Woodward-Clyde Consultants

Engineering & sciences applied to the earth & its environment

December 3, 1993
93C2117

Xerox Corporation
Building 304-13S
800 Phillips Road
Webster, New York 14580

Attention: Mr. Scott Huber

RE: Summary RFI Report
Investigative Site W-119

Dear Mr. Huber:

Woodward-Clyde Consultants (WCC) is pleased to submit to Xerox Corporation the Summary RCRA Facilities Investigation (RFI) Report for Investigative Site W119 at your Webster, New York facility. The work was authorized by Xerox Corporation via Xerox Purchase Order Number C7395981, dated May 13, 1993. The work was conducted in accordance with the WCC proposal dated March 31, 1993.

It has been our pleasure to assist Xerox Corporation with this project. If you have any additional questions or comments regarding this report, please do not hesitate to call.

Very truly yours,

Steven L. Tanen
Project Manager

Attachments

5120 Butler Pike • Plymouth Meeting, Pennsylvania 19462
215-825-3000 • Fax 215-834-0234

SUMMARY RFI REPORT
INVESTIGATIVE SITE W119
XEROX CORPORATION
WEBSTER, NEW YORK

Prepared for:

Xerox Corporation
800 Phillips Road
Webster, New York 14580

Prepared by:

Woodward-Clyde Consultants
5120 Butler Pike
Plymouth Meeting, Pennsylvania 19462

Project No. 93C2117
December 1993

INTRODUCTION

Woodward-Clyde Consultants (WCC) was retained by Xerox Corporation (Xerox) to prepare the RCRA Facility Investigation (RFI) Final and Summary reports for Investigative Site - W119 at the Xerox Webster, New York facility. (Hereafter the Xerox Webster, New York facility will be referred to as the Webster facility.) The general location of Investigative Site - W119 within the Webster facility is shown on Figure 1, the Regional Location Plan for the site area.

Currently, Investigative Site - W119 consists of the following Solid Waste Management Units (SWMUs):

- Old Nursery (SWMU #63)
- Building 143 Contaminated Soil (SWMU #87)

The locations of the active SWMUs in Investigative Site - W119 are shown on Figure 2.

To date, three phases of investigative activities have been conducted in Investigative Site-W119. The first two phases were summarized in a single report prepared by WCC dated February 1, 1989 and included work conducted by both WCC and Engineering Science. The first two phases consisted of preliminary site reconnaissance (including a soil gas survey and terrain conductivity survey), followed by the installation of up to 23 wells (initially two wells were installed by Engineering Science (ES) in 1987 and the remaining 21 wells installed by WCC in 1988). The well installation program included both 20 shallow bedrock wells (generally screened from two to ten feet below the overburden/bedrock interface) and three intermediate depth bedrock wells (open corehole well completions monitoring groundwater flow generally from 20 to 25 feet below the overburden/bedrock interface). This investigative program also included soil borings (four drilled by ES and 10 drilled by WCC) and swale surface water/sediment sampling.

Following the installation of the additional 21 monitoring wells groundwater sampling events were conducted as noted below:

- Approximately two weeks following well installation/development.
- One month following the initial sampling event.
- Generally quarterly thereafter.

The third phase of investigative activities in the investigative site consisted of the installation of five shallow bedrock wells. The additional five shallow wells were installed to provide water quality data both upgradient and downgradient from the investigative site to ~~assess~~ define the boundaries of the groundwater plume.

Need for RFI Report

The RFI Reports for Investigative Site W119 have been prepared to address the Module III Corrective Action Requirements for Solid Waste Management Units, as defined in the Xerox Part 373 Permit. The Module III Corrective Action Requirements, pursuant to Article 27, Title 9, 6NYCRR 373-2.6, requires corrective action for all releases of hazardous wastes or constituents from any SWMU at a storage, treatment or disposal facility seeking a 6NYCRR Part 373 permit.

The goal of this RFI is to determine the nature, extent and rate of migration of hazardous wastes or constituents in soils, groundwater, surface water, subsurface gas and/or air. As a result of these multimedia analyses, the types of contaminants present, the boundaries of any contamination and the rate of contaminant movement can then be assessed. Based on the RFI findings, corrective measures will then be investigated and implemented, as warranted. The findings of the Investigative Site - W119 RFI are summarized in this report and presented in greater detail in the Final RFI Report for the investigative site.

Key Documents for Investigative Site - W119

To date the following key documents have been prepared by WCC, and submitted to NYSDEC regarding activities at Investigative Site - W119:

- Environmental Assessment Report, Nursery & Pilot Plant Areas, Xerox Corporation, Webster, New York, dated February 1, 1989
- Response to NYSDEC Comments, Nursery/Pilot Plant, dated April 26, 1991
- RCRA Facilities Investigation Report, Investigative Site - W119, dated February 11, 1993

In addition to the site specific documents, a Facility Reference Document (FRD) was prepared by Haley & Aldrich of New York in 1991. The FRD includes an overview of all the Webster facility investigative sites (and associated SWMUs), along with a site history and field investigation/laboratory protocols to be used at the Webster facility.

OVERVIEW: INVESTIGATIVE SITE W119

This section presents a general description of the Webster facility with a more specific description of Investigative Site - W119.

History and Description

The Xerox Corporation, Joseph C. Wilson Center for Technology, is located on Phillips Road in the town of Webster, in New York State (See Figure 1). The facility is bounded on the north by Schlegel Road, east by Salt Road, south by Conrail Railroad tracks which are adjacent to U.S. Route 104, and on the west by ~~Salt Road~~ Phillips (H&A, 1991).

The Webster facility includes approximately 1000 acres as outlined on Figure 1; it has been the main Xerox manufacturing facility since the 1960's. The central portion of the facility was first developed by Xerox in about 1965.

The oldest building at the Webster facility is Building 201, which was constructed in 1956. This building was initially used as a support facility for the Rochester, New York operations, of the Haloid Company, the predecessor to the Xerox Corporation (H&A, 1991).

As the Webster facility was developed, its buildings were numbered according to their general use. All buildings numbered in the 100's housed research and development facilities. Buildings numbered in the 200's housed manufacturing operations. Support and/or maintenance operations were contained in buildings numbered in the 300's and the buildings numbered in the 800's are leased buildings. The facility is currently used for research and development activities and the manufacturing or refurbishing of electrostatic copying machines along with toner (H&A, 1991).

The Webster facility is identified by the NYSDEC RCRA Program as a storage facility and as a result holds RCRA Permit No. NYD002211324 (H&A, 1991).

