaissance - 8/14/90

EPA	POTENTIAL HAZARDOUS WASTE SITE	I. IDENTIFICATION	
	SITE INSPECTION REPORT PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS	01 STATE NY	02 SITE NUMBER D006848440

II. HAZARDOUS CONDITIONS AND INCIDENTS			
01 <input checked="" type="checkbox"/> A. GROUNDWATER CONTAMINATION	02 <input checked="" type="checkbox"/> OBSERVED (DATE: 1983)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0	04 NARRATIVE DESCRIPTION		
Groundwater is only used for industrial purposes and is not suitable for drinking due to naturally occurring hydrogen sulfide concentrations. Existing onsite monitoring wells are sampled by Spaulding employees and analyzed by a Spaulding contractor. Contaminants detected in the past have included phenol, formaldehyde, ethanol, methyl ethyl ketone, and toluene. The contribution, if any, of the asbestos landfill to groundwater contamination is unknown.			
01 <input type="checkbox"/> B. SURFACE WATER CONTAMINATION	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 98,000	04 NARRATIVE DESCRIPTION		
Surface water contamination is unlikely as wastes were reportedly bagged and buried in the onsite landfill. The landfill has been capped and seeded.			
01 <input type="checkbox"/> C. CONTAMINATION OF AIR	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
There are no reports of air contamination at the site. Air contamination is not likely as wastes were reportedly bagged and buried in the onsite landfill. The landfill has been capped and seeded.			
01 <input type="checkbox"/> D. FIRE/EXPLOSIVE CONDITIONS	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
No fire/explosive conditions were observed for the asbestos landfill during the Dunn/TAMS site reconnaissance. There is no potential for fire/explosive conditions at the asbestos landfill.			
01 <input type="checkbox"/> E. DIRECT CONTACT	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
The potential is unlikely as landfilled materials were reportedly bagged and buried in the onsite capped landfill.			
01 <input checked="" type="checkbox"/> F. CONTAMINATION OF SOIL	02 <input type="checkbox"/> OBSERVED (DATE:)	<input checked="" type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 AREA POTENTIALLY AFFECTED: <1 (acres)	04 NARRATIVE DESCRIPTION		
Contamination of soil is possible since the asbestos wastes were improperly buried behind the facility.			
01 <input type="checkbox"/> G. DRINKING WATER CONTAMINATION	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
The potential is unlikely as landfilled materials were reportedly bagged and buried.			
01 <input type="checkbox"/> H. WORKER EXPOSURE/INJURY	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 WORKERS POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
There are no reports of worker exposure or injury.			
01 <input type="checkbox"/> I. POPULATION EXPOSURE/INJURY	02 <input type="checkbox"/> OBSERVED (DATE:)	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION		
The potential is unlikely as the landfilled materials were reportedly bagged and buried in a capped landfill.			

EPA

POTENTIAL HAZARDOUS WASTE SITE

I. IDENTIFICATION

SITE INSPECTION REPORT

01 STATE

02 SITE NUMBER

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

NY

D000848440

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 J. DAMAGE TO FLORA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)
No damage to flora was observed during the site inspection. Vegetation was abundant on the site.

01 K. DAMAGE TO FAUNA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)
No damage to fauna was observed. The potential is unlikely as the site is located in a heavily industrialized area.

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

04 NARRATIVE DESCRIPTION
The potential is unlikely as the site is located in a heavily industrialized area.

01 M. UNSTABLE CONTAINMENT OF WASTES 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

(Spills/Runoff/Standing liquids, Leaking drums)
03 POPULATION POTENTIALLY AFFECTED: 18,000 04 NARRATIVE DESCRIPTION
Dunn/TAMS personnel did not observe unstable containment at the asbestos landfill. The potential is unlikely as wastes were reportedly bagged and landfilled.

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

04 NARRATIVE DESCRIPTION
No damage to offsite property was observed during the site inspection. The potential is unlikely as wastes were bagged and buried in the on-site landfill.

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, OR WWTPs 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED

04 NARRATIVE DESCRIPTION
The contribution of the asbestos landfill, if any, to sewer/drain/WWTP contamination is considered unlikely.

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

04 NARRATIVE DESCRIPTION
No illegal dumping was observed during the site reconnaissance. The potential is unlikely as the site is fenced.

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

Other potential hazards on the site of Spaulding Fibre Company have been documented and reported in previous investigations.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

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

Site reconnaissance conducted by Dunn Geoscience Engineering Co./TAMS Consultants, Inc. on 8/14/90.

Site inspection and site report performed by USEPA-NUS Corp. FIT 2 in 1987

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE

I. IDENTIFICATION

SITE INSPECTION
PART 4--PERMIT AND DESCRIPTIVE INFORMATION

01 STATE: NY
02 SITE NUMBER: D000848440

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE(Specify)				
<input type="checkbox"/> H. LOCAL(Specify)				
<input type="checkbox"/> I. OTHER(Specify)				
<input type="checkbox"/> 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
<input checked="" type="checkbox"/> A. SURFACE IMPOUNDMENT			<input checked="" type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	06 AREA OF SITE
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input checked="" type="checkbox"/> F. LANDFILL	40	tons	<input type="checkbox"/> F. SOLVENT RECOVERY	<1 (Acres)
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER	
<input type="checkbox"/> OTHER (Specify)			(Specify)	

07 COMMENTS

Polyethylene bags containing Spauldite dust, asbestos, and phenols totalling 40 tons were landfilled.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one) <input type="checkbox"/> A. ADEQUATE, SECURE <input checked="" type="checkbox"/> B. MODERATE <input type="checkbox"/> C. INADEQUATE, POOR <input type="checkbox"/> D. INSECURE, UNSOUND, DANGEROUS
02 DESCRIPTION OF DRUMS, DIKING, LINER, BARRIERS, ETC. The asbestos landfill has been covered with a six-inch clay cap and is seeded.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
02 COMMENTS The site is surrounded by a chain link fence and the majority of the wastes are landfilled.

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

Site reconnaissance conducted by Dunn Geoscience Engineering Co./TAMS Consultants, Inc. - 8/14/90
Site inspection conducted by USEPA-NUS Corp. FIT 2 - 1987

EPA	POTENTIAL HAZARDOUS WASTE SITE	I. IDENTIFICATION	
	SITE INSPECTION REPORT PART 5-WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA	01 STATE NY	02 SITE NUMBER D000848440

II. DRINKING WATER SUPPLY						
01 TYPE OF DRINKING SUPPLY (Check as applicable)		02 STATUS			03 DISTANCE TO SITE	
SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED		
COMMUNITY A. <input checked="" type="checkbox"/>	B. <input type="checkbox"/>	A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>	A. <u>1.0</u> (mi)	
NON-COMMUNITY C. <input type="checkbox"/>	D. <input type="checkbox"/>	D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>	B. <input type="checkbox"/> (mi)	

III. GROUNDWATER			
01 GROUNDWATER USE IN VICINITY (Check one)			
<input type="checkbox"/> A. ONLY SOURCE FOR DRINKING	<input type="checkbox"/> B. DRINKING (Other sources available)	<input checked="" type="checkbox"/> C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)	<input type="checkbox"/> D. NOT USED, UNUSEABLE
(No other water sources available)			
02 POPULATION SERVED BY GROUNDWATER <u>0</u>		03 DISTANCE TO NEAREST DRINKING WATER WELL <u>>3</u> (mi)	

04 DEPTH TO GROUNDWATER <u>10</u> (ft)	05 DIRECTION OF GROUNDWATER FLOW <u>North</u>	06 DEPTH TO AQUIFER OF CONCERN <u>10</u> (ft)	07 POTENTIAL YIELD OF AQUIFER <u>Unknown</u> (gpd)	08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
---	--	--	---	---

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)
 There are no drinking water wells within three miles due to naturally occurring hydrogen sulfide concentrations. Two wells were installed onsite to monitor groundwater near the drum landfill. These wells are forty feet in depth and are completed in the top of the Camillus Shale.

10 RECHARGE AREA		11 DISCHARGE AREA	
<input type="checkbox"/> YES	COMMENTS	<input checked="" type="checkbox"/> YES	COMMENTS
<input checked="" type="checkbox"/> NO		<input type="checkbox"/> NO	
Drainage ditches and storm sewers.			

IV. SURFACE WATER			
01 SURFACE WATER USE (Check one)			
<input checked="" type="checkbox"/> A. RESERVOIR, RECREATION DRINKING WATER SOURCE	<input type="checkbox"/> B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES	<input type="checkbox"/> C. COMMERCIAL, INDUSTRIAL	<input type="checkbox"/> D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER			
NAME:	AFFECTED: (Y/N)	DISTANCE TO SITE	
Niagara River	(potentially)	<u>1.0</u> (mi)	
_____	_____	_____ (mi)	
_____	_____	_____ (mi)	

V. DEMOGRAPHIC AND PROPERTY INFORMATION			
01 TOTAL POPULATION WITHIN			02 DISTANCE TO NEAREST POPULATION
ONE (1) MILE OF SITE A. <u>16,000</u> NO. OF PERSONS	TWO (2) MILES OF SITE B. <u>45,000</u> NO. OF PERSONS	THREE (3) MILES OF SITE C. <u>98,000</u> NO. OF PERSONS	<u>0.15</u> (mi)

03 NUMBER OF BUILDING WITHIN TWO(2)MILES OF SITE <u>13,000+</u>	04 DISTANCE TO NEAREST OFF-SITE BUILDING <u>0.02</u> (mi)
--	--

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
 The site is located in a densely populated urban area in the suburbs of northern Buffalo. Commercial and industrial properties are adjacent to the site.

EPA POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 5-WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA	I. IDENTIFICATION	
	01 STATE NY	02 SITE NUMBER D000848440

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
 A. 10-6 to 10-8 cm/sec
 B. 10-4 to 10-6 cm/sec
 C. 10-4 to 10-3 cm/sec
 D. GREATER THAN 10-3 cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
 A. IMPERMEABLE (Less than 10-6 cm/sec)
 B. RELATIVELY IMPERMEABLE (10-4 to 10-6 cm/sec)
 C. RELATIVELY PERMEABLE (10-2 to 10-4 cm/sec)
 D. VERY PERMEABLE (Greater than 10-2 cm/sec)

03 DEPTH TO BEDROCK 29 (ft)	04 DEPTH OF CONTAMINATED SOIL ZONE 10 (ft)	05 SOIL pH Unknown
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06 NET PRECIPITATION 5.0 (in)	07 ONE YEAR 24 HOUR RAINFALL 2.1 (in)	08 SLOPE SITE SLOPE 0-3 %	DIRECTION OF SITE SLOPE North	TERRAIN AVERAGE SLOPE 0-3 %
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09 FLOOD POTENTIAL
 SITE IS IN 500 YEAR FLOODPLAIN
 10 SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum) ESTUARINE OTHER	12 DISTANCE TO CRITICAL HABITAT (of endangered species) >3 (mi)
--	--

A. >3 (mi) B. 0.10 (mi) ENDANGERED SPECIES: Not Applicable

13 LAND USE IN VICINITY
 DISTANCE TO:
 COMMERCIAL/INDUSTRIAL RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FOREST, OR WILDLIFE RESERVES AGRICULTURAL LANDS AG LAND
 PRIME AG LAND

A. Onsite (mi) B. 0.2 (mi) C. >2 (mi) D. >1 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY
 The site is on a gently northward-dipping plain, approximately one mile southeast of the Niagara River. Ellicott Creek is north of the site. The topography in the immediate area has been modified as a result of urban development.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
 USEPA-NUS Corp. FIT 2 site inspection conducted on 4/28/87 and 4/29/87.
 Interview with Dave Denk of NYSDEC Regulations, 7/18/90.
 Interview with Mark Kandel of NYSDEC Fish and Wildlife, 7/20/90.
 Heritage maps, 1986 wetlands maps, and Coastal Fish and Wildlife maps supplied by NYSDEC Region 9 Division of Regulations.
 US Dept. of the Interior, Geological Survey Topographic Map, 7.5 minute series - "Tonawanda West, NY" - photorevised 1980.

EPA	POTENTIAL HAZARDOUS WASTE SITE	I. IDENTIFICATION	
	SITE INSPECTION REPORT PART 6-SAMPLE AND FIELD INFORMATION	01 STATE NY	02 SITE NUMBER D000848440

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

III. FIELD MEASUREMENTS TAKEN	
01 TYPE	02 COMMENTS
Air Monitoring	HNu-PID readings not above background.
Radiation Monitoring	Monitoring 4 mini-rad readings not above background.

IV. PHOTOGRAPHS AND MAPS	
01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF: Dunn Geoscience Engineering Co./ SUNY Buffalo at Amherst Undergraduate Library (Name of organization or individual)
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS DUNN Geoscience Corp./TAMS Consultants, Inc.

V. OTHER FIELD DATA COLLECTED (provide narrative description)

Field notes dated 8/14/90 at Dunn Geoscience Engineering Co.

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

1966 aerial photographs from SUNY Buffalo
 US Dept. of the Interior, Geological Survey Topographic Map, 7.5 minute series - "Tonawanda West, NY" - photorev. 1980.
 Site reconnaissance conducted by Dunn Geoscience Engineering Co./TAMS Consultants, Inc. on 8/14/90

EPA

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

I. IDENTIFICATION	
01 STATE NY	02 SITE NUMBER D000848440

II. CURRENT OWNER(S)				PARENT COMPANY(If applicable)	
01 NAME Spaulding Fiber Company		02 D+B NUMBER	08 NAME MHM Group		09 D+B NUMBER
03 STREET ADDRESS(P.O.Box,RFD#,etc.) 310 Wheeler Street		04 SIC CODE 267	10 STREET ADDRESS(P.O.Box, RFD#,etc.) 355 South Grand Avenue		11 SIC CODE
05 CITY Tonawanda	06 STATE NY	07 ZIP CODE 14150	12 CITY Los Angeles	13 STATE CA	14 ZIP CODE 90071
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 Monogram Industries		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS(P.O.Box,RFD#,etc.) 1299 Ocean Avenue		04 SIC CODE	03 STREET ADDRESS(P.O.Box,RFD#,etc.)		04 SIC CODE
05 CITY Santa Monica	06 STATE CA	07 ZIP CODE 90401	05 CITY	06 STATE	07 ZIP CODE
01 NAME John A. Pohl		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS(P.O.Box,RFD#,etc.) (farm land)		04 SIC CODE	03 STREET ADDRESS(P.O.Box,RFD#,etc.)		04 SIC CODE
05 CITY Tonawanda	06 STATE NY	07 ZIP CODE 14150	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)
 NYSDEC Region 9, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Report.
 Letter and background file from Gregory Stubbs, Spaulding Composites, to Alan Cherepon, NUS Corp. May 1987.

EPA

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

I. IDENTIFICATION	
01 STATE NY	02 SITE NUMBER D000848440

II. CURRENT OPERATOR (Provide if different from owner) OPERATOR'S PARENT COMPANY (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
03 STREET ADDRESS (P.O.Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O.Box, RFD#, etc.)	11 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	12 CITY
			13 STATE
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 Spaulding Fibre Company	02 D+B NUMBER	08 NAME	09 D+B NUMBER
03 STREET ADDRESS (P.O.Box, RFD#, etc.) 310 Wheeler Street	04 SIC CODE 267	10 STREET ADDRESS (P.O.Box, RFD#, etc.)	11 SIC CODE
05 CITY Tonawanda	06 STATE NY	07 ZIP CODE 14150	12 CITY
			13 STATE
08 YEARS OF OPERATION 1977-1978	09 NAME OF OWNER Spaulding Fibre		

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
08 YEARS OF OPERATION	09 NAME OF OWNER		

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
08 YEARS OF OPERATION	09 NAME OF OWNER		

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

NYSDEC Region 9, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Report

EPA

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

I. IDENTIFICATION

01 STATE NY	02 SITE NUMBER D000848440
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II. ON-SITE GENERATOR

01 NAME Spaulding Fiber Company		02 D+B NUMBER	
03 STREET ADDRESS(P.O.Box,RFD#,etc.) 310 Wheeler Street		04 SIC CODE 267	
05 CITY Tonawanda	06 STATE NY	07 ZIP CODE 14150	

III. OFF-SITE GENERATOR(S)

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

IV. TRANSPORTER(S)

01 NAME Niagara Sanitation Co.		02 D+B NUMBER	08 NAME Hyman Barrel Company		09 D+B NUMBER
03 STREET ADDRESS(P.O.Box,RFD#,etc.) 1050 Military Road, P.O.Box 9		04 SIC CODE	10 STREET ADDRESS(P.O.Box, RFD#,etc.) 878 South Division Street		11 SIC CODE
05 CITY Kenmore	06 STATE	07 ZIP CODE 14151	12 CITY Buffalo	13 STATE NY	14 ZIP CODE 14202
01 NAME Wheatfield Warehouse, Inc.		02 D+B NUMBER	01 NAME BFI		02 D+B NUMBER
03 STREET ADDRESS(P.O.Box,RFD#,etc.) 439 Wheatfield Street		04 SIC CODE	03 STREET ADDRESS(P.O.Box,RFD#,etc.)		04 SIC CODE
05 CITY North Tonawanda	06 STATE NY	07 ZIP CODE 14150	05 CITY	06 STATE	07 ZIP CODE

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

Site inspection and report conducted by USEPA-NUS Corp. FIT 2 - April 28 and 29, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE

I. IDENTIFICATION

SITE INSPECTION REPORT

01 STATE

02 SITE NUMBER

PART 10 - PAST RESPONSE ACTIVITIES

NY

D000848440

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 B. TEMPORARY WATER SUPPLY PROVIDED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 C. PERMANENT WATER SUPPLY PROVIDED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 D. SPILLED MATERIAL REMOVED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 E. CONTAMINATED SOIL REMOVED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 F. WASTE REPACKAGED

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 G. WASTE DISPOSED ELSEWHERE

02 DATE: 1977

03 AGENCY _____

04 DESCRIPTION

Spauldite dust disposed offsite after 1977.

01 H. ON SITE BURIAL

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 I. IN SITU CHEMICAL TREATMENT

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 J. IN SITU BIOLOGICAL TREATMENT

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 K. IN SITU PHYSICAL TREATMENT

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 L. ENCAPSULATION

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 M. EMERGENCY WASTE TREATMENT

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 N. CUTOFF WALLS

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 P. CUTOFF TRENCHES/SUMP

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

01 Q. SUBSURFACE CUTOFF WALL

02 DATE: _____

03 AGENCY _____

04 DESCRIPTION

No previous history

2

EPA

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

I. IDENTIFICATION
01 STATE NY
02 SITE NUMBER D000848440

II. PAST RESPONSE ACTIVITIES(Continued)

01 <input type="checkbox"/> R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> S. CAPPING/COVERING 04 DESCRIPTION	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> T. BULK TANKAGE REPAIRED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> V. BOTTOM SEALED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> W. GAS CONTROL 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> X. FIRE CONTROL 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> Y. LEACHATE TREATMENT 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> Z. AREA EVACUATED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> 2. POPULATION RELOCATED 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____
01 <input type="checkbox"/> 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION No previous history	02 DATE: _____	03 AGENCY _____

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

USEPA-NUS Corp. FIT 2 site inspection and report on Spaulding Fiber - 1987.
NYSDEC Phase I report conducted by RECRA Research, Inc. - Nov. 1983.

EPA

POTENTIAL HAZARDOUS WASTE SITE

I. IDENTIFICATION

SITE INSPECTION REPORT

01 STATE

02 SITE NUMBER

PART 11-ENFORCEMENT INFORMATION

NY

D000848440

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION YES NO

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

The Spaulding Fibre Company has had citations in the past regarding improper waste handling procedures. With respect to the asbestos landfill, the company was ordered to cease onsite disposal activities in 1978.

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

USEPA-NUS Corp. FIT 2 site inspection report - 1987

APPENDIX B
PROPOSED UPDATED NYS REGISTRY FORM

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

Classification Code: **2A** Region: **9** Site Code: **915050C**
EPA ID: **NYD000848440**

Name of Site: **Spaulding Fibre Company**
Street Address: **310 Wheeler Street**
Town/City: County: Zip: **14150**
Tonawanda **Erie**

Site Type: Open Dump- Structure- Lagoon- Landfill-**X** Treatment
Pond-
Estimated Size:

Site Owner/Operator Information:
Current Owner Name....: **Spaulding Fibre Company**
Current Owner Address.: **310 Wheeler Street**
Owner(s) During Use...: **Spaulding Fibre Company**
Operator During Use...: **Spaulding Fibre Company**
Operator Address.....: **310 Wheeler Street, Tonawanda, NY**
Period Associated With Hazardous Waste: **From 1977 To 1978**

Site Description:

Spaulding Fibre Company, a manufacturer of plastic laminate boards and sheeting, has been in operation since 1911. Between 1977 and 1978, two landfills were operated on-site. One of these landfills, #915050C, was used to dispose of cuttings and dust from the Spauldite^R manufacturing and fabrication area. Spauldite^R is a laminate composed of asbestos, glass phenolic resins and zinc chloride. According to company records, approximately 40 tons of solid waste is buried in three trenches at a depth of ten feet. The area is presently covered and seeded.

Hazardous Waste Disposed: Type	Confirmed-	Suspected- X Quantity (units)
-----------------------------------	------------	---

phenolic resin		40 tons (total)
asbestos		

Site Code: 915050C

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:

Geotechnical Information:

Soil Type: *Clayey silt*
Groundwater Depth: *5-10 ft.*

Assessment of Environmental Problems:

Potential for leaching into groundwater and eventually into surface drinking water sources (Niagara River).

Assessment of Health Problems:

APPENDIX C
PHOTOGRAPHY

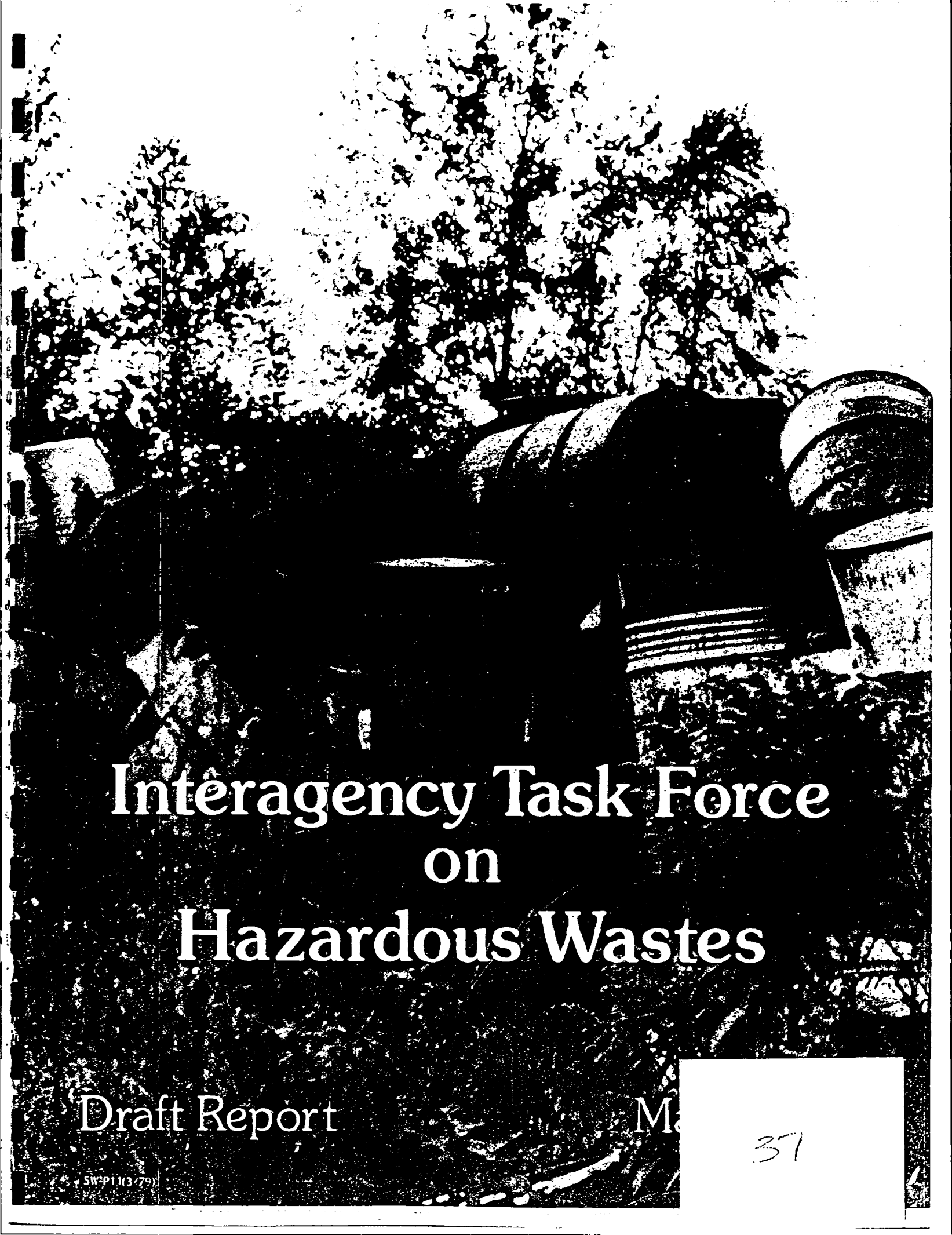
PHOTOGRAPHS NOT AVAILABLE

APPENDIX D
DOCUMENTATION

DOCUMENTATION

- D-1 *Interagency Tasks Force on Hazardous Wastes, Draft Report, March 1979.*
- D-2 *Industrial Waste Sites at Spaulding Fibre Company, Inc., December 13, 1983.*
- D-3 Telephone interview of Greg G. Ecker, NYSDEC Region 9, by Leslie Gracz, DUNN, March 7, 1991.
- D-4 Donnelley Marketing Information Services, September 6, 1990.
- D-5 Telephone interview of Greg Stubbs, Spaulding Fibre Company, by George Moretti, DUNN, May 20, 1991.
- D-6 Telephone interview of Glen May, NYSDEC Region 9, by George Moretti, DUNN, May 16, 1991.
- D-7 Letter to Alan J. Cherofron, NUS Corporation, from Gregory Stubbs, Spaulding Fibre Company, May 28, 1987.
- D-8 New York State Department of Environmental Conservation Correspondence.

APPENDIX D-1



Interagency Task Force on Hazardous Wastes

Draft Report

Ma

37

oxide, copper, barium sulfate and inert materials and disposed of such materials at its Model City site. From 1974 to 1978, Newco Chemical Waste Systems, Inc., removed drummed solid mixed chlorobenzenes (27,500 gallons/yr.) and disposed of such material in its disposal site in Niagara Falls. Newco is now employed in clean-up operations at the closed plant.

SPAULDING FIBRE COMPANY, INC.
310 Wheeler Street
Tonawanda

Spaulding Fibre Company began operations in Tonawanda in 1911. In 1920, the company was incorporated in New Hampshire.

The basic processes employed at the plant include paper manufacture, condensation, polymerization, resin-carrier saturating, high pressure laminating, vulcanizing filament (1960 to 1977) and fabrication (1930 to 1973).

The products include vulcanized fibre (sheet and tube), thermosetting laminates (sheet and tube), paper "Filawound" glass tubing (1960 to 1977) and fabrication of fibre and laminates (1930 to 1973).

The company generates the following wastes:

- Scrap vulcanized fibre
- Vulcanized fibre sheet
- Thermosetting plastic
- Waters of reaction (contains phenol, formaldehyde, solvents, cresylic and water)
- Zinc sulphate and diatomaceous earth
- Zinc hydroxide filter cake
- Waste oil
- Asbestos
- Glass dust
- Waste varnishes
- Fabrication grindings

Before 1969, all combustible waste was incinerated on premises. In addition, several lagoons were used for disposal of fabrication grindings. These lagoons were eventually excavated and the excavated materials disposed of. The names of the haulers of the excavated materials and the disposal sites they used are not known.

From 1969 to 1974, Wheatfield Warehouses, Inc. of North Tonawanda hauled scrap vulcanized fibre, vulcanized fibre sheet and thermosetting plastic and trimmings to both the Seaway

Industrial Park in Tonawanda and an unspecified area of what is now the LaSalle Expressway in Niagara Falls. Approximately 21,000 tons of such wastes were disposed of at both sites.

Since 1972, Niagara Sanitation has hauled the same wastes together with broken pallets, refuse, fibre scrap, zinc sulphate and diatomaceous earth and zinc hydroxide filter cake to Niagara Recycling in Niagara Falls. Booth Oil has hauled waste oil from the plant. Waters of reaction are still incinerated on premises.

Two dumps exist on plant property. One area is the asbestos dump where 20 tons of asbestos and glass dust were dumped from October 1977 to September 1978. This site is currently inactive. Plans have been submitted to DEC to operate the site in accordance with state regulations.

The other on-premises disposal area was used from February 1978 to September 1978 for approximately 750 drums of waste varnishes. This site is now inactive. Remedial plans are being developed by the company.

STAUFFER CHEMICAL COMPANY
Lewiston Road
Niagara Falls

Stauffer Chemical Company was incorporated in 1885 and began operations in Niagara Falls, after acquiring Niagara Smelting, in 1946. The plant was closed in 1978.

Caustic soda, chlorine, silicon tetrachloride and titanium tetrachloride were produced through 1972. Sulfur chlorides were manufactured until the plant closed. Other products included zirconium tetrachloride, antimony tetrachloride, aluminum chloride (1942 to 1965), choracetic acid (1961 to 1965), liquid sulfur, titanium trichloride, boron trichloride and trithion intermediate (1963 to 1965). The manufacturing processes consisted of chlorination of metals, sulfur and carbon bisulfide.

Stauffer generated concrete cell parts, asbestos, graphite, reactor linings, scrap sulfur, scrap metal, silicon, zirconium and titanium oxides and cinder from coal-fired boilers and oil as wastes.

These wastes were disposed of at several locations. The Upper Mountain Road Dump in Lewiston was used for disposal of these wastes between 1930 and 1952, the Lewiston Quarry (Art Park) was used between 1953 and 1969, and the New York State Power Authority property, east of the Stauffer plant, was used

APPENDIX D-2

INDUSTRIAL WASTE SITES

AT

SPAULDING FIBRE COMPANY, INC.

INDUSTRIAL PLASTICS DIVISION

310 WHEELER STREET

TONAWANDA, NEW YORK 14150

DECEMBER 13, 1983

BY: SPAULDING FIBRE COMPANY, INC.

INDEX

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
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2.	Dump Location and Design	4 - 5
3.	Data	6 - 26
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	B. Earth Dimensions, Inc. Test Borings - 1978	
	C. Calspan Corporation Soil Permeability Coefficients (k) - 1978	
	D. Aerial Photograph - Review and Interpretation	
	E. Town of Tonawanda Hydrogeologic Investigation by Thomson Associates - July 1983	
	F. Spaulding Fibre Company, Inc. Gas Well Log Information - 1978	
	G. Spaulding Fibre Company, Inc. Abandoned Water Well	
	H. Well Monitoring Results 11/23/78 Through 9/29/83	-
	I. Expended Well Testing November/December 1983	
	J. EP Toxicity Tests Spauldite Dust - November 1983	
4.	Summary and Conclusions	27

1. BACKGROUND

Spaulding Fibre Company, Inc.'s Industrial Plastics Division located at 310 Wheeler Street, Tonawanda, New York, County of Erie has two (2) inactive disposal waste sites on its property. One (1) is listed under NYSDEC site code as #915050-b and the other as #915050-c. The 915050-b site contains approximately 750 - 55 gallon drums of resin and was used from February 1978 to September 1978. The 915050-c site contains approximately 40 tons (7,500 cubic yards) of Spauldite® dust in polyethylene bags and was used from the fall of 1977 to September 1978.

The manufacture of Spauldite® brand high pressure industrial laminate involves the use of a reinforcing web in a resin matrix. The reinforcing webs used at this facility during the 1977 and 1978 time period were: cellulose paper, asbestos paper, woven cotton fabric (linen and canvas), woven asbestos fabric and woven glass fabric. These continuous webs are dipped in a thermosetting liquid resin (adhesive) system and cured (dried) to a B-stage or prepreg condition. Several sheets of B-stage are then placed in a press where heat (300-365°F) and pressure (1000-1500 psi) are used to fuse the individual B-stage plies into one homogeneous mass with a thickness determined by the weight (number of plies) put into the press. Since the resins used are all thermosetting the chemical reaction that takes

place is irreversible and the resin is permanently cured (set). An analysis of our production records indicate that the average product mix is 95% phenolic, 2% epoxy and 3% melamine laminate. All the sheets are saw trimmed and most are sawed into thirds or halves. About 5-10% of the laminates are also surface sanded for various reasons such as close thickness tolerance control, roughened surface for bonding, etc. It is the saw and sanding dust that was bagged and disposed of in the dust area #915050-c. This material is solid, inert, water insoluble and non-volatile.

As stated, liquid resin systems are used to impregnate and/or coat the reinforcing webs. It is the tank heels and cleanup residual material that is in the drums in area #915050-b. These systems are thermosetting and have the catalyst in them so that they will polymerize to their cured (C-stage) form. The polymerization process is a chemical reaction that is temperature dependent. The reaction rate doubles for each 10°C increase in temperature. These resins cure at 50 to 300 seconds at 300°F. Since these reactions are condensation polymerization in nature, the by-product is water. The last drum was disposed of in #915050-b in September 1978, over five (5) years ago. We would fully expect that these materials have solidified in that time period. The raw chemicals in these systems are: phenol, formaldehyde, cresylic

acid, dibutyl phthalate, butyl octyl phthalate, aniline, epichlorohydrin, bisphenol-A, methanol, toluol, methyl-ethyl-ketone and ethyl alcohol.

