PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

RECEIVED
WMD RECORD CENTER
JAN 03 1995

PRC

US EPA RECORDS CENTER REGION 5
1012401

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

CATERPILLAR, INC.
JOLIET, ILLINOIS
ILD 980 503 080

FINAL REPORT

Prepared for

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

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	ILD 980 503 080
Date Prepared	:	February 2, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087-IL33
Prepared by	:	Resource Applications, Inc.
Principal Investigator	:	Jeff Indeck
Telephone No.	:	(312) 332-2230
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

contains recycled fiber and is recyclable

TABLE OF CONTENTS

Section		Page
EXECUTIVE SUMMARY		ES-1
1.0	INTRODUCTION	1
2.0	FACILITY DESCRIPTION	4
2.1	FACILITY LOCATION	4
2.2	FACILITY OPERATIONS	4
2.3	WASTE GENERATING PROCESSES	10
2.4	RELEASE HISTORY	13
2.5	REGULATORY HISTORY	13
2.6	ENVIRONMENTAL SETTING	14
2.6.1	Climate	14
2.6.2	Flood Plain and Surface Water	15
2.6.3	Geology and Soils	15
2.6.4	Ground Water	16
2.7	RECEPTORS	17
3.0	SOLID WASTE MANAGEMENT UNITS	18
4.0	AREAS OF CONCERN	23
5.0	CONCLUSIONS AND RECOMMENDATIONS	24
REFERENCES		28

Attachments

A EPA PRELIMINARY ASSESSMENT FORM 2070-12

B VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

C VISUAL SITE INSPECTION FIELD NOTES

LIST OF TABLES

Table		Page
1	SOLID WASTE MANAGEMENT UNITS (SWMU)	7
2	SOLID WASTES	11
3	SWMU AND AOC SUMMARY	25

LIST OF FIGURES

Figure		Page
1	FACILITY LOCATION	5
2	FACILITY LAYOUT	6
3	PLAN OF HAZARDOUS WASTE STORAGE AREA	19

RELEASED
DATE 8/24/99
RIN # 02365-99
INITIALS MV

ENFORCEMENT CONFIDENTIAL

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 Caterpillar, Inc. (Caterpillar) Building F facility in Joliet, Illinois. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

Caterpillar Tractor Company, now known as Caterpillar, Inc., is engaged in the manufacture of hydraulic components for heavy construction equipment. Their Standard Industrial Code is 3531. The Building F property is located in Will County, at 2700 McDonough Road, Joliet, Illinois. The property covers 79.3 acres, of which the buildings occupy 13.8 acres (600,200 square feet). The facility is in a rural/light industrial area southwest of the city of Joliet. This Caterpillar facility was regulated as a storage facility following submittal of a RCRA Part A Permit application in 1980. Following closure of its storage unit on August 10, 1988, the facility was regulated as a non-handler of hazardous waste. Caterpillar has ceased all operations at this facility and is in the process of preparing the property for sale.

Hazardous wastes from the facility were stored in containers (55-gallon drums) in a storage area on the south side of the production building. Although Caterpillar originally applied to also store waste in tanks, wastes were only stored in containers. A revised RCRA Part A Permit application listed a maximum drum storage capacity of 8,000 gallons. There is no record of corrective action at the facility.

Wastes generated and managed at the facility included spent solvents (F003, F005) and waste Stoddard Solvents (D001). Spent solvents were derived from paint thinner which was used for maintenance painting and consists of the following solvents: xylene, ethanol, benzene, methyl ethyl ketone, toluene, and butyl cellosolve (generic name Xylol). Spent Stoddard Solvents were generated by parts washing. Other wastes included Nalclean 6992, a non-hazardous combustible liquid, manganese phosphate sludge/solutions (D002), zinc phosphate sludge/solutions (D002), and non-hazardous waste lap silt solids (silica carbide grit). This facility treated all of its wastewater, but the treatment system is located at a second Caterpillar plant in Joliet which is regulated under a separate EPA ID number and the wastewater was transferred to the treatment system via pipeline.

RELEASED
DATE 8/24/99
RIN # 2365-99
INITIALS MV

ENFORCEMENT CONFIDENTIAL

The PA/VSI identified the following 4 SWMUs at the facility:

Solid Waste Management Units

1. Outdoor Hazardous Waste Storage Area
2. Chip Turning Dumpster Areas
3. Creosote Floorbrick Pile
4. Wastewater Treatment System Piping

There have been no documented releases to the environment from any of the SWMUs; however, creosote odor was noted at the time of the VSI. Activities associated with selling the property have resulted in a one-time generation of creosote floorbrick which is temporarily being stored on site. At the Caterpillar facility, there is currently a low to non-existent potential for release to soil, ground water, and surface water because all operations at this plant have ceased. The volatile nature of creosote is such that it will continue to release into the air until proper disposal of the blocks is achieved. While in operation, the potential for releases to these environmental media was probably low because management of hazardous materials seems to have been adequate. This conclusion is supported by the fact that no evidence of release was identified during formal closure activities at the Outdoor Hazardous Waste Storage Area (SWMU 1).

The facility is served by the Joliet municipal water system and sanitary system. All wastewaters, except those from restrooms and the cafeteria, were treated in the wastewater treatment system at the Route 6 Plant. There are no sensitive species or environments within two miles of this facility. The nearest residences are a half mile away. There is a reformatory west of the plant; however, the reformatory and the Caterpillar facility are fenced and secure, precluding direct exposure to any contaminants which may remain on the Caterpillar property. The facility is located on a drainage divide and there is no danger of flooding. A lowland/wetland area near Rock Run a tributary to the Des Plaines River is approximately 2 miles northwest of the facility.

RAI recommends little further action at this facility at this time because operations have ceased. The plant currently poses a low potential for a significant release of hazardous constituents to the environment, and poses a low threat, either directly or indirectly, to the health of human receptors in the community. RAI recommends testing the integrity of the Wastewater Treatment System Piping (SWMU 4) to evaluate the potential for a past release from this system. RAI also recommends that, until final disposal, the creosote floorbrick should be managed in such a way as to minimize potential exposure to hazardous fumes by any remaining workers in the building.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC) received Work Assignment No. C05087 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 Caterpillar, Inc. (Caterpillar), Building F Facility in Joliet, Illinois.

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 generally 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-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 such a release in the future is judged to be a strong possibility.

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 SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Caterpillar facility (ILD 980 503 080) in Joliet, Illinois. The PA was completed on July 17, 1991. RAI gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from EPA Region 5 RCRA files. RAI also reviewed relevant publications from the U.S. Department of Agriculture (USDA), Soil Conservation

Service (SCS), U.S. Department of Commerce (USDC), U.S. Geological Survey (USGS), Federal Emergency Management Agency (FEMA), and the Illinois State Geological Survey (ISGS).

The VSI was conducted on July 18, 1991. It included interviews with Caterpillar facility representatives and a walk-through inspection of the facility. Four SWMUs and no AOCs were identified at the facility.

RAI completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and 8 inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, release history, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

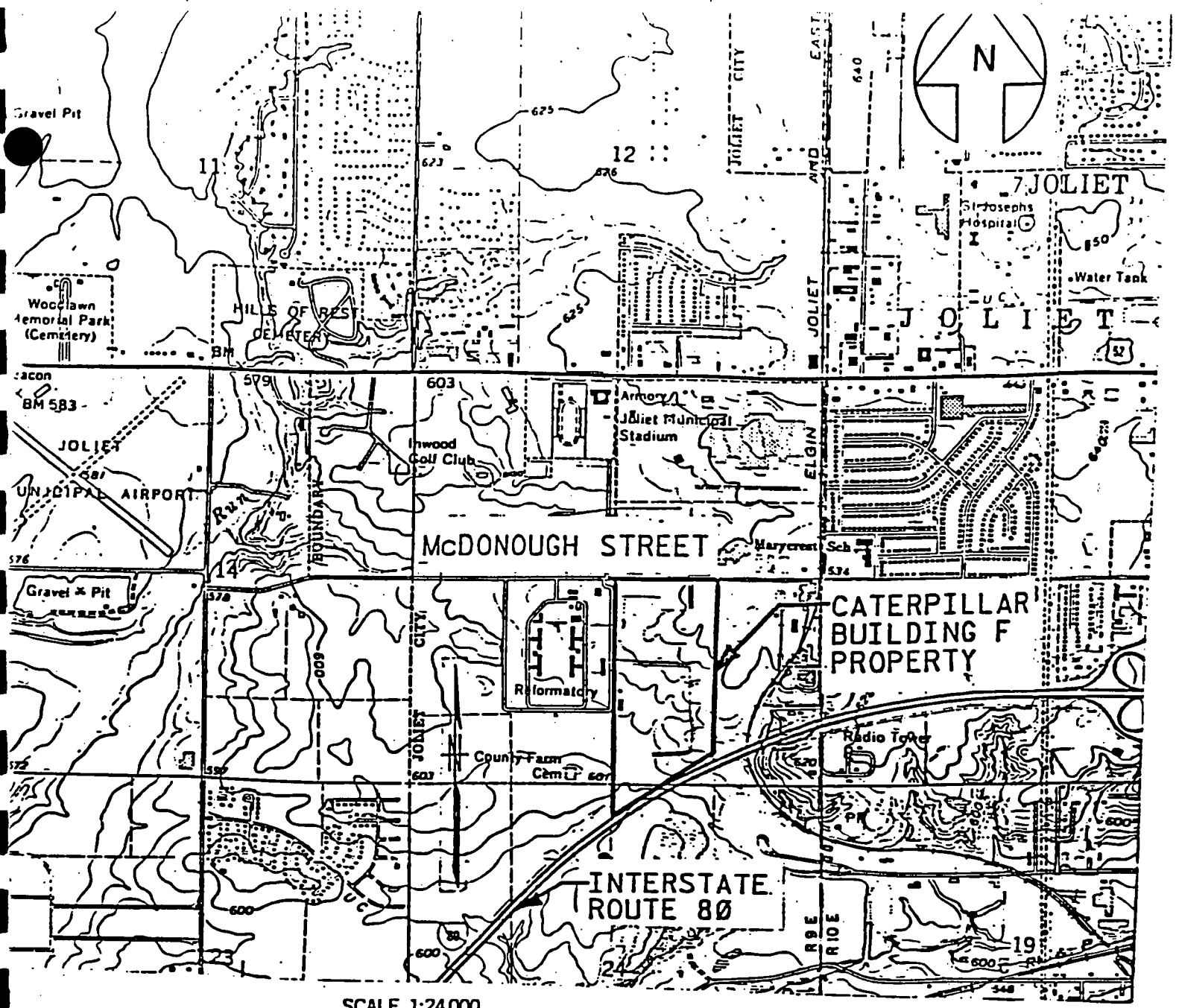
The Caterpillar facility is located in Joliet, Will County, Illinois at 2700 McDonough Road. The property is bounded on the south by Interstate Route 80 and on the west by the Joliet Boys' Reformatory, on the north by McDonough Road, and on the east by Airco Energy, a specialty gas distributor (Figure 1). It is in the SE 1/4 of Section 13, T35N, R9E (USGS, 1980), at latitude 41°31'05"N and longitude 89°09'03"W. The property covers 79.3 acres, of which the buildings occupy 13.8 acres or 600,200 square feet. The facility is in a rural/light industrial area southwest of the city of Joliet.