Identification of SWMUs

Five SWMUs (#36, #37, #38, #63, and #87) were identified in Investigative Site - W119. These SWMUs were originally identified during the Webster facility RFA. The location of the SWMUs for the investigative site are presented on Figure 2.

Location and Description of SWMUs

The SWMUs identified in Investigative Site - W119 (#36, #37, #38, #63, and #87) were located in the vicinity of Buildings 119, 130, 143, and the Old Nursery area. The following is a summary of the investigative site SWMUs as discussed in the FRD and the Module III Corrective Action Requirements:

- SWMU #36 - Underground spill containment tank associated with Building 119 (also referenced as Building 119 NE, and USCT NE, and USCT-119A(NE)). Building 119

contains a photoreceptor coating operations where mylar is coated on photoreceptor rolls.

- SWMU #37 - Underground spill containment tank associated with Building 119 (also referenced as Building 119 SE, USCT SE, and USCT-119B(SE)). Building 119 contains a photoreceptor coating operations where mylar is coated on photoreceptor rolls.

- SWMU #38 - Underground spill containment tank associated with Building 130 and has been listed as a Waste Sodium Selenide Tank, also referenced as USCT-130A.

- SWMU #63 - Associated with the "Old Nursery" which was used in the past as a drum storage/handling area. This area served as a waste collection area from approximately 1971 through 1974. Substances reportedly stored in the drums were primarily solvent wastes.

- SWMU #87 - Associated with soil contaminated with chlorinated solvents found north of Building 143. Building 143 is used for research and development of photoreceptors and toner. Building 143 also contains laboratories and offices. Only small quantities of chemical substances were generally used.

Included in Section E (Corrective Action Requirements), Subsection 1 (No Action Requirements), Paragraph A, of the Module III Corrective Action Requirements for the Webster facility, are SWMUs #36, #37 and #38. Paragraph A in Section E, Subsection 1 states that on the basis of the RFA activities conducted during 1986 - 1988 it has been determined that there is no evidence of releases of hazardous waste or constituents that threaten human health or the environment from the SWMUs #36, #37 and #38.

Shown on Figure 2 are both the active (#63 and #87) and closed (#36, #37 and #38) SWMUs for the investigative site.

KEY CONSTITUENTS OF CONCERN

Based on soil, sediment and groundwater analysis conducted to date, the following compounds have been detected at Investigative Site - W119: vinyl chloride, chloroethane, trichlorofluoromethane, 1,1-dichloroethene, methylene chloride, 1,2-dichloroethene, 1,1-dichloroethane, chloroform, 1,1,1-trichloroethane, 1,2-dichloroethane, trichloroethene, 1,1,2-trichloroethane, tetrachloroethene, chlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, benzene, toluene, xylene, chromium, nickel and selenium.

These constituents were discovered in 1988 during an Environmental Assessment of the Old Nursery & Pilot-Plant areas. The assessment was conducted by Woodward-Clyde Consultants and the results of the investigation are contained within a WCC report dated February 1, 1989 (WCC, 1989).

SUMMARY OF INVESTIGATION WORK

The following is a listing of activities conducted during the field investigations at Investigative Site - W119.

- WORK PLAN PREPARATION
- PETREX SOIL GAS SURVEY
- TERRAIN CONDUCTIVITY SURVEY
- SOIL BORING AND MONITORING WELL INSTALLATION

The Final RFI Report details all of the investigative site activities.

SITE CHARACTERIZATION

Description of Utilities

Overall the site is services by underground gas, electric, or telephone utilities.
The main utilities effecting groundwater flow are the electrical and telephone duct banks.

Atmospheric and Climatic Conditions

Investigative Site - W119 lies within an area classified as humid-continental. The majority of the weather systems that influence the local weather are derived from continental sources. Weather in the vicinity of the site is quite variable due to the influence Lake Ontario ("lake affect") has on local precipitation and cloud cover (H&A, 1991).

Profile of the Site Setting

The Investigative Site is located within the borough of Webster, in Monroe County, New York. The land where the site is located is primarily in industrial use and the land north, east, south, and northwest is being used primarily for agricultural operations.

Zoning and Land Use

The land that circumscribes the Webster facility is zoned for a variety of uses including industrial, commercial, residential, agricultural, and transportation right-of-way. Generally, the land adjacent to the site on the south, east and west is currently a mixture of uses, including industrial, commercial, residential, and agricultural. The land north of the site is being used primarily for residential and agriculture pursuits. Investigative Site - W119 is zoned industrial and all of the land that abuts the perimeter of the Investigative Site is zoned industrial.

Adjacent Properties

The property south of Investigative Site - 119 is owned by the Rochester Gas & Electric Corporation and was previously the property of New York Central Railroad. There are no residential properties that abut the Investigative Site.

Soil Development

Three soil series are mapped within Investigative Site - W119 (Cut and fill land -Cw-, Elnora loamy fine sand -ElB-, and Massena fine sandy loam -Mf-). The Massena soil series, a aeric haplaquepts soil is listed by the National Technical Committee for Hydric Soils as a hydric soil.

GEOLOGIC/HYDROGEOLOGIC CONDITIONS

Regional Geologic Conditions

The Webster facility lies within the low-lying Ontario Plain section of the Erie-Ontario Lowlands physiographic province. The area is underlain by Quaternary glacial and post-glacial deposits lying above approximately 2000 feet of Paleozoic sedimentary rocks deposited on the Precambrian crystalline basement. The region has experienced several periods of glaciations but the glacial deposits present represent only the most recent glaciation (late Wisconsin time). Deposits typically are composed of glacial till deposited over the bedrock surface.

The following stratigraphic overburden units, in descending order have been encountered at the site:

Stratum	Description
Fill	Medium dense to very dense brown to red-brown COARSE to FINE SAND, some GRAVEL with construction debris, consisting of concrete fragments, reinforcement rods, and decomposing wood material. At some locations, the fill

included black SANDY SILT and SILTY CLAY, and compacted GRAVEL fill.

LACUSTRINE — Medium dense to dense laminated gray FINE SAND, little SILT, trace COARSE to MEDIUM SAND, and trace HUMIC material.

GLACIOFLUVIAL — Red to gray brown SAND, some SILT, varying amounts of GRAVEL, weak stratification noted. (Possibly equivalent with reworked till in some areas)

REWORKED GLACIAL TILL — Medium dense red-brown COARSE to FINE SANDY SILT, little GRAVEL, trace CLAY with COBBLES and BOULDERS. The till has been reworked by wave action and generally contains a lower percentage of fine-grained sediment than the unaltered glacial till present at the same depth at other locations.

