A-2

AKZO NOBEL

Polymer Chemicals

September 1, 1995

Mr. Paul D. Eismann
Deputy Permit Administrator
New York State Department of
Environmental Conservation
Division of Regulatory Affairs
270 Michigan Avenue
Buffalo, New York 14203

RE: RFI Task I - Description of Current Conditions Report
Akzo Nobel Chemicals Inc., Burt, NY
DEC ID 9-2928-00001/00003-0

Dear Mr. Eismann:

Per the requirements of 6NYCRR Part 373 Permit Module III Condition E.5(d), enclosed is the RFI Task I Report on Current Conditions for the SWMUs and AOC determined to need an RFI per the RFA Sampling Visit Report dated December 15, 1994.

Should you have any questions regarding this submittal, please contact me.

Sincerely,

Akzo Nobel Chemicals Inc.

Pamela J. Cook
Plant Environmental Engineer

cc: F. Shattuck/T. Moskal - Region 9 Hazardous Substances Remediation
K. Gupta/P. Counterman - Division of hazardous Substances Remediation
W. Palomino - USEPA Region II
J. Devald - Niagara County Health Department
J. Worobey
J. Miller

Akzo Nobel Chemicals Inc
2153 Lockport-Olcott Road
Burt, New York 14028
Tel (716) 778 8554
Fax (716) 778 7930

TRC Environmental Corporation

RCRA Facility Investigation
Description of Current Conditions Report

Prepared for:

AKZO NOBEL

Akzo Nobel Chemicals Inc.
Burt, New York

Prepared by:

TRC Environmental Corporation
Boott Mills South
Foot of John Street
Lowell, Massachusetts 01852
(508) 970-5600

September 1995

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1.0 INTRODUCTION

Akzo Nobel Chemicals, Inc. (Akzo) is currently operating its Burt, New York, facility under a 6 New York Code of Rules and Regulations (NYCRR) Part 373 Permit; therefore, it is subject to Corrective Action (CA) under 6 NYCRR Section 373 - 2.6. The CA module (Module III) of the 6 NYCRR Part 373 Permit requires initiation of corrective action to evaluate releases to the environment that have or may have occurred from past waste management activities.

TRC Environmental Corporation (TRC) has been retained by Akzo to develop and implement a RCRA Facility Investigation (RFI) to sample six solid waste management units (SWMUs) and one area of concern (AOC) at Akzo's Burt, New York facility. This Current Conditions Report, which is required under Task I of the 6 NYCRR 373 Permit Appendix III-B, summarizes the available and relevant information and data on the facility's background, SWMU/AOC contamination, and receptors. It also summarizes data that has been collected in previous investigations.

Groundwater Technology, Inc. (GTI) had been retained by Akzo to perform a RCRA Facility Assessment-Sampling Visit (RFA-SV). As directed in the Final RFA-SV Work Plan, dated June 23, 1994, and approved by New York State Department of Environmental Conservation (NYSDEC) Project Manager Thaddeus E. Moskal, PE, twenty-five SWMUs/AOCs were either sampled or tested for integrity during the RFA-SV. The RFA-SV report was prepared to meet Module III, Condition E.4 (a) of the 6 NYCRR Part 373 Permit. The RFA-SV report compared site sampling data with NYSDEC and EPA RCRA action levels and made recommendations for no further action on 18 of the 25 SWMUs/AOCs.

2.0 FACILITY BACKGROUND

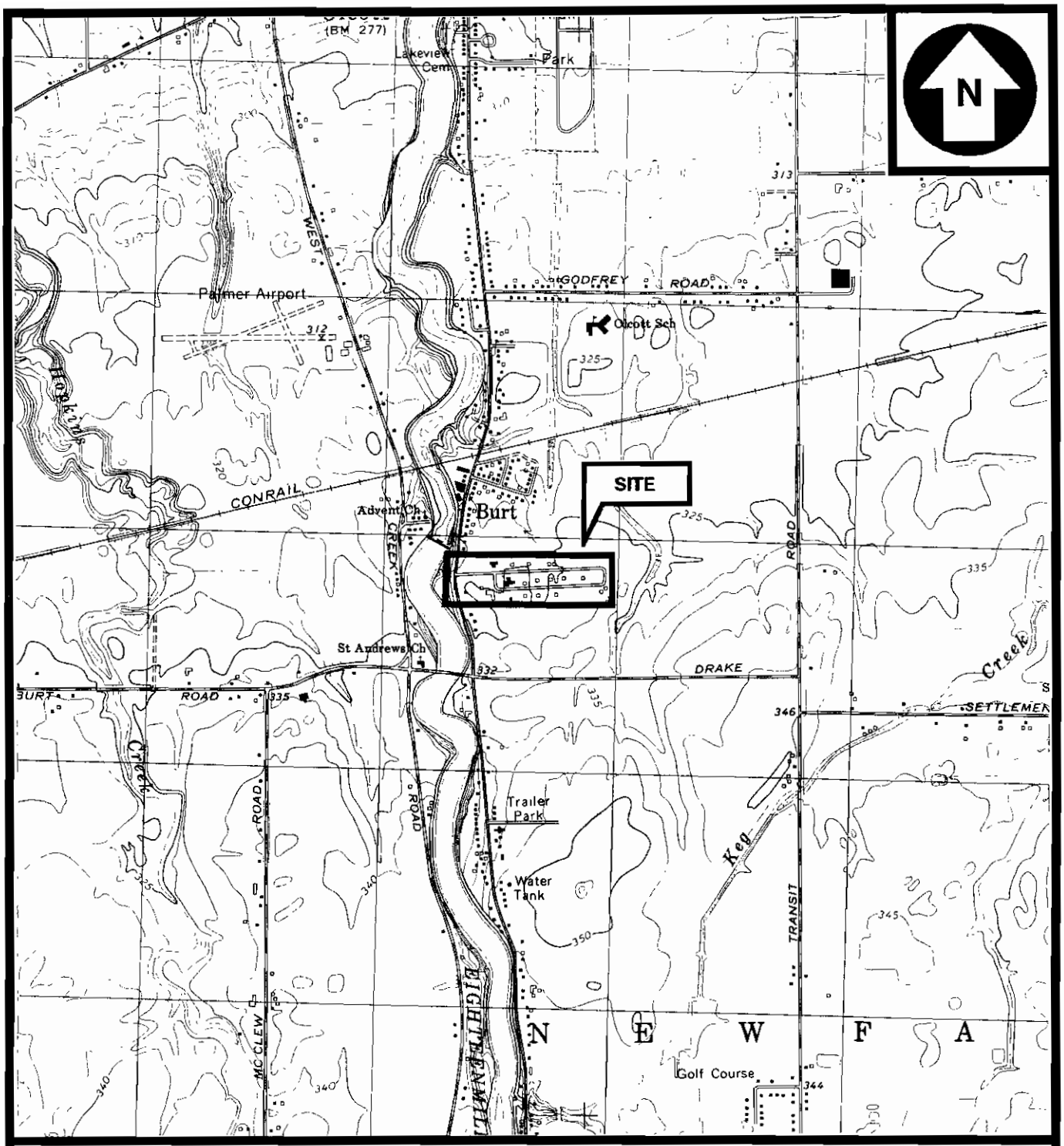
2.1 Introduction

Akzo produces organic peroxides including benzoyl peroxide, methyl ethyl ketone peroxide, actyl acetone peroxide, 2,4-dichlorobenzoyl peroxide, and parachlorobenzoyl peroxide at the Burt, New York facility.

2.2 Site Location and Facility Features

The 350 acre Akzo property is located at 2153 Lockport-Olcott Road in the Hamlet of Burt, Niagara County, New York (see Figure 1). Property lines and property dimensions are depicted in Figure 2, the facility location map. Figure 3 is an aerial photograph of the facility as it appeared in 1993 and at present.

The production portion of the facility encompasses approximately 30 acres, and approximately 80 acres of the property are fenced. Areas associated with Akzo operations include: buildings, hazardous waste container storage pads, inactive landfills, an inactive burning cage, a closed clay



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' USGS QUADRANGLE:
NEWFANE, NY 1978

