70675

To: GARVEY@TAMSNJo.PO_NJ
From: "William Ports" <wfports@gw.dec.state.ny.us>
Subject: Information on GE Hudson Falls and Fort Edward
CC: "kxfarrar.Remediat.NYSDEC0@gw.dec.state.ny.us"@TAMS_NY.GWIA
Date Sent: Thursday, June 8, 2000 10:42 AM

Per your request attached are the fact sheets for the GE Hudson Falls and Fort Edward. The Record of Decision of for GE Fort Edward was issued in January 2000. I hope this is the information you are looking for and if you have any questions please call Kevin or me at 518-457-5637.

323047

Received: from co_nwsmtp
(gwsmtp.dec.state.ny.us [134.179.112.16])
by tamsconsultants.com; Thu, 08 Jun 2000 10:43:04 -0400
Received: from CO_NW-Message_Server by co_nwsmtp
with Novell_GroupWise; Thu, 08 Jun 2000 10:52:12 -0400
Message-Id: <s93f7adc.046@co_nwsmtp>
X-Mailer: Novell GroupWise 5.5
Date: Thu, 08 Jun 2000 10:42:37 -0400
From: "William Ports" <wfports@gw.dec.state.ny.us>
To: <egarvey@tamsconsultants.com>
Cc: "Kevin Farrar" <kxfarrar.Remediat.NYSDEC0@gw.dec.state.ny.us>
Subject: Information on GE Hudson Falls and Fort Edward
Mime-Version: 1.0
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Per your request attached are the fact sheets for the GE Hudson Falls and Fort Edward. The Record of Decision of for GE Fort Edward was issued in January 2000. I hope this is the information you are looking for and if you have any questions please call Kevin or me at 518-457-5637.

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Content-Description: WordPerfect 6.1
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NEW YORK STATE
DEPARTMENT OF

ENVIRONMENTAL
CONSERVATION

PUBLIC AVAILABILITY SESSION
Wednesday, March 10, 1999
3 - 5 P.M.

Washington Co. Offices
Bldg. B, Large Conf. Room
383 Upper Broadway
Fort Edward, NY 12828

Public Meeting:

Wednesday, March 10, 1999
7 - 9 P.M.
Washington Co. Offices
Bldg. B, Large Conf. Room
383 Upper Broadway
Fort Edward, NY 12828

PUBLIC COMMENT PERIOD EXTENDED

February 23 thru
April 26, 1999

General Electric - Fort Edward,
Washington County
March 1999

Fact Sheet

Public Comment Period Extended on Remedial Action Plan for GE Fort Edward Plant Site

Remedial investigations and feasibility studies have been completed for Operable Units 3 and 4 for the General Electric Fort Edward Plant (see page 2 for description of Operable Units). A Proposed Remedial Action Plan (PRAP) has been prepared for public review and comment. This Fact sheet provides site background information, a summary of the site conditions, a summary of the proposed remedies from the PRAP, and information on how you can participate in the remedy selection process. **Comments on the PRAP will now be received through April 26, 1999.**

Citizen Participation

A Public Availability Session and Public Meeting have been held (as detailed in the sidebar at left) as part of the citizen participation program for this site. The Public Availability Session provided an opportunity for you to learn more about the site and the PRAP directly from New York State Department of Environmental Conservation (NYSDEC) staff who will answer your questions. During the public meeting, the NYSDEC presented the proposed site remedies as contained in the PRAP, answered questions, and accepted public comments.

NYSDEC will accept written public comments during the period commencing on February 22, 1999 and ending on April 26, 1999. Comments should be sent to the Project Manager whose address is provided below. A "Responsiveness Summary" will be prepared that describes public comments received and how the NYSDEC will address the concerns raised.

Document Repositories. Two locations provide you access to project information:

Washington County Clerk's Office
383 Upper Broadway
Fort Edward, NY 12828

Adriance Public Library
93 Market Street
Poughkeepsie, NY 12601

For More Information. Call or write the following staff for more information:

About Remedial Programs at the Fort Edward GE Plant
Kevin Farrar, Project Manager
Div. of Hazardous Waste Remediation
NYSDEC, 50 Wolf Road
Albany, NY 12233-7010
(518) 457-5637

Or call NYSDEC's Hazardous Waste Site Toll-Free Information Number:
1-800-342-9296

323049

PCB REMEDIATION PROJECTS: UPDATE

GE Fort Edward Plant Site

Site Background

GE's Fort Edward plant is located on a 32-acre tract along Route 4 in the Town of Fort Edward extending from the Hudson River to Upper Broadway, just south of the Washington County Office building complex. General Electric has manufactured capacitors at this location since the late 1940s. PCBs were used in capacitor manufacture until 1976. Other chemicals used on the site include solvents such as trichloroethane and kerosene.