GLACIAL TILL — Highly variable in color and texture, including shades of brown and gray, COARSE to FINE SANDY SILT to SILTY SAND, SILTY or SANDY CLAY with varying amounts of GRAVEL. The till is generally dense to very dense with COBBLES and BOULDERS.

Bedrock geology

The Paleozoic sedimentary rocks underlying the site dip gently toward the south at a gradient of approximately 50 feet/mile. Consequently, the sedimentary rocks become younger and thicken toward the south. Within the Ontario Plain section the sedimentary formations (in descending order) consist of the Middle and Lower Silurian Clinton and Medina Groups, the Late Ordovician Queenston Formation, the Middle and Early Ordovician Lorraine, Trenton and Black River Groups, and the Cambrian Theresa and Potsdam Formations (H&A, 1991).

The bedrock units encountered at the Webster facility include rocks of the Clinton and Medina Groups and the Queenston Formation. The Lower Sodus Shale and Reynales Limestone are Lower Silurian in age and are part of the Lower Clinton Group. The Lower Silurian Kodak Sandstone, Cambria Formation and Grimsby Sandstone, members of the Medina Group, underlie the Reynales Limestone. The rocks of the Clinton Group resulted from marine encroachment and re-working of the old deltaic deposits of the Medina Group. The Ordovician Queenston Formation unconformably underlies the Medina group and is the oldest bedrock formation which subcrops beneath the site.

Regional Hydrogeologic Conditions

Lake Ontario forms the base level for the regional groundwater system with groundwater flow direction generally to the north-northwest across the Webster facility. Groundwater at the Webster facility has been encountered in the overburden and bedrock. Infiltration through the glacially derived soils is moderate to slow over most of the region. Porosity and permeability of much of the glacial deposits are moderate to low. Higher permeabilities are found in glacial deposits that have been reworked by wave action or fluvial transport. The variability of the glacial deposits leads to local areas of perched water, high permeability, or confined conditions (H&A, 1991).

Groundwater flow in the bedrock below the glacial materials is largely controlled by fractures in the rock. In general, the upper portion of the bedrock has more interconnected fractures available for flow than the deeper bedrock due to weathering. Localized artesian conditions occur in the bedrock at some locations where less permeable soils or rock act as an overlying confining layer.

The Village of Webster has installed well fields in the sandbar area along the mouth of Irondequoit Bay and on the bluffs adjoining the Bay near DeWitt Road. Geologic and hydrogeologic data for the well fields indicates the two fields are constructed in geologically different but hydrogeologically connected units. A portion of the water developed from the well field is believed to be produced from the Queenston Formation underlying the unconsolidated sediments. Groundwater flow within these aquifers bordering and underlying Irondequoit Bay appears to be northward (H&A, 1991).

Groundwater in the overburden, and frequently in the uppermost highly-fractured bedrock, generally occurs under water table conditions and ranges in depth from two to eight feet below ground surface. Groundwater flow across the Webster facility generally follows regional flow patterns. Overall, bedrock groundwater flow is to the north-northwest. However, subsurface features such as utilities and conduits may locally affect groundwater flow (H&A, 1991).

Groundwater in the bedrock has been observed at multiple levels across the site and under semi-confined and confined condition. With the exception of the upper fractured bedrock horizon, the occurrence of multiple bedrock water bearing zones appears to be discontinuous across the Webster facility.

Geologic/Hydrogeologic Conditions: Investigative Site - W119

Findings from this investigative site indicate groundwater is encountered in the shallow bedrock and deep bedrock zones in the Building 119 investigative area. Local groundwater flow direction in both zones was determined to be toward the north-northwest following the bedrock topography which slopes to the northwest. The upper bedrock over much of this area is the highly weathered Sodus Shale and Reynales

Limestone. Figure 3 is a general geologic cross-section across the Webster site. The Final RFI reports presents in detail the bedrock geology through the investigative site.

SUMMARY OF FIELD PROGRAM

The Petrex survey and the Terrain Conductivity survey were preliminary, or indicator, surveys to screen areas within the Investigative Site. Results of both surveys were used to aid in identifying subsequent soil boring and monitoring well locations for more detailed soil and groundwater characterizations.

The bedrock units encountered in the investigative site, in descending order, were the Sodus Shale and the Reynales Limestone. The Sodus Shale appears to be absent north of Buildings 130, 131 and 143 (i.e. the Sodus Shale was not encountered at locations MW-15 through MW-21 and MW-26 through MW-28, in which the Reynales Limestone was the first bedrock unit encountered).

Groundwater flow through the investigative site is generally to the north/northwest in both the shallow and intermediate bedrock horizons. The Fourth Quarter 1992 Shallow Rock Zone Groundwater Contours are shown on Figure 4 and the Fourth Quarter 1992 Intermediate Rock Zone Groundwater Contours are shown on Figure 5.

Analytical Results

During the initial field investigations conducted since 1988, soil samples from soil borings and monitoring wells were analyzed for VOCs, acid extractable and base/neutral extractable compounds, pesticides, PCBs, phenols, priority pollutant metals, and cyanide. Groundwater samples from the monitoring wells were initially analyzed for VOCs, pesticides, PCBs, priority pollutant metals, and cyanide. Subsequent groundwater samples were analyzed only for VOCs.

Soil analyses

The indicator constituents detected in the soil samples collected from the soil borings in the investigative site trichloroethene, 1,2-dichloroethene, toluene, tetrachloroethene, chloroform, 1,1,1-trichloroethane, and methylene chloride.

The soil samples were also analyzed for priority pollutant metals and cyanide. Since the metals are naturally occurring, for discussion purposes they were compared to average levels as observed in eastern U.S. soils as reported by Lindsey, 1979.

Detected concentrations of arsenic, beryllium, lead, selenium and silver were above the eastern U.S. averages.

Overall, trichloroethene was the most common volatile organic compound detected and the highest concentrations were detected in the Old Nursery area.