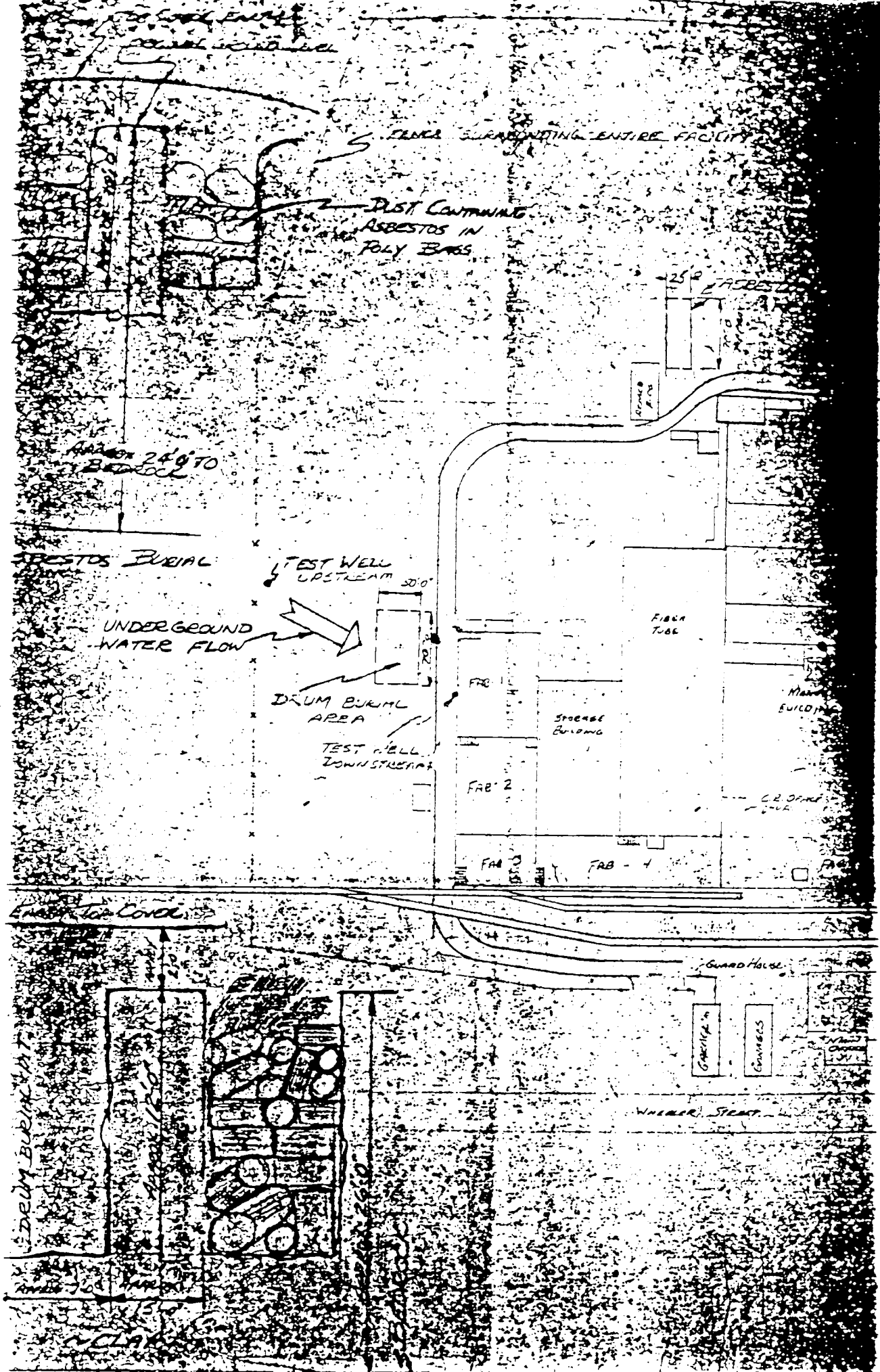
2. DUMP LOCATION AND DESIGN

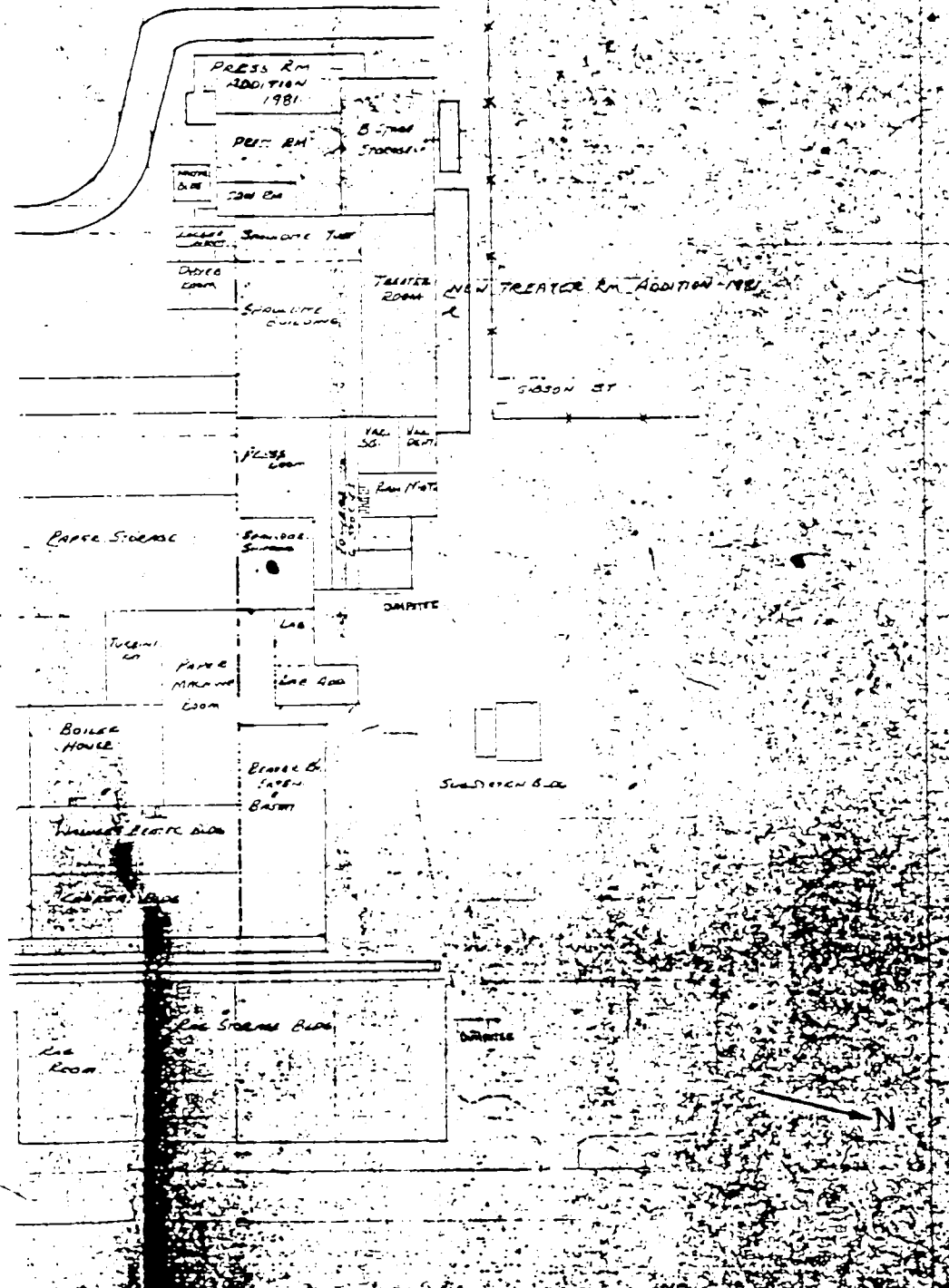
The original 1961 blueprint of the Spaulding buildings and property updated as of November 1983 shows the location, dimensions and vertical section design of the dump sites.

The dust site has a mounded cover approximately 25 x 70 feet. This site contains two (2) trenches 6 x 40 feet and one (1) trench 6 x 20 feet. The bottom of the trenches is ten (10) feet below ground level and twelve (12) feet below the mounded cap. There is approximately four (4) feet of cover on top of the bagged dust. The bags of dust are in layers with each layer covered with earth.

The drum site has a mounded cover 50 x 70 feet containing trenches seven (7) feet wide. The drums are positioned in a random manner in the trenches with about four (4) feet of earth cover.

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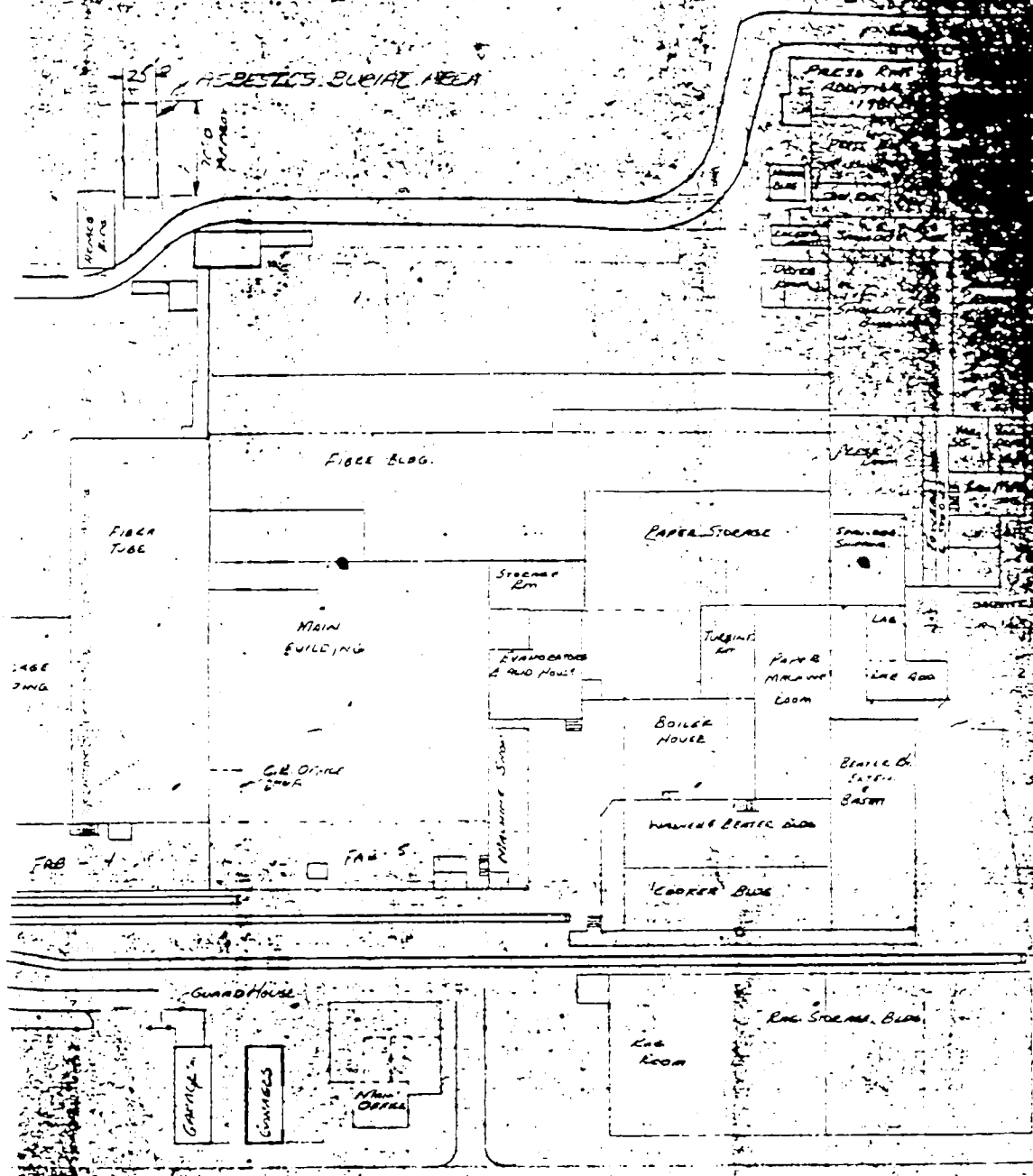
REVISED TO SHOW BLDG APPROXIMATE SITES IN 1981

PLAN LAYOUT

DATE: 1/15/81

BY: [Signature]

ENTIRE FACILITY



REVISED FOR SHD

Plans
 10/22/61
 10/22/61

END OF
NON-LEGIBLE
PAGES

3. DATA

A. USGS Test Borings - 1982

1. Site 915050a (lagoon to collect Spauldite®
tube wet grinding waste
containing phenol)

Lagoons were excavated 1972 and filled with clean material. The excavated material was disposed of at Seaway Landfill. NYDEC reports that this area has been properly closed.

<u>Well No.</u>	<u>Depth (ft)</u>	<u>Description</u>
1	0 - 0.5	Topsoil
	0.1 - 1.5	Clay, red, intermixed with gravel, extremely tight SOIL SAMPLE: 2 - 3.5 ft.
2	0 - 5.5	Clay, red, tight, dry, with layers of gravel
	5.5 - 7.0	Clay, red, wet
	7.0 - 11.5	Clay, red, tight, dry
	11.5 - 16.5	Clay, red, tight, dry SOIL SAMPLE: 5.5 - 7.0 ft.
3	0 - 5.0	Clay, reddish, tight, dry, some gravel
	5.0 - 5.5	Clay, reddish, wet
	5.5 - 26.5	Clay, reddish, dry SOIL SAMPLE: 5 - 5.5 ft.

<u>Well No.</u>	<u>Depth (ft)</u>	<u>Description</u>
4	0 - 0.5	Topsoil
	0.5 - 3.5	Clay, reddish, tight, dry
	3.5 - 4.5	Clay, reddish, damp
	4.5 - 16.5	Same as above but with gravel layers.

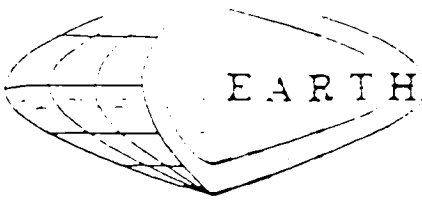
SOIL SAMPLE: 3.5 - 4.5

As indicated, soil samples were collected from each boring at depths ranging from 2 - 7 feet.

✓ No phenols were reported in these samples. ?

B. Earth Dimensions, Inc. Test Borings - 1978

Attached are copies of these boring data plus a summation letter dated September 27, 1978 by Mr. Donald W. Owens, Soil Scientist for Earth Dimensions, Inc.



EARTH DIMENSIONS, INC.

9

Soil Investigations and Natural Resource Assessments

797 Center Street • East Aurora, New York 14052 • (716) 655-1717

September 27, 1978

Mr. David Weber
Krehbiel Associates, Inc.
1868 Niagara Falls Boulevard
Tonawanda, New York 14150

RE: SOILS REPORT - SPAULDING FIBRE

Dear David:

Three soil borings were augered September 22, 1978 near the eastern and southern side of the buildings of Spaulding Fibre in the City of Tonawanda. The placement sites were located by David Weber of Krehbiel Associates.

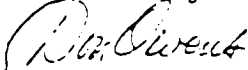
The soils were logged at these sites based on split spoon samples taken from every major horizon. In addition, undisturbed soil samples were collected in Shelby tubes from two depths at each bore site for permeability laboratory tests.

A thin mantle of clayey lake sediment was described as the surficial original sediment at all three sites. This mostly stone free sediment rested on a silty clay loam (CLAYEY-SILT) dense glacial till containing some stone fragments. The lower boundary of this very impervious clayey mantle ranged from 3.0 to 4.5 feet below the surface. A silty lake sediment layer was a transition zone between the clayey lake sediment and glacial till in boring #3.

The (CLAYEY-SILT) dense glacial till, sometimes called "hardpan" is very high in silt with moderate (about 25 to 35%) amount of clay and low content (less than 15%) of sand. This till is very uniform, even in the distribution of the stone fragments which is estimated to be less than 15%. Water movement through this dense zone is also very slow.

Water tends to perch above the clayey lake sediment as was the case in soil boring #1 with the water seeping into the bore hole from the more permeable industrial waste cap. This surficial perched water table usually disappears in late spring reappearing in fall except after intense summer thunderstorms or extended wet periods. The permanent water table was below sampling depth, though the moisture content did increase with depth in borings #2 and #3.

Prepared by:


Donald W. Owens
Soil Scientist

DWO/dew
6178



EARTH DIMENSIONS, INC.

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Test Borings and Logs
 787 Center Street • East Aurora, New York 14052 • (716) 421-2117

HOLE NO. _____ SURF. ELE. _____
 PROJECT Scandiam Fibre Co., Inc. LOCATION _____
City of Tonawanda
110 Wheeler Street
 CLIENT Frederick Associates, Inc. DATE STARTED 9/22/78 COMPLETED 9/28/78

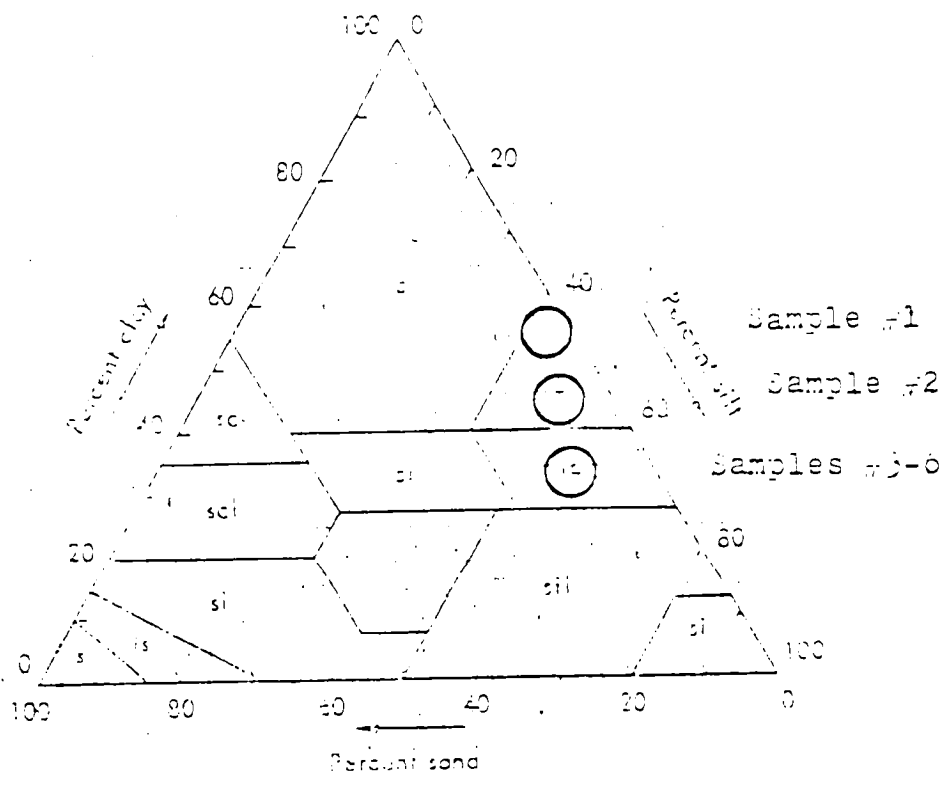
SAMPLE NO.	EDGWS ON SAMPLER	DEPTH (FEET)	DESCRIPTION & CLASSIFICATION	WATER TABLE & REMARKS			
					1	2	3
			Moist, reddish-brown SILTY-CLAY fill, very firm	water rapidly seeped into bore hole from the man deposited fill mantle.			
			extremely moist to wet black cinders, reddish-brown SILTY-CLAY and industrial wastes, very friable to firm, in 3 to 6 inch layers.				
2	NT	27	Moist, reddish-brown silty clay (CLAYEY-SILT) with less than 5% gravel, massive soil structure, extremely firm (stiff)	fill to four feet over 1/2 foot thick lake sediment resting on very dense silty glacial material to end of boring. Original approximate depth of clayey lake silt material was removed. NT - not taken due to Shelby tube samples taken at this depth and below.			
			Moist, reddish-brown, silty clay loam (CLAYEY-SILT) with 5 to 10% subangular, gray, hard shale and dolomitic gravel, massive soil structure, extremely firm, slightly plastic. This deposit is very compact and uniform.				
3	NT	27					
4	NT	27					
5	NT	27		water table at 11.5 feet below surface at completion.			
			(Note change in scale between 10 and 15 feet with sample 4 secured between 14.5 and 15.0 feet)				
				boring completed at 20.0 feet			

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 LB. WT. FALLING 30 " PER BLOW.
 LOGGED BY Owens

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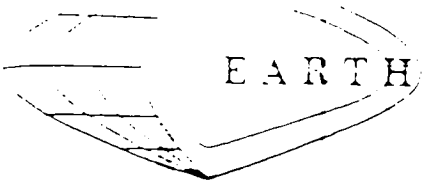
6178

HULL #1:



- | | | | |
|-----|-----------|-----|-----------------|
| cl | clay loam | slt | sandy clay loam |
| clt | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |
| cl | clay loam | sl | sandy loam |

Soil samples were collected from the following locations: Sample #1 - 1/2 mile S. of Hull, S. of 115th St. and 0.05-2.0 m. from the surface; Sample #2 - 1/2 mile S. of Hull, S. of 115th St. and 0.05-2.0 m. from the surface; Samples #3-6 - 1/2 mile S. of Hull, S. of 115th St. and 0.05-2.0 m. from the surface.



EARTH DIMENSIONS, INC.

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Test Borings and Logs
207 Center Street • East Aurora, New York 14052 • (716) 672-1117

HOLE NO. 3

SURF. ELEV. _____

PROJECT Leaulding Fibre Co., Inc.
State of Pennsylvania

LOCATION 10 Wheeler Street

CLIENT Trachsel Associates, Inc.

DATE STARTED 9/22/75 COMPLETED 9/22/75

SAMPLE NO.	BLOWS ON SAMPLER	DEPTH (FEET)	DESCRIPTION & CLASSIFICATION	WATER TABLE & REMARKS
			extremely moist, black, cinder fill, very friable	
27	10	44	Moist, black, silt loam (CLAY-SILT) topsoil	
			Moist, distinctly mottled, reddish-brown SILTY-CLAY, with gray vertical desiccation cracks, extremely firm (stiff), plastic	Clayey lake sediments to 2 feet over dense, silty clay loam glacial till to end of boring.
28	12	45		
			Moist, reddish-brown silty clay loam (CLAY-SILT) with 10 to 15% subangular hard dolomite and shale gravels and occasional coarse, massive soil structure, extremely firm, slightly plastic.	Not taken due to Shelby tube samples taken at this depth and below.
33	15	56		(Note scale change between 10.0 and 15.0 feet.)
			---grades downward to -14.0 feet---	(Sample #4 taken at 14.5 to 15.0' depths)
4	12	72		
			Moist, brown, silty clay loam (CLAY-SILT) with 10 to 15% subangular hard dolomite and shale gravel, massive soil structure, firm, slightly plastic	No water at completion
7	24	125		
5			Boring completed at 20 feet	

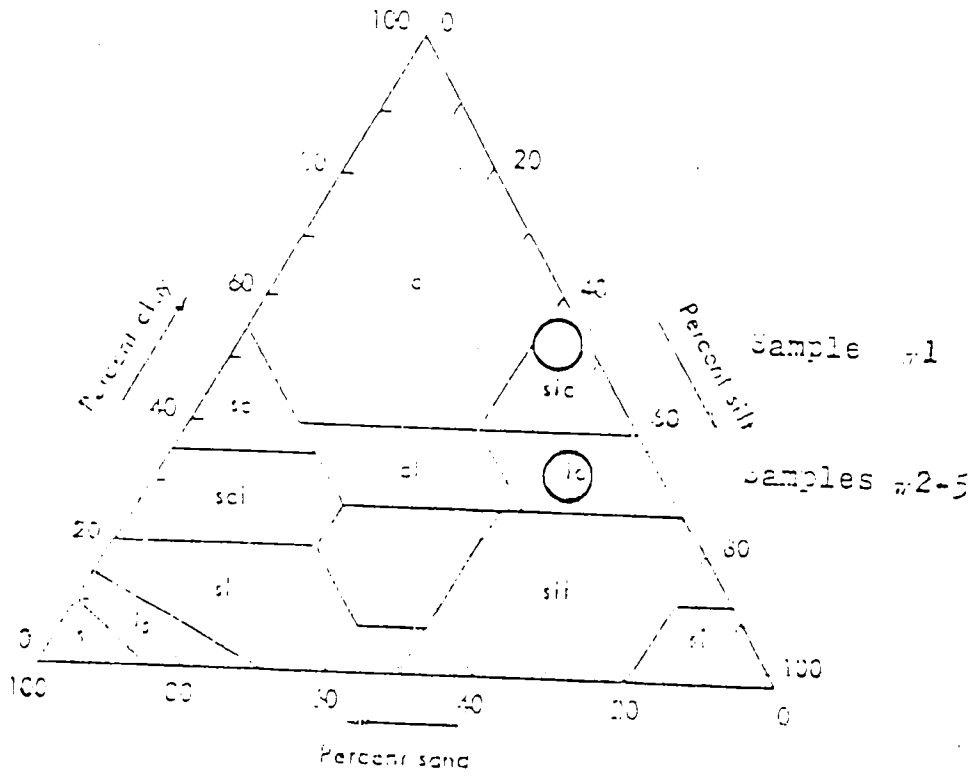
N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 LB. WT. FALLING 30 " PER BLOW.

LOGGED BY Wrens

6

6278

NOTE -2:



- | | | | |
|----|------------|-----|-----------------|
| c | Clay | sc | Sandy clay loam |
| sl | Silt loam | sil | Silty clay loam |
| sc | Sandy clay | sl | Silt loam |
| cl | Clay loam | sl | Silty loam |
| sc | Sandy clay | sl | Silty loam |
| sc | Sandy clay | s | Sandy sand |

Soil classification based on the textural characteristics of the soil. The soil is classified as a silty loam (sl) based on the textural characteristics of the soil.

EARTH DIMENSIONS, INC.

14

Test Business and Engineering
 27 Center Street • East Aurora, New York 14051 • (716) 833-1177

HOLE NO. _____

SURF ELEV. _____

PROJECT Stauding Fibre Co., Inc.
City of Tonawanda

LOCATION 10 Wheeler Street

CLIENT Franklin Associates, Inc.

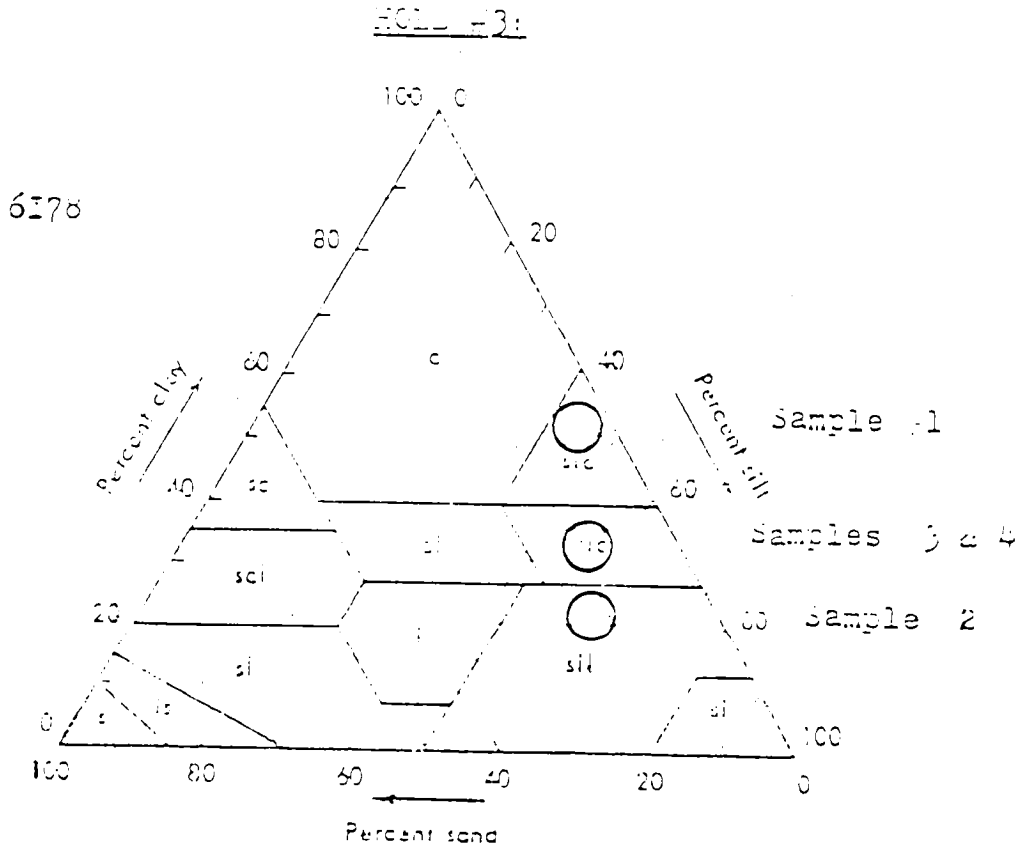
DATE STARTED 9/22/75 COMPLETED 9/23/75

SAMPLE NO.	BLOWS ON SAMPLER	DESCRIPTION & CLASSIFICATION	WATER TABLE & REMARKS
		Moist, black, silt loam (CLAYEY-SILT) topsoils, very friable	
1	12 20 2	Moist, distinctly mottled, reddish brown, SILTY-CLAY with gray desiccation cracks, very firm	Clayey and silty lake sediments to 6 feet over dense, silty clay loam glacial till to end of boring
		-----clear transition to-----	
		Moist, reddish-brown, heavy, silt loam (CLAYEY-SILT), thinly bedded firm, nonplastic, nonsticky	
		-----clear transition to-----	
		Moist, reddish-brown SILTY CLAY loam (CLAYEY-SILT) with 10 to 15% subangular, hard, gray shale and dolomite gravels, massive soil structure, extremely firm	
	18 21 40 51		
3			
		-----grades downward to-----	
		Moist, to extremely moist, brown silty clay loam (CLAYEY-SILT) with 10 to 15% subangular, gray hard shale and dolomite gravels, massive soil structure, firm.	
	1 17 22 23		
4			

Continued on Page 2...

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 LB. WT. FALLING 30 " PER BLOW.

LOGGED BY _____



- | | | | |
|-----|------------|-----|-----------------|
| c | Clay | sl | Sandy clay loam |
| si | Silt | sil | Silty clay loam |
| s | Sand | sl | Sandy loam |
| l | loam | sil | Silty loam |
| sc | Sandy clay | sl | Sandy loam |
| slc | Silty clay | s | Sandy sand |

Percent sand, silt, and clay are based on the method of *Soil Science Society of America, 1938, Soil Classification and Nomenclature*, 10th ed., p. 11. The base soil texture classes are defined from Soil Survey Series 17-31.

EARTH DIMENSIONS, INC.

Test Borings and Logs
 787 Center Street • East Aurora, New York 14042 • (716) 665-1717

CLIENT Continued

SURF. ELEV. _____

PROJECT Spaulding Fiber Co., Inc.
City of Tonawanda

LOCATION 10 Wheeler Street

AGENT Knechtel Associates, Inc.

DATE STARTED 2/22/75 COMPLETED 2/22/75

NO.	BLOWS ON SAMPLER						DESCRIPTION & CLASSIFICATION	WATER TABLE & REMARKS
	1	2	3	4	5	6		
12	24	24	29	53			(Same horizon as described at the bottom of page 1 of 2)	water table 9.5 feet below surface at completion
							Spring completed at 20 feet	

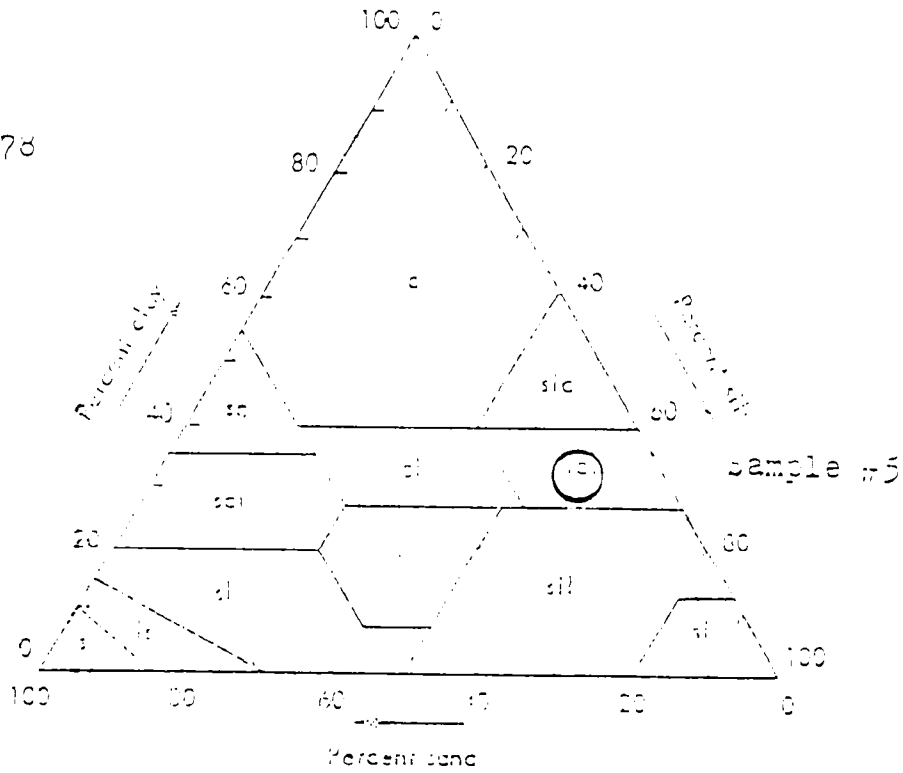
NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

LOGGED BY _____

66

Hold #2 - Continued:

6178



- | | | | |
|-----|------------|------|-----------------|
| c | Clay | sil | Silty clay loam |
| sl | Silt | sicl | Silty clay loam |
| cl | Clay loam | sl | Silt loam |
| sl | Silt loam | sil | Silt loam |
| sc | Sandy clay | sl | Sandy loam |
| sic | Silty clay | s | Sandy sand |

Soil classification based on texture (percent sand, silt, and clay) and soil moisture characteristics. U.S. Soil Survey Manual, 1951.

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END OF
NON-LEGIBLE
PAGES

C. Calspan Corporation Soil Permeability Coefficients
(k) - 1978

Shelby tube samples were taken from two (2) depths at each of the three (3) bore sites augered September 22, 1978 by Earth Dimensions, Inc. and cited in B. above. These samples were tested by Calspan Corporation for natural soil permeability coefficient with the following results:

<u>Test Boring</u>	<u>Sample Zone (ft)</u>	<u>Permeability Coefficient (cm/sec)</u>
1	4.5 - 5.5	$k = 1.06 \times 10^{-7}$
	15 - 17	$k = 2.1 \times 10^{-7}$
2	5 - 6	$k = 2.0 \times 10^{-5}$
	15 - 17	$k = 2.3 \times 10^{-7}$
3	3.5 - 4.5	$k = 2.2 \times 10^{-5}$
	14.5 - 15.5	$k = 1.4 \times 10^{-6}$

D. Aerial Photograph Review and Interpretation

1951, 1961, 1972 and 1978 aerial photos were reviewed with the following observations:

1951 - Some activity was noted in the area of Site 915050c. The soil appears to have been disturbed and some piles of material or containers were noted in this area.

1961 - Continued activity noted at Site 915050c.
A depression, possibly a pit was evident
in the general area of 915050a. No deposi-
tion of material evident.

1972 - Extensive accumulations of material and
disturbance of soils noted in the area of
Sites 915050 a, b, and c. Also apparent
storage of material noted next to the
building in the northeastern corner of
property.

1978 - Only minor activity noted at Site 915050b.
No determination possible on the type of
activity.

The aerial photo review generally confirms reported
disposal activity by Spaulding Fibre.

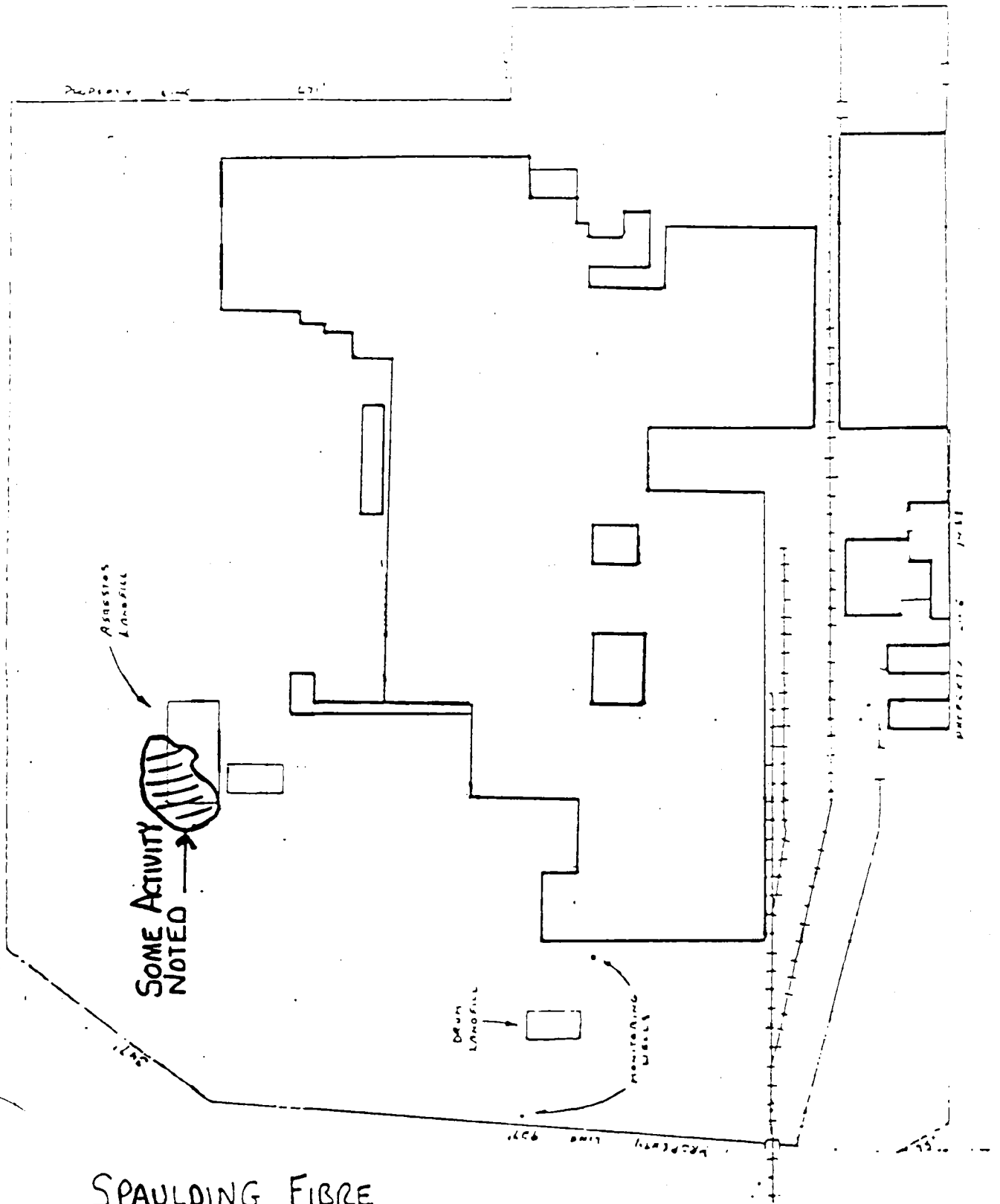
E. Town of Tonawanda Hydrogeologic Investigation By
Thomson Associates - July 1983

This information was reviewed because of the
proximity of this site to Spaulding Fibre (approx-
imately 1/4 miles south).

