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PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

AG COMMUNICATION SYSTEMS
NORTHLAKE, ILLINOIS
ILD 005 070 545

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

Work Assignment No.	:	R05032
EPA Region	:	5
Site No	:	ILD 005 070 545
Date Prepared	:	September 23, 1993
Contract No.	:	68-W9-0006
PRC No	:	309-R05032IL36
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EXECUTIVE SUMMARY

Resource Applications, Inc. (RAI) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the AG Communication Systems (AGCS) facility in Northlake, Cook County, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The AGCS facility manufactures office phone systems. Boards and parts are brought into the facility for assembly. The facility generates and manages the following primary waste streams: trichlorotrifluoroethane (Freon) still bottoms (F002), waste 1,1,1-trichloroethane (TCA) (F002), waste resin (D001), and nonhazardous used oils, scrap tin/lead solder, and solder dross. Past operations have included electroplating and electroless plating; hardware fabrication, plating, painting, and punch-pressing; and circuit board plating and fabrication. Past hazardous wastes included waste ammonium hydroxide (D002), waste paint thinner (D001), waste xylene (F003), scrap paint (D001), waste naphtha (D001), waste copper hydroxide (F006), waste copper chloride (D002), waste cyanide (F007), waste methylene chloride (F002), waste trichloroethylene (TCE) (F001), and cleanup waste. Past nonhazardous wastes included cleanup waste, cupric sulfate, carbon, filter aid, grinder sludge, abrasive slurry, industrial wastewater, nickel hydroxide sludge, and zinc hydroxide sludge.

The facility has operated at its current location since 1956. The facility occupies 129 acres in a mixed-use area and employs about 1,000 people. AGCS occupies approximately 2 million square feet under roof, in three buildings, although much of the area has been leased out due to business reduction at the facility. The facility's current regulatory status is that of a large-quantity generator of hazardous waste and a hazardous waste treatment, storage, and disposal (TSD) facility. AGCS submitted a RCRA Part A permit application on November 10, 1980. Its RCRA Part A permit application was withdrawn on January 24, 1989, following approval of closure of the Former Outdoor Waste Storage Area (SWMU 3). During the VSI, subsequent to the RCRA Part A permit application withdrawal, the facility was storing hazardous waste in the Waste Storage Cages (SWMU 4) for greater than 90 days.

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GTE Automatic Electric, Inc. bought the property in 1954. The main production building was constructed in 1956. GTE Network Systems acquired the property in 1982. In the mid-1980s, GTE Communications Systems Corporation (GTE-CSC) assumed control of the facility. On January 1, 1989 AGCS became the owner/operator of the facility. AGCS is a joint venture of AT&T and GTE-CSC, and GTE-CSC retains a 51 percent ownership in AGCS.

The PA/VSI identified the following eight SWMUs and one AOC at the facility:

Solid Waste Management Units

RELEASED

1. Satellite Accumulation Areas
2. Waste Storage Area
3. Former Outdoor Waste Storage Area
4. Waste Storage Cages
5. Waste Storage Tank
6. Wastewater Treatment System
7. Solder Reclamation Area
8. Solvent Recovery Stills

Area of Concern

1. On-Site Remediation Area

Releases to ground water have occurred in the past. Monitoring wells installed on site indicate that contamination by volatile organic compounds (VOC) is present near the RCRA-closed Former Outdoor Waste Storage Area (SWMU 3), a former underground storage tank (UST) for product gasoline, and a former UST farm. All three of these areas make up the On-Site Remediation Area (AOC 1). The VOCs consist primarily of trichloroethene (TCE) and 1,2-dichloroethene (DCE). The highest contaminant concentrations in ground water are 800,000 parts per billion (ppb) for TCE and 1.76 million ppb for DCE. According to the facility representative, the facility never managed DCE and the DCE originated from the breakdown of TCE. The potential for releases to ground water from other SWMUs is low because wastes are currently managed indoors. As part of the cleanup of the On-Site Remediation Area (AOC 1), the facility proposes to excavate soils to depths of 30 feet, remove contaminated soils, and dispose of the soil at licensed off-site facilities. The facility also will conduct ground water monitoring to assess the effectiveness of the remediation. These actions are being conducted voluntarily, as stated in a November 19, 1991, Review and Evaluation Services Agreement with Illinois Environmental Protection Agency (IEPA). At the present time, the

facility does not plan to remediate ground water, but has indicated that it will continue ground water monitoring.

The potential for a release to surface water from contaminated on-site soils and ground water in the On-Site Remediation Area (AOC 1) is high because the nearest surface water, Addison Creek, flows along the eastern edge of the property. The facility plans to remove contaminated soil and continue ground water monitoring as part of the cleanup of the On-Site Remediation Area (AOC 1). The potential for releases to surface water from all SWMUs is low because wastes are currently managed indoors.

The potential for a release from contaminated on-site soil in the On-Site Remediation Area (AOC 1) to air is moderate because VOC contamination is present near the Former Outdoor Waste Storage Area (SWMU 3), a former gasoline UST, and a former UST farm. The facility plans to clean up the soil contamination in the On-Site Remediation Area (AOC 1). The potential for a release to air from all SWMUs, except the Solder Reclamation Area (SWMU 7), is low because all volatile wastes are managed indoors in closed containers. No fumes have been identified from the Solvent Recovery Still (SWMU 8). The potential for a release from the Solder Reclamation Area (SWMU 7) to the air is high because solder fumes are vented directly to the outside of the building.

Releases to on-site soil have occurred in the past. In 1986, soil sampling associated with closure of the Former Outdoor Waste Storage Area (SWMU 3) identified metal and VOC contamination. The highest contaminant levels were 193 milligrams per kilogram (mg/kg) for copper, 0.36 mg/kg for cyanide, and 147 mg/kg for TCE. Soil was removed according to an approved closure plan and, according to IEPA, the closure met the requirements of Interim Status Standards. A voluntary environmental evaluation by ENSR Consulting and Engineering (ENSR), conducted in late 1988 and early 1989, identified VOCs in the soil near the Former Outdoor Waste Storage Area (SWMU 3), a former gasoline UST, and a former UST farm. The highest contaminant concentrations are 4 million ppb for TCE in the soil near the former UST farm. The potential for releases to soil from other SWMUs is low because wastes are currently managed indoors. The facility plans to conduct a voluntary cleanup of the contamination in the On-Site Remediation Area (AOC 1) by removing 15,000 cubic yards of soil for off-site disposal.

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The AGCS facility is bordered on the north by an apartment complex, a food distribution warehouse, and a Northlake Public Works maintenance building; on the west by the Chicago and North Western "Proviso" Railroad switching yards and light manufacturing complexes; on the south by a residential area, a park, and a school; and on the east by an apartment complex, a park, and a home for the elderly. Northlake has a population of approximately 12,000 people and the nearest school is Benjamin Franklin School located just south of the facility. All operations at the facility are conducted indoors, and building production areas are kept locked except for badge access. The facility is fenced and has 24-hour security. Outdoor remediation areas are also secured by locked cyclone fences.

The nearest surface water, Addison Creek, flows along the eastern edge of the property. Addison Creek is a tributary to the Des Plaines River and is only used for drainage purposes. There are three ground water supply wells located on the facility property; two of these are in use. These wells are 1,700 feet deep and supply water to the facility for drinking and industrial purposes. Drinking water in Northlake is from the City of Chicago water supply system, which receives surface water from Lake Michigan. Although AGCS is connected into the municipal system, the facility does not use municipal water. There are small, less than 1-acre, wetland areas associated with Addison Creek near the facility. These areas are palustrine, open water, permanently flooded and riverine, lower perennial, open water, permanently flooded, and excavated wetlands. There are also two wetlands, greater than 2 acres in size, located approximately 1 mile to the west and northwest of the facility; a palustrine, emergent, semi-permanently flooded area and a lacustrine, limnetic, open water, permanently flooded and excavated area.

RAI recommends that AGCS continue with the cleanup of soil contamination in the On-Site Remediation Area (AOC 1) under guidance from IEPA. RAI also recommends that ground water contamination be remediated. This should include the contamination of VOCs from the Former Outdoor Waste Storage Area (SWMU 3), as well as from the former gasoline UST and the former UST farm. The facility should formally close the Waste Storage Cages (SWMU 4), currently in use by a cleanup contractor, because the unit has managed hazardous wastes for greater than 90 days. RAI recommends no further action at this time for the remaining SWMUs.

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1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5. Resource Applications, Inc. (RAI), TES 9 team member, provided the necessary assistance to complete the PA/VSI activities for the AG Communication Systems (AGCS) facility.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the AGCS facility (EPA Identification No. ILD 005 070 545) in Northlake, Illinois. The PA was completed on February 1, 1992. RAI gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from EPA Region 5 RCRA files. RAI also reviewed information that is relevant to the area of the facility from the U.S. Department of Commerce (USDC), U.S. Department of the Interior (USDI), U.S. Geological Survey (USGS), Federal Emergency Management Agency (FEMA), and the Illinois State Geological Survey (ISGS). The VSI was conducted on February 21, 1992. It included interviews with a facility representative and a walk-through inspection of the facility. RAI identified eight SWMUs and one AOC at the facility.

The VSI is summarized and 11 inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B. The facility's RCRA Part A permit application is included in Attachment C and sampling data for the On-Site Remediation Area (AOC 1) are included in Attachment D.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; a history of documented releases; regulatory history; environmental setting; and receptors.

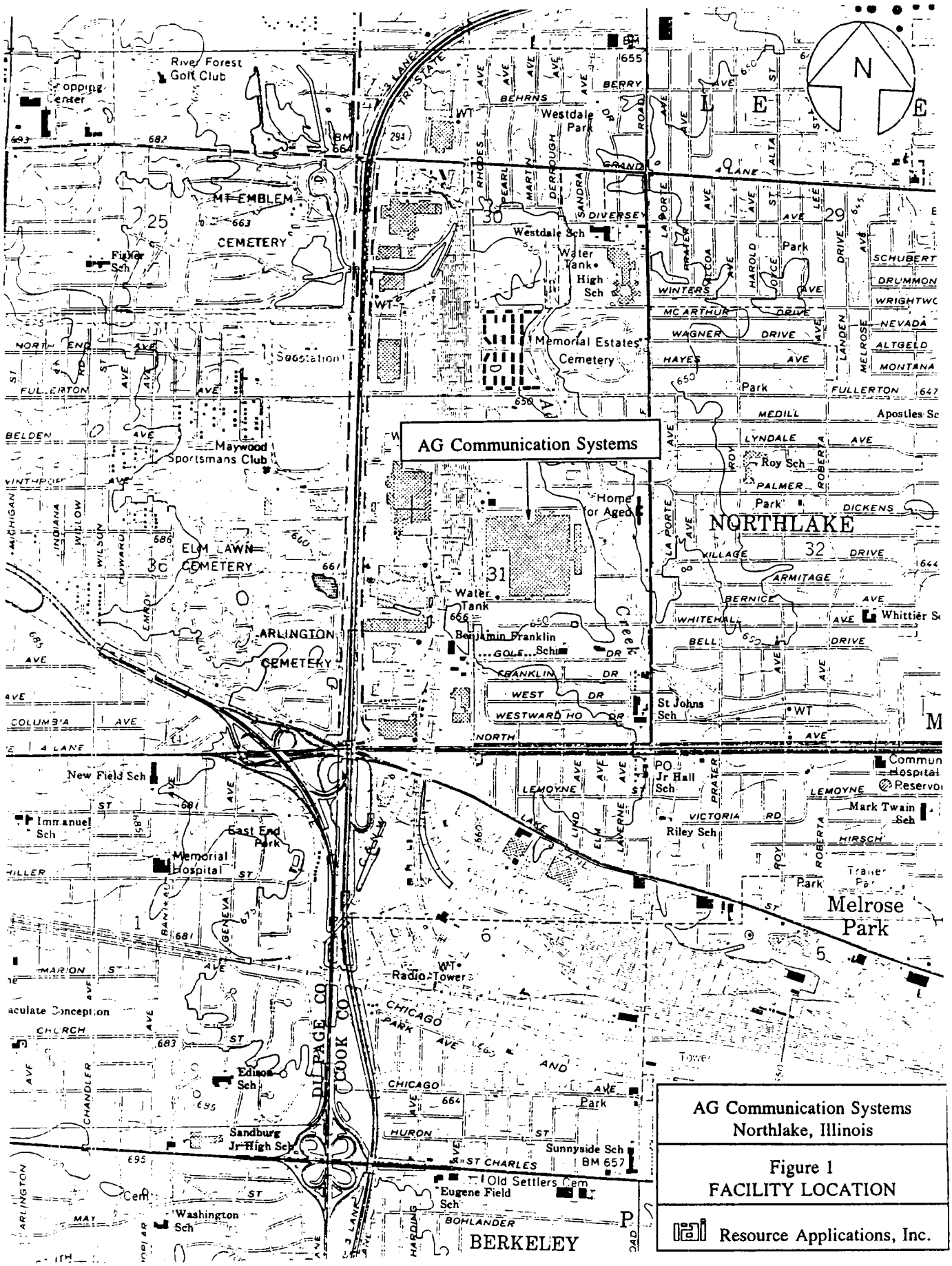
2.1 FACILITY LOCATION

The AGCS facility is located at 400 North Wolf Road in Northlake, Cook County, Illinois. Figure 1 shows the location of the facility in relation to the surrounding topographic features (latitude 41°55'00" N and longitude 87°54'36" W). The facility occupies 129 acres in a heavily commercial/manufacturing and residential area. The facility consists of approximately 2 million square feet under roof, in three buildings, although much of the space has been leased out due to business reductions.

The facility is bordered on the north by an apartment complex, a food distribution warehouse, and a Northlake Public Works maintenance building; on the west by the Chicago and North Western "Proviso" Railroad switching yard and light manufacturing complexes; on the south by a residential area, a park, and a school; and on the east by an apartment complex, a park, and a home for the elderly. Addison Creek flows along the eastern edge of the property. A dam and a spillway associated with the creek are located within AGCS property boundaries.

2.2 FACILITY OPERATIONS

The facility currently manufactures digital central office (telephone) switching equipment. Printed circuit boards and electronic components are brought into the facility for assembly. AGCS uses computer "pick and place" machines to affix electronic components to printed circuit boards. Operations involve soldering and testing the equipment. Wastes generated include 1,1,1-trichloroethane (TCA) (F002), trichlorotrifluoroethane (Freon) (F002), waste resin (D001), and nonhazardous used oils, scrap tin/lead solder, and solder dross. Hazardous waste is currently managed in drums in the Waste Storage Area (SWMU 2).



AG Communication Systems
Northlake, Illinois

Figure 1
FACILITY LOCATION

Resource Applications, Inc.

Source: Modified from USGS, 1980 Scale: 1 inch = 2,000 feet

Solid wastes generated from facility operations and the SWMUs where they are managed are discussed in detail in Section 2.3. The facility is currently regulated as a large-quantity generator of hazardous waste and a hazardous waste treatment, storage, and disposal (TSD) facility.

AGCS has operated at the facility since 1989 and employs about 1,000 people. The facility operations occur in one main production building. Two additional smaller buildings are also located on the property; one is leased to Dominick's Finer Foods and the other houses the boiler for the facility. Approximately 35 percent of the facility property is covered by building, 35 percent is covered by concrete or asphalt docks and parking lots, and the remainder of the area consists of landscaped lawns.