2.2 FACILITY OPERATIONS

According to the facility representative, the Caterpillar Tractor Company (Caterpillar) began building the plant in 1968 and moved into the facility in late 1969 (Caterpillar, 1991). Caterpillar has occupied the premises continually since that time. In 1986, the company incorporated in Delaware as Caterpillar, Inc. and the name was changed to reflect the new status (Caterpillar, 1991). For this report, both entities will be referred to as Caterpillar.

Caterpillar maintains two facilities in Joliet and designates the one evaluated in this report as Building F. The second facility, the Route 6 Plant, is regulated under a separate EPA ID number, and is not the subject of this PA/VSI. Together they comprise the Caterpillar Joliet Plant or the Caterpillar Joliet Facilities.

Caterpillar has ceased operations at the Building F facility effective in 1987. When operating, this facility was engaged in the manufacture of hydraulic components for heavy construction and earth moving equipment. Specifically, the facility was a manufacturing and assembly plant for hydraulic pumps and motors, hydrostatic transmissions, and miscellaneous valve groups. Its Standard Industrial Code (SIC) is 3531. A map of the Caterpillar Building F, presenting identified SWMUs, is included as Figure 2. Table 1 presents the Solid Waste Management Units (SWMUs) identified at the Building F facility.



PORTION OF PLAINFIELD 7.5'U.S.G.S. QUADRANGLE

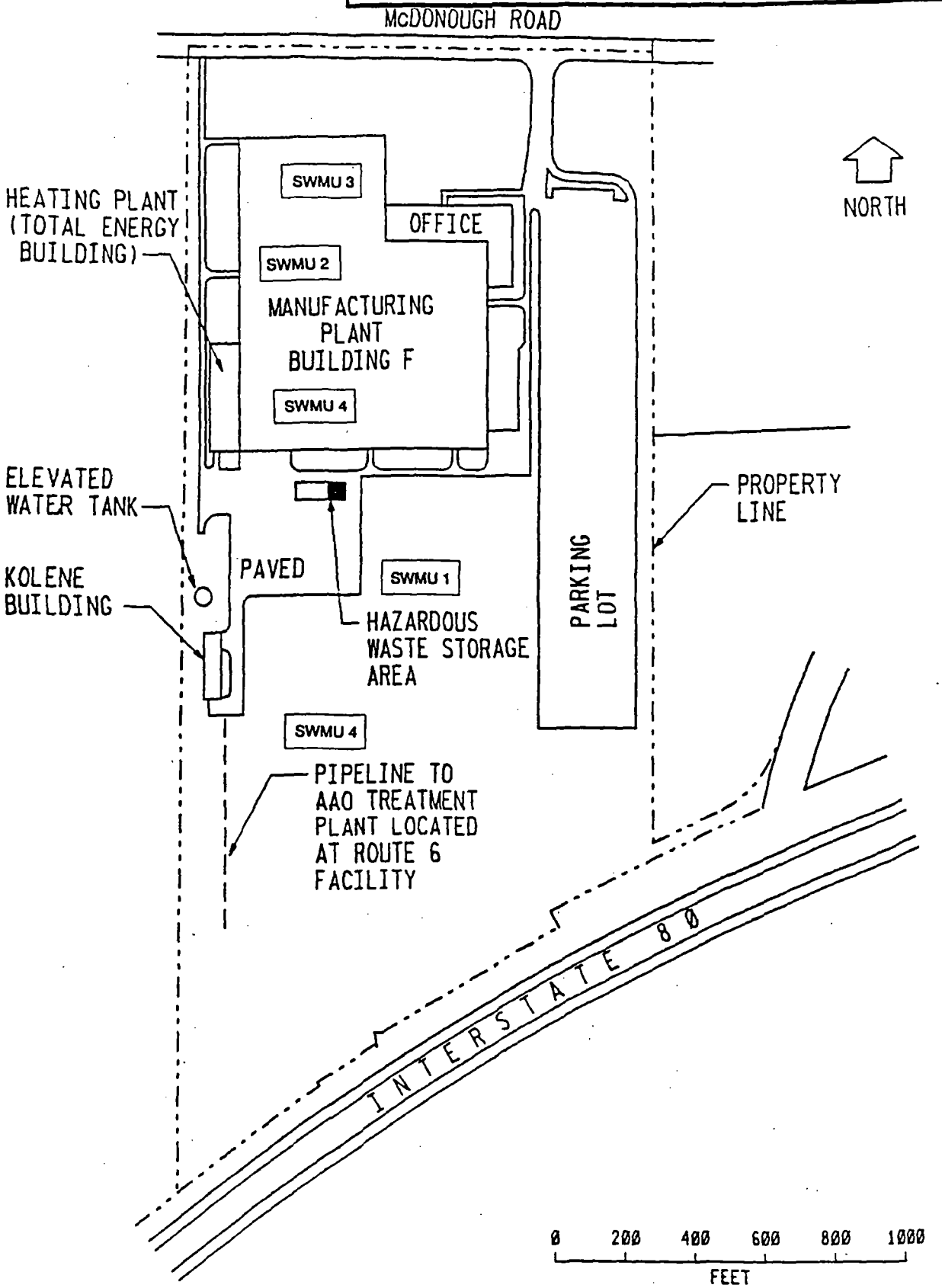
Resource Applications, Inc.

LOCATION MAP
CATERPILLAR BUILDING F PROPERTY
JOLIET, ILLINOIS

Eichleay ENGINEERS INC.
PITTSBURGH CHICAGO

FIGURE 1

Resource Applications, Inc.



SITE PLAN
CATERPILLAR
BUILDING F PROPERTY
JOLIET, ILLINOIS

Eichleay ENGINEERS INC.

PITTSBURGH CHICAGO

FIGURE 2

QS3:[123,519299003].DGN

TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Outdoor Hazardous Waste Storage Area	Yes	January 6, 1989; RCRA Closure approved currently inactive
2	Chip Turning Dumpster Areas	No	Inactive
3	Creosote Floorbrick Pile	No	Active
4	Wastewater Treatment System Piping	No	Inactive

Note:

* A RCRA hazardous waste management unit is one that currently requires or formerly required a RCRA Part A or Part B permit.

The Building F facility is a large manufacturing plant. Associated with it are offices (approximately 80,000 square feet), a power plant and generators (removed), a maintenance building (Kolene), an outdoor storage area, and a pumping (lift) station and pipeline connected to the Acid, Alkaline, and Oil Wastewater Treatment System (AAO) at the Route 6 facility.

The Joliet Plant employs approximately 1,500 people. In 1980 and 1981 the facility was operating at maximum capacity and employed 2,000 people working in three shifts. All operations which were conducted at Building F have been transferred to the Route 6 facility. At the time of the VSI, the entire Caterpillar Joliet Plant was closed down for its annual 2-week maintenance period. Caterpillar finds it more effective to shut down and perform all major maintenance at one time, rather than try to perform them while the plant is operating. Caterpillar furloughs its employees during this time.

No one is currently working at the Building F facility except security personnel and workers emptying the building in anticipation of its sale. This process involves removal of the power plant generators, removal of all equipment associated with production, and removal of the creosote block flooring. This latter activity has resulted in the one-time generation of a large amount of creosote floorbrick. The facility has been for sale since 1987.

Several activities took place at the facility while it was in operation. One production process was the treatment of metal parts. This involved cleaning, rinsing, etching, and coating of the parts. This process occurred in bath tanks using alkaline cleaners, acids, and zinc (Zn) and manganese (Mn) phosphate. A second process was electrochemical machining (ECM). This involved the boring of non-round holes using a sodium nitrate/electrolyte solution bath with an electrode. A third process was the machining, grinding, and polishing of metal parts using oils and coolants, and generated a silica grit mixture. The facility used three different kinds of oils or coolants during cutting. These were soluble oils, semi-soluble oils, and synthetic oils. Finally, the plant performed assembly and testing, and used a variety of techniques to coat or treat the parts to inhibit rusting and facilitate the breaking-in of the parts.

All waste coolants, cleaners, and oils, etc. were handled and treated by the Route 6 Wastewater Treatment facility. Phosphating and ECM wastes were handled to disposal contractors. Solvent wastes from maintenance operations were disposed of by licensed outside contractors (Caterpillar, 1991).

The Building F Plant had its own on-site metallurgy laboratory (Met Lab). The lab was responsible for maintaining and adjusting the various bath solutions. All waste from these operations was disposed of to the AAO Wastewater Treatment System at the Route 6 Plant.

The last shipment of hazardous waste was hauled off-site on December 16, 1987. A RCRA Closure inspection was performed by IEPA on November 7, 1988. The inspection report indicated that closure activities were performed according to the approved Closure Plan. The facility's RCRA Part A Permit application was withdrawn (IEPA, 1989a).

According to a Compliance Evaluation Inspection performed at the Route 6 facility, (EPA,1989b) the wastewater treatment system at the Route 6 facility is comprised of separate sewer systems for storm water, sanitary sewage, AAO process wastes, and chrome plating wastes. Storm water is discharged directly to the Des Plaines River. Sanitary wastes are discharged to and treated by the city of Joliet. All chrome plating wastes are collected and treated separately by chemical reduction in an industrial waste treatment plant before being discharged to the AAO wastewater treatment system. AAO wastes are given continuous pre-treatment consisting of screening and American Petroleum Institute (API) separation. Primary treatment is done on a batch basis and includes pH adjustment, the addition of an emulsion breaker, alum, and flocculent aid followed by air floatation. Secondary treatment is provided by passing primary treatment effluent through an activated sludge waste treatment plant consisting of equalization, phosphorous and ammonia nutrient addition, aeration with activated sludge followed by clarification, prior to discharge to the Des Plaines River through a flow distribution box and foam reduction chamber. Waste sludges from the above treatment processes are decanted, dried utilizing vacuum filtration, and disposed of by landfill. The discharges are monitored and the Route 6 facility maintains a current NPDES Permit (No. IL0001732).

Storage of most chemicals used in production occurred outdoors in a fenced storage area immediately adjacent to the Outdoor Hazardous Waste Storage Area (SWMU 1). Two crib areas also managed raw chemicals which were used in various production processes. These were indoor, concrete curbed areas in operation from 1969 to 1987. Chemicals were managed in drums or 350-gallon totes, and included lubricating and hydraulic oils for production machinery in one area, or cleaners, acids, and phosphates associated with the Met Lab in a second area.