An executive summary on Page 7 of this report
indicates that the Tonawanda Landfill areas overlay
thick glacial till deposits with low vertical and
horizontal permeability. The unconsolidated
deposits were described as between 56 and 95.5

feet thick and consisting primarily of a red-brown silty clay glacial till. These materials were tested and showed a mean vertical and horizontal hydraulic conductivity of 1.7×10^{-6} cm/sec and 1×10^{-5} cm/sec respectively.

This data generally confirms the soil data reported by Krehbiel and USGS for the Spaulding Fibre site.



SPAULDING FIBRE
 1951 ~~PHOTO~~ - AERIAL PHOTO INTERP.
 A VOELL - DEC-1983

F. Spaulding Fibre Gas Well Log Information - 1978

Spaulding Fibre Company, Inc. installed three (3) gas wells on its property in 1978. The following is an excerpt from the drilling logs:

Well #1 (Water Tower Area - North Side of Property)

<u>Depth (ft)</u>	<u>Description</u>
0 - 24	Fill and glacial debris
24 - 170	Salina

Well #2 (Hines Street - Hackett Street - Southwest Corner of Property)

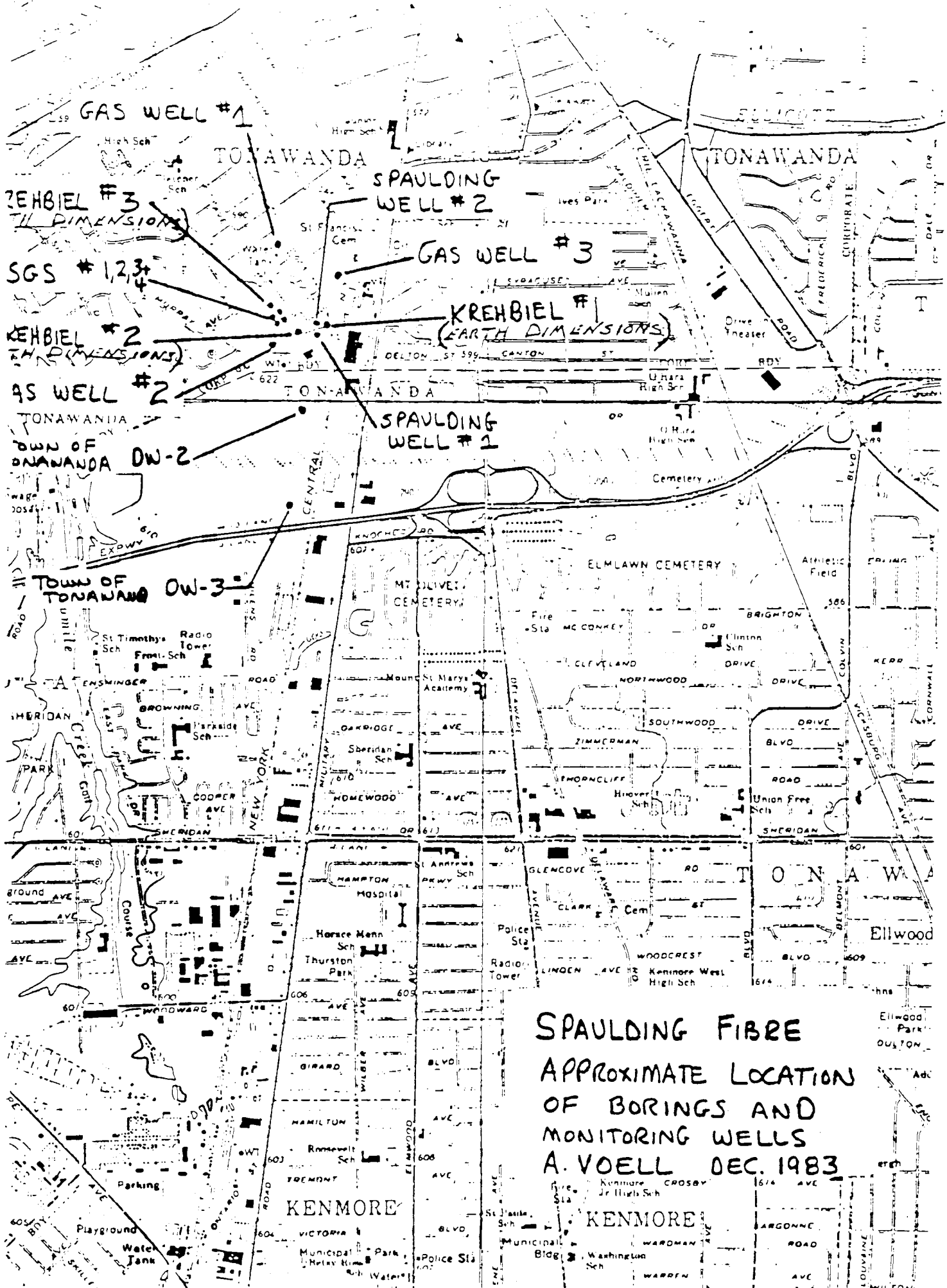
<u>Depth (ft)</u>	<u>Description</u>
0 - 28	Fill and glacial till
28 - 202	Salina

Well #3 (Parking Lot Across Wheeler Street - East Side of Property)

<u>Depth (ft)</u>	<u>Description</u>
0 - 34	Glacial fill
34 - 196	Salina

G. Spaulding Fibre Company, Inc. Abandoned Water Well

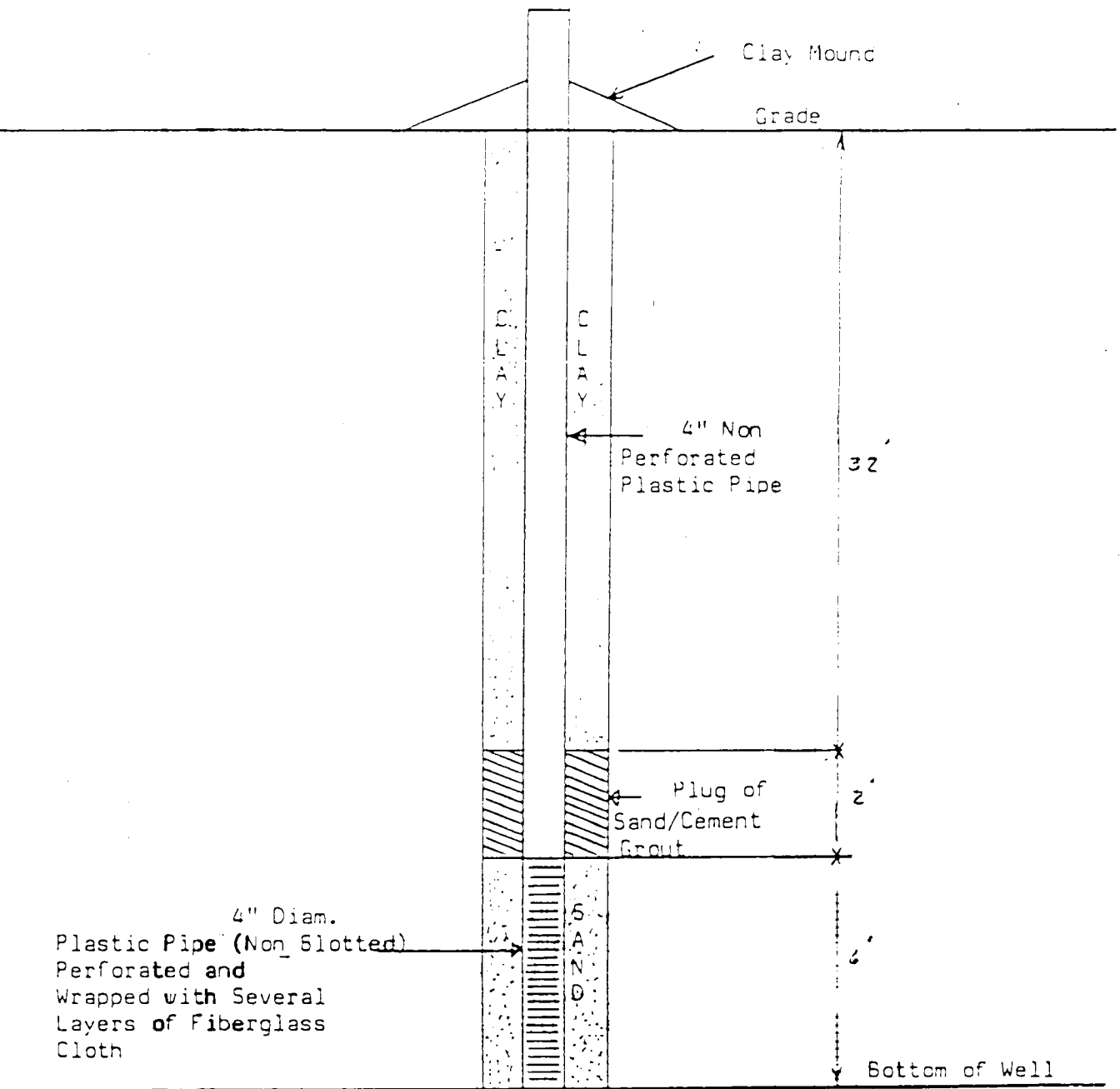
On the Spaulding property is an abandoned water well. This well was measured on December 6, 1983 for well depth and water level. The well is twenty-six (26) feet deep from ground level and the water level was at twenty-four (24) feet below the ground level.



SPAULDING FIBRE
 APPROXIMATE LOCATION
 OF BORINGS AND
 MONITORING WELLS
 A. VOELL DEC. 1983

H. Well Monitoring Results - 11/23/78 through 9/29/83
Pittsburgh Testing Lab, 605 Young Street,
Tonawanda, New York was contacted to put in two (2)
monitoring wells, one upstream and one downstream
of the drum dump site (915050b). These wells were
put in October 6-7, 1978. The driller's log shows
that both wells were sunk to a depth of forty (40)
feet below grade. Four (4) inch plastic pipe was
used with the bottom six (6) feet perforated and
wrapped with fiberglass cloth. The bottom six (6)
feet was backfilled with sand then with two (2)
feet of cement grout on top of the sand and the
thirty-two (32) feet remainder backfilled with
the excavated material. The upstream well core
was dry for the top thirteen (13) feet and damp
from fourteen (14) to forty (40) feet. The well
was left open overnight and filled with water to
1.4 feet below the surface. The downstream well
filled with water to two (2) feet below grade at
the end of the drill.

Following are the test results since 11/23/78.



Water Wells 1 & 2 Installed 10-6, 7-1978

BF-8276

67

SAMPLE DATE	PHENOL		ANTIMONY		COO	
	UP	DOWN	UP	DOWN	UP	DOWN
11-22-78	K.25	K.10	K.01	K.01	17.5	59
1-25-79	.22	.29	K.01	K.01	7.5	59
2-22-79	.07	.23	K.01	K.01	28.8	76
5-17-79	.15	.24	K.1	K.1	9.3	38.8
8-18-79	.04	.03	K.1	K.1	26.5	49.1
9-20-79	.15	.08	K.005	K.005	24.4	50.1
12-20-79	.07	.08	K.005	K.005	19.3	52.2
5-15-80	.23	.10	K.001	K.001	7.9	19.9
10-23-80	K.03	K.03	K.002	K.002	18.8	55.6
12-26-81	.21	.26	K.005	K.005	7.7	11.5
12-10-81	K.03	K.03	K.002	K.002	4.5	4.5
10-12-82	K.03	K.03	K.002	K.002	41.0	14

= 00 11/10/82 = = = = =

— H₁ *

5-17-83	K.03	K.03	.0082 *	.012 *	16.0	53.5
9-29-83	K.03	K.03	K.01	K.01	100.0	52

* EXPRESSED AS LINDANE

[Signature]

I. Expanded Well Testing - November/December 1981

As a result of NYSDEC's decision to go to Phase II for both the dust and drum sites, it was decided to gather additional data from the test wells. This involved analyzing for additional chemicals and analyzing to a lower sensitivity level. The results are in table form.

PARAMETER	<u>11/23/83</u>		<u>12/1/83</u>		<u>12/6/83</u>	
	<u>UP STREAM</u>	<u>DOWN STREAM</u>	<u>UP, STREAM</u>	<u>DOWN STREAM</u>	<u>UP STREAM</u>	<u>DOWN STREAM</u>
nol (PHENOL)	<2	<2	<2	<2		
sols (CRESOLS)	<5	<5	<5	<5		
butyl Phthalate (DIBUTYL PHTHALATE)	<15	<15	<15	<15		
butyl Octyl phthalate (BUTYL OCTYL PHTHALATE)	<20	<20	<20	<20		
formaldehyde (FORMALDEHYDE)	5	30	14	10	3.4	8.3
methyl Alcohol (METHYL ALCOHOL)	3	11	2	2	2.9	2.9
ethyl Alcohol (ETHYL ALCOHOL)	13	8	13	13	1.5	2.4
methyl Ethyl Ketone (METHYL ETHYL KETONE)	6	3	5	6	5.8	6.2
toluene (TOLUENE)	9	3	13	9	3.4	5.1

ES: 1. Analysis by ACTS TESTING LABS, INC. using 606, 602, 604
EPA methods.

2. All results in parts per billion. (ug/l)

J. EP Toxicity Tests Spauldite® Dust - November 1983

A sample of Spauldite® dust was composited according to our average product mix as described under the section headed BACKGROUND i.e. 95% phenolic, 2% epoxy and 3% melamine. This sample was tested according to the EP toxicity test with the following results:

<u>PARAMETER</u>	<u>DUST SAMPLE RESULT</u>	<u>EPA MAXIMUM CONCENTRATION</u>
Arsenic	0.014 ppm	5.0 ppm
Barium	0.2 ppm	100.0 ppm
Cadmium	<0.01 ppm	1.0 ppm
Chromium	<0.01 ppm	5.0 ppm
Lead	<0.1 ppm	5.0 ppm
Mercury	<0.002 ppm	0.2 ppm
Selenium	<0.002 ppm	1.0 ppm
Silver	<0.01 ppm	5.0 ppm
Phenol	<2 ppb	NA
o-Cresol	<5 ppb	NA
p,m-Cresol	<5 ppb	NA
Dibutyl Phthalate	5910 ppb	NA
Butyl Octyl Phthalate	2270 ppb	NA
Formaldehyde	<0.8 ppb	NA
Methyl Alcohol	<0.3 ppb	NA
Ethyl Alcohol	15 ppb	NA
Methyl Ethyl Ketone	3 ppb	NA
Toluene	7 ppb	NA

4. SUMMARY AND CONCLUSIONS

1. Considerable data has already been accumulated in connection with the dump sites on Spaulding Fibre Company, Inc.'s property.
2. This data indicates that:
 - a. there has been no evidence of contaminant leaching from the sites or of groundwater contamination,
 - b. the geology of the soil in the area shows a reddish brown silty glacial till down to and below the water table. This is firm, uniform and impermeable,
 - c. soil natural permeability coefficients (k) range from 2.0×10^{-5} to 2.1×10^{-7} cm/sec.,
 - d. EP toxicity tests on Spauldite® dust do not show the material to be a hazardous waste as defined by RCRA.
3. In view of the data, it is felt that Phase II work at the sites is not required, but that the on-going monitoring program be continued.

APPENDIX D-3

SITE INTERVIEW FORM

SITE: SPAULDING FIBRE PROJECT NUMBER: 00296-01697DATE: 3.7.91 TIME: PMINTERVIEWER (DUNN/TAMS): LESLIE E GRACEINTERVIEWEE (OF SITE): GREG G. ECKER (NYS DEC REGION 9)NO. OF YEARS WORKING AT THE SITE: NADATES FROM: NA TO: NAJOB RESPONSIBILITIES AT SITE: NA

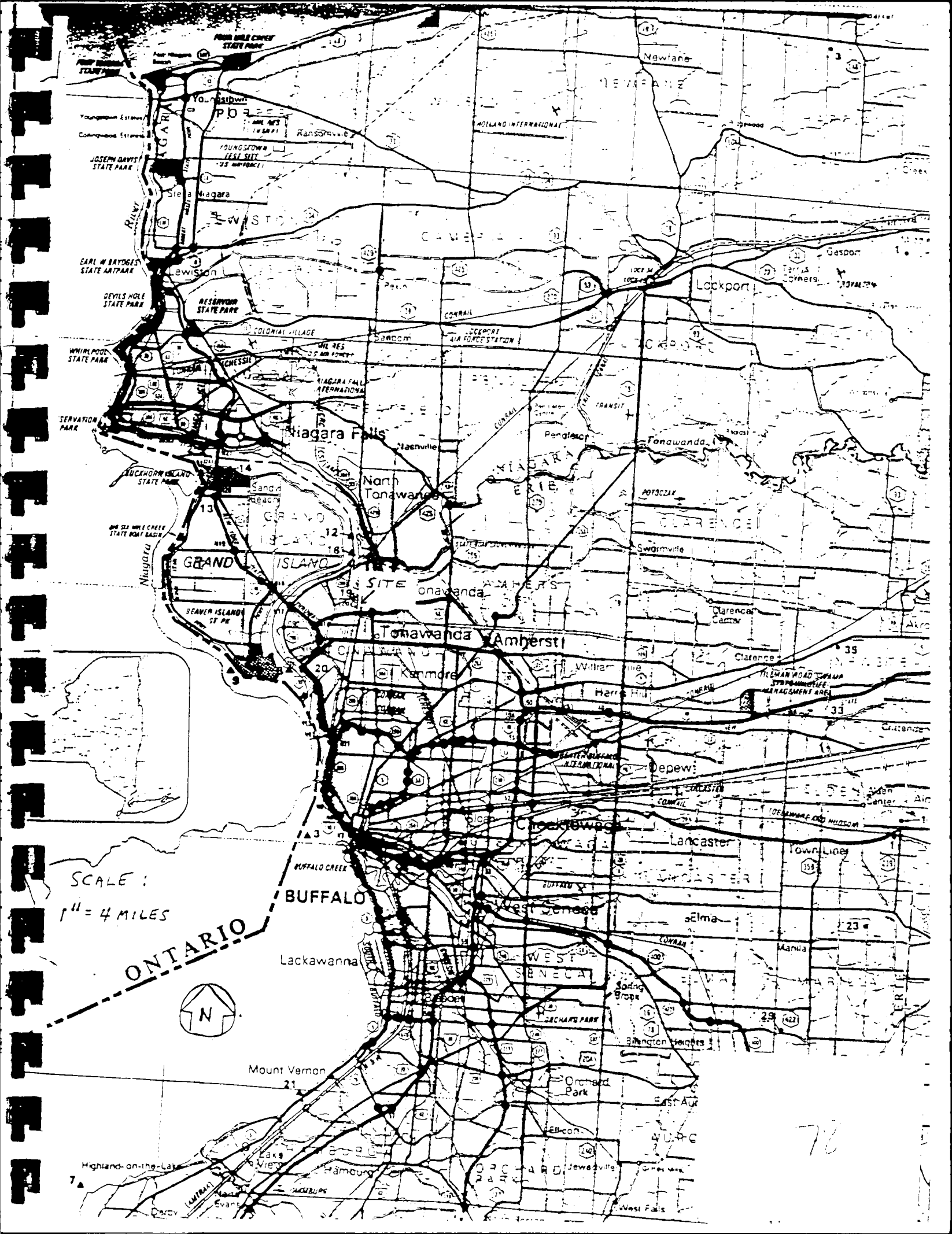
INTERVIEW:

MR. ECKER IS A WILDLIFE REPRESENTATIVE FOR THE NYS DEC, MR ECKER ASSISTED MS. GRACE IN IDENTIFYING SIGNIFICANT WILDLIFE AND WETLAND AREAS WITHIN A THREE MILE RADIUS OF SPAULDING FIBRE: SW15-002 AND SW15-500 ARE TWO SIGNIFICANT WILDLIFE AREAS, IN THE NIAGARA RIVER ON THE TONAWANDA INTAKE THERE IS A COLONY OF COMMON TERNS. THE GUN CREEK IS A MANAGED WILDLIFE AREA LOCATED APPROXIMATELY 2.5 MILES NORTHWEST OF SPAULDING FIBRE ON GRAND ISLAND. THE THREATENED SOLIDAGNA RIGIDA OR STIFF LEAF GOLDEN ROD PLANT AND THE UNPROTECTED CALAMINTUS ARKANSANSIS OR CALAMINT PLANT LAST SEEN IN 1926, CAN BE FOUND WITHIN A THREE MILE RADIUS OF SPAULDING FIBRE. THERE ARE FOUR DESIGNATED WETLAND AREAS WITHIN A THREE MILE RADIUS OF SPAULDING FIBRE: BW-8 APPROXIMATELY 2.5 MILES WEST, BW-6 APPROXIMATELY 2.5 MILES SOUTHWEST; TW-12 1.75 MILES NORTH WEST AND TW-10 2.25 MILES NORTHWEST OF SPAULDING FIBRE. DESIGNATED WETLAND AREAS ARE GREATER THAN 12.4 ACRES, SMALLER WETLANDS MAY EXIST WITHIN THE THREE MILE RADIUS WHICH ARE NOT DESIGNATED SIGNATURES. DUE TO THEIR SIZE.

INTERVIEWEE: Greg G. Ecker DATE: 3/27/91INTERVIEWER: Leslie E. Grace DATE: 3.31.91

Appendix C-3

New York State Atlas of Community Water System Sources, 1982
NYS Department of Health
Division of Environmental Protection
Bureau of Public Water Supply Protection



SCALE :
1" = 4 MILES



78

X = AFFECTED INTAKE

ERIE COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Akron Village (See No 1 Wyoming Co, Page 10)	3640	
1	Alden Village	3460	Wells
2	Angola Village	8500	Lake Erie
3	Buffalo City Division of Water	357870	Lake Erie
4	Coffee Water Company	210	Wells
5	Collins Water District #3	704	Wells
6	Collins Water Districts #1 and #2	1384	Wells
7	Erie County Water Authority (Sturgeon Point Intake)	375000	Lake Erie
8	Erie County Water Authority (Van DeWater Intake)	NA	Niagara River - East Branch
9	Grand Island Water District #2	9390	Niagara River
10	Holland Water District	1670	Wells
11	Jawtons Water Company	138	Wells
X 12	Lockport City (Niagara Co)		Niagara River - East Branch
13	Niagara County Water District (Niagara Co)		Niagara River - West Branch
14	Niagara Falls City (Niagara Co)		Niagara River - West Branch
15	North Collins Village	1500	Wells
X 16	North Tonawanda City (Niagara Co)		Niagara River - West Branch
17	Orchard Park Village	3671	Pipe Creek Reservoir
18	Springville Village	4169	Wells
X 19	Tonawanda City	18538	Niagara River - East Branch
20	Tonawanda Water District #1	91269	Niagara River
21	Wanakah Water Company	10750	Lake Erie

Non Municipal Community

22	Aurora Mobile Park	125	Wells
23	Bush Gardens Mobile Home Park	270	Wells
24	Circle B Trailer Court	50	Wells
25	Circle Court Mobile Park	125	Wells
26	Creekside Mobile Home Park	120	Wells
27	Donnelly's Mobile Home Court	99	Wells
28	Cowanda State Hospital	NA	Clear Lake
29	Hillside Estates	160	Wells
30	Hunters Creek Mobile Home Park	150	Wells
31	Knox Apartments	NA	Wells
32	Maple Grove Trailer Court	72	Wells
33	Millgrove Mobile Park	100	Wells
34	Perkins Trailer Park	75	Wells
35	Quarry Hill Estates	400	Wells
36	Springville Mobile Park	114	Wells
37	Springwood Mobile Village	132	Wells
38	Taylor's Grove Trailer Park	39	Wells
39	Valley View Mobile Court	42	Wells
40	Villager Apartments	NA	Wells

NIAGARA COUNTY

ID NO	COMMUNITY WATER SYSTEM
Municipal Community	
	Lockport City (See No 12)
1	Middleport Village (See No 13, Erie Co)
2	Niagara Falls City (See Erie Co)
	North Tonawanda City (See Erie Co)
Non Municipal Community	
3	Country Estates Mobile V

14

APPENDIX D-4

DONNELLEY MARKETING INFORMATION SERVICES
 A COMPANY OF THE DUN & BRADSTREET CORP

DUNN GEOSCIENCE CORP

SEPTEMBER 6, 1990

AREANAME	AREADESC	POP90
RTE 242/RTE 16, MACHIAS, NY	Ring: 1 mile(s): 42.4078 78.4842	139
RTE 242/RTE 16, MACHIAS, NY	Ring: 2 mile(s): 42.4078 78.4842	2004
RTE 242/RTE 16, MACHIAS, NY	Ring: 3 mile(s): 42.4078 78.4842	2004
STRINGHAM RD S OF RTE 55, LAGRANGE, NY	Ring: 1 mile(s): 41.6633 73.7972	0
STRINGHAM RD S OF RTE 55, LAGRANGE, NY	Ring: 2 mile(s): 41.6633 73.7972	4758
STRINGHAM RD S OF RTE 55, LAGRANGE, NY	Ring: 3 mile(s): 41.6633 73.7972	12222
CRICKET HILL RD EAST OF RT 22, DOVER, NY	Ring: 1 mile(s): 41.6756 73.5711	2068
CRICKET HILL RD EAST OF RT 22, DOVER, NY	Ring: 2 mile(s): 41.6756 73.5711	4137
CRICKET HILL RD EAST OF RT 22, DOVER, NY	Ring: 3 mile(s): 41.6756 73.5711	7161
PINE HILL RD/RTE 44, PLEASANT VALLEY, NY	Ring: 1 mile(s): 41.7506 73.8078	2469
PINE HILL RD/RTE 44, PLEASANT VALLEY, NY	Ring: 2 mile(s): 41.7506 73.8078	2469
PINE HILL RD/RTE 44, PLEASANT VALLEY, NY	Ring: 3 mile(s): 41.7506 73.8078	6366
S ROBERTS RD/NEW RD, DUNKIRK, NY	Ring: 1 mile(s): 42.4736 79.3056	1987
S ROBERTS RD/NEW RD, DUNKIRK, NY	Ring: 2 mile(s): 42.4736 79.3056	14905
S ROBERTS RD/NEW RD, DUNKIRK, NY	Ring: 3 mile(s): 42.4736 79.3056	24419
WASHINGTON AVE/18TH ST, JAMESTOWN, NY	Ring: 1 mile(s): 42.1081 79.2456	11132
WASHINGTON AVE/18TH ST, JAMESTOWN, NY	Ring: 2 mile(s): 42.1081 79.2456	33672
WASHINGTON AVE/18TH ST, JAMESTOWN, NY	Ring: 3 mile(s): 42.1081 79.2456	40054
NE OF OBI RD/RTE 417, LITTLE GENESEE, NY	Ring: 1 mile(s): 42.0361 78.1931	0
NE OF OBI RD/RTE 417, LITTLE GENESEE, NY	Ring: 2 mile(s): 42.0361 78.1931	703
NE OF OBI RD/RTE 417, LITTLE GENESEE, NY	Ring: 3 mile(s): 42.0361 78.1931	2078
E NIAGARA ST/WALES AVE, TONAWANDA, NY	Ring: 1 mile(s): 43.0221 78.8595	16569
E NIAGARA ST/WALES AVE, TONAWANDA, NY	Ring: 2 mile(s): 43.0221 78.8595	45789
E NIAGARA ST/WALES AVE, TONAWANDA, NY	Ring: 3 mile(s): 43.0221 78.8595	94917
WALES AVE/FILLMORE AVE, TONAWANDA, NY	Ring: 1 mile(s): 43.0153 78.8595	15379
WALES AVE/FILLMORE AVE, TONAWANDA, NY	Ring: 2 mile(s): 43.0153 78.8595	51604
WALES AVE/FILLMORE AVE, TONAWANDA, NY	Ring: 3 mile(s): 43.0153 78.8595	100617
MILITARY RD/SAYRE AVE, BUFFALO, NY	Ring: 1 mile(s): 42.9473 78.8909	23669
MILITARY RD/SAYRE AVE, BUFFALO, NY	Ring: 2 mile(s): 42.9473 78.8909	74062
MILITARY RD/SAYRE AVE, BUFFALO, NY	Ring: 3 mile(s): 42.9473 78.8909	157259
MILITARY RD/WHEELER ST, TONAWANDA, NY	Ring: 1 mile(s): 43.0025 78.8814	15508
MILITARY RD/WHEELER ST, TONAWANDA, NY	Ring: 2 mile(s): 43.0025 78.8814	44353
MILITARY RD/WHEELER ST, TONAWANDA, NY	Ring: 3 mile(s): 43.0025 78.8814	97769
2250 MILITARY RD, TONAWANDA, NY	Ring: 1 mile(s): 42.9984 78.8822	14257
2250 MILITARY RD, TONAWANDA, NY	Ring: 2 mile(s): 42.9984 78.8822	46922
2250 MILITARY RD, TONAWANDA, NY	Ring: 3 mile(s): 42.9984 78.8822	106180
KENMORE AVE/I-190, TONAWANDA, NY	Ring: 1 mile(s): 42.9753 78.9108	2176
KENMORE AVE/I-190, TONAWANDA, NY	Ring: 2 mile(s): 42.9753 78.9108	30012
KENMORE AVE/I-190, TONAWANDA, NY	Ring: 3 mile(s): 42.9753 78.9108	81425
MILITARY RD/HAMPTON PKWY, TONAWANDA, NY	Ring: 1 mile(s): 42.9786 78.8856	14991

ANACONDA

spawlding

ALUM. MTCNPLATE

AREANAME : AREANAME
 AREADESC : AREADESC
 POP90 : CUR EST TOTAL POPULATION

DONNELLEY MARKETING INFORMATION SERVICES
 A COMPANY OF THE DUN & BRADSTREET CORP

DUNN GEOSCIENCE CORP

SEPTEMBER 6, 1990

AREANAME	AREADESC	POP90
MILITARY RD/HAMPTON PKWY, TONAWANDA, NY	Ring: 2 mile(s): 42.9786 78.8856	59560
MILITARY RD/HAMPTON PKWY, TONAWANDA, NY	Ring: 3 mile(s): 42.9786 78.8856	128481
172 EATON ST, SPRINGVILLE, NY	Ring: 1 mile(s): 42.5144 78.6604	4588
172 EATON ST, SPRINGVILLE, NY	Ring: 2 mile(s): 42.5144 78.6604	5006
172 EATON ST, SPRINGVILLE, NY	Ring: 3 mile(s): 42.5144 78.6604	6991
HOPKINS ST/MARILLA ST, BUFFALO, NY	Ring: 1 mile(s): 42.8360 78.8326	12461
HOPKINS ST/MARILLA ST, BUFFALO, NY	Ring: 2 mile(s): 42.8360 78.8326	55717
HOPKINS ST/MARILLA ST, BUFFALO, NY	Ring: 3 mile(s): 42.8360 78.8326	91920

74,521

AREANAME : AREANAME
 AREADESC : AREADESC
 POP90 : CUR EST TOTAL POPULATION

AGARA

NORTH TONAWANDA

NORTH TONAWANDA

TONAWANDA

TONAWANDA

TONAWANDA

TONAWANDA

TONAWANDA

TONAWANDA

NIAGARA RIVER

ISLAND PARK

ONLY KNOWN WELLS IN THE AREA

ERIE CO WELLS

SCALE 1:24000



CONTOUR INTERVAL 10 FEET. DATUM IS MEAN SEA LEVEL. DEPTH CURVES AND SOUNDINGS ON FEET - ON TONAWANDA IS CON WATER SHALL FEET.

NUS CORPORATION

DATE 10/12/67

NO. 02-8704-02

QUAD TONAWANDA WEST, N.Y.

FIGURE NUMBER



APPENDIX D-5



REPORT OF CALL

TO: FILE FROM: GEORGE C MORETTI
DATE: 5-20-91 TIME: 1100
RE: RECENT GW DATA SPAULDING FIBRE WELLS AND TCLP ON BATHHOUSE DUST
PERSON CONTACTED: GREG STUBBS
PHONE #: (716) 692-2000 PROJECT #:

DESCRIPTION OF CONVERSATION: ACTION/REMARKS:

Table with 3 columns: DATE, WELL A (UPGRADIENT), WELL B (DOWNGRADIENT). Rows include dates from July 14, 1989 to July 27, 1990 with corresponding PPM values.

THE JULY 14, 1989 SAMPLING SHOWED THE UPGRADIENT WELL TO CONTAIN HIGHER LEVELS THAN THE DOWNGRADIENT WELL. GREG SAID HE REVIEW THE HISTORICAL DATA AND FOUND THAT ON 7 OCCASSIONS THE UPGRADIENT WELL HAD HIGHER LEVELS ; ON 5 OCCASSIONS THE DOWNGRADIENT WELL HAD HIGHER LEVELS AND ON A NUMBER OF OTHER SAMPLING EVENTS BOTH WELLS RESULTS THAT WERE BELOW THE DETECTION LIMITS.

IN ANOTHER MATTER, GREG HAD RESULTS FROM A TCLP ANALYSIS OF BATHHOUSE DUST FROM THE SPAULDITE PROCESSING AREA. THIS MATERIAL IS ESSENTIALLY THE SAME MATERIAL THAT IS IN THE ASBESTOS LANDFILL. PHENOL AND 2-METHYL PHENOL WERE FOUND IN THE TCLP EXTRACT. GREG SAID THAT WHILE THIS MATERIAL MAY BE VERY SIMILAR TO THE MATERIAL IN THE LANDFILL ITS LEACHING POTENTIAL MAY BE SIGNIFICANTLY DIFFERENT BECAUSE OF THE TIME THE MATERIAL HAS BEEN SITTING (NEARLY 15 YEARS). HE SAID HE WOULD FAX THE REPORT LATER TODAY.

COPIES TO: CIRCULATE TO: File



TELECOPIES COVER SHEET

SPAULDING COMPOSITES COMPANY
P.O. BOX 616
TONAWANDA, NY 14151

DATE: MAY 20, 1991

TO: George Moretti

FROM: Greg Stubbs

TOTAL PAGES: 3 (INCLUDING COVER SHEET)

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL AS SOON AS POSSIBLE
(716) 692-1530 EXT 396, FAX NO. (716) 692-4410

Attached, are the TCLP results of a sample of resin dust from the baghouse as it is generated. Any extrapolation of this data to the landfill, containing dust for nearly 15 years would be tenuous

13907

9001.943
135

No 046

CHAIN OF CUSTODY RECORD

Technical Report No.: _____

Date: ____ / ____ / ____

Company: Spaulding Fibre Company, Inc.