GE has been conducting extensive on-site and off-site remedial investigation and monitoring activities. For management purposes the site has been divided into four parts called **operable units** as follows:

- Operable Unit 1 **(OU1)** consists of off-site overburden contaminated groundwater. In accordance with a 1984 Order on Consent, GE established an off-site groundwater recovery system and conducts monitoring. This effort is complete and successful. GE will continue to provide operation and maintenance.

- Operable Unit 2 **(OU2)** consists of on-site contaminated soil and groundwater. The Remedial Investigation/Feasibility Study (RI/FS) conducted from 1984 to 1990 concluded that an expansion of the overburden groundwater recovery system was needed on-site; PCB recovery from the bedrock beneath the site was also needed and provided for thru the use of two recovery wells with off-site disposal of recovered product. PCB-contaminated soils from the railroad off-loading area were also removed and properly disposed off-site.

OU 1 and OU2 have been addressed by previous studies and have been the subject of remedial programs since 1989-90. GE has recently completed a RI/FS for Operable Unit 3 (0U3) and a focused feasibility study for Operable Unit 4 (OU4). These latest studies supplement the RI/FS done in 1984-90. The need for supplemental investigation arose from a 1994 five-year review of the OU1 and OU2 selected remedies, which identified data that suggested additional remedial work may be necessary.

- Operable Unit 3 **(OU3)** consists of the main portion of the site, including the contaminated groundwater and soil beneath the facility.

- Operable Unit 4 **(OU4)** consists of contaminated soil along the riverbank adjacent to the former 004 outfall on the east shore of the Hudson River.

Interim Remedial Measures

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. The following OU3 and OU4 IRMs have been completed at the site.

1985 - Two production wells were temporarily sealed to prevent migration of contaminants into the deep bedrock aquifer (OU3). These wells were permanently sealed in 1996.

1994 - A temporary diversion for the plant outfall was installed. The outfall originally flowed through contaminated soils of OU4. The permanent diversion was completed in 1996.

1994 - Shoreline protection measures were installed to reduce the potential for scouring of the riverbank during high flow events in the Hudson River.

1996 - The PCB contaminated former outfall pipeline and pipe bedding were removed from the OU4 area.

<u>OU3 - Site Groundwater and Soil</u>

Findings of the OU3 RI

The RI was conducted in two phases. The first phase was conducted between July 1995 and March 1996 and the second phase between April 1996 and January 1997. A report entitled "Fort Edward Remedial Investigation Report - January 20, 1997" has been prepared describing the field activities and findings of the RI in detail.

The site is contaminated with several types of compounds, including PCBs and volatile organic compounds (VOCs).

As described in the RI report, numerous soil gas, soil, and groundwater samples were collected at the site to characterize the nature and extent of contamination.

Soil gas samples were collected and analyzed for VOCs. Elevated levels of VOCs were found in the soil gas at portions of the site.

Soil samples were collected from borings and soil piles and were found to contain VOCs, kerosene, and PCBs.

Groundwater samples were collected from 108 on-site monitoring wells, 22 off-site wells, and 4 off-site springs. Samples from shallow groundwater were found to contain VOCs and PCBs.

Below some portions of the site, shallow groundwater is contaminated above Class GA groundwater standards or guidance values for numerous chemicals, including VOCs and PCBs. As with the on-site areas, off-site wells and springs were contaminated with chlorinated VOCs and PCBs. Shallow and intermediate bedrock groundwater had several low detections of VOCs. The deep bedrock wells were not contaminated above groundwater standards for VOCs or PCBs.

The Proposed Remedial Action Plan (OU3)

Based on the results of the RI/FS for the plant portion of the site, the NYSDEC in consultation with the New York State Department of Health (NYSDOH) is proposing for Operable Unit 03 of the GE Fort Edward site that contaminated groundwater be collected through a series of extraction wells and treated at the facility's existing treatment plant to remove the contaminants. An expanded PCB oil recovery system will be installed to address dense phase non-aqueous liquid under the employee parking lot. Treated groundwater would be discharged to the Hudson River through the existing permitted outfall. Separate phase oils will be collected and properly disposed in accordance with RCRA/TSCA regulations. This remedy is proposed to address the threat to human health and the environment created by the presence of VOCs and PCBs in groundwater above groundwater standards.