2.3 WASTE GENERATING PROCESSES

Creosote floorbrick is the only waste currently generated at Building F. Activities being conducted to prepare the building for sale include the complete removal of creosote floorbrick. These wooden blocks covered all of the production building floor. Caterpillar is temporarily managing the blocks in a large pile while awaiting a determination from IEPA about how to dispose of the material.

Manganese and zinc phosphate solutions and sludges (D002) were generated from phosphating tanks associated with the "Harshaw System". The amount of waste generation was dependent upon the amount of phosphating that was done. This Harshaw System was a seven step process involving cleaning, rinsing, acid etching, rinsing, zinc or manganese phosphate coating, rinsing, and a final rust preventative coating. The system was installed in 1981 and provided corrosion protection for the parts. The sludge was removed 2 to 3 times per year by decanting the bath into a rinse tank and shovelling the residue into drums. The sludge was generated directly from the phosphating tanks and was shipped to Envirite Corporation (Envirite) in Alabama. This procedure generated approximately 5 to 10 drums of combined sludge and solution waste which was shipped to Envirite. This process area was approximately 50 feet by 20 feet. The tanks were located on a cement pad which was surrounded by a cement curb and creosote floorbrick.

An additional waste was sometimes generated from this production process. A slurry of manganese or zinc would be removed from stainless steel process tanks. These tanks had volumes of 400 gallons (Mn) and 700 gallons (Zn). The slurry would be pumped directly into barrels and shipped to Envirite.

The baths were occasionally treated with hydrogen peroxide to extend their usefulness. This would cause the soluble iron to precipitate out of solution and become part of the sludge at the bottom of the tank. The facility tried to minimize sending phosphate baths down the AAO drain for treatment.

The Met Lab was responsible for maintaining the phosphating solutions. Quality Assurance titrations were done in the Met Lab to determine chemical constituents and maintain the solution baths. All wastes associated with this process were disposed of to the AAO Wastewater Treatment System drains. All raw product chemicals such as cleaners, acids, and phosphates were stored in the lab which had a concrete floor with concrete curbing and floor drains. No waste was managed in the lab and solutions were disposed of directly to the Wastewater Treatment System Piping for treatment at the Route 6 AAO Wastewater Treatment facility.

TABLE 2

SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit
Creosote Floorbrick	One-time Generation	3
Manganese Phosphate Sludge/ D002	Production/ Harshaw System	1
Zinc Phosphate Sludge/D002	Production/ Harshaw System	1
Manganese Phosphate Solution/ D002	Production/ Harshaw System	1
Zinc Phosphate Solution/D002	Production/ Harshaw System	1
Spent Solvent (Paint Thinner)/ F003, F005	Maintenance	1
Spent Stoddard Solvent/D001	Production/ Maintenance	1
Carbide Grit Mixture/ Non-Hazardous	Production/ Lapping	1
Cast iron and steel/ Non-Hazardous	Production/ Machining	2
Wastewaters	Production/ Met Lab	4
Nalclean 6992/ Non-Hazardous	Production	4
Spent Sulfuric Acid/D002	Power Plant	4
Sodium Metasilicate/Door	Production	4
Sodium Hydroxide/Door	Production	4

Note: Creosote floorbrick is the only solid waste generated at present. All other wastes were generated before the facility ceased operations in 1987. The facility's RCRA Part A Permit application was withdrawn in 1989.

Paint thinners (F003, F005) were generated from plant maintenance. Generation amount is dependent upon amount of painting required by the facility. The waste was shipped to EWR.

Spent Stoddard Solvent (D001) was generated from the parts washing process and to a lesser extent, from machine cleaning. Generation was primarily dependent upon the quantity of parts washed. The waste spent solvent was shipped to EWR. The spent solvents contained petroleum naphtha, aromatic solvent naphtha, and trimethyl benzene. This material had a flash point of approximately 130°to 125°F and was considered to exhibit the characteristic of ignitability. Wastes were removed to the Outdoor Hazardous Waste Storage Area (SWMU 1) after generation.

Non-hazardous silica carbide grit was used as a polishing agent in the facility's lapping machines. This was generated at a rate of approximately 1 drum every other month. The silt was accumulated at the lapping machines, allowed to settle in 55-gallon drums, the oil was decanted off and reused, and the drums then stored in the Outdoor Hazardous Waste Storage Area (SWMU 1). The grit was the removed to the local landfill.

Nalclean 6992 is a rust preventative oil used for cleaning tubing. According to the facility representative, the waste is non-hazardous with a low flash point. The waste was disposed of to the Route 6 AAO Wastewater Treatment System via the Wastewater Treatment System Piping (SWMU 4).

The facility also had an electrochemical boring process on site which the company referred to as Electrochemical Machining (ECM). This process used a sodium nitrate/electrolyte solution with an electrode to bore non-round holes in metal piece parts. The solution tank was cleaned annually and the bath waste replaced when it could no longer be reused. The waste solution was removed to Chem-Clear in Chicago. The tank volume was in excess of 1,000 gallons but the facility representative is unsure as to its exact size.

Machining and cutting operations used three kinds of oils. The first, soluble oils, were a petroleum oil product mixed with water. The second, semi-soluble/semi-synthetic oils, were 2 to 4 percent oil with monoethanolamines and diethanolamines. The third kind of coolant were synthetic oils. These wastes were generally all treated at the Route 6 AAO Wastewater Treatment System. In addition to their use in cutting/coolant capacities, oils were sometimes also used as a rust preventative coating. In this case, parts were dipped into the oil and no waste was generated.

Non-solvent cleaners, such as sodium hydroxide or sodium metasilicate (both D002) were used at the facility. Although these have a high pH (10 to 13), any waste generated was treated at the Route 6 AAO Wastewater Treatment System. No solvent degreasing occurred at the facility.

All drains, trenches, and sumps were plumbed to the Route 6 AAO and wastewater treatment systems and consequently, most wastes were not managed at this facility. This included all storm drains and surface runoff. The only wastes not routinely discharged to the treatment system were the zinc and manganese wastes.

The only painting that was done at this facility was maintenance painting. All painting associated with parts and/or production was done at the Route 6 facility.

Storage of product chemicals was done in three areas at the facility; the outdoor hazardous materials storage area, crib areas inside the production building, and in the Met Lab. All of these were concrete areas which were curbed with concrete. Floor trenches associated with the Wastewater Treatment System Piping (SWMU 4) are located in all three of these areas. The indoor crib areas were surrounded by floorbrick.

2.4 RELEASE HISTORY

There have been no documented releases from this facility and there are no records of citizen complaints or problems. The original analysis conducted as part of the closure activities for the Outdoor Hazardous Waste Storage Area (SWMU 1) showed small amounts of benzene. The laboratory re-analyzed the sample and results showed that it was clean. The facility representative said that the initial result was due to laboratory error or interference which the lab interpreted as benzene.

2.5 REGULATORY HISTORY

Caterpillar submitted a RCRA Notification of Hazardous Waste Activity in 1980 (Caterpillar, 1980a) and also filed a RCRA Part A Permit application (Caterpillar, 1980b). The application listed a container storage (S01) and a tank unit code. Based on this information, Caterpillar was regulated as both a generator of hazardous waste and as a storage facility (IEPA, 1983). Caterpillar submitted a revised Part A Permit application to store 8,000 gallons of waste in containers (barrels and drums) and removing the S02 storage (Caterpillar, 1987). The tank unit originally listed was never used and waste has never been managed in tanks at this facility. This S02 tank was an in-process tank used only for

electrochemical machining and not waste storage. Hazardous waste from the facility was stored in drums in the Hazardous Waste Storage Area (SWMU 1) on the south side of the building (Figure 2).

The facility has been inspected several times and the resulting violations were for inadequate documentation and records management, and the lack of a Closure Plan (IEPA, 1983; 1987; 1988b). All violation were subsequently resolved.

In 1988, Caterpillar submitted a plan to formally close its Hazardous Waste Storage Area (SWMU 1) (Caterpillar, 1988) which was subsequently approved by IEPA (IEPA, 1988a). Following closure activities (Eichleay, 1988), IEPA acknowledged the closure and withdrew Caterpillar's RCRA Part A Permit application (IEPA, 1989a). The facility is currently regulated as a non-handler of hazardous waste.

The facility does not maintain air or water permits. The Route 6 Plant has a current NPDES Permit to discharge to the Des Plaines River.

The facility did have 1 Boiler Permit for gas-fired boilers. The boilers vented directly to the outside air. The facility's power plant consisted of 12 Caterpillar generators which generated all of the electricity for the buildings as well as steam for heating. The generators have been removed as part of the reconditioning in anticipation of selling the property, and power is now supplied by Commonwealth Edison. When the facility was operating, blowers in the ceiling vented exhaust directly to the outside air through the roof.

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 Caterpillar facility.

2.6.1 Climate

The site is situated in northern Will County, Illinois, about 22 miles southeast of Aurora which is the nearest U.S. National Weather Service substation. With no significant topographical barriers to airmass flow, the climate in the area is typically continental with cold winters; warm summers; and frequent short periodic fluctuations in the temperature, humidity, cloudiness and wind direction (Ruffner, 1985). The average daily temperature is 48.7°F. The lowest average daily minimum

temperature of 11.3°F occurs in January. The highest average daily maximum temperature of 84.2°F occurs in July. The prevailing wind direction is west and the average wind speed is 10.4 miles per hour. Average annual precipitation as water equivalent is 35.62 inches. Annual net precipitation is 5.6 inches (USDC, 1968). In winter about one half of the precipitation, or 10 per cent of the annual total, falls as snow. During the fall, winter, and spring, the pattern of precipitation tends to be uniform over both time and distance, whereas in summer rainfall is often locally heavy and variable. The one year, 24-hour maximum rainfall recorded in the area over the last 25 years is 10.48 inches (Ruffner and Bair, 1985).

2.6.2 Flood Plain and Surface Water

The general direction of surface water flow is to the west into the Rock Run Branch of the Des Plaines River, which flows south. Surface topography slopes about 40 feet over one mile which is considered sufficient to provide effective relief for surface runoff. The facility is in a Zone C floodplain, that is, an area of minimal flooding outside the 500-year flood limit (FEMA, 1985). The Du Page River is approximately 3 miles to the west. A lowland area/wetland associated with Rock Run is about 2 miles northwest and upgradient from the facility. The Des Plaines River is approximately 3 miles to the south. The Du Page and Des Plaines Rivers are used for recreational and commercial purposes, as is the Chicago Sanitary and Ship Canal which is adjacent to the Des Plaines River.

