

RCRA FACILITY INVESTIGATION FINAL REPORT
BUILDING 201/206/218 INVESTIGATIVE SITE
XEROX CORPORATION
JOSEPH C. WILSON CENTER FOR TECHNOLOGY
WEBSTER, NEW YORK
VOLUME I OF II

by

H&A of New York
Rochester, New York

for

Xerox Corporation
Webster, New York

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Geotechnical Engineers &
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Attention: Mr. Scott M. Huber

Subject: RCRA Facility Investigation and Data Summary Final Reports
Building 201/206/218 Investigative Site
Xerox Corporation
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Dear Mr. Huber:

These reports summarize geologic, hydrogeologic, and laboratory data relative to soil and groundwater investigations at the Xerox Building 201/206/218 Investigative Site in Webster, New York. Investigative activities performed at the Building 201/206/218 sites by H&A of New York (H&A) and others have identified the areal and vertical extent of soil and/or groundwater contamination associated with the identified Solid Waste Management Units (SWMUs).

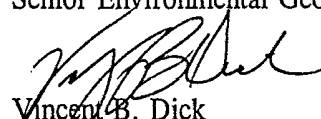
The purpose of the reports is to consolidate and summarize the findings of previous site-investigations, so that the RCRA Facility Investigation (RFI) phase of site work at Building 201/206/218 can be concluded under the Xerox-NYSDEC Part 373 Permit. This submittal consists of an RFI Final Report and an RFI Summary Report (two separately bound documents) prepared in accordance with the Xerox Part 373 Permit Corrective Action Module III E.2.(g). Upon regulatory acceptance and approval of the RFI Final Report and Data Summary Report, Xerox will initiate a Corrective Measures Study (CMS) enabling a final remediation plan to be selected for this site.

It has been a pleasure working with Xerox on this phase of the investigation. Please call if you have any questions or require additional information.

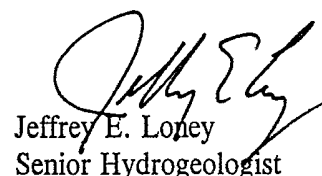
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I. INTRODUCTION

RCRA Facility Investigation (RFI) activities associated with the Xerox Part 373 Permit Module III Corrective Action Requirements have been undertaken since 1987. The purpose of this report is to describe the procedures, methods and results of facility investigations associated with Investigative Sites W201 and W218/206. This includes information on the type and extent of contamination at the facility, sources and migration pathways, and actual or potential receptors. This document is intended to satisfy requirements in the Xerox-NYSDEC Part 373 Permit for a Final RFI report such that the investigative phase at Sites W201 and W218/206 can be concluded.

For the purposes of this document, information from Investigative Sites W201 and W218/206 is combined into a single RFI report. These sites will henceforth be called the 201/206/218 site.

This report is organized into following sections:

- INTRODUCTION

This section includes the introduction, describes the site, and lists the relevant Solid Waste Management Units (SWMUs).

- PREVIOUS INVESTIGATIONS

This section presents the procedures, methods, and results of the facility investigations for the 201/206/218 area.

- SITE GEOLOGIC CONDITIONS

The regional and site specific geologic conditions encountered are presented based on results of facility investigations performed for the 201/206/218 area and additional reports from adjacent areas.

- HYDROGEOLOGIC CONDITIONS

This section includes a brief description of the regional hydrogeologic setting. Site-specific hydrostratigraphy, seasonality, and groundwater flow conditions encountered during site investigations are summarized.

- SOIL QUALITY

The nature and extent of chemical constituents encountered in the soils of the 201/206/218 site are discussed.

- GROUNDWATER QUALITY

The nature and extent of dissolved and free-phase chemical constituents are discussed. An evaluation of potential receptors is also included.

- INTERIM REMEDIAL MEASURES

The interim remedial measures currently in-place at the 201/206/218 site include 2-PHASE Extraction, groundwater recovery wells, and a blasted-bedrock trench.

- SUMMARY AND CONCLUSIONS

This section summarizes key results and conclusions of RFI investigations at the site.

1-01. SITE DESCRIPTION

The Xerox Corporation, Joseph C. Wilson Center Technology is located on Phillips Road in Webster, Monroe County, New York. The site location is shown on Figure 1, Project Locus.

The Xerox Webster facility has served as the main Xerox manufacturing facility since the 1960's. The oldest building at the site is Building 201 which was constructed in 1956. This building was initially used as a support facility for the Rochester operations of the Haloid Company, the predecessor to the Xerox Corporation. Building 201 has housed a nickel/chromium plating operation for electroforming mandrels since 1980.

Building 206 houses manufacturing operations for toner and carrier. Building 218 contains manufacturing and reconditioning operations for photoreceptor drums and belts. Additional space is occupied by laboratories, offices and warehousing.

1-02. SOLID WASTE MANAGEMENT UNITS

The Xerox Corporation Corrective Action Program has identified six Solid Waste Management Units (SWMUs) at the 201/206/218 site. The SWMU locations are shown on Figure 2 and briefly summarized below:

SWMU No. 41

An Underground Spill Containment Tank (USCT) located west of Building 218, that formerly received waste solvents from Building 218. The tank was removed in 1986. NYSDEC approved its closure in 1989.

SWMU No. 74

The eastern side of Building 201 apparently received seepage of chromic acid and nickel-chromium plating waste.

SWMU No. 75

Virgin trichloroethene (TCE) was apparently released near the southeast corner of Building 201 in the early 1970s.

SWMU No. 85

Dissolved-phase organic compounds were detected in groundwater sampled from electrical/telephone underground utility vaults located beneath Building 218.

SWMU No. 86

This unit includes both Building 206 where methyl ethyl ketone, toluene, and tetrachloroethene were used in manufacturing processes and the aboveground process-chemical storage tanks located south of Building 218.

No-Further-Action SWMU

A former USCT located south of Building 206 was decommissioned and removed in 1989 in accordance with a NYSDEC-approved closure plan. NYSDEC determined that this area required no further action.

More detailed SWMU descriptions from the Xerox Webster Facility Reference Document are included in Appendix A.

Thallium Areas

Detectable levels of thallium were encountered during the site-wide soil boring program at several locations across the Webster facility, including SWMU 41.

Results from a focused sampling program, sampling data from a 1988 Nursery/Pilot-Plant RFI, and historical usage of thallium on site indicated that thallium is not widely present throughout the shallow soils at the Webster facility. It was recommended that no further action be taken to address thallium issues at the site and the thallium areas be deleted as a SWMU from the Xerox Corrective Action Module. The summary report of the thallium evaluation is included in Appendix B and summarized in Section V of this report.



II. PREVIOUS INVESTIGATIONS

Several investigations have been undertaken at the 201/206/218 site since 1987. These include tank-closures, soil-gas surveys, soil-borings, overburden and bedrock well installation, and soil and groundwater quality sampling and analysis. A summary of individual investigative reports is presented in Appendix C. Copies of well-installation reports and test boring logs for the 201/206/218 site are included Appendix D.

The following sections discuss the geology, hydrogeology, and soil and groundwater quality of the 201/206/218 site based on the information gathered during the investigations described above.

III. SITE GEOLOGIC CONDITIONS

3-01. REGIONAL SETTING

The Xerox facility lies in the Western New York Ontario Plain formed by erosional and depositional processes associated with past continental glaciation. Near-surface deposits related to this glaciation typically lie beneath very shallow organic soils or man-placed fill. The glacially-related deposits include till and lacustrine sediments respectively associated with the advance and retreat of glaciers and the rise and fall of ancient Lake Iroquois, the predecessor of modern Lake Ontario. A former shoreline of the relatively long-duration Lake Iroquois is evidenced in a topographic feature at about the 425-foot elevation contour line along Route 104 in Webster, New York. These Ontario Plain sediments were dissected in later geologic times by northward-flowing streams. The diverse physical processes associated with these dynamic events ultimately have yielded several to tens of feet of generally fine-grained, heterogeneous overburden materials in the Webster, New York area.

Underlying these near-surface glacial deposits are bedrock formations of Ordovician and Silurian age. The following bedrock units, in descending stratigraphic order, are regional units present below the site:

- CAMBRIA FORMATION

The Cambria Formation is a red-brown, fine-grained, medium to thin-bedded, shaley siltstone, with bioturbation and traces of gray mottling. This formation has been recently described by the geological staff at the University of Rochester, and was accepted by the New York State geologist in 1992. The type locality is near Lockport, and the formation can be traced eastward beyond Palmyra. Traditionally, it has been considered the upper part of the Grimsby Sandstone. The Cambria is approximately 10 feet thick under the south end of the Xerox facility.

- THOROLD SANDSTONE

The Thorold Sandstone is a red-brown to light gray, mottled, fine-grained, bioturbated, and medium-bedded Lower Silurian sandstone. In the past, the Thorold was considered by certain geologists to be the western equivalent of the Kodak Sandstone, at least in Erie County, New York, where it had been studied extensively. However, the Thorold is now thought to be older than the Kodak, which is not found west of Lockport. The Thorold is approximately 8 feet thick.

- GRIMSBY SANDSTONE

The Grimsby Sandstone is part of the Lower Silurian Medina Group and consists of a reddish-brown, fine-to-medium grained, thin-to-thick-bedded sandstone. Gray and greenish color mottling appear in the upper two-thirds of the formation. The unit contains closely to widely spaced argillaceous partings with occasional gypsum seams.

Bioturbation is present in the upper one-third of the formation and shallow cross-bedding is present in the middle third. The lower portion of the formation is generally large-grained and



massive, with thin cross-bedding. The contact between the Grimsby Sandstone and the underlying Queenston Formation is an erosional disconformity and is gently undulating. The contact is frequently marked by a weathered shaley or clay parting. The thickness of the Grimsby formation in Monroe County ranges between 45 and 60 feet, with the average thickness being 48 feet.

- QUEENSTON SHALE

The upper Ordovician Queenston Shale consists of a reddish-brown, fine-grained, thin-to-thick-bedded siltstone and interbedded shale with some greenish-gray to light gray mottling and color banding. The unit contains close to moderately close argillaceous partings. The lithology varies laterally and vertically, and it includes sandstone, siltstone, mudstone and very thin limestone beds. The reported measured thickness of the Queenston Shale in an exploratory well drilled in Wayne County approximately 20 miles from the site is 1054 feet (Kreidler et al., 1972).

3-02. SITE SURFICIAL DEPOSITS

Overburden deposits at the 201/206/218 site generally consist of glacial till deposited over the bedrock surface. These deposits are often reworked by glacial lake wave action and shoreline processes. Lacustrine sands and silts are also present at some locations. The overburden deposits at the 201/206/218 site generally range in thickness from 7 to 30 feet. The distribution and lateral extent of these strata are depicted graphically on geologic cross sections (Figure 3-8).

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

- FILL - Medium dense to very dense brown to red-brown coarse to fine sand, with some gravel, silt, and construction debris.
- LACUSTRINE - Medium dense to dense laminated gray to brown silt, little fine sand, trace coarse to medium sand.
- GLACIAL TILL - Highly variable in color and texture including various shades of red-brown coarse to fine sandy silt to silty sand, silty or sandy clay with varying amounts of gravel. It is generally dense to very dense with cobbles and boulders.

The stratigraphic units described above were not encountered uniformly over the site. Some units are locally absent. Soil conditions encountered at the 201/206/218 site are described in the test boring exploration logs (Appendix D).

3-03. SITE BEDROCK GEOLOGY

The bedrock units encountered at the 201/206/218 site include the Silurian-age Cambria Formation, Thorold Sandstone, and Grimsby Sandstone (all members of the Medina Group) and the Ordovician-age Queenston Formation. The Queenston Formation underlies the Medina Group and is separated from the same by a regional disconformity. The Queenston Formation is the oldest bedrock formation that subcrops beneath the site and was only encountered in two of the on-site wells (RW-14D and 218-7D).

Figure 9 shows the General Stratigraphic Profile for the Rochester area. Note that there are some differences in the stratigraphy at the Xerox Webster site compared to the general profile. The Furnaceville Hematite Member of the Reynales Limestone is not present, nor is the Maplewood Shale. In addition, a thin conglomerate marker bed is present in the geologic profile at Xerox, at the lower contact of the Reynales Limestone. This marker bed is not present in the general Rochester profile.

Where the lithology, color or grain size of the rock changes abruptly at the contact between two formations, formation boundaries are distinct. Formational boundaries at the site often are associated with argillaceous partings and/or very thin bedding with open, horizontal bedding plane joints. As a result, secondary permeability is significant at such formation boundaries. Typical examples under the Xerox facility are the boundaries between the Lower Sodus Shale and Reynales Limestone, the Reynales Limestone and the Conglomerate, the Conglomerate and the Kodak Sandstone, and the Grimsby Sandstone and Queenston Formations.

