FINAL

Region 2
RCRA Corrective Action
Facility Fact Sheet

Last Update: April 24, 2000

Facility Name: Ciba/Hercules Main Plant

Facility EPA ID #: NYD002069748

Facility Address: Lower Warren Street
Glens Falls, New York 12801

Former Name: Ciba-Geigy Main Plant

Site Description:
The approximately 45 acre Main Plant Site is located in the Town of Queensbury, just east of the City of Glens Falls in Warren County, N.Y. The site is situated in a mixed industrial/residential area on the northern bank of an easterly flowing segment of the Hudson River. Figure 1, "General Location Map, Ponded and Backwater Area" is a map of the site location and surrounding area.

Manufacturing activities at the site date back to 1901 and initially involved the manufacture of wallpaper. In 1907 site operations expanded to include the manufacture of inorganic pigments which eventually became the primary product line. Hercules Incorporated purchased the site in 1960 and subsequently sold it to Ciba-Geigy in 1979. Ciba-Geigy ceased production of pigments in 1989 and demolished the buildings on the site. Stained or potentially contaminated debris was transported off-site for disposal as hazardous waste. On September 9, 1996, ownership of the Main Plant Site was transferred from Ciba-Geigy Corporation to Ciba Specialty Chemicals Corporation. Hercules and Ciba have entered into a cooperative agreement whereby Hercules is managing the corrective measures while Ciba retains ownership of the site. Figure 2, "Site Map" depicts the layout of the site.

Due to past operations and disposal practices, there is widespread soil and groundwater contamination on site. These releases are mainly heavy metals in the soils with limited areas of volatile contamination. In addition to heavy metals, groundwater has been contaminated with volatile organics. There have been releases to adjacent properties and adjacent surface waters (Hudson River and an adjacent pond). These releases are mainly

heavy metals.

Corrective measures have been approved and will be initiated during the spring of 2000. It is anticipated that corrective measures will be completed by the fall of 2001.

Site Responsibility and Legal Instrument:

Corrective action is being implemented through a New York State 6 NYCRR Part 373 Post Closure Permit which requires implementation of specified corrective measures for the Main Plant, that section of the Hudson River adjacent to and immediately downstream of the Main Plant Site, the pond to the west of the Main Plant Site (Cement Company Pond) and three off-site air impacted properties (which has been completed). In addition, the permit is to be modified to require implementation of corrective measures at the Ponded Backwater Area (a former river channel).

Permit Status:

On September 30, 1991 a Part 373 post-closure permit was issued to the facility for closure and post-closure care of the North Lagoon (a surface impoundment). The corrective action portion of this permit required the facility to investigate the impact of past plant operations on the facility property and adjacent off site areas including the adjacent surface waters. These same requirements have been incorporated in the post closure permit renewal which became effective on January 6, 1997 and was modified on January 12, 1999. In fulfilment of this requirement, the facility has conducted investigations on the adjacent off-site lands and bottom sediments in the adjacent surface waters, conducted a CMS (Corrective Measures Study) for corrective measures both on-site and off-site. Plans have been submitted and approved for corrective measures implementation for the Main Plant, Cement Company Pond (including wetlands) and that portion of the Hudson River adjacent to and immediately downstream of the site. The Part 373 Permit is to be modified to impose corrective measures for the Ponded Backwater Area. This major permit modification is expected to be public noticed in May 2000.

Potential Threats and Contaminants:

Contaminants.