2.6.3 Geology and Soils

No site-specific information was available for the Caterpillar facility, so the following discussion, based on regional geologic information, is presented. The main features of the northeastern Illinois landscape are the result of glaciation (Bergstrom et. al., 1955). Soils are formed in glacial till with a relatively high clay content (USDA, 1980). The land around the facility is covered with buildings making it difficult to identify the soil characteristics underneath (USDA, 1980). The soil structure is fairly graded and well drained to sewers and low-lying areas. The water carrying capacity and permeability of the soil are considered moderate, and runoff high, because of the topographic slope along the river plain.

The varied glacial and bedrock materials deposited are the result of streams and rivers that flowed from the glaciers. The area is on a broad, gently sloping arch of Paleozoic bedrock formation overlain by glacial deposits, called drift. These deposits mantle most of the area and consist of unconsolidated till, silt, clay, sand, gravel, and peat (Willman, 1971). The glacial deposits form an

irregular surface that covers the solid layered bedrock at the site. The drift is underlain by Silurian dolomite bedrock which lies uncomformably on rocks of the Maquokota Group.

The Cambrian system rock is marine in origin. Its lower half is largely sandstone and the upper half consists of dolomites, sandy dolomites, sandstones, and siltstones. Sandstones of the Eau Claire Formation, which dominate in the vicinity of the site, are 370 to 470 feet thick (Willman, 1971). The Eau Claire Formation is composed of a variety of rock types including sandstones, siltstones, dolomite, and shale in the upper and middle part. The lower part is composed of rock similar to Mt. Simon Sandstone, which is present throughout the area (Hughes, et al., 1966). The base is the top of Precambrian crystalline rock (Hughes, et al., 1966). The depth of crystalline rock ranges from 3,750 feet to 4,250 feet around the facility.

The thickness of the unconsolidated till ranges from 50 feet to 250 feet in the area (USDA, 1980). Along the Des Plaines River, where the facility is situated, the glacial drift is thin, and sand and gravel deposits are correspondingly thin or are absent. Shallow sand deposits are mainly fine-grained and silty; for ground water supplies, drilled wells usually penetrate solid bedrock (Bergstrom, et al., 1955).

2.6.4 Ground Water

In the vicinity of the site ground water is obtained from four major water-yielding units called aquifers: (1) sand and gravel beds in the glacial drift; (2) shallow dolomite aquifers, mainly the Silurian Dolomite; (3) the Cambrian-Ordovician aquifer, in which the Ironton-Galesville and Glenwood St. Peter Sandstones are the most productive units; and, (4) the Mt. Simon aquifer, which consists of the Mt. Simon Sandstone and the basal sandstone of the Eau Claire Formation (Willman, 1971).

In the Des Plaines River plain the dolomite lies at or near the surface, so water-yielding sands and gravels are scarce. Elsewhere in Will County, ground water supplies are obtainable from rock 50 feet to 150 feet deep in sand and gravel within the glacial drift. The best possibilities for high capacity wells in sand and gravel are where the drift is generally over 100 feet thick (Bergstrom, et al., 1955). Some wells penetrate through the drift and obtain water from open cracks and crevices in the dolomite.

The shallow bedrock aquifer system yields water through fractures and solution openings and is recharged from precipitation. Shallow wells have the advantage of rapid recharge but their limitations include erratic yield because of irregular permeability and susceptibility to contamination (Hughes, et al., 1966).

The deep bedrock aquifer systems include the Cambrian-Ordovician system and the Mt. Simon system. The major aquifers are the Glenwood-St. Peter, Ironton-Galesville, and Mt. Simon Sandstones. The top of the Cambrian-Ordovician aquifer system is at the top of or within the Galena-Platteville dolomites. The Cambrian-Ordovician and the Mt. Simon aquifers are separated by relatively impermeable shales and dolomites of the upper and middle part of the Eau Claire Formation and are included with the Mt. Simon Sandstone as the Mt. Simon aquifer system.

The wells in the deep bedrock aquifer system yield in excess of 700 gallons per minute (gpm) and are dependable for large supplies of water. The Galena-Platteville Dolomite contributes little water because of slow permeability. The Glenwood-St. Peter Sandstone, beneath the Galena-Platteville Dolomite, is widely utilized where water requirements are less than 200 gpm. It has a permeability of approximately 9 to 15 gpd/sq. ft while the underlying Ironton-Galesville Sandstone has a permeability of about 35 gpd/sq. ft. The Mt. Simon aquifer system lies at approximately 1,650 feet below the surface and about 270 feet of fresh water-bearing sandstone can be expected. The Mt. Simon system has an average permeability of approximately 16 gpd/sq. ft. Water wells rarely penetrate more than a few hundred feet into this system because the water is too highly mineralized for most uses (Hughes, et al., 1966).

2.7 RECEPTORS

The city of Joliet provides drinking water and sanitary services for the facility and the surrounding areas. There are no domestic water wells in the vicinity. The area is rural/light industrial. There is a reformatory to the west and a specialty gas business to the east of the facility. The nearest residences are over half a mile away towards the northeast. Joliet has a population of 78,000 people.

The entire facility is enclosed by cyclone fencing and the property is patrolled by security guards. All indoor production areas had floor drains or trenches connected to the Route 6 AAO and wastewater treatment systems. All of the property outside around the buildings is covered by cement and the storm drains and sewers are connected to the wastewater treatment system.

The Du Page River is approximately 3 miles to the west. There are no known endangered species or sensitive environments within 2 miles of the facility. A lowland area/wetland associated with Rock Run, a tributary to the Des Plaines River, is approximately 2 miles northwest and upgradient from the facility. The Des Plaines River is approximately 3 miles to the south. Surface water near the facility is used for recreational and commercial purposes.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 4 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 release, and RAI observations.

SWMU 1 **Outdoor Hazardous Waste Storage Area**

Unit Description: This storage unit is an outdoor concrete curbed area surrounded by a locked cyclone fence (Photos 1 and 2). Figure 3 is a map of the unit showing dimensions, structures, drainage, and relationship to other structures on the property (Eichleay, 1988). The concrete was placed in 1968 when the facility was built. In 1981, it was improved to include the fence, curbs, and drainage system. The waste storage area is 43 feet by 32 feet. The concrete has filled construction joints at 20' intervals. The pavement was torn up and patched after installation of the area drain and piping. The patch is 10" thick which is the thickness of the original pavement (Eichleay, 1988).

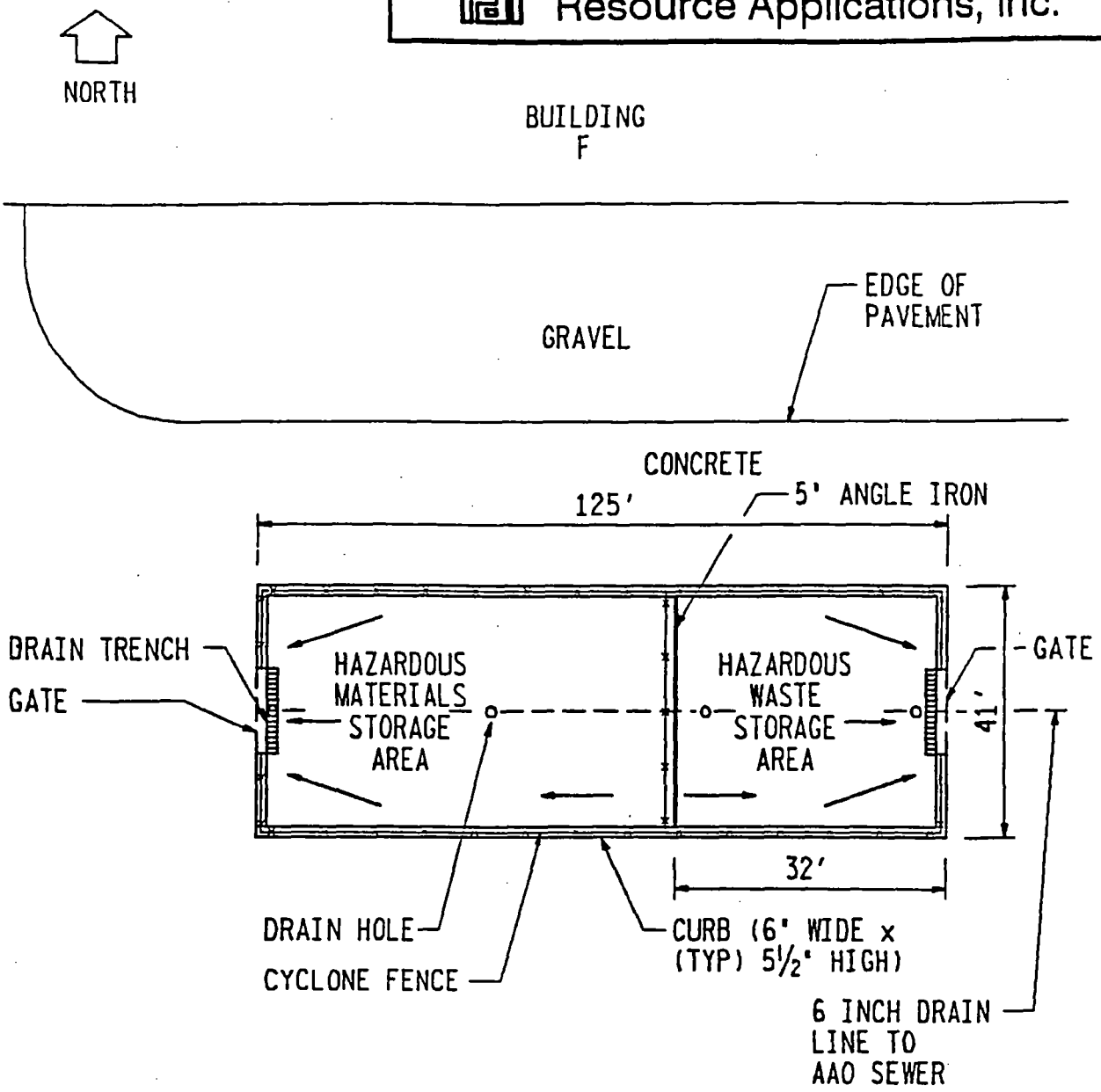
Date of Startup: 1969, with modifications in 1981.

Date of Closure: RCRA close approved January 6, 1989.

Wastes Managed: Waste paint thinner (F003, F005); Spent Stoddard Solvent (D001); Waste manganese and zinc phosphate sludge, also Mn and Zn phosphate solutions (D002); Non-hazardous lap silt solids (silica/carbide grit), known as Carbide Grit Mixture in Table 2.

Release Controls: The concrete pad slopes to a drainage trench located at the end of the storage unit. The drain is connected via the Wastewater Treatment Piping System (SWMU 4) to the Route 6 AAO wastewater treatment system located off site. The entire storage unit is surrounded by a concrete curb 6" wide and 5.5" high. The trenches are connected to a 6" drain line which goes to the AAO wastewater treatment system.