A different kind of interformational contact is characterized by no appreciable change in lithology, color, or grain size of the rock. These interformational contacts are characterized by subtle lithologic changes, especially those that signify a break, or hiatus, in sedimentation. Lithologic changes included the presence of white, caliche-like crusts cutting completely across the rock cores, or nodule-bearing seams as typical examples, and can be consistently traced from core to core in a given region. These formation contacts are usually tight and secondary porosity is low, essentially the same as that of the formations above and below the contact. Typical examples under the Xerox facility are the boundaries between the Kodak Sandstone and Cambria Formations, the Cambria Formation and Thorold Sandstone, and the Thorold Sandstone and Grimsby Sandstone.

The transition from overburden to bedrock varies across the site. At the 201/206/218 site, the transition is relatively distinct due to the resistant nature of the bedrock.

The bedrock surface at the Xerox facility exhibits considerable relief. The general slope of the rock surface is to the northwest, however a north-trending depression in the bedrock surface occurs under most of the 201/206/218 site. This trough-like feature was most likely formed by glacial erosion of the bedrock surface, and by pre-glacial stream erosion.

In general, the bedrock is more intensely fractured in the upper portion than at depth. This probably resulted from brittle-fracturing of the bedrock during glaciation. The weight of overlying thick glacial ice, the subsequent unloading, and the frost-wedging action of freezing water at the ice contact can account for the fractured upper surface of the bedrock. The number of horizontal partings in core borings generally decreases with depth, while the number of vertical joints encountered borings is relatively constant with depth.

3-04. STRUCTURAL FEATURES OF THE BEDROCK

The bedrock structure underlying the Xerox Webster Facility generally consists of intact bedrock strata inclined (dipping) approximately 58 feet per mile south. This angle of dip is equivalent to a 1.1% grade. Frequent horizontal bedding-plane joints are found, some of which show pyrite remineralization. The bedrock layers are crosscut by steep, planar joint sets that are geologically common in layered bedrock. Joint sets form in response to earth crustal forces such as decompression of the rocks during uplift and erosion, and crustal stresses in response to plate tectonic motions.

Surface streams in the area appear to follow preferred orientations as indicated in Figure 10. The stream development probably reflects the orientations of joints in the underlying bedrock. A fracture trace evaluation using the Webster USGS topographic map and 1970 and 1978 aerial photographs indicate four major joint orientations in the site vicinity. The primary joint set appears to be oriented north-south. Secondary joint sets are oriented approximately north 35° east, north 25° to 55° west, and east-west. Predominant joints affect the direction of groundwater flow.

Localized steep-dipping planar reverse-faults have been occasionally observed in the Rochester, New York area bedrock strata. These faults are typically associated with offsets on the order of two to five feet, with localized deformation of the rock strata near the fault. While mapping rock tunnels in Monroe County, H&A geologists have observed that such faults commonly provide preferred pathways for groundwater flow. The faults often consist of closely-spaced, en-echelon or imbricate shears, clustered in fault zones about 5 feet wide or less.

Limited information concerning local bedrock structural offsets, faults, or fractures at the site are available from the core boring logs. An approximate 10 to 30-feet thick mantle of unconsolidated overburden soils overlies the bedrock. Very little bedrock outcrop occurs on the Xerox, New York property (directly west and east of Building 214). No faults have been observed in 201/206/218 borings.

IV. HYDROGEOLOGIC CONDITIONS

4-01. REGIONAL SETTING

Lake Ontario forms the base level for the regional surface and groundwater systems. Most surface water from the Webster area discharges through Four Mile Creek and Mill Creek, which both discharge into Lake Ontario.

Regional groundwater flow generally trends north to northwestward across the Xerox Facility in the direction of Lake Ontario. Groundwater has been encountered in both the overburden and bedrock in the area. Infiltration through glacially-derived soils is moderate to slow over most of the region. Permeability of the glacial deposits are moderate to low. Higher permeabilities are encountered in deposits reworked by wave action or fluvial transport. Localized fill deposits and utility installations frequently result in area of elevated permeability and provide preferential groundwater discharge paths.

Groundwater flow in the bedrock is largely controlled by fractures, joints and bedding planes. As discussed previously, the upper portion of the bedrock generally has more interconnected fractures resulting from weathering. The top-of-rock/weathered zone typically exhibits higher permeabilities. However, in areas where the subcropping units consist of shales, which weather more rapidly to low-permeable clay constituents, the upper zone may be less permeable.

4-02. SITE HYDROGEOLOGY

The surface water of the 201/206/218 site is carried through a network of culverts and storm sewers and ultimately discharges to a tributary of Mill Creek in accordance with State Pollution Discharge Elimination System (SPDES) permit requirements.

The groundwater hydrology of the 201/206/218 site has been investigated from 1987 to 1994. Approximately 80 wells have been installed during the RFI process. Well locations are shown in Figure 2. Table I summarizes well-construction information. Table II summarizes permeability-test results from 50 of the wells.

4.2.1 Hydrostratigraphy

During the RFI process, groundwater has been monitored at several depths across the 201/206/218 area.

Overburden/Bedrock Interface Zone

There are eight wells in the 201/206/218 areas that have been installed in the overburden alone and do not penetrate the top-of-rock. The overburden/bedrock interface is monitored by wells screened through the basal overburden material extending approximately two to ten feet below the top-of-rock. Thirty-five wells monitor the interface zone at the 201/206/218 site. Well-clusters with both overburden and interface wells show that groundwater

elevations measured in these well-pairs remain essentially the same through time. This indicates hydraulic connection between these zones. Because of this apparent hydraulic connection, information from overburden wells is combined with interface wells.

Figures 11 through 13 depict the potentiometric surface of the interface zone at different time periods. Figure 11 is based on water levels obtained in second quarter 1992 (included in Appendix E). This shows the general north and northwesterly trend of groundwater flow. A localized zone of capture had developed around the 2-PHASE Extraction system that was in-place at the time in Building 201 (the interim corrective measures applied at the site will be discussed in more detail in Section VII). Figure 12 is based on first quarter 1994 water levels. This shows the area of influence of the Building 201 2-PHASE Extraction network. The blasted-bedrock trench west of Building 218 was installed, but was not operating at this time. Water levels third quarter 1994 (Figure 13) depict the impact of pumping from the blasted-bedrock trench. Additional piezometers had also been installed at this time. These data indicate a greater area of influence from 2-PHASE Extraction from both the Building 201 network and well 218-1.

Hydraulic conductivity of the interface zone ranges from 1.0×10^{-6} to 2.0×10^{-3} cm/sec with a geometric mean of 7.2×10^{-5} cm/sec. The wide range of hydraulic conductivity likely results from localized variations of fracture density and interconnection in the upper bedrock.

The average linear velocity of groundwater flow can be estimated using Darcy's Law:

$$v = KI/e$$

where v denotes the velocity of groundwater flow, K equals the hydraulic conductivity, I equals the hydraulic gradient and e equals the effective porosity. The effective porosity is the fraction of porous media through which flow actually occurs. Fractured sandstones and siltstones typically exhibit effective porosities ranging between 0.02 and 0.15 (Davis and DeWiest, 1966).

The average linear velocity of groundwater flow in the interface zone is estimated to be approximately 25 ft/yr. This is based on a hydraulic conductivity of 7.2×10^{-5} cm/sec, an average hydraulic gradient of about 0.02 feet per foot (measured between wells 218-6 and 218-7) and an estimated effective porosity of 5 percent. Considerable spatial variation in local groundwater flow velocities is expected at the site. Given the variability of site hydraulic conductivity and hydraulic gradient values, local groundwater flow velocities may differ from the mean value by several orders of magnitude. Much greater velocities can be expected along zones of high fracture density or large fractures.

Intermediate-rock Zone

The intermediate-rock is monitored by wells screened from approximately 25 to 30 feet below the top-of-rock. Fourteen wells monitor the intermediate rock zone at the 201/206/218 site. As depicted on Figures 14 and 15, the potentiometric surface of the intermediate-rock zone is characterized by a relatively shallow gradient trending northward. A localized component flows westerly toward RW-19I. This component of flow existed prior to the installation of the blasted-bedrock trench (Figure 14). A comparison of

groundwater contour plans from before (Figure 14) and after (Figure 15) the trench was installed (July 1993) indicate little change in groundwater flow patterns in the intermediate-rock zone. Hydraulic conductivity test results from RW-19I indicate a very low permeability (less than 10^{-6} cm/sec) and poor connection to the surrounding aquifer. As a result, the low head values in this well may result from slow recovery after purging and may not provide an accurate depiction of the lateral head distribution in the intermediate zone.

Hydraulic conductivity of the intermediate-rock zone ranges from 1.0×10^{-7} to 9.0×10^{-4} cm/sec with a geometric mean of 4.9×10^{-5} cm/sec.

The average linear velocity of groundwater flow in the intermediate-rock zone is estimated to be approximately 10 ft/yr. This is based on a hydraulic conductivity of 4.9×10^{-5} cm/sec, an average hydraulic gradient of 0.01 feet per foot and an estimated effective porosity of 5 percent. As in the interface zone, a wide range of actual flow velocities will be expected. Elevated velocities can be expected along zones of high fracture density or large fractures.

Deep-Rock Zone

The deep-rock is monitored by wells screened greater than 35 feet below the top-of-rock. Five wells monitor the deep bedrock zone at the 201/206/218 site.

The potentiometric surface of the deep-rock zone is depicted on Figures 16 and 17. These figures represent only a schematic depiction of the potentiometric surface due to the limited number of wells installed in this zone. The head distribution in the deep-rock wells indicates a general northwesterly trend in groundwater flow direction.

Hydraulic conductivity of the deep-rock zone ranges from 5.1×10^{-5} to 3.0×10^{-3} cm/sec with a geometric mean of 5.5×10^{-4} cm/sec.

The average linear velocity of groundwater flow in the deep-rock zone is estimated to be approximately 63 ft/yr. This is based on a hydraulic conductivity of 5.5×10^{-4} cm/sec, an average hydraulic gradient of approximately 0.006 feet per foot (measured between wells 218-3D and 218-9D) and an estimated effective porosity of 5 percent. As in the interface and intermediate zones, a wide range of actual flow velocities can be expected. Much greater velocities can be expected within zones of high fracture density or large fractures and lower velocities will occur in areas with fewer fractures.

4.2.2 Vertical Gradients

The relative head distribution from the site well clusters indicate predominantly downward hydraulic gradients. The hydrographs presented in Appendix F generally show decreasing head with increasing depth. At the few well clusters where both overburden and interface wells have been installed (206-1 and SW/RW-1 clusters), there is no significant difference in head between these wells, indicating that the overburden and top-of-bedrock acts as a single hydrogeologic unit.

The average vertical gradient from the interface to the intermediate-rock zones ranges from -0.5 to +0.2 feet per foot. The direction of vertical flow is predominantly downward. Exceptions occur at the RW-16, RW-19, and 218-9 clusters. The blasted-bedrock trench has a greater impact on the interface well at this location than on the intermediate. As a result, while the trench is pumped, a localized upward gradient develops from the intermediate-rock upward toward the interface zone.

Gradients from the intermediate-rock zone to the deep-rock zone are all downward at the 201/206/218 site. The vertical gradients range from -0.1 to -0.4 feet per foot.

Schematic hydrogeologic cross sections for the site are shown in Figures 18 through 22. The cross sections were drawn by assigning the groundwater elevations measured in each well to the mid-point of the screened interval. Contours of equal hydraulic head were then estimated. These cross sections illustrate the two dominant components of groundwater flow in the vertical plane. Gradients in the overburden/bedrock interface zone are primarily horizontal. This indicates that flow and transport through this zone is predominantly horizontal. Gradients through the intermediate and deep bedrock zones are primarily downward with minimal lateral flow.

Localized changes in flow conditions have developed around areas where interim corrective measures are ongoing. As indicated on Figure 18, a localized upward gradient has developed from the deep bedrock toward the interface zone in the vicinity of the blasted-bedrock trench. Figures 20 and 21 illustrate the influence of the Building 201 2-PHASE Extraction system on groundwater flow in the vertical plane. Lateral flow through the interface zone (the target zone of remediation) is directed toward the extraction wells.

4.2.3 Water Level Fluctuations

Hydrographs for the well clusters (Appendix F) at the 201/206/218 site indicate minimal seasonal fluctuations in water levels. A seasonal cycle is not apparent from the changes in water level over time. It appears that the interim remedial measures, particularly the blasted-bedrock trench, have a greater impact on water levels than seasonal effects.

V. SOIL AND SEDIMENT QUALITY

Soil quality sampling has been undertaken at the 201/206/218 site since 1985. The following section describes the procedures and results of soil quality sampling programs for each of the investigative areas.

5-01. BUILDING 201 EXPLORATIONS

In January 1986, 17 soil samples, ranging in depth interval from 0-4.5 to 14.4-20.7 feet, were collected from five test borings (TB-1 to TB-5) along the east wall of the Building 201 Mandrel Plant (SWMU No. 74) (see Figure 2). The samples were analyzed for nickel and chromium and the results are summarized in Table III. Chromium and nickel were detected at concentrations ranging from 5.6 to 339 and 3.0 to 371 mg/kg, respectively.