North Lagoon Area: A 5 acre parcel located on the western edge of the Main Plant Site. The north lagoon, a RCRA regulated hazardous waste land disposal unit, is approximately one acre in area and was constructed by Ciba-Geigy in an area of the site that had previously been filled in with soil, fill, and waste tailings from plant chromite ore processing. Adjacent to this unit are the North and South Hazardous Waste Piles, neither being "regulated units" subject to RCRA closure requirements. The waste in and

underneath the North Lagoon contains heavy metals which is similar to that in the waste piles, with the exception of portions of the South Waste Pile which also contains organic contamination from discarded commercial chemical products. Since there is no distinct boundary between the waste piles, contaminated soil/waste to the east and the lagoon, all of the units are undergoing closure as a CAMU (Corrective Action Management Unit). During the use of the lagoon from 1972 to approximately 1984 it stored sludge contaminated with heavy metals and which is classified as a listed hazardous waste. At the present time, approximately 8,000 cubic yards of sludge remain in the lagoon. Approximately 30,000 cubic yards of hazardous waste are in each of the waste piles. The waste in both piles exhibits a hazardous waste toxicity characteristic.

Remainder of the Main Plant Site: Comprised of two SWMUs: (1) the Area North of the Delaware and Hudson Railroad Property; and (2) the Area South of the Delaware and Hudson Railroad Property. The area north of the railroad property (approximately 20 acres) has the lowest level of soil/waste contamination. Contamination is mainly due to the presence or heavy metals and cyanide. The area south of the railroad property (approximately 20 acres) has higher levels of soil contamination from heavy metals and randomly exhibits a hazardous waste characteristic. This area also contains a small section of property in and around demolished Building 56 contaminated by organic contaminants from solvents releases. This site has been built-up over the years with fill material including ore tailings. The fill can reach a depth of at least 30 feet at the banks of the adjacent Hudson River.

Pretreatment Plant: It is on a four acre parcel located north of the Glens Falls Feeder Canal and east of Quaker Road. It is connected to the Main Plant Site by a force main and gravity sewer line which pass underneath the Feeder Canal. The site soils are impacted mainly by inorganic contaminants, with the sporadic presence of semi-volatile organics. The prevalent contaminants in the site soils are cadmium, chromium, lead and total cyanide.

Off-Site Air Emissions Impacted Properties: The properties are primarily down wind, private parcels which were impacted by historic airborne releases from manufacturing operations (mainly heavy metals). Cadmium was the metal of greatest concern and was used as an indicator parameter. Cadmium was detected in the surficial soils of three residential properties at levels which were of concern. Surficial soils were removed and replaced with clean fill back to original grade.

Adjacent Surface Waters: The 6 NYCRR 373 Hazardous Waste Management Permit requires a series of sequential investigations of releases to the bottom sediments in a body of water to extend downstream to where the limit of impact of releases from the Main Plant has been reached. In the Hudson River, the investigation of only the first segment

of the river has been completed. It has not been documented that the limit of impact from Main Plant Site releases has been reached; therefore as per the permit condition, the sequential investigation of releases to the bottom sediments in the river has not been concluded.

As per the permit requirement, investigations were conducted for releases to the bottom sediments of adjacent surface waters. During this investigation, the following bodies of water were evaluated: Glens Falls Feeder Canal, Cement Company Pond (including wetlands) and that portion of the Hudson River adjacent to and immediately downstream of the site. Releases (mainly heavy metals) at levels requiring corrective action were found in the Cement Company Pond and wetlands and that portion of the Hudson River adjacent to and immediately downstream of the site. Due to the swift current, there is essentially no fine grained sediments in the river. The deposits observed are colored waste deposits (a red hard material, or a multicolored soft clay like material) which in some places extend under the river bank.

Ponded Backwater Area: During the course of the adjacent surface water investigations, it was determined that there were deposits of heavy metals at levels of concern in the bottom sediment of ponds and adjacent lands located in a former river channel. Although other heavy metals are present, cadmium is the metal of concern. This area was believed to be underwater prior to the demolition of a down stream dam.

Potential Threats From Contaminated Groundwater.

At the Main Plant Site, contaminated groundwater would pose a threat if ingested; however there are no known water supply wells impacted by this groundwater. The State considers all its groundwater to be a potential source of potable water and should be remediated to its Groundwater Quality Protection Standards. In addition, the contaminated groundwater may leach into adjacent surface waters and the bottom sediments.