Resource Applications, Inc.



NOTE: ARROWS INDICATE DIRECTION OF SURFACE DRAINAGE.

0 30 60
FEET

PLAN OF HAZARDOUS
WASTE STORAGE AREA
CATERPILLAR
BUILDING F PROPERTY
JOLIET, ILLINOIS.

Eichleay ENGINEERS INC.

PITTSBURGH
CHICAGO

FIGURE 3

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

Observations: The storage area pavement and curbs are constructed of concrete and appear to be in generally good condition; however, there are minor cracks in the pavement. There is probably little potential for seepage through the 10 inches of concrete. There is evidence of a borehole through the concrete (Photo 8). This was made during closure activities to sample the soil under the concrete pad and test it for contaminants. The hole has been filled with cement.

SWMU 2 **Chip Turning Dumpster Areas**

Unit Description: These units are concrete pads with a concrete curb on all sides (Photo 3). They are approximately 10 feet by 10 feet. When the facility was operating, 3 or 4 of these units were in use. One small metal dumpster was located on each of the concrete pads (Photo 4).

Date of Startup: 1969.

Date of Closure: Inactive since 1987.

Wastes Managed: Non-hazardous steel and cast iron chips.

Release Controls: There are 6" high concrete curbs on all sides. The chips were managed in small metal dumpsters which were kept on the concrete pads. The pads are surrounded by creosote floorbrick.

History of Release: No releases have been documented from these units.

Observations: At the time of the VSI, the dumpsters had been removed but the pads and curbing remain. Dust and gravel present on several pads (Photo 3) appeared to be floor sweepings, and the facility representative does not think the gravel was there during operation.

SWMU 3	**Creosote Floorbrick Pile**
Unit Description:	The floor of the production building was covered by creosote floorbrick. These are wooden blocks approximately 6" x 4" x 4" and coated with creosote, a petroleum-based wood preservative. Caterpillar is removing the floorbrick in preparing the facility for sale (Photo 5). The blocks are temporarily being managed in a large pile indoors at the north end of the production building until IEPA renders a determination about how the company should dispose of the blocks. Caterpillar anticipates that the blocks will be landfilled as construction debris. However, if they are required to dispose of the blocks as a special waste, Caterpillar will make the appropriate arrangements.
Date of Startup:	1991
Date of Closure:	Currently operational.
Wastes Managed:	Creosote floorbrick
Release Controls:	The pile of blocks is indoors on in-place floorbrick which is underlain by cement. The Wastewater Treatment Piping System (SWMU 4) is still in place and acts as secondary containment for the wood pile. However, the blocks are not mobile and would not migrate to the environment.
History of Release:	No releases have been documented from this unit.
Observations:	The pile is indoors. There was a strong creosote odor present in the building during the VSI. This was probably because there is poor ventilation in the building and the exhaust system was not operating.

SWMU 4	**Wastewater Treatment System Piping**
Unit Description:	This system consisted of a floor trench system, floor drains and piping, outdoor storm drains, a sump, and a lift or pumping station. The floor trenches and drains are covered by metal grates and occur throughout the production building (Photo 6). All trenches and drains are connected by piping to a large sump south of the Kolene Building (Figure 2; Photo 7). The areas around the buildings as well as the lot south of the production building are paved, and all outdoor storm drains are also connected to the sump. This sump is made of concrete and is 15 feet to 20 feet deep. The facility representative does not know its exact capacity but estimates it as greater than 1,000 gallons. A pump is associated with the sump and would turn on when a pre-set volume was reached. The waste water would then be pumped, via pipeline, to the Route 6 AAO and Wastewater Treatment Systems.
Date of Startup:	1969.
Date of Closure:	Inactive since 1987.
Wastes Managed:	Wastewater from production; coolants, cleaners, and oils from production and maintenance; lab waste from bath analyses.
Release Controls:	None.
History of Release:	No releases have been documented from this unit.
Observations:	The system is intact but is not currently being used. Most of the system is underground and could not be directly observed. Except for the sump, the system did not store waste but functioned as part of a supply network for the waste water treatment system at the Route 6 facility.

4.0 AREAS OF CONCERN

RAI identified no AOCs during the PA/VSI.

RELEASED
DATE 8/24/99
RIN # 2365-99
INITIALS CLV

ENFORCEMENT
CONFIDENTIAL

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 4 SWMUs and no AOCs at the Caterpillar facility. Background information on the facility's location, operations, waste generating processes, release history, 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, release history, and observed condition, is discussed in Section 3.0. AOCs are discussed in Section 4.0. Following are RAI's conclusions and recommendations for each SWMU. Table 3 identifies the SWMUs at the facility and suggested further actions.

SWMU 1 **Outdoor Hazardous Waste Storage Area**

Conclusions: This unit is a cement area surrounded by a cyclone fence which was used to store hazardous waste drums. It is adjacent to the facility's Hazardous Materials Storage Area outdoors on the south side of the production building. The area was closed on August 10, 1988. Closure activities included washing the area and sampling the soil underlying the 10-inch thick cement lot. Contaminant levels in the soil and wash water samples were either below detection limits or below levels established in the approved Closure Plan. The storm drains are connected to the Route 6 AAO Wastewater Treatment System. Therefore, the past potential for a release to soil, ground water, or surface water was low. While in storage, the drums were closed, so the past potential for a release to air was low. The unit is inactive and no wastes remain on site. Consequently, the current potential for a release to air, soil, surface water, and ground water is also low.

Recommendations: No further action is recommended for this unit at this time.

RELEASED 8/24/99
DATE
RIN # 23605-99
INITIALS

ENFORCEMENT
CONFIDENTIAL

TABLE 3

SWMU AND AOC SUMMARY

SWMU	Operational Dates	Evidence of Release	Suggested Further Action
1. Outdoor Hazardous Waste Storage Area	1969 to 1987	None.	No further action is recommended at this time.
2. Chip Turning Dumpster Areas	1969 to 1987	None.	No further action is recommended at this time.
3. Creosote Floorbrick Pile	1969 to 1987	Odor noted during VSI.	Manage bricks to minimize worker exposure to fumes.
4. Wastewater Treatment System Piping	1969 to 1987	None.	Evaluate system integrity.

RELEASED
DATE 8-24-98
RIN # 2365-99
INITIALS MV

ENFORCEMENT CONFIDENTIAL

SWMU 2 **Chip Turning Dumpster Areas**

Conclusions: These areas are cement pads with cement curbs or berms. The units are all indoors. When the facility was operating, metal dumpsters or hoppers were located on the pads. The dumpsters managed cast iron or steel chips which were hauled to the Route 6 facility for recycling. The possibility for a release of these non-hazardous solids was low, and any release would not have escaped the unit or containment systems. Therefore, the past potential for a release to air, soil, surface water, or ground water was low. The facility is not in operation and the dumpsters have been removed. Consequently, the current potential for a release to air, soil, ground water, or surface water is also low.

Recommendations: No further action is recommended for this unit at this time.

SWMU 3 **Creosote Floorbrick Pile**

Conclusions: This unit is indoors and consists of a temporary storage pile of creosote floorbrick. These wooden blocks are coated with a preservative and are being removed prior to sale of the property. The pile rests on in-place floorbrick which is underlain by concrete. The wooden bricks are solid and do not pose a threat of release. The roof of the building keeps precipitation off the pile and the Wastewater Treatment Piping System (SWMU 4) is still connected to the off-site Wastewater Treatment System. Therefore, the potential for a release to soil, ground water, or surface water is low. There was a strong odor from the bricks at the time of the VSI and the probability of continued release to the air remains high.

Recommendations: Until such time as final disposal is achieved, these blocks must be managed in such a way as to reduce the potential for inhalation of toxic fumes by workers in the building. It is also recommended that the building be adequately ventilated following removal.

RELEASED
DATE 8/24/99
RIN # 2365-99
INITIALS MV

ENFORCEMENT CONFIDENTIAL

SWMU 4 **Wastewater Treatment System Piping**

Conclusions: This unit consists of trenches, drains, and storm water collection systems which are connected to a pipeline and the Route 6 AAO and Wastewater Treatment System. All collected wastewaters were treated at this off-site facility. The past potential for a release to air and surface water was probably low. No releases from this unit have been documented. However, the integrity of the system has never been evaluated. All operations have ceased at the facility. Therefore, the current potential for a release to air, soil, surface water, and ground water is probably also low.

Recommendations: The integrity of this system should be evaluated to assure that no release has occurred from this unit. Pending the results of an integrity test, no further action is recommended at this time.

REFERENCES

Bergstrom, R.E., J.W. Foster, L.F. Selkreeg, and W.A. Pryor, 1955. "Groundwater Possibilities in Northeastern Illinois", Illinois State Geological Survey Circular 198. Urbana, Illinois.

Caterpillar Tractor Company (Caterpillar), 1980a. Notification of Hazardous Waste Activity, August 12.

Caterpillar, 1980b. RCRA Part A Permit Application, November 11.

Caterpillar, 1987. Revised RCRA Part A Permit Application, July 8.

Caterpillar, 1988. Revised Closure Plan for the Hazardous Waste Storage Facility, January 29.

Caterpillar, 1991. Information obtained from James Haase by Jeff Indeck and Cynthia Tarka, RAI during the VSI, July 18.

Eichleay, 1988. Caterpillar Closure Documentation Report, August 29.

Federal Emergency Management Agency (FEMA), 1985. National Flood Insurance Program, City of Joliet, Illinois, Will County Community-Panel No. 170702 005C, January 3.

Hughes, G.M., P. Kratz, and R.A. Landon, 1966. "Bedrock Aquifers of Northeastern Illinois". Illinois State Geological Survey Circular 406, Urbana, Illinois.

IEPA, 1983. Observation Report and RCRA Inspection Report by Rick Peterson, March 30.

IEPA, 1987. Inspection Report by Darren Brumfield and Charles Gruntman, June 25.

IEPA, 1988a. Approval of Modified Closure Plan, May 4.

IEPA, 1988b. Inspection Report by Darren Brumfield, November 7.

IEPA, 1989a. Acceptance of Closure of Waste Storage Unit and Withdrawal of RCRA Part A Permit Application, January 6.

IEPA, 1989b. Compliance Evaluation Inspection of Caterpillar, Inc. Joliet Plant by Basil Papadakis, IEPA, Division of Water Pollution Control, October 17.

Ruffner, J.A., 1985. Climate of the States. Gale Research Company, Detroit.

Ruffner, J.A., and E. Bair, 1985. Weather of U.S. Cities. Gale Research Company, Detroit.

U.S. Department of Agriculture (USDA), 1980. "Will County Soils, Will County, Illinois". Soil Conservation Service/Illinois Agricultural Experiment Station.