In May 1986, 91 soil samples, ranging in depth interval from 0-2 to 23.0-23.5 feet, were collected from 18 test borings (RW-1 to RW-9 and TB-11 to TB-19) in and around Building 201 as part of a supplementary site investigation (see Figure 2 for boring locations). The samples were analyzed for volatile organic compounds (VOCs) using EPA Method 601 and metals using standard methods. The concentrations for constituents detected above detected limits are presented in Table IV. A summary of the data is as follows:

- Total volatile concentrations ranged from below detection limits (ND) to 500,940 ug/kg. Principal total volatile constituents were (in order of decreasing concentration) trichloroethene, 1,2-dichloroethene, and tetrachloroethene.
- Inorganic constituents were detected at the following concentrations:

ANALYTE	CONCENTRATION RANGE (mg/kg)
Fluoride	ND - 35
Sulfate	ND - 2,300
Arsenic	2.4 - 29
Chromium, Total	9.0 - 79
Nickel	8.2 - 87
Selenium	ND - 91

On 1 July 1987, six soil samples, ranging in depth interval from 1-2 to 5-6 feet, were collected from two soil borings (SB-1 and SB-2) in the vicinity of Building 201 (see Figure 2 for boring locations). The samples were analyzed for volatile organic compounds using EPA Method 601/602 or 8010/8020 and metals using standard methods. The results are summarized in Table V. A summary of the data is as follows:

- No volatile organic compounds were detected in any of the samples.
- Arsenic concentrations ranged from 2.8 to 7.6 mg/kg.
- Nickel concentrations ranged from 7.0 to 8.7 mg/kg.

From 14-17 June 1988, 15 soil samples, ranging in depth interval from 0-2.5 to 28-29.5 feet, were collected from an angled soil boring installed beneath the Building 201 Mandrel Plant (see Figure 2 for the location of the boring and Mandrel Plant). The samples were analyzed for volatile organic compounds using EPA Method 8010/8020 and metals using standard methods. The results are summarized in Table VI. A summary of the data is as follows:

- Total volatile concentrations ranged from (ND) to 119.4 ug/kg. Trichloroethene was the principal volatile constituent in the samples having detectable levels of VOCs.
- Inorganic constituents were detected at the following concentrations:

ANALYTE	CONCENTRATION RANGE (mg/kg)
Arsenic	1.3 - 3.9
Chromium, Total	ND - 24
Nickel, Total	ND - 1,000
Selenium, Total	ND - 0.53

From 20-21 June 1988, nine soil samples, ranging in depth interval from 0-2 to 16-16.5 feet, were collected from an exploration boring (designated "B-EX") advanced as part of Building 201 expansion activities (see Figure 2 for boring's location). The samples were analyzed for volatile organic compounds using EPA Method 601/602 or 8010/8020 and metals using standard methods. The results are summarized in Table V. An abbreviated summary of the data is as follows:

- Tetrachloroethene (18.4 ug/kg) was detected at a depth between 9.5 to 11.5 feet. No other organic compounds were detected.

ANALYTE	CONCENTRATION RANGE (mg/kg)
Arsenic	1.5 - 3.5
Chromium, Total*	ND - 8.4
Nickel, Total	ND - 17
Selenium, Total	ND - 0.84

* Indicates data for one of the samples was not available.

5-02. BUILDING 206/218 EXPLORATIONS

From November to December 1989, 13 soil samples, ranging in depth interval from 2-4 feet to 11-13 feet, were advanced near buildings 206 and 218 as part of a contamination characterization study. Three of the 13 samples (206-1 to 206-3) were collected in the vicinity of Building 206, the remainder (218-1 to 218-7D) were collected in the vicinity of Building 218 (see Figure 2 for boring locations). The samples were analyzed for VOCs, including methyl ethyl ketone (MEK), and the results are summarized in Table VII. A summary of the data is as follows:

- Samples 206-1 and 206-2 from the Building 206 area contained total VOC concentrations of 5.8 and 51.2 ug/kg, respectively. The only VOC detected in 206-1 was 1,2-dichloroethene. VOCs detected in 206-2 were (in order of decreasing concentration) toluene (22.2 ug/kg), 1,2-Dichloroethene (11.8 ug/kg), trichloroethene (9 ug/kg), and MEK (8.2 ug/kg). Methylene chloride was also detected in all three samples at levels ranging from 9.6 to 20.5 ug/kg; however, since it was also detected in the laboratory and/or method blank, it was not included in the calculation of total VOC concentrations.
- Samples 218-1, 218-5, 218-5D, and 218-6 from the Building 218 area contained total VOC concentrations ranging from 39.4 to 13,316.2 ug/kg. Principal total-volatile constituents detected in one or more of the samples and the maximum concentration (in ug/kg) detected in the building 218 samples were as follows:

ANALYTE	MAXIMUM CONCENTRATION DETECTED (ug/kg)
MEK	299
Tetrachloroethene	163
Trichloroethene	123
1,1,1-Trichloroethane	10,400

1,2-Dichloroethene	66.7
1,1-Dichloroethane	2,260
1,1-Dichloroethene	71.2

Methylene chloride was also detected in all of the building 218 samples at levels ranging from 6.3 to 139 ug/kg; however, since it was also detected in the laboratory method blank, it was excluded from the total VOC calculation.

Between 3 September 1991 and 10 January 1992, five well-bore soil samples (218-9I S2, RW-19I S10, RW-19I S11, RW-20I S8, and RW-20I S10), ranging in depth interval from 4-6 feet to 18-20 feet, were collected during the installation of monitoring wells 218-9I, RW-19I, and RW-20I. Sample 218-9I S2 was analyzed for VOCs using EPA Method 8010/8020. The remaining samples were analyzed for VOCs using EPA Method 8240. The results of these analyses are summarized in Table VIII. A summary of the data is as follows:

- Total VOC concentrations of 22 and 7 ug/kg were detected in RW-20I S8 and RW-20I S10, respectively. The volatile constituents in RW-20I S8 were methylene chloride (16 ug/kg) and trichloroethene (6 ug/kg); methylene chloride (7 ug/kg) was the only volatile constituent detected in RW-20I S10.
- Total VOC concentrations of 51 ug/kg and 13 ug/kg were detected in samples of drilling water collected during the installation of RW-19I and RW-20I, respectively. The primary VOC constituents in both samples was chloroform.
- No VOCs were detected in the other samples.

During 7-8 July 1993, two well-bore soil samples (RW-23 S2 and RW-24 S6), with respective depth intervals of 10-12 feet and 2-4 feet, were collected during the installation of monitoring wells RW-24, and RW-23 (see Figure 2 for boring/well locations). Both samples were analyzed for VOCs using EPA Method 8010/8020. The results are summarized in Table IX. An abbreviated summary of the data is as follows:

- A total VOC concentration of 16 ug/kg was detected in RW-24 S6. Volatile constituents in this sample were methylene chloride (13 ug/kg) and 1,2-dichloroethene (16 ug/kg). Methylene chloride was also detected in the laboratory method blank; therefore, it was not considered in calculating the sample's total VOC concentration.
- No VOCs were detected in RW-23 S2.

5-03. BUILDING 218 THALLIUM

In 1985, 79 soil samples were obtained from depths ranging from 0-1 feet to 7-9 feet as part of a Site Core Study/3004(u) submission for Xerox's Webster, New York facility. A copy of the summary

report is included in Appendix B. Of these samples, 4 were collected from the vicinity of Building 218 and analyzed for the presence of thallium. Results for these 4 samples were as follows:

SAMPLE NO.	DEPTH INTERVAL (feet)	THALLIUM CONCENTRATION (mg/kg)
218-1	1-3	120
218-1A	2.5-4.5	ND
218-2	6-8	110
218-3	1-3	160

Based on these results, Building 218's USCT (SWMU No. 41) was identified as a "3004(u) Thallium Detection Area".

In August 1991, additional soil samples were collected from SWMU No. 41 as part of a focused soil sampling program designed to evaluate thallium levels in shallow soils at the Xerox facility. In all, 42 soil samples, extending to a maximum depth of 3 feet, were collected from across the Xerox facility. Detection limits for the sampling program ranged from 5.33 to 6.29 mg/kg. Thallium was not detected in any of the samples collected and none of the sample results exceeded the proposed RCRA Corrective Action Levels for thallium (7 mg/kg).

Based on a review of the above results, sampling data from a 1988 Nursery/Pilot-Plant RFI, and historical usage of thallium on site, Xerox concluded that thallium is not widely present throughout the shallow soils at the Webster facility and does not pose an environmental problem requiring additional investigation or remediation. Further, Xerox recommended that no further action be taken to address thallium issues at the site and that the thallium areas be deleted as a SWMU from the Xerox Corrective Action Module.

5-04. USCT AREAS

Soil quality data from excavations/excavated soil associated with the closure of underground storage tanks at Buildings 201, 206, and 218 are summarized in Tables X and XI. Figure 23 shows the locations of the tanks that were closed. An abbreviated summary of these data is as follows:

5.4.1 Building 201 Tank Closure (January 1987)

- Infrared analysis of three samples collected from soils excavated for the installation of a de-watering well five feet west of the underground storage tank revealed total petroleum hydrocarbon concentrations ranging from (ND) to 416 mg/kg.

5.4.2 Building 206/218 USCT Closures (November 1989)

- Analysis of two soil samples from the Building 206 USCT excavation indicated total VOC concentrations of 196.9 and 360.6 ug/kg. Tetrachloroethene was the principal volatile constituent in both samples.
- Tetrachloroethene was detected at a concentration of 2.1 ug/kg seven feet from the former Building 218 USCT at a depth between two and three feet.

A closure plan certification statement was issued by Day Engineering for these USCTs in March 1990.

5-05. STORMWATER AND SEDIMENT SAMPLING

Between 1984 and 1986 a program was undertaken to sample water and sediment from storm-sewer manholes and sumps in the vicinity of Building 201. Figure 24 shows these sampling locations.

VI. GROUNDWATER QUALITY

Groundwater quality data has been collected from the 201/206/218 site since 1986. Tables XIII through XVI summarize the results for constituents that have been historically detected at the site. The lateral distributions of total VOCs in groundwater from the interface, intermediate-rock, and deep-rock zones are shown schematically on Figures 25 through 27. The following section discusses the nature and extent of dissolved-phase constituents detected in groundwater at the site.

6-01. BUILDING 201 AREA

Two SWMUs have been identified in the Building 201 area. SWMU No. 74 is located along the eastern side of Building 201 and apparently received seepage of chromic acid and nickel-chromium plating waste. SWMU No. 75 is located near the southeast corner of Building 201. Virgin trichloroethene (TCE) was apparently released at this location.

6.1.1 Metals

Sampling and analysis of groundwater from the Building 201 area indicated detectable concentrations of arsenic, chromium, and selenium above NYS groundwater standards. In general these elevated levels appear to be restricted to the interface zone in the immediate vicinity of Building 201. With the exception of arsenic, concentrations of toxic metals are generally below groundwater standards in downgradient wells.

Several of the highest concentrations (greater than 1 mg/L) of arsenic were detected during a single sampling round in August 1993. The cause of this phenomenon is unknown. As shown on the plots of arsenic concentration versus time in Appendix G, samples obtained both before and after this event indicated concentrations of less than 0.1 mg/L. Other wells in the Building 201 area, including RW-7, RW-4, RW-14 and RW-14I, indicate concentrations of arsenic greater than the NYS groundwater standard (0.025 mg/L). Several investigations at the Xerox facility have reported background levels of arsenic that exceed the NYS groundwater standards.

Concentrations of chromium greater than 1 mg/L were detected at wells RW-10, RW-7, and RW-8 (Table XIII). Additional wells with chromium concentrations above NYS groundwater standard (0.05 mg/L) are generally restricted to the interface zone under the eastern portion of Building 201. Downgradient, intermediate-rock, and deep-rock wells indicate concentrations below standards. All of the wells with elevated concentrations of chromium appear to fall within the interpreted Building 201 2-PHASE Extraction capture zone. Based on concentrations of interface wells downgradient (to the north and northwest [RW-5, RW-4, RW-6, and RW-3]) which are below NYS groundwater standards, it appears that the extent of chromium concentrations from the Building 201 area has been characterized.

Selenium has been detected at concentrations above the NYS groundwater standard (0.01 mg/L) in wells RW-10, RW-14, RW-16I, SW-1 and SW-2.



6.1.2 Volatile Organics

The volatile organic constituents are detected most frequently and at the highest concentrations within the interface zone beneath Building 201. These constituents include (in order of decreasing average concentration): trichloroethene (TCE), total 1,2-dichloroethene (1,2-DCE), and tetrachloroethene (PCE).