Facility/Site: Industrial Plastics Division

Address: 310 Wheeler Street, Tonawanda, N.Y. 14151-5101

Contact: Gregory A Stubbs Telephone: (716) 692-2000

SAMPLE IDENTIFICATION

Sample ID	Location	Date	Time (start-end) (24 Hour Clock)	Sampler (name)
588571	B-Stage Storage	8/7/90	14:00	G. Stubbs
8LD-01	Baghouse and Bag of resin dust	8/7/90	15:00	G. Stubbs

SAMPLE INFORMATION

Sample ID	Bottle Type/Size/Preserv.	Sample Type	Analysis Required	Field Observations
588571	PE Bag / 1 Gal. / None	Comb. Composite	Acid Phenol - TCHP (Rpt. Phenol in analysis)	Yellow Sheet
8LD-01	PE Bag / 1 Gal. / None	Comb. Composite	Acid Phenol - TCHP (Rpt. Phenol in Analysis)	Yellowish Fine Dust

CHAIN OF CUSTODY CHRONICLE

Relinquished by: (print) Gregory A. Stubbs Organization: Spaulding Composites Co.
 Signature: [Signature] Date: Aug. 8, 1990 Time: _____

Accepted by: (print) RICK MARSH Organization: EQE
 Signature: [Signature] Date: 8-8-90 Time: 1700

Relinquished by: (print) _____ Organization: _____
 Signature: _____ Date: _____ Time: _____

Accepted by: (print) _____ Organization: _____
 Signature: _____ Date: _____ Time: _____

Results of Analysis of TCLF Extracts Job Number :9001.943

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : SPAULDING FIBRE COMPANY, INC.
SAMPLE ID LAB : EE-90-82458 MATRIX: SOLID
SAMPLE ID CLIENT: RLD-01 UNITS : MG/L

PARAMETER	RESULTS	Q	DETECTION LIMIT	REGULATORY LEVEL
Pentachlorophenol	ND		2.5	100
2,4,5-Trichlorophenol	ND		2.5	400
2,4,6-Trichlorophenol	ND		0.50	2.0
2-Methyl phenol	0.70		0.50	200
3-Methyl phenol	ND		0.50	200
4-Methyl phenol	PRESENT	L	0.50	200
Phenol	43		0.50	--

QUALIFIERS: C - COMMENT ND - NOT DETECTED
J - ESTIMATED VALUE B - ALSO PRESENT IN BLANK
L - PRESENT BELOW STATED DETECTION LIMIT

APPENDIX D-6



REPORT OF CALL

TO: PROJECT FILE FROM: GEORGE C. MCGRETTI
DATE: 5/16/91 TIME: 0905
RE: SPALDING FIBRE SITE.
PERSON CONTACTED: GLEN MAMA NYS DEC REGION 9 OFFICE
PHONE #: (416) 847-4585 PROJECT #:

DESCRIPTION OF CONVERSATION: ACTION/ REMARKS:
GLEN SAID THAT HE HAD TALKED TO MARK MATEVINAS (DEC ALBANY) ABOUT THE SPALDING FIBRE SITE WHILE THE 915050 B SITE IS NOT PART OF THIS (PSA) REPORT THEY EXPLORED THE POSSIBILITY THAT WELLS COULD BE PLACED AROUND THE 915050 C SITE IN SUCH A WAY AS TO BE DOWN GRADIENT FROM THE 'B' SITE. GLEN SAID THERE IS SPECULATION THAT THE PRESENT WELLS (AROUND 'B') ARE SCREENED AT THE TOP OF ROCK INSTEAD OF IN THE CLAY/SILT WHERE THE LAND FILL IS AND WHERE THE OVERBURDEN WATER TABLE IS. THEY FEAR THE PRESENT MONITORING WELLS DONOT MONITOR WATER THAT IS IN ANY WAY CONNECTED TO THE LANDFILL (915050 B). MARK APPARENTLY SAID SUCH A PROGRAM COULD BE INCORPORATED INTO THE WORK PLAN FOR TASKS 2 THROUGH 6 OF THE PSA. HE SAID THAT ANY FURTHER INVESTIGATION ON THE 'B' SITE SHOULD WAIT UNTIL THE PSA IS ISSUED FOR THE 'C' SITE.

COPIES TO: CIRCULATE TO: File

APPENDIX D-7

0027-C
02 3704-02



Industrial Plastics Division
310 Wheeler Street, Tonawanda, New York 14151-5101
716-692-2000

May 28, 1987

Mr. Alan J. Cherepon
NUS Corporation
Raritan Plaza III
Fieldcrest Avenue
Edison, New Jersey 08837

RECEIVED

MAY 01 1987

NUS CORPORATION
REGION II

SENT TO _____

Dear Mr. Cherepon:

RE: Spaulding Fibre Co., Inc. Site Inspection 4/28/87 - 4/29/87

In response to your letter of April 22, 1987, I have attempted to answer those questions which were not previously answered in the submittal to Mr. Stanley Siegel of the USEPA dated March 13, 1987.

Spaulding Fibre Co., Inc., has been located at this site from 1911 till the present. Prior to Spaulding purchasing the site in 1911, the site was farm land owned by John A. Pohl. If further documentation is required, title surveys are available.

The only past response activities by regulatory agencies I am aware of is the New York State Superfund Phase I Survey of the site by the New York State Department of Environmental Conservation in 1983.

Enclosed are copies of past regulatory enforcement actions as follows:

1. NYSDEC Order of Consent File No. 86-39 9-1711
2. USEPA Docket No. II RCRA-84-0240
3. USEPA Docket No. II TSCA-PCB-86-0241
4. U.S. Coast Guard Case No. 1D-017/86
5. NYSDEC Uniform Appearance Ticket No. 121251

These are all the enforcement actions I am aware of. You may want to check with the regulatory agencies to verify. To the best of my knowledge all of these actions were satisfied by Spaulding Fibre Co., Inc.

Enclosed is a list of Spaulding Fibre's environmental permits.

9.

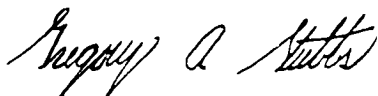
May 28, 1987
Mr. Alan J. Cherepon
Page 2

Enclosed is a copy of the results of the most recent OSHA inspection conducted 2/19/87 - 3/11/87 and a copy of the results of the most recent RCRA inspection conducted 1/23/87 by the NYSDEC.

The remainder of your questions should have been answered in the submittal to the USEPA.

If you should have any further questions, please contact me at (716) 692-2000 extension 461.

Sincerely,



Gregory A. Stubbs
Environmental Compliance Analyst

mm

Enclosures

STATE OF NEW YORK : DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Violations of Article 17 of the Environmental Conservation Law (ECL) by

SPAULDING FIBRE COMPANY, INDUSTRIAL PLASTICS DIVISION
310 Wheeler Street
Tonawanda, New York 14150

(Erie County)

Respondent

ORDER
ON
CONSENT

FILE
NO. 86-39
9-1711

WHEREAS:

1. Pursuant to Environmental Conservation Law Sections 17-0301 and 17-0303, the Department has adopted water quality standards for the State of New York and administers State Pollutant Discharge Elimination System permits.

2. Respondent owns, operates and/or maintains control of facilities in the State of New York subject to ECL Article 17; to wit its outfalls 001 and 003 SPDES Permit No. NY0002364 located at the Wheeler Street plant in the City of Tonawanda, New York, Erie County.

3. Respondent has a valid State Pollutant Discharge Elimination System (SPDES) Permit No. NY0002364 providing for discharge of effectively treated waste to the waters of the State. That permit sets standards for any discharge from Respondent's facilities, and requires that the permittee shall have met certain standards. Respondent has violated this permit in that it has discharged zinc from outfall 003 in excess of permit requirements [cf Part 754.4(b) of 6NYCRR], as documented in its Daily Monitoring Report dated September-November, 1985 and in Department sampling conducted on November 6-7, 1985 and January 7, 15, and 30, 1986.

4. Respondent has affirmatively waived its rights to a hearing on these matters as provided by law and has consented to the issuing and entering of this Order pursuant to the provisions of ECL Article 17 and has agreed to be bound by the provisions, terms, and conditions contained herein.

NOW, having considered this matter and being duly advised, it is ORDERED:

I. THAT immediately upon service of a conformed copy of this Order upon Respondent, Respondent shall be bound as hereinafter provided.

II. In respect to the aforesaid alleged violations, there is hereby imposed upon Respondent a civil penalty in the amount of Two Thousand Five Hundred Dollars (\$2,500.00) which is to be suspended on condition that Respondent satisfactorily completes the actions as specified in Schedule A.

III. THAT Respondent shall immediately be bound by the terms and conditions as set forth in "Schedule A" attached to this Order.

IV. THAT all further non-permitted discharges by Respondent in contravention of the aforementioned standards shall constitute continuing violations of the ECL, and an action for further penalties for future violations will be instituted by the Department if the Respondent fails to adhere to and fully comply with its permit conditions and Schedule A.

V. THAT should there be any unusual or extraordinary occurrences or deviation from normal operating procedures which does or may contribute to a potentially hazardous condition, or which violates any condition or provision of any permit heretofore or hereafter issued to the Respondent by the Department or which violates any of the terms and conditions of "Schedule A," the Respondent shall within 24 hours notify the Department at 600 Delaware Avenue, Buffalo, New York 14202-1073,

(716) 847-4590, and within five (5) days after such occurrence submit to the Department a report detailing the circumstances and causes of the occurrence, remedial actions and steps taken to prevent recurrence.

VI. THAT for the purpose of insuring compliance with this Order, duly authorized representatives of the State of New York shall be permitted access to inspect the facilities being constructed, owned, operated, maintained, and/or controlled by the Respondent for the purpose of inspecting the discharge therefrom of any liquid, refuse, or other waste to take samples of any discharge, liquid, refuse, or other waste and for the purpose of determining the status of compliance with the terms of this Order and "Schedule A" and with State law and regulation.

VII. THAT all reports and submissions herein required shall be made to the Principal Water Quality Engineer of the Region 9 office of the Department at 600 Delaware Avenue, Buffalo, New York 14202-1073.


VIII. THAT any change in this Order or "Schedule A" shall not be made or become effective except as specifically set forth by written order of the Commissioner, such written order being made either upon written application of the Respondent or upon the Commissioner's own findings after an opportunity to be heard has been given to Respondent or pursuant to the summary abatement provisions of the Environmental Conservation Law.

IX. THAT the provisions, terms, and conditions of this Order and "Schedule A" shall be deemed to bind Respondent, its officers, directors,

agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for it, including but not limited to those who may carry on any or all of the operations now being conducted by Respondent.

DATED: Buffalo, New York
April 23, 1986

HENRY G. WILLIAMS, Commissioner
New York State Department of
Environmental Conservation



John J. Spagnoli
Regional Director

S C H E D U L E A

Respondent shall on or before the indicated dates:

1. Submit an approvable Engineering Report detailing causes of noncompliance regarding zinc loadings at outfalls 001 and 003 including remedial measures to be taken. May 1, 1986
2. Complete remedial work. June 1, 1986
3. Achieve compliance with permit limitations. June 1, 1986
4. Implement non-structural measures specified by Best Management Practices Plan. June 1, 1986

Consent by Respondent

Respondent hereby consents to the issuing and entering of the foregoing Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained therein.

Respondent Spaulding Fibre Company, Inc.

By Richard A. Preibisch

Title Vice President Technology

Date April 15, 1986

(Seal)

Corporate

State of New York)
County of Erie)

On this 15th day of April, 1986, before me personally came Richard A. Preibisch to me known, who being by me duly sworn did depose and say that he resides at 160 Glen Ave., Williamsville, New York that he is the Vice Pres. of Spaulding Fibre the corporation described in and which executed the foregoing instrument; and that he signed his name as authorized by said corporation.

Marilyn J. Crittenden
NOTARY PUBLIC

MARILYN J. CRITTENDEN
Notary Public, State of New York
Qualified in Erie County
My Commission Expires March 30, 1987

Individual

State of)
County of)

On this day of , 19 , before me came , to me known and known to me to be the individual described in and who executed the foregoing consent and he duly acknowledged to me that he executed the same.

NOTARY PUBLIC

Sirs:

Docket No. II RCRA-84-0240

The within is a true copy of a duly executed COMPLAINT, COMPLIANCE ORDER, AND NOTICE OF OPPORTUNITY FOR HEARING which is on file in the Regional Office of the U.S. Environmental Protection Agency, Region II.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION II

In the Matter of

SPAULDING FIBRE COMPANY, INC.
NY0002104404
Tonawanda, New York 14150

Respondent.

Proceeding Under Section 3008 of the
Solid Waste Disposal Act, as amended.

COMPLAINT, COMPLIANCE ORDER,
AND NOTICE OF OPPORTUNITY
FOR HEARING
WITH NOTICE OF ENTRY

Conrad Simon
Director
Air & Waste Management Division
United States Environmental Protection Agency
Region II
26 Federal Plaza

management, 40 CFR Part 265 (published in 45 Fed. Reg. 33073 et seq., May 19, 1980, and as later amended), promulgated pursuant to Subtitle C of the Act, 42 U.S.C. §6921 et seq.

4. The above-referenced review revealed that Respondent's facility was being used for the generation and storage of hazardous waste.

5. 40 CFR Part 265 sets interim status standards for hazardous waste treatment, storage, and disposal facilities. These standards apply until final administrative disposition of permit applications with respect to these facilities has been made. No such final disposition has been made with respect to your facility, and thus the standards of Part 265 apply thereto.

6. 40 CFR §265.112(a) sets forth the elements that must be included in a closure plan. On or about September 28, 1983 the Respondent submitted a closure plan to EPA for review. The review established that Respondent's closure plan did not provide any information on the thermal treatment unit, removal procedures, the type of sampling and analyses to be conducted, sampling locations, decontamination, and other required elements of §265.112. Respondent was therefore in violation of 40 CFR §265.112. A specific list of deficiencies and/or omissions is attached hereto.

7. 40 CFR §265.142 requires that the owner or operator of a hazardous waste facility must have a written estimate of the costs of closing the facility. On or about September 28, 1983 the respondent submitted a closure cost estimate to EPA for review. The review established that Respondent's closure cost estimate did not provide sufficient information in order to meet the requirements of this Section. Respondent was therefore in violation of CFR §265.142.

PROPOSED CIVIL PENALTY

In view of the above-cited violations, and pursuant to the authority of Section 3008 of the Act, Complainant herewith proposes the assessment of a civil penalty in the amount of \$8,000.00 against SPAULDING FIBRE COMPANY, INC. for the violations specified hereinabove as follows:

-for the violation of 40 CFR §265.112:	\$ 7,000.00
-for the violation of 40 CFR §265.142:	\$ 1,000.00

Total:	\$ 8,000.00

COMPLIANCE ORDER

Based upon the foregoing, and pursuant to the authority of Section 3008 of the Act, Complainant herewith issues the following Compliance Order against Respondent herein:

1. Respondent shall, within thirty (30) days of the effective date of this Compliance Order, submit a closure plan sufficient to meet the requirements of 40 CFR §265.112; and a cost estimate sufficient to meet the requirements of 40 CFR §265.142.

NOTICE OF LIABILITY FOR ADDITIONAL CIVIL PENALTIES

Pursuant to the terms of Section 3008(a)(3) of the Act, a violator failing to take corrective action within the time specified in a Final Compliance Order is liable for a civil penalty of up to \$25,000 for each day of continued noncompliance. Such continued noncompliance may also result in suspension or revocation of any permits issued to the violator pursuant to the authority of the Act.

NOTICE OF OPPORTUNITY TO REQUEST A HEARING

As provided in Section 3008(b) of the Act, and in accordance with EPA's Consolidated Rules of Practices Governing the Administrative Assessment of Civil Penalties and the Revocation or Suspension of Permits, 40 CFR Part 22, 45 Fed. Reg. 24360 (April 9, 1980) (a copy of which accompanies this Complaint, Compliance Order, and Notice of Opportunity for Hearing), you have the right to request a hearing to contest any material fact set out in the Complaint, or to contest the appropriateness of the proposed penalty, or the terms of the Compliance Order. (Consistent with the provisions of Section 3008(b) of the Act, the hearing provided will be noticed and open to the general public, should you specifically request such a public hearing. In the absence of such a specific request, however, public notice of a scheduled hearing will not be published.)

To avoid being found in default, and having the proposed civil penalty assessed and the Compliance Order confirmed without further proceedings, you must file a written answer to the Complaint, which may include a request for a hearing. Your answer (if any) must be addressed to the Regional Hearing Clerk, U.S. Environmental Protection Agency, Region II, 26 Federal Plaza, New York, New York 10278, and must be filed within thirty (30) days of your receipt of this Complaint, Compliance Order, and Notice of Opportunity for Hearing. Your answer must clearly and directly admit, deny or explain each of the factual allegations contained in the Complaint, and should contain (1) a clear statement of the facts which constitute the grounds of your defense, and (2) a concise statement of the contentions which you intend to place in issue at the hearing.

The denial of any material fact, or the raising of any affirmative defense, will be construed as a request for a hearing. Failure to deny any of the factual allegations in the Complaint will be deemed to constitute an admission of the undented allegations. Your failure to file a written answer within thirty (30) days of receipt of this instrument will be deemed to represent your admission of all facts alleged in the Complaint, and a

waiver of your right to a formal hearing to contest any of the facts alleged by the Complainant. Your default will result in the final issuance of the Compliance Order, and assessment of the proposed civil penalty, without further proceedings.

INFORMAL SETTLEMENT CONFERENCE

Whether or not you request a hearing, the EPA encourages settlement of this proceeding consistent with the provisions of the Act. At an informal conference with a representative of the Complainant you may comment on the charges and provide whatever additional information you feel is relevant to the disposition of this matter, including any actions you have taken to correct the violation, and any other special circumstances you care to raise. The Complainant has the authority to modify the amount of the proposed penalty, where appropriate, to reflect any settlement agreement reached with you in such conference, or to recommend that any or all of the charges be dismissed, if the circumstances so warrant. Your request for an informal conference and other questions that you may have regarding this Complaint, Compliance Order, and Notice of Opportunity for Hearing should be directed to:

Judith Meritz, (212) 264-1196

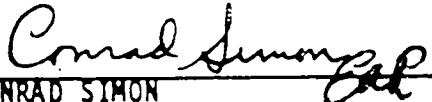
Please note that a request for an informal settlement conference does not extend the thirty (30) day period during which a written answer and request for a hearing must be submitted. The informal conference procedure may be pursued as an alternative to or simultaneously with the adjudicatory hearing procedure. However, no penalty reduction will be made simply because such a conference is held. Any settlement which may be reached as a result of such conference will be embodied in a written Consent Agreement and Final Compliance Order to be issued by the Regional Administrator of EPA, Region II, and signed by you or your representative. Your signing of such Consent Agreement would constitute a waiver of your right to request a hearing on any matter stipulated to therein.

RESOLUTION OF THIS PROCEEDING WITHOUT HEARING OR CONFERENCE

Instead of filing an answer requesting a hearing or requesting an informal settlement conference, you may choose to comply with the terms of the Compliance Order, and to pay the proposed penalty. In that case, payment should be made by sending to the Regional Hearing Clerk, EPA, Region II, a cashier's or certified check in the amount of the penalty specified in the "Proposed Civil Penalty" section of this instrument. Your check must be made payable to the Treasurer of the United States of America.

DATED: New York, New York

COMPLAINANT:


 CONRAD SIMON
 Director
 Air and Waste Management Division
 Environmental Protection Agency
 Region II

TO: Richard G. Hunter
Vice President/General Manager
SPANNING FIBRE COMPANY, INC.
310 Wheeler Street
Tonawanda, New York 14150

cc: Laurens Vernon
Compliance Counsel
New York State Department of Environmental Conservation

David Mafri
Bureau of Hazardous Waste Operations
New York State Department of Environmental Conservation

CERTIFICATE OF SERVICE

This is to certify that on the 31st day of May, 1984 I served a true and correct copy of the foregoing Complaint by certified mail to Richard G. Hunter, 310 Wheeler Street, Tonawanda, New York 14150. I handcarried the original foregoing Complaint to the Regional Hearing Clerk.

Victor McDonald

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

-----x
: In the Matter of :
: SPAULDING FIBRE COMPANY, INC. :
: Respondent. :
: Proceeding Under Section 16 of the :
: Toxic Substances Control Act. :
-----x

: CONSENT AGREEMENT
: AND
: FINAL ORDER

: Docket No. II TSCA-PCB-86-0241

PRELIMINARY STATEMENT

This civil administrative proceeding for the assessment of a penalty was instituted pursuant to Section 16(a) of the Toxic Substances Control Act (TSCA), 15 U.S.C. §2615(a). The Complainant in this proceeding, the Director of Environmental Services Division, Region II, United States Environmental Protection Agency ("EPA"), issued a Complaint and Notice of Opportunity for Hearing to Respondent, Spaulding Fibre Company, Inc. (Respondent), on September 30, 1985.

The Complaint charged Respondent with a violation of Section 6(e) of TSCA, 15 U.S.C. §2605(e), and the regulations promulgated pursuant to that Section, 40 CFR Part 761, relating to polychlorinated biphenyls ("PCBs"), and Section 15 of TSCA, 15 U.S.C. §2614.

FINDING OF FACT

1. Respondent is a "person" within the meaning of 40 CFR 761.3, and operates a facility located at 310 Wheeler Street, Tonawanda, New York, where "PCB Transformers" (as that term is defined at 40 CFR 761.3) are used. Respondent is subject to regulation pursuant to the regulations found at 40 CFR Part 761 relating to Polychlorinated Biphenyls ("PCBs").

2. On or about May 8, 1984, a duly designated representative of EPA conducted an inspection at Respondent's facility. At the time of the inspection, Respondent had failed to maintain annual documents for the years 1978-1982 as required by 40 CFR 761.180(a). In addition, Respondent had failed to maintain records of an inspection program for the PCB Transformers as required by 40 CFR 761.30(a).

3. By letter dated October 17, 1985, Respondent submitted documentation to demonstrate efforts undertaken to come into compliance with 40 CFR Part 761 following EPA's inspection. Respondent put together annual documents for the years 1978 through 1982 based on existing and available data. Respondent also submitted annual reports prepared for 1983 and 1984. In addition, Respondent submitted copies of the quarterly inspection reports for PCB Transformers from October 1984 through September 1985 to demonstrate the change in compliance status following the EPA inspection.

4. Following the October 1984 EPA inspection, Respondent hired new compliance personnel to ensure compliance with the requirements of 40 CFR Part 761 and other applicable state and federal regulations.

CONCLUSION OF LAW

Respondent's failure, at the time of inspection, to meet the requirements pertaining to PCBs set forth at 40 CFR Part 761, as specified in paragraph 2 above, constitutes a violation of Section 15(1)(C) of TSCA.

CONSENT AGREEMENT

Based on the foregoing, and pursuant to Section 16(a) of TSCA, 15 U.S.C. §2615(a), and Section §22.18 of the Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation or Suspension of Permits, 40 CFR §22.18, it is hereby agreed that Respondent shall hereafter comply with all applicable provisions of 40 CFR Part 761 and the following terms:

1. For the purpose of this proceeding, and in the interest of settling this matter expeditiously, Respondent: (a) admits the jurisdictional allegations of the Complaint; and (b) admits the factual findings and the conclusion of law contained in this Agreement.

2. Respondent shall pay, by cashier's or certified check, a civil penalty for the violation cited herein in the amount of thirteen thousand dollars (\$13,000) payable to the "Treasurer,

United States of America" and mailed to: EPA, Region II (Regional Hearing Clerk) P.O. Box 360188M, Pittsburgh, Pennsylvania 15251.

The payment shall be identified as "Spaulding Fibre Company, Inc. - Docket No. II TSCA-PCB-85-0241.

a. The payment shall be made in two equal installments. The first installment shall be in the amount of six thousand five hundred dollars (\$6,500) and is due within thirty (30) days after the Regional Administrator signs this Consent Agreement and Final Order (CA/FO) (hereinafter the "effective date"). The second installment shall be in the amount of six thousand five hundred dollars (\$6,500) and is due within sixty (60) days after the Regional Administrator signs this CA/FO.

b. Failure to pay the penalty in full according to the above provisions will result in referral of this matter to the United States Attorney for collection.

c. Further, if payment is not received on or before the due dates, interest will be assessed at the annual rate established by the Secretary of Treasury pursuant to 31 U.S.C. §3717, on the overdue amount from the effective date of this CA/FO through the date of payment. In addition, a late payment handling charge of \$20.00 will be assessed if payment is not received by the due date, with an additional charge of \$10.00 for each subsequent thirty (30) day period. A 6% per annum penalty also will be applied on any principal amount not paid within ninety (90) days of the due date.

This CA/FO is being entered into by the parties in full settlement of all liabilities which might have attached as a result of the violations described in this CA/FO. On this basis, Respondent explicitly waives its right to request a hearing on this matter, and agrees to pay the penalty in accordance with the terms of this CA/FO. Respondent has read the foregoing Agreement and its terms and consents to the issuance of the accompanying Final Order.

RESPONDENT:

BY: Paul E. Rickabaugh

NAME: Paul E. Rickabaugh
(Please Print) SPAULDING FIBRE COMPANY, INC.

TITLE: Vice President
(Please Print) Industrial Relations

DATE: November 24, 1986

COMPLAINANT:

BY: Barbara Metzger

BARBARA METZGER
Director
Environmental Services Division
U.S. Environmental Protection
Agency - Region II

DATE: December 19, 1986

FINAL ORDER

The Regional Administrator of EPA, Region II, concurs in the foregoing Consent Agreement and incorporates the terms of such Consent Agreement herein by reference. The Consent Agreement is hereby approved and this Final Order is issued, effective immediately. So ordered.

William J. Daggett / 12-16-86
CHRISTOPHER J. DAGGETT
Regional Administrator
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

WATER POLLUTION VIOLATION REPORT

INSTR: Prepare in triplicate. Retain one for case file. Submit original and copy.

REPORTING UNIT

Marine Safety Office, Buffalo, New York

DATE OF VIOLATION

12 May 1986

CASE NUMBER

1D-017/86

PART I - DISCHARGE DATA

1. TIME OF OCCURRENCE

0726

2. LOCATION

Tonawanda, New York (Ft. of Gibson Street)

3. WATER BODY

Niagara River

4. MATERIAL

ECON #4 Polishing Oil

5. QUANTITY

Approximately 5 gallons

6. SOURCE

Hose Connection

7. CAUSE

Loose hose connection

8. DISCHARGER

Spaulding Fibre Co.

9. REMARKS

None

PART II - REPORTING DATA

1. NAME OF PERSON REPORTING

Mary Pringle

2. ADDRESS OF PERSON REPORTING

NYS DEC, 600 Delaware,
P/N 716 847-4590 Buffalo, NY 14202

3. GOVERNMENT AGENCY RECEIVING REPORT

U. S. Coast Guard

4. DATE/TIME OF REPORT

22 May 1986/0907

5. WAS THE PERSON REPORTING THE INCIDENT EMPLOYED BY OR ACTING IN BEHALF OF THE VIOLATOR?

YES NO

6. NOTIFICATION PASSED VIA

NRC OTHER New York State DEC

7. OTHER AGENCIES NOTIFIED

EPA Region II

8. OCMI NOTIFIED (Time/Date)

22 May 1986/0907 hours

9. REMARKS

None

PART III - FACILITY DATA

1. NAME OF ONSHORE/OFFSHORE FACILITY

Spaulding Fibre Company

2. ADDRESS OF ONSHORE/OFFSHORE FACILITY

310 Wheeler Street
Town of Tonawanda, NY 14150

3. TYPE OF FACILITY

Manufacturing

4. PERSON IN CHARGE

Richard Preibisch, 716-692-2000, Ext. 330

5. NAME OF OWNER/OPERATOR

Spaulding Fibre Company

6. ADDRESS OF OWNER/OPERATOR

310 Wheeler Street
Town of Tonawanda, NY 14150

7. REMARKS

None

PART IV - VESSEL DATA

1. NAME OF VESSEL

2. NATIONALITY

3. CALL SIGN/OFFICIAL NO.

4. GROSS/NET TONNAGE

5. FUEL/CARGO CAPACITY

6. HOME PORT

7. VESSEL TYPE

8. NAME OF OWNER/OPERATOR

9. ADDRESS OF OWNER/OPERATOR

10. NAME OF LOCAL AGENT

11. ADDRESS OF LOCAL AGENT

12. MASTER

13. LICENSE/DOC NO

14. PERSON IN CHARGE

15. LICENSE/DOC NO.

16. CERTIFICATE OF LIABILITY (New York State)

17. CONTACT INFORMATION

18. BIRTH DATE

19. REMARKS

N

A

ADDRESS 310 Wheeler St.
Town of Tonawanda, NY ZIP 14150

TELEPHONE NUMBER
(716) 692 2000, Ext. 330

NAME Angelo Sarkees
ADDRESS NYS DEC Buffalo Office
600 Delaware, Buffalo, NY ZIP 14202

TELEPHONE NUMBER
(716) 847-4590

NAME PS2 James Patton
ADDRESS 111 W. Huron St.
Buffalo, NY ZIP 14202

TELEPHONE NUMBER
(716) 846-4168

NAME
ADDRESS
TELEPHONE NUMBER

NAME
ADDRESS
TELEPHONE NUMBER

NAME
ADDRESS
TELEPHONE NUMBER

POSITION Vice President of Technology
CONNECTION WITH THE CASE Manufacturer's representative
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER
EMPLOYER NYS DEC
POSITION Investigator
CONNECTION WITH THE CASE Investigator for State
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER
EMPLOYER U. S. Coast Guard
POSITION Petty Officer
CONNECTION WITH THE CASE Investigator
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER
EMPLOYER
POSITION
CONNECTION WITH THE CASE
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER
EMPLOYER
POSITION
CONNECTION WITH THE CASE
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER
EMPLOYER
POSITION
CONNECTION WITH THE CASE
STATEMENT ATTACHED YES NO
ENCLOSURE NUMBER

ADD SUPPLEMENTAL LIST IF REQUIRED FOR COMPLETE LIST.

PART VI - SAMPLES

1. TAKEN FROM	Spill area near tank	DATE AND TIME TAKEN	22 May 86/1300	TAKEN BY	PS2 Patton	WITNESS	PS1 Gorski
2. TAKEN FROM	Niagara River	DATE AND TIME TAKEN	22 May 86/1320	TAKEN BY	PS2 Patton	WITNESS	PS1 Gorski
3. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
4. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
5. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
6. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
7. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
8. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
9. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
10. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
11. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	
12. TAKEN FROM		DATE AND TIME TAKEN		TAKEN BY		WITNESS	

ADD SUPPLEMENTAL LIST IF REQUIRED FOR COMPLETE LIST

1. NUMBER TAKEN None	2. TYPE OF FILM	3. ENCLOSURE NUMBER
4. REMARKS		

PART VIII - LIST OF ENCLOSURES

- (1) Pollution Incident Notification Log
- (2) Letter of Federal Interest
- (3) Letter of Acceptance of Financial Responsibility
- (4) POLREP One and Final

PART IX - INVESTIGATORS SUMMARY

On 22 May 1986 at 0907 local, MSO Buffalo was notified by Mary Pringle of the New York State Dept. of Environmental Conservation of a pollution incident in the Town of Tonawanda, New York involving the Spaulding Fibre Company.

At 1030, PS2 Patton and I were on scene and met with Mr. Richard Preibisch, Vice-President of Technology for the Spaulding Fibre Company. Investigation revealed that on 15 May 1986, a tank truck from Valvoline Oil Company was scheduled to transfer 2496 gallons of Econ #4 Polishing Oil to a holding tank at Spaulding Fibre Co. When the transfer procedure started, the product began to leak from the transfer coupling on to the ground. After a loss of approximately 5 gallons, the operation was stopped and the coupling was adjusted to prevent further loss. The ground below the transfer coupling was saturated with oil. Due to heavy rain on the contaminated soil, a mixture of oil and water entered the storm drain, and eventually reached the Niagara River causing a visible sheen.

The Niagara River is considered navigable waters of the United States as defined in 33 CFR 2.05-25(a).

The Spaulding Fibre Co. removed the contaminated soil and placed absorbent boom in the Niagara River at the mouth of the storm drain.

On 24 May 1986, personnel from MSO Buffalo returned to the spill site and reported clean-up complete and satisfactory.

16 June 1986 consulted with SSC who advised MSO that Econ #4 Polishing Oil is a mixture of mineral oil and kerosene which is considered an oil under the Clean Water Act.

PART X - CLEANUP OR OTHER MITIGATION ACTION

The soil at the spill site is to be removed and boom is to be deployed at the mouth of the discharge pipe.

REPORTED IMPACT

Negligible.

ACTION TAKEN TO PREVENT RECURRANCE

Use of proper operations and inspection of all couplings prior to the start of transfer is required.

SIGNATURE OF I.O.

David J. Gorski
DAVID J. GORSKI, PS1

SIGNATURE OF CO

Francis X. Owens
FRANCIS X. OWENS, CDR, USCG

DATE

11 JUN 86

PART XI - CIVIL PENALTY ACTION TAKEN

NOTIFIER NAME MARV PRINGLE

NOTES:

ADDRESS NYS DEC

PHONE 847-4590

REPORTING ON BEHALF OF SPILLER?
(YES) (NO)

WITNESS TO DISCHARGE? (YES) (NO)

OCCURRED DATE UNK TIME UNK

DISCOVERED DATE 5/22 TIME 0726

LOCATION SPADING FIBER
WHEELER STREET

BODY OF WATER ~~N. RIVER~~ MARSH POND RIVER

SOURCE DISCHARGE PIPE

OPERATIONS IN PROGRESS NONE

** MATERIAL PETROLEUM

AMOUNT UNKNOWN

EXTENT OF SPILL UNKNOWN

SLICK SIZE UNK COLOR BLUE

DATE/TIME REPORT RECEIVED 0907/5/22

PERSON RECEIVING REPORT PSI/YNZ

REPORT RECEIVED VIA (NRC) (OTHER)
DEC / PHONE

COAST GUARD JURISDICTION (YES) (NO)

ACTION TAKEN _____

INVESTIGATOR _____

TOWN OF TONAWANDA
NOTIFIED DEC

MR THIBOLT
692-2121

CLOSER TO
GIBSON ST. ENTRANCE

(DISCHARGE PIPE)
(TO RIVER)

**ANY NEW YORK HAZMAT SPILL NOTIFY OSHA REGION II, 212 944-3426
4 HR NUMBER 202 523-8033.

ENCLOSURE (1)

US Department
of Transportation

United States
Coast Guard



Federal Bldg., Rm 1111
111 West Huron St.
Buffalo, New York 14202

16450.1A

SPaulding Fiber
S/O Wheeler
L. Towne NY

Gentlemen:

This is to inform you that a pollution incident occurred or threatens to occur at SPAULDING FIBRE Co. at THE CITY OF TONAWANDA PLANT for which you may be financially responsible under federal statutes, the United States Government has an interest in this incident, and further, may take appropriate action to minimize the damage which may be caused by this incident.

The discharge of a harmful quantity of oil is a violation of the Federal Water Pollution Control Act as amended by the Clean Water Act. Under this Act, the person responsible for the pollution is obligated to undertake removal action. If he refuses to take adequate removal action he is financially responsible for actions taken by the Federal Government to remove the pollutant and adequately mitigate its effects. Removal is being done properly if it is in accordance with Federal and State statutes and regulations and the procedures and criteria of the National Oil and Hazardous Substance Pollution Contingency Plan. If you undertake removal, the adequacy of your actions will be determined by the U.S. Coast Guard On-Scene Coordinator. The On-Scene Coordinator for this area is F.X. OWENS, CDR. USCG. As long as you are taking adequate action in this matter, Federal action will be limited to monitoring the progress of your activities and to provide guidance as necessary.

If it is determined that you are not taking prompt and appropriate actions to contain, clean-up and dispose of the pollutant(s), Federal response may be initiated. You may then be held responsible for all actual costs incurred by the Federal Government as set forth in Section 311(f) of the Federal Water Pollution Control Act, as amended. Should you require further information concerning this this matter you should contact

Sincerely,

PS1 D. J. GORSKI + PS2 J. W. PATTON
On-Scene Coordinator's Representative

Received and Acknowledged

Richard A. [Signature]
5-22-85

1230
TIME

05/22/85
DATE

ENCLOSURE (-)

ACCEPTANCE OF FINANCIAL RESPONSIBILITY

SPAULDING FIBRE Co. hereby assumes responsibility for
(name of company/person)

containment and cleanup of ECON #4 POLISHING OIL discharged from
(substance)

GIBSON ST on 05-22-86, and recognizes that
(source) (date)

the determination of the adequacy and propriety of the
containment and cleanup operations continue to rest with the
designated Coast Guard On-scene Coordinator.

Richard A. P... V.P. - Technology
(Authorized signature and title)

15-22-86 1:15 P.M.
(Date and Time)

ENCLOSURE(3)

DATE: November 13, 1986
 TO: Wally Berndt
 FROM: Greg Stubbs
 SUBJECT: IPD PERMITS

Below is the list of IPD environmental permits as per your request.