0 1000 2000 3000 feet

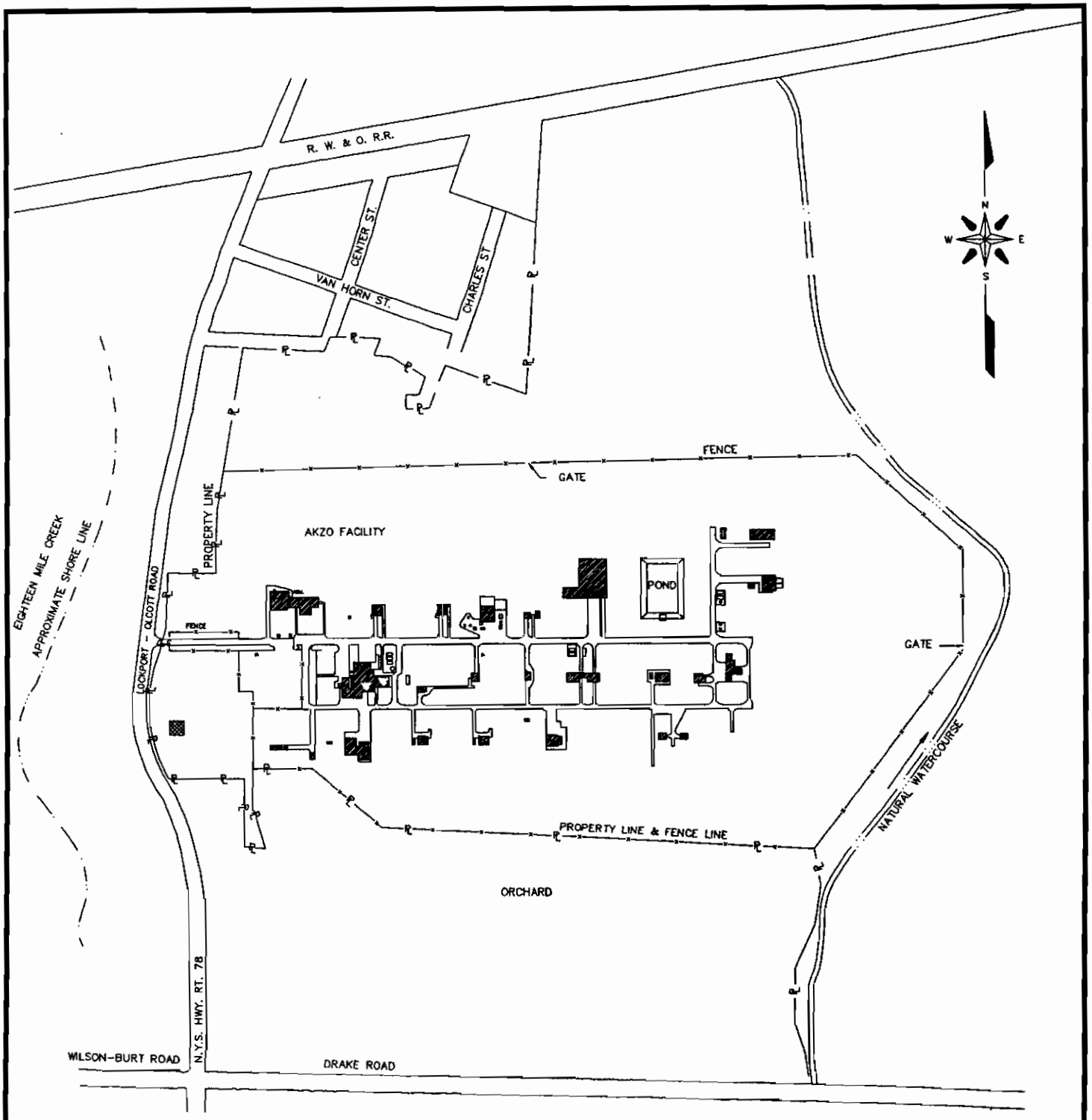
QUADRANGLE LOCATION

SITE LOCATION MAP

AKZO CHEMICALS INC.
BURT, NEW YORK

TRC Environmental Corporation

Figure 1.



NOTES:

1. AVERAGE GRADE LEVEL ≈ 325' ABOVE SEA LEVEL.
2. REF. U.S. GEOLOGICAL SURVEY (NEWFANE N-4315 W-7837/75)

ASSUMED BENCH - HYDRANT
WEST RIM BOLT = 325.00
(APPROXIMATES USC & GS DATUM)

GRAPHIC SCALE

500 0 500 1000

(IN FEET)

1 inch = 500 ft.

\19045\FIG-2

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(508) 970-5600

AKZO NOBEL CHEMICAL, INC.
BURT, NEW YORK

FIGURE 2
Facility Location Map

Date: 08/95 | **Project No.** 19045-0010-00000

Figure 3. 1993 Aerial Photograph of Akzo Facility.

storage pad storage area, venturi scrubbers, a fume scrubber, drum storage areas, a closed waste sulfuric acid storage tank, closed underground storage tank (UST) locations, a fire pond, and numerous structures associated with the wastewater treatment facility and process sewer. Figure 4 is the detailed facility plan which shows buildings, sewer lines and other site features.

2.3 Ownership

The Akzo property was originally owned by Cadet Chemical Company. In 1955, Cadet Chemical Company developed the property and built a plant to produce organic peroxides. In 1966, the property was acquired by Chemetron Company and Noury Vander Lande, a European producer of peroxides. In 1970, Akzo was formed. In 1971, Akzo purchased Chemetron's interest and became the sole owner of Noury's U.S. operations. On June 1, 1994, Akzo purchased Nobel Chemicals, a Swedish company, and became Akzo Nobel Chemicals Inc.

3.0 ENVIRONMENTAL SETTING

3.1 Land-use in Surrounding Area

Figure 5 portrays area land use in the vicinity of Akzo. The Akzo property is situated in a rural, agricultural location, with no other industry in the immediate area. Niagara County Agricultural District No. 4 lies to the west, northeast, and southeast of Akzo. Numerous orchards, as well as small residential sections, surround and abut the facility property as indicated on the 1978 U.S.G.S. topographic map for the region.

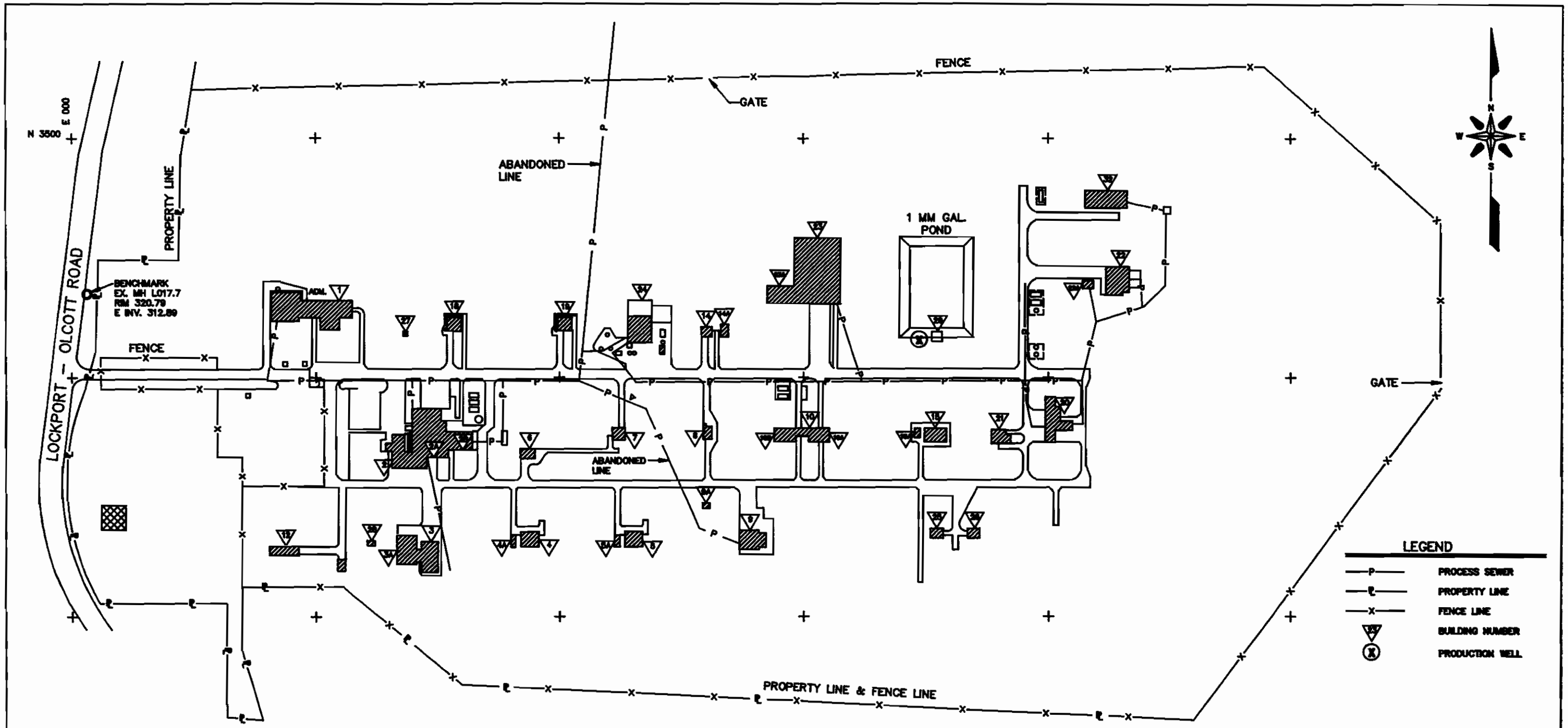
3.2 Geology and Hydrology

The site is located in the northcentral portion of Niagara County, New York, north of the Niagara Escarpment. Pleistocene-aged glacial till and lacustrine deposits comprise a large part of the surface area of the county. Unconsolidated sediments beneath the surface of the Akzo site were formed in sand bars and deltas of proglacial Lake Iroquois.

Soils below the site belong to two major soil series: the Arkport Series and the Galen Series. The Arkport Series is located in the extreme western portion of the site, and the Galen Series is located in the remainder of the property. Both soil groups are approximately 8 inches thick and consist of dark brown, slightly acid, very fine sandy loams. These loams are moderately well drained and have a moderately coarse texture. The surface layers are underlain by friable, very fine sandy loams. Thickness of the site soil strata ranges from 30 to 60 inches.

Bedrock beneath the site has been mapped as the Upper Ordovician Queenston Shale. Depth to bedrock below the site is unknown; however, boreholes in the nearby town of Somerset and local outcrops along Eighteenmile Creek suggest depths to bedrock of approximately 18 to 35 feet below grade.