Groundwater Analyses

Groundwater analyses for VOCs since 1988, in the investigative site, have shown that several of the compounds detected exceed NYSDEC groundwater quality standards. The following compounds have been detected at levels above NYSDEC groundwater quality standard 10NYCRR for class GA (groundwater) water supplies for the First Quarter 1993 groundwater sampling event for Investigative Site - W119:

Compound	10NYCRR Standard	Wells Exceeding 10NYCRR Standard
• **Chlorobenzene**	5 ppb	MW-16
• **Chloroform**	100 ppb	MW-4, MW-7, MW-8, MW-9
• **Tetrachloroethene**	5 ppb	MW-1, MW-2, MW-4, MW-5, MW-7, MW-8, MW-9, MW-11, MW-13, MW-14, MW-15
• **1,1,1-Trichloroethane**	5 ppb	MW-1, MW-4, MW-7, MW-8, MW-9, MW-11, MW-13, MW-14, MW-16
• **1,1-Dichloroethane**	5 ppb	MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, MW-16
• **1,1-Dichloroethane**	5 ppb	MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, MW-16
• **1,1-Dichloroethene**	5 ppb	MW-1, MW-8, MW-15
• **1,2-Dichlorobenzene**	5 ppb	MW-16
• **1,2-Dichloroethene**	5 ppb	MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-11, MW-13, MW-14, MW-15, MW-16, MW-20, MW-21

•	**Trichloroethene**	5 ppb	MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, MW-16, MW-20
•	**Toluene**	5 ppb	MW-4, MW-9
•	**Vinyl Chloride**	2 ppb	MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, MW-16, MW-21

While several locations throughout the investigative site continue to exceed NYSDEC groundwater quality standards, review of time-series VOC plots for several indicator compounds in the site (vinyl chloride, 1,1-dichloroethane, 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, tetrachloroethene, toluene and total volatile organics) indicate that there is a downward trend in the data, as presented in the Final RFI report. The total VOCs detected in the groundwater, as reported in February 1993, for the investigative site are presented on Figure 6.

Groundwater VOC Data Statistical Evaluation

A statistical evaluation was conducted on the concentration of total volatile organic compounds (ΣVOC) found in water samples from selected monitoring wells near the Building 119 area. This evaluation was conducted to document any significant time-related trends in the concentrations of ΣVOC from the initial sampling on March 19, 1988 to February 3, 1993. The objective was to identify any evidence of plume migration or dissipation over the time period.

Based on the statistical review, while there appears to be an increase in VOCs detected in monitoring well MW-15, located at the greatest distance downgradient from the potential source area, the statistical analysis infers that this is not a significant trend in ΣVOC versus time. Overall, the statistical analysis it appears that downgradient migration of the plume has been minimal. The statistical analysis is summarized on Table 1.

Sediment and Surface Water Analyses

Analysis of sediment from the drainage ditch for volatile organic and inorganic compounds, pesticides and PCBs, and priority pollutant metals was performed. The surface water was only analyzed for volatile organic compounds. The laboratory results show that pesticides and PCBs were below detection limits at all locations. The following is a summary of compounds detected.

Volatile organic compounds were detected in the surface water samples from the drainage ditch that parallels San Jose Dr, adjacent to the Old Nursery area.

CONTAMINANT MIGRATION PATHWAYS/POTENTIAL IMPACTS

The primary pathways by which contamination can migrate from the site are groundwater and surface water runoff. The RFI investigation at Investigative Site W119 indicates that the primary migration pathway is via groundwater, however, the statistical analysis infers that any migration of the plume via groundwater, has been minimal (i.e. the plume is not expanding.

INTERIM REMEDIATION

During the first week of December 1992, Xerox activated an interim remedial system at Investigative Site - W119. The interim remedial system is a 2 Phase Extraction System. The 2 Phase Extraction System recovers both vapors in the vadose (unsaturated) zone and groundwater. The 2 Phase Extraction System has initially been connected to investigative site wells MW-4 and MW-9. ~~The unit has been operational over 90-percent of the time, with the exception of January 1993.~~ The following is a summary of the overall performance of the 2 Phase Extraction System: Give period of time

- Approximately 147 pounds of VOCs have been removed.
- Liquids removed total approximately 620,000 gallons
- Total air volume pulled through the system is 29,203,420 cfm
- Average uptime has been computed to be 95-percent

Based on the historical data presented on the VOC time-series plots, as well as the statistical analysis (discussed in detail in the Final RFI Report) it appears that the 2 Phase Extraction System is having a positive impact on groundwater quality and the groundwater contaminant plume is not expanding.