Findings of the OU4 RI

As described in the RI reports, soil, sediment and surface water samples were collected at this OU to characterize the nature and extent of contamination.

Soil samples were collected from borings at selected locations and found to predominantly contain PCBs with some additional volatile and semivolatile organic compounds. The PCB contaminated soils were found on and along the banks of the River.

Almost two hundred soil and sediment samples were collected from locations along and below the shoreline and below the surface of the Hudson River North and South of the former 004 discharge pipe. Soils immediately downstream from the former outfall contain very high concentrations of PCB; concentrations diminish with distance from the outfall. A considerable volume of contaminated soil exists in the river along the eastern shoreline.

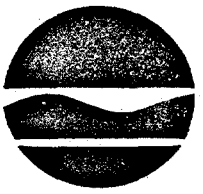
Surface water sampling results from upstream and downstream of the 004 outfall area indicate that the site is an ongoing source of PCB to the Hudson River.

The Proposed Remedial Action Plan (OU4)

The NYSDEC in consultation with NYSDOH is proposing removal and offsite disposal of all PCB contaminated material from along the shoreline of the Hudson River in the vicinity of the former 004 outfall area.

OU4 - Former 004 Outfall Area

NEW YORK STATE
DEPARTMENT OF



ENVIRONMENTAL
CONSERVATION

Public Meetings:
Availability Session
December 14, 1999
3pm - 5 pm
Public Meeting
December 14, 1999
7 - 9 P.M.
Washington Co. Offices
Bldg. B, Meeting Room B
383 Upper Broadway
Fort Edward, NY 12828

PUBLIC COMMENT PERIOD
November 22, 1999
to
December 22, 1999

Fact Sheet

General Electric - Hudson Falls, Washington County
November1999

Proposed Remedial Action Plan Announced For General Electric Hudson Falls Plant

Remedial Investigations and Feasibility Studies have been completed for Operable Units 2a and 2b for the General Electric Hudson Falls Plant (see page 2 for description of Operable Units). A Proposed Remedial Action Plan (PRAP) has been prepared for public review and comment. This Fact Sheet provides site background information, a summary of the site conditions, a summary of the proposed remedies from the PRAP, and information on how you can participate in the remedy selection process.

Citizen Participation

A Public Availability Session and public meeting have been scheduled (as detailed in the sidebar at left) as part of the citizen participation program for this site. The Public Availability Session provides an opportunity for you to learn more about the site and the PRAP directly from New York State Department of Environmental Conservation (NYSDEC) staff who will answer your questions. During the public meeting, the NYSDEC will present the proposed site remedies as contained in the PRAP, answer your questions, and accept public comments.

NYSDEC will accept written public comments during the thirty day period commencing on November 22, 1999 and ending on December 22, 1999 . Comments should be sent to the Project Manager whose address is provided below. A "Responsiveness Summary" will be prepared that describes public comments received and how the NYSDEC will address the concerns raised.

Document Repositories. Two locations provide you access to project information:

Washington County Clerk's Office
383 Upper Broadway
Fort Edward, NY 12828

Adriance Public Library
93 Market Street
Poughkeepsie, NY 12601

For More Information. Call or write the following staff for more information:

Jim Ludlam, Project Manager
Div. of Hazardous Waste Remediation
NYSDEC
50 Wolf Road
Albany, NY 12233-7010
(518) 457-5637

Or call NYSDEC's Hazardous Waste Site Toll-Free Information Number:
1-800-342-9296

323052

PROPOSED REMEDIAL ACTION PLAN (OU2A AND OU2B)

GE Hudson Falls Plant Site

Site Background

The General Electric Hudson Falls Plant Site is a 17 acre facility in the Village of Hudson Falls, Washington County. Located on the east shore of the Hudson River, it had been used for the manufacture of electrical capacitors from 1952 - 1995.

A field investigation was performed by GE at the Hudson Falls Plant Site under a Consent Order signed with NYSDEC in 1986-7. Based upon the results of the investigation, the site was classified as a Class 2 site (significant threat to human health and the environment).

A Remedial Investigation/Feasibility Study (RI/FS) was begun by GE in 1988, also under a signed Consent Order, which led to a Record of Decision (selected remedy) in March 1993 for part of the site (Operable Unit 1).