WYSDEC AIR PERMITS:

<u>Permit No.</u>	<u>Permitted Unit</u>	<u>Issue Date</u>	<u>Expiration Date</u>
00001	South Fuel Oil Tank	03/07/84	04/01/90
00002	North Fuel Oil Tank	03/07/84	04/01/90
00003	Rag Shed West Phenol Tank	03/07/84	04/01/90
00004	Rag Shed Central Cresylic Tank	03/07/84	04/01/90
00005	Rag Shed East Cresylic S Tank	03/07/84	04/01/90
00006	Resin Making Formaldehyde Storage Tank	03/07/84	04/01/90
00007	Underground Caustic Tank	03/07/84	04/01/90
00008	Underground Toluene Tank	03/07/84	04/01/90
00009	Underground Methanol Tank (East)	03/07/84	04/01/90
00010	Underground Methanol Tank (West)	03/07/84	04/01/90
00011	Ethanol Tank	03/07/84	04/01/90
00012	Methanol Tank	03/07/84	04/01/90
00013	Grinding Oil Tank	03/07/84	04/01/90
008-0	Rag Cutter Wet Scrubber	01/01/82	05/01/91
01800	Spauldite Saws & Sanders Baghouse	01/01/82	05/01/91
01801	SEM Saws & Sanders Baghouse	09/01/82	05/01/91
0181A	Cyclone (backup to baghouse)	01/01/82	05/01/91
501-0	Fibre Tube Grinder Electrostatic Precipitator	01/01/82	05/01/91
502-0	Fibre Tube Dip Tank	01/01/82	05/01/91
503-0	Fibre Tube Dip Tank	01/01/82	05/01/91
504-0	Fibre Tube Grinder Electrostatic Precipitator	01/01/82	05/01/91
529-0	Mezzanine Resin Tanks Exhaust	01/01/82	05/01/91
543-0	Washer Chest	01/01/82	05/01/91
544-0	Washer Chest	01/01/82	05/01/91
545-0	Washer Chest	01/01/82	05/01/91
546-0	Washer Chest	01/01/82	05/01/91
547-0	Washer Chest	01/01/82	05/01/91
02DEH	No. 2 Treater Exit Exhaust	05/30/85	04/01/90
03DEH	No. 3 Treater Exit Exhaust	05/30/85	04/01/90
04DEH	No. 4 Treater Exit Exhaust	05/30/85	04/01/90
43DEE	Treater Room Ceiling Exhaust	05/30/85	09/01/90

<u>Permit No.</u>	<u>Permitted Unit</u>	<u>Issue Date</u>	<u>Expiration Date</u>
43WEE	Treater Room Ceiling Exhaust	05/30/85	09/01/90
04000	Four Inch Press	03/19/85	04/01/90
06000	Six Inch Press	03/19/85	04/01/90
16000	No. 16 Press	03/19/85	04/01/90
53800	No. 1 Boiler	01/01/82	05/01/91
53900	No. 2 Boiler	01/01/82	05/01/91
54000	No. 3 Boiler	01/01/82	05/01/91
54100	No. 4 Boiler	01/01/82	05/01/91
54200	Incinerator	01/01/82	05/01/91
55500	No. 5 Treater	12/01/82	05/01/91

NYSDEC SPDES PERMIT:

NY0002364 001 (F Line), 003 (K Line) 05/01/84 05/01/89

CITY OF TONAWANDA INDUSTRIAL SEWER CONNECTION PERMIT:

202 I Line 12/01/85 12/01/88

You will be notified of any additions, deletions, or changes.



Greg Stubbs

mm

Citation and Notification of Penalty
 U.S. Department of Labor - OSHA
 5360 Genesee Street

Bowmansville, NY 14026

1. Type of Violation(s)	2. Citation Number
Other	01

The violation(s) described in this Citation are alleged to have occurred on or about the day the inspection was made unless otherwise indicated within the description given below.

3. Issuance Date 03/10/87	4. Inspection Number 0011111
5. Reporting ID 0213600	6. CSHO ID S5140
7. Optional Report No. 1326	8. Page No. 1 of 2

10. Inspection Date(s):

2/19/87 - 3/11/87

11. Inspection Site:

310 Wheeler Street
 Tonawanda, NY 14150

9. To:

Spaulding Fibre Co. Inc.
 and its successors
 310 Wheeler Street
 Tonawanda, NY 14150

THE LAW REQUIRES that a copy of this Citation be posted immediately in a prominent place at or near the location of violation(s) cited below. The Citation must remain posted until the violations cited below have been abated, or for 3 working days (excluding weekends and Federal holidays), whichever is longer.

This Citation describes violations of the Occupational Safety and Health Act of 1970. The penalty(ies) listed below are based on these violations. You must abate the violations referred to in this Citation by the dates listed below and pay the penalties proposed, unless within 15 working days (excluding weekends and Federal holidays) from your receipt of this Citation and penalty you mail a notice of contest to the U.S. Department of Labor Area Office at the address shown above. (See the enclosed booklet which outlines your rights and responsibilities and should be read in conjunction with this form.) You are further notified that unless you inform the Area Director in writing that you intend to contest the Citation or proposed penalties within 15 working days after receipt of this Citation and the proposed penalties will become a final order of the Occupational Safety and Health Review Commission and may not be reviewed by any court or agency. Issuance of this Citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless the Citation is affirmed by the Review Commission.

12. Item Number	14. Description	15. Date by Which Violation Must Be Abated	16. Penalty
3.	Standard, Regulation or Section of the Act Violated		
9	29 CFR 1910.212(a)(1): Machine guarding was not provided to protect operators and other employees from hazards created by rotating parts: a) Machine shop, lathes: 1) Hercules Ajax; 2) Fitchbury; 3) Lodge & Shisley; 4) Cincinnati. b) Instrument shop: Johnson Horizontal saw did not have exposed portion of the blade guarded.	Immediately Upon Receipt	0.
9	29 CFR 1910.252(a)(2)(iv)(c): Oxygen cylinders in storage were not separated from fuel-gas cylinders by a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour: a) Machine shop, weld area: two oxygen cylinders and two acetylene cylinders stored adjacent to each other.	Immediately Upon Receipt	0.

7. Area Director

Robert Boyd
 For Richard J. Bradley

18. Last Page

NOTICE TO EMPLOYEES — The law gives an employee or his representative the opportunity to object to any abatement date set for a violation if he believes the date to be unreasonable. The contest must be mailed to the U.S. Department of Labor Area Office at the address shown above within 15 working days (excluding weekends and Federal holidays) of the receipt by the employer of this Citation and penalty.

EMPLOYER DISCRIMINATION — Prohibits discrimination by an employer against an employee for filing a complaint or for exercising his rights. An employee who believes that he has been discriminated against may file a complaint with the U.S. Department of Labor Area Office at the address shown above.

EMPLOYER RIGHTS AND RESPONSIBILITIES — The enclosed booklet outlines employer rights and responsibilities. It should be read in conjunction with this notification.

Penalties Are Due Within 15 Days of Receipt of This Notification Unless Contested (See enclosed Booklet)

This Section May Be Detached Before Posting

Total Penalty for This Citation
 (Check money or payable to DOL-OSHA)
 Indicate Inspection Number on Remittance

121

Citation and Notification of Penalty
 US Department of Labor - OSHA
 5360 Genesee Street

Bowmansville, NY 14026

3. Issuance Date 03/15/87	4. Inspection Number 100062616
5. Reporting ID 0213600	6. CSHO ID 55140
7. Optional Report No. 1326	8. Page No. 2 of 2

The violation(s) described in this Citation are alleged to have occurred on or about the day the inspection was made unless otherwise indicated within the description given below.

1. Type of Violation(s)	2. Citation Number
Other	01

9. To:
 Spaulding Fibre Co. Inc.
 and its successors
 310 Wheeler Street
 Tonawanda, NY 14150

11. Inspection Site:
 310 Wheeler Street
 Tonawanda, NY 14150

10. Inspection Date(s):
 2/19/87 - 3/11/87

Penalties Are Due Within 15 Days of Receipt of This Notification Unless Contested (See enclosed Booklet)

This Section May Be Detached Before Posting

THE LAW REQUIRES that a copy of this Citation be posted immediately in a prominent place at or near the location of violation(s) cited below. The Citation must remain posted until the violations cited below have been abated, or for 3 working days (excluding weekends and Federal holidays), whichever is longer.

This Citation describes violations of the Occupational Safety and Health Act of 1970. The penalty(ies) listed below are based on these violations. You must abate the violations referred to in this Citation by the dates listed below and pay the penalties proposed, unless within 15 working days (excluding weekends and Federal holidays) from your receipt of this Citation and penalty you mail a notice of contest to the U.S. Department of Labor Area Office at the address shown above. (See the enclosed booklet which outlines your rights and responsibilities and should be read in conjunction with this form.) You are further notified that unless you inform the Area Director in writing that you intend to contest the Citation or proposed penalties within 15 working days after receipt, this Citation and the proposed penalties will become a final order of the Occupational Safety and Health Review Commission and may not be reviewed by any court or agency. Issuance of this Citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless the Citation is affirmed by the Review Commission.

12. Item Number	13. Standard, Regulation or Section of the Act Violated	14. Description	15. Date by Which Violation Must Be Abated	16. Penalties
9	CFR 1910.252(b)(4)(ix)(c):	Work or electrode lead cable(s) with damaged insulation or exposed bare conductors were not replaced: a) Machine shop, weld area: weld cable had insulation breached baring conductors.	Immediately Upon Receipt	0.

7. Area Director
Robert Boyd
 Richard J. Bradley

NOTICE TO EMPLOYEES — The law gives an employee or his representative the opportunity to object to any abatement date set for a violation if he believes the date to be unreasonable. The contest must be mailed to the U.S. Department of Labor Area Office at the address shown above within 15 working days (excluding weekends and Federal holidays) of the receipt by the employer of this Citation and penalty.

EMPLOYER DISCRIMINATION UNLAWFUL — The law prohibits discrimination by an employer who files a complaint or for exercising a complaint. An employee who believes that he has been discriminated against may file a complaint no later than 180 days after the date of the discrimination with the U.S. Department of Labor at the address shown above.

EMPLOYER RIGHTS AND RESPONSIBILITIES — The enclosed booklet outlines employer rights and responsibilities. It should be read in conjunction with this notification.

172

321251

Name: *Becker, David*
 Address: *3121 14th St*
Brooklyn, NY 11229
 License No: *2A2-5000*

YOU are hereby directed to appear in court on the following date:
 Date: *March 19, 1970*
 Time: *10:00 AM*
 Court: *1st District Court*
 Location: *Brooklyn*

A plea of guilty to this charge is equivalent to a conviction after trial. If you are convicted, not only will you be liable to a fine and/or incarceration where provided, but in addition, licenses issued by the Department of Environmental Conservation may be subject to revocation as prescribed by Law.

Operate a motor vehicle without a valid permit
 committed on the *10* day of *March* 1970
 at *3121 14th St Brooklyn NY*
 violation of Section *360.2* sub *(b)*

Name: *D. C. Becker* 1041 9-5-70
 Officer (Print) _____ Shield No. _____ Date _____

If you plea by mail, mail this form to the Court specified on the reverse side by Certified Mail. Return Receipt Requested.

PART "A" PLEA OF GUILTY

INSTRUCTIONS: If this part is used, cross out Part B. Mail to the court at least 3 days prior to the date of appearance specified on the reverse side. List all previous violations of the Environmental Conservation Law. If the court denies this application, the applicant will be notified to appear.

residing at _____
have been charged with the offense as specified on the reverse of the application and I waive arraignment in open court and the aid of counsel. I plead guilty to the offense as charged and elect and request that this charge be disposed of and the fine or penalty fixed by the court. During the last five years I have been convicted of, stipulated to or settled for the violations noted below.

I make the following statement of explanation (Optional): _____

All statements are made under the penalty of perjury.

Date _____ Signed _____

Convictions (List Offenses, Date, Fine and Place) ENVIRONMENTAL CONSERVATION LAW Only

PART "B" PLEA OF NOT GUILTY

INSTRUCTIONS: If this part is used, cross out Part A. I hereby plead NOT GUILTY to the charge specified on the reverse side of this ticket.

Signature _____

Address _____

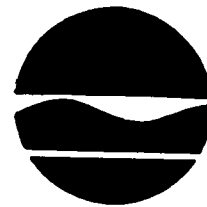
NOTE: Mail to the court within 48 hours. The court shall advise the violator by Certified Mail, Return Receipt Requested, of the trial date, which in no event shall be less than 7 days after such notice of trial is mailed.

APPLICANTS UNDER 18 YEARS OF AGE MUST SUBMIT NAME AND ADDRESS OF PARENT OR GUARDIAN BELOW

Name of Parent or Guardian _____

Address of Parent or Guardian _____

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



Henry G. Williams
Commissioner

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

MAR 2 1987

WL#23 29.1

Mr. Greg Stubbs
Environmental Compliance Analyst
Spaulding Fibre Company, Inc.
310 Wheeler Street
Tonawanda, New York 14150

RE: Hazardous Waste Compliance Inspection Date: January 23, 1987
Location of Handler: Same as Above

EPA Identification Number: NYD002104404

Dear Mr. Stubbs:

In order to determine compliance with the New York State Hazardous Waste Regulations, the New York State Department of Environmental Conservation conducted an inspection of your facility on the above referenced date.

As a result of that inspection, review of documentation submitted by your facility to this Department, and applying the New York State Hazardous Waste Regulations, we believe that your facility is operating as a generator of hazardous waste.

6NYCRR Part 373-3.2(g)(1),(2),(3) requires that facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Subpart. In addition, the owner or operator must ensure that:

- Facility personnel take part in an annual review of the initial training required.

You have not met the above requirement and, therefore, are in violation of 6NYCRR Part 373-3.2(g)(1),(2),(3).

6NYCRR Part 373-3.2(g)(4) requires the owner or operator to maintain the following documents and records at the facility:

- Records that document that the training or job experience required has been given to, and completed by facility personnel.

You have not maintained the above documentation and, therefore, are in violation of 6NYCRR Part 373-3.2(g)(4).

6NYCRR Part 373-3.2(g)(5) states: "Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company." You have not maintained the required records and, therefore, are in violation of 6NYCRR Part 373-3.2(g)(5).

Please confirm in writing within 30 days of the date stamped on this letter, that the above referenced violations have been corrected and include supporting documentation as appropriate. You MUST include your EPA Identification Number on all correspondence. This confirmation should be addressed to:

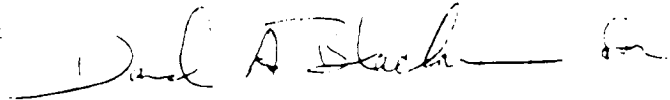
Mr. Peter Buechi, P.E.
Regional Solid and Hazardous Waste Engineer
New York State Department of Environmental Conservation
600 Delaware Avenue
Buffalo, New York 14202
(716) 847-4600
Attention: Mr. Nelson F. Schnabel, Inspector

with a copy to:

Mr. David A. Blackman, P.E.
Supervisor of the Compliance Inspection Section
Bureau of Hazardous Waste Operations
Division of Solid and Hazardous Waste
New York State Department of Environmental Conservation
50 Wolf Road - Room 208/204
Albany, New York 12233-4017
(518) 457-0532
Attention: Mr. Michael J. Cruden, Reviewer

If you have any questions about this notice or should you wish to discuss this matter further, please contact the Inspector or the Reviewer at the telephone number above. A copy of the Inspection Form is enclosed for your information.

Sincerely,



David Mafrici, P.E.
Chief
Bureau of Hazardous Waste Operations
Division of Solid and Hazardous Waste

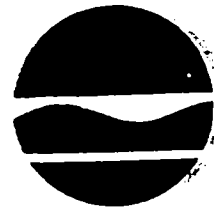
Enclosure

cc: w/o enc. - Mr. Jeffrey Lacey, Regional Attorney, Region 9
Mr. Peter Buechi, Regional Solid & Hazardous Waste Engineer, Region 9
Mr. Nelson F. Schnabel, Inspector, Region 9
New York State Department of Environmental Conservation

Mr. Michael J. Cruden, Reviewer, Central Office
New York State Department of Environmental Conservation

APPENDIX D-8

277
New York State Department of Environmental Conservation
584 Delaware Avenue Buffalo, NY 14202



Peter A. A. Berle,
Commissioner

August 30, 1978

Jack Kehoe, Project Engineer
Spaulding Fibre Company Inc.
Industrial Plastics Division
310 Wheeler Street
Tonawanda, NY 14150

Re: Industrial Waste Disposal Area
Tonawanda (T) Erie County
Inspection Date: 8/24/78
Inspection Time: 12:30 p.m.

Dear Mr. Kehoe:

Representing the Solid Waste Unit of the Department of Environmental Conservation Robert Long made an inspection of all industrial refuse disposal areas located on the Spaulding Fibre Company property at the above noted date and time. Accompanying Mr. Long at the time of the inspection was Mr. R. Sweeney, Senior Sanitarian, Pure Waters Unit and yourself. As a result of that inspection, the following industrial waste problems were identified:

1. Dumping in an open trench on the site were several plastic bags containing asbestos and glass waste along with a quantity of zinc hydroxide and diatomaceous earth. Surface water was also present in the bottom of the trench.
2. Adjacent to the open trench and stockpiles on the ground were 50-60 steel drums filled with scrap resin waste eg. epoxy. Several of these drums were leaking their contents onto the immediate area. Also it was noted that 700 steel drums containing a similar waste, had been buried in trenches nearby. These drums supposedly had been punctured and then covered over with five feet of soil material.

3. About 2000 lbs. of the open trench was a large quantity of unidentified material which had been spread directly on the ground. No information was available for this material. You are to immediately inform this office as to the composition of this material.
4. A completed waste disposal area located at the end of the facility has been covered with soil and graded. As indicated, this area was used for the disposal of asbestos and glass waste. The trench method of operation has been used in this area. Soil erosion was evident in this area indicating a necessity for final grading and seeding of the area.
5. Located directly adjacent to the incinerator building were a number of large holding tanks used for waste oil storage. An excessive amount of oil and water spillage was evident in this area due to poor control measures. Although a soil berm exists around the perimeter of these tanks, much of the spillage has occurred outside this area. At the time of the inspection, waste waters were being discharged directly on the ground in close proximity to the oil storage area.
6. On the Gibson Street side of the facility an area was being used for the storage of empty steel drums. An excessive amount of leakage was found in this area, with much of the immediate soils saturated with the liquids.

The remedial action necessary for the rectification of these conditions cannot be determined by this office until we receive a complete analysis of all wastes generated at the Spaulding Fibre Company Facility. Enclosed are an Application for Treatment or Disposal of an Industrial or Hazardous Waste Stream and a Leaching Potential Test Report which are to be completed and returned to this office within ten (10) days.

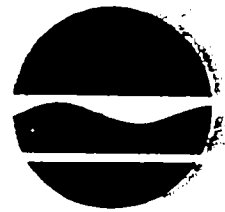
Until we receive these forms from your office and are able to analyze the contents, you are directed to cease all disposal of industrial wastes on the Spaulding Fibre Company premises. To do otherwise will be in violation of Part 360 of the Environmental Conservation Law.

If you have any questions regarding the above, feel free to contact me at 842-3837.

Very truly yours,

Robert J. Mitrey, P.E.
Regional Solid Waste Engineer

RJM:dd
Enclosure



Peter A. A. Berle,
Commissioner

September 11, 1978

#23

Mr. Jack Kehoe, Project Engineer
Spaulding Fibre Company, Inc.
Industrial Plastics Division
310 Wheeler Street
Tonawanda, New York 14150

Dear Mr. Kehoe:

Sapulding Fibre Industrial Disposal Area

This is to confirm the meeting held on Sept. 6 as referenced above between you and the writer. The following was discussed regarding your industrial wastes:

1. There is presently a 85'x85'x4' deep concrete pit that is being used for the deposit of zinc hydroxide. You are advised to inform this office as to the exact composition of this material and how long it will be stored in this facility. As you stated, you are looking into the possibility of financial recovery from this operation.
2. The second industrial waste discussed was the disposal of polyethylene bags containing 50% phenolic resins and 50% glass or asbestos. It was agreed that on or before September 27 you would forward to this office test results on the leachability of this material and also a permeability test on the soil to be used in the area of excavation. Previously this material was placed into two ply polyethylene bags and buried in clay pits to a depth of 15' with the top 3-5' covered with clay. Presently these bags are being stored in a warehouse awaiting approval from this Department for their final disposition.
3. The third industrial waste discussed was that of 700 drums containing certain chemicals (see attached letter) on an area of one half acre located on your industrial property. You were advised to initiate a sampling program to determine whether or not any of these chemicals are leaching into the groundwater. It was agreed that by September 20 you would submit a letter to this office outlining your sampling program. This is to include three monitoring wells if you are unable to determine the correct direction of flow of the groundwater. If the direction is known and can be proven, then only two wells will be necessary, one well upgradient of the disposal area and one well downgradient. On or before October 4, these wells are to be placed and the sampling program

Sapalding Fibre

to be begun. Sampling should be undertaken for phenols, antimony and TOC or COD.

Lastly, it was discussed that you would submit to this office the final disposition of any future burial of chemical wastes. You stated these barrels would be stored in another warehouse until you determine your final method of disposal which will possibly be hauled to a secure landburial.

Again, you were informed that you are not to bury any industrial waste on your property until permits have been received by this office.

If you have any questions on the above, please call this office at 716/842-3837.

Very truly yours,

Robert J. Mitrey, P.E.
Regional Solid Waste Engineer

RJM:egb
Att.

cc: E.C.D.E.P.

APPENDIX E
REFERENCES

REFERENCES

- E-1 Recra Research, Inc., November 1983, *Spaulding Fibre Company, Inc., New York State Superfund Phase I Summary Report.*
- E-2 Federal Emergency Management Agency (FEMA). Flood Insurance Rate Map (FIRM), Town of Tonawanda, New York, Community Panel Number 360259-0002 B, revised February 11, 1983.
- E-3 Buehler, Edward, Jr., and Tesmer, Irving, H. eds. 1963. *Geology of Erie County New York.* Buffalo, New York. Buffalo Society of Natural Sciences Bulletin: Volume 21, No. 3.
- E-4 LaSala, A.M., Jr., 1968, *Groundwater Resources of the Erie-Niagara Basin, New York,* New York State Department of Conservation, Water Resources Commission, Albany, New York.
- E-5 Lenz and Reicker, 1967, *State of New York Official Compilation of Codes, Rules and Regulations, Title 6C, NYCRR Conservation,* published for the Department of State.
- E-6 New York State Atlas of Community Water System Sources, 1982, New York State Department of Health.
- E-7 NUS Corporation, Superfund Division, May 1988, Final Draft, Site Inspection Report, Spaulding Fibre Company, Tonawanda, New York.
- E-8 NUS Corporation, Superfund Division, May 1988, Final Draft, Hazard Ranking System Report, Spaulding Fibre Company, Tonawanda, New York.
- E-9 Broughton, J.G., Fisher, D.W., Isachsen, Y.W., Rickard, L.V., 1976, *Geology of New York State - A Short Account, Educational Leaflet 20.* The University of the State of New York/The State Education Department, NYS Museum and Science Service, Albany, New York.
- E-10 U.S. Department of Agriculture, Soil Conservation Survey, in cooperation with Cornell University, 1986, *Soil Survey of Erie County.*
- E-11 *Geologic Map of New York, 1970, Niagara Sheet.*
- E-12 USEPA, 1985, *Preliminary Evaluation of Chemical Migration to Groundwater and the Niagara River from Selected Waste-Disposal Sites.*

REFERENCE E-1

November 28, 1983

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12232

Attention: Mr. Norman H. Nosenchuck, P.E.
Director - Division of Solid Waste

RE: PHASE I - PRELIMINARY INVESTIGATION OF THE SPAULDING FIBRE COMPANY INC.

Dear Mr. Nosenchuck:

Attached, please find our Phase I - Preliminary Investigation of the above referenced site. These activities have been carried out under the New York State "Superfund" legislation.

Pertinent information regarding this site is summarized below.

Spaulding Fibre Company (Site #915050-d) is located at 310 Wheeler Street, Tonawanda, Erie County, New York. The general area can be characterized as urban/industrial with private residents occupying property adjacent to the plant on three sides. Accessibility to the plant property is limited by chain link fence and a 24 hour guard.

Primarily the company manufactures products for the electrical and electronics industry such as circuit board material. The processes used at the plant generate solid and liquid waste containing toxics such as phenol, formaldehyde, toluol and cresol. Prior to 1977 and after 1978 these materials were disposed of off site at various locations. Between 1977 and 1978 the company operated two (2) landfills on the plant property one (1) for bagged solid waste and one (1) for drummed liquid waste. Sampling of monitoring wells in place near the liquid landfill has verified contamination with phenol above the NYSDEC groundwater standard.

The entire area is serviced by municipal water drawn from the Niagara River. Groundwater from the bedrock shale aquifer is used for industrial purposes, however, high hydrogen sulfide content prohibits domestic use. The unconsolidated material overlying bedrock is moderately permeable consisting of till and silty clay to approximately seventy (70) foot depth.

In compiling the hazard ranking score, the Spaulding Fibre Company was found to have a score for S_m equal to 21.0. However, because some route rating factors, due to data inadequacies, involve a certain degree of subjectivity a range for the S_m score was developed and found to be 16.0 to 25.0.

Remedial action suggested as appropriate to this site to be carried out in Phase II - Field Investigations is summarized in Section 7.0 of the attached report. The total cost of the proposed work is \$30,660.28.

Should you have any questions or require additional information, please feel free to contact me directly.

Sincerely,

RECRA RESEARCH, INC.

Richard S. Crouch

SPAULDING FIBRE COMPANY, INC.

NEW YORK STATE SUPERFUND
PHASE I SUMMARY REPORT

FINAL

November 28, 1983

Prepared By:

Recra Research, Inc.
4248 Ridge Lea Road
Amherst, New York 14226

For:

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

REFERENCE E-2

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
TONAWANDA,
NEW YORK
ERIE COUNTY

PANEL 2 OF 2

(SEE MAP INDEX FOR PANELS NOT PRINTED)

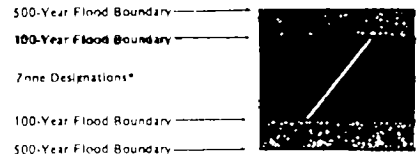
COMMUNITY-PANEL NUMBER
360259 0002 B

MAP REVISED:
FEBRUARY 11, 1983



Federal Emergency Management Agency

KEY TO MAP



500-Year Flood Boundary
100-Year Flood Boundary
Zone Designations*

100-Year Flood Boundary
500-Year Flood Boundary
Base Flood Elevation Line
With Elevation In Feet**

Base Flood Elevation In Feet
Where Uniform Within Zone**

Elevation Reference Mark RM7x
River Mile M7.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Special areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

For Description of Elevation Reference Marks, see Panel 360259 0001 B.

INITIAL IDENTIFICATION

AUGUST 1, 1979

FLOOD HAZARD BOUNDARY MAP REVISIONS

FLOOD INSURANCE RATE MAP EFFECTIVE

AUGUST 1, 1979

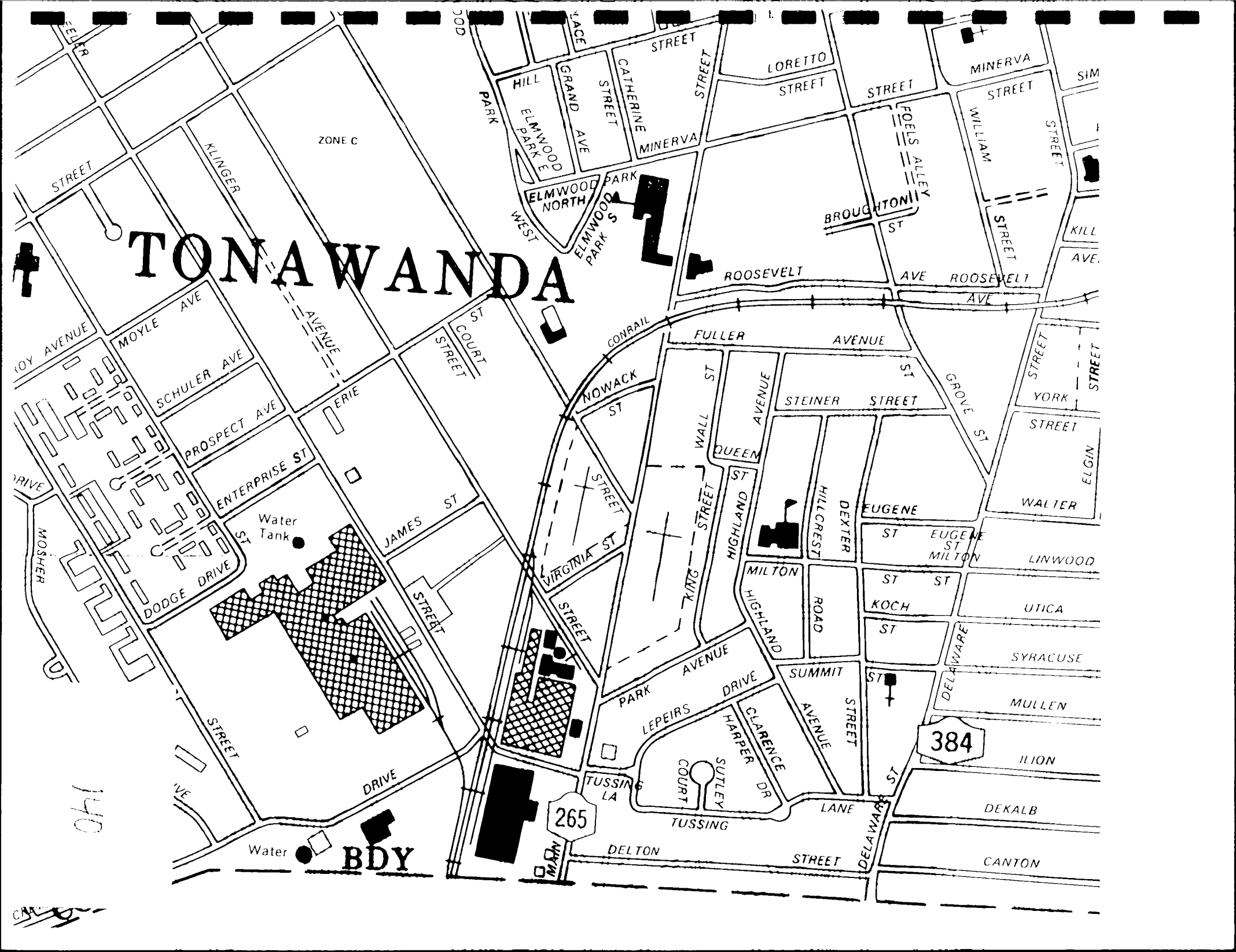
FLOOD INSURANCE RATE MAP REVISIONS

2-11-83 (CHANGE ZONE DESIGNATION, CHANGE COORDINATE POINTS, AUGMENT FLOOD ELEVATION)

ZONE



TONAWANDA



ZONE C

Water Tank

BDY

265

384

140

REFERENCE E-3

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

Vol. 21. No. 3

Buffalo, 1963

BUEHLER AND TESMER: GEOLOGY OF ERIE COUNTY, NEW YORK

	Cephalopods
<i>Agoniatites vanuxemi</i> (Hall)	<i>Michelinoceras</i> (?) <i>subulatum</i> (Hall)
<i>Goniatites</i> sp.	
	Pelecypods
<i>Aviculopecten exacutus</i> Hall	<i>Modiomorpha subaiata</i> (Conrad)
<i>Gosseletia triquetra</i> (Conrad)	<i>Nuculites nyssa</i> Hall
<i>Leptodesma marcellense</i> Hall	<i>Orthonota</i> (?) <i>parvula</i> Hall
<i>Lunulicardium curtum</i> Hall	<i>Panetia luncklaeni</i> Hall
<i>L. fragilis</i> (Hall)	
	Cricoconarida
<i>Styliolina fissurella</i> (Hall)	<i>Tentaculites gracilistriatus</i> Hall
	ARTHROPODS
<i>Ischilina</i> (?) <i>fabacca</i> Jones	<i>Primitiopsis punctulifera</i> (Hall)
	Trilobites
<i>Greenops boothi</i> (Green)	<i>Phacops vana</i> (Green)
	INCERTAE SEDIS
	<i>Coleolus tenuicinctum</i> Hall

SKANEATELES FORMATION

TYPE REFERENCE: Vanuxem (1840, p. 380).

TYPE LOCALITY: Skaneateles Lake, Onondaga County, New York; Skaneateles quadrangle.

TERMINOLOGY: See Cooper (1930). In Erie County, the Skaneateles is represented by two members: the Stafford Limestone Member (older) and the Levanna Shale Member.

AGE: Middle Devonian (Erian).

THICKNESS: 60 - 90 feet.

LITHOLOGY: In western New York, the Skaneateles Formation consists of gray limestone overlain by fissile gray to black shale.

PROMINENT OUTCROPS: Lake Erie shore between Bayview and Hamburg Town Park; Cazenovia Creek west of Ebenezer; Buffalo Creek between Gardenville and Blossom; Cayuga Creek at entrance to Como Lake Park; Plumbottom Creek in Lancaster.

CONTACTS: The lower contact is transitional with the older Oatka Creek Shale Member of the Marcellus Formation. The upper contact, at the base of the Centerfield Limestone Member of the Ludlowville Formation, cannot be seen in Erie County.

PALEONTOLOGY: The Skaneateles Formation has a varied fauna including coelenterates, bryozoans, brachiopods, gastropods, pelecypods, cephalopods, and arthropods.

BUFFALO SOCIETY OF NATURAL SCIENCES

Stafford Limestone Member

TYPE REFERENCE: Clarke (1894, p. 342).

TYPE LOCALITY: Stafford township, Genesee County, New York; Batavia quadrangle.

TERMINOLOGY: See Clarke (1901), Wood (1901) and Cooper (1930).

AGE AND CORRELATION: According to Cooper (1930), the Stafford is the oldest member of the Skaneateles Formation. However, Cooper *et al.* (1942, p. 1788) included the Stafford as the uppermost member of the Marcellus Formation. The Stafford correlates with the Mottville of central New York.

THICKNESS: According to Wood (1901), the Stafford is 8.5 feet thick at Lancaster and 15 feet thick at Lake Erie. Cooper (1930) suggests that the lower 6.5 feet of Wood's Stafford at Lancaster should be assigned to the Marcellus Formation.

LITHOLOGY: The Stafford is a gray limestone which weathers chocolate brown. Bedding varies from massive to shaly.

PROMINENT OUTCROPS: Buffalo Creek near junction of Mineral Springs Road and Indian Church Road; Cayuga Creek at entrance to Como Lake Park; Plumbottom Creek in Lancaster.

CONTACTS: The lower contact with the Oatka Creek Shale Member of the Marcellus Formation is often transitional in Erie County. The contact with the overlying Levanna Shale Member is usually fairly distinct.

PALEONTOLOGY: This faunal list has been modified from Wood (1901, pp. 139-181):

COELENTERATES

Aulopora sp.
Aulocystis dichotoma (Grabau)
A. jacksoni (Grabau)

Favosites placenta Rominger
Stereolasma rectum (Hall)

BRYOZOANS

Fistulipora sp.
Hedereila canadensis (Nicholson)
H. cirrhosa Hall

Orthoptera tortalina (Hall and Simpson)
Reptaria stolonifera Rolle
Stictopora sp.

BRACHIOPODS

Ambocoelia nana Grabau
Atrypa spinosa Hall
Camarotoechia horsfordi Hall
C. pauciplicata Wood
C. prolifica (?) (Hall)
C. sappho Hall
Chonetes lepidus Hall
C. mucronatus Hall
C. scitulus Hall
Crania recta Wood

Cryptonella planirostra (Hall)
C. rectirostra (Hall)
Douvillina inaequistriata (Conrad)
Elytha fimbriata (Conrad)
Emanuella subumbona (Hall)
Leiorhynchus limitare (Vanuxem)
Merstellia barnesi Hall
M. meta Hall
Mucrospinifer mucronatus (Conrad)
Nucleospira concinna (Hall)

BUEHLER AND TESMER: GEOLOGY OF ERIE COUNTY, NEW YORK

- | | |
|---|---|
| <i>Productella dumosa</i> Hall | <i>Spinulicosta spinulicosta</i> Hall |
| <i>Protoleptostrophia perpiana</i> (Conrad) | <i>Trematospira gibbosa</i> Hall |
| <i>Rhipidomella vanuxemi</i> Hall | <i>Tropidoleptus carinatus</i> Conrad |
| <i>Schizobolus concentricus</i> (Vanuxem) | <i>Truncalosis truncata</i> Hall |
| <i>Schuchertella arctostriata</i> (Hall) | |
| | ANNELID (?) |
| | <i>Spirorbis</i> sp. |
| | MOLLUSKS |
| | Gastropods |
| <i>Bembexia capillaria rustica</i> (Conrad) | <i>M. lucina</i> (Hall) |
| <i>Loxonema</i> sp. | <i>Platyceras (Orthonychia) attenuatum</i> Hall |
| <i>Mourlonia itys</i> (Hall) | <i>Pleurotomaria</i> sp. |
| | Cephalopods |
| <i>Michelinoceras (?) ericense</i> (Hall) | <i>Protokionoceras fenestrulatum</i> (Clarke) |
| <i>M. (?) exile</i> (Hall) | <i>Spyroceras aegea</i> (Hall) |
| <i>Nephrinceras bucinum</i> (Hall) | <i>Stenacoceras typum</i> (Saemann) |
| | Pelecypods |
| <i>Actinopteria muricata</i> Hall | <i>Panenka lynchlaeni</i> Hall |
| <i>Cypricardina indenta</i> Conrad | <i>P. mollis</i> Hall |
| <i>Leptodesma marcellense</i> Hall | <i>Pterinopecten exfoliatus</i> Hall |
| <i>Palaeaneilo</i> sp. | <i>Pterochaenia fragilis</i> (Hall) |
| | Cricoconarida |
| <i>Styliolina fissurella</i> (Hall) | <i>Tentaculites gracilistriatus</i> Hall |
| | ARTHROPODS |
| <i>Onychochilus nitidulus</i> (?) Clarke | <i>Primitiopsis punctulifera</i> (Hall) |
| | Trilobites |
| <i>Greenops boothi</i> (Green) | <i>Phacops rana</i> (Green) |
| <i>Otarion craspidata</i> (Hall and Clarke) | |

Levanna Shale Member

TYPE REFERENCE: Cooper (1930, p. 217).