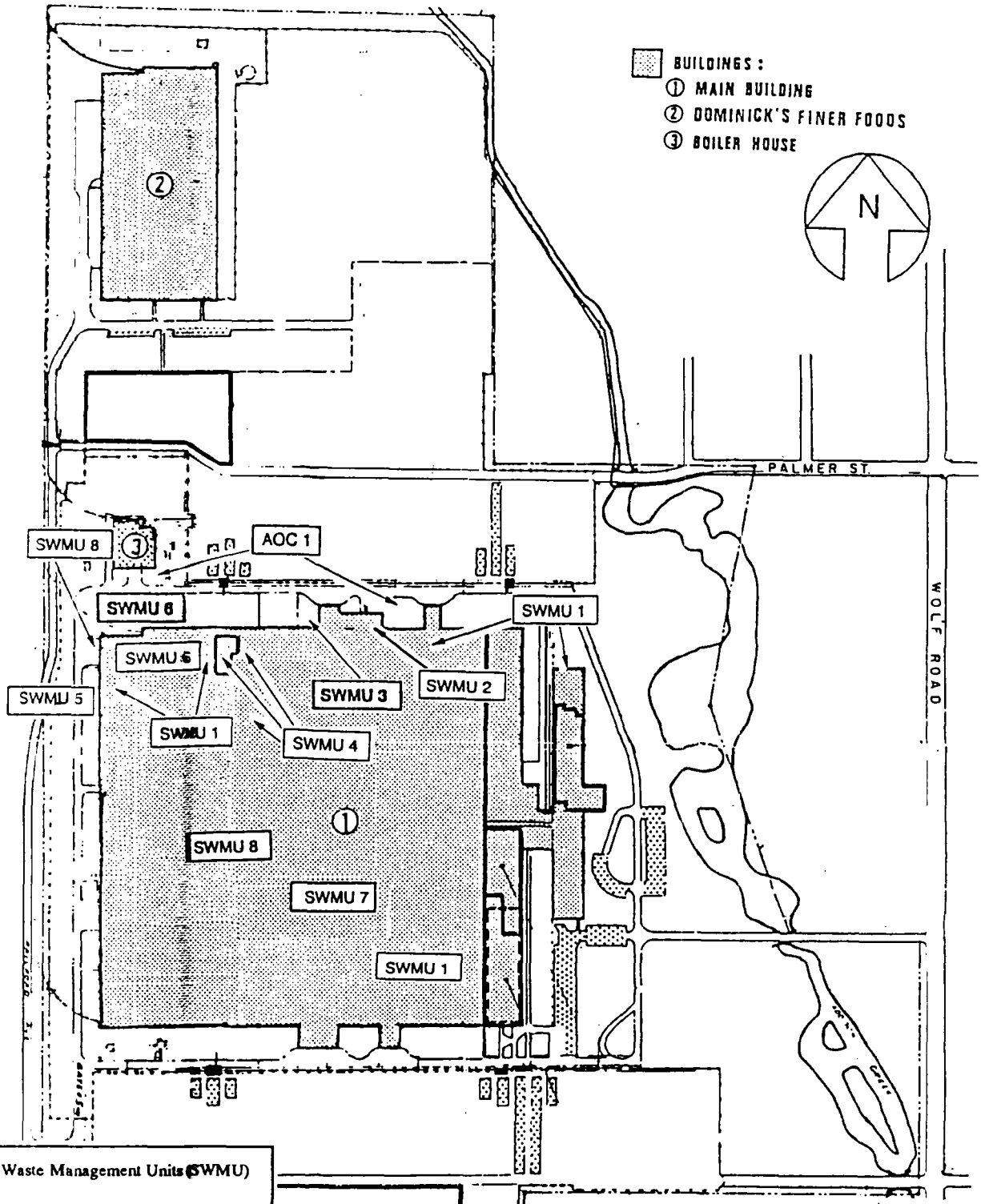
The AGCS facility is the former site of the Westward Ho Golf Course. GTE Automatic Electric, Inc. (GTE-AE) bought the property in 1954. The main production building was constructed in 1956. GTE Network Systems acquired the property in 1982. In the mid-1980s, GTE Communications Systems Corporation (GTE-CSC) assumed control of the facility. On January 1, 1989 AGCS became the owner/operator of the facility. AGCS is a joint venture of AT&T and GTE-CSC, and GTE-CSC retains a 51 percent ownership in AGCS.

From 1956 until approximately 1980, electromechanical switches were manufactured at the facility. From 1980 through 1991, the facility manufactured digital central office switching equipment. Specific components produced included printed circuit boards, printed circuit board assemblies, frame hardware and frames, and fully assembled and tested central office switches. Processes used in the production of these products included: printed circuit board fabrication, consisting of laminating, drilling, imaging, etching, and plating; sheet metal fabrication; metal finishing, including plating and painting; printed circuit board assembly and testing, including component placement, wave soldering, and solder paste screening; backplane assembly and testing, including vapor-phase soldering and press fit pin; frame assembly and testing; and card repair. In November 1991, processes supporting printed circuit board fabrication operations were discontinued and these process areas are currently being decommissioned; production equipment is being removed and the areas are being cleaned up.

Associated with printed circuit board fabrication operations were plating lines and a Wastewater Treatment System (SWMU 6) for the pretreatment of industrial wastewater from the plating lines. The facility had plating operations associated with two processes: circuit board fabrication, and hardware fabrication and finishing. Spray guns were associated with four paint spray booths used to paint frames and hardware. Hardware fabrication and finishing was phased out during the 1980s. During 1991, printed circuit board fabrication was phased out and it ceased altogether by November. The Wastewater Treatment System (SWMU 6), consisting of a holding tank, a clarifier, and a pH neutralization tank, primarily generated hazardous and nonhazardous metal sludges. The pH neutralization tank is a large, outdoor, open, concrete tank, approximately 25 feet by 25 feet, with an approximately 15,000-gallon capacity. The tank is located north of the northwest corner of the production building and south of the boiler house. Water in the tank was continuously monitored for pH and neutralized prior to discharge to the Metropolitan Water Reclamation District (MWRD). AGCS used sulfuric acid and sodium hydroxide to neutralize the wastewater. Effluent was discharged to the MWRD and the Wastewater Treatment System (SWMU 6) was not regulated under RCRA.

AGCS also performs tin/lead solder recycling in the Solder Reclamation Area (SWMU 7). Solder dross is separated in a covered crucible managed within a fume hood. The recycled scrap tin/lead solder is returned to process or managed as scrap metal, and the solder dross is managed as scrap metal.

Prior to 1982, the facility performed woodworking operations with routers. Associated with this process were two large Cyclone Dust Collectors which are located outside the west wall of the production building. The Cyclone Dust Collectors managed wood dust exclusively, and the wood dust was subsequently disposed of as general refuse. These woodworking operations ceased in 1982 and the Cyclone Dust Collectors have been inactive since that time. In addition, the facility currently uses two small baghouses to collect fiberglass router dust. The baghouses are located in the southeast corner of the production building. The baghouses exclusively manage fiberglass dust from cutting fiberglass circuit boards. The fiberglass dust is subsequently disposed of as general refuse. The Cyclone Dust Collectors and baghouses are not considered SWMUs because they only manage or managed nonhazardous general refuse. The facility layout, including the location of each SWMU and AOC, is shown in Figure 2.



Solid Waste Management Units (SWMU)

1. Satellite Accumulation Areas
2. Waste Storage Area
3. Former Outdoor Waste Storage Area
4. Waste Storage Cages
5. Waste Storage Tank
6. Wastewater Treatment System
7. Solder Reclamation Area
8. Solvent Recovery Stills

Area of Concern (AOC)

1. On-Site Remediation Area

AG Communication Systems
Northlake, Illinois

Figure 2
FACILITY LAYOUT

Resource Applications, Inc.

Approximate Scale: 1 inch = 520 feet

Source: Modified from AG Communication Systems sketch received by RAI on February 2, 1992

The facility manages scrap metal for recycling and raw commercial product in 55-gallon drums, indoors on a urethane-coated floor. Six steel aboveground storage tanks (AST) were used to store bulk raw commercial product. According to the facility representative, AGCS is in the process of removing its ASTs. The contractor for this work and the decommissioning of the process areas is OH Materials, Inc. (OHM). Hazardous and nonhazardous wastes generated during these cleanup operations are being stored indoors, in one of the Waste Storage Cages (SWMU 4), prior to off-site disposal.

According to the facility representative, AGCS removed 11 USTs in 1986 or 1987 from two areas: one area was the former UST farm north of the production building and the other area was the location of a former gasoline UST south of the Boiler House. All of these steel tanks were installed in 1956. The former UST farm consisted of 10 USTs, ranging in size from 300 to 6,000 gallons. Seven of the USTs were used for storing virgin hydraulic and cutting oils, while three were used for storing product xylene, trichloroethene (TCE), and mineral spirits. The tanks were never used for managing wastes. In addition, a 275-gallon diesel fuel UST was closed-in-place, just west of the Boiler House. AGCS is involved in a voluntary cleanup program, under the guidance of IEPA, to clean up volatile organic compounds (VOC) contamination from the Former Outdoor Waste Storage Area (SWMU 3), the former gasoline UST, and the former UST farm, which comprise the On-Site Remediation Area (AOC 1).

AGCS had a research and development laboratory (R & D lab) on the upper level in the east side of the production building. This R & D lab was used for production development and was closed in early 1990. A process laboratory for analyzing chemicals and plating solutions operated in the northwest corner of the production building. This process laboratory ceased operating in November 1991 when plating operations at the facility ceased.

AGCS utilizes four closed-loop stills (Solvent Recovery Stills, SWMU 8) on site to recover solvents. The facility has two Freon stills, one TCA still, and one inactive methylene chloride still. The stills receive spent solvents and return recovered solvents to printed circuit board assembly and plating process units via pipes.

2.3 WASTE GENERATION AND MANAGEMENT

Current AGCS operations involve assembling and soldering purchased printed circuit boards and parts. Most operations are automated; including conveyorized process lines, computer placement of components, and robotic testing and inspection.

Wastes have been generated and managed at various locations in the facility. The facility's SWMUs and their current status are identified in Table 1. The facility's waste streams are summarized in Table 2. The facility generates and manages the following waste streams: Freon still bottoms (F002), waste TCA (F002), waste resin (D001), and nonhazardous used oil, scrap tin/lead solder, and solder dross. In the past, wastes included waste ammonium hydroxide (D002), waste paint thinner (D001), waste xylene (F003), scrap paint (D001), waste naphtha (D001), waste copper hydroxide (F006), waste copper chloride (D002), waste methylene chloride (F002), waste cyanide (F007), waste TCE (F001), cupric sulfate, carbon, filter aid, grinder sludge, abrasive slurry, industrial wastewater, nickel hydroxide sludge, and zinc hydroxide sludge.

AGCS uses computer "pick and place" machines to affix electronic components to printed circuit boards. The boards travel by conveyor through a wave soldering machine. The facility uses Freon for solder defluxing and assembly of printed circuit boards. Freon recirculates through two Solvent Recovery Stills (SWMU 8) and is returned by pipes to the defluxer process units. Freon still bottoms (F002) are drained to a 5-gallon bucket and then transferred to a 55-gallon drum in one of the Satellite Accumulation Areas (SWMU 1). Full drums are then transferred to the Waste Storage Area (SWMU 2). The waste is transported and disposed of by Avganic Industries, Inc. (Avganic) in Cottage Grove, Wisconsin for recycling. The facility generated 825 gallons of this waste in 1991 and usually has less than 55 gallons on site, in one of the Satellite Accumulation Areas (SWMU 1). In the past, this waste was previously managed in the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4).

Waste TCA (F002) is also generated from defluxing and cleaning. The TCA was also used in printed circuit board production to remove plating resist (solder mask). The TCA recirculates through one of the facility's Solvent Recovery Stills (SWMU 8) and is returned to the process equipment. The waste TCA (F002) is accumulated in 55-gallon drums in one of the Satellite

TABLE 1

SOLID WASTE MANAGEMENT UNITS

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit[a]	Status
1	Satellite Accumulation Areas	No	Active
2	Waste Storage Area	No	Active, less than 90-day storage of hazardous waste
3	Former Outdoor Waste Storage Area	Yes	Inactive; RCRA closure on January 24, 1989
4	Waste Storage Cages	Yes	Active, greater than 90-day storage of hazardous waste
5	Waste Storage Tank	No	Inactive
6	Wastewater Treatment System	No	Inactive
7	Solder Reclamation Area	No	Active, storage of scrap metal waste
8	Solvent Recovery Stills	No	Three stills are active; one still is inactive (taken out of service in December 1990)

Note:

[a] A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

TABLE 2

SOLID WASTES

Waste/EPA Waste Code[a]	Source	Solid Waste Management Unit
Freon still bottoms/F002	Defluxing and printed circuit board assembly	1, 2, 3, 4 and 8
Waste TCA/F002	Defluxing and printed circuit board plating	1, 2, 3, 4 and 8
Waste resin/D001	Soldering	1, 2, 3, and 4
Used oils/NA	Machinery	1, 2, 3, and 4
Scrap tin/lead solder/NA	Solder reclamation	7
Solder dross/NA	Solder reclamation	7
Waste ammonium hydroxide/D002	Copper etch	5
Waste paint thinner/D001	Paint guns	1, 3, and 4
Waste xylene/F003	Paint guns	1, 3, and 4
Scrap paint/D001	Off-specification stock	4
Waste naphtha/D001	Circuit board fabrication	1 and 3
Waste copper hydroxide/F006	Wastewater treatment	1, 2, 3, and 4
Waste copper chloride/D002	Research and development	4
Waste cyanide/F007	Plating	4
Waste methylene chloride/F002	Stripping and printed circuit board plating	1, 3, 4 and 8
Waste trichloroethylene (TCE)/F001	Cleaning and degreasing	1, 2, 3, and 4

Notes:

[a] Not applicable (NA) designates nonhazardous waste.

TABLE 2 (Continued)

SOLID WASTES

Waste/EPA Waste Code[a]	Source	Solid Waste Management Unit
Cleanup waste/Various[b]	Decommissioning process area	4
Waste cupric sulfate/NA	Wastewater treatment	1, 3, and 4
Waste carbon/NA	Wastewater treatment	1 and 3
Waste filter aid/NA	Wastewater treatment	1 and 3
Waste grinder sludge/NA	Circuit board fabrication	3
Waste abrasive slurry/NA	Circuit board fabrication	3
Industrial wastewater	Plating operations	6
Nickel hydroxide sludge/NA	Wastewater treatment	1, 2, 3, and 4
Zinc hydroxide sludge/NA	Wastewater treatment	1, 2, 3, and 4

Notes:

[a] Not applicable (NA) designates nonhazardous waste.

[b] This waste was generated on site by an independent contractor.

Accumulation Areas (SWMU 1). Full drums are then transferred to the Waste Storage Area (SWMU 2). The waste TCA is transported and disposed of by Avganic in Cottage Grove, Wisconsin for treatment. The facility generated 1,705 gallons of this waste in 1991. In the past, waste TCA was managed in the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4).

Waste resin (D001) (flux) is generated from soldering operations. The waste resin (D001) is accumulated in 55-gallon drums in one of the Satellite Accumulation Areas (SWMU 1). Full drums are transferred to the Waste Storage Area (SWMU 2). Drums are transported and disposed of by Liquid Waste Disposal, Inc. (LWD) in Calvert City, Kentucky for incineration. The facility generated 2420 gallons of this waste in 1991. Waste resin (D001) was previously managed in the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4).

Nonhazardous used oils are generated from the routine maintenance of the hydraulic machines. This used oil is pumped into 55-gallon drums or 5-gallon drums and managed in one of the Satellite Accumulation Areas (SWMU 1). Full drums are transferred to the Waste Storage Area (SWMU 2). Drums are transported and disposed of as a special waste by Heritage Environmental Services, Inc. (Heritage) in Lemont, Illinois for refining. The facility generates approximately 4,400 gallons of nonhazardous used oils per year. Nonhazardous used oils were previously managed in the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4).

Scrap tin/lead solder recycling is performed in the Solder Reclamation Area (SWMU 7). Solder dross is removed from process equipment with a ladle. The solder dross is placed in metal totes and transferred to the Solder Reclamation Area (SWMU 7). The solder dross is separated in a covered crucible managed within a fume hood. The recycled scrap tin/lead solder is returned to process or managed as scrap metal, and the solder dross is managed as scrap metal. According to the facility representative, no waste analysis was performed by the facility for this waste. The facility does not inventory or manifest scrap metal. According to the facility representative, approximately 5 years worth of scrap tin/lead solder and solder dross was recently sold, but he could not provide the recycler's name. The facility representative estimated that 4,500 pounds of scrap tin/lead solder and solder dross were sold.

In the past, the facility generated wastes from operations which are no longer conducted. These operations included metal working, metal plating, and wastewater treatment. Most of these were phased out in November 1991. The facility used copper, nickel, and tin plating to make the patterns for electrical flow on the printed circuit boards. Waste ammonium hydroxide (D002) was generated as spent bath solution from an ammoniacal copper etch process. The waste ammonium hydroxide (D002) was pumped by pipe to the Waste Storage Tank (SWMU 5) and removed by tanker truck. The Waste Storage Tank (SWMU 5) did not manage waste for greater than 90 days. The facility generated 26,150 gallons of waste ammonium hydroxide (D002) in 1991, which were transported and disposed of by C.P. Inorganics, Inc. (C.P. Inorganics) in Joliet, Illinois to reclaim the copper.