Based on the most recent sampling results (second quarter 1994 [Table XIV]), the highest concentrations of TCE and 1,2-DCE occur in the overburden and interface zones. As indicated on the plots of total volatile concentration over time, concentrations have decreased, in some cases by several orders of magnitude, since the implementation of interim corrective measures (see Time Series Plots, Appendix H).

The lateral distribution of total volatiles in the interface zone, based on first quarter 1994 results, is shown on Figure 25. The dissolved-phase plume has apparently developed two "lobes". One extends northward to Building 206. The second "lobe" extends northwestward and terminates before RW-14. The lateral extent of impacted groundwater associated with Building 201 appears to have been delineated by the current monitoring-well network.

6.1.3 Discrete Interval Sampling RW-10I

Site activities outlined in the RFI Work Plan, Building 201/206/218 Investigative Site (H&A, 1992) included discrete zone sampling of RW-10I. The objective of this task was to evaluate the apparent vertical extent of dissolved-phase contamination by chlorinated solvents. During the course of the implementation of the program presented in the Work Plan, available groundwater quality data were evaluated. These data indicated that dissolved-phase plumes from Building 201 had apparently extended to the Building 206 area and coalesced. Furthermore, three new deep bedrock wells were installed. Sampling from these wells indicated that the dissolved-phase plume was limited to the interface and intermediate rock zones. It was concluded that the original objectives of the discrete zone sampling from RW-10I had been met through the installation of the three new deep bedrock wells and review of supplemental groundwater quality data.

More recent groundwater quality data from the deep rock wells at the site (206-2D, February 1994) indicate that dissolved-phase contamination does not extend to that zone.

6-02. BUILDING 206 AREA

The Building 206 area includes SWMU No. 86 where methyl ethyl ketone (MEK), toluene, and tetrachloroethene were used in manufacturing processes. MEK and toluene have not been detected in groundwater at this site since 1992. The volatile organic compounds detected in 1994 include PCE, TCE and its associated breakdown products. The compounds detected consist of vinyl chloride, 1,2-DCE, 1,1-DCA, and 1,1-DCE which may be breakdown products produced by hydrolysis and microbial breakdown of PCE and TCE. The relative constituent distribution varies significantly across the site.

The highest concentrations have most recently been detected in well 206-1-OB, located on the northern side of Building 206 (see Figure 2). Concentrations in this well appear to be generally increasing slowly over time while the associated interface well (206-1) has remained relatively stable. It is likely that 206-1-OB intercepts a localized pocket of residual material suspended in, or sorbed to the shallow lacustrine deposits. As the well was purged during sampling, localized vertical mixing of the upper portion of the aquifer may have flushed contaminants toward the well. The most recent samples from 206-1-OB consist almost entirely of PCE, with concentrations up to 8100 ug/L with lower levels of TCE (less than 100 ug/L).

Well 206-2 is located on the southern side of Building 206 (see Figure 2). The concentration of total volatiles in this well appear to vary seasonally, ranging from approximately 2000 to 12,000 ug/L (see time series plot - Appendix H). The highest concentrations generally occurring during summer months. A broader array of constituents are typically detected in this well including (in general decreasing order of concentration): 1,2-DCE, vinyl chloride, PCE, 1,1-DCA, and TCE. The relative higher concentration of the breakdown products indicates transport by groundwater flow into the Building 206 area: generally the farther the transport distance, the more complete is the breakdown of VOC molecules at the plume front. Given the apparent groundwater flow direction and the relative contaminant distribution, the Building 201 area is a likely source.

6-03. BUILDING 218 AREA

The Building 218 area includes several SWMUs. SWMU No. 41 is associated with a USCT located west of Building 218 that formerly received waste solvents. SWMU No. 85 includes dissolved-phase organic compounds that were detected in groundwater sampled from electrical/telephone underground utility lines and vaults located beneath the western side of Building 218. SWMU No. 86 includes the aboveground process-chemical storage tanks located south of Building 218.

6.3.1 218-1

The highest concentrations of volatile organics in the 218 area are detected in 218-1. Concentrations as high as 2000 mg/L have historically been detected in groundwater from this well. The primary constituents (in order of decreasing average concentration) include: 1,1,1-TCA, 1,1-DCA, 1,1-DCE, and TCE. These elevated levels, which approach the limits of solubility for the compounds detected, indicate the likely presence of free-phase solvents as a source. Corrective measures (2-PHASE Extraction) were undertaken in May 1993. Since that time the total volatile concentrations from this well have decreased by approximately two orders of magnitude to about 4.0 mg/L.

Seven temporary piezometers (218-P1 through 218-P7) were installed to evaluate the potential presence of non-aqueous phase liquids (NAPLs) in the vicinity of the former aboveground storage tank. No NAPL was identified during the installation program. Groundwater samples from the piezometers ranged in concentration from non-detect to approximately 3 mg/L. It was concluded that the elevated concentrations of VOCs in the soils and groundwater were locally limited to the vicinity of Well 218-1.

6.3.2 SWMU 85/41

Groundwater sampled from utility vaults was found to contain concentrations of VOCs above NYS groundwater standards. Given the groundwater flow direction and relative position of the utility trench, it is likely that dissolved-phase constituents originating in the area of 218-1 have been intercepted by the trench and diverted northward. The constituents detected in wells installed adjacent to the trench are similar to those encountered at 218-1. A few additional breakdown products have also been detected including: 1,2-DCE and vinyl chloride.

Concentrations of total VOCs above 1000 ug/L have been historically detected in wells 218-2 and 218-6. The concentrations of total VOCs from the remaining well-clusters in the immediate vicinity of Building 218 (218-3, 218-5, and 218-7) indicate a general decreasing trend over time in apparent response to the interim corrective measures. Groundwater is currently pumped from Wells 218-2 and 218-3) as part of an interim corrective measure (discussed in more detail in Section VII).

6.3.3 "Downgradient" Area

Several wells and well clusters have been installed downgradient from the Building 218 area to evaluate the lateral and vertical extent of the dissolved-phase VOC plume. The constituents detected are typically similar to those encountered at the Building 218 area, but at much lower concentrations. As indicated on Figure 25, the total VOC concentration in wells west of 218-6 range from non-detect to approximately 20 ug/L.

Wells RW-15 and RW-19 have historically yielded the highest total VOC concentrations. These have ranged from approximately 10 to over 100 ug/L. The concentrations in RW-19, which is installed adjacent to the blasted-bedrock trench, do appear to be decreasing. Concentration trends in RW-15 are variable. The associated intermediate-zone wells at these locations appear to be unaffected by VOC contamination.

Wells installed at the perimeter of the investigative site (RW-17, RW-18, RW-20, RW-21, and RW-22) have typically yielded total VOC concentrations ranging from non-detect to below 10 ug/L.

6-04. RATE OF MIGRATION

The adsorptive effects with organic material in the rock or soil matrix retard the migration of dissolved organic compounds. Therefore, the groundwater flow rates presented in Section V do not equal the contaminant transport velocity. The degree to which the migration of a specific chemical is slowed depends in part on the chemical's octanol-water partition coefficient. Compounds with high octanol-water coefficients travel slowly, tending to be more strongly adsorbed onto organic particles in the soils or rock.

The sandstone bedrock that underlies the site may be expected to be low in organic content and therefore would have a low adsorptive capacity for VOCs. The site soils may be expected to have relatively high organic and/or clay-size fraction that would strongly adsorb VOC's.

6-05. POTENTIAL RECEPTORS

The presence of potentially hazardous VOCs in the overburden, bedrock and groundwater at the Building 201/206/218 site indicates the need to consider potential human or animal receptors of these compounds. Possible modes of VOC entry into persons at or near contaminated sites are inhalation, ingestion, and absorption.

Inhalation of vapors or dust containing VOCs at harmful concentrations is possible only during invasive subsurface construction, investigation or remediation activities. Elevated vapor-phase concentrations of VOCs in pore gases of overburden materials were previously encountered during soil-gas testing and drilling. VOCs in pores of overburden materials near an uncapped surface such as an exterior lawn area may slowly diffuse into the atmosphere at substantially diluted concentrations. Diffusion of VOCs into the building air is non-existent due to the concrete building floor and sealants around wells and floor joints.

Ingestion of surficial soils is a second possible route of exposure to potential receptors. Ingestion within the building by persons not associated with construction or subsurface investigation is highly improbable due to the presence of the building floor. Ingestion of surficial materials outside the building is a possibility, however no significant concentration of VOCs have been found in shallow soils near the buildings. Accidental soil ingestion during disruption of the overburden inside or outside the buildings is a possibility during excavation, drilling, or other construction activities, or if food were to be contacted with subsurface particles.

There is little likelihood of potential receptors receiving VOC contaminants through ingestion of groundwater. The groundwater at the site is not used as drinking water or for surficial purposes such as washing or irrigation. No groundwater supply wells exist in the vicinity of the site. VOC contaminants originating from sources at the site do not presently exist far from the sources at significant concentrations and the areal extent of contamination is defined by the existing well network. No VOCs are expected to move far beyond their present location due to interim corrective measures including groundwater pumping at the blasted-bedrock trench and 2-PHASE Vacuum Extraction.

Absorption of VOC contaminants through skin is not likely except possibly in the case of environmental or construction workers neglecting to wear proper personal protective equipment when handling site soil, rock or groundwater.

In summary, it appears improbable that organic compounds at the site will contact any potential human receptors except possibly during the course of subsurface construction, investigative or remedial activities, and then only in the event that associated workers fail to wear proper personal protective equipment or observe proper safety procedures when eating. No adverse impact is anticipated for any plant or animal receptors except for possible indigenous or burrowing organisms.

VII. INTERIM CORRECTIVE MEASURES

As part of an environmental strategy to minimize the potential for impacting the environment, Xerox Corporation has undertaken several interim corrective measures at the 201/206/218 area. The following section presents a general summary of the measures implemented to date.

7-01. 2-PHASE EXTRACTION

Xerox has applied their patented 2-PHASE Extraction process to 11 wells in the Building 201 area (SWMU 75). The 2-PHASE Extraction process uses high vacuum to simultaneously extract liquid and vapor through a single extraction tube from wells. Xerox Corporation is currently undertaking a program to optimize and enhance the Building 201 2-PHASE Extraction network.

Well 218-1 was connected to the Building 201 2-PHASE Extraction system in May 1993.

Effluent from the 2-PHASE Extraction network is treated by a combination of liquid- and vapor-phase granular activated carbon. The vapor stream is discharged to the atmosphere under a NYSDEC air permit and the liquid stream is discharged to the sanitary sewer under local POTW authority.

7-02. BUILDING 218 RECOVERY WELLS

As discussed previously, elevated concentrations of volatile organics were detected in the groundwater sampled from the utility lines and vaults along the western portion of Building 218 (SWMU 85). A remedial system was designed in 1989 and installed by Law Environmental to pump and treat the affected groundwater. Groundwater is pumped from a utility vault and two wells (218-2, 218-3) shown on Figure 2), pumping at a combined rate of approximately 2 gpm. The effluent is treated by a granular activated carbon (GAC) treatment system housed within Building 218 and discharged to the storm sewer as permitted SPDES discharge.

7-03. BLASTED BEDROCK TRENCH

A blasted-bedrock trench was installed at the location shown on Figure 2 to control dissolved-phase contaminant migration from the site. The installation occurred during July 1993.

The migration-control trench is 300-feet in length, extending to a depth of about 30-feet below ground surface, (10 feet below the top-of-rock). A 6-in. diameter, stainless-steel screened recovery well (REC 218-10) is installed within the trench alignment. Groundwater recovery from Well REC 218-10 was initiated on 22 July 1993. A subgrade piping system carries the discharge from Well REC 218-10 to the Building 218 groundwater treatment facility.

The migration-control system is currently being operated at a recovery rate of 1.5 to 2 gallons-per-minute (gpm). The recovery rate is adjusted to both intercept local dissolved-phase constituents in groundwater, and minimize westerly migration from source areas to the east.

VIII. SUMMARY AND CONCLUSIONS

Volatile organic compounds including the chlorinated organic solvents 1,1,1-TCE, PCE and TCE and their associated breakdown products are identified in groundwater and soil in the Building 201/206/218 area. Chromium, arsenic and selenium have been detected in the Building 201 area. RFI programs conducted to date at the site yield the following conclusions:

- Thallium is not widely present throughout the shallow soils at the Webster facility and does not pose an environmental problem requiring additional investigation or remediation. No further action is required to address thallium issues at the site. The thallium areas should be deleted as a SWMU from the Xerox Corrective Action Module.
- Hydrogeologic investigations indicate the presence of three distinct hydrostratigraphic units which transmit the majority of groundwater under the site. These units include the: overburden/bedrock interface zone, intermediate rock zone, and deep rock zone.
- Well-clusters with both overburden and interface wells show that groundwater elevations measured in these well-pairs remain essentially the same through time. This indicates good hydraulic connection between these zones. Additional overburden wells are not needed.
- The organic solvents described above have been identified at concentrations above NYS groundwater standards in the overburden/bedrock interface zone in wells in the vicinity of Building 201, 206 and southern Building 218 areas.
- The dissolved-phase VOC plume of Building 201 appears to have migrated to the Building 206 area.
- VOC concentrations above applicable NYS groundwater standards in the intermediate and deep rock zones are limited to isolated detections within source areas.
- The areal and vertical extent of groundwater contamination associated with identified SWMUs has been identified.
- 2-PHASE Vacuum Extraction is currently applied to 11 wells installed in the Building 201 area and to one well at the southern side of Building 218.
- Interim remedial measures appear effective in controlling migration of the dissolved phase chlorinated solvent contaminant plumes.
- VOCs arising from the Building 201/206/218 investigative site are not likely to impact human receptors at potentially harmful concentrations. Offsite receptors are not likely to be affected given the interim remedial measures currently operating at the site which are designed to prevent offsite migration of VOCs.