Unconsolidated sediments are found up to 14 feet below grade. Unconsolidated sediments vary somewhat across the site, but consist primarily of stratified silty sands, clays, and gravels of lacustrine origin.



REVISED FROM "AKZO NOBEL CHEMICAL INC. BORING LOCATION MAP", APEX CONSULTING

BASE MAP SURVEYED AND DESIGNED BY APEX CONSULTING SURVEY & ENGINEERING SERVICES.

THIS MAP WAS PREPARED FOR THE LOCATION OF SOIL BORINGS AND ELECTROMAGNETIC SURVEY POINTS AS REFERENCED BY THE DEPICTED NUMBER POINTS, THIS MAP WHICH INCLUDES THE LOCATION OF AKZO NOBEL CHEMICAL INC., BURT N.Y. PLANT BUILDINGS WAS PROVIDED FOR OUR USE. THE BASE MAP INFORMATION WAS PROVIDED BY P.C. INDUSTRIAL DESIGN INC., DRAWING NO. ACI-531B. TRC ENVIRONMENTAL CORP. EXPRESSES NO WARRANTY TO THE HORIZONTAL LOCATION ACCURACY OF THE BUILDING AND PROPERTY BOUNDARY LOCATIONS.

GRAPHIC SCALE

200 0 200 400

(IN FEET)

1 inch = 200 ft.

\19045\FIG-4

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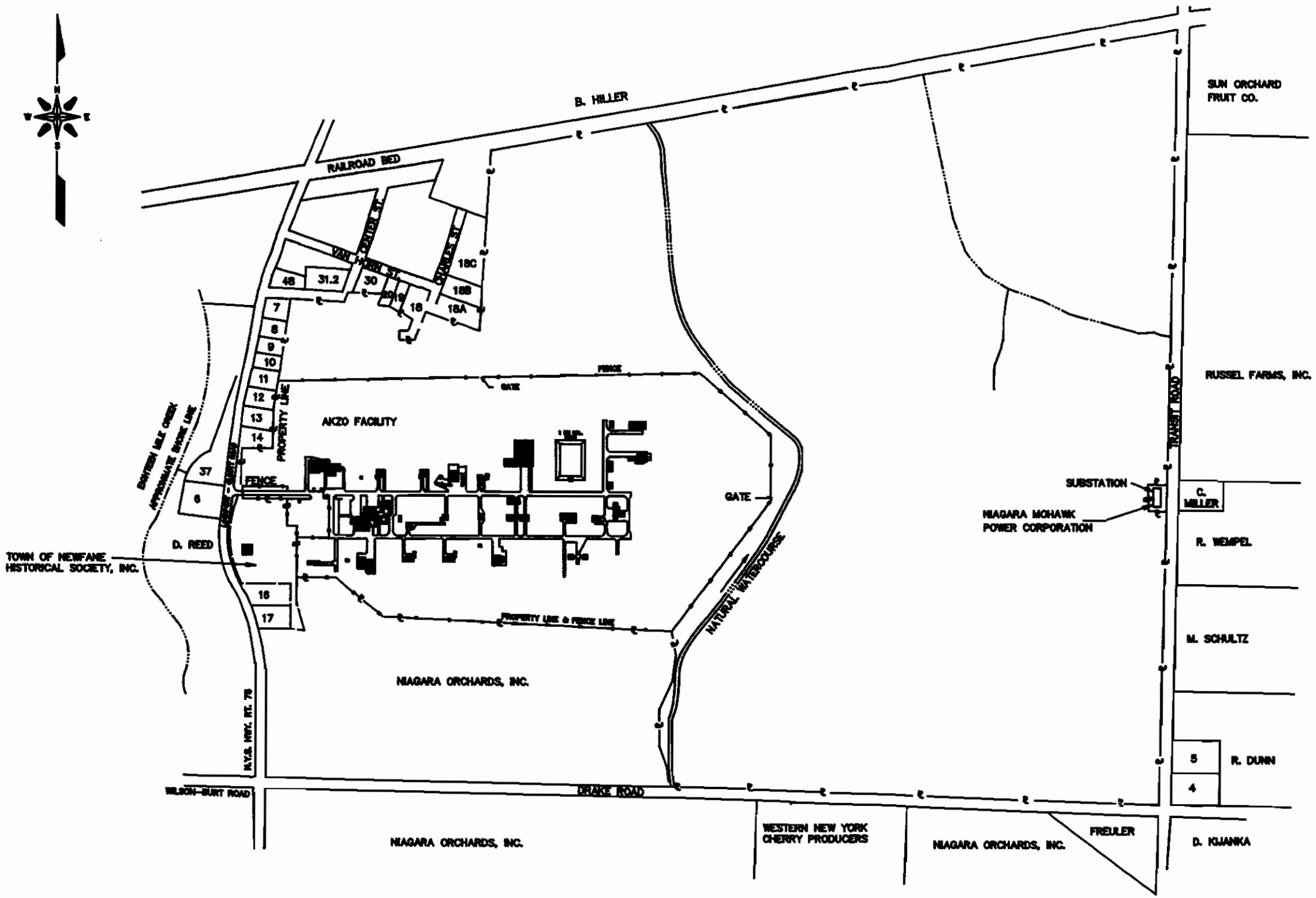
(508) 970-5600

AKZO NOBEL CHEMICAL, INC.
BURT, NEW YORK

FIGURE 4
Facility Plan

Date: 08/95 | Project No. 19045-0010-00000



LOT	OWNER
4	D. LOVEWELL
5	R. DUNN
6	D. PATTERSON
7	L. BISHER
8	G. PAYNE
10	L. LICATA
11	H. CLASS
12	H. STOLZENBERG
13	M. WHEELER
14	G. FLETCHER
16	M. PEARL
17	R. SHAW
18	W. PALMER
19	R. WEIR
20	W. DRAKE
18A	G. SWOGER
18B	W. WARD
18C	H. BRIDGEMAN
30	D. MILLER
31.2	DAIGLER
37	NIAGARA MOHAWK
38	BOARD OF OLCOTT HARBOR
48	KRAMP COLD STORAGE

NOTES:

1. AVERAGE GRADE LEVEL ≈ 325' ABOVE SEA LEVEL.
2. REF. U.S. GEOLOGICAL SURVEY (NEWFANE N-4315 W-7837/75)

ASSUMED BENCH – HYDRANT
WEST RIM BOLT = 326.00
(APPROXIMATES USC & GS DATUM)

GRAPHIC SCALE

600 0 600 1200

(IN FEET)

1 inch = 600 ft.

\19045\F10-5

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AKZO NOBEL CHEMICAL, INC.
BURT, NEW YORK

FIGURE 5
Land Use Map

Date: 08/95 | Project No. 19045-0010-00000

Soil boring logs and overburden cross-sections are presented in the RFA-SV Report. A description of subsurface information available from the RFA-SV is presented below. The first 3 to 5 feet below grade typically consist of a brown to reddish-brown silt or silty sand. These sediments grade into a stiff brown clayey silt about 2 to 4 feet thick. These sediments overlie a brown sub-rounded to angular silty or clayey gravel, which extends to a depth of at least 8 to 10 feet below grade. At the southeastern portion of the facility, a 1- to 2-foot-thick layer of silty clayey gravel is found with the stiff clayey silt.

The ground water table (saturated sediments) was encountered in the deeper RFA-SV boreholes from 10 to 12 feet below grade. Saturated sediments encountered at shallow depths, are believed to represent perched ground water conditions. The ground water table is estimated to be about 10 feet below grade.

3.3 Topography and Surface Water Drainage

Surface drainage from the site flows to the west and north into Eighteenmile Creek, located approximately 300 feet to the west of the Akzo property line. Eighteenmile Creek then flows for approximately 2 miles before discharging into Lake Ontario.

3.4 Climate

Niagara County has a humid, continental climate. The average daily maximum temperature at Lockport is 57°F, and average daily minimum temperature is 38°F. The yearly average precipitation at Lockport (approximately 10 miles south of the site) is 32.6 inches. The yearly average snowfall is 56 inches.

4.0 IDENTIFICATION OF POTENTIAL RECEPTORS

4.1 Human Receptors

4.1.1 On-site

Approximately seventy people work at Akzo's Burt Plant. The workers are typically onsite for eight hour shifts. There are three shifts per day and the company operates five days per week. There are no housing facilities onsite. The operating portion of the Akzo facility is surrounded by a security fence, which prevents access by the general public.

4.1.2 Off-site

The Akzo facility is situated in the Town of Newfane. According to the 1990 Census Bureau statistics, the total population of the Town of Newfane (which includes the areas of Burt, Olcott, and Appleton) is 1,896. Niagara County Agricultural District No. 4 lies to the west, northeast, and southeast of Akzo Chemical. Numerous orchards surround and abut the facility property. Small residential sections are present north and west of the facility.

4.1.3 Water Supply

The population of the Town of Newfane and areas of Burt and Olcott are serviced by the Newfane Water District Municipal System whose source is the Niagara River. There are no public drinking water supply wells in the area. There are no records of private wells available with the County Health, Cooperative Extension, County Planning, and County Soil and Water Commission (TRC, 1995).