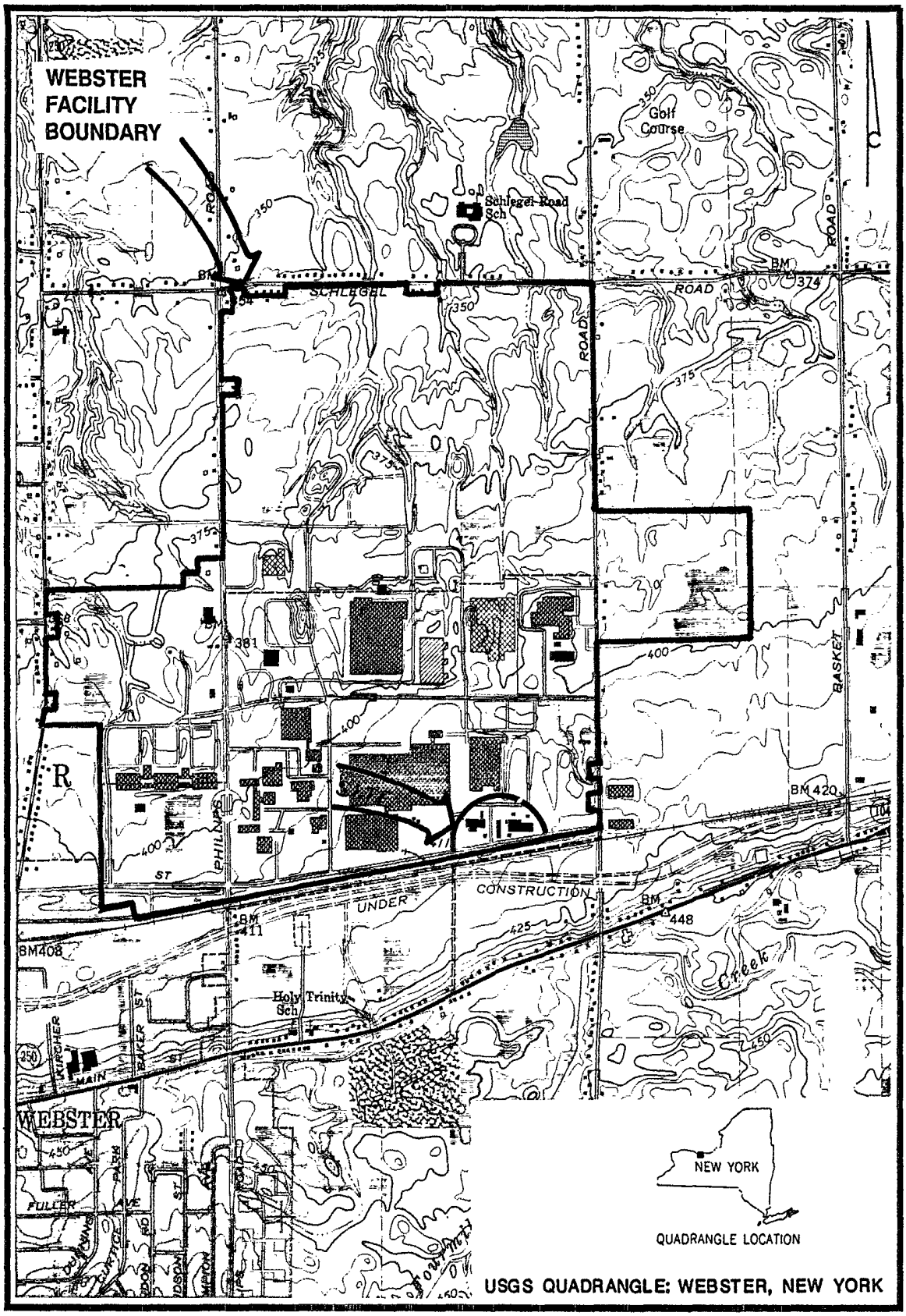
TABLE 1

SUMMARY OF 2 PHASED EXTRACTION SYSTEM PERFORMANCE **
INVESTIGATIVE SITE W119

Month	Uptime	Vapor Removal (CFM)	Water Removal (gal)	Total VOC's Removed (lbs)
Dec '92	91%	1,840,083	46,688	30.62
Jan '93	88%	2,214,324	54,385	18.62
Feb '93	93%	3,405,600	49,269	14.4
March '93	100%	3,753,480	92,549	18.06
April '93	99.6%	2,742,336	92,817	10.79
May '93	99.9%	3,093,552	94,530	14.87
June '93	91.2%	2,865,979	61,181	4.7
July '93	94%	3,225,552	35,646	6.15
Aug '93	98%	3,390,368	43,354	7.45
Sept '93	99.7%	2,672,146	45,685	21.4

Month	Average Uptime	Total Vapor Removed (CFM)	Total Water Removed(gal)	Total VOC's Removed (lbs)
To Date	95.4%	29,203,420	616,104	147.04

** Data provided to WCC by Xerox Corporation



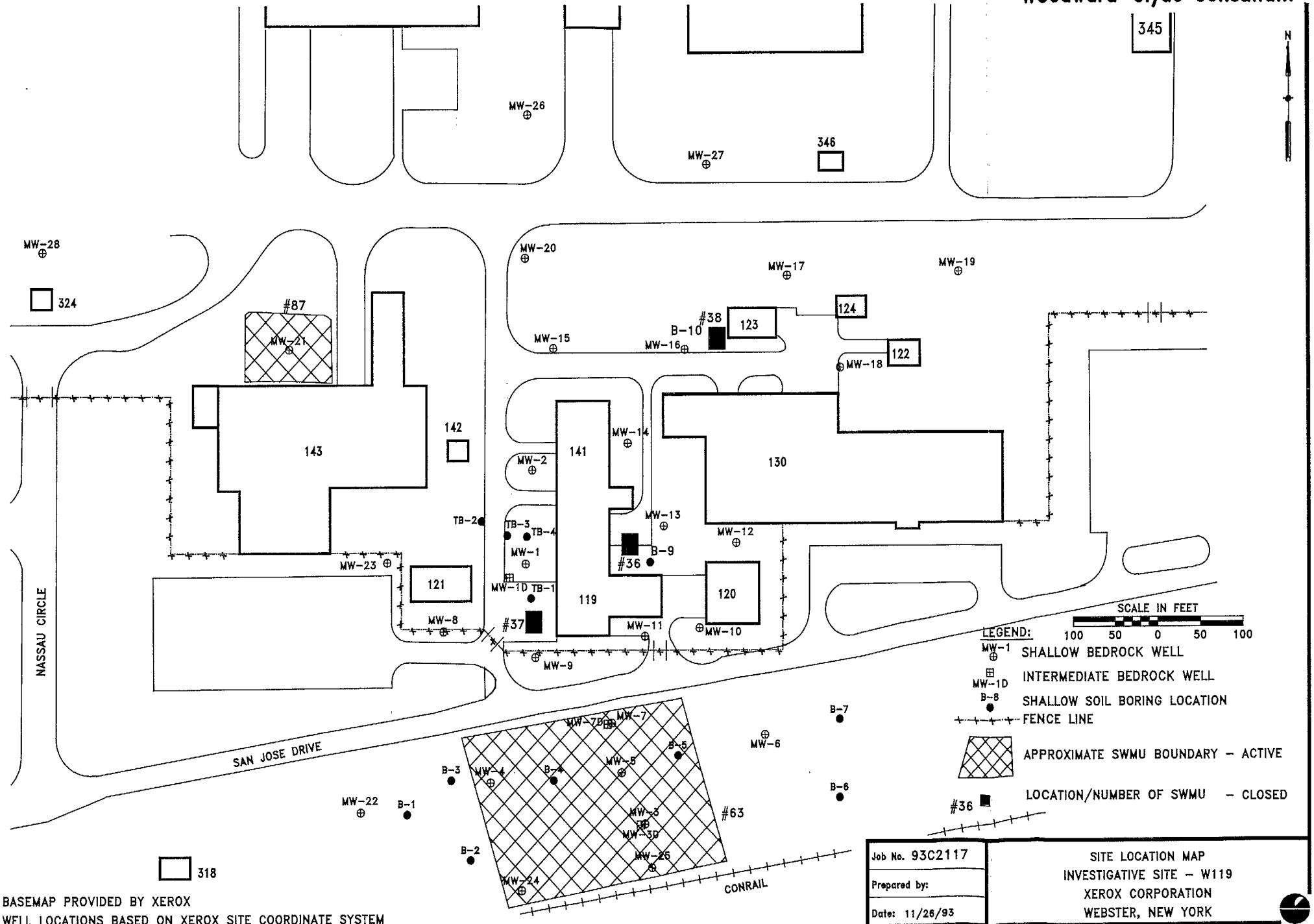
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0.5 0 1 KILOMETER