Identification of a significant groundwater contamination problem, coupled with data from the Hudson River showing the existence of an ongoing source of PCB to the Hudson River, led to the expansion of the RI/FS for this site. For management purposes the site has been divided into four parts:

Operable Units 2A and 2B, which are the subject of this Fact Sheet, consist of the overburden soils associated with the site, and the groundwater within the soils, as well as the contaminated sediments in the Hudson River immediately adjacent to the site and in the Allen Mill (an abandoned mill adjacent to the site along the river).

Operable Unit 2C is defined as contamination and pathways of contaminant migration in the (relatively shallow) bedrock at or near the site, roughly 80 feet MSL (mean sea level)below the plunge pool surface.

Operable Unit 2D is defined as contamination and pathways of contaminant migration in the (relatively deep) bedrock at or below the 80 feet MSL.

Operable Units 2C and 2D will be addressed in a separate remedial plan, investigations for which are currently being conducted.

An Operable Unit represents a portion of the site remedy which for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Three major priorities have been developed for this site:

- Select appropriate remedy for overburden soils and groundwater.
-Identification and completion of Interim Remedial Measures (IRMs) to contain or remove PCB contamination that might be a threat to receptors offsite.
-Completion of the OU 2C & 2D RI/FS and identification of permanent remedial measures for these operable units.

To date, GE, with NYSDEC approval has undertaken numerous Interim Remedial Measures (IRMs). IRMs completed or underway include: the removal of about 50 tons of PCBs from the Allen Mill area; grouting of PCB seeps identified in the River bottom; rerouting of the Sumpter Street sewer and excavation of old pipes that served as possible conduits of contaminated groundwater toward the river, removal and disposal of 8000 gallons of sludge and oil from beneath building one; stabilization of the river-wall of the old Allen Mill, and cleaning and RCRA-compliant refitting of the North and South storage basins. During 1995 GE installed a state of the art remedial wastewater treatment plant. Treated effluent is discharged to the Hudson River above the Bakers Falls dam. To date, stringent effluent criteria, set by NYSDEC, have been met.

The OU2A and OU2B RI was conducted in a number of phases between 1993 and 1997. In 1993-95, GE performed Interim Remedial Measures (IRMs) in the Allan Mill area to remove the contaminated sediments from the Upper Raceway, Lower Raceway, and Tailrace Tunnel, and to establish systems for the collection of groundwater and PCB product seeping out of the bedrock in this area. Seepage collection has been ongoing since that time.

Three pilot projects have been conducted to determine their effectiveness as remedial technologies. First is a system of six well clusters installed in and around the main building. Each cluster contains an overburden and shallow bedrock recovery well. Groundwater and PCB product (when encountered)

are pumped under various scenarios which conclude this approach to be a viable and effective contaminant removal tool. Second, horizontal, angled and vertical wells were drilled into the bedrock from inside the Tailrace tunnel. This, in turn, proved effective in draining product from the rock and provides hydraulic containment between the river and the site. Third, bedrock recovery wells have been installed along the plants western boundary with the river in an attempt to create a hydraulic barrier in the deeper sections of the bedrock.

Remedial Investigation Objectives

The RI included the following activities:

- Evaluation of the results of previous investigations at the site;
- Investigate the thickness and quality of the fill materials beneath the manufacturing buildings and tunnels;
- Evaluate whether there are areas of non-aqueous phase liquids (NAPL) in the overburden materials;
- Evaluate historical information concerning potential silt deposition near Bridge Street and the Fenimore Bridge construction project;
- Identify potential contaminant migration pathways, such as channels in the bedrock surface or overburden soils (clays);
- Investigate the soil to assess whether it is impacting groundwater quality;
- Investigate potential source areas and delineate dissolved groundwater contamination near the manufacturing buildings;
- Evaluate the quality and flow direction of the groundwater in overburden soils in the south portion of the site near John Street, and in the south end of the Eastern Raceway;
- Evaluate the water quality and the direction of groundwater flow within the Sumpter Street sewer trench;
- Investigate the effect of man-made structures and the bedrock surface on groundwater flow near the former manufacturing buildings to evaluate potential contaminant pathways;
- Evaluate the potential for the vertical migration of dense non-aqueous phase liquids (DNAPL) through the overburden soils to the upper Snake Hill Shale and beyond.

Findings of the Remedial Investigation

As described in the RI report, many soil, groundwater and sediment samples were collected at the Site to characterize the nature and extent of contamination.