4.2 Sensitive Environments

4.2.1 Wetlands

According to NYSDEC's Multimedia/Pollution Prevention Inspection Report, there are 124 acres of freshwater wetlands located within a 2 mile radius of the site; 60 of which are designated as Class I wetlands. Wetland NW-3 is located within the Eighteenmile Creek gorge between Route 18 and Burt Dam. This wetland provides potential migration habitat for bald eagles and osprey. In addition, it provides habitat for resident and migrating waterfowl and various water birds. Blanding's turtle, a threatened species in New York, has also been observed in the wetland. According to the Division of Fish and Wildlife, NW-3 is one of Niagara County's most valuable wetlands.

4.2.2 Coastal Management Areas

Coastal Management Areas are located along Lake Ontario and within two miles of Akzo. These areas are subject to state/federal certification requirements for consistency with New York State's coastal policies.

4.2.3 Fisheries

Eighteenmile Creek is one of the major salmonid (steel head) spawning streams on Lake Ontario and is one of the most popular fishing sites on Lake Ontario.

Keg Creek, which is located within two miles of the Akzo facility site, is one the most popular salmonid fisheries in Niagara County during spring and fall runs.

5.0 GENERAL DESCRIPTION OF AKZO CHEMICAL OPERATIONS

5.1 Current Operations

Akzo's Burt plant produces benzoyl peroxide, methyl ethyl ketone peroxide, acetyl acetone peroxide, 2,4-dichlorobenzoyl peroxide, parachlorobenzoyl peroxide, solid antistatic agents, peroxide pastes, and peroxide formulations. Key raw materials used in the production are phthalates, methyl ethyl ketone (MEK), hydrogen peroxide, caustic soda, and benzoyl chloride.

Wastewater generated by the company's production facilities includes wash and rinse water, and filtrate or centrate from the product dewatering facility. Wastewater is treated on site in a wastewater treatment plant. The wastewater treatment plant consists of a process sewer, east and west influent wells, an emergency holding tank, an equalization basin, and a settling channel. Currently, the major constituents of the discharge include benzoic acid (200-1000 mg/L), MEK (100-500 mg/L), dimethyl phthalate (50-200 mg/L), and acetone (1-10 mg/L). While Akzo has been in compliance with its existing Industrial User Permit from the Town of Newfane, the facility's discharge does not comply with the new categorical limit for dimethyl phthalate and other phthalates. Akzo intends modifications to obtain compliance by July 1996.

Waste peroxide paste, spent solvents, wastewater treatment sludge and laboratory chemical wastes, and miscellaneous wastes are stored in small quantities (drums and/or pails) in RCRA-regulated container storage areas. A man made fire pond is located onsite. This pond is used in the event of a fire. When the water level in the fire pond drops, a 25 foot deep production well contributes ground water to the fire pond.

5.2 Past Operations

The facility has been manufacturing organic peroxides for its entire operational history.

Open burning of miscellaneous trash, packaging materials, and other combustible debris, including benzoyl peroxide, lauryl peroxide, methyl ethyl ketone peroxide, and keetox wastes occurred from 1955-1972. This burning took place at the Burning Cage.

Wastes were disposed into three different landfill areas: Landfill No. 1 from 1955-1972; Landfill No. 2 from 1977 to 1978; and Landfill No. 3 from 1977 to 1978. Landfill No. 2 consisted of two trenches. The trenches are currently covered by six inches of clay. Landfill No. 3, which consisted of one trench and 12 small pits, was excavated in 1978. Contaminated soil and waste from Landfill No. 3 were placed in steel drums and stored on the former Clay Pad Storage Area. In 1983, Hesch Engineering, P.C. certified the closure of the clay pad.

No. 2 Fuel oil was previously stored in five USTs (USTs No. 2, 9, 11, 12 and 20). These USTs, were installed in 1955, 1958, 1974, 1978, and 1968, respectively. The USTs were removed or closed in place in 1987. The Niagara County Department of Health (NCDOH) visually inspected the emptied and cleaned tanks and the surrounding soils. The excavated soils were returned to the UST pit or excavated areas.

From the mid-1950s to 1976, wastewater generated at the facility was discharged to vitreous clay-lined storm sewers. In 1978, Noury Chemical dredged the Eighteenmile Creek. A Remedial Action Plan (RAP) is currently being developed for Eighteenmile Creek for the International Joint Commission (IJC); a board comprised of appointed commissioners from the U.S. and Canada. The focus of the RAP is to address major contaminant sources to Eighteenmile Creek located upstream of Akzo and to emphasize a systematic, comprehensive approach to restoring beneficial uses in Areas of Concern consistent with the "ecosystem approach". A draft of the RAP is scheduled for completion in mid 1995. A final RAP is scheduled for completion in

March 1996. As a member of the RAP Citizen's Advisory Committee, Akzo will participate in the development of the RAP.

5.3 Summary of Permits, Enforcement Actions, Spills Documents, and Investigations

5.3.1 Permits

Notification of Hazardous Waste Activity

Akzo filed a Notification of Hazardous Waste Activity under the original name of Noury Chemical on August 18, 1980. The facility notified as a Generator, Transporter, and Treatment, Storage, and Disposal facility. The facility is no longer a transporter.

Part A Permit Application

Akzo submitted the Part A Hazardous Waste Permit Applications on November 19, 1980 and was issued EPA ID# NYD043815158 on January 15, 1981.

Part B Permit Application

Akzo was issued a Part 373 Hazardous Waste Management Permit (#9-2928-00001/00003-0) on April 1, 1994. This permit authorizes Akzo to operate:

- Two container pads for the storage of 196 5-gallon pails and 328 55-gallon drums.
- Two 1,410 gallons tanks for the treatment of organic peroxides.

Stormwater Permit - State Pollutant Discharge Elimination Systems (SPDES)

Akzo is subject to a General Permit for Stormwater Discharges associated with industrial activity. A Notice of Intent (NOI) for Stormwater Discharges associated with industrial activity under the SPDES General Permit was submitted on September 14, 1993. As a result of filing the NOI, the Akzo facility in the Town of Newfane became subject to the General Permit on September 17, 1993.

This permit authorizes the discharge of storm water associated with industrial activity for the Akzo facility. This includes a requirement for development of a Stormwater Pollution Prevention Plan, monitoring and reporting, and standard permit conditions. Akzo has provided the NYSDEC regional Department of Water (DOW) with a copy of the Stormwater Pollution Prevention Plan (revised June 1994). The Plan requires an annual site compliance inspection of the entire facility as required in Part III D.4. of the Stormwater Permit. The General Permit requires that facilities subject to Section 313 of SARA Title III must monitor their storm water for oil and grease, biochemical oxygen demand (BOD5), chemical oxygen demand (COD), total suspended solids (TSS), total kjeldahol nitrogen (TKN), total phosphorus, pH, and acute toxicity

or any Section 313 chemicals used onsite. The results of the inspection and the compliance monitoring will be provided on an ongoing basis to the regional DOW.

Town of Newfane's State Pollutant Discharge Elimination Systems (SPDES)

A renewal of this permit was issued on April 4, 1994.

Industrial Users Permit

Akzo's manufacturing operations are subject to the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) Regulations [40 CFR Part 414], specifically Part 414.85 Subpart H "Specialty Organic Chemicals" and Part 414.111 "Indirect Discharges Point Sources" Subcategory. The Town is in the process of renewing and modifying the facility's Industrial User Permit. The modification involves the inclusion of categorical limits for a number of OCPSF parameters and the addition of the 11 new OCPSF parameters to comply with the amended Categorical Pretreatment Standards as published at 58 FR 36892, July 9, 1993. The Significant Industrial User (SIU) Permit is also being modified to comply with the pretreatment regulations [40 CFR Part 403].

5.3.2 Enforcement Actions

NYSDEC's Division of Hazardous Substances Regulation performed a Hazardous Waste Compliance Inspection at the facility on June 21, 1994. The inspection covered all production areas that generate hazardous waste, the hazardous waste accumulation and storage areas, the hazardous waste treatment area and related tanks, and all applicable paperwork relating to the management of hazardous waste. The facility was found to have several containers that exceeded the one year storage limitation. However, NYSDEC determined that the schedule for disposal of these particular drums is addressed as a permit condition in the Part 373 permit. Akzo, within 30 days of the effective date of the permit (April 1, 1994), submitted an updated list of all waste that has been stored on site for more than a year. These drums have since been treated onsite or disposed offsite.

5.3.3 Spills and Leaks

In November 1979, 122 gallons of 93 percent sulfuric acid spilled into a gravel and dirt area, east of the equalization basin. Approximately 8 tons of calcium carbonate was spread over the area to neutralize the spill.

Two releases of No. 2 fuel oil have occurred in the vicinity of Building 32. On February 26, 1981, No. 2 fuel oil was released to the ditch near Building 32 when a leak developed in a pipe joint. Oil and water were pumped into drums for disposal. The number of drums generated and the volume of the spill is unknown. In September 1986, an underground fuel line leak was discovered at Building 32. The contaminated soil was excavated and disposed offsite. The underground lines were capped to prevent reoccurrences.

In July 1983, a leak was found between the clarifier and the equalization building. The leak was repaired. On January 5, 1986, Akzo discovered that the process sewer in Building 2 was leaking. The building was immediately shut down and the sewer was repaired.

On April 14, 1980, approximately 1,200 gallons of dimethyl phthalate (DMP) was released to an area west of Building 22. The DMP flowed into a ditch. Akzo dug a pit, 10-feet by 12-feet by 4-feet, to contain rainwater and DMP. The liquid that drained into the pit was pumped into a tank. The contaminated soil was tilled into the surrounding soil and allowed to biodegrade. (Soils were sampled during the RFA-SV and no DMP was detected above NYSDEC Soil Cleanup Objectives).