U.S. Department of Commerce (USDC), 1968. Climatic Atlas of the United States. U.S. Printing office, Washington, D.C.

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

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

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	ILD 980 503 080

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Caterpillar, Inc.	2700 West McDonough Street				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Joliet	IL	60434	Will		

09 COORDINATES: LATITUDE 41 31 05.N | LONGITUDE 089 09 03.W

10 DIRECTIONS TO SITE *(Starting from nearest public road)*

The facility is located just northwest of the Joliet exit on Interstate 80, on McDonough Street.

III. RESPONSIBLE PARTIES

01 OWNER *(if known)*	02 STREET *(Business, mailing residential)*		
Caterpillar, Inc.	100 N.E. Adams		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Peoria	IL	61629	(309) 675-1000
07 OPERATOR *(If known and different from owner)*	08 STREET *(Business, mailing, residential)*		
Caterpillar, Inc.	P.O. Box 504		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Joliet	IL	60434	(815) 729-5632

13 TYPE OF OWNERSHIP *(Check one)*

☒ A. PRIVATE ☐ B. FEDERAL: _____ *(Agency name)* ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER _____ *(Specify)* ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE *(Check all that apply)*

☒ A. RCRA 3010 DATE RECEIVED: 08 / 12 / 80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE *(CERCLA 103 c)* DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 07 / 18 /91
☐ NO

BY *(Check all that apply)*

☐ A. EPA ☒ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ *(Specify)*

CONTRACTOR NAME(S): Resource Applications, Inc.

02 SITE STATUS *(Check one)*

☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1976 (BEGINNING YEAR) | 1985 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Floorbricks coated in creosote are the only wastes or substances present on site. There is no longer any hazardous waste activity.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

The potential for a release of creosote fumes to air is high, as the floor bricks are stored in a pile inside the facility, and a strong odor of creosote was noted during the Visual Site Inspection. These fumes could be a hazard to workers currently at the facility. However, the potential of a release to the environment is non-existent, as there is no longer any hazardous waste generation or management at the facility.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION *(Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)*

☐ A. HIGH *(Inspection required promptly)* ☐ B. MEDIUM *(Inspection required)* ☒ C. LOW *(Inspect on time-available basis)* ☐ D. NONE *(No further action needed; complete current disposition form)*

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF *(Agency/Organization)*			03 TELEPHONE NUMBER
Kevin Pierard	U.S. EPA			(312) 886-4448
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Jeff Indeck		Resource Applications, Inc.	(312) 332-2230	09 / 06 / 91 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	ILD 980 503 080

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

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

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

TON _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS *(Check all that apply)*

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Creosote	8001-58-9	Floorbricks are currently in a pile in the building.		

V. FEEDSTOCKS *(See Appendix for CAS Numbers)*

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Visual Site Inspection, July 18, 1991.

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	ILD 980 503 080

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

01 ☒ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for a release of creosote fumes to air remains high, due to a pile of floorbricks present in the facility. Exposure to fumes is limited to site workers.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 AREA POTENTIALLY AFFECTED: _____ *(Acres)* — 04 NARRATIVE DESCRIPTION

None identified.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

01 ☒ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Workers in the facility are currently exposed to creosote fumes from the floorbrick pile.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None identified.

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	ILD 980 503 080

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

04 NARRATIVE DESCRIPTION

None identified.

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

04 NARRATIVE DESCRIPTION (Include name(s) of species)

None identified.

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

04 NARRATIVE DESCRIPTION

None identified.

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

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None identified.

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPS ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

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

04 NARRATIVE DESCRIPTION

None identified.

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

None identified.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

The facility is currently being dismantled, and has been on the market since 1987. The only potential for a release at the facility is to air from the creosote floorbricks. The potential for a release to surface water, ground water or on-site soils is non-existent.

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

Visual Site Inspection, July 18, 1991.

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

Caterpillar, Inc.
2700 McDonough Road
Joliet, Illinois
ILD 980 503 080

Date:	July 18, 1991
Facility Representatives:	James Haase
Inspection Team:	Jeff Indeck, RAI Cynthia Tarka, RAI
Photographer:	Cynthia Tarka
Weather Conditions:	Sunny, Hot; 85°F
Summary of Activities:	The Visual Site Inspection began at 0900 hours. The inspection team met with Mr. Haase, the facility representative, and there were discussions about facility operations, wastes generated, and hazardous constituent management practices. Production activities ceased in 1987 and the facility was not operational at the time of the VSI. The inspection team walked through the facility to observe where hazardous constituents were formerly managed. The production building is completely empty. Creosote floorbricks are being removed and temporarily stored in a pile awaiting final disposal. Ventilation in the building was limited and a strong creosote odor was noted. Following the inspection, the team was shown the Route 6 facility to observe similar practices and machinery as would have been active during operations at Building F. Photographs of appropriate areas were taken. The VSI concluded at 1500 hours.

Photograph No. 1 Location: SWMU 1
Orientation: Southwest Date: 07/18/91
Description: Enclosed Hazardous Waste Storage Area. Enclosed Hazardous Materials Storage Area is adjacent to the west. Note concrete curb and drain. The entire lot is 10-inch thick concrete.

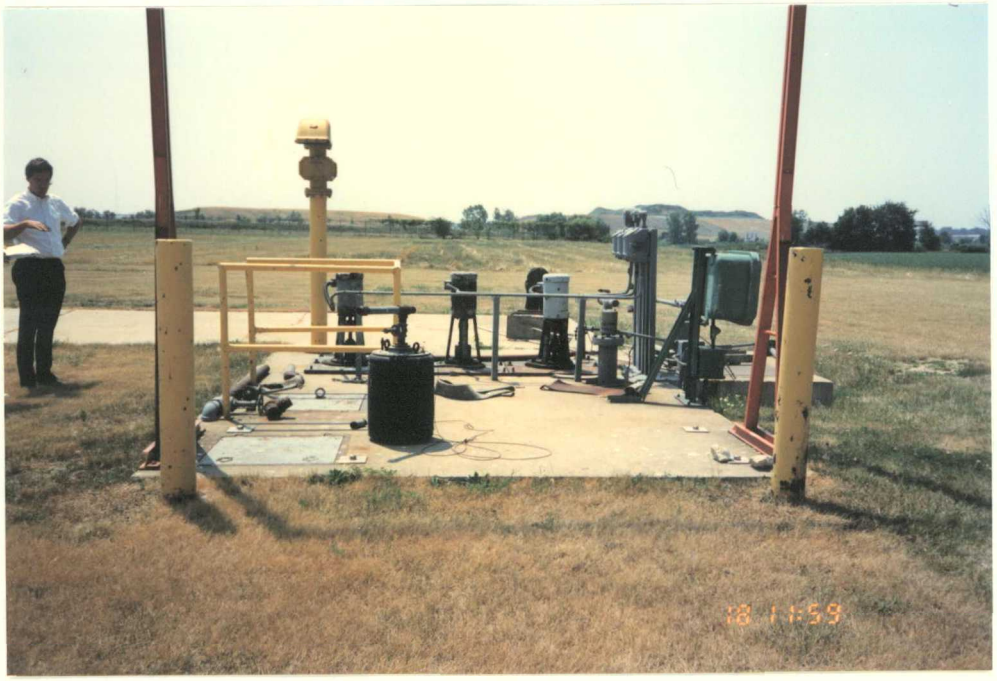
Photograph No. 2 Location: SWMU 1
Orientation: North Date: 07/18/91
Description: Close up of curb and drain. Drains connect to wastewater treatment system.

Photograph No. 3 Location: SWMU 2
Orientation: South Date: 07/18/91
Description: Chip Turning Dumpster area. Note concrete pad and curb.

Photograph No. 4 Location: Route 6 Facility
Orientation: West Date: 07/18/91
Description: Chip Turning Dumpster in use at the Route 6 Facility

Photograph No. 5 Location: Near SWMU 3
Orientation: Southwest Date: 07/18/91
Description: Creosote floorbrick in place. Blocks are being removed and stored in a pile.

Photograph No. 6 Location: SWMU 4
Orientation: West Date: 07/18/91
Description: Floor trench connected to Wastewater Treatment System Piping.



Photograph No. 7 Location: Near SWMU 4
Orientation: South Date: 07/18/91
Description: Sump and pump/lift station. Waste is pumped to Route 6 facility via pipeline.

Photograph No. 8 Location: Near SWMU 1
Orientation: Down Date: 07/18/91
Description: Plugged boring for soil samples associated with closure activities.

ATTACHMENT C

VISUAL SITE INSPECTION FIELD NOTES

VISUAL SITE INSPECTION 7/18/91

(PA/VSI) Joliet, IL

CATERPILLAR - Bldg F 9 a.m.

Met w/ Jim Hosse, Environmental Engineer

1° Inspector - Jeff Indick

2° Inspector - Cindy Tarke

Met w/ Mr. Hosse & explained the purpose of the VSI. Gave definition of SWMU & AOC.

Facility - 3 miles from Des Plaines River
- Next to a Boy's reformatory
- Built in 1968 by Caterpillar, Inc.
Name used to be Caterpillar Tractor Company (changed in '86 or '87)

OPERATIONS - Began in 1969.
- ended in 1987

SWMU 1 Hazardous Waste Storage Area
part of the product storage area

CRIB AREAS to store product hydraulic
(outside)

① [Oil storage AREA - drums - lubricating & hydraulic oil
stored in drums
(No bulk storage)

② [MET LAB - stored cleaners, acids, phosphates (metallurgy)

Both areas were curbed & concrete '89 / '87

Stoddard solvents - contain petroleum naptha
aromatic solvent naptha
trimethyl benzene
f.p. 130-125
- used for parts cleaning &
machine cleaning

Zn & Mn sludge } WASTES
Zn & Mn solution

PROCESS (7 STEPS) "HARSHAW SYSTEM"

1) Cleaning
2) Rinsing
3) Acid etching
4) Rinsing
5) Zn or Mn phosphate coating - on parts
- BEGAN in '80 or '81
used: to protect parts from corrosion
: to help break the parts in (D)
6) Rinsing
7) Rust preventative coating

Sludge removed every 2-3 yrs - by decanting
bath into a rinse tank
Residue is shoveled into
drums

- 5-10 drums of combined
sludge + solution (pickup up for
disposal as
necessary)

Slurry solution - sometimes its pumped into
barrels
(very messy process)
400 G & a 700-G rectangular tanks
stainless steel - kept in a
concrete
curbed area

1 TANK (Mn) - 400-G TANK
1 TANK (Zn) - 700 G TANK

Bath was treated

Contamination of soluble Fe - treat
by adding hydrogen peroxide to
precipitate out the the Fe (it would
fall out into the sludge)

Tried NOT to send Zn or Mn BATH soln
to the AAO drain pipe (waste water pipe)
This pipe runs under I80 - to
the main Caterpillar plant (2 miles away)
* No waste water TREATMENT actually
occurred at Bldg F

Cr waste was treated at the main
plant, not at Bldg F.