IX. RECOMMENDATIONS

H&A of New York recommends maintenance of active groundwater pumping from the blasted-bedrock trench to the west of the site inasmuch as it provides a system for groundwater containment and VOC migration control. H&A of New York also recommends that the 2-PHASE Vacuum Extraction System continue to operate at the site. In addition, it is recommended that the 2-PHASE extraction system be expanded to include wells in the Building 206 area.

The current well-monitoring program should be continued to evaluate the impact and effects of interim remedial measures.

Xerox should proceed to the Corrective Measures Study (CMS) phase of the corrective action module. The CMS should focus on expanding and optimizing the current interim corrective measures.

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TABLE I
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF WELL CONSTRUCTION

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GROUNDWATER EXTRACTION WELLS

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
218-2	1295.69	705.06	218	396.50	398.31	379.6	369.8	22.4	374.1	INF	27.4	369.1
218-3	1311.46	845.93	218	392.70	394.54	387.1	377.3	10.3	382.4	INF	15.8	376.9
REC-218-10	1154.95	175.27	218	389.73	385.96	373.7	361.7	18.0	371.7	INF	28.2	361.5

MONITORING WELLS

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
206-1	761.64	1193.50	206	399.00	401.18	383.5	377.0	16.8	382.2	INF	22.1	376.9
206-1-OB	762.00	1187.00	206	398.67	401.02	392.6	384.7	NE	NE	OB	14.0	384.7
206-2	597.63	1169.89	206	398.95	400.45	389.6	379.8	14.5	384.5	INF	19.8	379.2
206-2I	597.70	1161.00	206	398.70	400.98	368.5	358.7	14.5	384.2	I-RK	40.0	358.7
206-2D	597.40	1076.20	206	398.90	401.39	343.9	334.1	18.5	380.4	D-RK	64.8	334.1
206-3	742.91	1027.53	206	398.65	400.75	386.7	376.9	16.2	382.5	INF	22.2	376.5
218-3D	1311.20	857.90	218	392.46	394.60	345.2	335.5	11.5	381.0	D-RK	57.0	335.5
218-3I	1311.09	850.81	218	392.60	394.69	365.7	355.9	11.5	381.1	I-RK	37.1	355.5
218-4	1101.55	1157.72	218	396.15	398.61	387.5	377.7	12.5	383.7	INF	19.0	377.2
218-5	1094.10	1000.01	218	403.00	402.79	388.9	379.1	16.2	386.8	INF	24.3	378.7
218-5I	1089.11	1000.25	218	403.00	402.68	373.2	363.4	16.5	386.5	I-RK	40.1	362.9
218-6	764.39	864.99	218	401.40	403.37	384.4	374.6	21.9	379.5	INF	27.2	374.2
218-7	1683.47	749.35	218	390.50	392.51	381.5	366.7	20.3	370.2	INF	24.3	366.2
218-7I	1684.28	759.71	218	390.60	392.80	355.9	346.3	20.2	370.4	I-RK	44.7	345.9
218-7D	1711.40	757.20	218	387.10	389.25	334.1	324.1	17.0	370.1	D-RK	63.0	324.1
218-9	1415.20	391.30	218	390.37	392.76	376.2	366.4	19.4	371.0	INF	24.0	366.4
218-9I	1414.40	382.40	218	390.38	392.84	354.4	344.6	20.8	369.6	I-RK	45.8	344.6
218-9D	1436.20	380.90	218	390.30	392.46	335.3	325.3	20.0	370.3	D-RK	65.0	325.3
RW-1	97.40	1308.69	201	405.42	407.89	389.5	382.0	18.6	386.8	INF	23.4	382.0
RW-1I	97.80	1292.70	201	405.42	406.55	377.5	359.5	17.5	387.9	I-RK	45.9	359.5
RW-5	231.82	921.20	201	401.65	403.67	382.5	370.5	24.0	377.7	INF	31.8	369.9
RW-6	479.09	942.59	201	399.58	401.66	384.4	374.4	20.2	379.4	INF	25.2	374.4
RW-7	51.46	1042.08	201	402.50	404.94	385.1	377.6	20.2	382.3	INF	24.9	377.6
RW-8	242.09	1196.95	201	402.52	404.55	386.0	378.5	19.2	383.3	INF	24.0	378.5
RW-9	119.41	1145.85	201	403.13	405.04	386.1	378.6	19.5	383.6	INF	24.5	378.6
RW-10I	229.18	1113.52	201	402.79	402.79	375.8	355.8	--	--	I-RK	47.0	355.8
RW-11	476.47	1325.69	201	401.21	403.25	390.7	380.7	19.0	382.2	INF	20.5	380.7
RW-12	134.05	695.66	201	400.61	402.59	375.6	365.6	30.0	370.6	INF	35.0	365.6
RW-12I	138.59	699.70	201	400.61	402.22	360.6	341.6	30.0	370.6	I-RK	59.0	341.6

TABLE I
XEROX CORPORATION
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SUMMARY OF WELL CONSTRUCTION

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MONITORING WELLS (Cont'd)

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
RW-13	435.64	781.96	201	399.34	401.44	379.3	369.3	25.0	374.3	INF	30.0	369.3
RW-14	566.60	546.29	201	396.78	398.66	383.3	373.3	18.5	378.3	INF	23.5	373.3
RW-14I	621.60	569.59	201	396.78	398.90	368.3	348.9	18.5	378.3	I-RK	47.9	348.9
RW-14D	630.60	569.50	201	396.78	398.82	338.6	328.8	18.5	378.3	D-RK	68.0	328.8
RW-15	1002.16	333.44	218	393.90	396.10	382.1	372.1	17.0	376.9	INF	21.8	372.1
RW-15I	1001.82	309.50	218	393.90	396.08	366.9	347.2	17.3	376.6	I-RK	46.7	347.2
RW-16	1240.68	190.16	218	388.17	390.02	376.3	366.3	17.4	370.8	INF	21.9	366.3
RW-16I	1245.11	209.47	218	388.17	389.41	359.8	341.2	17.5	370.7	I-RK	47.0	341.2
RW-17	1775.07	349.32	218	382.90	384.65	368.8	358.8	19.1	363.8	INF	24.1	358.8
RW-18	1978.95	75.49	218	382.25	384.25	364.0	354.0	23.5	358.8	INF	28.5	353.8
RW-19	1040.40	108.80	218	391.50	393.93	379.4	366.4	18.0	373.5	INF	26.5	365.0
RW-19I	1030.10	108.70	218	391.65	394.09	357.7	347.7	18.0	373.7	I-RK	44.0	347.7
RW-20	1632.10	88.90	218	389.68	391.63	368.7	355.7	28.0	361.7	INF	35.0	354.7
RW-20I	1624.80	88.40	218	389.54	391.60	346.5	336.5	28.0	361.5	I-RK	53.0	336.5
RW-21	1308.00	-126.60	218	388.02	390.54	378.5	365.5	15.7	372.3	INF	23.5	364.5
RW-22	1032.40	-88.40	218	392.16	394.58	386.2	372.7	13.1	379.1	INF	20.5	371.7
RW-23	1140.26	445.97	218	394.67	396.79	380.2	368.2	21.5	373.2	INF	28.5	366.2
RW-24	995.90	623.94	218	397.89	399.93	385.4	373.4	19.4	378.5	INF	26.5	371.4
SW-1	103.40	1308.69	201	405.42	407.81	397.4	392.4	NE	NE	OB	13.0	392.4

PIEZOMETERS

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
201-P1	92.58	866.15	201	401.64	403.64	387.6	377.6	19.0	382.6	INF	25.0	376.6
201-P2	271.49	810.81	201	399.95	401.93	379.4	369.4	25.6	374.4	INF	31.6	368.4
201-P3	359.32	981.59	201	399.96	402.18	395.0	385.0	8.0	392.0	INF	16.0	384.0
201-P4	361.62	1075.76	201	399.94	401.97	383.0	373.0	21.9	378.0	INF	27.9	372.0
201-P5	388.58	1174.95	201	399.82	402.25	382.8	372.8	22.0	377.8	INF	28.0	371.8
201-P6	359.25	1295.67	201	401.58	403.54	396.6	386.6	7.0	394.6	INF	16.0	385.6
218-P1	935.10	648.48	218	398.60	401.15	392.6	382.6	NE	NE	OB	16.0	382.6
218-P2	912.97	690.31	218	398.50	400.96	393.1	383.1	NE	NE	OB	15.4	383.1
218-P3	878.20	724.75	218	398.58	398.21	391.6	381.6	NE	NE	OB	17.0	381.6
218-P4	852.91	759.20	218	398.16	397.60	390.0	380.0	NE	NE	OB	18.2	380.0
218-P5	796.01	850.23	218	398.39	398.08	393.8	383.8	NE	NE	OB	14.8	383.6
218-P6	764.39	864.99	218	397.43	397.01	387.9	377.9	NE	NE	OB	19.5	377.9
218-P7	754.91	894.51	218	397.19	396.74	392.2	382.2	NE	NE	OB	15.0	382.2

TABLE I
XEROX CORPORATION
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SUMMARY OF WELL CONSTRUCTION

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PIEZOMETERS (Cont'd)

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
SP-1	503.80	774.30	201	399.60	402.70	395.7	390.7	NE	NE	OB	9.0	390.6
SP-2	503.90	405.10	201	396.10	399.60	392.6	387.6	NE	NE	OB	10.0	386.1
SP-3	1040.10	85.70	218	390.60	393.10	388.9	383.9	NE	NE	OB	7.0	383.6
SP-4	385.40	838.10	201	399.00	401.70	397.3	392.3	NE	NE	OB	7.0	392.0

TWO-PHASE EXTRACTION WELLS

Well ID.	Northing	Easting	Investigative Area	Ground Elevation	Riser Elevation	Screened Interval		Depth to Rock (Ft.)	Top of Rock	Well Type	Total Depth	
						Top	Bottom				Ft.	Elevation
218-1	870.90	825.30	218	398.55	399.58	389.1	379.4	NE	NE	OB	19.1	379.5
RW-2	247.02	998.64	201	402.97	403.60	381.2	373.7	24.4	378.6	INF	29.3	373.7
RW-3	374.10	1217.49	201	400.89	402.45	385.0	377.5	21.5	379.4	INF	23.4	377.5
RW-4	393.80	840.89	201	399.84	401.41	377.7	370.2	24.6	375.2	INF	29.6	370.2
RW-10	233.18	1111.52	201	402.94	405.64	383.9	373.9	25.0	377.9	INF	29.0	373.9
SW-2	241.85	998.64	201	402.97	403.42	391.0	386.0	NE	NE	OB	17.0	386.0
SW-3	374.70	1212.79	201	400.89	402.39	390.6	385.6	NE	NE	OB	15.3	385.6
SW-4	407.50	856.19	201	399.84	401.88	389.8	384.8	NE	NE	OB	15.0	384.8
VE-1A	233.18	1107.52	201	402.94	405.64	397.9	380.9	NE	NE	OB	22.0	380.9
VE-2	121.69	1076.85	201	402.99	401.49	396.4	386.4	17.8	385.2	INF	17.8	385.2
VE-3	137.60	1098.39	201	402.99	401.19	392.9	372.9	20.1	382.9	INF	30.1	372.9
VE-4	141.62	1029.43	201	402.99	401.54	389.5	369.5	23.9	379.1	INF	33.5	369.5

Notes:

1. NE - Bedrock not encountered.
2. -- - Data not available.
3. OB - Overburden monitoring well.
3. INF - Overburden/shallow-bedrock interface monitoring well.
4. I-RK - Intermediate bedrock monitoring well.
5. D-RK - Deep bedrock monitoring well.
6. Survey data provided by Xerox Corporation.