TYPE LOCALITY: Near Levanna, east shore of Cayuga Lake, Cayuga County, New York; Auburn quadrangle.

TERMINOLOGY: See Cooper (1930). Wood (1901, pp. 153-154) referred to approximately three feet of shale and shaly limestone above the Stafford as Marcellus. Grabau (1898, pp. 65-66) used the term Upper Marcellus and Houghton (1914, pp. 21-23) applied the name Cardiff to beds now called Levanna. Luther (1914, pp. 14-16) also used the term Cardiff Shale but for only the lower beds of the Levanna. He called the upper beds of the Levanna the Skaneateles Shale.

AGE AND CORRELATION: Middle Devonian (Erian). The Levanna correlates with the Delphi Station, Pompey and Butternut Members of the Skaneateles Formation in central New York.

BUFFALO SOCIETY OF NATURAL SCIENCES

THICKNESS: The Levanna thickens eastward from about 45 feet at Lake Erie to 80 feet at the eastern edge of the country.

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 barnisi Hall
Mucrospirifer mucronatus (Conrad)
Spinulicosta spinulicosta Hall
Truncaliosia truncata (Hall)

MOLLUSKS

Gastropods

Paracyclas lirata (Conrad)

Serpulospira laxus (Hall)

Cephalopods

Centroceras marcellense (Vanuxem)
Protokionoceras fenestrulatum (Clarke)

Spyroceras aegea (Hall)

Pelecypods

Lunulicardium curtum Hall
Nuculites iniqueter Conrad

Pterochaenia fragilis (Hall)

Cricoconarida

Styliolina fissurella (Hall)

Tentaculites gracilistriatus (Hall)

ARTHROPOD

Trilobite

Phacops rana (Green)

REFERENCE E-4

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

705 850 1040
STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION

Basin Planning Report ENB-3

1968

Many domestic-supply wells penetrate from 1 foot to a few feet into the soluble rocks and produce small but adequate yields. On the other hand, industrial wells that were intended to produce large supplies of water give a truer picture of the water-supply potential of the rocks. Data on industrial wells show that the Camillus Shale will yield as much as 1,200 gpm and the limestone unit as much as 300 gpm and probably more. But the data also show that the rocks produce low yields at places. This is shown by such wells as 301-848-1 which was drilled to obtain a large supply for an industry but which yielded only 30 gpm. The water-bearing zones obviously are unevenly distributed through the rocks. Factors that control the occurrence of the water-bearing zones cannot be evaluated at the present time to the extent necessary to predict exactly where the zones occur.

The Lockport Dolomite is the least productive unit of the soluble rocks. Within the Erie-Niagara basin yields of wells in the Lockport range from about 4 to 90 gpm. Depth of the wells range from 20 to 70 feet. Most of the deeper wells were drilled where the depth to bedrock is greatest. Domestic-supply wells generally are finished in the fracture zone at the rock surface or in a bedding joint within the uppermost 30 feet of the rock. It is usually not necessary to drill deeper into the Lockport if only a small supply is needed.

Drilling deeper in an attempt to intersect additional bedding-plane openings at depth would provide higher yields but, generally, at the expense of lower water levels and therefore higher pump lifts. Johnston (1964) collected data on a much larger number of wells along the outcrop belt of the Lockport Dolomite than were inventoried in the Erie-Niagara basin. He found that wells drawing water from the lower 40 feet of the Lockport (the northern part of the outcrop area) yield from 1/2 to 20 gpm and have an average yield of 7 gpm. Wells finished in the upper part of the Lockport (the southern part of the outcrop area) yield from 2 to 110 gpm and have an average yield of 31 gpm. Yields of as much as 50 or 100 gpm are possible from the Lockport in the Erie-Niagara basin but would be exceptional.

CAMILLUS SHALE

Bedding and lithology

The Camillus Shale lies above the Lockport Dolomite and crops out to the south of where the dolomite is exposed. Exposures of the Camillus Shale are rare in the Erie-Niagara basin because of the low relief of the outcrop area and the cover of glacial deposits. Geologists who have studied the Camillus in the study basin agree that it consists mostly of gray shale. (For example, see Buehler and Tesmer, 1963, p. 29-30.) Subsurface data, on the other hand, indicate that a considerable amount of gray limestone and dolomite is interbedded with the shale. Along with these carbonates, gypsum comprises a significant part of the Camillus Shale. Some of the gypsum beds are as much as 5 feet thick. Gypsum also occurs in the Camillus as thin lenses and veins. Table 1,

Table 1. -- Log of a gypsum-mine slope near Clarence Center

(Site 300-839-A)

Log	Depth below land surface (feet)
Topsoil, subsoil, gravel and clay.....	0-25.5
Soft gray limestone mixed with clay.....	25.5-27.5
Soft dark-gray limestone.....	27.5-29.5
Soft shaly limestone, thin bedded.....	29.5-38.0
Crushed dark-gray limestone interbedded with 2-inch seams of brown limestone.....	38.0-40.8
Dark-gray limestone interbedded with seams of gypsum 1 1/2 to 3 inches thick.....	40.8-43.6
Hard gray limestone interbedded with thin streaks of gypsum 1/8 to 1/2 inch thick.....	43.6-45.1
Soft gray limestone.....	45.1-49.1
Hard gray limestone interbedded with thin streaks of gypsum.....	49.1-52.1
Hard gray limestone.....	52.1-57.6
Gypsum.....	57.6-58.3
Brown limestone.....	58.3-59.3
Gray limestone.....	59.3-61.3
Soft, crumbly green-gray material (shale).....	61.3-64.3
Mottled rock rich in gypsum.....	64.3-65.1
Soft brown limestone.....	65.1-65.7
Cap rock -- hard dark-gray limestone.....	65.7-66.8
Soft shaly material.....	66.8-66.9
Gypsum.....	66.9-71.4

which is a log compiled during construction of a mine slope, illustrates the occurrence of gypsum and the predominance of carbonate rocks in some parts of the Camillus.

Though the Camillus dips southward at approximately 40 feet to the mile, the dip is not uniform. Gypsum miners say the formation "rolls," to describe the gentle folding of its beds. The formation is marked by broad, low folds with amplitudes of a few feet and spacings of a few hundred feet between crests. The fold axes generally are east-west.

Water-bearing openings

The extensive beds of gypsum make the Camillus Shale unique among the shale formations of the basin. The importance of the gypsum lies in its solubility; gypsum is far more soluble than the enclosing rocks, whether shale, dolomite, or limestone. Where gypsum has been dissolved, openings exist for the passage and storage of water.

The effect of the solution of gypsum on the water-bearing properties of the Camillus Shale (and other rocks) can be readily appreciated. Where the topmost beds of the Camillus crop out at the base of the falls of Murder Creek at Akron, the Camillus seems to be an impermeable shale. If one judged the water-bearing properties of the Camillus on the basis of this outcrop alone, he would be wrong. Yields of water wells and drainage into gypsum mines prove that large volumes of water do move through the Camillus.

Clues to the nature of the water-bearing openings in the Camillus can be obtained by considering some of the circumstances where large volumes of water were obtained. About 1885, the Buffalo Cement Company located a 4-foot thick bed of gypsum only 43 feet below land surface by test drilling in Buffalo on Main Street near Williamsville. A shaft was sunk with the intention of beginning a subsurface mining operation, but when the gypsum was struck the shaft was flooded with ground water. The report is that "... a pump with a capacity of 2,000 gallons per minute failed to make any impression upon it [the water] and the attempt was abandoned" (Newland and Leighton, 1920, 209-210).

In 1964, a gypsum mine near Clarence Center received an unexpected inflow of ground water. Several hundred gallons of water per minute continuously enters the mine at a place about midway down the entry slope. This water is pumped out by a drainage system diagrammatically shown in figure 6. Ordinarily, only small seeps occur in the remainder of the mine from roof bolts and small cracks in the roof. At a distance of more than a mile from the entry slope, the working face intersected an unplugged drill hole. Water poured into the mine at an alarming rate until the hole was plugged with much effort.

Large-yield wells, such as those at Tonawanda and North Tonawanda, obtain water from thin intervals of gypsum-bearing rock. The gypsum in the Camillus Shale obviously is related to the occurrence of large quantities of water. Gypsum is a highly soluble mineral and is

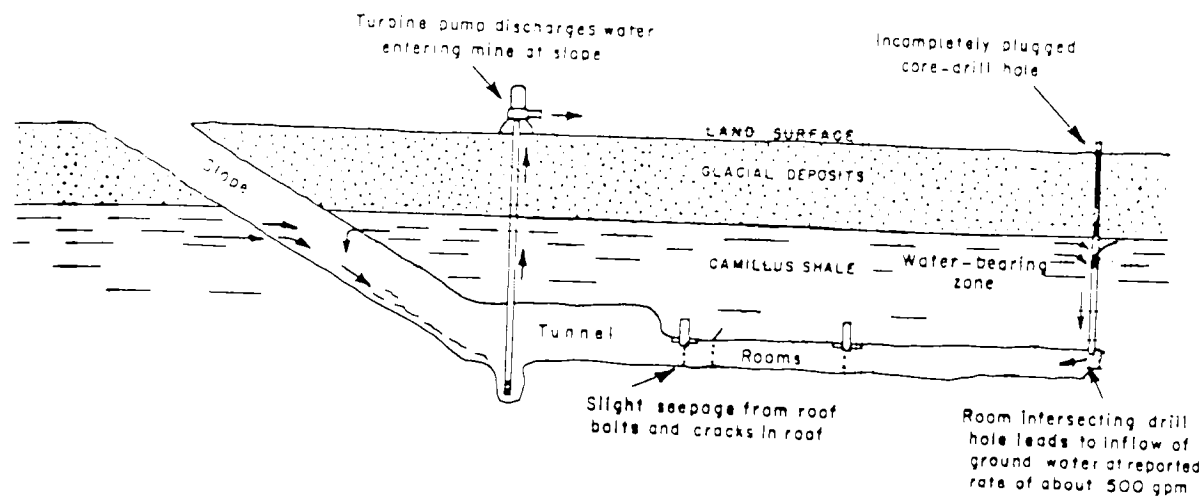


Figure 6.--Occurrence of ground water in the Camillus Shale at a gypsum mine near Clarence Center.

dissolved by circulating ground water faster than are the enclosing rocks. Very likely the openings in the Camillus that yield copious amounts of water were formed by the solution of gypsum by ground water. The water-bearing zones are mainly horizontal because most of the gypsum occurs in horizontal beds and thin zones of gypsiferous shale and dolomite. Only those gypsum zones actually exposed to circulating ground water can be widened by solution. The gypsum must be in contact with an open fracture through which the water can move. If no open fracture exists, the gypsum cannot be dissolved. The occurrence of ground water at the gypsum mine shown in figure 6 is a further illustration. The 4 1/2-foot thick bed that is mined at a depth of 66.9 feet (table 1) is dry because of the lack of vertical fractures to transmit water to it.

The solution-widened water-bearing zones occur at various depths and stratigraphic horizons in the Camillus. The existence of such zones is borne out by well data. For instance, wells 303-850-1 and -2 are 90 feet apart and obtain water from the same 2- to 3-foot thick zone at a depth of 67 to 68 feet. Such zones may be continuous for as much as 1 or 2 miles but information is not available on the extent of individual zones. The gypsum occurs principally in lenticular beds. The thicker beds may be 3 or 4 miles in lateral extent. The thinner beds can be expected to be much smaller in extent.

A zone of fracturing and solution extending several feet below the rock surface yields relatively small but sufficient water supplies for domestic use. This zone appears to be present throughout the area and is unrelated to stratigraphic position.

Hydrologic and hydraulic characteristics

The Camillus Shale forms a low topographic trough split down the center by Tonawanda Creek. Ground water that enters the formation discharges mainly to the creek. Little water is discharged to the small, barely incised streams on the Camillus. These streams are dry much of the year.

Coefficients of transmissibility given in table 2 were computed for the Camillus Shale on the basis of specific capacities of wells penetrating a considerable thickness of the aquifer, by the method described by Wall (1962, p. 12-13).

Table 2.--Specific-capacity tests of wells finished in the Camillus Shale

Well number	Pumping rate (gpm)	Duration of pumping (hours) e: estimated	Drawdown (feet)	Specific capacity (gpm/ft)	Coefficient of transmissibility (gpd/ft)
a/ 258-853-1	1,090	e8	53	21	40,000
-2	90	--	22	4	7,000
258-855-1	500	e8	17	29	55,000
-2	1,000	e8	26	38	70,000
-3	1,500	e8	38	39	70,000
303-850-1	700	24	10	70	--
-2	660	e8	8	83	--

a/ Well also penetrates water-bearing zone in Lockport Dolomite.

The large specific capacities of wells 303-850-1 and -2 probably result in part from recharge induced from Sawyer Creek. Measurements of recovery of water levels in well 303-850-1 were made when well 303-850-1 was shut down after a year of continuous pumping. From these data, a coefficient of transmissibility of about 80,000 per foot and a coefficient of storage of 0.025 were computed. The computed transmissibility is about half the transmissibility that would have been indicated from specific capacity if recharge were not induced from Sawyer Creek.

Yields of wells

The Camillus Shale is by far the most productive bedrock aquifer in the area. Except in the vicinity of Buffalo and Tonawanda, where industrial wells produce from 300 to 1,200 gpm, no attempt has been made to obtain large supplies from the formation. However, the inflow of water to gypsum mines near Clarence Center and Akron indicate that large supplies are not necessarily restricted to the Buffalo and the Tonawanda area. Two examples of large flows of water encountered in gypsum mining have already been mentioned. Pumpage from gypsum mines near Clarence Center (including the mine mentioned previously) is substantial. The water pumped is discharged to Got Creek. On July 2, 1963, the creek had a flow of 2.1 mgd (million gallons per day) about half a mile downstream from the mines, that was due almost entirely to the pumpage. Water for industrial use is pumped from a flooded, abandoned gypsum mine at Akron. This pumpage, at a rate of 500 to 700 gpm, has had no appreciable effect on the water level in the mine.

Probably the larger solution openings are most common in discharge areas near Tonawanda Creek and its tributaries and near the Niagara River; the flow of ground water becomes concentrated as it approaches the streams to which it discharges. Other discharge areas, such as low-lying swampy areas and headwaters of small streams that have perennial flow, are likely places to drill wells.

LIMESTONE UNIT

Bedding and lithology

The term "limestone unit" in this report is applied to a sequence of limestone and dolomite overlying the Camillus Shale. The limestone unit includes the Bertie Limestone at the base, the Akron Dolomite, and the Onondaga Limestone at the top. The lithology and thickness of these units are shown in figure 7. The Bertie Limestone and the Akron Dolomite are Silurian in age and are separated from the overlying Onondaga Limestone of Devonian age by an unconformity or erosional contact.

The Bertie Limestone is mainly dolomite and dolomitic limestone but contains interbedded shale particularly in the thin-bedded lower part of the formation. The middle part is brown, massive dolomite, and the upper part is gray dolomite and shale whose beds are of variable thickness. The total thickness of the formation is about 55 feet (Buehler and Tesmer, 1963, p. 30-31).

The Akron Dolomite is composed of greenish-gray and buff dolomite beds varying from a few inches to about a foot in thickness. The upper contact of the Akron is erosional and is often marked by remnants of shallow stream channels. Thin lenses of sandy sediments lie in the bottoms of some channels. The thickness of the formation is generally between 7 and 9 feet (Buehler and Tesmer, 1963, p. 33-34).

Well number	County	Owner	Year completed	Type of well	Depth of well (feet)	Diameter (inches)	Depth to bedrock (feet)	Water-bearing material	Water level		Method of lift	Estimated pumpage or flow (gallons per day)	Use	Remarks	
									Altitude above sea level (feet)	Date					
258-811-1	do.	N. Coveland	--	Drl	11.7	3	--	Shale	900	8.1	6-26-61	--	--	Anal. iron; temp 49.0	
-1	do.	do.	--	Drl	11	6	--	do.	900	12.1	6-26-61	Sw	--	Anal. iron; temp 49.0	
258-815-1	Genesee	F. Pack	--	Drl	31	6	--	Shale	920	8.1	6-26-63	Sw	50	D	Anal. iron; temp 49.0; yield 12 gpm (r).
258-822-1	do.	E. Lewis	1964	Drl	41.6	6	41.6	Sand	870	9.1	8-19-64	Sw	400	Aq	Anal.; H ₂ S; yield 11 gpm (r).
258-827-1	do.	E. Powanski	1952	Drl	36.5	6	a34	Limestone	835	31.3	8-19-64	Jet	250	D	H ₂ S; yield 7 gpm (r).
258-833-1	Erie	B. Fields	1960	Drl	62.6	6	a13	do.	775	p22.7	8-18-64	Sub	300	D	Anal.
258-837-1	do.	R. Bowman	1956	Drl	76.2	6	a22	do.	740	19.4	8-18-64	Jet	300	D	Do.
258-843-1	do.	W. Voss	--	Drl	62	8	--	Camillus Shale	615	Flow	--	--	5,000	A	Anal.; H ₂ S; temp 50.8; 8-14-64; flows about 5 gpm at 15.
258-853-1	do.	Linde Div., Union Carbide Corp.	1944	Drl	r375	8	87	Camillus Shale and Lockport Dolomite	600	r,p115	1944	Tur	--	U	H ₂ S; drilled to 110-ft depth in 1943 and deepened in 1944; "black" water entering from Lockport Dolomite after deepening made well unusable; yield 3,000 gpm (r); pumping test: 1,090 gpm, dd 53 ft.
-2	do.	do.	1944	Drl	r375	8	86	do.	600	r,p82	1944	Tur	--	U	H ₂ S; drilled to 157-ft depth in 1943 and deepened in 1944; water obtained at 90 ft from a gypsumiferous zone in Camillus Shale and "black" water at 317 ft from the Lockport Dolomite which was first penetrated at 288 ft; yield from upper water-bearing zone 90 gpm, dd 22 ft; lower zone was not tested.
X 258-855-1	do.	Dunlop Tire & Rubber Co.	1943	Drl	r137	12	69	Camillus Shale	590	p36	10-27-52	Tur	--	I	H ₂ S; pumping rate 1,000 gpm (r); pumping test 500 gpm, swl 36 ft, dd 17 ft; this well and well 258-855-2 yield a combined total of 600,000 gpd.
X -2	do.	do.	1943	Drl	r139.7	--	71	do.	590	p54.3	7-16-64	Tur	--	I	H ₂ S; pumping rate about 1,000 gpm (r); pumping test 1,000 gpm, swl 36 ft, dd 26 ft; this well and well 258-855-1 yield a combined total of 600,000 gpd.
X -3	do.	do.	1952	Drl	r120	--	--	do.	592	p39	10-27-52	Tur	--	I	H ₂ S; pumping test 1,500 gpm, swl 39 ft, dd 38 ft.
259-809-1	Genesee	O-AT-MA Milk Products Cooperative, Inc.	1963	Drl	r60	20, 16	--	Sand and gravel	890	r15	4-27-62	Tur	1,000,000	I	Anal.; screen, 13 1/8-inch diameter, 10 ft at 60-stg, 10 ft at 125-stg, from 40-60 ft; pumping rate about 1,200 gpm (r); pumping test 600 gpm, swl 15 ft, dd 1.5 ft (r).
-2	do.	City of Batavia	1963	Drl	r69	16	--	do.	890	14.0	5-8-63	Tur	--	PS	Anal.; H ₂ S; screen, 16-inch telescope, 125-stg, 52.9-69 ft; pumping rate 1,000 gpm.
-3	do.	do.	1962	Drl	54.1	8	--	do.	890	11.7	5-6-63	--	--	T	Depth 61 ft (r); screen, 6-inch diameter, 110-stg, from 51-61 ft; pumping test 235 gpm, swl 18.3 ft, dd 0.5 ft (r); OW.
-4	do.	O-AT-MA Milk Products Cooperative, Inc.	1963	Drl	52.2	8	--	do.	890	p13.0	5-7-63	--	--	T	
-5	do.	City of Batavia	1962	Drl	60.2	8	--	do.	890	13.7	5-8-63	--	400,000	T	Depth 70 ft (r); screen, 6-inch diameter, 100-stg, from 60-70 ft; pumping test (r), 235-259 gpm, swl 18.5 ft, dd 0.5 ft after 24 hours discharge.
-6	do.	do.	1963	Drl	r75	16	--	do.	895	r14.2	5-27-63	Tur	--	PS	Screen, 16-inch diameter, test pumped at 1,000 gpm.
-7	do.	do.	1963	Drl	r60	8	--	do.	890	r13.7	2-15-62	--	400,000	X, T	H ₂ S (r); pumping test 200 gpm, swl 13.7 ft, dd 4.5 ft after 24 hours discharge.
259-817-1	do.	D. Beals	1960	Drl	r33	--	--	do.	865	r3	1960	Sw	100	D	Anal.; H ₂ S; yield 4 gpm (r).
259-818-1	do.	Bitterman Bros., Inc.	--	Drl	18.3	12, 6	--	do.	--	6.6	9-17-63	Sw	--	C, D	
259-820-1	do.	A. Winters	1960	Drl	22.6	6	--	Limestone	880	7.4	9-17-63	Sw	500	C, D	
259-822-1	do.	J. Daley	1956	Drl	70	6	--	Sand	900	27.1	8-19-64	Jet	200	D	Anal.; H ₂ S.

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REFERENCE E-5

STATE OF NEW YORK

OFFICIAL COMPILATION
OF
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PART 837

LAKE ERIE (EAST END)—NIAGARA RIVER DRAINAGE BASIN

(Statutory authority: Public Health Law, art. 12)

Sec.		Sec.	
837.1	Adopting order	837.4	Table I
837.2	Definitions and conditions	837.5	Map A
837.3	Assigned classifications and standards of quality and purity	837.6	Map B
		837.7	Quadrangle maps

Section 837.1 Adopting order. Pursuant to the authority contained in article 12 of the Public Health Law, the Water Pollution Control Board having made proper studies and having held public hearings on due notice with reference thereto, hereby adopts and assigns the following classifications and standards of quality and purity to the various waters as specifically designated and described below and subject to the definitions and conditions as stated.

837.2 Definitions and conditions. The several terms, words or phrases herein-after mentioned shall be construed as follows:

(a) *Class* as appearing in table I, as the letters A, A-special (International boundary waters), B, C, D or E opposite each specifically designated waters means Class A, A-special (International boundary waters), B, C, D or E, as the case may be, as set forth in Part 701 and 702, *supra*.

(b) *Standards* as appearing in table I, as the letters A, A-special (International boundary waters), B, C, D or E opposite each specifically designated waters shall mean the standards of quality and purity established for class A, A-special (International boundary waters), B, C, D or E, as the case may be, as set forth in Part 701 and 702, *supra*. The symbol (T) after any class designation shall mean that the designated waters are trout waters and that the dissolved oxygen specification for trout waters shall apply thereto.

(c) *Waters index number* as appearing in table I shall mean that number which has been applied to any specifically designated waters as appearing on the maps set forth in section 837.7, *infra*.

(d) *Name* as appearing in table I shall mean the name, if any, by which the specifically designated waters are generally known and which name, if any, appears on the reference maps. In cases of specifically designated waters which have no name, the named tributary to which the unnamed waters are tributary is indicated so far as possible. In the table, an item number is assigned consecutively to each specifically designated waters.

(e) *Description* as appearing in table I shall mean a brief indication as to the location of the specifically designated waters so that by reference to reference maps such waters may be located without reference to their waters index numbers. Entries under column headed "Description" also include designations of sections of a stream to which a particular assignment of a class and standards shall apply.

(f) *Map ref. no.* The numbers appearing in the table under the heading designate the following maps which have been partially reproduced as maps 1 to 13, inclusive, with superimposed tracing in black of streams and other waters and waters index numbers in section 837.7, *infra*.

837.4 Table I.

TABLE I
 Classifications and Standards of Quality and Purity Which Are Assigned to All Surface Waters within the Lake
 Erie (East End) - Niagara River Drainage Basin; Erie, Niagara, Genesee, Orleans and Wyoming Counties,
 New York

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
1	0-158	Niagara River American side	Waters from international boundary to American shore between confluence with Lake Ontario and Lake Erie. Latter point is defined as a line running due west from south end of Bird Island ter to international boundary. These waters include all bays, arms, and inlets thereof, but not trib. streams or Black Rock Canal.	1,2,6	A-Special (inter-national boundary waters)	A-Special (inter-national boundary waters)
2	Black Rock Canal	Black Rock Canal	Waters east of Sqaw Island and Bird Island ter between canal locks and a line from south end of Bird Island ter to Buffalo harbor light #6.	6	C	C
3	0-158-1 and 2	Tributaries of Niagara River	Enter Niagara River from east in Town of Lewiston approximately 4.5 and 7.0 miles respectively from mouth.	1	C	C
4	0-158-3	Fish Creek	Enters Niagara River from east approximately 2.0 miles north of Niagara-Lewiston town line.	1,2	D	D
5	0-158-4 and P 1	Tributary of Niagara River	Enters Niagara River from east approximately 0.7 mile north of Niagara-Lewiston town line.	1	D	D

1605 CN 10-15-66

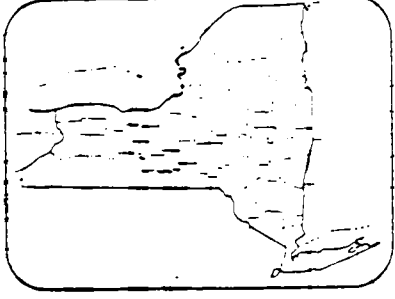
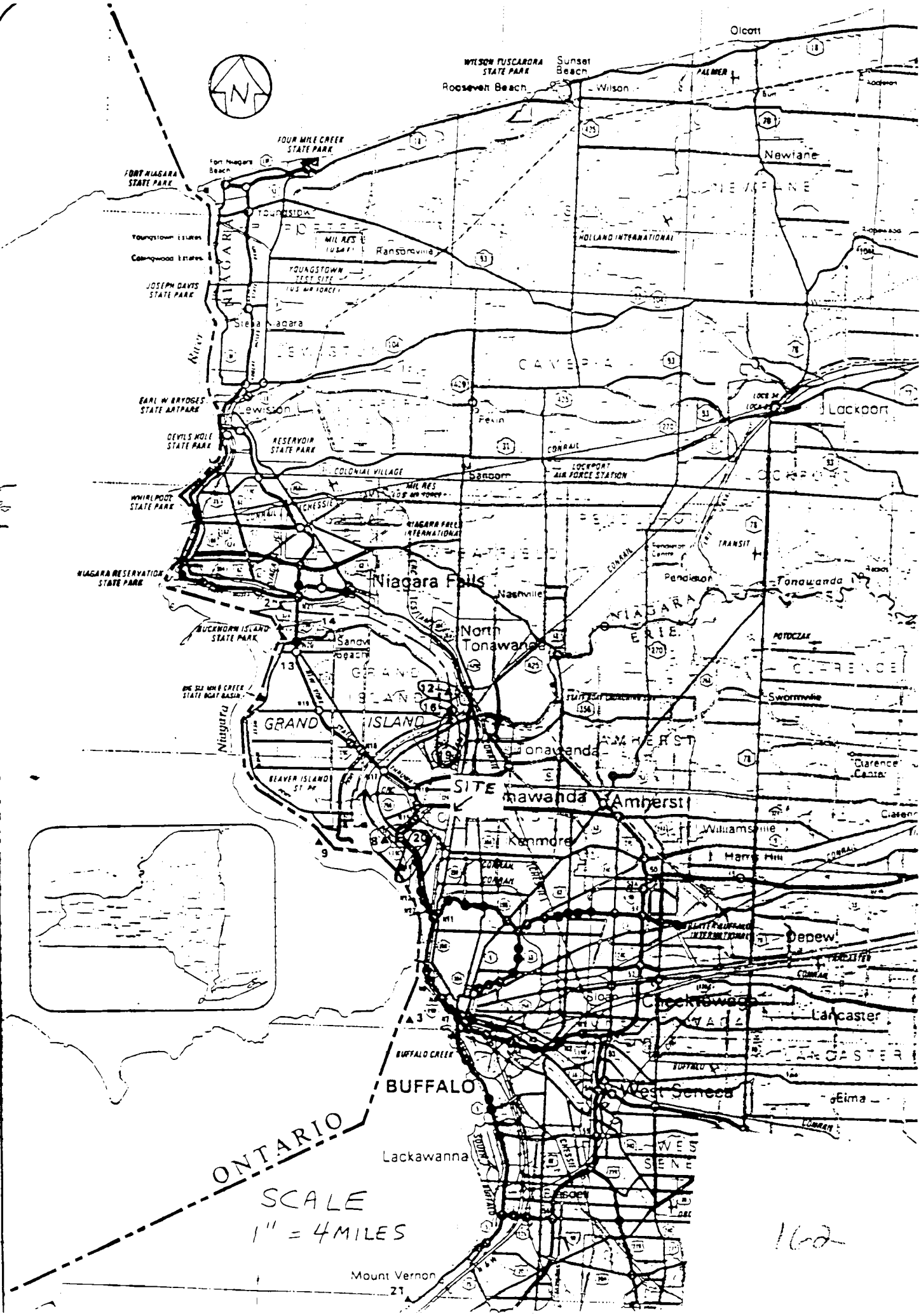
REFERENCE E-6



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

WORLDWIDE ENGINEERING, INC. ENGINEERING SERVICES WITH THE AMERICAN ENGINEERING SOCIETY



ONTARIO

SCALE
1" = 4 MILES

Mount Vernon
21

1602

ERIE COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
Municipal Community			
	Akron Village (See No 1 Wyoming Co, Page 10)	3640	
1	Alden Village	3460	Wells
2	Angola Village	8500	Lake Erie
3	Buffalo City Division of Water	357870	Lake Erie
4	Coffee Water Company	210	Wells
5	Collins Water District #3	704	Wells
6	Collins Water Districts #1 and #2	1384	Wells
7	Erie County Water Authority (Sturgeon Point Intake)	375000	Lake Erie
8	Erie County Water Authority (Van DeWater Intake)	NA	Niagara River - East Branch
9	Grand Island Water District #2	9390	Niagara River
10	Holland Water District	1670	Wells
11	Lawtons Water Company	138	Wells
X 12	Lockport City (Niagara Co)		Niagara River - East Branch
13	Niagara County Water District (Niagara Co)		Niagara River - West Branch
14	Niagara Falls City (Niagara Co)		Niagara River - West Branch
X 15	North Collins Village	1500	Wells
X 16	North Tonawanda City (Niagara Co)		Niagara River - West Branch
17	Orchard Park Village	3671	Pipe Creek Reservoir
X 18	Springville Village	4169	Wells
19	Tonawanda City	18538	Niagara River - East Branch
20	Tonawanda Water District #1	91269	Niagara River
21	Wanakah Water Company	10750	Lake Erie

Non Municipal Community

22	Aurora Mobile Park	125	Wells
23	Bush Gardens Mobile Home Park	270	Wells
24	Circle B Trailer Court	50	Wells
25	Circle Court Mobile Park	125	Wells
26	Creekside Mobile Home Park	120	Wells
27	Donnelly's Mobile Home Court	99	Wells
28	Cowanda State Hospital	NA	Clear Lake
29	Hillside Estates	160	Wells
30	Hunters Creek Mobile Home Park	150	Wells
31	Knox Apartments	NA	Wells
32	Maple Grove Trailer Court	72	Wells
33	Millgrove Mobile Park	100	Wells
34	Perkins Trailer Park	75	Wells
35	Quarry Hill Estates	400	Wells
36	Springville Mobile Park	114	Wells
37	Springwood Mobile Village	132	Wells
38	Taylor's Grove Trailer Park	39	Wells
39	Valley View Mobile Court	42	Wells
40	Villager Apartments	NA	Wells

NIAGARA COUNTY

ID NO COMMUNITY WATER SYSTEM
Municipal Community

	Lockport City (See No 12)
1	Middleport Village Niagara County Water Dist (See No 13, Erie Co)
2	Niagara Falls City (See Erie Co) North Tonawanda City (See Erie Co)

Non Municipal Community

3	Country Estates Mobile V
---	--------------------------

REFERENCE E-7

02-8704-02-SR
REV. NO. 0

FINAL DRAFT
SITE INSPECTION REPORT
SPAULDING FIBRE COMPANY
TONAWANDA, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8704-02
CONTRACT NO. 68-01-7346

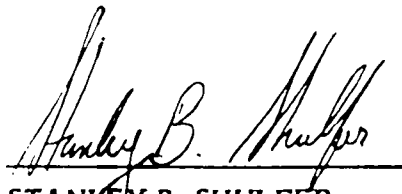
FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MAY 31, 1988

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY


STANLEY B. SHULFER
PROJECT MANAGER

REVIEWED/APPROVED BY

RONALD M. NAMAN
FIT OFFICE MANAGER



02-8704-02-SR
Rev. No. 0

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY

Spaulding Fibre Co.
Site Name

NYD000848440
EPA Site ID Number

310 Wheeler Street
Tonawanda, New York 14150
Address

02-8704-02
TDD Number

SITE DESCRIPTION

The Spaulding Fibre Company is a privately owned facility located at 310 Wheeler Street, Tonawanda, Erie County, New York. This active plant has been located in this commercial/industrial and residential area since 1911. The 50-acre facility manufactures circuit board and similar insulated materials for the electronics industry. The manufacturing process generates a mixture of liquid phenolic resin and solvent waste and solid and powdery grinding and cutting wastes. The latter include asbestos, glass, zinc chloride, and phenolic wastes. Seven hundred and fifty drums of waste were landfilled, and may have been punctured or leaking prior to burial. The solid waste was reportedly bagged and landfilled. Several lagoons were reported excavated and backfilled with clean fill. Incinerator ash and other waste are also spread around the site. Stained soil and walls near the empty drum storage area indicate further soil contamination. New York State Department of Environmental Conservation (NYSDEC) files indicate that excessive amounts of phenol and other wastes were released into the storm sewers, which emptied into the Niagara River.

There is no groundwater use in the area, with the exception of three industrial wells to the south. Sample results from monitoring wells installed by Spaulding Fibre Company contractors indicate groundwater contamination. Several site inspections by the NYSDEC recorded numerous waste disposal problems.

(CONTINUED)

Prepared by: Stanley B. Shulfer Date: 05/31/88
of NUS Corporation

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY
CONTINUED

SITE DESCRIPTION

A site inspection was conducted by FIT on April 28 and 29, 1987. Several soil auger holes had readings above background with an OVA flame ionization detector. The highest reading was 350 ppm, occurring near the drum landfill. The two monitoring wells were sampled, and two surface water samples were collected to evaluate waste migration through the groundwater and storm sewers, respectively. Eight soil samples were collected to evaluate lagoon, landfill, and possible spill or leakage areas.

All soil samples except for NYR9-S4 and NYR9-S8 had high concentrations of at least one contaminant. Phenol and Di-n-butyl phthalate were found in several samples, with concentrations as high as 910 ppm and 240 ppm, respectively. Most contaminants were semivolatile. Noted exceptions were the PCBs Aroclor 1248 and Aroclor 1254. The groundwater and surface water samples did not contain any contaminants above the detection limits. The empty drum storage pad and liquid chemical transfer pad areas had evidence of spillage in the contaminated and stained soils nearby.