LAP SILT SOLIDS - silicon carbide is used as grit
(C) 1 drums / 1-2 months

settling occurred at machines
Silt - would settle into 55-¢ drums
- liquid is decanted

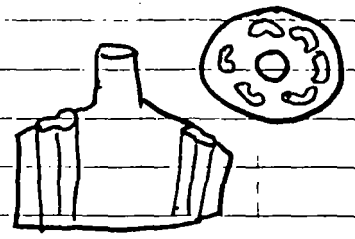
SILT was a waste

it was taken to the SWLLL storage area

OTHER PROCESSES

Electrical ECM - electrical
chemical
machining

$NaNO_3$ (nitrate)



used electrolyte fluids
barrel cylinder
to drill holes 8-10 slots
into periphery by
this process

Now... this process is done by using
more conventional tools

The TANK was cleaned yearly
the whole tank's fluid was replaced
WASTE - taken to Chem Clear in Chgo
(monitor Na concentration)
ECM tank - size. ____ thousands of gallons

Synthetic Coolants for cutting
1. Soluble Oil petroleum product oil w/ water
2. Semi - Synthetic Oil 2-4% oil monoethanolamines diethanolamines
3. Synthetic Oil

STEP 7 - rust protection
parts are dipped in oil
metals - come into fac w/o coating
raw forgings
machined

Alkaline Cleaners
NaOH Na metasilicate + additives
pH 10 - 12 or 13
sent to AAO or treatment plant

There were DRAIN AREAS
& SUMP AREAS where AAO line was

SANITARY SEWER - City of Joliet
DRINKING WATER - City of Joliet
WATER FOR CATERPILLAR - City of Joliet
NO WELLS nearby

- industrial N + S

Refarmatory - lies to the WEST
- property on the otherside EAST
"Air Products" nka →
"Airco Energy" makes hq N + CO_2

Also, nearby... Interstate Warehousing

QA Titration
was done to test the samples - waste
was dumped
into AAU drains

MACHINING was also done
milling, drilling, sawing

PAINTING was done at main plant
ONLY MAINTENANCE PAINTING was done here

EMPLOYEES 1500 increased to 2000 '80-'81
3 shifts
slowed in '81
eventually moved operations to
main plant

CLOSURE
original analysis - showed BENZENE
re-ran analysis - was Clean.

Jim - thinks the 1st test may
have had interferance which
accidently read as BENZENE

Did have a 1 Boiler Permit
12 cat. generators sets
Produced their own electricity & steam
Permit was related to generating their
own E - not for any process
exhaust was vented out the roof
* all washers ~~heat~~ and heat generating
machines - blew air out blowers in
ceiling

SO4 used? ____ Jim will check
may have been used
in heating

Nalclean 6992 - ? oil used to clean
tubing

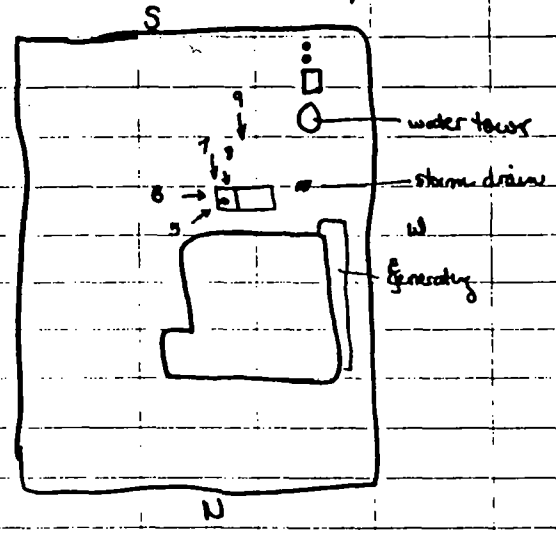
Dust Bags - were empty raw mats bags

The engine sets (from the E generating)
were SOLD-OFF
Now, all E comes from
Commonwealth Edison

Security:

Facility had security guard – because one was needed when they had the blocks removed

– Normally, gates closed – whole area fenced



OLD ROLL

Picture No.

(5) SW SWMU 1 (now it is closed)