Waste paint thinner (D001) and waste xylene (F003) were generated from cleaning out the spray guns associated with four paint spray booths used to paint frames and hardware. A fifth painting unit, a conveyorized electrostatic paint line was also utilized at the facility. A combined total of 770 gallons were generated in 1991. Waste paint thinner (D001) and waste xylene (F003) were accumulated in 55-gallon drums in one of the Satellite Accumulation Areas (SWMU 1). There were five Satellite Accumulation Areas (SWMU 1) associated with painting operations; one for each painting unit. Full drums were then transferred to the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4). In 1988, a one-time generation of scrap paint (D001) occurred from cleaning the stockroom. The scrap paint (D001) was transported and disposed of with the waste paint thinner (D001) and waste xylene (F003) by LWD in Calvert City, Kentucky, for incineration. According to the facility representative, the scrap paint (D001) was stored in one of the Waste Storage Cages (SWMU 4), but he was unable to provide information about the exact amount that was generated.

Waste naphtha (D001) was generated from the printed circuit board process area. The waste naphtha (D001) was used as a paint thinner and to clean print rollers. The waste was accumulated in 55-gallon drums in one of the Satellite Accumulation Areas (SWMU 1). The drums were transferred to the Former Outdoor Waste Storage Area (SWMU 3) and were transported and disposed of by LWD in Calvert City, Kentucky, for incineration. This waste was not generated after 1987. File reviews and interviews with the facility representative did not provide information on the rates of generation for this waste.

Waste copper hydroxide (F006) was generated as a sludge from the Wastewater Treatment System (SWMU 6). Rinse water from the plating line was pH adjusted and a flocculent was added. The solution was pumped to a clarifier and the resulting sludge was then pumped to a filter press. The waste copper hydroxide (F006) was collected inside 1,600-pound plastic bags. The facility had two Satellite Accumulation Areas (SWMU 1) for accumulating the waste copper hydroxide (F006). The printed circuit board area also had one electroless copper plating line. This also generated a sludge containing waste copper hydroxide (F006). This waste, from the electroless copper plating line, was managed similarly to the other waste copper hydroxide; sludge was pumped to a filter press and the waste copper hydroxide (F006) was collected inside 1,600-pound bags. Full bags were then transferred to the Waste Storage Area (SWMU 2), or, previously, to the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4). The waste copper hydroxide (F006) was transported by BES Environmental of Dunmore, Pennsylvania to World Resources Company Processing (WRCP) in Pottsville, Pennsylvania for reclaiming of the copper. The Wastewater Treatment System (SWMU 6) generated one or two bags per week and the electroless copper plating line generated one bag every 2 to 3 weeks.

Waste copper chloride (D002) was generated when copper chloride solution, used as an etchant for circuit boards, became spent. According to the facility representative, this waste was managed in a drum in the Waste Storage Cages (SWMU 4). The waste was transported by SET Environmental, Inc. (SET) of Wheeling, Illinois and disposed of by Recontek of Newman, Illinois, for reclaiming of the copper content. In 1991, AGCS generated 13,738 gallons of this waste.

Waste cyanide (F007) was generated from several plating sources. AGCS used zinc cyanide, gold cyanide, and copper cyanide as plating solutions. In 1984 or 1985, a 6,000-gallon zinc cyanide plating tank was emptied to change the solution. The entire bath was transported by tanker to Envirite, Inc. of Harvey, Illinois for treatment and disposal, and was not managed on site. Waste cyanide (F007) was also generated from a 1-gallon tank used for electroplating. This was a one-time generation in 1988. The waste was managed in a drum in one of the Waste Storage Cages (SWMU 4) prior to transport by SET of Wheeling to United Refining in Franklin Park, Illinois for reclamation. According to the facility representative, the cyanide plating solutions were kept heated during process operations. This caused liquid to evaporate and waste was not routinely generated.

Waste methylene chloride (F002) was generated from stripping the floor wax. This solid waste contained oil dry. The waste methylene chloride was managed in 55-gallon drums in the Former Outdoor Waste Storage Area (SWMU 3). The waste was shipped by LWD to their Calvert City, Kentucky facility for incineration. In 1991, 385 gallons of this waste was generated. In the past, waste methylene chloride was also generated from stripping plating resist, part of the printed circuit board plating process. Methylene chloride was recirculated in one of the facility's Solvent Recovery Stills (SWMU 8), which was attached to the resist strip process unit via pipes. The still was in use between 1970 and December 1990. The still and solvent were not used after 1990. The still generated waste methylene chloride (F002) as still bottoms. The waste methylene chloride (F002) was accumulated in 55-gallon drums in one of the Satellite Accumulation Areas (SWMU 1). Full drums were transferred to the Waste Storage Cages (SWMU 4). The waste methylene chloride was also managed in the Former Outdoor Waste Storage Area (SWMU 3). The waste was transported and disposed of by Avganic in Cottage Grove, Wisconsin or LWD in Calvert City, Kentucky for incineration. The facility generated 110 gallons of this waste in 1991.

Waste TCE (F001) was generated from vapor cleaning and degreasing. The facility used open-top degreasers, no longer in service, as part of the hardware metal fabrication process. This waste was generated in small amounts (less than 55 gallons) each year, which were managed in a 55-gallon drum in one of the Satellite Accumulation Areas (SWMU 1). The full drums were then transferred to the Waste Storage Area (SWMU 2). This waste was previously managed at the Former Outdoor Waste Storage Area (SWMU 3) and the Waste Storage Cages (SWMU 4). Drums were transported and disposed of by Safety-Kleen Corporation in Elgin, Illinois or Avganic in Cottage Grove, Wisconsin for recycling.

Activities to shut down circuit board fabrication process areas involve removal of process machinery and cleanup of the corresponding building areas. These activities are being conducted by an independent contractor, OHM. According to the facility representative, AGCS will also have a one-time generation of 55,000 gallons of process solutions. In addition, there will be one-time generations of miscellaneous chemicals from the process area cleanup. During the VSI, the facility representative indicated that these cleanup wastes might include off-specification chemicals, out-of-date chemicals, and other unknown materials which might be found within the building. These cleanup wastes will be sampled by Great Lakes Laboratories, and will then be packaged, managed,

and disposed of accordingly. Generated cleanup wastes are stored in drums in one of the Waste Storage Cages (SWMU 4). According to the facility representative, some of this waste is hazardous and has been managed accordingly. However, the representative also stated that some of the material had been on site for greater than 90 days but indicated that he was unaware of any specifics because he assumed it was the contractor's responsibility, because the contractor was making the arrangements for waste removal.

Nonhazardous waste cupric sulfate was generated as a means to remove copper from the etching process solutions. The facility would add hydrochloric acid and decrease the bath temperature, and cupric sulfate crystals would precipitate out of solution. Approximately one 55-gallon drum was generated each week by the Wastewater Treatment System (SWMU 6). The waste was accumulated in one of the Satellite Accumulation Areas (SWMU 1). When full, the drum was transferred to the Former Outdoor Waste Storage Area (SWMU 3) or the Waste Storage Cages (SWMU 4). Waste cupric sulfate was transported and disposed of by C.P. Inorganics of Joliet, Illinois for reclaiming of the copper.

Nonhazardous waste carbon and nonhazardous waste filter aid were formerly generated from the Wastewater Treatment System (SWMU 6). The filter aid was diatomaceous earth. The wastes were used to remove excess organics as part of the treatment for the plating solutions. The generation rate for these nonhazardous wastes varied, depending upon the amount of material being plated and the maintenance needs of the plating solutions. These nonhazardous wastes were accumulated in drums in one of the Satellite Accumulation Areas (SWMU 1) and then transferred to the Former Outdoor Waste Storage Area (SWMU 3) prior to shipping to Browning-Ferris Industries (BFI)/ Winthrop Harbor in Zion, Illinois for landfilling. The waste was not generated after 1986, and the file review and interview with the facility representative failed to provide any additional information about generation rates or the transporter of this waste.

Nonhazardous grinder sludge was generated from routine maintenance and nonhazardous abrasive slurry was generated from printed circuit board production. The last shipment of grinder sludge was in 1986 to BFI/Winthrop Harbor in Zion, Illinois. The file review and interview with the facility representative failed to provide any additional information about the use, management, or generation rate of the grinder sludge. Nonhazardous abrasive slurry was a pumice and was used for

polishing the circuit boards between the laminations. The last shipment of this waste was in 1986. According to the facility representative, these wastes were probably managed in drums in the Former Outdoor Waste Storage Area (SWMU 3) prior to shipping to BFI/Winthrop Harbor for landfilling. The file review and interview with the facility representative failed to provide any additional information about generation rate or transporter of the abrasive slurry.

The Wastewater Treatment System (SWMU 6) treated industrial wastewater from plating operations in the printed circuit board process area. This system included a holding tank where industrial wastewater was pH adjusted and a flocculent was added. The water proceeded by pipe to a clarifier and then to the outdoor pH neutralization tank prior to discharge to the MWRD. The nickel hydroxide sludge or zinc hydroxide sludge from the clarifier was pumped by pipe to a filter press. From the filter press, the sludge was accumulated in 1-cubic-yard bags. The waste sludges went to a storage area prior to removal to recyclers (see below). The filtrate was discharged to the pH neutralization tank. The Wastewater Treatment System (SWMU 6) is no longer in operation; operations ceased in November 1991 and the unit was to be removed in 1992.

Industrial wastewater from the nickel rinse was treated in a batch tank. The wastewater was neutralized as a batch process in the Wastewater Treatment System (SWMU 6). Sludge from the tank was sent to the filter press and the nonhazardous nickel hydroxide sludge was placed in 1-cubic-yard bags in one of the Satellite Accumulation Areas (SWMU 1). The bags were transferred to the Waste Storage Area (SWMU 2) or previously, to the Former Outdoor Waste Storage Area (SWMU 3) or the Waste Storage Cages (SWMU 4). The filtrate was discharged to the pH neutralization tank. The nonhazardous nickel hydroxide sludge was transported by SET of Wheeling to WRCP in Pottsville, Pennsylvania or Recontek in Newman, Illinois for recycling. Nonhazardous zinc hydroxide sludge was managed in the same manner as the nickel hydroxide sludge; zinc rinse sludge was pumped to a filter press and the nonhazardous zinc hydroxide sludge was placed in 1-cubic-yard bags in one of the Satellite Accumulation Areas (SWMU 1). The bags were transferred to the Waste Storage Area (SWMU 2) or previously, to the Former Outdoor Waste Storage Area (SWMU 3) or the Waste Storage Cages (SWMU 4). However, the zinc hydroxide sludge was transported by SET of Wheeling, Illinois to Envirite, Inc. in Harvey, Illinois for recycling.

The Wastewater Treatment System (SWMU 6) also treated industrial wastewater from the hardware production area. One large batch treatment tank was used to treat industrial wastewater from the zinc rinse. The industrial wastewater was pumped to a 300-gallon plastic tote with a metal frame, and then transported in the tote by forklift to the filter press. The water was discharged to the MWRD sewer. The nonhazardous zinc hydroxide sludge was managed in 1-cubic-yard bags in one of the Satellite Accumulation Areas and then transferred to the Waste Storage Area (SWMU 2). The zinc hydroxide sludge was previously managed in the Former Outdoor Waste Storage Area (SWMU 3) or the Waste Storage Cages (SWMU 4) prior to removal by SET of Wheeling, Illinois for off-site recycling by Envirite, Inc. of Harvey, Illinois. Although managed separately, this waste was managed in the same manner as the zinc hydroxide sludge from the circuit board area.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the facility.

The facility has had two spills and two other documented releases. In 1984 or 1985, GTE-CSC had a spill of approximately 100 to 150 gallons of waste ammonium hydroxide (D002) from the Waste Storage Tank (SWMU 5). At that time, the tank was without secondary containment. During transfer from the tank to a tanker, a hose detached and spilled waste ammonium hydroxide to the roadway and adjacent shoulder. The liquid was vacuumed up by the facility and removed with the rest of the waste. According to the facility representative, the area was sampled during a facility environmental audit by ENSR Consulting and Engineering (ENSR) in 1989 and determined to be clean. Sampling information was submitted to IEPA for approval (ENSR, 1991).

In 1989, the facility had a spill of diesel fuel to the roadway along the south half of the west wall of the production building. Approximately 55 gallons were released when a truck ran over a pipe containing the fuel. The facility removed approximately six drums of soil. According to the facility representative, the remaining soil was tested with an organic vapor analyzer following the excavation and determined to be clean. Sampling information was submitted to IEPA for approval (ENSR, 1991).

In 1986, activities related to RCRA closure of the Former Outdoor Waste Storage Area (SWMU 3) identified soil and ground water contamination. Due to the sampling results, the sampling program was expanded as required in the approved closure plan. The expanded sampling program indicated that background levels were exceeded at most of the locations and depths at SWMU 3. Maximum contaminant concentrations were 193 milligrams per kilogram (mg/kg) for copper, 0.36 mg/kg for cyanide, 147 mg/kg for TCE, 71 mg/kg for TCA, 46 mg/kg for Freon, 27 mg/kg for xylene, and 6.2 mg/kg for methylene chloride; and contamination was identified at the 48-inch maximum depth for sampling (GTE-CSC, 1986). The cement pad and underlying soil at the Former Outdoor Waste Storage Area (SWMU 3) were removed, the closure was accepted by IEPA, and the RCRA Part A permit application was withdrawn by IEPA on January 24, 1989 (IEPA, 1989a).

In late 1988 and early 1989, a preliminary environmental evaluation of the facility was performed by ENSR. The evaluation was performed as part of AT&T's standard practice following the creation of the AGCS joint venture. GTE-CSC retained responsibility and liability for environmental matters (AGCS, 1989). During the evaluation, ENSR identified several areas containing VOCs. The VOCs consisted primarily of TCE and 1,2-dichloroethene (DCE). Petroleum constituents were also detected. According to the facility representative, AGCS never managed DCE and the DCE originated from the breakdown of TCE. Dames and Moore (D and M) was subsequently retained to conduct additional investigative studies. D and M data, collected subsequent to ENSR's investigation, were used to further define the nature and extent of the contamination in the ground water and the soil. AGCS has proposed to excavate the soils to a depth of 30 feet (the approximate depth of the water table) as part of the cleanup of the On-Site Remediation Area (AOC 1) and dispose of the soils at appropriate off-site facilities. Afterwards, the ground water will be monitored to assess the effectiveness of the remediation (ENSR, 1991). Attachment D presents data from this report which indicates soil contaminant concentrations of 4 million parts per billion (ppb) for TCE. According to the facility representative, ground water contamination includes 800,000 ppb of TCE and 1.76 million ppb of DCE. At the present time, there are no plans to remediate ground water contamination.

According to the facility representative, the facility has performed indoor air monitoring for tin/lead solder vapor or fumes, and no air releases have been detected.

2.5 REGULATORY HISTORY

GTE Automatic Electric, Inc. (GTE-AE) submitted a Notification of Hazardous Waste Activity form to EPA on August 18, 1980 (GTE-AE, 1980a). GTE-AE submitted a RCRA Part A permit application on November 19, 1980 (GTE-AE, 1980b). This application listed S01, container storage, with a 116,160-gallon design capacity. The application also listed T01, tank treatment, with 800,000 gallons per day design capacity. The application listed various F-, D-, P-, and U-wastes, many with containerized storage and landfill (D80) disposal or reclaim (see Attachment C). The S01 container storage referred to the Former Outdoor Waste Storage Area (SWMU 3). The T01, tank treatment, referred to the Wastewater Treatment System (SWMU 6). The D80 (landfill disposal) was a protective filing and disposal never occurred on site (IEPA, 1982). The facility also protectively notified as a transporter (IEPA, 1986). On January 23, 1989, AGCS notified IEPA that GTE-CSC had sold the property to AGCS on January 1, 1989 (AGCS, 1989). The facility is currently regulated as a large-quantity generator and TSD of hazardous waste (due to greater than 90-day storage of hazardous waste in SWMU 4). According to the facility representative, the Waste Storage Cages (SWMU 4) were first identified to be managing hazardous waste for greater than 90 days at the time of the VSI. The facility requested withdrawal of its RCRA Part A permit application on July 17, 1985 (GTE-CSC, 1985). The facility's final closure plan to close the Former Outdoor Waste Storage Area (SWMU 3) was approved by IEPA on August 17, 1988. IEPA approved the completion of closure activities and the facility's RCRA Part A permit application withdrawal request on January 24, 1989 (IEPA, 1989a).

In the past, AGCS has had minor RCRA compliance problems. These violations, observed during three inspections conducted by IEPA in 1982, 1986, and 1988, pertained to deficiencies such as lack of adequate contingency plan, training records, and inspection schedules. In addition, drums of hazardous waste were not properly labelled and the Waste Storage Tank (SWMU 5) had no certified written assessment or secondary containment. Most violations were resolved swiftly and no orders were issued (IEPA, 1982; 1986; 1988). During a followup inspection by IEPA on June 9, 1989, violations concerning the Waste Storage Tank (SWMU 5) were observed to be corrected and resolved (IEPA, 1989b).