Trespassers are kept off site by fencing and security and they would not be expected to come in contact with contaminated groundwater if they should gain access to the site. Workers sampling and managing contaminated groundwater corrective measures will do so following an appropriate health and safety plan.

Potential Threats From Contaminated Soil.

Since the site is secure, trespassers would not be expected to come in contact with contaminated soils. Any construction (corrective measures) to be implemented on site would be in accordance with an appropriate health and safety plan. Off-site, maintenance workers, trespassers and recreation (fishermen) may come in contact with contaminated

sediment/waste in both the Hudson River and Ponded Backwater Area. Contaminated soils/bottom sediments may pose a direct threat to those organisms living in the soil/sediments and higher life forms through accumulation of contaminants in the food chain. These potential threats are expected to be mitigated during and after remedy implementation.

Potential Threats From Air Contamination.
At the Main Plant site and Pretreatment Plant, there is a very low potential threat from volatile contaminants since there are no occupied buildings on these sites. Historically, release of dust (airborne particulates) has not been a problem. Upon implementation of corrective measures, a fugitive dust suppression and particulate monitoring program will be initiated. In addition monitoring for volatile compounds will be required where volatiles are known or may be expected in the soils.

Cleanup Approach and Progress:
In 1991, approximately 13,000 cubic yards of heavy metals contaminated soils were removed as part of the final remedy from the 15 acre "Eastern Portion" of the Main Plant site prior to the sale of this land to Warren County for a re-cycling center. This soil was stockpiled at the western portion of the Main Plant site. Decontamination of the warehouse which was sold to Warren County was addressed in the final corrective measures.

In 1992, an interim corrective measure groundwater pump and treat system was installed on a portion of the facility property adjacent to the Hudson River. The purpose of this system was to intercept contaminated ground water flowing into the river. In addition, the interception of this groundwater removed a transport mechanism which was conveying additional contaminants from the soil to the river.

During 1991 and 1992, a series of integrity evaluations were conducted on those portions of the industrial sewer in use or proposed for the conveyance of hazardous waste and/or liquids containing hazardous constituents (contaminated groundwater). This evaluation included those portions of the gravity line above the seasonal water table, the force main to the Glens Falls POTW, the pump station and the facility owned pretreatment plant. Gravity sections underwent exfiltratition testing and/or air pressure testing. Those sections which failed were repaired, and after re-testing, were put back in service. A review of the relatively new dedicated line from the effluent pump station to the Glens Falls POTW was conducted. This review provided details on the materials, methods of construction and previous leak testing to document the integrity of the line.

Over the years as a result of erosion, material from the western side of the waste piles had been washed into the Cement Company Pond. During August and September of 1994, as

an Interim Corrective Measure, the adjacent stream was relocated and approximately 1900 cubic yards of this waste material was removed and placed on the North Waste Pile. Silt fences were installed around the North Waste Pile to prevent erosion of this material. The excavated areas were back filled with clean clay.

Corrective measures have been completed for the air emissions impacted properties and are underway for the pre-treatment plant. For air emissions impacted properties, metals contaminated surficial soils have been removed and replaced with clean fill back to original grade.

Full scale implementation of final corrective measures are scheduled to start in the spring of 2000. It is anticipated that corrective measure implementation will take 1 ½ to 2 years to complete. The following corrective measures will be implemented:

Main Plant Site: Installation of a RCRA cover over the five acre North Lagoon Area; installation of a permeable soil cover over the rest of the 40 acre site and installation of a ground water interception system (wells and a french drain) at the down gradient boundary of the site. The groundwater interception will replace the Building 56 pump and treat system.

Off-Site: Removal of approximately 12,000 cubic yards of waste deposits, debris and overburden and installation of a protective rip-rap cover where waste deposits will be removed in and underneath the banks of the Hudson River in that portion of the river adjacent to and immediately downstream of the site. Corrective measures will include installation of a geotextile membrane and placement of clean fill on the bottom of the Cement Company Pond.