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TABLE II
XEROX CORPORATION
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SUMMARY OF HYDRAULIC CONDUCTIVITY

Page 1 of 4

OVERBURDEN WELLS

Well ID.	Hydraulic Conductivity (cm/sec)	Screened Interval	
		Top	Bottom
206-1-OB	5.0E-04	392.6	384.7
218-1	2.0E-04	389.1	379.4
SW-1	3.0E-04	397.4	392.4
SW-2	1.0E-04	391.0	386.0
SW-3	2.0E-05	390.6	385.6
SW-4	4.0E-05	389.8	384.8
VE-1A	3.8E-05	397.9	380.9
Geometric Mean	9.9E-05		

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SUMMARY OF HYDRAULIC CONDUCTIVITY

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INTERFACE WELLS

Well ID.	Hydraulic Conductivity (cm/sec)	Screened Interval	
		Top	Bottom
206-2	7.0E-05	389.6	379.8
218-4	3.0E-04	387.5	377.7
218-6	7.0E-05	384.4	374.6
218-9	2.0E-03	376.2	366.4
RW-1	2.0E-04	389.5	382.0
RW-2	1.0E-06	381.2	373.7
RW-3	2.0E-04	385.0	377.5
RW-4	1.0E-05	377.7	370.2
RW-5	6.0E-06	382.5	370.5
RW-6	2.0E-05	384.4	374.4
RW-7	7.0E-06	385.1	377.6
RW-8	3.0E-05	386.0	378.5
RW-9	1.0E-04	386.1	378.6
RW-10	8.0E-05	383.9	373.9
RW-11	1.0E-04	390.7	380.7
RW-12	8.0E-06	375.6	365.6
RW-13	7.0E-05	379.3	369.3
RW-14	1.0E-04	383.3	373.3
RW-15	1.0E-04	382.1	372.1
RW-16	9.0E-05	376.3	366.3
RW-17	1.0E-04	368.8	358.8
RW-19	2.0E-04	379.4	366.4
RW-20	7.1E-04	368.7	355.7
RW-21	1.3E-04	378.5	365.5
RW-22	5.6E-04	386.2	372.7
RW-23	7.5E-05	380.2	368.2
RW-24	1.8E-04	385.4	373.4
Geometric Mean	7.2E-05		

TABLE II
XEROX CORPORATION
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SUMMARY OF HYDRAULIC CONDUCTIVITY

Page 3 of 4

INTERMEDIATE-BEDROCK WELLS

Well ID.	Hydraulic Conductivity (cm/sec)	Screened Interval	
		Top	Bottom
206-2I	1.0E-04	368.5	358.7
218-5I	4.0E-05	373.2	363.4
218-9I	2.0E-05	354.4	344.6
RW-1I	9.0E-04	377.5	359.5
RW-10I	8.2E-05	375.8	355.8
RW-12I	9.0E-05	360.6	341.6
RW-14I	7.0E-04	368.3	348.9
RW-15I	8.0E-04	366.9	347.2
RW-16I	1.0E-04	359.8	341.2
RW-19I	1.0E-07	357.7	347.7
RW-20I	1.2E-06	346.5	336.5
Geometric Mean	4.9E-05		

TABLE II
XEROX CORPORATION
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SUMMARY OF HYDRAULIC CONDUCTIVITY

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DEEP-BEDROCK WELLS

Well ID.	Hydraulic Conductivity (cm/sec)	Screened Interval	
		Top	Bottom
206-2D	2.0E-04	343.9	334.1
218-3D	2.0E-03	345.2	335.5
218-7D	8.4E-04	334.1	324.1
218-9D	5.1E-05	335.3	325.3
RW-14D	3.0E-03	338.6	328.8
Geometric Mean	5.5E-04		

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TABLE III
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF SOIL QUALITY RESULTS
SOIL BORINGS AT BUILDING 201
JANUARY 1986

Boring No.	TB-1	TB-1	TB-1	TB-1	TB-2	TB-2	TB-2	TB-2	TB-2	TB-3	TB-3	TB-3	TB-4	TB-4	TB-4	TB-5	TB-5
Composite No.	1	2	3	4	1	2	3	4	1	2	3	1	2	3	1	2	3
Sample Date	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86	Jan-86
Sample Depth (ft.)	0-4.5	4.5-8.5	8.9-12.9	13-17	0-4	4-6	8-11.8	13-16.7	0-4.4	6-10	13-17.5	0-6	6-12	14-18	0-6	6-12	14.4-20.7
Chromium (mg/kg)	11	29	339	17	38	279	48	14	7	8.4	5.6	6.8	9	6.4	12	8.8	7.5
Nickel (mg/kg)	45	14	53	5.7	27	231	17	6.2	371	66	5.8	342	12	3	336	173	11

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
Reference: Engineering Science. Supplemental Site Investigation at Building 201, October 1987.

JWL70307-44/T-RECRAS.WK1

TABLE IV
XEROX CORPORATION
WESTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF SOIL QUALITY SAMPLING RESULTS
SUPPLEMENTARY SITE INVESTIGATION BUILDING 201
MAY 1986

Boring No.	TB15	TB16	TB16	TB16	TB16	TB16	TB16	TB16	TB17	TB17	TB17	TB17	TB17	TB17	TB17	TB18	TB18
Sample Date	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86
Sample Depth (ft.)	15-15.3	3-5	3-5	7-9	7-9	9-11	11-13	1-3	3-5	3-5	5-7	7-9	15-15.7	3-5	3-5	5-7	5-7
Building No.	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Fluoride	7.6	2.9	170	100	390	2	2.2	3.6	4.6	1400	1100	93	1	1.1	7.8	11	9.2
Sulfate	490	170	7.4	5.2	6.4	4.4	8.5	6.3	13	15	13	100	78	600	240	240	240
Arsenic	5.8	7.4	32	28	18	12	15	23	35	25	20	15	31	42	31	31	31
Chromium (Total)	58	32	9.5	17	12	15	15	14	15	16	19	15	21	15	14	14	14
Nickel	20	9.5	6.2	--	--	--	--	--	0.98	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	12	--	--	--	--	--	11	4.6	--	--	--	70	--	--	--	--	--
1,2-Dichloroethane	6.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	4.4	--	--	--	--	2.6	5.1	--	--	--	--	--	--	--	--	--
Trichloroethene	2000	28	--	--	47	--	20	420	5.5	14	380	350	80	3.3	7.7	7.7	7.7
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--	32	9.7	6.7	--	--	--
Total Volatiles	2018.4	32.4	--	--	47	47	33.6	429.7	5.5	14	492	459	97.1	10	7.7	7.7	7.7

TABLE IV
XEROX CORPORATION
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BUILDING 201/206/218 RFT FINAL REPORT

**SUMMARY OF SOIL QUALITY SAMPLING RESULTS
SUPPLEMENTARY SITE INVESTIGATION BUILDING 201
MAY 1986**

Boring No.	TB18	TB19	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86
Sample Date	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86	May-86
Sample Depth (ft.)	15-17	3-5	7-9	11-12.4	19-19.9	0-2	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5	8.5-9.5
Building No.	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	110	--	--	53	57	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	5.7	12	5.1	6.9	5.9	2.6	13	3.9	5.6	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Chromium (Total)	30	27	9.8	15	14	43	54	25	26	26	28	28	28	28	28	28	28
Nickel	17	19	13	16	14	9.3	27	18	17	17	19	19	19	19	19	19	19
Selenium	--	--	--	--	--	1.4	--	--	--	0.68	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	110	--	22	14	5.6	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	--	4.4	--	--	--	15	8.5	8400	2400	1300	1500	1500	1500	1500	1500	1500
Tetrachloroethene	--	--	--	35	--	--	--	--	83	1500	--	--	--	--	--	--	--
Total Volatiles	152	ND	26.4	49	5.6	ND	15	24.5	9783	3984	1351	1530	1530	1530	1530	1530	1530

JUNE 1988 & JULY 1987

Boring No.	B-EX-001	B-EX-002	B-EX-003	B-EX-004	B-EX-005	B-EX-006	B-EX-007	B-EX-008	B-EX-009	010	SB-1	SB-2	SB-2	SB-2	SB-2	Trip Blank
Sample Date	06/20/88	06/20/88	06/20/88	06/20/88	06/20/88	06/21/88	06/21/88	06/21/88	06/21/88	--	07/01/87	07/01/87	07/01/87	07/01/87	07/01/87	07/01/87
Sample Depth (ft.)	0-2	2-4	4-4.5	5.5-7.5	7.5-9	9.5-11.5	11.5-13	14.5-16	16-16.5	Lab Blank	1-2	1-2	1-2	1-2	3-4	5-6
Investigative Area	201	201	201	201	201	201	201	201	201	--	201	201	201	201	201	--
Tetrachloroethene (µg/kg)	--	--	--	*	*	18.4	*	--	*	--	--	--	--	--	--	--
Arsenic (mg/kg)	3.1	2.0	2.5	3.5	2.7	1.5	1.8	1.5	2.0	*	2.8	5.4	6.6	3.4	7.6	2.8
Chromium, Total (mg/kg)	--	--	--	8.4	--	--	--	--	+	*	+	+	+	+	+	+
Nickel, Total (mg/kg)	--	17	--	1.2	7.1	8.6	6.0	--	5.1	*	7.0	8.7	7.9	7.4	8.6	8.5
Selenium, Total (mg/kg)	0.84	--	--	--	--	--	--	--	--	*	+	+	+	+	+	+

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
 2. * Indicates parameter not analyzed; -- Indicates parameter not detected; + Indicates result not available.
 3. Organic analysis performed by EPA Methods 601/602 or 8010/8020; inorganic analysis performed using procedures outlined in Standard Methods for the Examination of Water and Wastewater.
 4. B-EX data collected by Woodward-Clyde Consultants; SB - data collected by General Testing Corporation.
 5. Original laboratory data for some sampling results discussed in WCC's report were not available.
- Reference: WCC. Soil Evaluation Proposed Expansion at Building 201, Xerox Corporation, July 1988.

TABLE VI
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT
SUMMARY OF SOIL QUALITY RESULTS
MANDREL SHOP ANGLE BORINGS
JUNE 1988

Sample No.	001 S-1	002 S-2	001	002	003	004	005	006	007	001	002	003	004	005	006	007
Sample Date	06/14/88	06/14/88	06/15/88	06/15/88	06/15/88	06/15/88	06/15/88	06/15/88	—	06/16/88	06/16/88	06/16/88	06/16/88	06/16/88	06/17/88	06/17/88
Sample Depth (ft.)	0-2.5	2-3.5	4-6	6-8	8-10	10-12	12-14	14-15.5	Lab Blank	16-17.7	18-19.75	20-21.5	22-23.7	24-26	26-28	28-29.5
Investigative Area	201	201	201	201	201	201	201	201	—	201	201	201	201	201	201	201
Total Volatiles (ug/kg)	—	—	—	—	—	—	—	—	—	*	119.4	*	*	*	36.5	*
1,2-Dichloroethene (cis & trans) (ug/kg)	—	—	—	—	—	—	—	—	—	*	14.6	*	*	*	—	*
1,2-Dichloroethane (ug/kg)	—	—	—	—	—	—	—	—	—	*	15.8	*	*	*	—	*
Trichloroethene (ug/kg)	—	—	—	—	—	—	—	—	—	*	89.0	*	*	*	36.5	*
Arsenic (mg/kg)	1.3	1.4	2.9	3.2	3.2	3.9	2.4	3	*	2.8	*	3.0	3.2	3.3	*	3.6
Chromium, Total (mg/kg)	—	—	—	10	10	13	10	24	*	—	*	6.4	—	—	*	9.4
Nickel, Total (mg/kg)	1000	400	33	12	8.5	—	—	280	*	54	*	11.0	—	—	*	400
Selenium, Total (mg/kg)	—	—	—	—	—	—	—	—	*	—	*	0.42	—	0.53	*	—

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
2. * Indicates parameter not analyzed; — Indicates parameter not detected.
2. Organic analysis performed by EPA Method 8010/8020; inorganic analysis performed by procedures outlined in Standard Methods for the Examination of Water and Wastewater.

Reference: WCC Report on Angle-Boring at Building 201, September 1988.

TABLE VII
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF SOIL QUALITY RESULTS
BUILDING 206/218 CONTAMINATION CHARACTERIZATION STUDY
OCTOBER 1989 - DECEMBER 1989

Sample No.	218-1	218-2	218-3	218-3D	218-4	218-5	218-5D	218-6	218-7	218-7D	206-1	206-2	206-3
Sample Date	11/10/89	12/07/89	11/22/89	11/27/89	11/21/89	10/27/89	11/02/89	11/08/89	11/30/89	12/01/89	11/17/89	11/16/89	11/14/89
Sample Depth (ft.)	9-11	9-11	7-9	9-11	5-7	2-4	11-13	9-11	10-12	6-8	9-11	9-9.9	5-7
Investigative Area	218	218	218	218	218	218	218	218	218	218	206	206	206
Methylene Chloride (ug/kg)	(139)	(9.2)	(10.1)	(9.6)	(21.7)	(20.5)	(20.8)	(19.1)	(7.1)	(6.3)	(9.6)	(20.5)	(12)
1,1-Dichloroethene (ug/kg)	71.2	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane (ug/kg)	2260	--	--	--	--	12.1	13.2	--	--	--	--	--	--
1,2-Dichloroethene (cis & trans) (ug/kg)	--	--	--	--	--	66.7	26.2	--	--	--	5.8	11.8	--
1,1,1-Trichloroethane (ug/kg)	10400	--	--	--	--	10.7	--	--	--	--	--	--	--
Trichloroethene (ug/kg)	123	--	--	--	--	--	--	--	--	--	--	9	--
Tetrachloroethene (ug/kg)	163	--	--	--	--	--	--	--	--	--	--	--	--
Toluene (ug/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl Ethyl Ketone (ug/kg)	299	--	--	--	--	--	--	204	--	--	--	22.2	--
Total Volatiles (ug/kg)	13316.2	--	--	--	--	89.5	39.4	204	--	--	5.8	8.2	--
												51.2	--

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
 2. All analyses performed by General Testing Corporation, Rochester, New York.
 3. -- Indicates analyte not detected.
 4. () Indicates analyte detected in lab and/or method blank and is not included in the sum for total volatiles.
 5. Detection limits for 218-1 were ten times greater than those for the other samples.
- Reference: Law Environmental. Contamination Characterization Report Buildings 218 and 206, April 1990.