REGIONAL LOCATION PLAN

FIGURE 1

Woodward-Clyde Consultants

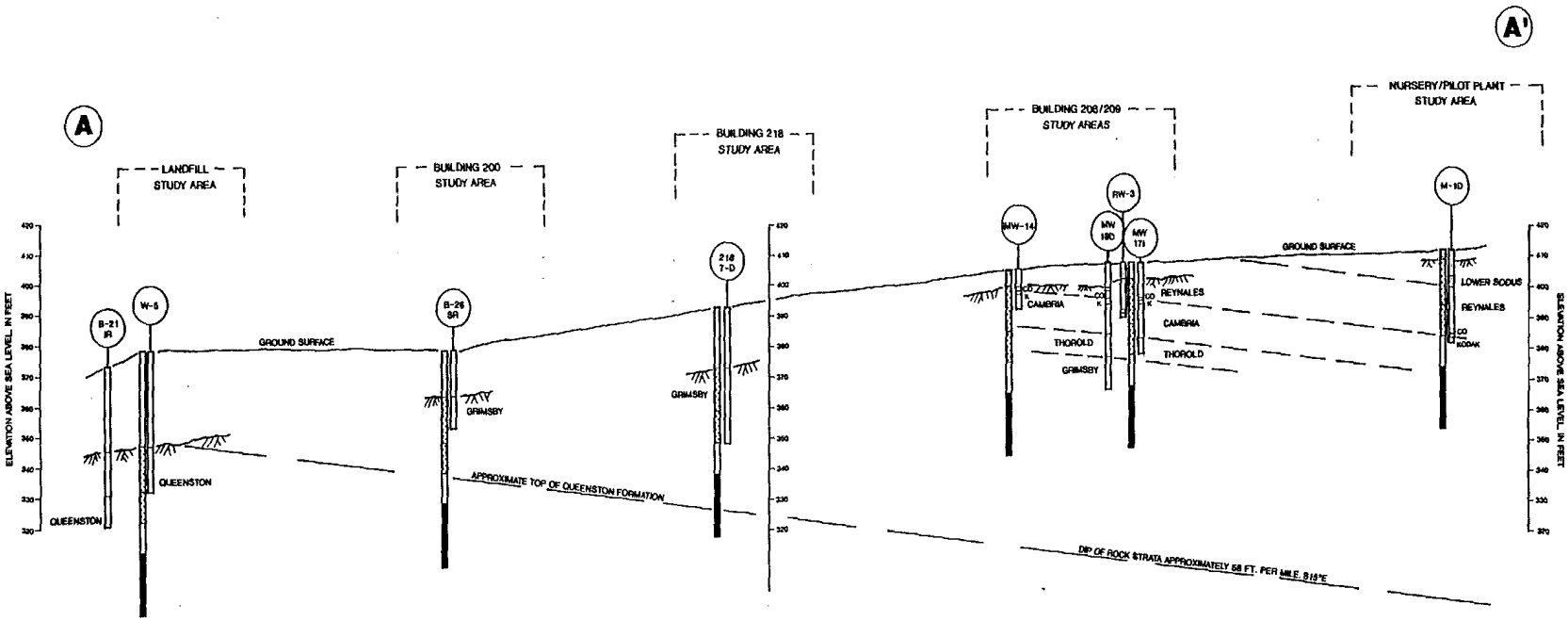


BASEMAP PROVIDED BY XEROX
WELL LOCATIONS BASED ON XEROX SITE COORDINATE SYSTEM

Job No. 93C2117	SITE LOCATION MAP
Prepared by:	INVESTIGATIVE SITE - W119
Date: 11/26/93	XEROX CORPORATION
	WEBSTER, NEW YORK

32117002

FIGURE 2



LEGEND:

- 218 / 7-D — NUMBER AND LOCATION OF CORE BORING.
- APPROXIMATE FORMATION CONTACTS.
- APPROXIMATE TOP OF BEDROCK.
- MONITORING ZONES OF WELLS (SCHEMATIC; THICKNESS MAY VARY):
  - OVERBURDEN
  - INTERMEDIATE
  - DEEP
  - ROCK
  - INTERFACE, IF BOTH ABOVE AND BELOW TOP OF BEDROCK.

NOTES:

1. THIS PROFILE A-A' IS LOCATED ON GEOLOGIC MAP AND TOP OF BEDROCK CONTOUR PLAN, FIGURE 11.
2. CORE BORINGS WERE LOCATED ON THE PROFILE BY TRANSLATING THEM LATERALLY ALONG THE STRIKE OF THE BEDROCK, APPROXIMATELY S15°E.
3. FORMATION CONTACT LINES ARE INFERRED BETWEEN DATA POINTS. ACTUAL VALUES BETWEEN DATA POINTS MAY VARY.
4. ENGINEERING AND GEOLOGICAL CORE BORING DATA WERE OBTAINED FROM XEROX CONSULTANTS' REPORTS AND FROM CORE BORING REPORT INCLUDED IN FIGURE 8A.
5. BUILDING STUDY AREAS ARE INDICATED ALONG THE UPPER MARGIN. NOTE THAT EXTENT OF AREA IS APPROXIMATE.