The facility is not required to have operating air permits. According to the facility representative, the facility formerly conducted voluntary air monitoring for tin/lead vapor and fumes and no problems were identified. The facility has no history of odor complaints from area residents.

The facility is not required to have a National Pollutant Discharge Elimination System (NPDES) permit. An on-site Wastewater Treatment System (SWMU 6) discharges to the MWRD sewer system. At the time of the VSI, the facility anticipated applying for an NPDES permit for storm water runoff prior to October 1, 1992 because there are three storm water outfalls to Addison Creek on the property.

There has been no CERCLA activity at the site. In two different areas, the former UST farm and the location of a 275-gallon diesel fuel UST, the facility had 11 underground storage tanks (USTs). The USTs were removed or closed-in-place in 1986 or 1987. The USTs stored only commercial products; no wastes were managed in USTs. The USTs stored various cutting oils, TCE, gasoline, diesel fuel, kerosene, and mineral spirits and ranged in size from 300 to 6,000 gallons. AGCS is involved in a voluntary remediation project, as part of a Review and Evaluation Services Agreement with IEPA, to clean up contamination detected in the areas of the former USTs and SWMU 3.

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and ground water in the vicinity of the facility.

2.6.1 Climate

The climate in Cook County is continental. The average daily temperature is 49.2 degrees Fahrenheit (°F). The lowest average daily temperature is 21.4°F in January. The highest average daily temperature is 73°F in July (NOAA, 1990).

The total annual precipitation for the county is 33.34 inches. The mean annual lake evaporation for the area is about 30 inches (USDC, 1968). The 1-year, 24-hour maximum rainfall is about 9.35 inches (USDC, 1963).

The prevailing wind is from the west-southwest. Average wind speed is highest in April at 12.0 miles per hour (NOAA, 1990).

2.6.2 Flood Plain and Surface Water

The AGCS facility buildings are located in a Zone C flood area; that is, an area of minimal flooding outside the 500-year and 100-year flood plains. However, the area immediately adjacent to Addison Creek is classified as Zones A2 and B; an area of 100-year flooding and an area between the 100-year and 500-year flood limits, respectively (FEMA, 1986). A Northlake Public Works dam and spillway, associated with Addison Creek, are located within AGCS property boundaries and serve to control creek water levels.

The nearest surface water body, Addison Creek, is located on the eastern portion of the facility property and is used for drainage purposes. Addison Creek flows southeast into the Des Plaines River, about 5 miles from the facility, and is not used for recreational purposes (USGS, 1980).

The ground surface elevation at the AGCS facility is approximately 655 feet above sea level at the northwest corner. The property slopes generally downward towards the northeast, east, and southeast. According to the facility representative, surface drainage via storm sewers is away from the facility building and towards Addison Creek, located on the east portion of the property.

2.6.3 Geology and Soils

Construction of the Westward Ho golf course, which involved grading and leveling, and subsequent construction of the AGCS facility in 1956, resulted in disturbance of the surficial soils. Soils in two areas at the facility have been contaminated. TCE concentrations in the soil are 4 million ppb. Voluntary remediation is planned to commence in 1992, with IEPA review.

The unconsolidated soils of the Chicago area are mainly a result of Pleistocene (Wisconsinan Age) glaciation and are heterogeneous mixtures of clays, sands, silts, and gravels (Willman, 1971). Immediately underlying the AGCS facility is the Tinley ground moraine (ENSR, 1991). The Tinley ground moraine is composed of a silty clay matrix with sand and silt stringers. This unit extends to a depth of approximately 40 feet. The Tinley overlies the Valparaiso till, which is approximately 110 feet thick. The Valparaiso became overconsolidated from the deposition of the Tinley, resulting in an extremely dense unit (greater than 100 blows per 6 inches) (ENSR, 1991). The Valparaiso is in turn underlain locally by the Lemont Drift. This unit may not be present under all of the facility. The Lemont is a bouldery till with sand and silt layers. The sand and silt layers are extremely dense as a result of the deposition of the tills above (ENSR, 1991).

Quaternary System deposits in the Chicago area vary in thickness from 0 feet to 350 feet. Underlying the glacial drift, Paleozoic sedimentary rocks slope gently to the east, at approximately 10 feet per mile, off the Kankakee Arch toward the Michigan Basin (Willman, 1971). At the AGCS facility, the uppermost bedrock is the Silurian Niagaran dolomite, which is about 220 feet thick and is light gray in color (ENSR, 1991). Where the Lemont Drift is absent, the dolomite has developed a series of fractures that has imparted a secondary porosity. The weathered zone appears to be relatively thin, and packer tests conducted in the competent bedrock have shown that the competent bedrock at the site does not accept water (ENSR, 1991). The underlying Ordovician age Maquoketa Group shales and dolomites are about 200 feet thick. The Maquoketa Group is underlain by the Galena and Platteville Group dolomites, which are about 200 feet thick and 150 feet thick, respectively. The Ancell Group underlies the Galena and Platteville Groups and consists of about 250 feet of Glenwood and St. Peter Sandstones. The Prairie du Chien Group, composed of dolomites and sandstones, underlies the Ancell Group and is about 300 feet thick. The Cambrian age Ironton-Galesville Sandstones are about 200 feet thick. The lowermost Cambrian age Mt. Simon Sandstone is in contact with crystalline Pre-Cambrian basement rocks, mainly granites, at a depth of approximately 4,000 feet (Willman, 1971).

2.6.4 Ground Water

Static water levels in the overburden monitoring wells range between 5 to 35 feet deep (ENSR, 1991). The deeper static water levels reflect the phreatic surface; the shallow levels reflect

perched conditions. On site there is only one monitoring well in the overburden that is screened below the water table. Consequently, the horizontal direction of ground water flow in the glacial till is undetermined, but it is expected to be the same as in the bedrock. Piezometric levels in the bedrock monitoring wells are approximately 40 feet below the ground surface. The horizontal direction of ground water flow in the bedrock is to the east and southeast (ENSR, 1991).

Shallow ground water in the vicinity of AGCS has been contaminated. TCE concentrations in the water are 800,000 ppb and DCE concentrations are 1.76 million ppb. Ground water contamination will not be treated during a voluntary remediation expected to commence with IEPA guidance in 1992 (ENSR, 1991).

There are three water supply wells located on site, but AGCS only uses two of them. These wells are completed in the Mt. Simon Sandstone approximately 1,700 feet deep, and the facility monitors water quality. Northlake gets its water from the City of Chicago, and while the facility is connected to the municipal water system, the facility does not use municipal water.

2.7 RECEPTORS

The facility occupies 129 acres in a commercial, manufacturing, and residential area in Northlake, Illinois. Northlake has a population of about 12,000 people. The facility employs about 1,000 people.

The AGCS facility is bordered on the north by an apartment complex, a food distribution warehouse, and a Northlake Public Works maintenance building; on the west by the Chicago and North Western "Proviso" Railroad switching yards and light manufacturing complexes; on the south by a residential area, a park, and Benjamin Franklin School; and on the east by an apartment complex, a park, and a home for the elderly.

The facility is fenced and has 24-hour security. The outdoor areas undergoing remediation are also secured with fencing. Production areas are located indoors and building access is restricted through the use of access badges.

The nearest surface water body, Addison Creek, is located on the eastern edge of the facility property and is used for drainage purposes. This creek is controlled by dams, one of which is located on the facility's property. The Des Plaines River is located 5 miles southeast of the facility.

Ground water is not used to supply the City of Northlake. Northlake receives its water from the City of Chicago which obtains surface water from Lake Michigan. The nearest drinking water well is located on the facility property. Three wells, at depths of approximately 1,700 feet, are located on site; however, only two of these are in use. The wells supply the facility with drinking and industrial water. Perched ground water occurs at 5 feet below the surface and ground water flow is towards the east and southeast. Remediation will remove soil to the phreatic surface at about 30 feet below the ground surface.

The nearest surface water, Addison Creek, flows along the eastern edge of the property. Addison Creek is a tributary to the Des Plaines River and is only used for drainage purposes. Drinking water in Northlake is from the City of Chicago water supply system, which receives surface water from Lake Michigan. Although AGCS is connected to the municipal system, the facility does not use municipal water. There are small, less than 1-acre, wetland areas associated with Addison Creek near the facility. These areas are palustrine, open water, permanently flooded and riverine, lower perennial, open water, permanently flooded, and excavated wetlands. There are also two wetlands, greater than 2 acres in size, located approximately 1 mile to the west and northwest of the facility; a palustrine, emergent, semi-permanently flooded area and a lacustrine, limnetic, open water, permanently flooded and excavated area (USDI, 1981).

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the eight SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and RAI's observations. Figure 2 shows the SWMU locations.

SWMU 1	**Satellite Accumulation Areas**
Unit Description:	This unit consists of 5-gallon buckets and 55-gallon drums located in various places throughout the production building. The drums of Freon still bottoms (F002), waste TCA (F002), and waste resin (D001) are managed in a yellow safety locker for flammables. The locker can store up to 4 drums. Other drums, associated with a second still, are located inside a locked steel cage without any secondary containment. The 5-gallon buckets are used to transfer the waste from the process units to the drums. Nonhazardous used oil from soldering operations is collected in a drum located on a skid near the wave soldering equipment. Additional drums were located in the two laboratories and at the paint booths. Waste from the Wastewater Treatment System (SWMU 6) is accumulated in 1-cubic-yard bags. There are no floor drains in these areas.
Date of Startup:	This unit began operation in 1981 for the Wastewater Treatment System (SWMU 6) and about 1982, 1983, and 1986 for the stills. The other accumulation areas are estimated to have begun operation in about 1980.
Date of Closure:	This unit is active for accumulating Freon still bottoms, waste TCA, and waste resin. The accumulation area associated with the Wastewater Treatment System (SWMU 6) was active through January 1991, the R & D lab was active through early 1990, and the process

lab and other plating operation areas ceased operations in November 1991.

Wastes Managed: This unit manages Freon still bottoms (F002), waste TCA (F002), waste resin (D001), and nonhazardous used oils. In the past, this unit also managed waste paint thinner (D001), waste xylene (F003), waste naphtha (D001), waste copper hydroxide (F006), waste methylene chloride (F002), waste TCE (F001), nonhazardous waste cupric sulfate, waste carbon, waste filter aid, nickel hydroxide sludge, and zinc hydroxide sludge. The wastes are removed off site for recycling, treatment, incineration, or refining.

Release Controls: The floor in all of the production areas is concrete and sealed with urethane. There are spill kits located throughout the production building. This unit has no other release controls except that some of the drums are kept in a yellow, steel, flammables safety locker.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit contained one 55-gallon drum for waste TCA (F002), located in a yellow safety locker during the VSI. A second drum was located in a steel locked cage. All areas were clean and well-maintained and no evidence of release was noted (see Photographs No. 1, 2, and 3).

SWMU 2 **Waste Storage Area**

Unit Description: This unit is located indoors, along the middle of the north wall of the production building. This unit occupies the eastern half of the paint vault. The unit is approximately 80 feet by 40 feet. The unit manages 55-gallon drums of hazardous and nonhazardous waste for less than 90 days. The drums are managed on a concrete floor which is coated

with urethane sealant. A floor trench system in the paint vault, originally draining to a secondary containment tank, was plugged prior to the area being used for waste storage. The unit has corrugated metal "blow out" walls.

Date of Startup:	This unit began operation in January 1992.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages Freon still bottoms (F002), waste TCA (F002), waste resin (D001), nonhazardous used oils, waste copper hydroxide (F006), waste TCE (F001), nonhazardous nickel hydroxide sludge, and zinc hydroxide sludge. The wastes are removed off site for recycling, treatment, incineration, or refining.
Release Controls:	The floor is coated with a urethane sealant. This area had secondary containment consisting of floor drains connected to a steel UST, but the floor drains were plugged prior to its use as a SWMU. If a spill occurred, it would be contained within the paint vault.
History of Documented Releases:	According to the facility representative, this unit may have had minor spills or drum leaks. No other releases from this unit have been documented.
Observations:	The unit contained 26 drums of hazardous waste and four drums of nonhazardous waste during the VSI. All of the drums had been stored less than 90 days. The floor appeared to be in sound condition. There was evidence of minor staining at the time of the VSI (see Photograph No. 4).

SWMU 3	**Former Outdoor Waste Storage Area**
Unit Description:	This unit is located outdoors, along the north side of the production building. The unit occupied an area approximately 100 feet by 50 feet. The unit managed 55-gallon drums and 1-cubic-yard bags of hazardous and nonhazardous material on an impervious concrete surface. Drums were managed on wooden pallets. A closure plan for this unit was approved by IEPA on August 17, 1988. Closure activities for this unit included soil testing. On-site soil contamination by metal and VOCs was identified by the sampling. Concentration levels were 193 mg/kg for copper, 0.36 mg/kg for cyanide, and 147 mg/kg for TCE. The pad and soil were removed for off-site disposal. The Certification of Closure was accepted by IEPA on January 24, 1989.
Date of Startup:	This unit began operation in approximately 1960, but the facility representative indicated that it may have been as early as 1956.
Date of Closure:	The facility representative estimated that this unit has been inactive since about 1987. This unit was RCRA closed in 1989.
Wastes Managed:	This unit managed Freon still bottoms (F002), waste TCA (F002), waste resin (D001), waste paint thinner (D001), waste xylene (F003), waste naphtha (D001), waste copper hydroxide (F006), waste methylene chloride (F002), waste TCE (F001), and nonhazardous used oils, waste cupric sulfate, waste carbon, waste filter aid, waste grinder sludge, waste abrasive slurry, nickel hydroxide sludge, and zinc hydroxide sludge. The wastes were removed off site for recycling, treatment, incineration, refining or landfilling.
Release Controls:	This unit had no release controls.

History of Documented Releases: Closure activities identified contamination by metals and VOCs. Soil was removed and the unit was considered RCRA closed by IEPA. An environmental assessment in 1989 indicated that residual VOCs, at levels below the IEPA standards for closure, remain in the soil following closure and that ground water contamination by VOCs has occurred. The facility has proposed to continue with ground water monitoring, but no remediation is planned.

Observations: The unit is currently occupied by a large asphalt pad. No wastes are stored in this area. The area is being used as a staging area by a remediation contractor. RAI noted no evidence of release during the VSI (see Photograph No. 5).

SWMU 4 **Waste Storage Cages**

Unit Description: This unit consists of three locked indoor cages in the northwest corner of the production building, near the Wastewater Treatment System (SWMU 6) and the plating lines. Each area is approximately 40 feet by 80 feet. The unit manages 55-gallon drums and 1-cubic-yard bags of hazardous and nonhazardous waste for less than 90 days; however, according to the facility representative, some of the cleanup waste is hazardous and some of it has been stored for greater than 90 days. The wastes are managed on a concrete floor which was coated with urethane sealant. There are no floor drains in the areas.

Date of Startup: This unit began operation in about 1987. Use of this unit began immediately following the inactivity of the Former Outdoor Waste Storage Area (SWMU 3).

Date of Closure:	This unit is active. The three areas were used successively; until August 1991, January 1992, and the third is still in use. The unit has not been closed.
Wastes Managed:	This unit manages cleanup waste (unknown waste codes). In the past, this unit also managed Freon still bottoms (F002), waste TCA (F002), waste resin (D001), waste paint thinner (D001), waste xylene (F003), scrap paint (D001), waste copper hydroxide (F006), waste copper chloride (D002), waste cyanide (F007), waste methylene chloride (F002), waste TCE (F001), nonhazardous used oils, waste cupric sulfate, nickel hydroxide sludge, and zinc hydroxide sludge.
Release Controls:	The floor was coated with a urethane sealant. This unit had no other release controls.
History of Documented Releases:	According to the facility representative, this unit may have had minor spills or drum leaks. No other releases from this unit have been documented.
Observations:	The unit contained 55-gallon drums and 1-cubic-yard bags of hazardous and nonhazardous waste during the VSI. The two other areas, which earlier managed hazardous and nonhazardous waste, are being used as staging areas for the removal of equipment from this section of the building. RAI noted no evidence of release (see Photograph No. 6).
SWMU 5	**Waste Storage Tank**
Unit Description:	This aboveground steel tank is located outdoors, along the west wall at the northwest corner of the facility. The tank measures approximately 18 feet long by 8 feet in diameter. The tank was used for storing

waste ammonium hydroxide (D002) from etching processes for less than 90 days. The Waste Storage Tank occupies a containment area with three bulk commercial product ASTs. The containment area is a 30-inch-high, epoxy-coated, cinderblock wall. The facility has contracted for the removal of the tanks, the pipes, and the containment area.