The main contaminants of concern at the GE Hudson Falls Plant Site are PCBs, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

Overburden Soils

During the course of the OU2a and OU2b investigation of this site, over a hundred soil borings were drilled, and samples taken. The soil contamination at the site is primarily found where industrial chemicals were received, processed, stored, or used.

Overburden Groundwater

Overburden groundwater (within the soils) quality has been characterized through installation and sampling of over a hundred monitoring wells throughout the site. Groundwater movement has been defined through the use of monitoring wells and piezometers to measure water levels. Pumping tests have also been conducted to evaluate the hydrogeologic properties of the soils. Contamination of the overburden groundwater is similar to that noted in the above paragraph.

Sediments

Sediments at the site have been identified which are contaminated with PCB. Concentrations of PCB in these sediments were found up to 21,000 ppm near the former 002 outfall location. Sediment PCB concentration in the tailrace tunnel of the old Alan mill averaged greater than 30,000 ppm PCB. These sediments have been removed through various IRMs.

Evaluation of Remedial Alternatives - The Feasibility Study

In January 1997, GE submitted a Feasibility Study identifying and addressing possible alternatives to remediate the contaminants found and identified in OU2a and OU2b. Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10.

The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment. At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Eliminate, to extent practicable, exceedances of applicable environmental quality standards related to releases of contaminants to the waters of the State, including the surface water standards and the groundwater standards.
- Eliminate, to the extent practicable, the exposure of fish and wildlife to levels of PCBs above standards/guidance values.
- Eliminate, to the extent practicable, ingestion of groundwater affected by the site that does not attain NYSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practicable, migration of LNAPL and DNAPL to the Hudson River and other off-site areas through removal and hydraulic management.
- Eliminate, to the extent practicable, exposures to PCBs present in soils/sediments along the Hudson River.
- Eliminate, to the extent practicable, the migration of PCBs into the Hudson River

via: erosion of PCB contaminated soils, transport of suspended sediment with surface water, and transport of PCBs contained in NAPL, groundwater or surface water.

- Eliminate to the extent practicable, the migration of contamination present within the soils and overburden groundwater at the site.
- Eliminate to the extent practicable, the threat to surface waters caused by the mobilization of contamination from the contaminated sediments at the site.
- Eliminate the potential for direct human or animal contact with the contaminated soils on site.
- Mitigate the impacts of contaminated groundwater to the environment.
- Eliminate, to the extent practicable, the migration of contamination to off-site areas, including the Hudson River.

The Proposed Remedial Action Plan

Based upon the results of the RI/FS, and the established remedy selection process the NYSDEC is proposing a suite of activities to address the contamination remaining at and in the vicinity of the Hudson Falls GE plant site. This includes continued operation of groundwater control measures, the onsite wastewater treatment plant and treatment of all site soils over TAGM limits with on-site disposal of treated residues.

This selection is based upon a combination of alternatives proposed in part by GE. This alternative is protective of human health, removes most source material from the environment, complies with SCGs, is implementable, has good long and short term effectiveness, reduces the mobilization of contaminants, and is cost effective.

The estimated present worth cost to implement the remedy is $28,400,000. The cost to construct the remedy is estimated to be $19,096,000 and the estimated average annual operation and maintenance cost is estimated at $606,000.

Elements of the Selected Remedy

1. Continued operation of the existing IRM groundwater, NAPL and seepage recovery systems, and completion of ongoing IRMs.

2. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation, and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS would be resolved.