H&A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

XEROX CORPORATION
FACILITY REFERENCE DOCUMENT

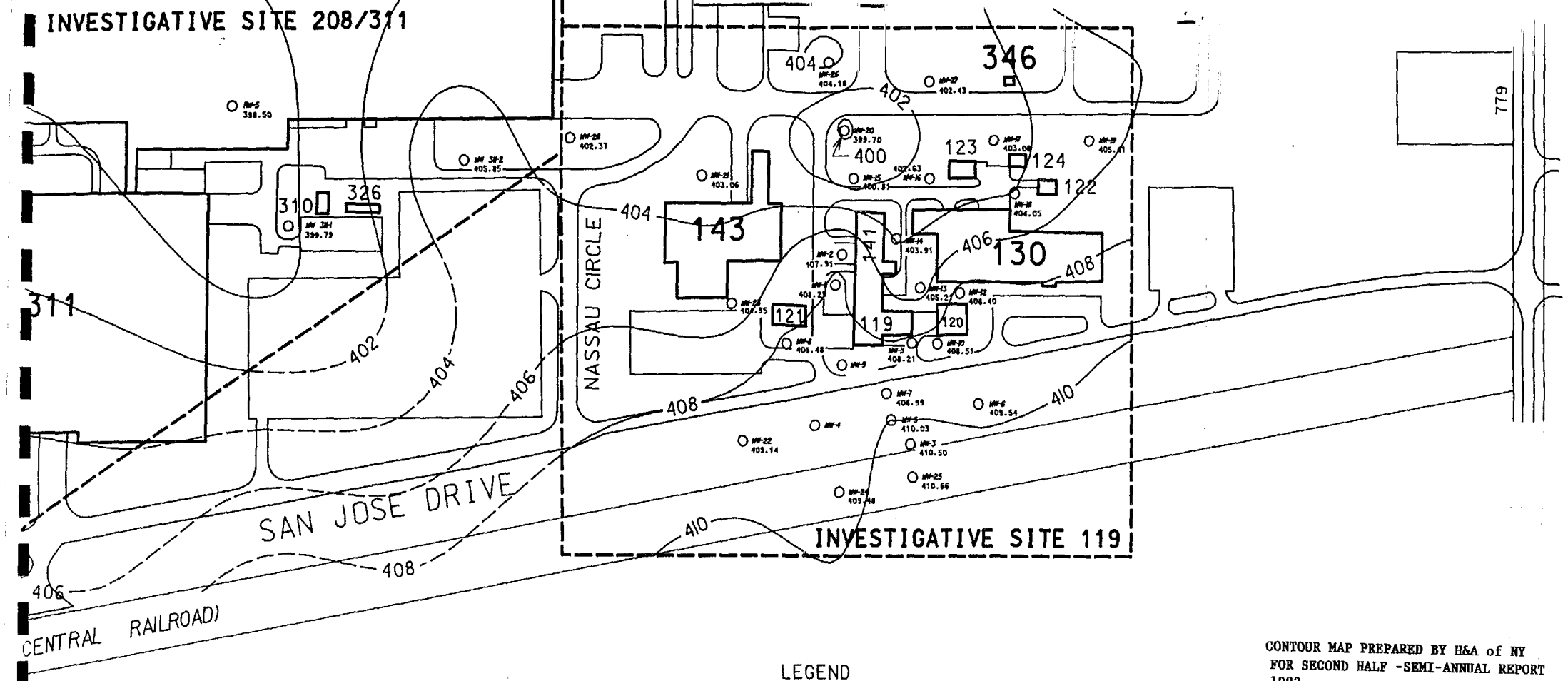
GEOLOGIC PROFILE

SCALE: 1 IN. = 200 FT. JUNE 1991

FILE NO. 70120-40

FIGURE 11A

FIGURE 3



CONTOUR MAP PREPARED BY H&A of NY
FOR SECOND HALF -SEMI-ANNUAL REPORT
1992

LEGEND

- EXTRACTION WELL
- —400— GROUNDWATER CONTOUR ELEVATION (FEET)
- ---- INVESTIGATIVE SITE
- SHALLOW ROCK MONITORING WELL

ATION

NOTE: INVESTIGATIVE SITE BOUNDARIES ARE APPROXIMATE.

200 0 200 FEET

N

ORIENTATION

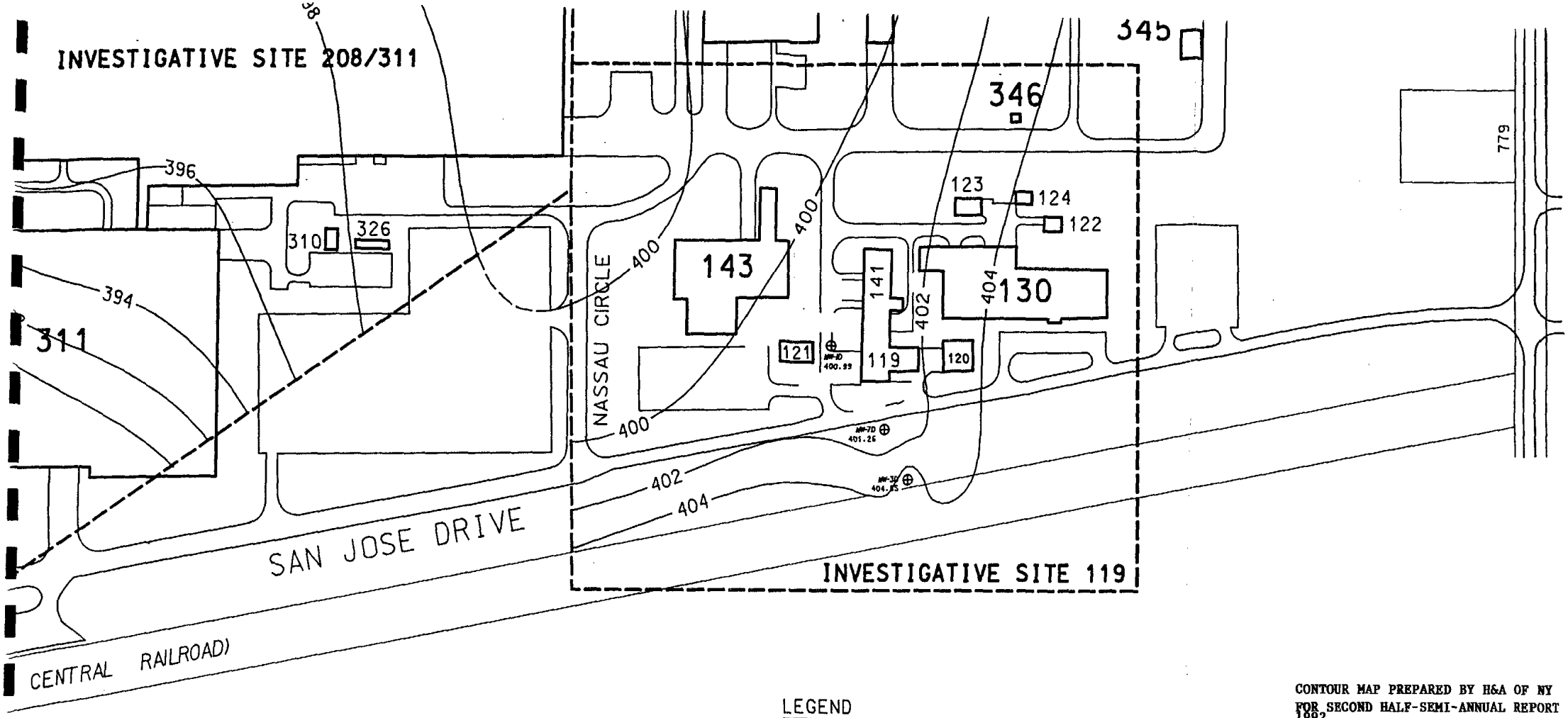
ISSUE		REVISIONS	BY

XEROX FACILITIES OPERATIONS
JOSEPH C. WILSON CENTER FOR TECHNOLOGY
ROCHESTER, NEW YORK 14644

XEROX WEBSTER
GROUNDWATER CONTOUR MAP
SHALLOW ROCK ZONE
QUARTER FOUR 1992

DRAWN BY	DATE	SHEET NO	PROJECT NO
DDD	5/93	17 OF 19	
CHKD. / DATE	CHKD. / DATE	ENVIRONMENTAL APPD. / DATE	DRAWING NO / ISSUE
APPD. / DATE	APPD. / DATE		17
SCALE 1" = 200'	FILE	ENTRY NO	