Date of Startup: This unit began operation in the mid-1970s.

Date of Closure: This unit has been inactive since December 1991. The tank was emptied and will be removed by a contractor, along with any pipes and the containment area.

Wastes Managed: This unit managed hazardous waste ammonium hydroxide (D002). The tank did not store waste greater than 90 days. The waste was picked up approximately weekly by tank truck and subsequently shipped off site to reclaim the copper.

Release Controls: This tank rests over a large secondary containment area created by epoxy-coated cinderblock walls 30 inches high. There is a concrete pad below the loading area which drains to the MWRD. The walls are surrounded on the outside by gravel. Inside the containment, the floor slopes toward a sump. The sump could be pumped to a drum, if necessary, to remove rainwater.

History of Documented Releases: One release from this unit has been documented. In 1984 or 1985, a hose became loose during transfer operations. According to the facility representative, approximately 100 to 150 gallons were spilled to the roadway. The spilled waste was vacuumed up by the facility and removed with the rest of the waste ammonium hydroxide (D002).

According to the facility representative, the area was evaluated during a facility audit in 1989 and no contamination was identified.

Observations: According to the facility representative, the unit contained no waste during the VSI. There was slight staining on the cement and outside the containment area. The gravel and the roadway appeared clean. RAI noted no evidence of release (see Photograph No. 7).

SWMU 6 **Wastewater Treatment System**

Unit Description: The Wastewater Treatment System was located indoors, in the northwest corner of the production building. The unit consisted of two separate systems; one for treating industrial wastewater from printed circuit board operations and the other for treating industrial wastewater from the hardware operations.

The system for the printed circuit board area included a steel holding tank approximately 8 feet by 8 feet by 8 feet, a clarifier, and a pH neutralization tank located outside at the northwest corner of the production building. This open-topped, in-ground, concrete tank measures approximately 25 feet by 25 feet and holds approximately 15,000 to 20,000 gallons.

Industrial rinsewater from plating lines was pumped via pipes to the holding tank. The pH was adjusted using sulfuric acid or sodium hydroxide. A flocculent was added and the solution was pumped via pipes to the clarifier. The settled sludge was pumped via pipes to a filter press and the supernatant was pumped via pipes to the pH neutralization tank. The sludge from the filter press went directly into 1-cubic-yard bags which were then transferred to the Waste Storage Area (SWMU 2). Prior to 1987, the sludge was managed in the Former Outdoor Waste Storage Area (SWMU 3) or the Waste Storage

Cages (SWMU 4). Wastes from the different plating lines were treated at different times to generate different sludges. The sludges were managed similarly, but separately, as waste copper hydroxide (F006), nonhazardous nickel hydroxide sludge, or nonhazardous zinc hydroxide sludge. The bags of waste went to reclaimers to recover the metals.

An additional part of the system, also located in the northwest corner of the building, was used for the hardware operations. This part was used for batch treatment of zinc rinse wastewater. The sludge was pumped into 300-gallon totes and taken by forklift to the filter press.

The pH neutralization tank is still in use for boiler blowdown and a small amount of sanitary waste. An automated system used sulfuric acid and sodium hydroxide for neutralization. Effluent from the unit goes to the MWRD for treatment. The discharge is not currently monitored because no plating operations are being conducted.

Date of Startup: This unit began operation in the 1981. The pH neutralization tank was constructed in the mid-1960s.

Date of Closure: This unit became inactive in January 1992. The pH neutralization tank receives industrial and sanitary wastewater, but no monitoring or pH neutralization is conducted.

Wastes Managed: This unit manages industrial wastewater and a small amount of sanitary sewage. The effluent from this unit is discharged to a MWRD sewer for treatment.

Release Controls: The unit was primarily indoors over acid-resistant brick floor. The pH neutralization tank has flap valves to prevent the unit from overflowing.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit contained industrial and sanitary wastewater during the VSI. According to the facility representative, the unit is being used but the effluent is not being monitored because plating operations at the facility have ceased. RAI noted no evidence of release (see Photographs No. 8 and 9).

SWMU 7 **Solder Reclamation Area**

Unit Description: This unit is located indoors, in the south-central portion of the production area. The unit consists of a covered crucible managed in a fume hood. The fume hood vents to the outdoors. Solder dross is skimmed from the process unit with a ladle and placed in a metal tote. The totes are approximately 12 inches by 24 inches by 8 inches high. The solder dross and scrap tin/lead solder are separated in the crucible using heat. The solder dross and scrap tin/lead solder are placed back in the metal totes. The totes are then transferred to the salvage yard and returned to the original vendor for reclaiming or sold as scrap metal. A portion of the scrap tin/lead solder is returned to process units.

Date of Startup: This unit began operation in about 1980.

Date of Closure: This unit is active.

Wastes Managed: This unit manages nonhazardous scrap tin/lead solder and solder dross. The waste is removed off site as scrap metal for recycling.

Release Controls: The crucible is maintained inside a fume hood which vents outdoors. According to the facility representative, the facility has performed air

monitoring indoors for tin/lead vapors and fumes, and no air releases have been detected. The floor in the area of the fume hood is concrete and sealed with urethane. There are spill kits located throughout the building. There are no floor drains in the area.

History of Documented Releases: No indoor releases from this unit have been documented. The fume hood vents to the outdoors.

Observations: The unit contained nine metal totes of solder dross during the VSI. The area was clean and no evidence of release was noted (see Photograph No. 11).

SWMU 8 **Solvent Recovery Stills**

Unit Description: This unit consists of four separate closed-loop stills, with associated pipes and appurtenances. Two of the stills, located in the center of the facility, are used for Freon recovery, while one located on the northwest side of the facility is used for TCA recovery. A fourth still, also located on the northwest side of the facility, was used for recovering methylene chloride. The facility no longer uses this still.

Date of Startup: The still that managed methylene chloride went into use in approximately 1979. The other three stills began operations in 1981.

Date of Closure: The still which managed methylene chloride was taken out of service in December 1990. The other three stills are currently active.

Wastes Managed: The solvent recovery stills managed waste Freon (F002) in the form of still bottoms, waste TCA (F002), and waste methylene chloride (F002) in a closed-loop system. Solvents from this unit, excluding

	Freon still bottoms (F002), are returned to printed circuit board assembly and plating processes via pipes.
Release Controls:	The four stills are located indoors upon a concrete floor. No floor drains are located in the areas of the stills.
History of Documented Releases:	There have been no documented releases from this unit.
Observations:	During the VSI, the stills were viewed. In the area of the TCA recovery still, a 5-gallon polyethylene pail was situated under a drain/outlet of each still (see Photograph No. 2). No odors or evidence of a release were noted.

4.0 AREAS OF CONCERN

RAI identified one AOC during the PA/VSI. This AOC is discussed below; the location is shown in Figure 2.

AOC 1 On-Site Remediation Area

There have been releases to soil and ground water at the AGCS facility. In late 1988 and early 1989, a preliminary environmental evaluation of the facility was performed. During the evaluation, ENSR identified several areas containing VOCs. Releases of VOCs have been documented at the former gasoline UST, a former UST farm, and at the Former Outdoor Waste Storage Area (SWMU 3). The VOCs consisted primarily of TCE and DCE. Petroleum constituents were also detected. On November 19, 1990, the facility entered into a Review and Evaluation Services Agreement with IEPA. AGCS proposed to excavate the soils to a depth of 30 feet (the approximate depth of the water table) and dispose of the soils at appropriate off-site facilities. Afterwards, the ground water will be monitored to assess the effectiveness of the remediation and whether the ground water contaminant plumes are likely to migrate off-site. Attachment D presents data from this report which indicates soil contaminant concentrations of 4 million ppb for TCE. According to the facility representative, ground water contamination includes 800,000 ppb of TCE and 1.76 million ppb of DCE. At the present time, there are no plans to remediate ground water contamination (see Photograph No. 10).

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5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified eight SWMUs and one AOC at the AGCS facility. Background information on the facility's location; operations; waste generation and management; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. One AOC is discussed in Section 4.0. Following are RAI's conclusions and recommendations for each SWMU and AOC. Table 3, at the end of this section, summarizes the SWMUs and AOC at the facility and the recommended further actions.

SWMU 1 **Satellite Accumulation Areas**

Conclusions: The unit consists of areas containing 55-gallons drums and 1-cubic-yard bags located in various places throughout the production building. Drums are managed in yellow flammables safety lockers or without secondary containment. All drums were without deterioration or evidence of release, and were stored closed. All areas of the unit are located indoors, over urethane-sealed floors which were without cracks or stains. Therefore, the potential for a release to ground water, surface water, on-site soils, or air is low.

Recommendations: RAI recommends no further action for this unit at this time.

SWMU 2 **Waste Storage Area**

Conclusions: The unit is located indoors, along the middle of the north wall of the production building. The unit occupies the eastern half of the paint vault and is approximately 40 feet by 80 feet. The unit manages drums of waste over a urethane-coated concrete floor, which appears to be without cracks. Therefore, the potential for a release to ground water, surface water, on-site soils, or air is low.

Recommendations: RAI recommends no further action for the unit at this time.

SWMU 3 **Former Outdoor Waste Storage Area**

Conclusions: This unit is located outdoors, along the north side of the production building. The unit occupied an area approximately 100 feet by 50 feet. The unit managed 55-gallon drums and 1-cubic-yard bags of hazardous and nonhazardous material on an impervious concrete surface. The pad and soil were removed for off-site disposal; the Certification of Closure was accepted by IEPA on January 24, 1989. The unit is considered as part of the On-Site Remediation Area (AOC 1)

Ground Water: VOC contamination was identified by an environmental assessment conducted in 1989.

Surface Water: The potential for a release is high because ground water contamination has been identified and Addison Creek flows through the eastern edge of the facility property.

Air: The potential for a release is moderate because there is contamination by VOCs in on-site soil and ground water.

On-Site Soils: Contamination by metal and VOCs was identified by the sampling. Concentration levels were 193 mg/kg for copper, 0.36 mg/kg for cyanide, and 147 mg/kg for TCE, 71 mg/kg for TCA, 46 mg/kg for Freon, 27 mg/kg for xylene, and 6.2 mg/kg for methylene chloride.

Recommendations: RAI recommends that ground water contaminated by VOCs at this unit be remediated with IEPA approval as part of the On-Site Remediation Area (AOC 1).

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SWMU 4 **Waste Storage Cages**

Conclusions:

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This unit consists of three locked indoor cages in the northwest corner of the production building. Each area is approximately 40 feet by 80 feet. The unit manages 55-gallon drums and 1-cubic-yard bags of hazardous and nonhazardous waste for less than 90 days; however, according to the facility representative, some of the cleanup waste is hazardous and some of it has been stored for greater than 90 days. The wastes are managed in closed, sound containers on a concrete floor which was coated with urethane sealant. Therefore, the potential for a release to ground water, surface water, on-site soils, or air is low.

Recommendations:

RAI recommends that the facility formally close the unit, currently in use by the cleanup contractor, because the unit managed hazardous wastes for greater than 90 days.

SWMU 5 **Waste Storage Tank**

Conclusions:

This aboveground steel tank is located outside, along the west wall at the northwest corner of the facility. The tank measures approximately 18 feet long by 8 feet in diameter. The tank was used for storing waste ammonium hydroxide (D002) from etching processes for less than 90 days. In 1984 or 1985, the facility had a spill of waste ammonium hydroxide from the Waste Storage Tank (SWMU 5). The area was subsequently evaluated by ENSR and determined to be clean. The Waste Storage Tank occupies a containment area with 30-inch high epoxy-coated walls. The tanks no longer store waste. Therefore, the potential for a release to ground water, surface water, on-site soils, or air is low.

Recommendations:

RAI recommends no further action for the unit at this time.

SWMU 6 **Wastewater Treatment System**

Conclusions: This system is located both indoors and outdoors at the northwest corner of the production building. This system consists of an indoor holding tank, a clarifier, a filter press, and an outdoor pH neutralization tank. The system was designed to treat industrial wastewater from plating operations, prior to disposal to the MWRD sewer. The system primarily generated metal sludges which were sent off site to reclaimers. All indoor operations were conducted over an acid-resistant brick floor and the outdoor tank was connected to MWRD sewers. The system currently manages nonhazardous sanitary and industrial wastewater. Therefore, the potential for a release to ground water, surface water, on-site soils, or air is low.

Recommendations: RAI recommends no further action for the unit at this time.

SWMU 7 **Solder Reclamation Area**

Conclusions: This system is located indoors, in the south-central portion of the production building. This system consists of a crucible managed in a fume hood. The system was designed to treat solder dross by heat prior to reuse at the facility. The system generated scrap metals which were sent off site to reclaimers. All indoor operations were conducted over a urethane-coated cement floor. Therefore, the potential for a release to ground water, surface water, or on-site soils is low. The potential for a release to air is high because a vent connects the fume hood directly to the outdoors.

Recommendations: RAI recommends no further action for the unit at this time.

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SWMU 8	**Solvent Recovery Stills**
Conclusions:	The unit, which consists of four separate stills, is located indoors on the northwest side and in the center of the facility. The unit manages/managed solvents (Freon, TCA, and methylene chloride) in closed-loop systems with pipes and appurtenances. Solvents are returned to process via pipes. The stills are located on a concrete floor, where no floor drains are present. The potential for releases from this unit to ground water, surface water, air, and on-site soils is low since the stills are located indoors in an area where floor drains are not present and because they manage waste in closed-loop systems.
Recommendations:	RAI recommends no further action for this unit at this time.
AOC 1	**On-Site Remediation Area**
Conclusions:	A facility environmental assessment identified soil and ground water contamination by VOCs at the Former Outdoor Waste Storage Area (SWMU 3), a former gasoline UST, and a former UST farm. The facility has proposed, for IEPA review, to remove contaminated soil for off-site disposal. The facility has also proposed to continue monitoring ground water, but no remediation is planned.
	Ground water contamination by VOCs has occurred at the facility. Contaminant concentration levels are 1.76 million ppb for DCE and 800,000 ppb for TCE in ground water.
	The potential for a release to surface water is high because ground water contamination has been identified, and Addison Creek flows through the eastern edge of the facility property.

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Contamination of on-site soil has occurred at the facility. Concentration levels are 4 million ppb for TCE in soil.

The potential for a release to air is moderate because contamination of ground water and on-site soil by VOCs has been identified.

Recommendations: RAI recommends that AGCS continue with remediation of soil contamination under the review of IEPA. RAI also recommends that ground water contamination be remediated.

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TABLE 3

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Satellite Accumulation Areas	1980 to present	None	No further action is recommended.
2. Waste Storage Area	January 1992 to present	None	No further action is recommended.
3. Former Outdoor Waste Storage Area	Approximately 1960, perhaps as early as 1956, to 1987	Soil contaminated with metals and VOCs. Soil removed in 1988. Ground water and soil contaminated with VOCs in 1989.	Remediate ground water with IEPA approval.
4. Waste Storage Cages	Approximately 1987 to present	None	Conduct closure activities according to an IEPA-approved closure plan.
5. Waste Storage Tank	Mid-1970s to December 1991	Leak of 150 gallons of waste ammonium hydroxide in 1984 or 1985.	No further action is recommended.
6. Wastewater Treatment System	1981 to November 1991; the outdoor neutralization tank was constructed in mid-1960s	None	No further action is recommended.
7. Solder Reclamation Area	About 1980 to present	None	No further action is recommended.

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TABLE 3 (Continued)

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
8. Solvent Recovery Stills	1979 to 1990; 1981 to present	None	No further action is recommended.

AOC	Dates of Operation	Evidence of Release	Recommended Further Action
1. On-Site Remediation Area	1989 to present	Soil and ground water contaminated with VOCs from SWMU 3, former UST farm, and former gasoline UST.	Continue with soil remediation with guidance from IEPA. Remediate ground water contamination with IEPA approval.

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REFERENCES

AG Communication Systems (AGCS), 1989. Letter to Illinois Environmental Protection Agency (IEPA) re: sale of real property, January 23.

ENSR Consulting and Engineering (ENSR), 1991. AG Communication Systems Work Plan for Soil Remediation and Ground Water Monitoring, Northlake, Illinois, December.

Federal Emergency Management Agency (FEMA), 1986. Flood Insurance Rate Map, City of Northlake, Illinois, Cook County, Community Panel Number 170134-0001-A, January 3.