Several releases of DMP or DMP mixtures have occurred in an area located between Buildings 20 and 22. On June 23, 1980, approximately 100 gallons of DMP were spilled into the storm sewer and ditches, as the result of a failed gasket. The spill was directed to the process sewer. Contaminated soils were tilled into the surrounding soil. On June 24, 1982, approximately 2,300 pounds of DMP was spilled on the roadway and into the ditches. Contaminated soil was excavated and placed in 55-gallon drums. Fifty-three drums were generated and disposed offsite at CECOS International. In September 1983, the DMP bulk tank developed a crack and approximately 1,600 gallons were spilled into the dike area which had a crushed rock base. Akzo removed and disposed the contaminated rock offsite, at CECOS International. On July 12, 1985, approximately 50 gallons of DMP were spilled when a tanker hose split while discharging to the bulk tank. DMP was spilled on the road, on the ground, and to the storm sewer and ditch. Absorbent material was used on the road and the contaminated ground was excavated. Approximately 20 drums of soil were generated and disposed offsite. On January 28, 1987, approximately 350 pounds of Cadox M-50 (mixture of methyl ethyl ketone peroxide and DMP) were spilled. The spill was contained and absorbed with inert materials. Five 55-gallon drums of waste were generated and disposed offsite. Some of the material entered the process sewer. (Soils sampled from this DMP Spill Area indicated that no contaminants were detected above NYSDEC Cleanup Objectives).

Releases from USTs 2 and 9 have been documented. On February 22, 1985, UST 2 was overfilled. Contaminated soil was disposed offsite. On May 15, 1987, fuel oil was observed in a pit in the vicinity of UST 9. The oil was pumped out of the pit and drummed, and contaminated soils were excavated. NCDOH inspected the excavation on May 18, 1987 and indicated that the pit was clean and could be backfilled.

On June 17, 1991, approximately 30 to 35 gallons of methyl ethyl ketone (MEK) spilled onto the ground next to the bulk tank. Akzo immediately dug up the soil and put it into drums. Three 55-gallon drums of contaminated soil were generated and disposed offsite.

On February 18, 1992, approximately 150 gallons of 70 percent hydrogen peroxide leaked near the south side of Building 22. Spilled material was contained, diluted with water, and then pumped to the process sewer.

On June 12, 1992, approximately 50-60 gallons of 93 percent sulfuric acid leaked onto the ground at the wastewater pretreatment plant. Akzo neutralized the acid with soda ash. This

material, plus the contaminated soils, were put into 55-gallon drums. Seven drums of waste were treated onsite.

On September 1, 1993, approximately 10 gallons of 93 percent sulfuric acid leaked on the ground at the wastewater pretreatment plant. Akzo pumped the spilled material into a vacuum truck. The remaining spilled material on the ground was absorbed with Speedi-Dri and neutralized with soda ash. Contaminated materials were shoveled into drums. Three drums of waste were treated onsite. The NYSDEC Division of Spills Management reports a closure date of September 1994.

On May 21, 1994, 10 gallons of benzoyl chloride was spilled near Building 2A. The spill was contained and neutralized with soda ash. The NYSDEC Division of Spills Management reports a closure date of June 13, 1994.

5.3.4 Documents, Studies, and Investigations

A Preliminary Review Report was prepared by DPRA Incorporated, an Environmental Protection Agency (EPA) contractor; the final revision is dated July 1990. A Visual Site Inspection (VSI) of the Akzo facility was conducted on August 27 and 28, 1990, by DPRA and NYSDEC. A VSI report titled RCRA Facility Assessment Phase 2: Visual Site Inspection, was prepared by DPRA in 1990 and was revised based on supplemental NYSDEC inspections. The final version of the VSI report is dated September 13, 1991. Forty-five SWMUs/AOCs were identified in the VSI Report Summary, dated November 1990.

The VSI Summary Report recommended that 24 of the 45 SWMUs/AOCs needed further investigation. No further action was recommended for the remaining 21 SWMUs/AOCs. Module III Conditions E.5 of the 6 NYCRR Part 373 Permit (February 24, 1994, revision), added the Building 16 Drum Storage Area (SWMU 31) to the list of SWMUs that required further investigation. Therefore, 25 SWMUs/AOCs required the implementation of a RCRA Facility Assessment (RFA-Phase 3: SV).

Akzo retained Groundwater Technologies to perform the RFA-SV on the Akzo property. Table 1 lists the 20 SWMUs and 5 AOCs that were evaluated during the RFA-SV. In the RFA-SV Sampling Visit Report (dated December 1994), Groundwater Technologies recommended that the following SWMUs/AOCs should be addressed in the RFI:

- Process Sewer (SWMU 3),
- Building 2B Separator (SWMU 16),
- Former UST No. 2 Area (SWMU 17),
- Burning Cage (SWMU 23),
- Landfill Site No. 1 (SWMU 24),
- Building 16 Drum Storage Area (SWMU 31), and
- Former UST No. 20 Area (AOC E).

This recommendation was based on analytical results, obtained during the RFA-SV, that indicate that constituent concentrations exceed NYSDEC Soil Cleanup Objectives in these areas. The

TABLE 1. SWMUs AND AOCs EVALUATED IN RFA-SV

SWMU/AOC	Description
3	Process Sewer
5	East Influent Well
6	West Influent Well
8	Equalization Basin
15	Building 2 Sump
16	Building 2B Separator
17	Former Underground Storage Tank No 2 Area
18	Former Underground Storage Tank No 9 Area
19	Sewer Pre-treatment Pit
23	Burning Cage
24	Landfill Site No 1
25	Landfill Site No 2
26	Landfill Site No 3
27	Former Clay Pad Storage Area
28	Dimethyl Phthalate Meter Leak
31	Building 16 Drum Storage Area
32	Debris Pile
33	Former Waste Sulfuric Acid Tank
35	Empty Drum Storage Area No 2
36	Empty Drum Storage Area No 3
A	Dimethyl Phthalate Spill Area
B	Building 32 Fuel Line Leak
C	Former Underground Storage Tank No 11 Area
D	Former Underground Storage Tank No 12 Area
E	Former Underground Storage Tank No 20 Area

TABLE 2. CONTAMINANTS DETECTED ABOVE NYSDEC SOIL CLEANUP OBJECTIVES AND THEIR PHYSICAL AND CHEMICAL CHARACTERISTICS

Constituent	SWMU/ AOC	Physical State	Molecular Weight	Density (g/cm^3)	Boiling Point (°C)	Solubility in water (mg/L)	Sorption Coefficients		Vapor Pressure at 20° (mm Hg)	Flash Point (C°)
							K_{oc}	Log K_{ow}		
Acetophenone	SWMU 31	liquid	120.15	1.0238	202	5.50E+03		1.58E+03	1.00E_00	105
Benzo(a)pyrene	AOC E	solid	252.3	1.351	310-312	1.20E-03	5.50E+06	5.98E+00	5.60E-09	
Butylbenzylphthalate	SWMU 16 and 24	liquid	312.4	1.1	370	4.22E+01		4.78E+00	8.60E-06	199
Di-n-butylphthalate	SWMU 16 and 24	liquid	278.35	1.0426	340	1.30E+01	1.70E+05	5.20E+00	1.00E-05	157
Dimethyl phthalate	SWMU 23 and 24	liquid	194.19	1.1905	283.8	4.32E+03		1.87E+00	<0.01	146
Methyl ethyl ketone	SWMU 3 and 24	liquid	72.1	0.805	73.4	2.68E+05	4.50E+00	2.60E-01	7.75E+01	1.67
Naphthalene	SWMU 17	solid	128.16	1.162	218	3.17E+01	1.30E+03	3.37E+00	7.80E-02	open cup 78.9 closed cup 87.8

focus of the RFI will be to characterize the nature and extent of contamination from releases at SWMUs 3, 16, 17, 23, 24, 31, and AOC E.

In June 1995, NYSDEC provided comments to Akzo on the RFA-SV. These comments request additional soil investigation for SWMUs 3, 5, 6, 15, 18, 19, 26, 33, 35, 36, and AOCs B, C, and D. Akzo will address this request with an Addendum to the RFA-SV Work Plan.

6.0 SWMU AND AOC CHARACTERIZATION

The following section summarizes the available and relevant information characterizing the wastes and the SWMUs and AOCs where wastes have been placed, collected, or removed. The SWMUs/AOCs to be addressed in the RFI are SWMU 3, 16, 17, 23, 24, and 31 and AOC E.

The locations of SWMUs/AOCs are provided on Figure 4, the facility plan. Contaminants detected above NYSDEC Soil Cleanup Objectives during the RFA-SV are listed in Table 2. Section 7.0 of this report identifies the locations where contamination was detected.

Process Sewer (SWMU 3)

The Process Sewer has two main trunk lines (the east trunk line and the west trunk line) that run along the central portion of the facility. Approximately 3,000 linear feet of process sewer are in operation at the site. The Process Sewer consists primarily of two main components; the sewer pipes themselves and their associated manholes. The sewer lines are constructed of vitrified clay pipe and were initially constructed in 1954. The system was expanded to its present extent in 1976.