TABLE VIII
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF SOIL QUALITY RESULTS
218-9I, RW-19I, RW-20I WELL INSTALLATIONS
SEPTEMBER 1991 & JANUARY 1992

Sample No.	218-9I S2	RW-19I S10	RW-19I S11	Field Blank	Trip Blank	Drill Water	RW-20I S8	RW-20I S10	Field Blank	Trip Blank	Drill Water
Sample Date	09/03/91	01/06/92	01/06/92	01/06/92	01/06/92	01/07/92	01/10/92	01/10/92	01/10/92	01/10/92	01/10/92
Sample Depth (ft.)	4-6	17-17.5	18-18.5	--	--	--	14-16	18-20	--	--	--
Investigative Area	218	218	218	--	--	--	218	218	--	--	--
Methylene Chloride (ug/kg)	--	--	--	--	--	6	16	7	--	--	--
1,2-Dichloroethene (ug/kg)	--	--	--	--	--	--	--	--	6	--	--
Chloroform (ug/kg)	--	--	--	--	--	36	--	--	--	--	7
Bromodichloromethane (ug/kg)	--	--	--	--	--	9	--	--	--	--	6
Trichloroethene (ug/kg)	--	--	--	--	--	--	6	--	--	--	--
Total Volatiles (ug/kg)	--	--	--	--	--	51	22	7	6	--	13

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
2. All analyses performed by General Testing Corporation, Rochester, New York.
3. -- -- Indicates analyte not detected.
4. Sample 218-9I S2 analyzed by EPA Methods 8010/8020; remaining samples analyzed by EPA Method 8240.

TABLE IX
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT
SUMMARY OF SOIL QUALITY RESULTS
WELL INSTALLATION
JULY 1993

Sample No.	RW-24/S6	RW-23/S2	Trip Blank
Sample Date	07/06/93	07/07/93	07/06/93
Sample Depth (ft.)	10-12	2-4	--
Investigative Area	218	218	--
Methylene Chloride (ug/kg)	13B	--	--
1,1-Dichloroethane (ug/kg)	--	--	--
1,2-Dichloroethene (ug/kg)	16	--	--
Chloroform (ug/kg)	--	--	--
Bromodichloromethane (ug/kg)	--	--	--
Dibromochloromethane (ug/kg)	--	--	--
Trichloroethene (ug/kg)	--	--	--
Tetrachloroethene (ug/kg)	--	--	--
Total Volatiles (ug/kg)	16	ND	ND

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
2. -- Indicates parameter not detected.
3. B - Parameter detected in laboratory blank.
4. All samples analyzed by General Testing Corporation using EPA Method 8010/8020.
5. Samples collected by H&A of New York personnel 6-8 July 1993.

JWL\70307-44\T-RW2324.WK1

TABLE X
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SOIL QUALITY SAMPLING RESULTS
BUILDING 201 USCT CLOSURE
DECEMBER 1986 – JANUARY 1987

Sample Location	Oil Tank	Location 1	Location 2	Location 3
Sample Date	12/10/86	01/29/87	01/29/87	01/29/87
Sample Depth (ft.)	—	1	1	2
Investigative Area	201	201	201	201
1,1-Dichloroethane	9.4	*	*	*
1,2-Dichloroethane	6.2	*	*	*
1,1,1-Trichloroethane	2.2	*	*	*
Tetrachloroethene	2.5	*	*	*
Benzene	246	*	*	*
Toluene	454	*	*	*
Ethylbenzene	122	*	*	*
m-Xylene	200	*	*	*
o-Xylene	240	*	*	*
Petroleum Hydrocarbons (IR)	*	416	—	37
Fuel Oil #2/Diesel Fuel	5.8	*	*	*
PCBs	—	*	*	*
Flash Point (C)	> 60	> 100	> 100	> 100

Notes:

1. Table summarizes results for compounds detected above quantitation limits.
2. * Indicates parameter not analyzed; — Indicates parameter not detected.
3. Volatile and semi-volatile results presented in ug/l for the tank sample and ug/kg for the Location 1–3 samples.
3. Petroleum hydrocarbon, fuel oil, and PCB results presented in mg/l for the tank sample and mg/kg for the Location 1–3 samples.
4. Volatile and semi-volatile analyses performed by EPA Method 601/602; remaining analyses performed by procedures in Standard Methods for the Examination of Water and Wastewater, 15th Edition and Chemical Analysis of Water and Wastes, EPA.
5. Samples designated as "Location 1", "Location 2", and "Location 3" were collected from soils excavated during installation of a dewatering well five feet west of the underground tank.

Reference: Engineering Science. Building 201 Underground Tank Closure, Webster, NY, September 1987.

TABLE XI

XEROX CORPORATION

WEBSTER, NEW YORK

BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF SOIL QUALITY RESULTS

BUILDING 206/218 USCT

NOVEMBER 1989

Sample No.	Pit Grab		Trench 7'		Trench 7'		Trench 7'		Pit Grab		Trench 16'	
	North	South	From Pit	From Pit	From Pit	From Pit	From Pit	From Pit	North	South	From Pit	From Pit
Sample Date	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89	11/01/89
Sample Depth (ft.)	—	—	0-1	1-2	2-3	—	—	—	—	—	0-1	0-1
Investigative Area	Tank 206	Tank 206	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218	Tank 218
Vinyl Chloride (ug/kg)	20.9	5.4	—	—	—	—	—	—	—	—	—	—
Methylene Chloride (ug/kg)	(5.3)	(2.6)	—	(9.6)	(8.7)	(6.3)	(6.3)	(6.3)	(6.3)	(6.3)	(5.2)	(5.2)
1,1-Dichloroethane (ug/kg)	10.7	9.4	—	—	—	—	—	—	—	—	—	—
1,2-Dichloroethane (ug/kg)	3.3	—	—	—	—	—	—	—	—	—	—	—
1,1,1-Trichloroethane (ug/kg)	9.8	—	—	—	—	—	—	—	—	—	—	—
Trichloroethene (ug/kg)	6.9	2.0	—	—	—	—	—	—	—	—	—	—
Tetrachloroethene (ug/kg)	280	158	—	—	—	—	—	—	—	—	—	—
1,1,2,2-Tetrachloroethane (ug/kg)	4.4	—	—	—	—	—	—	—	—	—	—	—
Toluene (ug/kg)	24.6	22.1	—	—	—	—	—	—	—	—	—	—
Total Volatiles (ug/kg)	360.6	196.9	—	—	2.1	—	—	—	—	—	—	—

Notes:

1. Table summarizes results for compounds detected above quantitation limits.
2. All analyses performed by General Testing Corporation, Rochester, New York.
3. — — Indicates analyte not detected.
4. () Indicates analyte detected in lab and/or method blank and is not included in the sum for total volatiles.

TABLE XII
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF WATER AND SEDIMENT QUALITY RESULTS
STORM-SEWER SAMPLING
NOVEMBER 1984 - MARCH 1986
Page 1 of 3

Sample Location	Sump		Sump	Manhole 201		Sump	Trench Drain		Sump	Manhole 201		Sump	Manhole 201	
	Water	Solid		Water	Solid		Water	Solid		Water	Solid		Water	Solid
Sample Date	11/1/84		10/21/85	11/22/85		11/22/85	11/22/85		11/22/85	11/22/85		01/03/86	01/24/86	
Sample Matrix	Water	Solid	Water	Water	Solid	Water	Water	Solid	Water	Water	Solid	Water	Water	Solid
Arsenic	*		*	*		*	*		*	*		*	*	
Chromium (Total)	*		*	*		*	*		*	*		*	*	
Nickel	*		*	*		*	*		*	*		*	*	
Chromium (Trivalent)	*		*	*		*	*		*	*		*	*	
Selenium	*		*	*		*	*		*	*		*	*	
Vinyl Chloride	*		110											
1,2-Dichloroethene	1,700	180,000	2,500	88		1,200	23		540	198				
Chloroform	*		--	--		--	--		--	--		--	--	
1,2-Dichloroethane	*		--	--		--	--		--	--		--	--	
1,1,1-Trichloroethane	*		--	--		--	7.5		--	--		--	--	
Carbon Tetrachloride	*		--	--		--	7.5		--	--		--	--	
Bromodichloromethane	*		--	--		--	7.5		--	--		--	--	
1,2-Dichloropropane	*		--	--		--	7.5		--	--		--	--	
1,3-Dichloropropene (Trans)	*		--	--		--	7.5		--	--		--	--	
Trichloroethene	2,300	1,240,000	5,240	930		18,400	290		920	526				
1,3-Dichloropropene (Cis) & Dibromochloromethane & 1,1,2-Trichloroethane	*		--	--		--	--		--	--		--	--	
Tetrachloroethene	*		--	170		--	--		--	68		--	--	
Toluene	*		--	*		*	*		--	--		--	--	

TABLE XII

XEROX CORPORATION

WEBSTER, NEW YORK

BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF WATER AND SEDIMENT QUALITY RESULTS

STORM-SEWER SAMPLING

NOVEMBER 1984 - MARCH 1986

Page 2 of 3

Sample Location	Manhole 206	Manhole 206 (Duplicate)	Manhole 206	Manhole 212	Field Blank	Sump
Sample Date	01/24/86	01/24/86	01/24/86	01/24/86	01/24/86	03/14/86
Sample Matrix	Water	Water	Sediment	Water	Water	Water
Arsenic	--	*	33	--	--	*
Chromium (Total)	--	*	1.63	0.239	--	*
Nickel	0.050	*	130	0.764	0.046	*
Chromium (Trivalent)	*	*	*	*	*	*
Selenium	--	*	24	--	--	*
Vinyl Chloride	--	--	--	--	--	--
1,2-Dichloroethene	4.7	4.9	68	--	--	225
Chloroform	16	17	--	17	--	--
1,2-Dichloroethane	--	--	--	--	--	--
1,1,1-Trichloroethane	67	67	25	13	--	4.3
Carbon Tetrachloride	--	--	--	--	--	--
Bromodichloromethane	14	18	--	4.3	--	--
1,2-Dichloropropane	--	--	--	--	--	--
1,3-Dichloropropene (Trans)	--	--	--	--	--	--
Trichloroethene	120	118	200	--	--	1,250
1,3-Dichloropropene (Cis) & Dibromochloromethane & 1,1,2-Trichloroethane	--	--	--	6.5	--	--
Tetrachloroethene	4.5	4.7	30.0	--	--	8.4
Toluene	--	--	15	--	--	--

TABLE XII

XEROX CORPORATION

WEBSTER, NEW YORK

BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF WATER AND SEDIMENT QUALITY RESULTS

STORM-SEWER SAMPLING

NOVEMBER 1984 - MARCH 1986

Page 3 of 3

NOTES:

1. Table summarizes results for compounds detected above quantitation limits.
2. * Indicates parameter not analyzed; -- Indicates parameter not detected.
3. Organic results for sediment and water samples presented in ug/kg and ug/l respectively.
4. Inorganic results for sediment and water samples presented in mg/kg and mg/l respectively.
5. Organic analyses performed using EPA Method 601/602.
6. Values for trivalent chromium are calculated values.
7. Inorganic analyses performed according to procedures in Standard Methods for the Examination of Water and Wastewater, 15th Edition, and Methods for Chemical Analysis of Water and Wastes, EPA.
8. All analyses performed by General Testing Corporation.