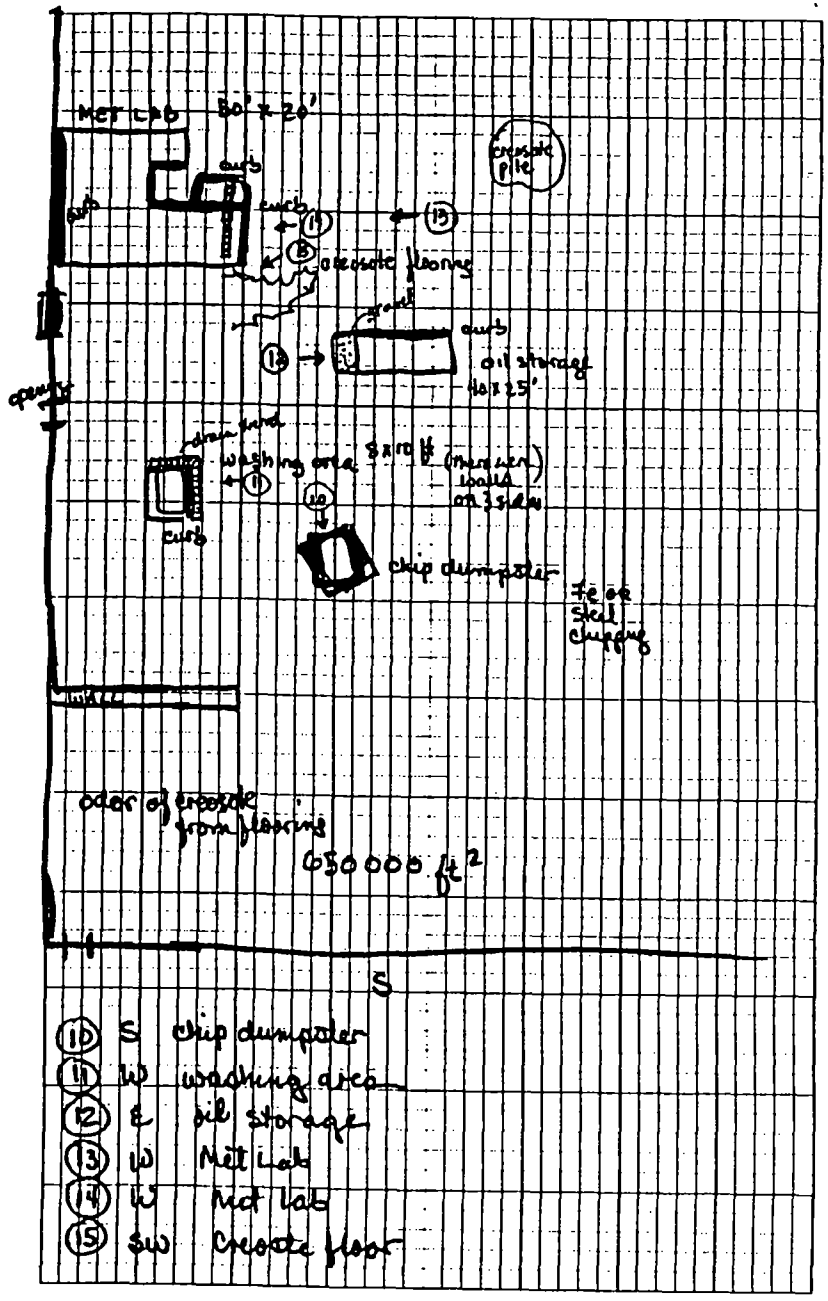
(6) W drain

(7) N trench ~~area~~ in SWMU area

(8) S drain

(9) N SWMU 1 + product area

Cracks were visible



(10) S chip dumpster

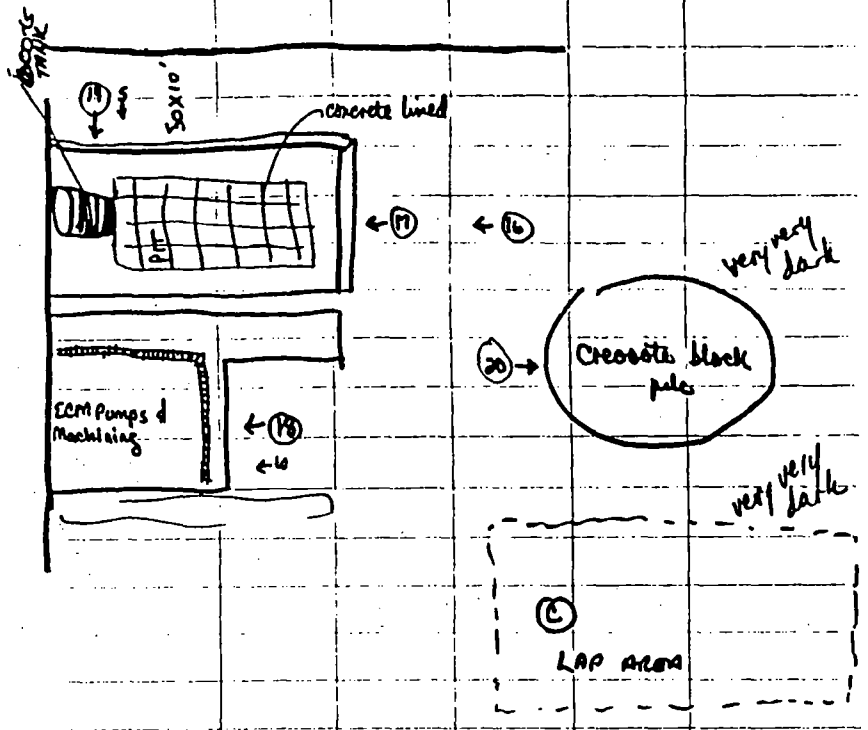
(11) W washing area

(12) E oil storage

(13) W Met Lab

(14) W Met Lab

(15) SW Creosote floor



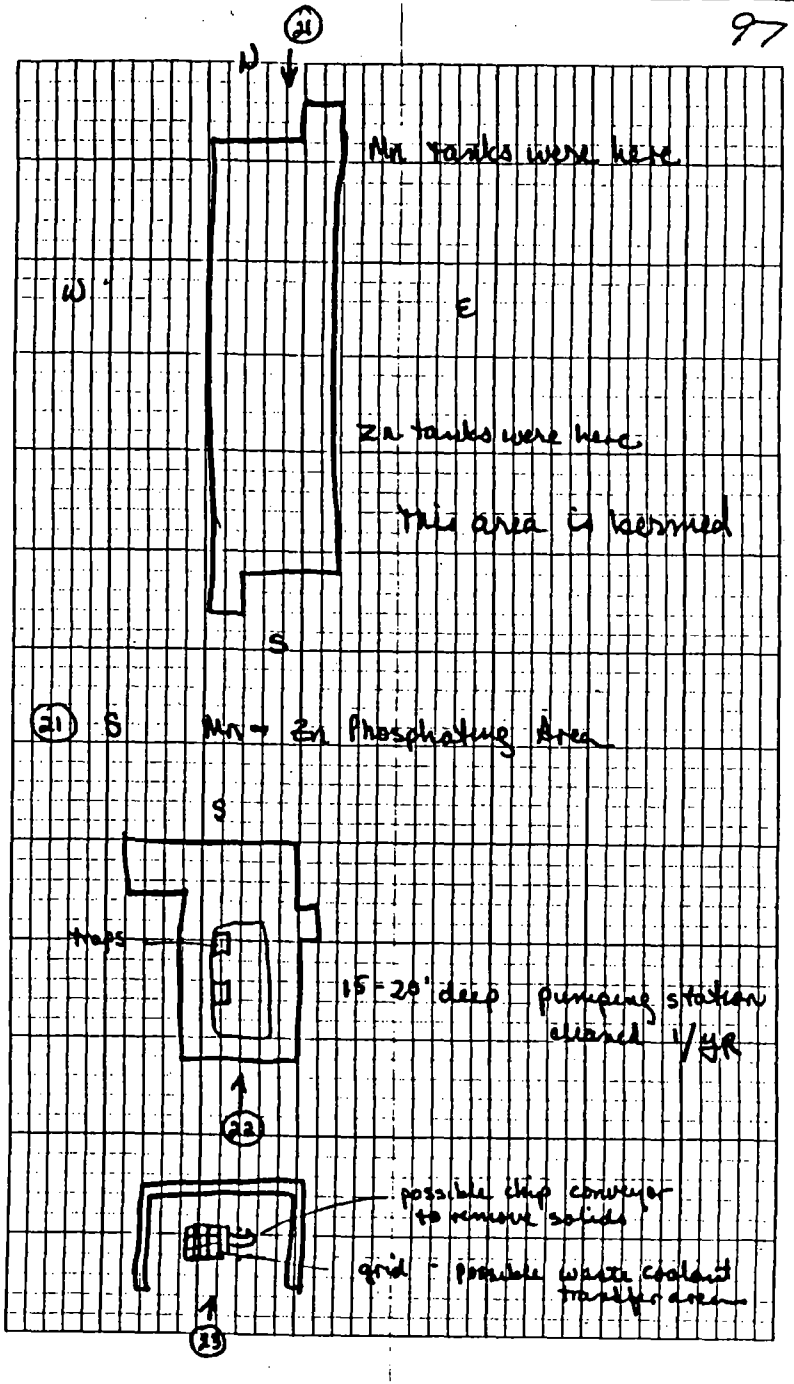
(16) W 600-G tank + pit

(17) W 600-G tank + pit

(19) W ECM Pump + Machining Area

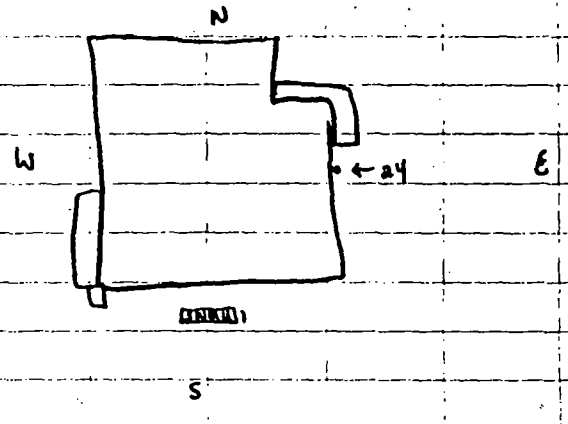
(19) S 600-G tank

(20) E Pile of creosote blocks



(22) S Pumping station - traps to sump area

(23) S Waste coolant Transfer Area - showing former chip conveyor area + sump for the waste coolant



(24) W Hydraulic Oil Testing area - piping leading to 1000-G tank

AT MAIN BLDG

(25) chip conveyor
(26) manufacturing machine w/ hydraulic oil spill catcher
(27) LAP decanting
(28) Lap sludge silicon carbide

Different roll

(6) Lap machine - shows mops catching overspray
(7) Oil tank storage
(8) Pump used to pump coolant oil
(9) " " " "
(10) Equipment washer - in oil storage area floor is epoxy coated
(11) Oil Storage
(12) Oil storage - typical of 400-G totes used in Bldg F

Caterpillar

Concrete Pad active ≅ 1969. Facility built in 6
moved in in 1969 or 70

Caterpiller.

Caterpillar, Inc in Delawhare ≅ 86 or 87 <5

Closure date Aug. 10 1988

Product storage

Crib "A" Oils, Lubricating, Hydraulic 300-250 g. tic
or drums. Berms, curbs. Start 69/70 - 87 clean
Met Lab "B" - Cleaner. Same Dates. 77-87 at

Curbed concrete area.

Solvents & Stoddard Solvents, Paint Thinner etc
Stoddard used for maintenance cleaning of parts.
Wastes removed to outside when generated
Stoddard has ↑ Flash Point ∴ Ignitable.

Clean, Rinse, Acid Etch, Rinse, Coating
Zinc & Mg Coating Rinse Rust Prevent.
Sludge removed
Decant Bath. Shoveled into Drums.
Slurry sometimes pumped into barrels.

BATH EXTENDED BY H_2O_2 to PRECIP IRON OUT
REMOVED AS SLUDGE. PEROXIDE
AVOIDED SENDING BATH DOWN AND DRAIN FOR
TREATMENT. BATH DECANTED 2-3 x / YEAR.
5-10 DRUMS / YEAR.

LIFT STATION / PUMP STATION USED DRUM SOLIDS IF
CONTAMINATION. OUTSIDE FIRM PUMPED / CLEAN.
TRUCKED TO THIS FACILITY. PUMPED TO TREAT TANKS
NO WWT AT FACILITY.

CHROME TREATMENT AT RT. 6 FACILITY ONLY.

SILICA CARBIDE GRIT IN LAPPING.
DRUM AT MACHINE. FILLED. OIL DECANTED & REUSED
SETTLING. DRUM TO OUTSIDE STORAGE.
DAVIS JUNCTION in ROCKFORD - GRIT TO LANDFILL

Called Transporter on "as needed" basis.
1 DRUM EVERY MO OR 2.

Electrochemical Machining
Sodium Nitrate. DRILLED NON ROUND HOLES/BORES TO
ELECTRODE in PIECE PARTS
TANK CLEAN ANNUALLY.
ELECTROLYTE OUT TO Chem Clean.
Bath usually used / reused.

Tank Size: + 1000 gallons.

Bath Tanks ± 400 gal. Stainless Steel Tanks.
Curbed concrete pad to contain spill
One tank for Mn 700g, 1 for Zn 400 gal.

2 Kinds of Coolants
Mono ethanol Amines
Diethyl

Soloil - Petroleum
Semi Synthetic - 5%
Synthetics
Cutting Oils - Petroleum Based

Oil Dip for Rust Protection.
No degreasing.

Machined forging or casting

Sodium Hydroxide, Sodium PH 10-12 or 13
generally sent to AAO Treatment.

All drains except RRooms & cafeteria to AAO.
Sanitary is Joliet Municipal
Water is from City Water
Surrounding area probably City water also

AIR PRODUCTS BUILDING TO EAST.
REFORMATORY TO WEST.

Metallurgy lab - storage for chem.
Lab - titrations on bath to determine chem const
Waste to AAO DRAIN.

Most activities since 81

Phosphate only since 81/82. Done down at Rt
not Building F.
Harshaw System is phosphate System.

Milling / Drilling / Sawing is most of activities at Rt

Painting & Coating all at Rt. 6
Painting is only Maintenance at Bldg F.

80-81 ~~about~~ 1500 people 3 shifts

Boiler - gas fired boilers. Permitted. 1 permit

12 cat generators. Generated own electricity for facility and own steam.
All exhaust vented to outside. All heated units. All vented outside.

Sulfuric used in Heating Plant not in Production. Unknown how.

Nalclean - Rust Prevent Oil. Oil for cleaning tub
Solvent REDUCED. Non haz c̄ ↓ flash point.

HAZ WASTE STORE AREA. CONCRETE & FENCE. NOT
NOW LOCKED. MINOR CRACKING.
6" BERM & SLOPED TO DRAIN

STORM DRAINS TO AAO.
Drain in P LOT
FIRE WATER TOWER. CITY WATER.

REFORMATORY IMMED WEST.
AIRCO - MAY BE CLOSED. LIQ NIT OR CARB D
JH IS UNSURE.

=

CHIP TURNING DUMPSTER 3-4.
HAULED TO RT 6 FOR RECLAIM.
CAST IRON OR STEEL

=

EQUIPMENT WASH AREA
HOSED DOWN EQUIPMENT.
CONNECTED TO AAO. FLOOR DRAIN.
WALLS on 3 SIDES. 5'x10'.

=

OIL STORAGE AREA. BERMED 6" CONCRETE
CURB. 40 x 25'

FLOOR BLOCKS CREOSOTE COATED WOOD

PAN AT W END FILLED W CHIPS AT PRESENT.
UNKNOWN AT TIME OF OP.

Met Lab. 50 x 20. HAS FLOOR DRAINS
USED FOR BATCH/TANK ANALYSES.
DRAINS TIED TO AAO.

ECM MACHINES - TRENCHED ALL AROUND
WOULD PUMP FROM PIT.
One big Tank unk. use # 6160
PIT is cement.

Creosote Blocks being hauled away

Lap machine placement unk.

Harshaw System - Series of tanks
Curbed. Mn & Zn
No drain on tank so not to AAO
Required pump
50' x 10'

[illegible]

FACILITY IS 650,000 SQ FT UNDER ROOF
80,000 office area

50% doing production

Creosote odor is very strong.

Storm system may be separate on part of
1 lot.

Kolene Bldg - Shot blast & Maint

15-20' Deep Sump c̄ Pumps. PUMPED TO
RT 6. FACILITY. PUMPS KICK on when
Sump to PREDeter LEVEL.

DUMP STATION S of KOLENE BLDG.
Coolant MGMT. THEN TO WWT.
Cement Berm 24" HIGH on 3 SIDES.
Conveyor Chip Removal System
Solids Removal.

1K - 2K? Hyd Oil Product tank
for test oil. No waste

Hydraulic Oil Storage for testing. Recycled with filt

Large pump used for coolant pumping

Hydraulic Oil Storage. Shows floor drain
Epoxy coating on floor. 400g TOTES