The Process Sewer directs liquid wastewater effluent from plant buildings to the on-site Wastewater Treatment Plant. Facility wastewater generated in Buildings 3, 20, 22, 24, 31, and the Building 2 complex, enters the sewer system and is transported to either the West Influent Well or the East Influent Well. After entering these wells, the water is pumped to the on-site wastewater treatment plant for equalization and processing. The treated wastewater is then discharged to the Town of Newfane, New York, publicly owned treatment works (POTW) system.

Integrity testing was performed on the subsurface process sewer lines and on the process sewer manholes during the RFA-SV. The sewer lines were tested for leaks using an inert (helium) gas testing method and the manholes were tested using the Tank Auditor Method. Numerous leaks were detected in the sewer lines and most of the manholes were found to have leaks.

During the RFA-SV, methyl ethyl ketone (MEK) was detected at a concentration that exceed NYSDEC Soil Cleanup Objectives.

Building 2B Separator (SWMU 16)

The Building 2B Separator is located in the west-central portion of the site; next to Buildings 2 and 2B. It can be accessed via a 24-inch manhole. The Building 2B Separator is an integral, in-

line component of the Process Sewer. The separator, a 3,150-gallon underground tank, is an over/under separator that is used for separating peroxide solids from the Building 2 wastewater stream before the waste water is discharged to the facility Process Sewer.

The separator was installed in 1978 and received wastewater containing waste peroxide paste from the Building 2 sump. In January 1989, the separator was cleaned and the wastes inside of it were drummed and stored in the hazardous waste container storage pad then treated onsite.

An integrity test performed during the RFA-SV indicated that the separator leaks. Leaks are suspected to be occurring through a visible seam identified near the top of the tank. However, the liquid level of the tank is typically below this seam.

During the RFA-SV, butylbenzylphthalate and di-n-butylphthalate were detected at concentrations that exceed NYSDEC Soil Cleanup Objectives.

Former UST No. 2 Area (SWMU 17)

The former UST No. 2 Area is located in the west-central portion of the site, just southeast of Building 2 and south of Building 2B. This 8,000-gallon steel UST was installed in 1955. The UST was used to store No. 2 fuel oil. On February 22, 1985, the tank was overfilled. On June 18, 1987, the tank was cleaned, and closed in place by filling with sand. NCDOH inspected the cleaned tank. Excavated soils were returned to the excavated area. The area was then converted into a fiber drum storage area. This storage area has a concrete base.

During the RFA-SV, naphthalene was detected at a concentration that exceeds NYSDEC Soil Cleanup Objectives.

Burning Cage (SWMU 23)

The Burning Cage is located in the north-central portion of the property. Between 1955 and 1972, the Burning Cage was used for uncontrolled, open burning of miscellaneous trash, packaging materials, and other combustible debris. Wastes were placed in a steel mesh cage and burned. The metal cage was located directly on the ground. The cage has been removed and the area is currently covered with grass.

During the RFA-SV, dimethylphthalate was detected at a concentration above the NYSDEC Soil Cleanup Objective.

Landfill Site No. 1 (SWMU 24)

Landfill Site No. 1 is located in the north-central portion of the facility just west of the Burning Cage. Landfill Site No. 1 consisted of five unlined pits. Between 1955 and 1969, the landfill was used to dispose of wastes. The area is currently covered with grass.

During the RFA-SV, MEK, dimethylphthalate, butylbenzylphthalate and di-n-butylphthalate were detected at concentrations that exceed NYSDEC Soil Cleanup Objectives.

Building 16 Drum Storage Area (SWMU 31)

The Building 16 Drum Storage Area is located in the southeast corner of the facility; just southwest of the Former Clay Pad Storage Area. Building 16 burned down in February 1987. All that remains is a 20-foot by 40-foot concrete foundation surrounded, except at the entry, by a four-inch high concrete curb.

Dicumyl peroxide and lauroyl peroxide were in the building when it burned down. A decomposition by-product of these compounds is acetophenone.

During the RFA-SV, acetophenone was detected at concentrations above NYSDEC Soil Cleanup Objectives.

Former UST No. 20 Area (AOC E)

The Former UST No. 20 area is located near the east end of the facility; southwest of Building 20. This 10,000-gallon steel UST, installed in 1968, was used to store No. 2 fuel oil. On May 20, 1987, the tank was cleaned and closed in place by filling with sand. NCDOH inspected the cleaned tank. Excavated soils were returned to the excavated area.

During the RFA-SV, benzo(a)pyrene was detected at a concentration exceeding NYSDEC Soil Cleanup Objectives.

7.0 NATURE AND EXTENT OF CONTAMINATION

The RFA-SV was conducted by Groundwater Technologies at the Akzo facility during the summer of 1994. The RFA-SV program included the following:

- integrity tests on SWMUs 3, 5, 6, 8, 15, 16, and 19;
- electromagnetic surveys at SWMUs 23, 24, 25, 26; and
- a total of 91 soil borings and soil sampling at SWMUs 3, 16, 17, 18, 23, 24, 25, 26, 27, 28, 31, 32, 33, 35, 36, AOC A, B, C and D.

Integrity test results are provided in Appendix E of the RFA-SV Report. Based on the results of the SWMU integrity testing, confirmatory soil sampling and analysis was conducted at potential leak locations. The electromagnetic surveys were used to help define possible locations of nonnative materials for subsequent soil sampling. Soil borings were advanced to obtain stratigraphic information and soil samples for chemical analysis.

Soil boreholes were drilled during the RFA-SV to evaluate the 20 SWMUs and 5 AOCs. In general, four shallow soil boreholes (0 to 6 feet below grade) were drilled per SWMU. Deeper boreholes were drilled at SWMU locations where the presumed physical limits of the unit may have extended deeper. Soil samples were collected at depths greater than 6 feet below grade for

the various site USTs depending on the tank bottom depth and the depth to ground water. Records indicate that the tank bottoms were located between 10 and 15 feet below grade.

The surveyed locations of all soil boreholes are illustrated in Figures 3 and 4 of the RFA-SV Report. The locations of selected boreholes were positioned in the field with the assistance and concurrence of a NYSDEC representative. Soil samples were collected continuously along the entire borehole in 2-foot increments. The soil boreholes were advanced to a depth of 2 feet below the water table when shallow groundwater was encountered. Subsamples were collected at any points of stained or discolored soils. The soil samples were screened with a field GC/FID unit and an infrared spectrometer, and the soil samples with the highest readings were submitted for laboratory analyses. As an alternative to the field GC sample screening approach, a PID or FID instrument was used to identify the soil sample with the highest volatile organic compound (VOC) readings for submittal to the laboratory. If the field instruments did not indicate a relative difference in soil conditions across the site, then the deepest soil sample was submitted for laboratory analysis. Additional details regarding the RFA-SV investigation methodologies are presented in the approved RFA-SV Work Plan.

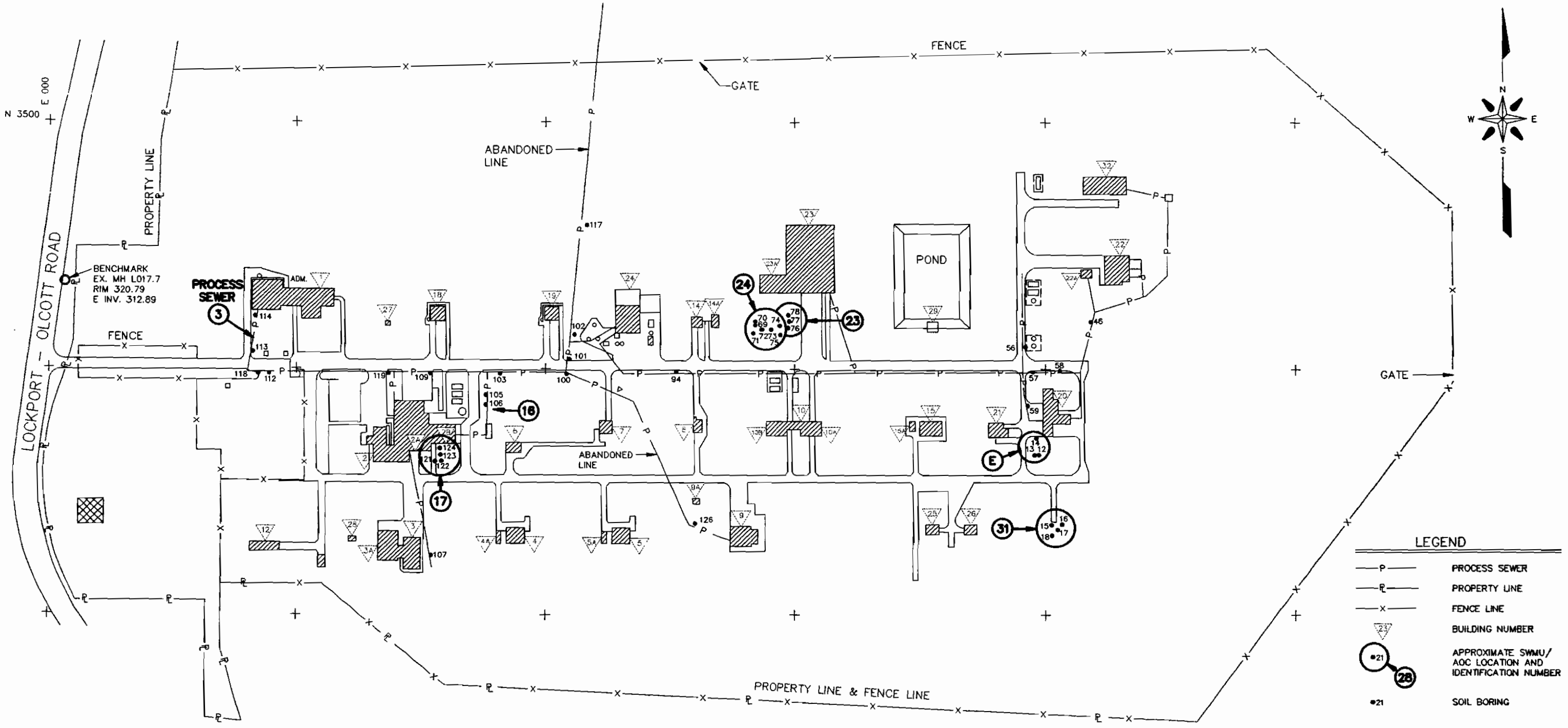
Groundwater Technologies recommended that the following SWMUs/AOCs should be addressed in the RFI: SWMU 3, SWMU 16, SWMU 17, SWMU 23, SWMU 24, SWMU 31, and AOC E. This recommendation was based on analytical results, obtained during the RFA-SV, that indicated that constituent concentrations exceed NYSDEC Soil Cleanup Objectives in these areas. The focus of the RFI will be to characterize the nature and extent of contamination from releases at SWMUs 3, 16, 17, 23, 24, 31, and AOC E.