The site inspection results indicate a fire/explosion hazard and the potential for waste migration off site due to contaminated soils from surface to a 2-foot depth. This creates a potential direct contact hazard, should contaminants migrate off site.

REFERENCE E-8

02-8704-02-HR
REV. NO. 0

FINAL DRAFT
HAZARD RANKING SYSTEM REPORT
SPAULDING FIBRE COMPANY
TONAWANDA, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8704-02
CONTRACT NO. 68-01-7346

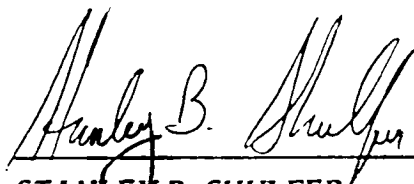
FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MAY 31, 1988

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY



STANLEY B. SHULFER

PROJECT MANAGER

REVIEWED/APPROVED BY

RONALD M. NAMAN
FIT OFFICE MANAGER



02-8704-02-HR
Rev. No. 0

POTENTIAL HAZARDOUS WASTE SITE
HAZARD RANKING SYSTEM REPORT
EXECUTIVE SUMMARY

Spaulding Fibre Co.
Site Name

NYD000848440
EPA Site ID Number

310 Wheeler Street
Tonawanda, New York 14150
Address

02-8704-02
TDD Number

SITE DESCRIPTION

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There is no groundwater use in the area, with the exception of three industrial wells to the south. Sample results from monitoring wells installed by Spaulding Fibre Company contractors indicate groundwater contamination. Several site inspections by the NYSDEC recorded numerous waste disposal problems.

(CONTINUED)

HAZARD RANKING SCORE: $S_M = 23.80$ ($S_{gw} = 4.71$, $S_{sw} = 40.91$, $S_a = 0$)
 $S_{FE} = 21.88$
 $S_{DC} = 0$

Prepared by: Stanley B. Shulfer Date: 05/31/88
of NUS Corporation

POTENTIAL HAZARDOUS WASTE SITE
HAZARD RANKING SYSTEM REPORT
EXECUTIVE SUMMARY
CONTINUED

SITE DESCRIPTION

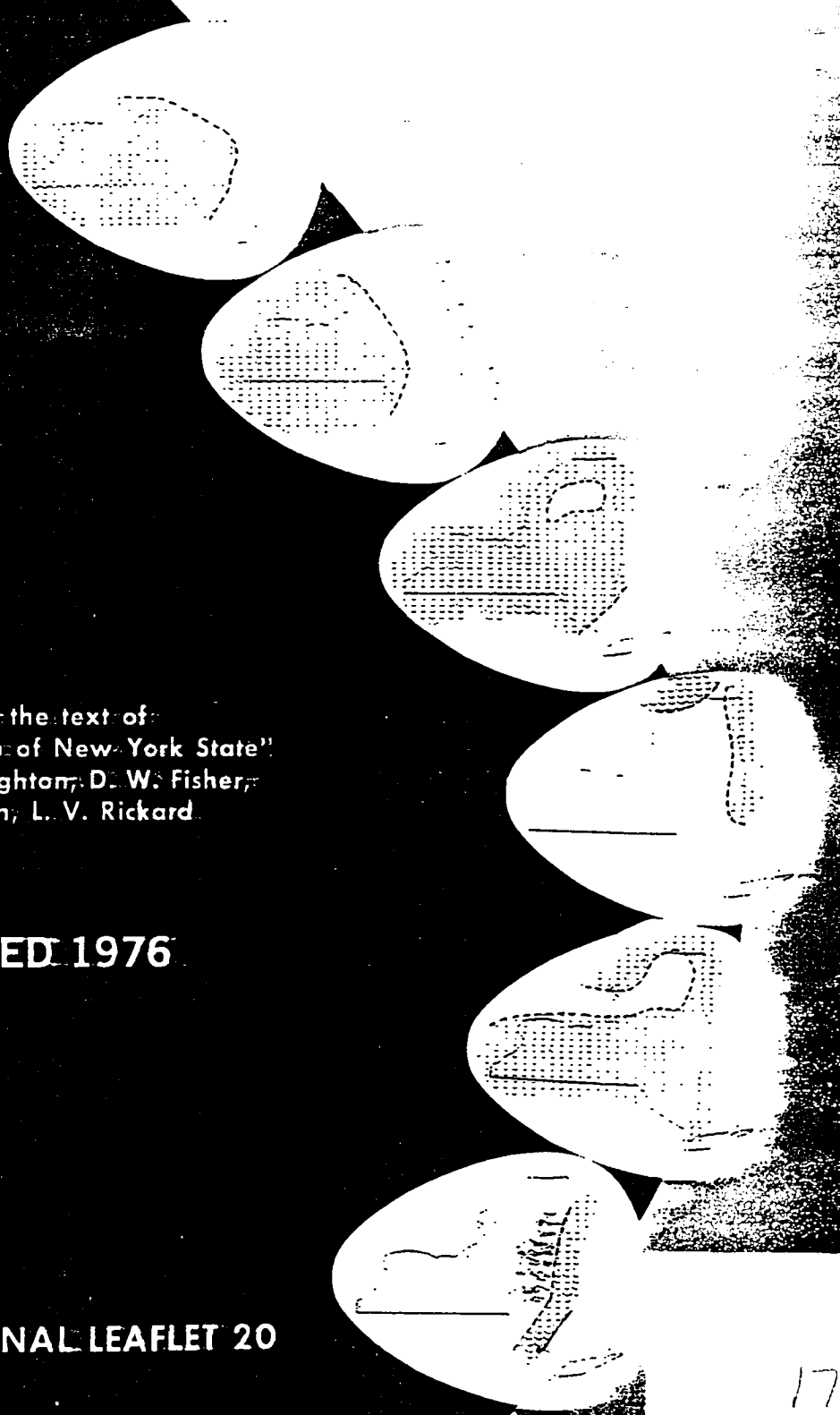
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The site inspection results indicate a fire/explosion hazard and the potential for waste migration off site due to contaminated soils from surface to a 2-foot depth. This creates a potential direct contact hazard, should contaminants migrate off site.

REFERENCE E-9

Geology of New York



adapted from the text of:
"Geologic Map of New York State"
by J. G. Broughton, D. W. Fisher,
Y. W. Isachsen, L. V. Rickard

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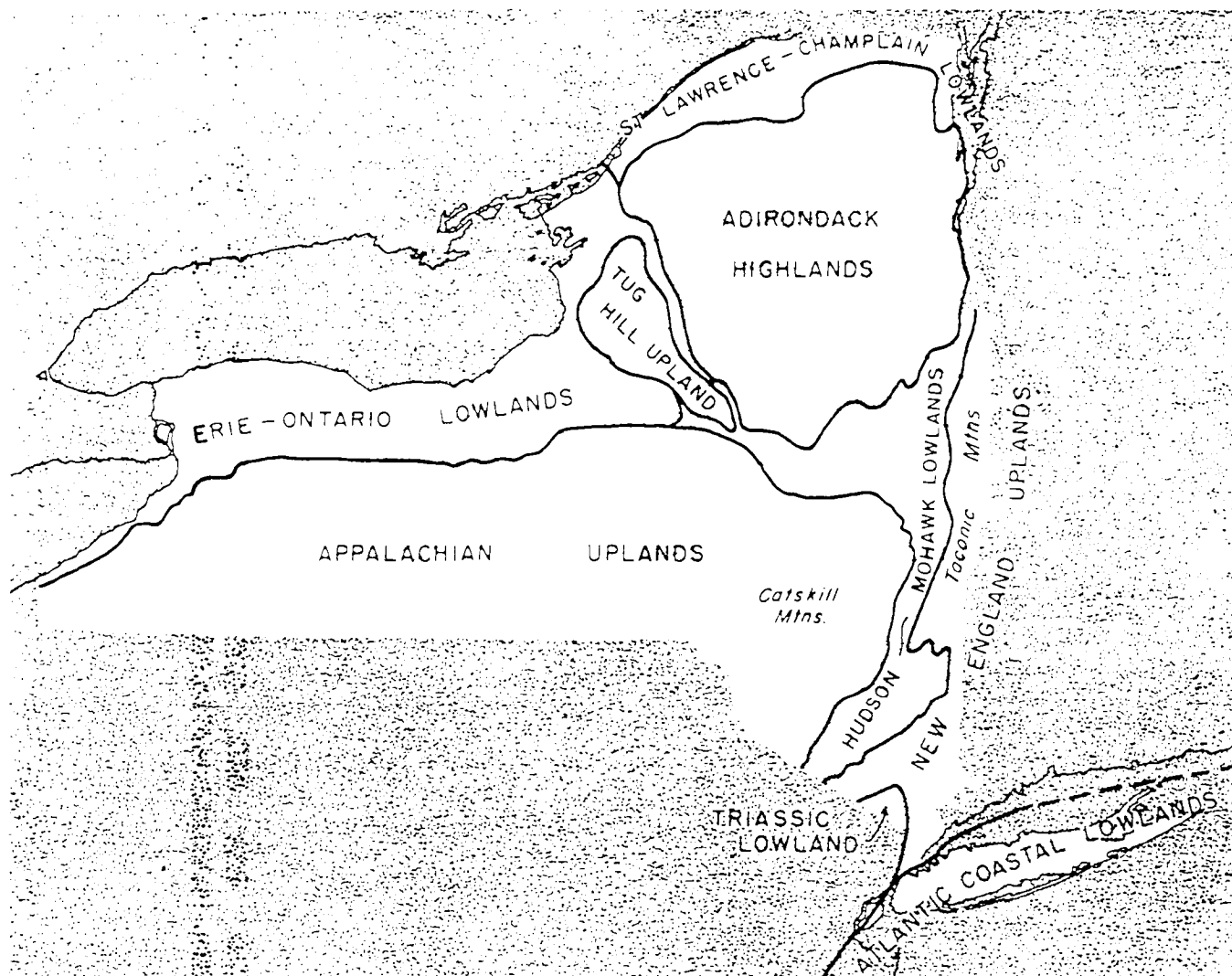


FIGURE 19. Physiographic provinces of New York, based on relief and geology (Modified after G. B. Cressey, 1952)

Cenozoic Era

PHYSIOGRAPHIC PROVINCES AND TERTIARY HISTORY

The physiographic provinces of New York are shown in figure 19. Modern landscapes of the State were shaped largely during the Cenozoic Era, the most recent 65 million years of geologic history. Although the overall features later would be modified and blurred by glaciation, the broad outlines of modern mountain, valley, and plain first were carved by the unrelenting rush of water to the earlier Cenozoic seas.

The long sequence of erosion presumably began with the arching of the Jurassic Fall Zone erosion surface in

mid-Cretaceous time. As its eastern flank dipped beneath the encroaching Atlantic Ocean to receive Coastal Plain deposits, the axis domed sufficiently to initiate the sculpture of the Appalachians and Adirondacks. Few, if any of today's land forms can be traced so far back, however. Most researchers believe that all the exposed remnants of the dissected Fall Zone surface were obliterated by subsequent erosion.

South of New York, at least a partial record of Tertiary geology persists in the Coastal Plain deposits. In addition to a sedimentary record, datable igneous intrusions cut rocks of varying degrees of deformation in the western states. But in New York, no such tangible evidence of Cenozoic events exists. The Coastal Plains sediments derived from the long-continued degradation of New York and New England now rest on the Continental

Appalachian Uplands

The Appalachian Uplands (the northern extreme of the Appalachian Plateau) were formed by dissection of the uplifted but flat lying sandstones and shales of the Middle and Upper Devonian Catskill Delta (figure 17). The southeastern border of the province, between Kingston and Port Jervis, is formed by the Silurian Shawangunk Conglomerate. Relief is high to moderate. Maximum dissection is in the Catskill Mountain area, where only the mountain peaks approximate the original plateau surface. (Slide Mountain, at 4,202 feet, is the highest peak.) Farther west, the plateau surface is represented by flat-topped divides. Except for Cattaraugus Creek, the Genesee River, the Finger Lakes, and minor streams along the Catskill front, drainage generally is southwest into the Allegheny, Susquehanna, and Delaware River systems.

The northern edge of the province is cut by the Finger Lake troughs, which are glacially modified valleys of preglacial rivers (figure 20). At least two of the lakes (Cayuga and Seneca) have bedrock floors below sea level. Glacial cover generally is thin, although deposits in some north-south valleys are so thick that they are completely buried. The major eastwest drainage divide of central New York, the Valley Heads Moraine, is a recessional moraine south of the present Finger Lakes. Only the Alleghany State Park area has escaped glaciation (figure 21).

New England Uplands

Another diverse and geologically complex province is the New England Uplands. To the south it includes the Hudson Highlands and the area underlain by the New York City Group; farther north it encompasses the hilly country (Taconic Mountains) between the Hudson River and the Connecticut, Massachusetts, and Vermont borders. Rocks in the New England Uplands are either metamorphic or igneous, and land forms are closely related to their durability.

Maximum relief is in the Hudson Highlands, where elevations range from 800 feet below sea level (bedrock of the Hudson River Valley) to more than 1,500 feet. Strong topographic linearity characterizes the Hudson Highlands; most of the ridges and valleys follow the northeast-southwest strike of the metamorphosed rocks.

Although the rocks of the New York City Group do not show a similar regularity of trend, here, too, the geology and topography are closely related.

The general north-south trend of the Taconic Mountains depends on the strike of the schist (which forms the hills) and the limestone in the valleys. The Rensselaer Plateau, which is held up by the resistant Rensselaer

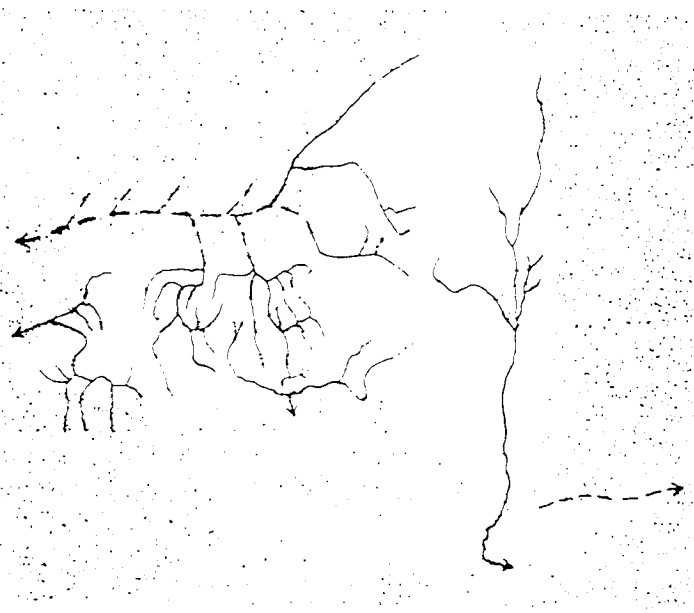


FIGURE 20. Hypothetical Tertiary drainage systems

Graywacke, is an exception. Its rolling surface, with a relief of about 500 feet, is approximately 20 miles long (north-south) by 9 miles wide (east-west). The Taconic Mountains generally are considered to be bounded on the west by the Chatham thrust and on the east by the limestone valley lying just west of the Green Mountains and the Berkshires.

The entire province has been glaciated.

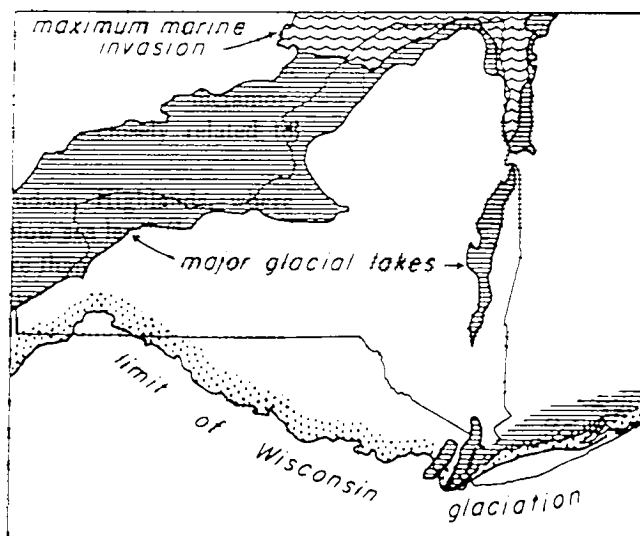


FIGURE 21. Pleistocene features, including maximum extent of Wisconsin glaciation, areas inundated by major lakes and by marine invasions

REFERENCE E-10



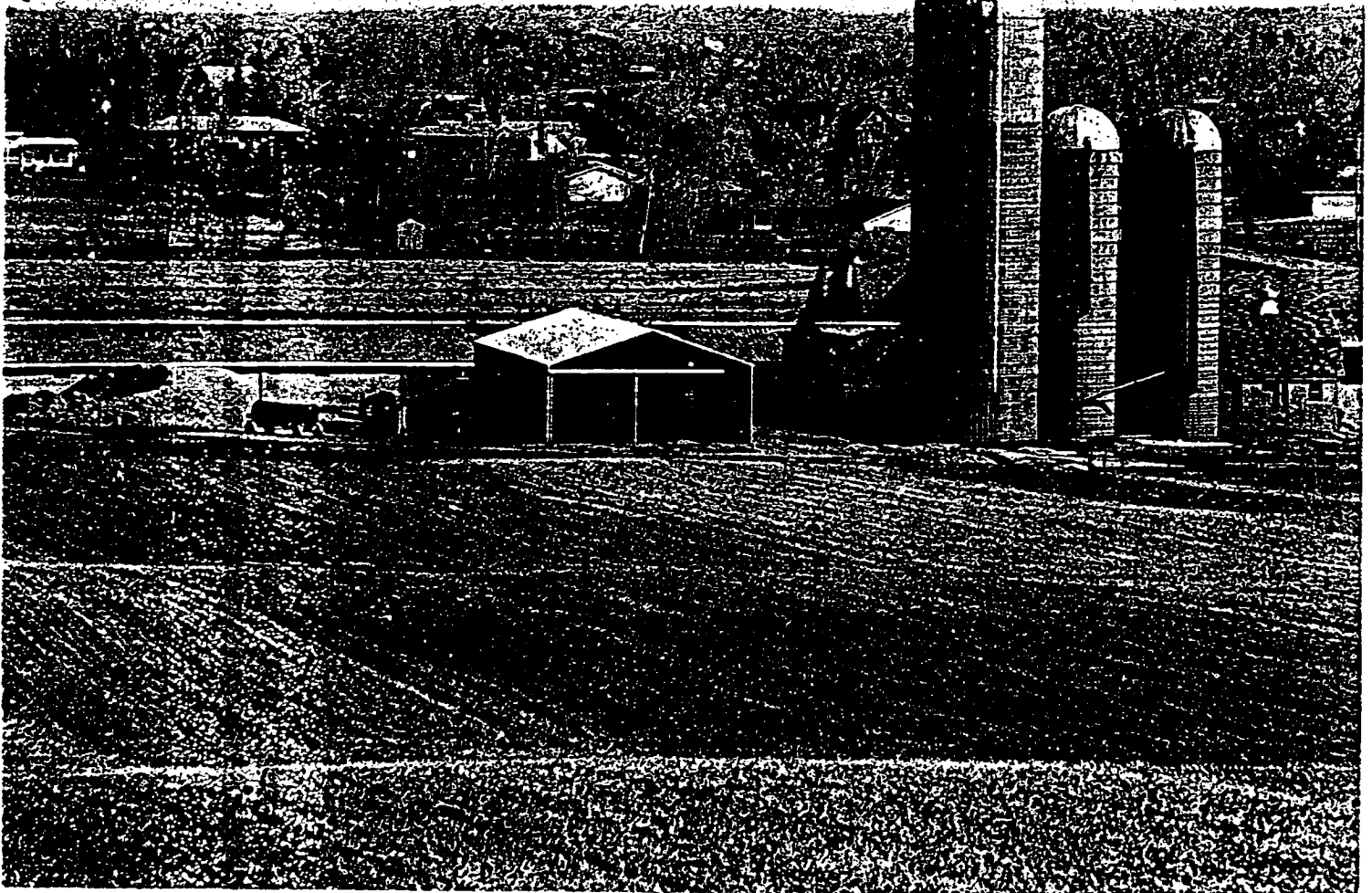
United States
Department of
Agriculture

Soil
Conservation
Service

In Cooperation with
the Cornell University
Agricultural
Experiment Station

Soil Survey of Erie County, New York

PROPERTY OF
BUNN GEOSCIENCE CORP.



28. SCHOHARIE, NEARLY LEVEL

Deep, moderately well drained and well drained, clayey soils, on lowland plains

This unit consist of nearly level to sloping soils on the lowland plain in the northern part of the county. The landscape is dissected by streams that drain the area. The dissecting streams increase the rate of removal of surface runoff and allow these soils to be drier than nearby somewhat poorly drained Odessa soils. Slope ranges from 0 to 15 percent but is dominantly 0 to 8 percent.

This unit covers about 7,700 acres or 1.2 percent of the county. Schoharie soils make up 70 percent of the unit and soils of minor extent the remaining 30 percent.

Schoharie soils formed in red-colored, lake-laid sediments that have a high content of clay. These soils are moderately well drained or well drained, and have a seasonal high water table perched in the lower part of the subsoil for brief periods during early spring. The rate of water movement (permeability) through the soil is slow or very slow. The Schoharie soils have few or no rock fragments, and commonly are neutral in reaction in the subsoil.

Soils of minor extent are those of the Collamer, Claverack, Cayuga, Odessa, and Teel series. Collamer soils are in areas dominated by silty soils; Claverack soils occur where a sandy mantle overlies the clayey sediment; and Cayuga soils occur where loamy glacial till is within 40 inches of the soil surface. Somewhat poorly drained Odessa soils are on foot slopes and other moderately low areas. Teel soils occur on floodplains along major streams that dissect areas of this unit.

Many areas once used for farming are now idle. Some areas are subject to urban encroachment. Slow permeability, clayey texture, and temporary seasonal wetness are important soil characteristics to consider for most uses. These soils are quite erosive, very sticky when wet, and hard and cracked when dry.

V. DEEP SOILS FORMED IN GLACIO-FLUVIAL DEPOSITS

The general soil units in this group are mainly on terraces, outwash fans and kames in valleys, and on a few areas of beach ridges and outwash plains on lowlands. There are five units in this group, and they cover about 9.9 percent of the county.

The soils in these units formed in stream-laid deposits or beach deposits having a high content of sand and gravel. The dominant soils in most of the units are excessively drained to moderately well drained. Most of the units have gently sloping or nearly level landscapes. One unit on kame deposits is mostly moderately steep and has complex slopes. Many areas of this group of units are cleared and used for farming. Only the moderately steep and steeper soils, and somewhat poorly drained and wetter soils are left idle, pastured, or in forest. Most areas are sources of gravel, and some areas provide good sites for urban development.

44. URBAN LAND-SCHOHARIE, NEARLY LEVEL,
Nonsoil areas, and deep, well drained and moderately well drained,
clayey soils, on lowland plains

This unit occurs in residential areas that are interspersed with a few open areas containing undisturbed clayey soils. Most of this unit extends from central Buffalo northward through the city of Tonawanda. Slope ranges from 0 to 8 percent but is dominantly 0 to 3 percent.

This unit covers about 6,400 acres or 1.0 percent of the county. Urban land accounts for 65 percent of the unit, Schoharie about 25 percent, and soils that are minor in extent make up the remaining 10 percent.

The Urban land portion of this unit is covered by streets, sidewalks, driveways, and house foundations. Parking lots and building foundations associated with shopping centers, churches, and schools are also a part of the Urban land areas. All of these sites have had the upper soil layers disturbed or removed. The undisturbed Schoharie soils are moderately well drained and well drained, and formed in gravel-free, lake-laid sediments dominated by clay and silt. A seasonal high water table is perched in the lower part of the subsoil for brief periods in early spring. Rate of water movement (permeability) through the soil is slow or very slow. The undisturbed soil areas are primarily in lawns, home gardens, or parks.

Minor soils are those of the Cayuga, Claverack, and Odessa series. The Cayuga and Claverack soils are similar to Schoharie soils except Cayuga occurs in areas that have loamy glacial till in the substratum and Claverack soils occur where there is a sandy surficial mantle. Somewhat poorly drained Odessa soils are on foot slopes and in other moderately low areas.

The portion of this unit in the Buffalo area has a slightly higher housing density than the portion in Tonawanda. Brief seasonal wetness, slow or very slow permeability, and clayey textures are the primary soil features to consider for any further development of this unit.

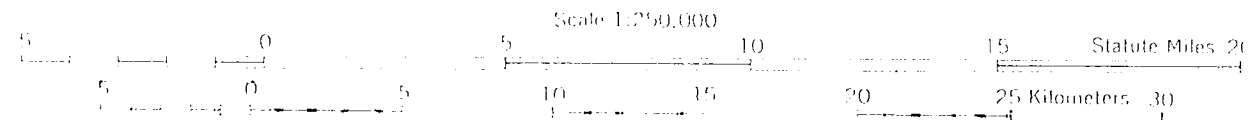
REFERENCE E-11



GEOLOGIC MAP OF NEW YORK

1970

Niagara Sheet

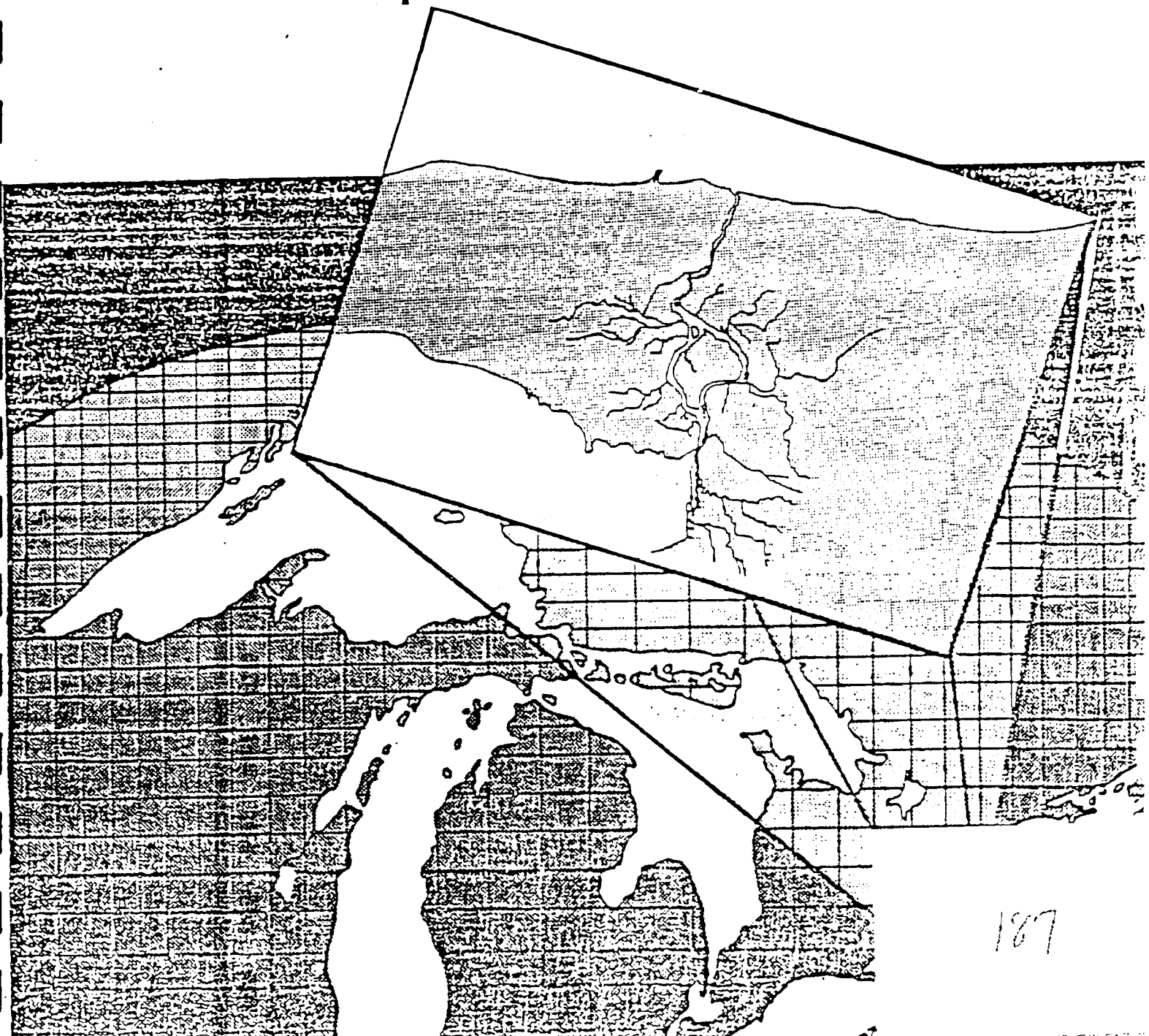


CONTOUR INTERVAL 100 FEET

REFERENCE E-12

EPA

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



General information and contaminant-migration potential.--The Republic Steel landfill, in the southern part of the city of Buffalo, has been used since 1930 for disposal and storage of precipitator dust, clarifier sludge, railroad ties, checker bricks, scrap wood, roll scale, blast-furnace dust, BOF brick, refuse, and miscellaneous debris.

Geologic and preliminary chemical data collected by the U.S. Geological Survey indicate a limited potential for contaminant migration. One water sample indicates contamination by ethylbenzene and phenol. The potential for contaminant migration is indeterminable.

Geologic information.--The site is underlain by a layer of lacustrine sediments ranging in thickness from 8 to more than 20 ft overlying a dense silty till that overlies shale bedrock.

Hydrologic information.--Water levels in five deep monitoring wells during August 1979 and February 1982 are shown in table A-12. The potentiometric surface at those times is depicted in figure A-11; both maps show the general direction of ground-water flow to be westward toward the Niagara River.

Chemical information.--The U.S. Geological Survey collected six ground-water samples from two shallow wells and from four deep wells on the site and a surface-water sample from a drainage ditch. All ground-water samples were analyzed for USEPA priority pollutants; results are given in table A-13. Concentrations of iron in the samples were higher than the USEPA criterion for drinking water or the New York State standard for ground water. Lead was higher than the New York State standard in all samples, and manganese in sample 3A was higher than the standard. Phenol in sample 2A was much higher than the State standard. The samples contained two organic priority pollutants, six organic nonpriority pollutants, and three organic compounds potentially of natural origin.

Table A-12.--Water levels in five deep monitoring wells on Republic Steel, site 148, Buffalo, N.Y.¹ [Well locations are shown in fig. A-11.]

Well number	Water level (feet above sea level)	
	August 1979	February 1982
1	dry	dry
2	579.56	dry
3	580.49	581.57
4	dry	579.93
5	583.10	582.86

¹ August 1979 data from McPhee, Smith, Rosenstein Engineers, P.C. February 1982 data from Malcolm Pirnie Associates.

Table A-13.--Analyses of ground-water and surface-water samples from Republic Steel, site 148, Buffalo, N.Y., July 22-23, 1982.
 [Locations shown in fig. A-11. Concentrations are in ug/L; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)			
	Surface water	Ground water		
	1	2 (24.8)	2A (4.3)	3A (14.9)
pH	7.8	9.2	11.4	8.0
Specific conductance (umho/cm)	1,430	608	2,125	900
Temperature (°C)	27.0	10.2	17.0	10.5
<u>Inorganic constituents</u>				
Aluminum	--	357	662	--
Antimony	--	--	--	--
Arsenic	--	--	14†	--
Barium	224	--	--	532
Beryllium	--	--	--	--
Cadmium	--	--	--	--
Chromium	30	17	37	46
Cobalt	--	--	--	--
Copper	--	--	--	--
Iron	373†	1,080†	829†	2,220†
Lead	53†	51†	36†	40†
Manganese	24	90	72	1,000†
Mercury	--	--	--	--
Nickel	--	--	--	--
Selenium	--	--	--	--
Silver	--	--	--	--
Tin	--	--	--	--
Tellurium	--	--	--	--
Vanadium	--	--	--	--
Zinc	--	26	18	46
<u>Organic compounds</u>				
Priority pollutants				
Ethylbenzene**	--	--	LT	--
Phenol	--	--	40†	--

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

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

** Volatile found in GC/MS extractions. Concentration probably higher than that detected.

Table A-13.--Analyses of ground-water and surface-water samples from Republic Steel, site 148, Buffalo N.Y., July 22-23, 1982 (continued)
 [Locations shown in fig. A-ii. Concentrations are in ug/L; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)			
	Surface water	Ground water		
	1	2 (24.8)	2A (4.3)	3A (14.9)
<u>Organic compounds (continued)</u>				
Nonpriority pollutants				
2,3-Dichloro-2-methyl butane ¹	LT	14	--	--
1,3-Dimethylbenzene ¹	--	24	--	20
3-Hexanol ¹	--	24	--	--
4-Methyl-2-pentanol ¹	--	13	--	--
1-(2-butoxyethoxy)-ethanol ¹	52	370	--	650
			Ground water	
		4 (19.7)	5 (17.7)	5A (4.6)
pH	11.2		7.5	7
Specific conductance (umho/cm)	710		1,025	3,625
Temperature (°C)	10.0		10.5	14.5
<u>Inorganic constituents</u>				
Aluminum	--		--	--
Antimony	--		--	--
Arsenic	--		--	--
Barium	158		--	--
Beryllium	--		--	--
Cadmium	--		--	4
Chromium	39		52	37
Cobalt	--		--	--
Copper	--		--	--
Iron	264		276,000†	23,400†
Lead	20		17	19
Manganese	26		574†	8,520†
Mercury	--		--	--
Nickel	--		--	--
Selenium	--		--	--
Silver	--		--	--
Tin	--		--	--
Tullerium	--		--	--
Vanadium	--		--	--
Zinc	--		17	33

Table A-13.--Analyses of ground-water and surface-water samples from Republic Steel, site 148, Buffalo N.Y., July 22-23, 1982 (continued)
 [Locations shown in fig. A-11. Concentrations are in ug/L; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)		
	Ground water		
	4 (19.7)	5 (17.7)	5A (4.6)
<u>Organic compounds</u>			
Nonpriority pollutants			
1,3-Dimethylbenzene ¹	—	5.6	—
Cyclohexanol ¹	16	LT	--
Hexahydro-2H-azepho- 2-one ¹	25	—	--
1-(2-butoxyethoxy)- ethanol ¹	—	150	—
Cyclohexanone ¹	78	—	--
2-Hexanone ¹	--	LT	--

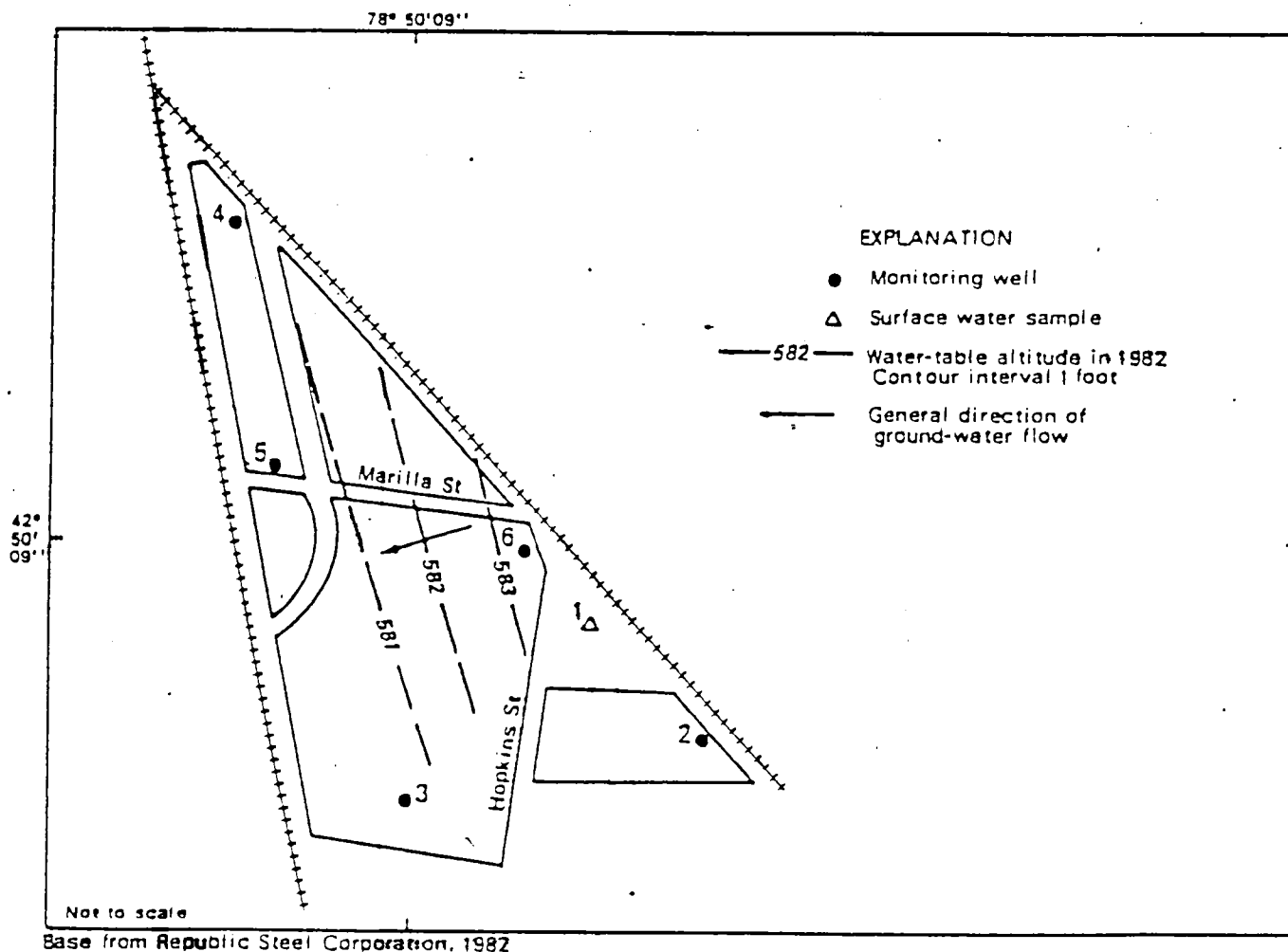


Figure A-11. Potentiometric surface and location of sampling holes at Republic Steel, site 148, Buffalo, August 1979 and February 1982.