GTE Automatic Electric, Inc. (GTE-AE), 1980a. Notification of Hazardous Waste Activity, August 18.

GTE-AE, 1980b. RCRA Part A permit application, November 10.

GTE Communication Systems Corporation (GTE-CSC), 1985. Letter to IEPA re: request for withdrawal of RCRA Part A permit application, July 17.

GTE-CSC, 1986. Letter to IEPA re: status of closure activities, Nov. 12.

Illinois Environmental Protection Agency (IEPA), 1982. Observation Report, April 23.

IEPA, 1986. RCRA Inspection Report, February 28.

IEPA, 1988. Inspection Report, July 19.

IEPA, 1989a. Letter to GTE-CSC re: RCRA Part A permit application withdrawal request approval and status change, January 24.

IEPA, 1989b. Followup Inspection Report, June 9.

National Oceanic and Atmospheric Administration (NOAA), 1990. Local climatological data, annual summary with comparative data, Chicago, O'Hare International Airport, Illinois; Asheville, NC.

U.S. Department of Commerce (USDC), 1963. Rainfall Frequency Atlas of the United States. U.S. Government Printing Office, Washington, D.C.

USDC, 1968. Climatic Atlas of the United States. U.S. Government Printing Office, Washington, D.C.

U.S. Department of the Interior (USDI), 1981. National Wetlands Inventory Map, Elmhurst, Illinois.

U.S. Geological Survey (USGS), 1980. Elmhurst Quadrangle, Illinois 7.5-Minute Topographic Map.

Willman, H.B., 1971. Summary of the Geology of the Chicago Area. Illinois State Geological Survey Circular 460, Urbana, Illinois.

ATTACHMENT A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

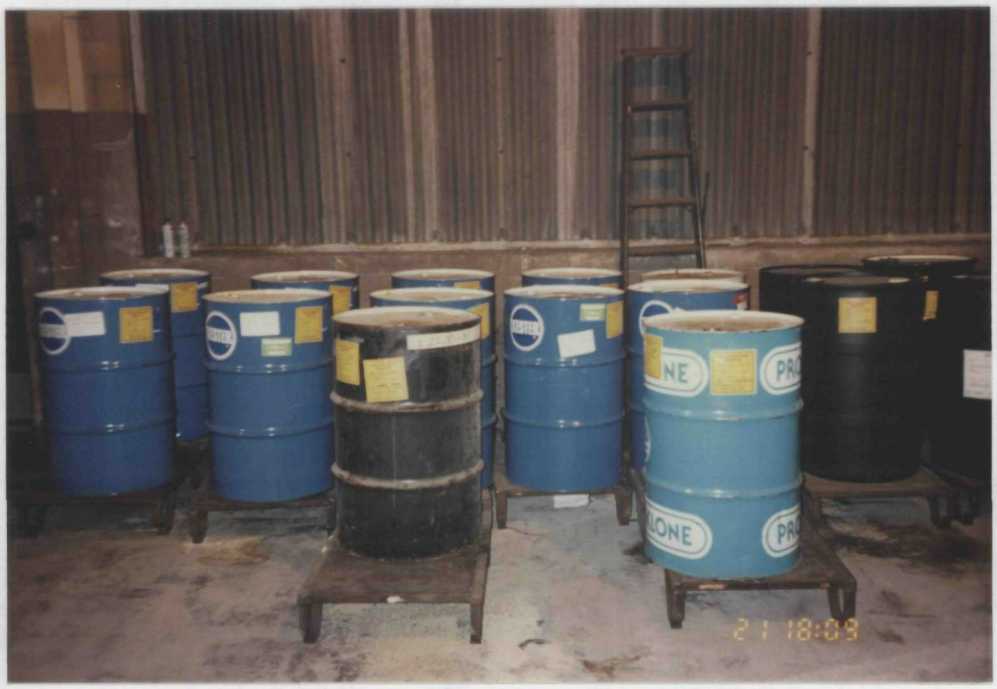
AG Communication Systems
400 North Wolf Road
Northlake, Illinois 60164
ILD 005 070 545

Date:	February 21, 1992
Primary Facility Representative:	Richard T. Vernam, Jr., P.E., Manager, Environmental Engineering
Representative Telephone No.:	(708) 681-7915
Inspection Team:	Jeff Indeck, Resource Applications, Inc. (RAI) Michael Gorman, RAI
Photographer:	Michael Gorman
Weather Conditions:	Sunny, cold, temperature about 32°F
Summary of Activities:	The visual site inspection (VSI) began at 9:00 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. The facility representative then discussed the facility's past and current operations, solid wastes generated, and release history. Most of the information was provided on a question and answer basis. The AGCS representative provided the inspection team with copies of requested documents. The VSI tour began at 2:00 p.m. Mr. Vernam directed a walk-through inspection of the facility. Areas inspected included all process areas, former process areas, and management units. RAI was able to view all areas of the facility and photograph all solid waste management units and the area of concern. RAI observed no significant problems with AGCS waste management practices. The tour concluded at 5:30 p.m., after which the inspection team held an exit meeting with the facility representative. The VSI was completed and the inspection team left the facility at 6:00 p.m.

Photograph No. 1 Location: SWMU 1
Orientation: Northeast Date: 2/21/92
Description: Satellite Accumulation Area for the TCA drum. Transfer funnel is used to transfer waste TCA from 5-gallon buckets. Drums are in yellow safety locker.

Photograph No. 2 Location: SWMU 1, SWMU 8
Orientation: Northeast Date: 2/21/92
Description: Drain on still to remove waste TCA. Five-gallon bucket is used to transfer to 55-gallon drum. Bucket is on urethane-coated floor.

Photograph No. 3 Location: SWMU 1
Orientation: South Date: 2/21/92
Description: Satellite Accumulation Area for nonhazardous used oils. Drum is located on a pallet which is on a hand truck.

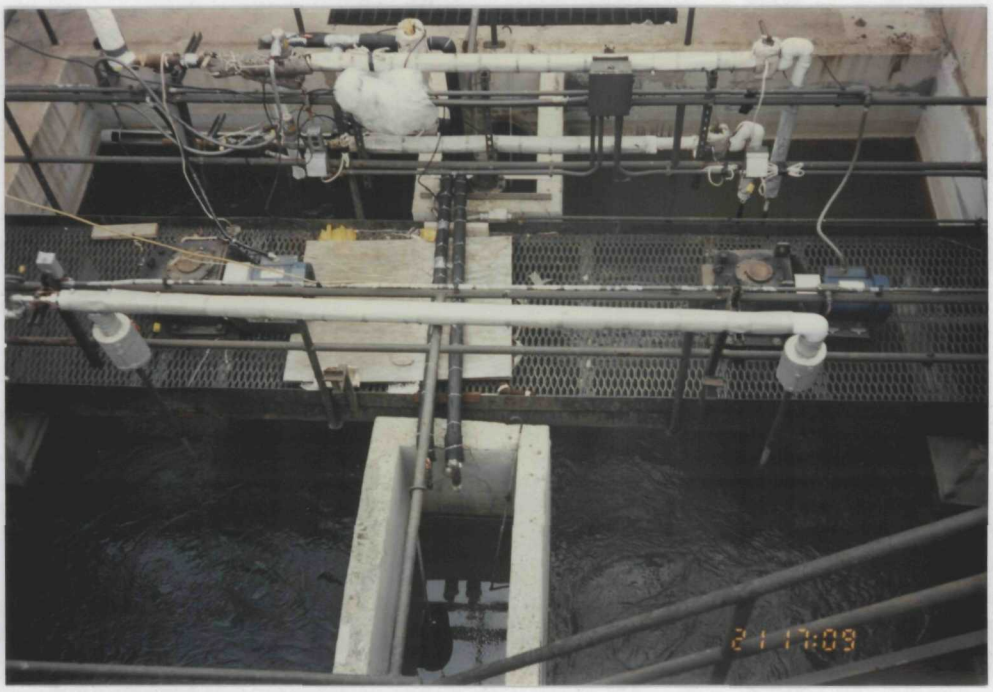


Photograph No. 4 Location: SWMU 2
Orientation: North Date: 2/21/92
Description: Hazardous waste drums located in the paint vault. The drums are managed on pallets and the walls are designed to "blow out" in the event of an explosion.

Photograph No. 5 Location: SWMU 3
Orientation: West Date: 2/21/92
Description: Former Outdoor Waste Storage Area. Asphalt pad replaces concrete pad which was removed along with contaminated soil. Debris and water in the middle of the photo are from on-going cleanup activities.

Photograph No. 6 Location: SWMU 4
Orientation: North Date: 2/21/92
Description: Hazardous wastes located in one of the Waste Storage Cages. The wastes are stored on pallets. The facility representative believes that the wastes are the responsibility of the cleanup contractor. According to the facility representative, the wastes have been on site greater than 90 days.

Photograph No. 7 Location: SWMU 5
Orientation: East Date: 2/21/92
Description: The Waste Storage Tank for waste ammonium hydroxide (SWMU 5) is at the left. The steel tank is 18 feet long by 8 feet in diameter. Tanks, pipes, and secondary containment are scheduled to be removed by a contractor in 1992.



Photograph No. 8 Location: SWMU 6
Orientation: West Date: 2/21/92
Description: The outdoor pH neutralization tank which is part of the Wastewater Treatment System. Although water flows through the tank, the pH neutralization system ceased operating in January 1992.

Photograph No. 9 Location: SWMU 6
Orientation: North Date: 2/21/92
Description: This is the location of the Wastewater Treatment System. The tanks have mostly been removed. The individual tanks were set in recessed pads. The entire area had urethane-coated concrete flooring or acid-resistant floor brick.

Photograph No. 10 Location: AOC 1
Orientation: Northwest Date: 2/21/92
Description: The location of the former UST farm. The tanks were removed in about 1986. Soil and ground water in this area are contaminated with VOCs from the former UST farm, a former gasoline UST, and SWMU 3. The facility plans to remove soil, from the grassy area and underneath the asphalt which is marked (approximately even with the loader), to a depth of 30 feet.

Photograph No. 11 Location: SWMU 7
Orientation: East Date: 2/21/92
Description: The location of the Solder Reclamation Area. The metal totes manage solder dross and scrap tin/lead solder. The fume hood is connected to the outdoors.

ATTACHMENT B

VISUAL SITE INSPECTION FIELD NOTES

15 WASTE STREAMS.

32° F Sunny 9:00 – 6 pm

GTE AUTOMATIC ELECTRIC, Inc 56 BUILT, ①

GTE BOUGHT IN 54 BUILT

GTE NETWORK E-MID 80S

USL

GTE COMMUNICATION SYSTEM

Mike AG 1/1/1989

Jeff JOINT VENTURE AT &T

Rich AG Comm IS OWNER & OPERATOR

Inspect Walk Thru IS SEPARATE COMPANY.

AT 2:00 2,000,000 SQ FT

~~5:30~~ 2 BLDS ADDED. Dominicks

5:30 MUCH SPACE LEASED DUE TO BUS. REDUCTION

Left at 6:00pm FACILITY USED TO D

PLACTING ELEC & ELECTROLESS.

PUNCH PRESS – HARDWARE

HARDWARE PLATING & PAINTING.

HARD FAB & FINISH PHASED OUT OVER 80

LAST YEAR PHASE OUT PRINTED CB PLAT &+

CEASED LAST YEAR.

- NOW MAKE CENTRAL OFFICE PHONE SYSTEM

BUY BOARDS AND PARTS

DO ASSEMBLY NOW.

FREON & TCA FOR DEFLUX

BASICALLY CONVEYORIZE RUNS C COMPUTER LINES.

MANY ROBOTIC TESTING AND INSPECT.

H

FACILITY WAS ~~GOLF~~ COURSE < 1956

NEAREST SCHOOL IS SE. RETIREMENT & ADDISON IS EAST. ALSO WATERWORKS NE.
RESIDENCES SOUTH AND NE
LOT TO N. WEST IS RAILROAD YARDS.

ADDISON TO DES PLAINES. NOT USED FOR REC.
FACILITY HAS 3 SUPPLY WELLS. USE 2. DRINK & IND.
1700 FEET DEEP.
DRINK WATER IN N LAKE IS CITY
FACILITY MONITORS WATER QUALITY.
FACILITY MAY HAVE WELL LOG.
FACIL TIES TO MUN WATER/DOESN'T USE.

FACILITY HAS AVOIT
USTs FOR CUTTING OILS, ~~HH~~ TCE, GASOLINE, DIESEL, MIN SPIR
11 USTS REMOVED IN 86 OR 87. ALL COMM. PROD. NO WA
FACILITY DOING VOLUNTARY CLEAN UP.
DIESEL SMALL - CLOSED IN PLACE
2-3,000
6,000 TCE
6,000 Kerosene
6,000 Xylene
6,000 Oil
6K MIN SPIRITS
2x3K Oil Drawing
6K Oil cutting

CONTAINMENT STEEL TANK OUTSIDE W OF USTS (3)
GAS TANK ≅ 300 G DIESEL 275-295-g
PIPING UNDERGROUND. PIPING REMOVED AT SAME TIME
PAD BEING REMOVED NOW
FACIL PUMPED TO 55-g DRUMS FOR USE IN PLAN.
PAINT VAULT C DRIANS TO TANK ≅ 300-GALS.
TRENCHS IN PAINT VAULT TO STEEL TANK.
TANKS PLACED IN 1956. TANKS ALL STEEL.
TESTED AREA. FOUND TCE.
TCE & DCE AND PETROLEUM (BTEX
TCE 230.67 PPB
SOIL BORING AND MONITORING WELLS.

GW FLOW TO EAST.
PERCHED TABLES.
THERE IS GW & SOIL CONTAM. WILL REM SOIL.
WILL MONITOR GW WITH WELLS.
BEGIN SOIL REMEDIATION MARCH TO MAY.
21 MONITORING WELLS. FACILITY HAS CLEAN WELLS
BEFORE ADDISON CK. CK NOT TESTED.
3000K PPB in SOIL 3 million PPB SOIL
800K PPB TCE 1.76 mill PPB DCE
not REM GW

ENSR (1991) WP SOIL & GW REM

H

DEALING TO DLPC. ON CLEAN UP.

ABOUT 1,000 EMPLOY. LIMITED OPE 2ND SHIFT.
FENCED TO 24-HOUR SECURITY.
TV MONITOR 4 GATES & BADGE ACCESS.

SURF DRAIN E
DEPTH TO GW. GW FLOW IS E TO SE
40 FT BELOW GL
GLACIAL FLOW PRESUMED E TO SE

DAMMED TO SE OF FACILITY.
UNC FLOOD PLAIN.

MET WAT REC DISTRICT FOR SANITATION.
STORM TO ADDISON CK.
WILL NEED NPDES OCT 1.

PRETREATMENT SYSTEM GOOD

pH NEUTRALIZE BASIN. 15-20 K GAL
CONCRETE OPEN TANK +/- 20' x 20'
CONTINUAL NEUTRALIZE THEN DISCH TO MWRD.
NO MONITOR NOW SINCE NO PLATING.
ACIDS SULF.
CAUS SOD HYDROX
STORAGE IN 2 LOCATIONS. 2 BULK TANKS
SULF 900, 4,200 AGT INSIDE.
NAOH 3,000 4,200

15K - in ground cement. Waste H_2O

(5)

VSTs Gone.
Empty, Decon - To be removed.
Ammon Hyd. to Copper. Spent Alk etch.

OHM clean tanks & process
still in process of removing tanks.

Waste tank 6,000-g steel to 2° contain.
Epoxy-lined concrete dike to sump to
pump sewer or WWT. < 6 K.
Surrounded all tanks on W side 4' high.

6 product tanks still in use.

PROCESS.

2 DISTINCT AREAS PCB & HARDWARE
PCB - Copper - ETCH. NICKEL, TIN, LEAD, GOLD
ALL PLATING
WWT - TREAT Copper RINSE H_2O
- SMALL SYSTEM FOR NICKEL
- Reclaim
LINES SEPARATE
Copper Hyd SLUDGE Ni Hyd SLUDGE
Reclaim
Copper Sulf crystals
Plate copper out of solution
LEAD RECOVERY system.

pH ADJUST + FLOCC.
Holding Clarifier + FILTER PRESS.
System SHUT DOWN Nov. Rem. in FEB 92
Start in 1981
WASTE TO 1 CY BAGS. FILTER CAKE. Recycler
Polishing SAND FILTER on CLARIFIER. - REMAIN
gen 75 lbs/DAY in H_2O.