Provided below is a summary of the RFA-SV analytical results for the six SWMUs and one AOC to be addressed in the RFI. Table 2 presents a list of contaminants detected above NYSDEC Soil Cleanup Objectives and provides information regarding physical and chemical characteristics of the waste. RFA-SV soil boring locations for the SWMUs/AOCs listed below are shown on Figure 6.

Process Sewer (SWMU 3)

As part of the RFA-SV, 22 soil boreholes were completed at potential leak locations identified in the electromagnetic metric survey (SB-PS-1, SB-PS-2, SB-PS-3, SB-PS-4, SB-PS-5, SB-PS-7, SB-PS-8, SB-PS-9, SB-PS-10, SB-PS-11, SB-PS-12, SB-PS-14, SB-PS-15, SB-PS-16, SB-PS-17, SB-PS-18, SB-PS-19, SBPS-21, SB-PS-22, SB-PS-23, SB-PS-24, and SB-PS-25).

In general, the Process Sewer boreholes were completed to a depth of approximately 6 feet to 8 feet below grade. Based on Akzo's knowledge, boreholes were placed as close to the sewer line as feasible (generally within 1 to 3 feet). SB-PS-10 was drilled to a depth of approximately 4 feet below grade using a hand-driven hammer. This method was used because the presence of overhead wires prevented the use of a drill rig. SB-PS-21 and SB-PS-22, located near the East and West Influent Wells, were drilled to depths of 12 feet and 14 feet, respectively. Soil samples from grade to the base of the borehole were collected continuously. Each soil sample was field screened with a PID. Samples were selected for laboratory analysis as detailed in the approved RFA-SV Work Plan.



REF. PT.	SOIL BORING FIELD PT.	ELEV.	REF. PT.	SOIL BORING FIELD PT.	ELEV.	REF. PT.	SOIL BORING FIELD PT.	ELEV.
12	SB-E-4	326.95	73	SB-24-4	325.95	113	SB-PS-10	323.21
13	SB-E-1	326.85	74	SB-24-5	326.37	114	SB-PS-9	324.48
14	SB-E-2	326.98	75	SB-24-6	326.07	117	SB-PS-24	322.04
15	SB-31-3	328.51	76	SB-23-3	326.11	118	SB-PS-11	323.87
16	SB-31-4	328.38	77	SB-23-2	326.18	119	SB-PS-14	324.65
17	SB-31-2	328.47	78	SB-23-1	326.22	126	SB-PS-23	325.50
18	SB-31-1	328.43	94	SB-PS-8	324.23	121	SB-17-4	327.27
46	SB-PS-1	326.80	100	SB-PS-18	324.23	122	SB-17-3	327.13
56	SB-PS-7	326.94	101	SB-PS-21	323.89	123	SB-17-2	326.68
57	SB-PS-4	327.36	102	SB-PS-22	324.18	124	SB-17-1	326.79
58	SB-PS-3	327.13	103	SB-PS-17	324.55			
59	SB-PS-5	327.23	105	SB-PS-19	325.44			
69	SB-24-1A	326.33	106	SB-PS-20	325.39			
70	SB-24-1	326.31	107	SB-PS-25	327.22			
71	SB-24-2	326.18	109	SB-PS-15	324.55			
72	SB-24-3	326.11	112	SB-PS-12	324.14			

\19045\FIG-6

REVISED FROM "AKZO NOBEL CHEMICAL INC. BORING LOCATION MAP", APEX CONSULTING

BASE MAP SURVEYED AND DESIGNED BY APEX CONSULTING SURVEY & ENGINEERING SERVICES.

THIS MAP WAS PREPARED FOR THE LOCATION OF SOIL BORINGS AND ELECTROMAGNETIC SURVEY POINTS AS REFERENCED BY THE DEPICTED NUMBER POINTS, THIS MAP WHICH INCLUDES THE LOCATION OF AKZO NOBEL CHEMICAL INC., BURT N.Y. PLANT BUILDINGS WAS PROVIDED FOR OUR USE. THE BASE MAP INFORMATION WAS PROVIDED BY P.C. INDUSTRIAL DESIGN INC., DRAWING NO. ACI-531B. TRC ENVIRONMENTAL CORP. EXPRESSES NO WARRANTY TO THE HORIZONTAL LOCATION ACCURACY OF THE BUILDING AND PROPERTY BOUNDARY LOCATIONS.

SWMU/ AOC No.	DESCRIPTION
3	PROCESS SEWER
16	BUILDING 2B SEPARATOR
17	FORMER UST No. 2 AREA
23	BURNING CAGE
24	LANDFILL SITE No. 1
31	BUILDING 16 DRUM STORAGE AREA
E	FORMER UST No. 20 AREA

ALL SWMC/AOC BOUNDARY LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE

200 0 200 400

(IN FEET)

1 inch = 200 ft.

LEGEND

- P — PROCESS SEWER
- PL — PROPERTY LINE
- x — FENCE LINE
- BUILDING NUMBER
- APPROXIMATE SWMU/ AOC LOCATION AND IDENTIFICATION NUMBER
- •21 SOIL BORING

TRC Environmental Corporation
Boott Mills South
Foot of John Street
Lowell, MA. 01852
(508) 970-5600

AKZO NOBEL CHEMICAL, INC.
BURT, NEW YORK

FIGURE 6

RFA-SV Soil Boring Locations For SWMU's 3, 16, 17, 23, 24, 31 and AOC E

Date: 08/95 **Project No.** 19045-0010-00000

The NYSDEC Soil Cleanup Objective was exceeded only at sample location SB-PS-11 (4- to 6-foot sampling interval). The volatile organic compound, methyl ethyl ketone (MEK) was detected at a concentration of 1,200 µg/kg. The NYSDEC Soil Cleanup Objective for MEK is 300 µg/kg. Additional analytical results for the Process Sewer samples are presented in Tables 3B and 4 of the RFA-SV Report.

Building 2B Separator (SWMU 16)

As part of the RFA-SV, one soil borehole (SB-PS-20) was completed to a depth of approximately 8 feet below grade in the general SWMU area. Soil samples from grade to the base of the borehole were collected continuously. Each soil sample was field screened with a PID. The sample from the 6- to 8-foot-depth interval was selected for analysis based on PID readings and on visual sample inspection. The sample was analyzed for selected target analytes in accordance with the approved RFA-SV Work Plan.

The laboratory results indicated that 540,000 µg/kg of butylbenzylphthalate and 580,000 µg/kg of di-n-butylphthalate were detected in the submitted sample. New York State Soil Cleanup Objective values for these compounds are 50,000 µg/kg and 8,100 µg/kg, respectively. Additional analytical results are presented in Tables 3A and 4 of the RFA-SV Report.

Former UST No. 2 Area (SWMU 17)

During the RFA-SV, four soil boreholes (SB-17-1, SB-17-2, SB-17-3, and SB-17-4) were drilled in this area to a depth of approximately 16 feet below grade. Soil samples were collected continuously and each sample was field screened with a PID. Samples were selected for laboratory analysis as prescribed in the approved RFA-SV Work Plan.

The laboratory results indicated that naphthalene was present at a concentration of 32,000 µg/kg in the SB-17-2 (8 to 10 foot) sample. This concentration is above the New York State Soil Cleanup Objective of 13,000 µg/kg. Additional analytical results are presented in Tables 3A and 4 of the RFA-SV Report.

Burning Cage (SWMU 23)

During the RFA-SV, three soil boreholes were completed in this area (SB-23-1, SB-23-2, and SB-23-3). The borehole locations were selected based on the results of the EM-31 electromagnetic survey conducted in this area. The survey indicated that anomalies were present; therefore, each significant anomaly was targeted for further investigation via a soil borehole. Each soil borehole was continuously sampled to a depth of approximately 6 feet below grade. Soils were screened in the field with a PID. The sample from each borehole location with the highest PID reading was submitted to the laboratory for target compound analysis in accordance with the approved RFA-SV Work Plan.