FIGURE 4



CONTOUR MAP PREPARED BY H&A OF NY
FOR SECOND HALF-SEMI-ANNUAL REPORT 1992

LEGEND

—400— GROUNDWATER CONTOUR ELEVATION (FEET)

⊕ INTERMEDIATE ROCK MONITORING WELL

– – – – – INVESTIGATIVE SITE

NOTE: INVESTIGATIVE SITE BOUNDARIES ARE APPROXIMATE.

200 0 200 FEET

N

RATION

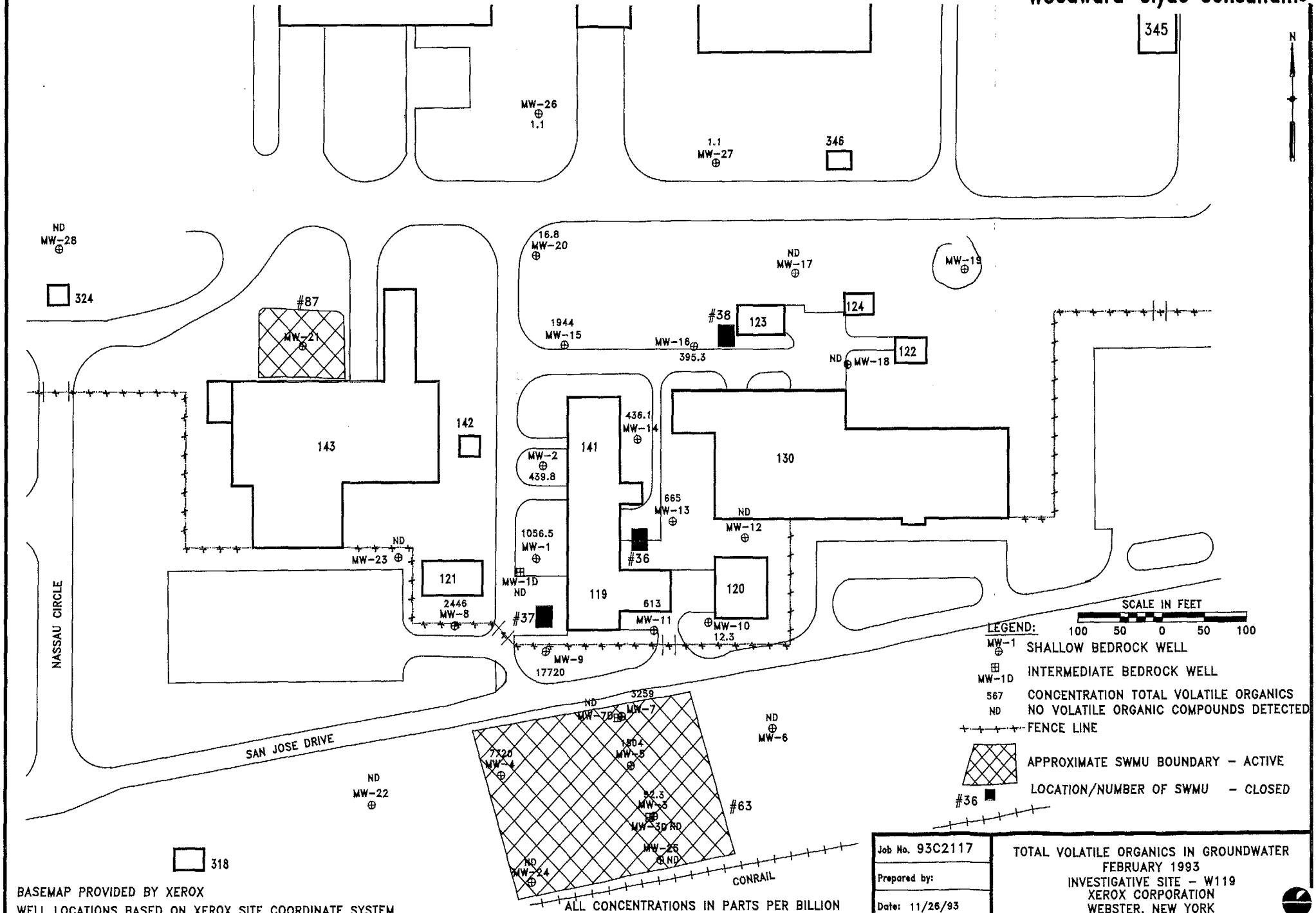
ISSUE		REVISIONS

XEROX FACILITIES OPERATIONS
JOSEPH C. WILSON CENTER FOR TECHNOLO.
ROCHESTER, NEW YORK 14644

XEROX WEBSTER GROUNDWATER CONTOUR MAP INTERMEDIATE ROCK ZONE QUARTER FOUR 1992

DRAWN BY	DATE	SHEET NO	PROJECT NO
DDD	5/93	18 OF 19	
CHKD. / DATE	CHKD. / DATE	ENVIRONMENTAL APPD. / DATE	DRAWING NO
APPD. / DATE	APPD. / DATE		18
SCALE	FILE	ENTRY NO	

Woodward-Clyde Consultants



BASEMAP PROVIDED BY XEROX
WELL LOCATIONS BASED ON XEROX SITE COORDINATE SYSTEM

ALL CONCENTRATIONS IN PARTS PER BILLION

Job No. 93C2117	TOTAL VOLATILE ORGANICS IN GROUNDWATER FEBRUARY 1993 INVESTIGATIVE SITE - W119 XEROX CORPORATION WEBSTER, NEW YORK
Prepared by:	
Date: 11/26/93	

32117003

FIGURE 6