NICKEL DONE AT LARGE BATCH TANK.
SLUDGE TO PRESS TO BAG.
TO RECLAIM. WRL in Penn, RECON TECH BOTH IL
2 PRESS Cu Ni Zn
Zn TO ENVIRITE in HARVEY. WOULD ALSO TAKE NICK
STORE IN HW INDOOR ACCUM CAGE.

Gold mnged as resin exch. Stored in locked area.
Sent to reclaim.
H_2O to resins to get Au out of water.
Stored in plating area.

Maintained

Hardware
Copper nickel chrome, Tin, Zn.

PCB lines. Electr.
One electroless copper. Kept & manage separate.

Hardware had separate WWT
1 Lg batch tank. Only treated Zn.
Transport sludge in tote to filter press.
300-g tote plastic c. metal cage/frame
Some process chems by fork lift.

Outside closed
Inside cage
Old cage area
SAAs

PCB assembly solder deflux.
Freon 113
On site still closed loop
Still bottoms → drum → accum area
Aug. mics.

See if we can get logs.

Reported Spill of spent Etchant - 1986 4/5 (8)

1989 - ~~DUA~~ Diesel Spill +/- 55 gal
+/- 6 DRUMS
USED OVA TO TEST SOIL.

HOLE IN SPENT ETCHANT 150-g loss
DURING TRANSFER TO REMOV.
SPILLED TO ROADWAY
PUMPED UP LIQUID. CHECKED AREA DURING AUDIT.
CLEAN. FALL 88 AT AUDIT. 10/6/89.

SOLDER DEFLUX -
FREON - 2 CLOSED-LOOP STILL. STILL TO DEFLUXER VIA PIPES
TCA - 1 CLOSED-LOOP STILL → 55-g DRUM → GOORE AREA
TO AVEMICS COTTAGE GROVE WI.
Tin LEAD SOLDER -

WAVE OIL - USED AT BEGIN OF PROCESSES. NON HAZ TO HERITAGE AS SPECIAL WASTE
DRUMS STORED IN 0 HAZ. LAMONT, IL

WASTE FLUX - Resin MANAGED AS IGNITABLE. In 55-g DRUM
LWD, Inc CALVERT CITY KY.

WASTE SOLDER RECLAIM on SITE
DROSS Heated.
Separated & Returned to orig vendor for reclaim.
ladle into form. not to DRUM TOTE
Not managed.

Have monitored for AIR Mn/LEAD VAPOR/FUMES.
SOIL DUE TO SOIL BORINGS - CUTTINGS.
LAST TO CWM ADAMS CENTER, FT WAYNE.

SOLUTIONS FROM CLOSURE.
1 TIME GENERATION OF MANY CHEMS.

HYDRAULIC OIL TO HERITAGE in LAMONT
TO STORE AREA & H. MAY USE SAA.
USED TO USE SUCK TRUCK TO TRANSFER OIL.
200 gal PUMP & CONTAINER.

GREAT LAKES DOES SAMPLING
PROCESS Chems
OUT of DATE/OFF SPEC
MISC DRUMS DUE TO CLOSURE.

R & D LAB - upper level E.
PROCESS DEVEL. SMALL CONTAINERS. METALS TO WWT
ACIDS/CAUST TO SAN SEWER. 2 1 TIME GEN of LAB Chem

PROCESS LAB FOR Chem NW
WW chemistry
Plate Sol chemistry
Collected copper in 55-g DRUM. Rest Sewered.
Closed in EARLY 1990.
Closed in Nov. 1991 c̄ end of process.
WWT THRU Jan 1992 TO TREAT shut DOWN
Waste.

(10)

Meth Chloride to strip plate Resist.
Resist Strip waste to still. Closed loop.
Sludge to drum. Store → Avganics or LWD.
Dec. 90 ceased.
Start use +/- 70s.

Copper Chloride - Etchant
Liquid pumped out when
300-g totes to HWSA → CP Inorganics Joliet.
Recontech - Totes to tank truck.
Ceased in Nov 91.

TCE open top degreasers - no still
Part of metal fabrication hardware.
Maintain 1 TCE degreaser. not in service.
Sludge to drums → Store → Avganics.
Liquid to Avg. Suck bottoms to liquid.

TCA in PCB to cure ~~Gold~~ plate resist. Solder Mf.
Used to remove film.
Still in area. Gen still bottoms.

PCB Copper Chloride Etch.
Film on Boards
Cure to Aqueous Ethyl Cellosolve and Caustic
As chem devel.
Waste paint related - Resist sludge
Sent to Avganics and incinerated to fuels

Copper Sulfate crystals
Etching to Remove Copper
CRYSTALIZER DROPS temp & CRYST PRECIP OUT
C̄ HCl Solution. To CP INORGANICS.

WASTE PAINT PAINT FILTERS THINNER LWD
1 conveyor line
4 Booth - managed as 1 AREA
Painting of frames and hardware.
Conveyor Pure - Electrostatic - DRY FILTERS
Booth STRIP, Solvent, Paint
Xylene Solvent flush line
One drum for each area.
Paint Sludge in Caustic Dip tank.
Rejects also. SLUDGE DRUMMED TO STORE ⇒ LWD

QUIT C̄ SOLVENT BASED LONG AGO. USE H_2O-BASED
FILTERS AS RUBBISH. COMPACT. GENERAL REFUSE.
MAY HAVE BEEN BFI. BID ANNUALLY.

LAST PAINT PRODUCTION BY Nov. 1991
PHASED OUT

SH

MINERAL SPIRITS - PAINT THINNER
NAPHTHA - PAINT THIN. CLEAN PRINT ROLLERS.
SOLVENTS - TCA, TCE, FREON, - KEPT SEPARATE.
XYLENE PAINT THINNER. MIXED W PAINT THIN MIN SPIRIT

CHROME PLATE TOOLING FOR MAINT.
WAS NOT TREATED. NOT WASTE.
SMALL PLATING TANK. 1 SMALL TANK.

COPPER HYDROX - CAKE
ZINC, NICKEL HYD - CAKE.

CYANIDE - Zn PLATING TANK 12K g + 6K g
LARGE; USED TO BE Zn CN⁻ IN 84 OR 85.
THEN SWITCHED.
SMALL TO ENVIRITE VIA TANKER.
Lg. TANK SWITCHED BY CHANGE BATH OVER TIME.
SOME CN⁻ IN STORE & ASSOC W SHUT DOWN.
SOME product
GOES W FERRO CYANIDE VERY LOW LEVELS.
COPPER CN⁻ -

55,000 gals of process solutions.

DID GENERATE LIQUID BATH SOLUTIONS. SULF ACID W COPPER.

(13)

GRINDER SLUDGE – ? unknown - gen

ABRASIVE - PUMICE - not since 86 or 87
FOR Polish PRINT CIRCUIT BOARDS.
BETWEEN LAM.

60 AIR PERMITS.
No NPDES. FOR STORM 3 OUTFALL TO ADDISON CR.

Coal Storage AREA. Coal Yard.

Formaldehyde - in ELECTROLESS PLATING - only Coppe

H

SWMUS

(14)

OUTSIDE STORAGE AREA. CURRENT ASPHALT. 50 x 100.
85-88 CLOSED. START +/- 60s MAYBE SINCE 56.
DRUMS MANAGED. BOTH HAZ & NO HAZ.
EXCAVATED SOIL BFI / WINTHROP HARBOR.
(1) ACCEPTANCE OF CERT 1/24/89 Log C-150-M4.
CP APPROVAL 8/17/88. NO RELEASE CONTROLS.
— GW EVALUATED.

LOCK CAGE IN NW CORNER NEAR WWT
Moved inside ABOUT 87
APPROX 40 x 80 Concrete floor. INITIALLY
(2) URETHANE SEAL BUT NOT MAINTAINED.
No > 90-DAY STORE.
Both HAZ & Non HAZ. No Sign. PROB.
— Occasional Drum leak.
2ND AREA AUGUST 91 - JAN 92.
Concrete floor lock Cage Minor Spill
(3) Both Haz & Non Haz.
Same Size to + Size.
— Floor c̄ Seal.
Now - 1/2 Paint vault
(4) Is East 1/2. Start in Jan to Present
Non + Haz. 0
Trench system plugged.

21

Drain, Scuppers. Minimize fire Risk.
No releases to vult.
Being Remediated to UST AREA.

(5) SAA is DRUMS.

BAGS ARE LABELLED AND DATED.

(6) WASTE AMMONIUM TANK - LESS THAN 90-DAYS.
ALWAYS LESS THAN 90. MAYBE WEEK AT PEAK OP.
6,000. STEEL ADDED MID 70s. ~~DOE~~ 91 - Pumped &
Being Removed CURRENTLY to all Tanks.

7 In GROUND CEMENT WATER ~~Pond~~ NEUTRALIZING BASIN
15,000 - unlined
Started mid 60s.
Still in USE FOR Boiler Demineralizers.
Small amount of Sanitary
MWRD FOR EFFLUENT.
NOT EVALUATED. RELEASE CONTROLS.
Flap valves. SURROUND AREA not eval.

FREON STILL - 2 ASSEMBLY
TCA STILL - 1 ASSEMBLY / Remed is PCB FAB
TCE - Degrease - open top
Methyl Chlor Still PCB FAB
PAINT Booths

WWT

(16)

LABS-2.

SOLDER- DROSS - TO STORAGE FOR SALVAGE. TIN/LEAD DROSS

Bid out to. SCRAP PEOPLE.

SALVAGE AREA-

SCRAP BOARDS.

PLATE COPPER

Metal working/TURNING FOR metal SCRAP

INSIDE ALONG N WALL INSIDE S. OF VSTS.

TCA STILL. WASTE BOTTOMS PUT INTO 5 gallon bucket and
R-15 COLUMN. PIPING TO PICK & PLACE ROBOTICS.
FLOOR was methane coated. Spill kits in BLDG.
DRUM IN AREA. No contain. SIZE IS 3x3.
AREA ENCLOSED in STEEL CAGE.
TCA IS PROPAKLONE, DEFLUX SOLUTION.
SWITCH FROM CFC in SUMMER 90.
STILL IN USE. START ABOUT 86
AIR vent of process machine (SURFACE MOUNT)
VENTS TO OUTSIDE.

Wave solder process machine. Vents to outside
Resin is alcohols - methanol & Ethanol
Solder is tin / LEAD.
Oils ARE non haz.

Waste Wave Oil SAA 55 g DRUM.
NO 2° Contain. TRANSFER

---

process TCA PARTS WASHER. Red Covered
DRAIN TO BUCKET.

TCA STILL - 2 STILLS. Commercial. DETREX
Use +/- 82/83 Floor cement & Coat.
Clean. Well maintained.
Drain to bucket.

(18)

SAA NEAR STILL FREON, FLUX, TCA
3 DRUMS 1 of
Small amt of spill on floor. 4 x 6 x 4
STORED in Yellow Flam Liq Container
Drums on metal
[V-17] is near freon still & wave solder machine

FC 70 & Genosolv VAPOR-PHASE SOLDERING [W-2
DRAIN UNDER MACHINE.
- WHITE SPILL/LEAK/RELEASE on FLOOR.
PIGS AROUND DEFLUXER. C TCA STILL.
TO SAT AREA.

Line away from clean (Defluxer. Clean condenser unit c water

RED SAFETY STEP CAN FOR RAGS LISTED AS
OILY WASTE on can MANAGED AS RUBBISH.

DEFLUXER S STILL FREON TO ~~SAA~~ DRUM.
OPEN-TOP

SOLDER RECLAIM. DROSS HEATED in CRUCIBLE.
DROSS SKIMMED WITH LADLE BACK TO METAL.
TOTE. From solder to reclaim in metal totes
DROSS TO SALVAGE YP & Reclaim.
Solder back to system
Managed as scrap metal
Vent to outside

"BAGHOUSE" FILTER. Collects FIBERGLASS & Metal
FROM ROUTERS. Very sm
10' x 10' AREA
HAD LARGE AREAS in PAST.
Put to plastic bag. Rubbish or Reclaim
Mid 70s for Start. Now only 2 in Phot.
2° Routing. Sometimes need add'l routing

S-6 TCE Maintenance Degreaser
Used for conveyor chains for Deflurene.
Being installed. will have drum above with it.

Scrap metal Store. Move to Store in
metal totes.

Waste oil cool/Lub. Pumped out to drums
Gen from Saws. R-5

Old Storage Yard & Oil Reclaim.
Fenced near Dock J. Dock will be
removed to remediation.

(20)

Former UST Farm. Monitor Wells.
Being Removed - 15K CY
Bulk Product tanks Empty.
Tested to max well install
Cement Pad. Closed.
Cement ripped up in 88.
Asphalt now

Power plant. NW between Dominicks.
Lg Bus fuel oil tank to contain
Coal on ground.

Neutralization Basin.
MID 60's
Add acid or caustic.
Don't due sampling
Outflow for MWRD.
Old oil skimmers not in 80s user.

Storm Drain on E & S is sewer to Ck.
West is Ditch to Creek
Area of Spill. Close to Ditch.
Tested low level of ETCH -
Rec'd no Remediation

(21)

Big cyclones - Just wood dust - To DUMPSTER
Removed process in 82.
Cyclones not in use.

ETCH TANK. DRAIN TO SUMP SLOPE TO SUMP.
OP PRACTICE WAS TO TEST BEFORE SUMP.
DECONTAMINATED NOV 91
TRENCHES IN BACK.
WALL IS 30" ON INSIDE.
PIPES, TANKS, & Containment to be removed
Coated c̄ epoxy

PCB MFG AREA.
DIKED. ACID BRICK.
Trench to Sump.
PUMPED TO WWT

WWT - Recovery cells - electrolytic plate out
AREA c̄ floor Trench
ACID BRICK. SUMPS.
filter press area
Effluent to neut BASIN.
Ceased in Jan.

Conical Crystalizer for WWT

(22)

Store area since close.
Fenced about 40 x 80
HAZ & Non HAZ.
Clean well mant.
No Drains. No Releases.
Moving AREA now

Zinc Transfer

Chem lab
Manage copper waste water in 55 g Drum
All Rest to Sewer. All waste
Drum to WWT.
ADD polish filter to recover Copper.

Removal Storage Area. Clean up.
Caged.
Vieth. clean.
Waste Treat sludge.
Some wastes >90-DAYS.

Interim Store Area
Now w/ Empty Drum
60 x 50
no drain

(23)

Product Mgmt in Drums
Trying to return to vendors.

Scrap yard. Cardboard battery metal.
All to Recyclers. All sold.
Gold, Board misc. 60' x 60'
Relocated ≅ now.

HAZ Waste Stor Area
Over pack if DRUMS failing being sample.
Drums being evaled.
Oil in separate wall.
30' x 30'
Great lakes is testing
Fill ports.
Scuppers. Floor many have had coat not now
Cracks & construct Joint.
no Drain
All Dates good - 12-6-91 is oldest.
Spill & Safety equip.

(24)

R&D Lab. Tiled floor Drains to Sewer
Labor See floor.
Drum of metal waste water.
Then to WWT.
3x3, Shut down in 1990.
1975 +/- Start up.
Drum was conveyance to WWP

JH
2/4/92

ATTACHMENT C
RCRA PART A PERMIT APPLICATION

(— Areas are [illegible] for EPA use, 12 characters each).

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

EPA GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

EPA I.D. NUMBER: F ILD 000 5 05 654 5

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

I. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

II. NAME OF FACILITY

SKIP GTE AUTOMATIC ELECTRIC INCORPORATED

V. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
UDBEWICZ R-SUPV ENVIR PROTECT	312 681 7100

VI. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 00 N WOLF ROAD

B. CITY OR TOWN	C. STATE	D. ZIP CODE
NORTHLAKE	IL	60164

VII. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 00 N WOLF ROAD

B. COUNTY NAME: COOK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
NORTHLAKE	IL	60164	031

CONTINUE ON REVE

A. FIRST	B. SECOND
3 6 1 (specify) Telephone and Telegraph Apparatus	C 7 3 4 6 9 (specify) Metal Stampings
C. THIRD	**D. FOURTH**
3 7 1 (specify) Electroplating	C 7 3 0 7 9 (specify) Misc. Plastic Products

OPERATOR INFORMATION

A. NAME: GTE AUTOMATIC ELECTRIC INCORPORATED

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)

P (specify)

D. PHONE (area code & no.): C A 3 1 2 6 8 1 7 1 0 0

E. STREET OR P.O. BOX: 0 N WOLF ROAD

F. CITY OR TOWN: NORTHLAKE | G. STATE: IL | H. ZIP CODE: 6 0 1 6 4

IX. INDIAN LAND
Is the facility located on Indian lands? [ ] YES [X] NO

EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N N A	C T S 9 P N A
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
U N A	C T S 9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
R N A	C T S 9 (specify)

MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9: A/50

NATURE OF BUSINESS (provide a brief description)

GTE Automatic Electric Incorporated designs and manufactures central office and PABX electromechanical and electronic telephone switching systems. The Northlake facility fabricates, assembles and tests the printed wiring cards and frames for the systems. This facility is responsible for shipment of the final product to the customer.