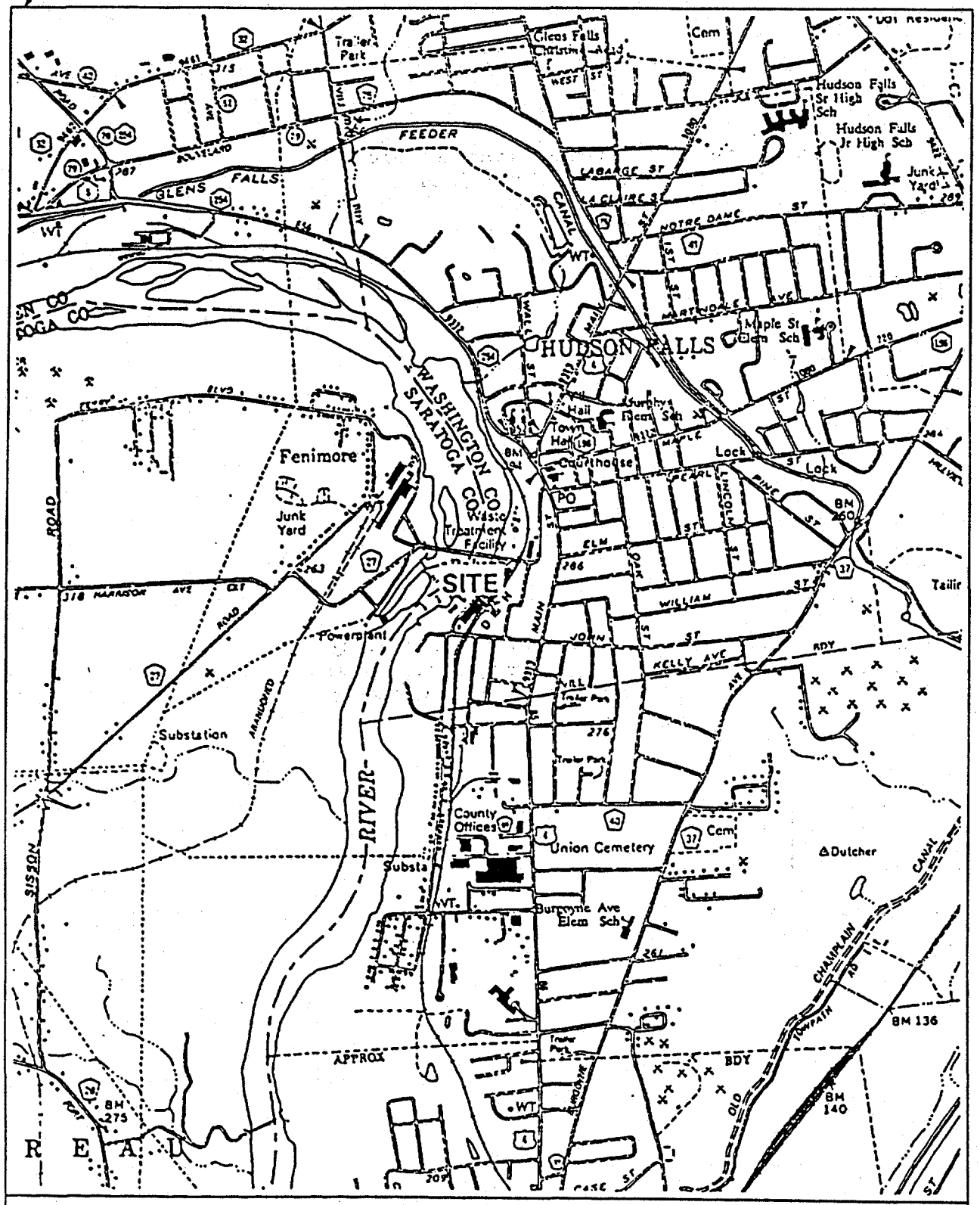
3. Operation and maintenance of the groundwater containment and NAPL recovery systems to maximize hydraulic containment and NAPL recovery.

4. Demolition of the manufacturing buildings at the site after appropriate contaminant abatement, with proper off-site disposal of the demolition debris.

5. Excavation and on-site treatment of all soils at the site which contain contaminants above NYSDEC Division of Environmental Remediation TAGM levels, with on-site placement of the treated soils.

6. Since the remedy results in untreated hazardous waste remaining at the site (in the bedrock beneath the site), a long term monitoring program would be instituted. This program would allow the effectiveness of the selected remedy to be monitored and would be a component of the operation and maintenance for the site. It would include groundwater and surface water monitoring and fish monitoring in the Hudson River.

7. Performance of remedial program effectiveness reviews every 5 years to determine if the remedy is still protective of human health and the environment, to determine if technology or other developments have allowed for enhancement of the remedy, and to determine if additional remedial actions should be implemented to enhance the effectiveness of the remedy.