Backwater Ponded Area: At the present time public noticing of the proposed remedy (removal of approximately 15,000 cubic yards of cadmium contaminated soils, placement of clean fill and re-vegetation in this area) is proposed. It is anticipated that upon completion of public noticing and permit modification, that this work will be incorporated into and completed within the time frame for corrective measures implementation at the Main Plant Site.

Government Performance and Results Act (GPRA) Status:
In 1993, Congress passed the Government Performance and Results Act (GPRA), which mandated that all Federal agencies develop strategic plans, establish annual performance plans (which set objective, quantifiable and measurable annual targets and goals), and produce annual program performance reports that compare actual performance to the annual goals.

The goals, as far as RCRA facilities are concerned, are that by 2005, the States and EPA will verify and document that 95 percent of the 1715 high priority RCRA facilities (of which this is one) will have "current human exposures under control," and 70 percent of these facilities will have "migration of contaminated groundwater under control."

Environmental Indicator Status or Projection

CA 725 - Current Human Exposure Under Control [1]
Anticipated Date: Fall 2000

CA 750 - Migration of Contaminated Groundwater Under Control [1]
Anticipated Date: 2003

[1] Applies to RCRA regulated units only.

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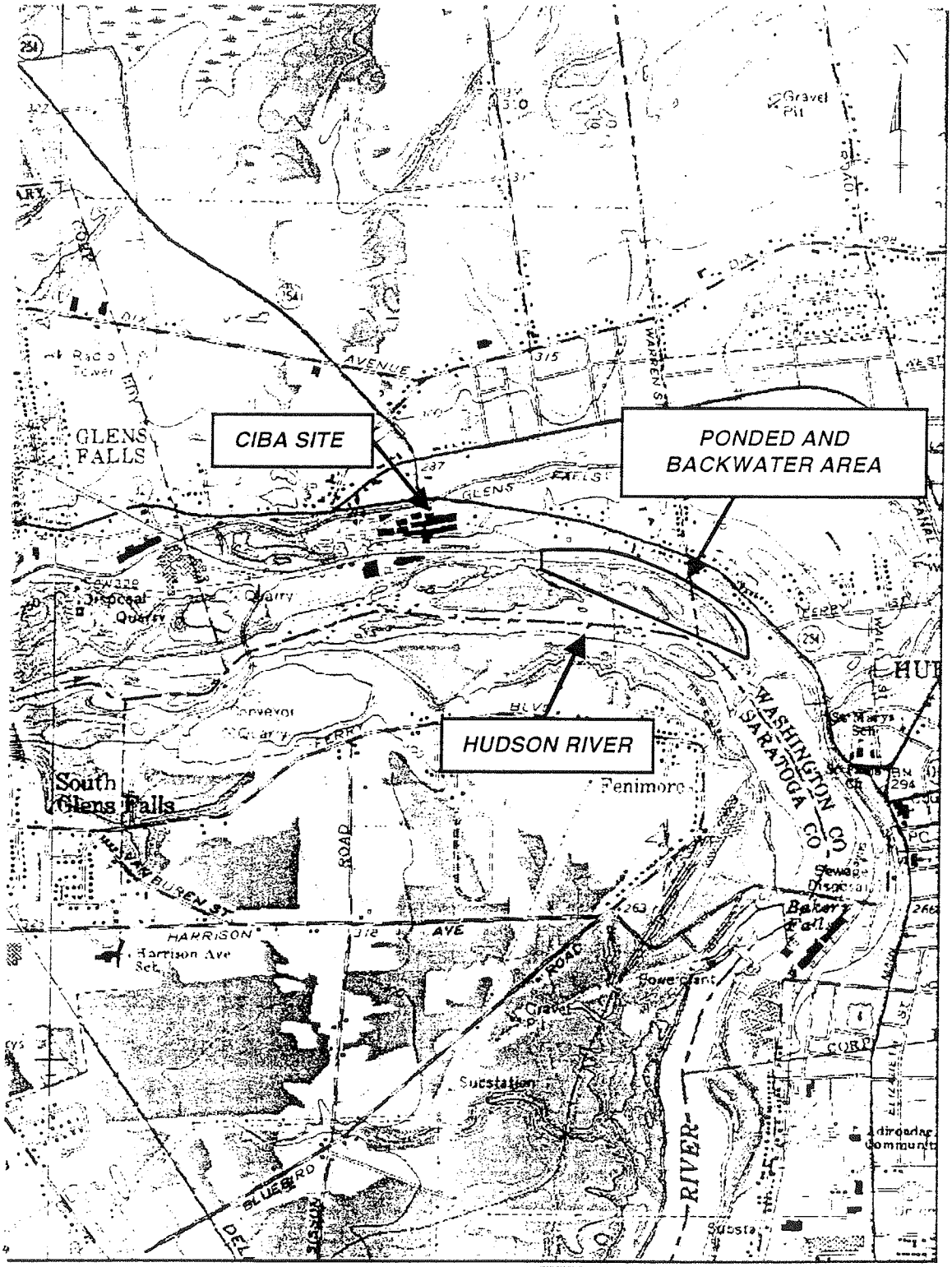
Site Repository:

NYSDEC
Division of Solid and Hazardous Materials
Bureau of Radiation & Hazardous Site Management
Room 460
50 Wolf Road
Albany, NY 12233-7252



SOURCE: GLENS FALLS, NY (1966)
HUDSON FALLS, NY (1966)
NY 7.5' QUADRANGLES

2000 0 2000
scale feet

FIGURE 1

GENERAL LOCATION MAP
PONDED AND BACKWATER AREA

HERCULES INCORPORATED
CIBA SITE
GLENS FALLS, NEW YORK

BROWN AND CALDWELL
Mahwah, New Jersey

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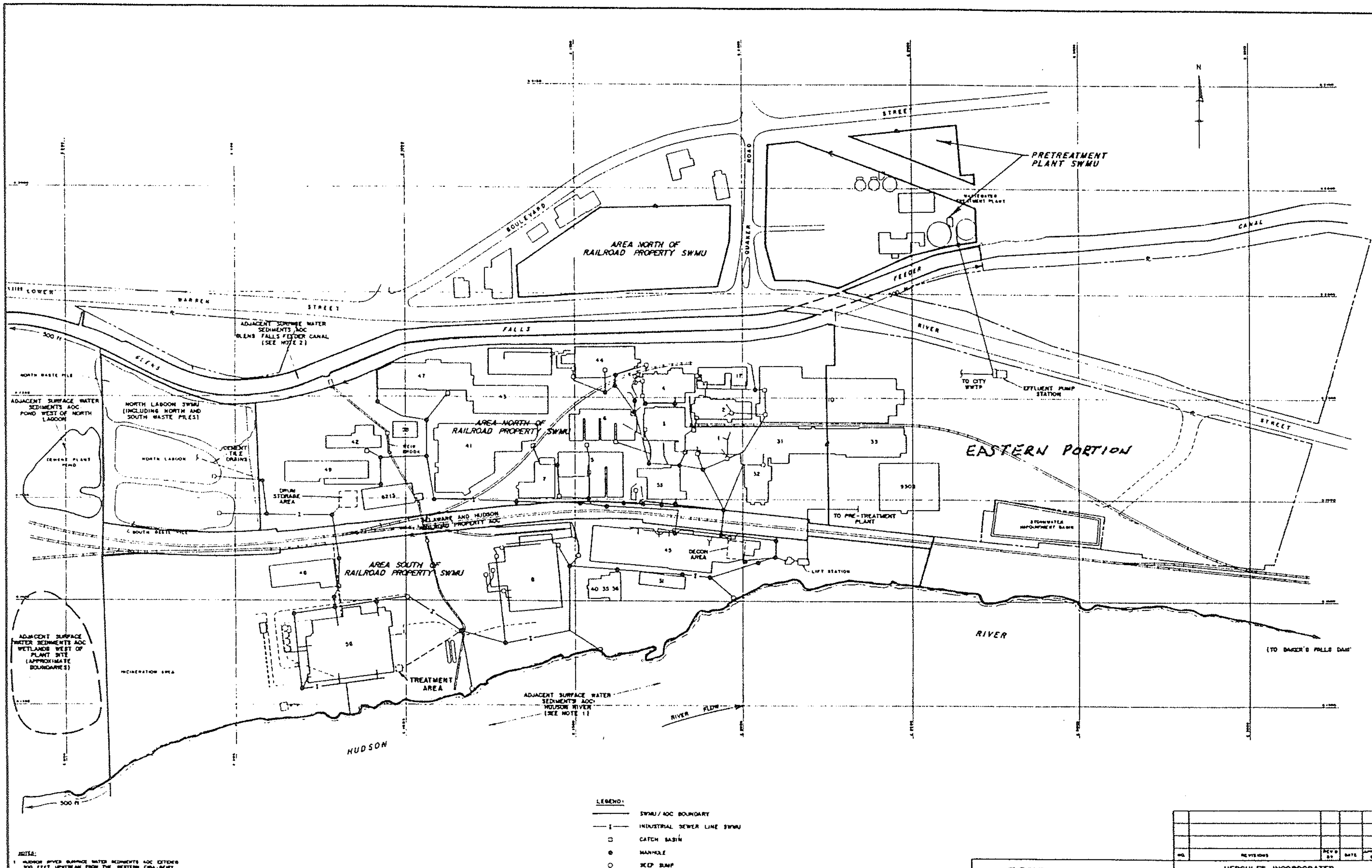

NOTES:

1. HUDSON RIVER SURFACE WATER SEDIMENTS AOC EXTENDS 500 FEET UPSTREAM FROM THE WESTERN CIBA-GEIGY PLANT SITE BOUNDARY AND DOWNSTREAM TO THE BAKER'S FALLS DAM
2. GLENS FALLS FEEDER CANAL SURFACE WATER SEDIMENTS AOC EXTENDS 500 FEET UPSTREAM FROM THE WESTERN CIBA-GEIGY PLANT SITE BOUNDARY AND 500 DOWNSTREAM FROM THE EASTERN CIBA-GEIGY PLANT SITE BOUNDARY
3. THE LOCATION OF THE INDUSTRIAL SEWER LINES ARE FROM CIBA-GEIGY / HERCULES GLENS FALLS PLANT MAP, INDUSTRIAL SEWER LINES, DWG No. [illegible]. ECKENFELDER ENGINEERING P.C. ASSUMES NO RESPONSIBILITY FOR ACCURACY OF THE SAME
4. BASE MAP AND PRELIMINARY ASSESSMENT FEATURES TRANSPOSED FROM MALCOLM PIRNIE (1987) FOR BORINGS AND WASTE DEPOSITION LOCATIONS MAP
5. PROPERTY LINES TRANSPOSED FROM TAX MAP OF THE TOWN OF QUEENSBURY NEW YORK MAP [illegible] SECTION 113 THESE PROPERTY LINES DO NOT REPRESENT A FIELD SURVEY

NO.	REVISIONS	REV'D BY	DATE	APPR'D BY

ECKENFELDER ENGINEERING P.C.
Nashville, Tennessee
Mahwah, New Jersey

SCALE: AS SHOWN

HERCULES INCORPORATED
CIBA-GEIGY PLANT SITE
GLENS FALLS, NEW YORK

SITE MAP

FIGURE 2

DRAWING NUMBER 6764