F9: A/51

CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
P. Harrington, Director Manufacturing Engineer	[signature]	11/10/80

COMMENTS FOR OFFICIAL USE ONLY

FORM 7 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

EPA I.D. NUMBER: F 1 L D 0 0 5 0 7 0 5 4 5

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
5 7	0 7	0 1

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	G
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP 3 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	116160000 ~~116,160~~	G		7				
2	T 0 1	800000000 ~~800,000~~	U		8				
					9				
					10				

...ed from page 2.
...Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY		
1 LD005170545	T/A 3 C 1	W	DUP	T/A 3 C 2 DUP

...RIPTION OF HAZARDOUS WASTES (continued)

	EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F001	9,950	P	S01				Reclaim
2	F002	168,000	P	S01				Reclaim
3	F003	4,500	P	S01				Reclaim
4	F005	1,200	P	S01				Reclaim
5	F006	244,250	P	S01	D80			
6	F007	21,500	P	S01				Reclaim
7	F008	5,000	P	S01	D80			
8	F009	1,600	P	S01				Reclaim
9	F010	1,500	P	S01				Reclaim
10	F017	8,600	P	S01	D80			
11	F018	7,500	P	S01	D80			
12	D001	45,000	P	S01	D80		OR	Reclaim
13	D002	1,000	P	S01	D80			
14	D008	1,000	P	S01				Reclaim
15	P029	500	P	S01	D80		OR	Reclaim
16	P030	500	P	S01	D80		OR	Reclaim
17	P098	500	P	S01	D80		OR	Reclaim
18	P099	500	P	S01	D80		OR	Reclaim
19	P104	500	P	S01	D80		OR	Reclaim
20	P106	500	P	S01	D80		OR	Reclaim
21	P121	500	P	S01	D80		OR	Reclaim
22	U002	500	P	S01	D80		OR	Reclaim
23	U031	500	P	S01	D80		OR	Reclaim
24	U112	500	P	S01	D80		OR	Reclaim
25	U122	500	P	S01	D80		OR	Reclaim
26	U140	500	P	S01	D80		OR	Reclaim

CONTINUE ON REVE...

Photocopy this page before completing if you have more than 26 wastes to list. Form Approved OMB No. 158-S80004

A.I.D. NUMBER (enter from page 1): ILD 0 0 5 0 7 0 5 4 5 3 1

FOR OFFICIAL USE ONLY: W DUP 2 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

EPA HAZARD. MATERIAL NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
U154	500	P	S01	D80		OR	Reclaim
U159	500	P	S01	D80		OR	Reclaim
U161	500	P	S01	D80		OR	Reclaim
U188	500	P	S01	D80		OR	Reclaim
U210	500	P	S01	D80		OR	Reclaim
U220	500	P	S01	D80		OR	Reclaim

or 3510-3 (6-80)

CONTINUE ON REVERSE

PAGE 2 B OF

V. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

L D 0 0 5 0 7 0 5 4 5 T/A 3 C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).* F6: A/55

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).* F6: A/5

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
41 55 000	087 54 ~~036~~ 360

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & n*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

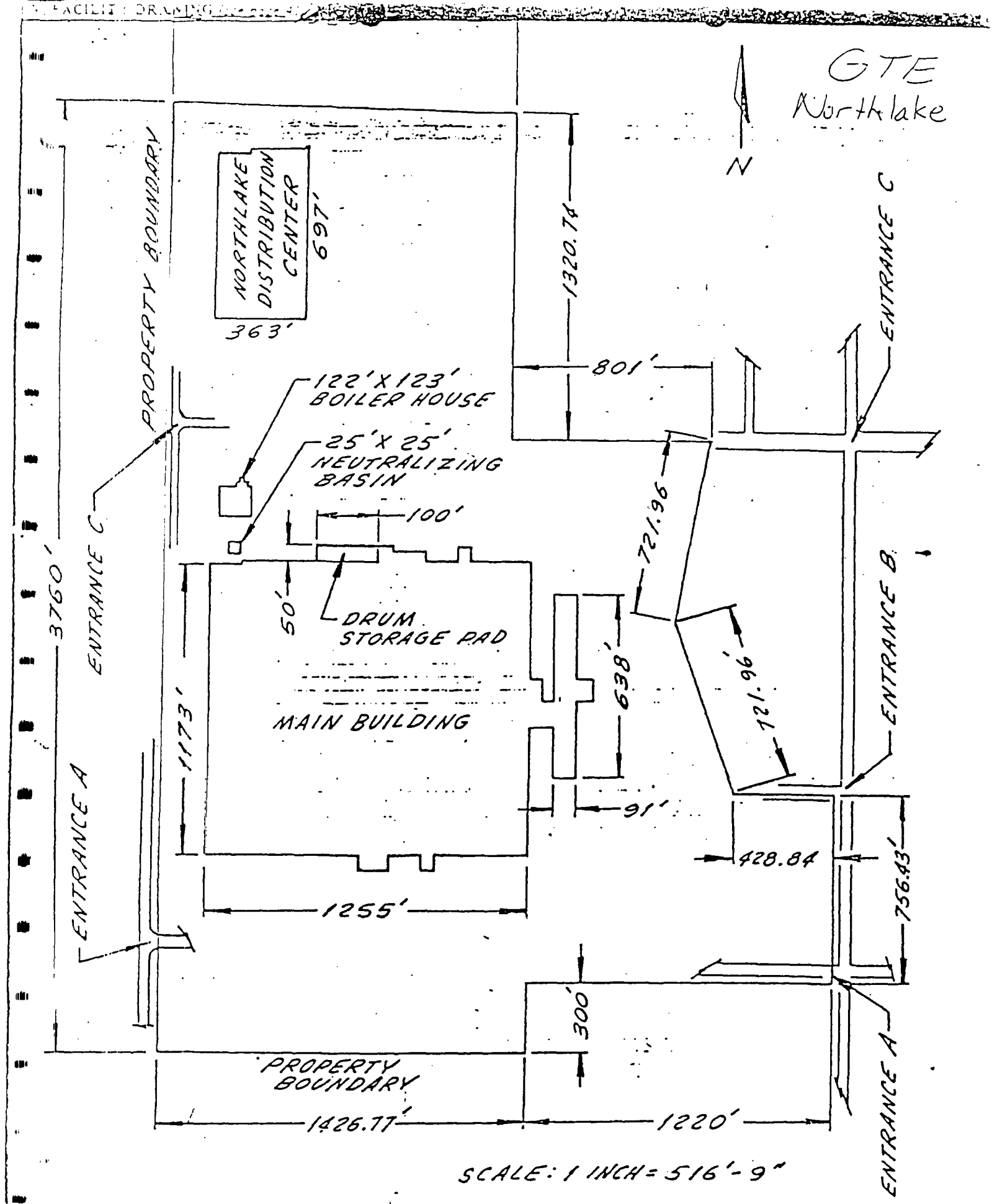
A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
P.R. Harrington		11/10/80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

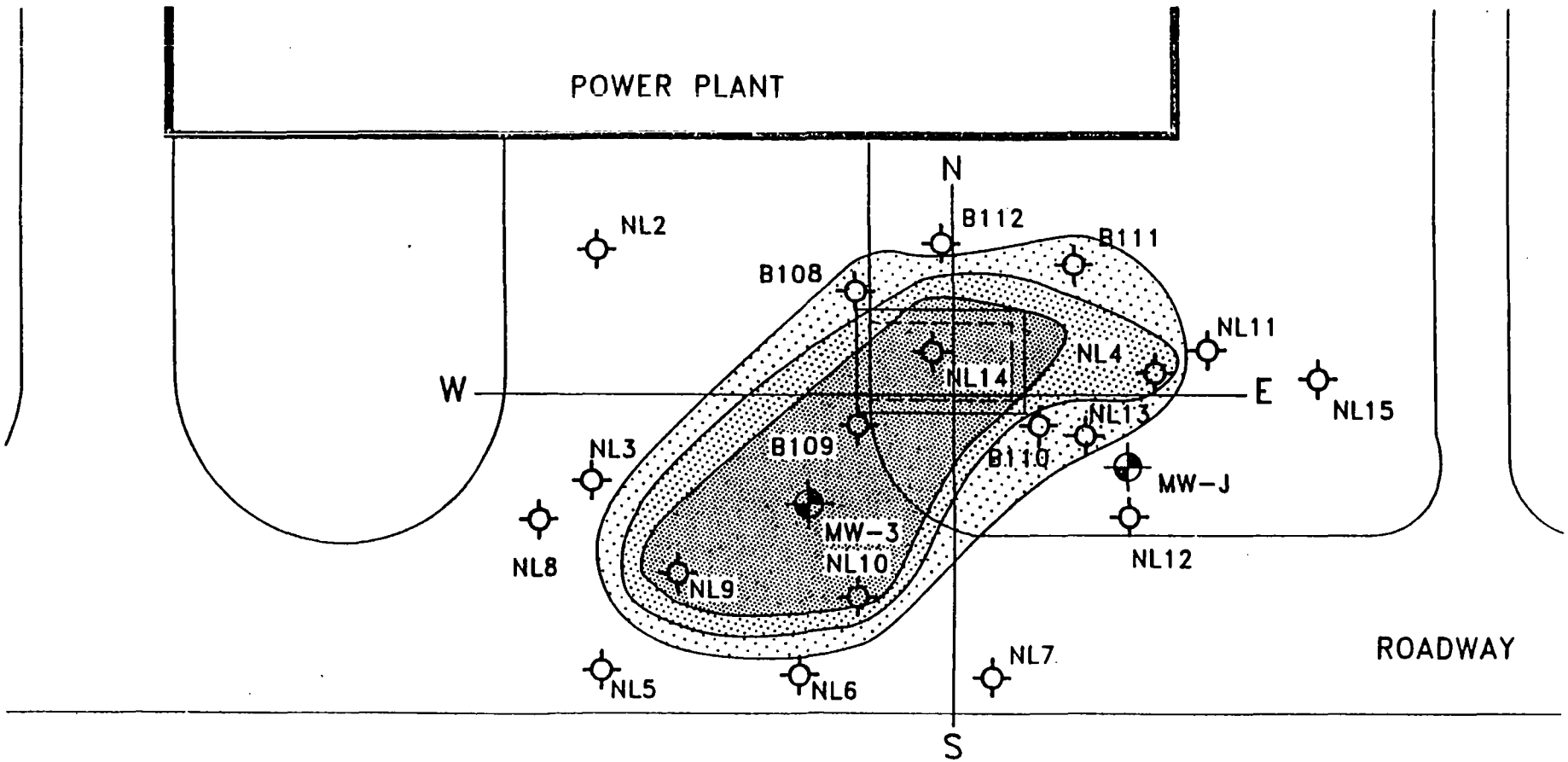
FACILITY DRAWING



ATTACHMENT D

SAMPLING DATA FOR ON-SITE REMEDIATION AREA (AOC 1)

0048/TCECON 12/4/91



LEGEND

- SOIL BORING LOCATION
- MONITOR WELL LOCATION
- W —— E GEOLOGIC CROSS-SECTION
- GREATER THAN 1,000 ppb
- GREATER THAN 25 ppb
- BETWEEN 0-25 ppb

N

0 20 40

SCALE IN FEET

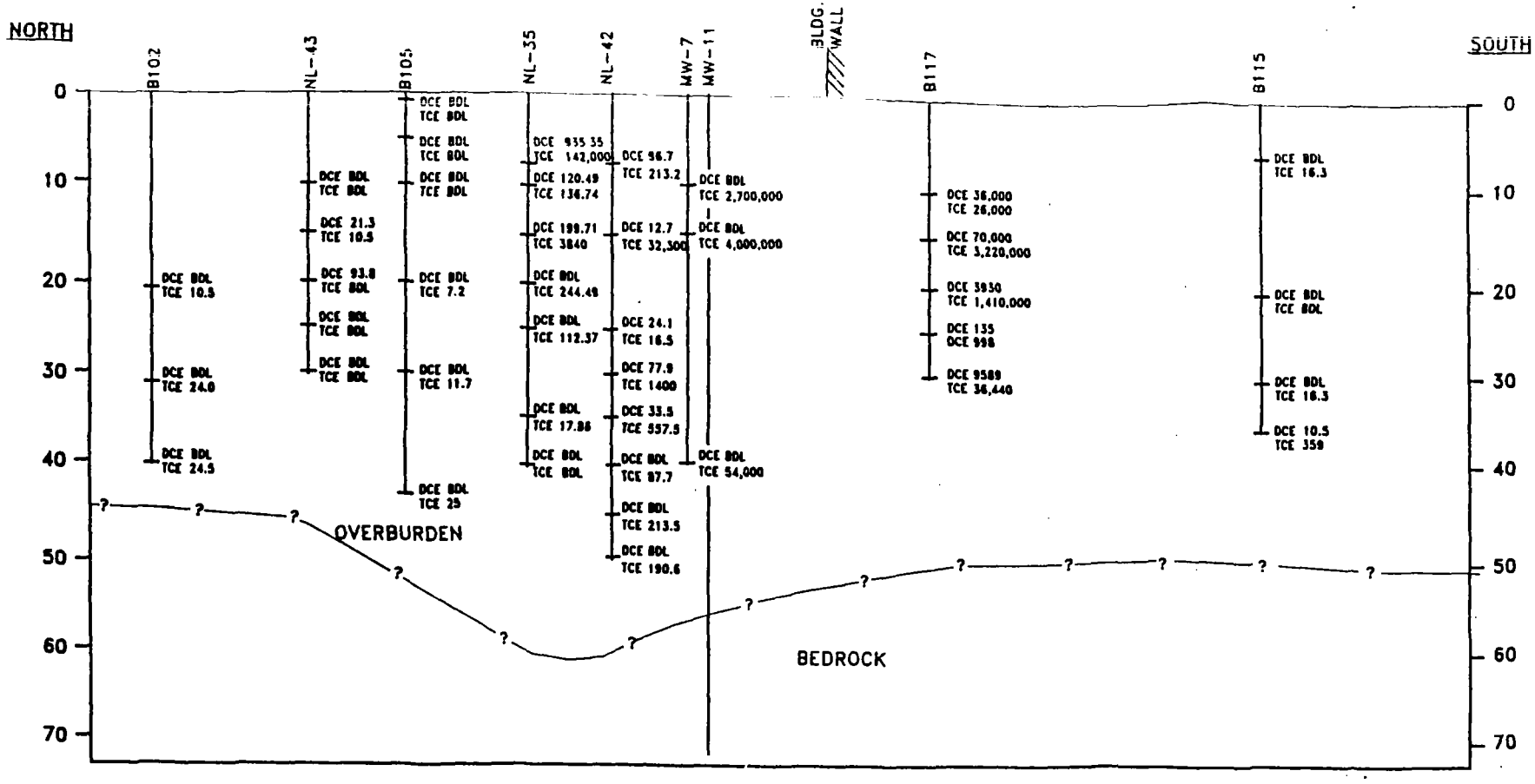
FIGURE 3-3

ENSR™

ENSR CONSULTING AND ENGINEERING

FORMER GASOLINE UST
TCE IN SOIL
AT 5 FEET
NORTHLAKE, ILLINOIS

DRAWN:	EDH	DATE: 3/25/91	PROJECT NUMBER:	REV
APPV'D:	X	REVISED: 12/4/91	0048-001	1



LEGEND

—?— BEDROCK DEPTH ESTIMATED

DCE DICHLOROETHENES IN SOIL IN PARTS PER BILLION OR AS BELOW DETECTION LIMIT (BDL)

TCE TRICHLOROETHENE IN SOIL IN PARTS PER BILLION OR AS BELOW DETECTION LIMIT (BDL)

0 60 FT. 120 FT.

0 1 IN. 2 IN.

FIGURE 3-4

ENSR™
ENSR CONSULTING AND ENGINEERING

FORMER UST FARM NORTH-SOUTH CROSS SECTION SHOWING DISTRIBUTION OF TCE AND DCE
NORTHLAKE, ILLINOIS

DRAWN: JDG	DATE: 1/29/91	PROJECT NUMBER:	REV
APPV'D: X	REVISED: 12/10/91	0048-001	2

0048/CHART1 12/10/91