General information and contaminant-migration potential.--The Alltift Landfill, a 25-acre area south of the city of Buffalo, has been a disposal site since the 1950's. From the 1950's to the early 1970's, the site was used to dispose of bulk loads of dye, oil sludges, phenolic compounds, chrome sludge, copper sulfate, nitrobenzene, monochlorobenzene, and naphthalene. The amount of material deposited is unknown.

The landfill was inactive from the early 1970's to the late 1970's. Since then it has been used for the disposal of auto-demolition shredder waste, core sands, fly ash, and sand waste at a rate of 40,000 to 60,000 yd³/yr. The disposal area is now in the northern third of the site (fig. A-12).

Chemical data suggest that inorganic contaminants are migrating through the clay unit. The concentration of phenols, arsenic, mercury, chlorides, and sulfates in the zone above the clay greatly exceed ground-water standards; therefore, the potential for contaminant migration would become major if the contaminants were to move through the clay and into the lower aquifer.

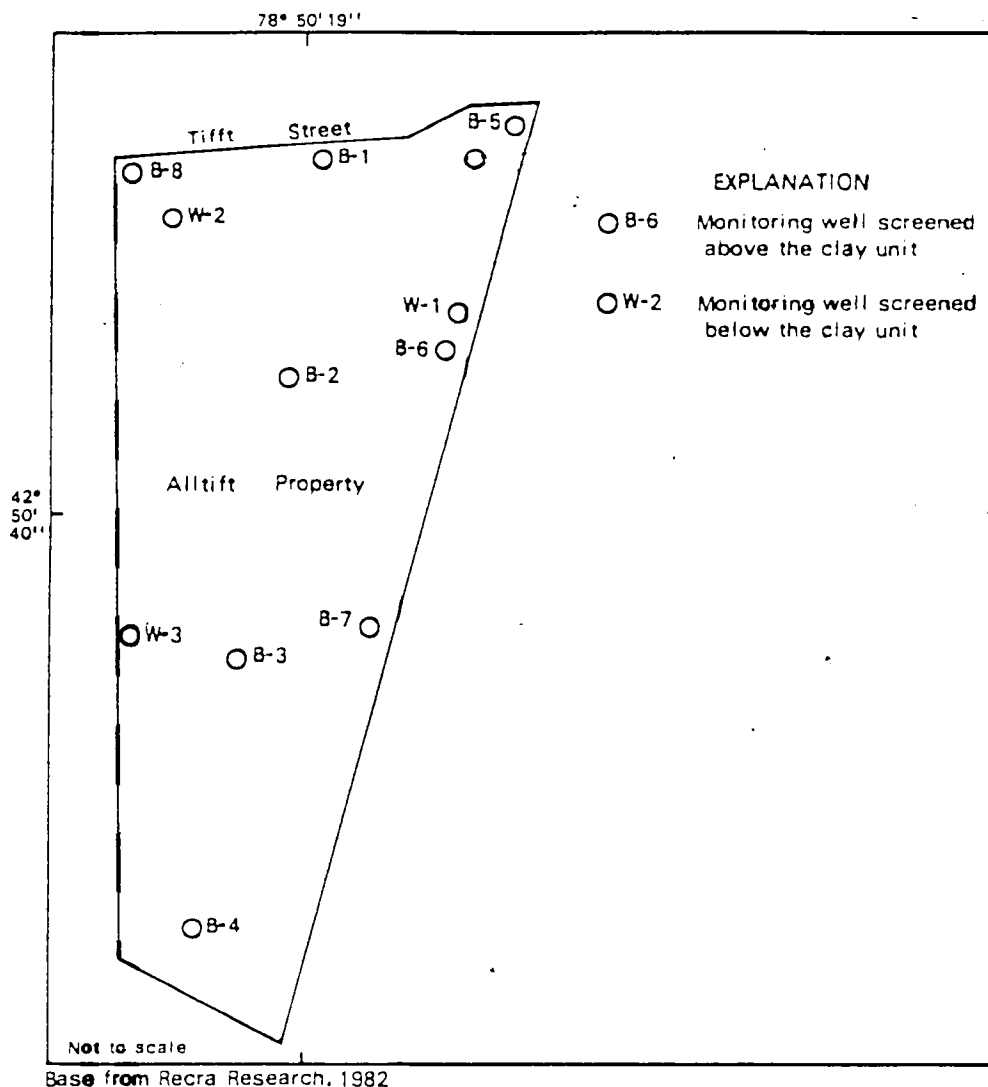


Figure A-12. Location of sampling holes at Alltift Landfill, site 162, Buffalo.

Geologic information.--The site consists of alluvium and fill of recent age underlain by till and lacustrine clay, which are in turn underlain by limestone and shale of Devonian age. Two consulting reports--Wehran Engineering and Recra Research (1978) and Recra Research (1982)--discuss these units in detail and include geologic cross sections. A generalized geologic column is shown in figure A-13.

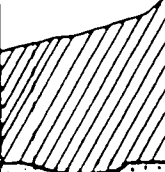

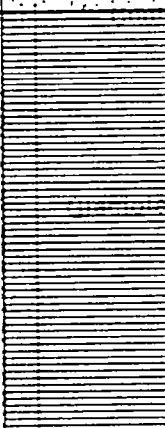

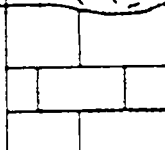

PERIOD	PERIOD	FORMATION	COLUMNAR SECTION	THICKNESS IN FEET	CHARACTER
QUATERNARY	RECENT	Fill		0-18	Refuse, wood, concrete, cinders, fly ash, decomposed vegetation, sand, metal fragments; highly permeable
		Unconformable			
	Alluvium		0-6	Fine sand, silt; Marginally permeable	
	Conformable				
	PLEISTOCENE (WISCONSIN AGE)	Glaciolacustrine clay		6-43	Grey varved clay, occasional laminations of silt or fine sand, stiff at upper contact, soft to very soft below; highly impermeable
	Conformable				
	Basal glaciolacustrine/ glacial till		0-12.5	Clayey silts, some sand and gravel; marginally permeable	
	Unconformable				
DEVONIAN		Skaneateles formation: Stafford limestone member		<15	Grey limestone
		Marcellus formation: Oatka Creek shale member		30-55	Black calcareous shale

Figure A-13. Generalized geologic column of formations underlying the Alltft Landfill, site 162, Buffalo. (Site location is shown in fig. A-12. Modified from Recra Research, Inc., 1982.)

Hydrologic information.--A water-table map of the shallow fill and alluvium by Wehran and Recra (1978) indicates a ground-water mound near the eastern boundary of the site. Water levels in the eight borings used to construct the map ranged from 580.8 to 584.8 ft above NGVD. This mound is probably the result of the relatively impermeable glaciolacustrine clay, which inhibits vertical flow and causes water infiltrating from the surface soils and alluvium to move laterally away from the site.

Permeability tests on two samples of the glaciolacustrine clay by Wehran and Recra (1978) indicated permeabilities of 5.8×10^{-8} cm/s and 6.4×10^{-8} cm/s. The report concluded that the permeability of the clay was sufficiently low to prevent vertical migration of contaminants from the upper unconsolidated water-bearing zone to the lower aquifers.

In 1982, the site owner drilled four borings to the upper part of the bedrock aquifer, collected water-level data, and constructed a potentiometric-contour map. The potentiometric surface slopes gently northward and ranges from 576.3 ft to a low of 574.9 ft above NGVD. Comparison of the water-table and potentiometric-surface maps indicates that the heads beneath the clay are lower and that a vertical flow component is present; however, the rate of movement through the unit would be slow. Additional data would be needed to define the vertical ground-water gradients at the site.

Chemical information.--In 1978, the site owner collected seven ground-water samples from wells screened above the glaciolacustrine clay for inorganic constituent analysis; results are given in table A-14.

In 1982, the site owner drilled four wells screened below the clay and collected water samples for chemical analysis. Well locations are shown in fig. A-12. The samples were analyzed by Recra Research; results are given in table A-15.

Sources of data

Wehran Engineering and Recra Research, Inc., 1978, Hydrogeological investigation of Alltift Landfill, Buffalo, N.Y.: 50 p., 1 appendix, 2 maps, 5 figs., 10 tables.

Recra Research Inc. and Sodarholm Engineering, 1980, Part 360 application for permit to operate a solid waste management facility; Buffalo, N.Y.: Alltift Company, Inc., 22 p., 1 appendix.

Recra Research Inc., 1982, Supplemental hydrogeological investigation, Buffalo, N.Y.: Alltift Company, Inc., 17 p., 1 appendix, 3 tables, 1 fig., 3 prints.

Table A-14.—Analyses of ground-water samples from wells screened above glaciolacustrine clay at the Alltift landfill, site 162, Buffalo, N.Y., July 1978¹
 [Locations shown in fig. A-13. Concentrations are in µg/L except as indicated. NV indicates that value was not reported.]

Constituent or characteristic	Sample number			
	B1	B2	B4	B5
pH	7.28	7.47	6.43	7.10
Specific conductance (µmho/cm at 25°C)	6,000	21,000	11,000	4,000
Dissolved oxygen	5,800	4,300	7,200	4,200
Biochemical oxygen demand, 5-day	359,000	7,020,000	96,500	242,000
Chemical oxygen demand	489,000	2,580,000	593,000	291,000
Coliform, total (organisms/100mL)	130	24,000	230	130
Ammonia, as nitrogen	77,600	1,930,000	73,9000	61,200
Nitrate, as nitrogen	<100	<500	<500	120
Nitrite, as nitrogen	50	50	50	80
Total kjedahl nitrogen, as nitrogen	91,900	1,490,000	106,000	69,200
Phosphate, total (as phosphorous)	556	1,290	44	86
Sulfate	86,300	441,000	2,660,000	387,000
Detergent (Methylene blue active substances)	160	50	190	150
Phenols	37	696	50	20
Alkalinity as CaCO ₃	2,280,000	8,270,000	915,000	1,530,000
Total solids	4,410,000	30,000,000	9,590,000	2,990,000
Color (platinum-cobalt units)	500	NV	200	150
Hardness, total	665,000	1,250,000	2,260,000	665,000
Chlorides	3,630,000	8,450,000	3,880,000	730,000
Total organic carbon	950,000	1,400,000	313,000	110,000
Total halogenated hydrocarbons, as Cl	8.42	38.4	1.32	1.24
PCB	<1.0	<1.0	<1.0	<1.0
Aluminum, total	260	50	240	60
Arsenic, total	6.3	131	<4	5.1
Chromium, total	14	546	<3	10
Chromium, hexavalent	<10	40	<10	<10
Copper, total	<3	26	15	210
Lead, total	<30	<30	<30	<30
Mercury, total	<1.3	3.8	<1.3	<1.3
Potassium, total	98,000	908,000	146,000	118,000
Sodium, total	1,060,000	3,080,000	2,020,000	840,000
Calcium, total	214,000	54,000	760,000	146,000
Silver, total	<2	<2	<2	<2
Iron, total	280	2,430	5,080	160

¹ Data from Wehran Engineering and Recra Research, 1978.

Table A-14.--Analyses of ground-water samples from wells screened above glaciolacustrine clay at the Ailtift landfill, site 162, Buffalo, N.Y., July 1978¹ (continued)
 [Locations shown in fig. A-13. Concentrations are in ug/L except as indicated. NV indicates that value was not reported.]

Constituent or characteristic	Sample number		
	B6	B7	B8
pH	7.34	8.00	7.70
Specific conductance (25°C) (µmho/cm)	5,400	7,900	6,000
Dissolved oxygen	6,200	NV	NV
Biochemical oxygen demand, 5-day	605,000	NV	NV
Chemical oxygen demand	379,000	780,000	499,000
Coliform, total (organisms/100mL)	24,000,000	NV	NV
Ammonia, as nitrogen	107,000	259,000	113,000
Nitrate, as nitrogen	<100	<100	<100
Nitrite, as nitrogen	50	70	120
Total kjedahl nitrogen, as nitrogen	125,000	NV	NV
Phosphate, total (as phosphorus)	130	NV	44
Sulfate	240,000	NV	299,000
Detergent (Methylene blue active substances)	30	NV	30
Phenols	30	89	71
Alkalinity as CaCO ₃	1,760,000	2,250,000	2,390,000
Total solids	4,950,000	6,100,000	6,100,000
Color (platinum-cobalt units)	200	NV	700
Hardness, total	594,000	NV	536,000
Chlorides	1,010,000	2,070,000	1,430,000
Total organic carbon	488,000	NV	538,000
Total halogenated hydrocarbons, as Cl	3.33	NV	NV
PCB	<1.0	NV	NV
Aluminum, total	<30	<30	40
Arsenic, total	21.3	15.4	12.2
Chromium, total	6	16	12
Chromium, hexavalent	<10	10	10
Copper, total	5	10	14
Lead, total	<30	<30	<30
Mercury, total	<1.3	10.7	NV
Potassium, total	128,000	182,000	118,000
Sodium, total	1,140,000	1,560,000	1,300,000
Calcium, total	190,000	56,000	18,000
Silver, total	<2	<4	3
Iron, total	30	460	20

¹ Data from Wehran Engineering and Recra Research, 1978.

Table A-15.—Analyses of ground-water samples from four wells screened below glaciolacustrine clay at Alltft landfill, site 162, Buffalo, N.Y., May 1982¹
 [Locations are shown in fig. A-13. Concentrations are in µg/L unless otherwise indicated; LT indicates constituent or compound was found but below quantifiable detection limit.]

Characteristic	Sample number			
	W-1	W-2	W-3	W-4
Ammonia, as nitrogen	2,500	950	740	2,100
Nitrate, as nitrogen	<50	120	<50	170
Biochemical oxygen demand, 5-day	10,000	6,000	<5,000	<5,000
Chemical oxygen demand	16,000	24,000	11,000	23,000
Total kjedahl nitrogen, as N	4,400	2,200	1,700	2,800
Sulfate	29,000	52,000	45,000	54,000
Methylene blue active substances	29	<20	72	160
Total recoverable phenolics	<10	<10	<10	<10
Alkalinity (pH 4.5), as CaCO ₃	590,000	310,000	350,000	700,000
Total filterable residue (180°C)	1,000,000	480,000	540,000	890,000
pH	7.73	8.11	7.99	12.31
True color (Platinum-cobalt units)	15	15	17.5	2.5
Total hardness, as CaCO ₃	390,000	250,000	270,000	451,000
Chloride	260,000	88,000	83,000	88,000
Odor (Threshold odor number)	1.8	3.2	9.0	1.4
Specific conductance (µmho/cm at 25°C)	1,780	820	822	2,990
Total organic carbon	5,000	4,500	2,500	9,000
Coliform, total (organisms/100mL)	<3	<3	<3	<3
Aluminum, total	4,300	7,300	2,000	2,200
Arsenic, total	LT	LT	LT	LT
Chromium, total	40	50	64	40
Chromium, hexavalent	6	12	8	LT
Cadmium, total	LT	LT	LT	LT
Zinc, total	1,100	803	1,400	109
Selenium, total	LT	LT	LT	LT
Copper, total	100	38	22	40
Lead, total	30	LT	LT	LT
Mercury, total	LT	LT	LT	LT
Sodium, total	540,000	150,000	14,000	18,000
Calcium, total	68,000	46,000	28,000	170,000
Silver, total	LT	LT	LT	LT
Manganese, total	220	230	200	160
Iron, total	88,000	28,000	35,000	54,000
Nitrogen-phosphorus scan (µg/L as nitrogen; N,N'-dimethylaniline standard)	LT	LT	LT	LT

¹ Data from Recra Research (1982).

General information and contaminant-migration potential.--The Empire Waste site, in the northern part of the city of Buffalo, was used for storing sand and slag for resale and also received slag from a metal-castings firm in 1977. The concentrations of copper and zinc in substrates were higher than those in samples collected from undisturbed soils not affected by disposal sites. The potential for contaminant migration is indeterminable.

Geologic information.--The U.S. Geological Survey drilled four test borings on the site; the locations are shown in fig. A-14. The geologic logs are as follows:

<u>Boring no.</u>	<u>Depth (ft)</u>	<u>Description</u>
1	0 - 4.0	Fill, tannish, then black.
	4 - 6.0	Clay, reddish, discolored. to bluish by overlying fill. SAMPLE: 4 ft.
2	0 - 2.5	Topsoil.
	2.5 - 6.5	Clay, reddish, discolored. SAMPLE: 5.0 ft.
3	0 - 1.5	Topsoil, mixed.
	1.5 - 2.5	Black organic wet dirt.
	2.5 - 5.5	Clay, reddish, dry.
	5.5 - 6.5	Clay, greenish, wet. SAMPLE: 5.5 ft.
4	0 - 3.5	Topsoil, becoming black.
	3.5 - 5.5	Organic dirt, black, wet.
	5.5 - 6.5	Clay, greenish. SAMPLE: 5.5 ft.

Hydrologic information.--No hydrologic data were obtained from the site except for moist material encountered between 3.5 and 5.5 ft at an altitude of 595 ft above NGVD.

Chemical information.--The U.S. Geological Survey collected a substrate sample at each borehole for arsenic, cadmium, chromium, copper, iron, lead, mercury, and zinc analyses; results are given in table A-16. The substrate samples had higher concentrations of copper and zinc than samples from the undisturbed areas.

Table A-16.--Analyses of substrate samples from Empire Waste, site 173, Buffalo, N.Y., July 30, 1982.

[Locations shown in fig. A-14. Concentrations are in $\mu\text{g}/\text{kg}$; dashes indicate that constituent or compound was not found.]

	Sample number and depth below land surface (ft)			
	1 (4.0)	2 (5.0)	3 (5.5)	4 (5.5)
<u>Inorganic constituents</u>				
Arsenic	--	--	--	--
Cadmium	1,000	--	1,000	--
Chromium	6,000	4,000	4,000	4,000
Copper	90,000††	17,000	95,000††	41,000††
Iron	23,000,000	13,000,000	17,000,000	38,000,000
Lead	30,000	20,000	100,000	40,000
Mercury	--	--	--	--
Zinc	170,000††	40,000	74,000	39,000

†† Exceeds concentrations in samples taken from undisturbed soils in the Buffalo area. Undisturbed soils were not analyzed for iron.

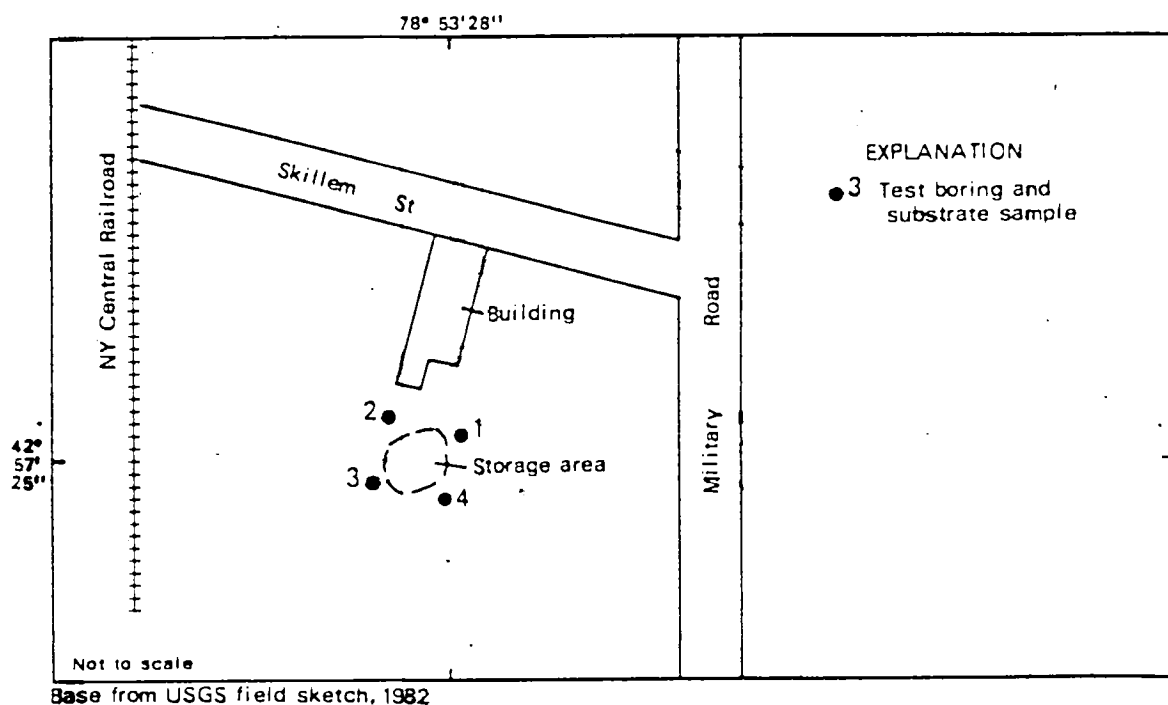


Figure A-14. Location of sampling holes at Empire Waste, site 173, Buffalo.

180. HOPKINS STREET (Literature review)

NYSDEC 915011

General information and contaminant-migration potential.--The Hopkins Street site, in the city of Buffalo, is reported to have been used as a landfill in the early and mid-1970's. Aerial photographs from these years indicate disposal operations to have been small and to have caused no major changes in the physical setting of the site.

No chemical monitoring has been recommended by NYSDEC, and the potential for chemical migration is indeterminable.

Geologic information.--No geologic data are available.

Hydrologic information.--No ground-water data are available. However, comparison of aerial photographs from past years with 1982 field observations indicates a change in drainage and grade; also a pond has formed on the site. The pond is probably perched upon fill or material of low permeability and does not reflect ground-water conditions.

Chemical information.--No chemical data are available.

184. KELLY ISLAND (Literature review)

NYSDEC 915095

General information and contaminant-migration potential.--Kelly Island is a peninsula bounded by the Buffalo River, City Ship Canal, and Ohio Street. Most of the fill consists of demolition material, earth, and cinders. The area was extensively developed before the early 1900's, leaving little room for hazardous-waste-disposal operations.

The site is in direct hydraulic contact with the Buffalo River and the City Ship Canal; thus contaminants, if present, would migrate readily. However, no hazardous waste is known to have been buried at the site; therefore, NYSDEC has not recommended chemical monitoring. The potential for contaminant migration from this site is indeterminable.

Geologic information.--Construction borings from along Ganson Street (pl. 1) indicated a mixture of gravel, sand, silt, clay, cinders, and wood to a depth of 10 ft along the length of the site.

Hydrologic information.--No hydrologic data are available.

Chemical information.--No chemical data are available.

General information and chemical-migration potential.--The Hopkins Street site in the southern part of the city of Buffalo, consists of two parcels of land having different owners. Site information indicates that neither area was used for disposal or lagooning, but NYSDEC received information that burial trenches had been operated on both areas.

Geologic data indicate a limited potential for contaminant migration from the northern property. Vertical migration of contaminants on the southern property is unlikely because the site is underlain by clay. Organic priority pollutants and a high chromium concentration suggest a possibility of contaminant migration, but the potential is indeterminable at this time.

Geologic information.--The two sites consist of 3 to 4 ft of fill and debris underlain by extensive clay. The U.S. Geological Survey drilled six test holes in August 1982 and another six in May 1983. Locations are shown in figure A-23. The geologic logs are as follows:

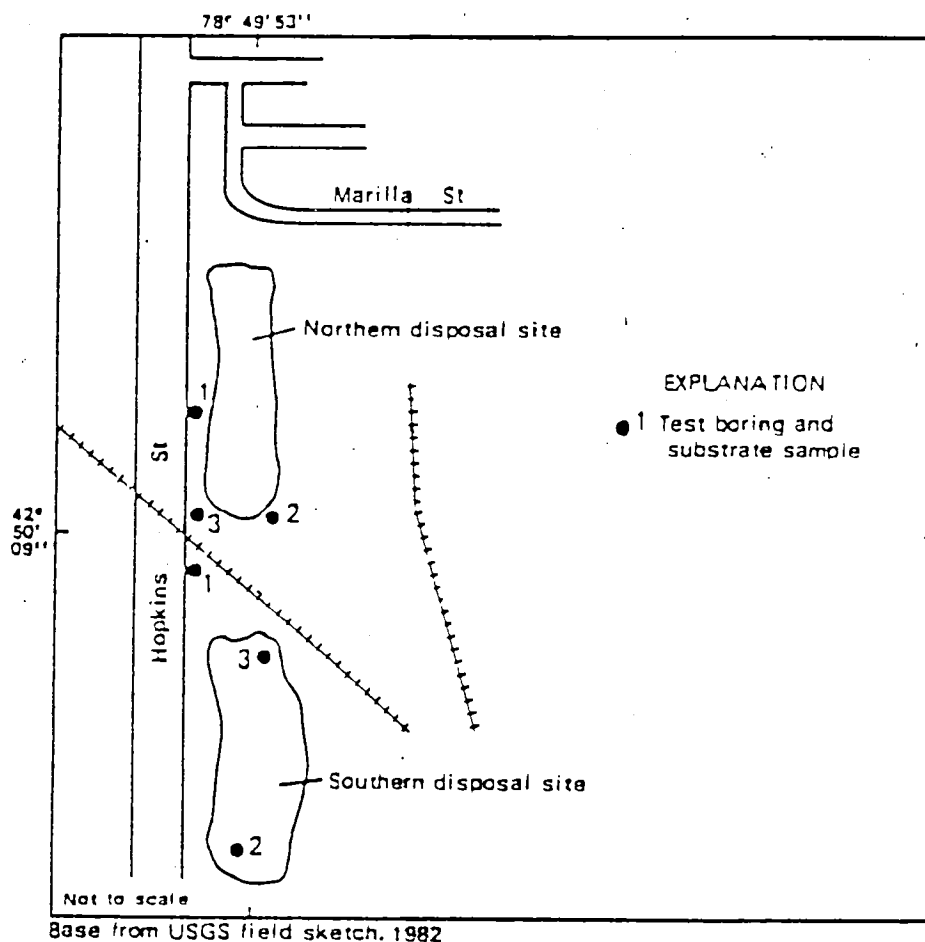


Figure A-23. Location of sampling holes at Allied Chemical, Hurwitz-Ranne Hopkins Street, site 249, Buffalo.

South Property

<u>Boring no.</u>	<u>Depth (ft)</u>	<u>Description</u>
1	0 - 3.5	Topsoil, dark brown.
	3.5 - 4.0	Clay, sand, with oily fluid. SAMPLE: 3.5 ft.
2	0 - 3.0	Fill, slag.
	3.0 - 5.0	Clay, dark green to yellow, wet. SAMPLE: 4 ft.
3	0 - 2.5	Topsoil, gray, gravel, turning. green at 1.0 ft.
	2.5 - 3.0	Clay, greenish, gray. SAMPLE: 2.5 ft.

North Property

<u>Boring no.</u>	<u>Depth (ft)</u>	<u>Description</u>
1	0 - 2.5	Topsoil and fill.
	2.5 - 3.0	Clay, green, tight.
	3.0 - 4.0	Clay, greenish-gray, wet. SAMPLE: 3 ft.
2	0 - 4.0	Fill, debris.
	4.0 - 5.0	Clay, green, wet.
	5.0 - 6.5	Clay, yellow, wet. SAMPLE: 4 ft.
3	0 - 3.0	Fill, debris, black.
	3.0 - 3.5	Hard zone, rock, and gravel.
	3.5 - 4.5	Clay, green, wet.
	4.5 - 6.5	Clay, yellow. SAMPLE: 3.5 ft.

Hydrologic information.--Test-boring data indicate a perched water table within the clay unit 3 to 4 ft below land surface. The altitude of this water table is approximately 580 ft above NGVD.

Chemical information.--The U.S. Geological Survey collected a soil sample from each test boring for chromium, iron, and organic compound analysis; results are given in table A-26. The samples contained 28 organic priority pollutants. The Erie County Department of Environment and Planning sampled the site; PCB's were detected in surface soils.

Table A-26.--Analyses of substrate samples from Allied Chemical (Hurwitz-Ranne) site 249, Hopkins Street, Buffalo, N.Y.

[Locations shown in fig. A-23. Concentrations are in ug/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

	Sample number and depth below land surface (ft)					
	North Property					
	1	2	3			
First sampling (8-11-82)	(3.0)	(4.0)	(3.5)			
<u>Inorganic constituents</u>						
Chromium	30,000	180,000††	340,000††			
Iron	10,000,000	28,000,000	29,000,000			
	South Property					
	1	Duplicate	2	3		
	(3.5)	sample	(4.0)	(2.5)		
Chromium	30,000	(20,000)	180,000††	3,000		
Iron	10,000,000	(10,000,000)	21,000,000	3,700,000		
	Sample number (depths are same as in first sampling)					
	North Property			South Property		
Second sampling (5-18-83)	1A	2A	3A	1A	2A	3A
<u>Organic compounds</u>						
Priority pollutants						
Benzene	LT	19.1**	22.6	3.4	27.9	10.6
Methylene chloride	--	314**	538	--	313	--
Toluene	--	--	LT	--	2.8	--
Heptachlor	--	--	LT	--	--	--
2,4-Dimethylphenol	--	--	--	*	--	--
Phenol	--	--	--	*	--	--
Pentachlorophenol	--	--	--	--	--	* **
Acenaphthene	*	*	*	*	*	*
1,2-Diphenylhydrazine as azobenzene	--	--	--	--	--	*
Fluoranthene	*	* **	*	*	*	*

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

†† Exceeds concentrations in samples from undisturbed soils in the Buffalo area. Undisturbed soils were not analyzed for iron.

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

** Surrogate recoveries were outside the acceptance limits.

Table A-26.—Analyses of substrate samples from Allied Chemical (Hurwitz-Ranne), site 249, Hopkins Street, Buffalo, N.Y. (continued)
 [Locations shown in fig. A-23. Concentrations are in ug/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

Second sampling (continued)	Sample number (depths are same as in first sampling)					
	North Property			South Property		
	1A	2A	3A	1A	2A	3A
<u>Organic compounds (continued)</u>						
<u>Priority pollutants (continued)</u>						
Naphthalene	*	*	*	*	*	*
Bis(2-ethylhexyl) phthalate	*	---	---	---	*	---
Di-n-butyl/phthalate	*	* **	*	*	*	*
Diethyl/phthalate	*	---	---	---	---	---
Di-n-octyl/phthalate	---	---	---	*	---	---
Benzo(a)anthracene	*	* **	*	*	*	*
Benzo(a)pyrene	*	* **	*	*	*	*
Benzo(b)fluoranthene and benzo(k)fluoranthene	*	* **	*	*	*	*
Chrysene	*	* **	*	*	*	*
Acenaphthylene	*	*	*	*	---	---
Anthracene	---	---	---	*	---	---
Benzo(ghi)perylene	*	* **	*	*	*	---
Fluorene	---	*	*	*	---	---
Phenanthrene	---	---	---	*	---	---
Dibenzo(a,h)anthracene	*	* **	*	*	---	---
Indeno(1,2,3-cd)pyrene	*	* **	*	*	*	*
Pyrene	---	* **	*	*	*	*
N-nitrosodiphenylamine	---	---	---	*	---	---
<u>Nonpriority pollutants</u>						
Acetone	---	328**	696	---	---	---
2-Butanone	---	---	165	---	---	---
Carbon disulfide	---	55.5**	100	13.4	121	---
O-xylene	---	31.2**	---	---	---	---
4-Methylphenol	---	---	---	*	*	---
Dibenzofuran	*	*	*	*	*	*
2-Methylnaphthalene	*	*	*	*	*	*
2-Hexanone	---	---	---	---	*	*
4-Methyl-2-pentanone	---	---	---	---	*	---
Tetrahydrofuran ¹	---	*	*	---	---	---
3,2,1-Bicyclooctane ¹	---	*	---	---	---	---
2-Methylphenol	---	---	---	*	---	---
Cis-octahydropentelene ¹	---	*	---	---	---	---
Cis-1,2-dimethylcyclohexane ¹	---	*	---	---	---	---
Ethylcyclohexane ¹	---	*	---	---	---	---
2,6,6-Trimethyl-(3.1.1) bicyclo-hept-2-ene ¹	---	*	---	---	---	*

Table A-26.--Analyses of substrate samples from Allied Chemical (Hurwitz-Ranne) site 249, Hopkins Street, Buffalo, N.Y. (continued)
 [Locations shown in fig. A-23. Concentrations are in ug/kg; dashes indicate that constituent or compound was not found, LT indicates it was found but below the quantifiable detection limit.]

Second sampling (continued)	Sample number (depths are same as in first sampling)					
	North Property			South Property		
	1A	2A	3A	1A	2A	3A
<u>Organic compounds (continued)</u>						
<u>Nonpriority pollutants (continued)</u>						
6,6-Dimethyl-2-methylene-bicyclo-(3.1.1)-heptane ¹	--	*	--	--	--	--
1,2,3-Trimethylcyclohexane ¹	--	*	--	--	--	--
2-Methylnaphthalene ¹	--	--	--	*	--	--
1,8-Dimethylnaphthalene ¹	--	--	--	*	--	--
Carbazole ¹	--	--	--	*	--	--
3-Methylphenanthrene ¹	--	--	--	*	--	--
9-Methylphenanthrene ¹	--	--	--	*	--	--
2-Phenylnaphthalene ¹	--	--	--	*	--	--
1-Methylpyrene ¹	--	--	--	*	--	--
7-Methyl-benzo(a)-anthracene ¹	--	--	--	*	--	--

253. SMALL BOAT HARBOR CONTAINMENT SITE (USGS field reconnaissance)

General information and contaminant-migration potential.--This site lies along Lake Erie south of the Small Boat Harbor in the city of Buffalo and is operated by the Niagara Frontier Transportation Authority. The site was used for disposal of dredge spoils from the Buffalo River, Buffalo Harbor, and the Black Rock Canal (fig. A-24). This site was the first of three containment sites constructed and was a prototype for other containment sites--Times Beach (site 241) and Buffalo Harbor (site 254).

If the barrier is similar to the one at the Times Beach containment site (site 241), it would not prevent water from entering or leaving the site, and any leachate produced within the site would readily enter Buffalo Harbor. Therefore, this site has potential for contaminant migration. Additional water quality monitoring would be needed to define the rate of contaminant migration.

Geologic information.--The dredged sediments on the area consist of sand, silt, and clay. The underlying bedrock is Onondaga Limestone overlain by natural lake deposits of silt and clay.

Hydrologic information.--The U.S. Geological Survey installed three monitoring wells in the area in 1982. The well data and geologic logs are as follows:

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ENVIRONMENTAL ACTION