The laboratory results indicate that dimethylphthalate was detected in SB-23-2 (2 to 4 feet) at a concentration of 2,310 µg/kg. The New York State Soil Cleanup Objective (January 24, 1994) limit is 2,000 µg/kg. Additional analytical results are presented in Table 3A of the RFA-SV final report.

Landfill Site No. 1 (SWMU 24)

During the RFA-SV, six soil boreholes were completed in this area (SB-24-1A, SB-24-2, SB-24-3, SB-24-4, SB-24-5, and SB-24-6). During installation of SB-24-1, refusal was encountered at 6 feet below grade. Therefore, the decision was made to redrill the borehole near its original location, which accounts for the designation of SB-24-1A. The borehole locations were selected based on the results of the EM-31 electromagnetic survey conducted in this area. The survey indicated that anomalies were present; therefore, each significant anomaly was targeted for further investigation via a soil borehole. Each borehole was advanced to approximately 10 feet below grade and continuously sampled. Each sample was screened with a PID. The soil sample from each borehole with the highest PID reading was further field screened for methyl ethyl ketone (MEK) using the field GC-PID. The sample from each borehole location with the highest PID reading was also submitted to the laboratory in accordance with the approved RFA-SV Work Plan.

In each of the samples submitted for laboratory analysis, MEK was detected at concentrations ranging from 120 µg/kg (SB-24-2, 2 to 4 feet) to 5,100 µg/kg (SB-24-4, 4 to 6 feet). The NYSDEC Soil Cleanup Objective for MEK is 300 µg/kg. Di-n-butylphthalate was detected at concentrations ranging from 3,100 µg/kg (SB-24-2, 2 to 4 feet) to 730,000 µg/kg (SB-24-1A, 4 to 6 feet). The NYSDEC Cleanup Objective for di-n-butylphthalate is 8,100 µg/kg. Dimethylphthalate was detected at concentrations ranging from 6,400 µg/kg (SB-24-6) to 5,300,000 µg/kg (SB-24-5). The NYSDEC Cleanup Objective for dimethylphthalate is 2,000 µg/kg. Butylbenzylphthalate was detected at concentrations ranging from 570 µg/kg (SB-24-2) to 150,000 µg/kg (SB-24-1A). The NYSDEC Cleanup Objective for butylbenzylphthalate is 50,000 µg/kg. Additional analytical results are presented in Tables 3A and 4 of the RFA-SV Report.

Building 16 Drum Storage Area (SWMU 31)

During the RFA-SV, four soil boreholes were completed in this area (SB-31-1, SB-31-2, SB-31-3, and SB-31-4). Each soil borehole was continuously sampled to a depth of approximately 6 feet below grade. Soils were screened in the field with a PID. The sample from the base of each borehole was submitted to the laboratory for analysis (generally all PID readings from each borehole were similar). An additional soil sample from SB-31-1 (0- to 2-foot sampling interval) was also submitted for analysis. The selected samples were submitted for laboratory analysis as prescribed by the approved RFA-SV Work Plan.

Acetophenone was detected at concentrations ranging from an estimated value of 40 µg/kg (SB-31-2, 4 to 6 feet) to 88,000 µg/kg (SB-31-3, 4 to 6 feet). The general NYSDEC individual semivolatile organic compound Soil Cleanup Objective limit is 50,000 µg/kg. Based upon the

laboratory analytical results, the target analyte concentration reported at two borehole locations exceeded the general limit. Additional analytical results are presented in Tables 3A and 4 of the RFA-SV final report.

Former UST No. 20 Area (AOC E)

During the RFA-SV, three soil boreholes were completed at this location (SB-E-1, SB-E-2, and SB-E-4). SB-E-3 was abandoned due to interference with a facility water line. For health and safety purposes, additional attempts to complete a borehole at this location were not considered prudent by the on-site Akzo representative. Each borehole was continuously sampled to a depth of 12 feet to 16 feet below grade (location specific) as prescribed by the approved RFA-SV Work Plan. Soil samples from three boreholes were screened in the field with a PID and for TPH via field GC-PID. The sample from each borehole location with the approved highest PID reading was submitted to the laboratory in accordance with the approved RFA-SV Work Plan.

The only exceedance of NYSDEC Cleanup Objectives was for benzo(a)pyrene, which was detected at location SB-E-2, at a concentration of 66 µg/kg. The NYSDEC Cleanup Objective for benzo(a)pyrene is 61 µg/kg. Review of the boring log strongly suggests that the sample submitted for laboratory analysis from SB-E-2 was collected from the tank fill, and probably does not represent native soil.

8.0 POTENTIAL MIGRATION PATHWAYS

The previous section discussed soil contamination above NYSDEC Cleanup Objectives relative to each specific SWMU/AOC for which a RCRA Facility Investigation is being conducted at the Akzo facility. The following contaminants need to be considered relative to the soil strata cited below:

- Surface soil: no soil contamination detected above NYSDEC Cleanup Objectives;
- Near-surface soil: acetophenone; and
- Subsurface soil: methyl ethyl ketone (MEK), dimethylphthalate, di-n-butylphthalate, butylbenzylphthalate, acetophenone, naphthalene, and benzo(a)pyrene.

Surface Soil Pathways

The potential exists for contaminants in surface soil to volatilize into the atmosphere. Since the releases which are the focus of the RFI activities are historic, volatilization and dispersion of contaminants is likely to have already taken place. Contaminants adsorbed to soil particulate have the potential to become airborne due to wind erosion. However, potential overland airborne migration at this facility is limited by the flat topography and presence of extensive vegetation.

Topography of the site slopes to the west and north. Stormwater drains via swales and ditches to a storm sewer. Surface soil contaminants have the potential to migrate via storm water runoff. Stormwater discharge monitoring, conducted by Akzo in compliance with permit requirements, limits the potential for a migration pathway due to contaminated discharge.

No surface soil contamination has been detected to date above NYSDEC Cleanup Objectives; however acetophenone was detected in soil borings immediately beneath the foundation at the Former Building 16 Drum Storage Area (SWMU 31). The upcoming RFI will include analysis of surface soil at this SWMU to evaluate the presence of acetophenone.

Subsurface Soil Pathways

The presence of silt and clay in subsurface soil at the Akzo facility limits the migration of surface and vadose-zone contamination to ground water. In addition, the amount of migration of any contaminant is dependant on physical and chemical properties of the contaminant, such as its solubility and soil adsorption coefficient. It is likely, based on the properties of the subsurface soil and of the contaminants detected, that subsurface soil is the primary contaminated medium and that contaminant transport to ground water is minimal. There has been no chemical data to date showing that ground water contamination with the contaminants listed above is a concern at the facility; however, the potential does exist for contaminants in surface and subsurface soil to be released to ground water due to leaching effects from percolation and infiltration of rainfall or from leaks occurring in tanks or lines at or below the water table. An additional subsurface migration pathways exists in the coarser field material surrounding sewer lines and sumps. The depth to ground water is approximately 10 feet.

The focus of the RFI will be to evaluate the extent of soil contamination and the potential for ground water contamination at SWMUs 3, 16, 17, 23, 24, 31 and the presence of soil contamination at AOC E. Collection of ground water samples is not anticipated for AOC E unless the presence of benzo(a)pyrene above NYSDEC Cleanup Objectives is confirmed in native soil material (outside the tank fill). Analytes of interest for the SWMUs/AOCs will be limited to those detected above NYSDEC Cleanup Objectives during the RFA-SV, as follows:

- Process Sewer (SWMU 3) - MEK;
- Building 2B Separator (SWMU 16) - butylbenzylphthalate and di-n-butylphthalate;
- Former UST No. 2 (SWMU 17) - naphthalene;
- Burning Cage (SWMU 23) - dimethylphthalate;
- Landfill Site No. 1 (SWMU 24) - butylbenzylphthalate, di-n-butylphthalate, dimethylphthalate, and MEK;

- Former Building 16 Drum Storage Area (SWMU 31) - acetophenone; and
- Former UST No. 20 (AOC E) - benzo(a)pyrene.

9.0 ADDITIONAL DATA NEEDS

The RFA-SV Final Report reported that contaminants are present at concentrations exceeding NYSDEC Soil Cleanup Objectives at the following SWMU/AOC areas: Process Sewer (SWMU3), Building 2B Separator (SWMU 16), Former UST No. 2 Area (SWMU 17), Burning Cage (SWMU 23), Landfill Site No. 1 (SWMU 24), Building 16 Drum Storage Area (SWMU31), and former UST No. 20 Area (AOC E). As part of the RFI, samples will be collected from these SWMU/AOC areas. Ground water samples will be collected using a geoprobe. Soil samples will be collected either by the geoprobe method or by conventional drilling techniques. Sample locations and methodologies to be used will be outlined in the RFI Work Plan.

With the exception of the Burning Cage (SWMU 23) and former UST No. 20 Area (AOC E), both ground water and soil samples will be collected at all SWMU/AOC locations. Ground water collected from Landfill Site No. 1 (SWMU 24), which is adjacent to the burning cage, will be used to evaluate the potential for ground water contamination at the Burning Cage (SWMU 23). During the RFA-SV, benzo(a)pyrene was detected at AOC E in sample SB-E-2. However, the boring logs strongly suggest that the sample submitted for laboratory analysis was collected from the tank fill and, therefore, does not represent native soil conditions. Soil samples will be reanalyzed during the RFI. Ground water will be tested only if contamination is found in the soils.

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