Site Location Map

558013 G.E. Capacitor Prod. Div. (Hudson Falls)

NYSDOT Planimetric Quadrangle(s):

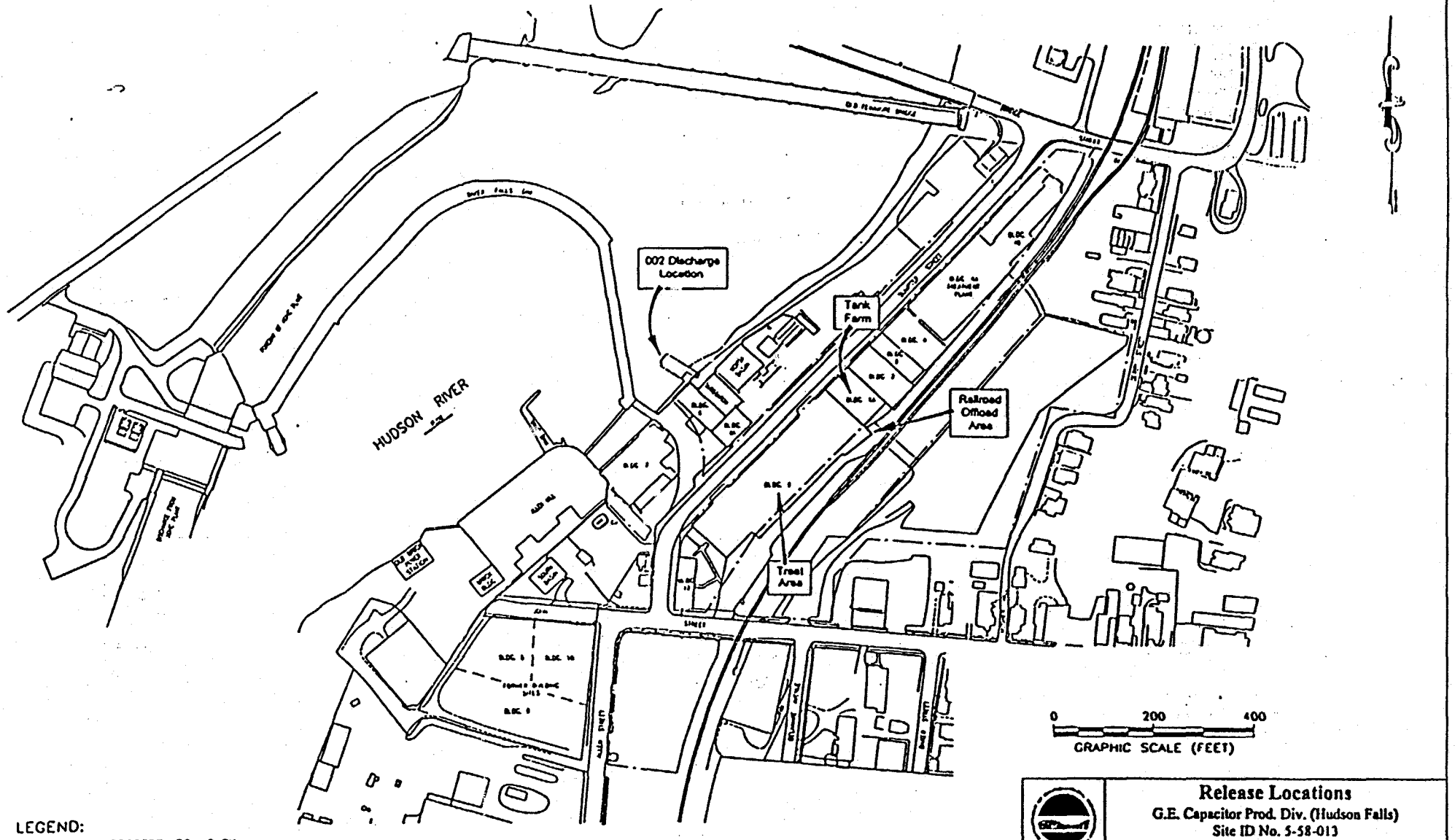
N

0 500 1000 1500 2000

FEET

Scale 1:24,000

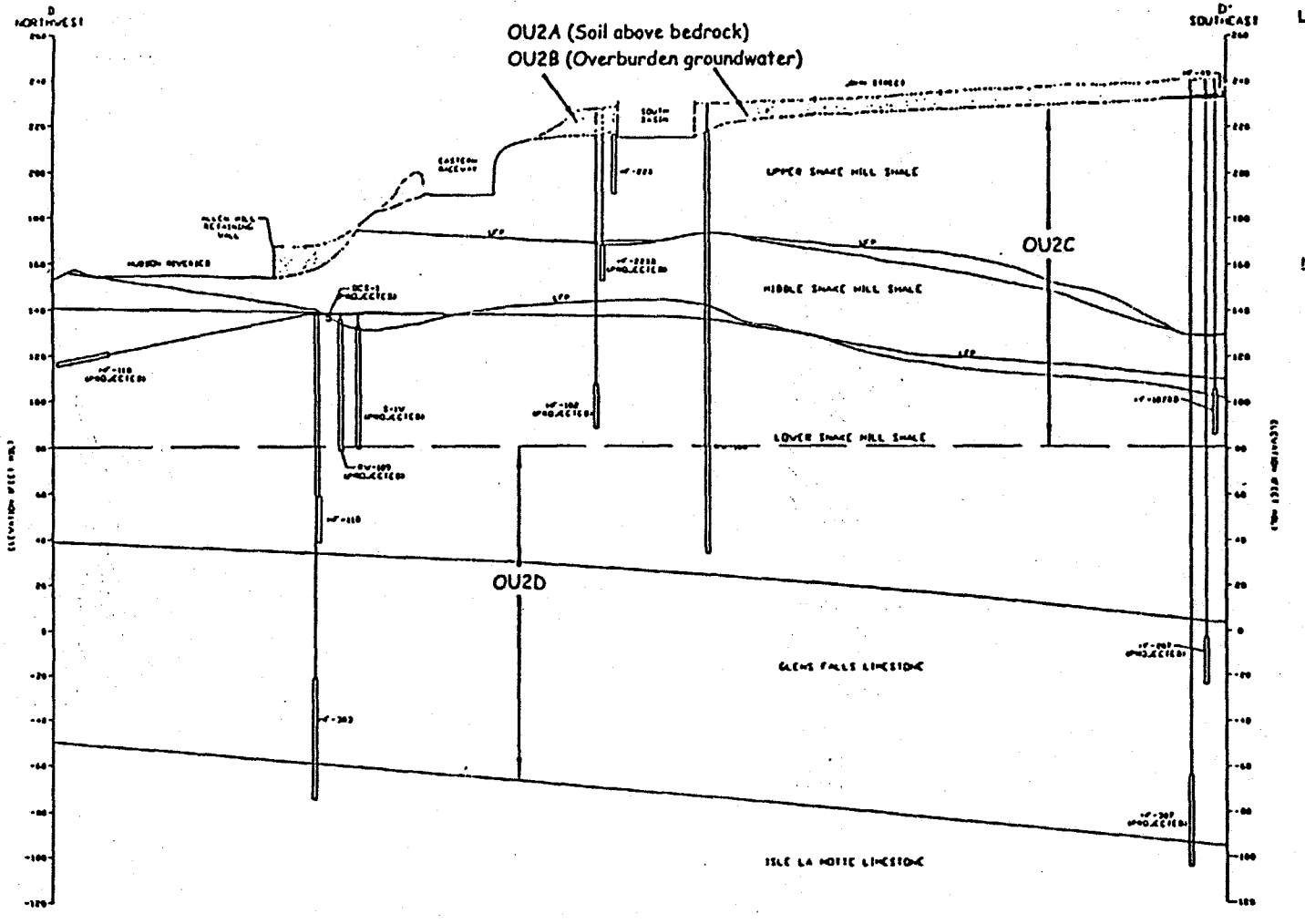
323057



Release Locations
G.E. Capacitor Prod. Div. (Hudson Falls)
Site ID No. 5-58-013
Hudson Falls, New York

Division of Environmental Remediation

Figure 2



LEGEND

- WELL DESIGNATION AND APPROXIMATE LOCATION
- GENERALIZED GROUND SURFACE
- OPEN HOLE (SCREENED) INTERVAL
- OVERBURDEN (SAND & FILL)
- OVERBURDEN (CLAY)
- GEOLOGIC CONTACT (DASHED WHERE INFERRED)
- UPP — UPPER FAULT PLANE (DASHED WHERE INFERRED)
- LWP — LOWER FAULT PLANE (DASHED WHERE INFERRED)

NOTES

1. REFER TO FIGURE 6-4 FOR THE ORIENTATION OF THE LINE OF SECTION
2. REFER TO BORING AND CORE LOGS FOR DETAILED LITHOLOGIC DESCRIPTION

0 30 60 90
GRAPHIC SCALE
VERTICAL EXAGGERATION = 2X

GEOLOGIC CROSS-SECTION D-D'

G.E. Capacitor Prod. Div. (Hudson Falls)
Site ID No. 5-58-013
Hudson Falls, New York

Division of Environmental Remediation

Map Source: Bonno & Moore
B58001329.dwg

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Figure 3

323058