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TABLE XIII
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF HISTORICAL GROUNDWATER QUALITY
METALS DETECTED IN mg/L (PPM)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLOURIDE	NICKEL	SELENIUM	SULFATE
1986	Q2	RW-1	07JUN86	0.0070	--	0.2200	--	--	190
			07JUN86	0.0062	--	0.2200	--	--	180
		RW-2	07JUN86	0.0056	--	0.8100	--	0.0046	72
		RW-3	07JUN86	0.0148	--	0.1200	--	--	97
		RW-4	07JUN86	0.0026	--	0.3100	--	--	55
		RW-5	07JUN86	0.0034	--	0.3000	--	--	140
		RW-6	07JUN86	0.0080	--	0.3700	--	--	80
		RW-7	07JUN86	0.0092	--	0.2800	--	--	100
		RW-8	07JUN86	--	--	0.1500	--	--	43
		RW-9	07JUN86	0.0028	--	0.2600	--	--	170
		SW-1	07JUN86	0.0462	--	0.1700	0.0690	--	270
		SW-2	07JUN86	0.0084	--	0.1100	--	--	110
		SW-3	07JUN86	0.0028	--	0.3600	--	--	73
		SW-4	07JUN86	0.0022	--	0.1200	--	--	120
	Q3	RW-1	08JUL86	0.0190	--	0.1700	0.0900	--	190
			08JUL86	0.0044	--	0.8000	.	--	63
		RW-2	10SEP86	0.0022	--	0.3500	0.0520	--	140
			09JUL86	0.0044	--	0.8000	--	--	63
			10SEP86	0.0022	--	0.3500	0.0520	--	140
			08JUL86	0.0096	--	0.1100	--	--	25
			10SEP86	0.0190	--	0.1200	--	--	49
		RW-3	08JUL86	0.0096	--	0.1100	--	--	25
			10SEP86	0.0190	--	0.1200	--	--	49
			08JUL86	0.0096	--	0.1100	--	--	25
			10SEP86	0.0190	--	0.1200	--	--	49
		RW-4	10SEP86	0.0036	--	0.2300	--	--	68
			08JUL86	0.0044	--	0.3400	--	--	71
			10SEP86	0.0036	--	0.2300	--	--	68
		RW-5	08JUL86	0.0044	--	0.3000	--	--	190
			10SEP86	0.0032	--	0.2400	--	--	140
		RW-6	08JUL86	0.0090	--	0.3400	--	--	110
			10SEP86	0.0044	--	0.3700	--	--	82
		RW-7	08JUL86	0.0120	--	0.3300	1.4600	--	98
			10SEP86	0.0038	--	0.4800	--	0.0058	54
		RW-8	08JUL86	--	--	0.1200	--	--	46
			10SEP86	--	--	0.1200	--	--	59
		RW-9	08JUL86	0.0074	--	0.1700	0.0900	--	130
			10SEP86	0.0023	--	0.1900	--	--	130
		SW-1	08JUL86	0.0590	--	0.2600	0.0900	--	200
		SW-2	08JUL86	0.0068	--	0.1300	--	--	230
			09JUL86	0.0068	--	0.1300	--	--	230
			10SEP86	0.0080	--	0.1400	--	0.0040	280
		SW-3	08JUL86	0.0042	--	0.3300	--	--	86
			10SEP86	0.0032	--	0.3100	--	--	92

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLOURIDE	NICKEL	SELENIUM	SULFATE
	Q3	SW-4	08JUL86	0.0088	---	0.1100	---	--	170
			10SEP86	0.0058	--	---	--	---	160
	Q4	RW-1	05DEC86	0.0120	--	0.4000	--	---	150
		RW-2	05DEC86	0.0042	--	0.2800	---	0.0068	180
		RW-3	05DEC86	0.0150	--	---	--	---	40
		RW-4	05DEC86	0.0024	--	0.3200	--	---	58
		RW-5	05DEC86	--	--	0.2800	--	---	120
		RW-6	05DEC86	0.0048	--	0.4400	--	---	92
		RW-7	05DEC86	0.0068	--	0.5000	--	---	73
		RW-8	05DEC86	0.0026	0.0890	0.1000	--	---	62
		RW-9	05DEC86	--	--	0.2000	--	---	110
		SW-1	05DEC86	--	--	0.1200	--	---	69
		SW-2	05DEC86	0.0068	--	0.1400	0.0620	0.0030	250
		SW-3	05DEC86	0.0028	--	0.4000	--	---	36
		SW-4	05DEC86	--	--	0.1000	--	---	150
1987	Q1	RW-1	05MAR87	0.0420	--	0.4000	---	---	130
		RW-2	05MAR87	0.0078	--	0.2000	--	0.0022	170
		RW-3	05MAR87	0.0032	--	0.1000	--	---	36
		RW-4	05MAR87	0.0084	--	0.2000	--	---	80
		RW-5	05MAR87	---	--	0.2000	---	---	125
		RW-6	05MAR87	0.0060	--	0.4000	--	---	90
		RW-7	05MAR87	0.0042	--	0.3000	0.0550	---	80
		RW-8	05MAR87	0.0022	0.2050	0.1000	--	---	75
		RW-9	05MAR87	--	--	0.2000	0.0690	---	120
		SW-1	05MAR87	0.0082	--	0.3000	--	---	140
		SW-2	05MAR87	0.0060	--	0.2000	0.0540	---	240
		SW-3	05MAR87	--	--	0.4000	--	---	14
		SW-4	05MAR87	0.0408	--	0.1000	--	---	150
	Q2	RW-1	05JUN87	0.0920	--	0.4000	--	---	170
		RW-11	05JUN87	0.0030	--	---	---	---	110
		RW-12	05JUN87	0.0074	--	0.4400	--	---	30
		RW-12I	05JUN87	--	--	0.4400	--	---	15
		RW-13	05JUN87	0.0108	--	0.1500	--	---	40
		RW-14	05JUN87	0.0162	--	0.1500	--	0.0268	50
		RW-14D	05JUN87	0.0056	--	0.1500	--	---	35
		RW-15	05JUN87	0.0064	--	0.7000	---	---	55
		RW-15I	05JUN87	0.0064	--	0.7000	--	---	55
		RW-16	05JUN87	0.0034	--	0.5800	--	---	100
		RW-16I	05JUN87	0.0034	--	0.5800	--	---	40
		RW-17	05JUN87	0.0048	--	---	---	---	25
		RW-18	05JUN87	--	--	---	--	---	170
		RW-1I	05JUN87	0.0046	--	0.4000	---	---	140
		RW-3	05JUN87	0.1140	--	---	--	---	60
		RW-4	05JUN87	0.0120	--	0.1500	--	---	95
		RW-5	05JUN87	0.0024	--	0.1000	--	---	155
		RW-6	05JUN87	0.0100	--	0.3000	---	---	90
		RW-7	05JUN87	0.0104	--	0.3000	--	---	110
		RW-8	05JUN87	0.0024	0.2710	--	--	---	55

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLOURIDE	NICKEL	SELENIUM	SULFATE
	Q2	RW-9	05JUN87	0.0026	--	0.2000	--	--	105
		SW-1	05JUN87	0.0756	--	0.3000	--	--	165
		SW-3	05JUN87	0.0036	--	0.3400	--	--	30
		SW-4	05JUN87	--	--	.	--	--	165
	Q3	RW-1	04SEP87	0.0132	--	0.4300	--	--	170
		RW-11	04SEP87	--	--	0.1000	--	--	90
		RW-12	04SEP87	0.0098	--	0.1200	--	--	28
		RW-12I	04SEP87	--	--	0.3500	--	--	17
		RW-13	04SEP87	0.0130	--	0.1800	--	--	35
		RW-14	04SEP87	0.0234	--	0.1200	--	--	75
		RW-14D	04SEP87	0.0128	--	0.2000	--	--	50
		RW-15	04SEP87	0.0142	--	0.1600	--	--	50
		RW-15I	04SEP87	0.0142	--	0.5000	--	--	66
		RW-16	04SEP87	--	--	0.1600	--	--	70
		RW-16I	04SEP87	0.0044	--	0.4500	--	--	45
		RW-17	04SEP87	0.0032	--	0.1200	--	--	17
		RW-18	04SEP87	--	--	0.2000	--	--	45
		RW-1I	04SEP87	--	--	0.1800	--	--	80
		RW-2	04SEP87	0.0082	--	0.2500	--	--	190
		RW-3	04SEP87	0.0130	--	0.1900	--	--	28
		RW-4	04SEP87	0.0038	--	0.1900	--	--	100
		RW-5	04SEP87	--	--	0.1700	--	--	170
		RW-6	04SEP87	0.0024	--	0.2000	--	--	90
		RW-7	04SEP87	0.0042	--	0.3900	--	--	50
		RW-8	04SEP87	--	0.7780	--	--	--	70
		RW-9	04SEP87	--	--	0.1200	--	--	130
		SW-1	04SEP87	--	--	0.1200	--	--	130
		SW-2	04SEP87	--	--	0.1200	--	--	270
		SW-3	04SEP87	--	--	0.1800	--	--	7
		SW-4	04SEP87	--	--	0.1200	--	--	170
	Q4	RW-1	31DEC87	--	--	0.7600	0.0400	--	140
		RW-10	31DEC87	--	--	0.5500	--	0.0467	100
		RW-11	31DEC87	0.0034	--	0.5000	--	--	95
		RW-12	31DEC87	--	--	0.5500	--	--	22
		RW-12I	31DEC87	0.0116	--	0.8200	--	--	12
		RW-13	31DEC87	--	--	0.1800	--	--	50
		RW-14	31DEC87	--	--	--	--	--	55
		RW-14D	31DEC87	--	--	0.2600	--	--	23
		RW-15	31DEC87	--	--	0.1600	--	--	85
		RW-15I	31DEC87	--	--	0.9200	--	--	36
		RW-16	31DEC87	--	--	0.1800	--	--	80
		RW-16I	31DEC87	0.0050	--	0.6100	--	--	45
		RW-17	31DEC87	--	--	--	--	--	17
		RW-1I	31DEC87	0.0116	--	1.2300	0.0470	--	90
		RW-2	31DEC87	0.0084	--	0.6500	0.0540	--	190
		RW-3	31DEC87	0.0084	--	0.6500	0.0540	--	190
		RW-4	31DEC87	0.0064	--	0.6000	--	--	85
		RW-5	31DEC87	--	--	0.5500	--	--	130

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q4	RW-6	31DEC87	--	--	0.7000	--	--	80
		RW-8	31DEC87	--	0.6810	0.7600	--	--	80
		RW-9	31DEC87	--	--	0.6000	0.0440	--	140
		SW-1	31DEC87	--	--	0.6000	--	--	150
		SW-2	31DEC87	--	--	0.6000	--	--	230
		SW-3	31DEC87	--	--	0.7000	--	--	8
		SW-4	31DEC87	--	--	0.5500	--	--	170
1988	Q1	RW-1	08MAR88	0.0326	--	--	--	--	--
		RW-12	08MAR88	0.0092	--	--	--	--	--
		RW-13	08MAR88	0.0060	--	--	--	--	--
		RW-14	08MAR88	0.0306	--	--	--	--	--
		RW-14D	08MAR88	0.0174	--	--	--	--	--
		RW-15	08MAR88	0.0216	--	--	--	--	--
		RW-15I	08MAR88	0.0114	--	--	--	--	--
		RW-1I	08MAR88	0.0022	--	--	--	--	--
		RW-2	08MAR88	0.0114	--	--	--	--	--
		RW-3	08MAR88	0.1670	--	--	--	--	--
		RW-5	08MAR88	0.0074	--	--	--	--	--
		RW-6	08MAR88	0.0050	--	--	--	--	--
		RW-7	08MAR88	0.0030	--	--	--	--	--
		RW-8	08MAR88	0.5890	--	--	--	--	--
		RW-9	08MAR88	--	--	--	0.0670	--	--
		SW-1	08MAR88	0.0310	--	--	--	--	--
		SW-2	08MAR88	0.0058	--	--	--	--	--
	Q2	RW-1	02JUN88	0.0342	--	0.3100	--	--	194
		RW-10	02JUN88	--	0.0640	0.1700	--	--	158
			17MAY88	0.0056	--	--	0.0480	--	--
			18MAY88	0.0044	--	--	0.0430	--	--
			19MAY88	0.0072	0.3800	--	--	--	--
		RW-11	02JUN88	--	--	0.1100	--	--	119
		RW-12	02JUN88	0.0079	--	0.1800	--	--	50.5
		RW-12I	02JUN88	--	--	0.4600	--	--	26.2
		RW-13	02JUN88	--	--	0.2000	--	0.0037	71.4
			09MAY88	0.0175	--	--	--	--	--
			10MAY88	0.0132	--	--	--	--	--
			11MAY88	0.0124	--	--	--	--	--
		RW-13	12MAY88	0.0202	--	--	--	--	--
			13MAY88	0.0212	--	--	0.0470	--	--
		RW-14	02JUN88	--	--	0.1800	--	--	72.9
		RW-14D	02JUN88	0.0056	--	0.1700	--	--	70.9
		RW-15	02JUN88	--	--	0.2100	--	--	82.9
		RW-15I	02JUN88	--	--	0.8500	--	--	79.2
		RW-16	02JUN88	--	--	0.1900	--	--	184
		RW-16I	02JUN88	--	--	0.5200	--	--	67.7
		RW-17	02JUN88	--	--	0.1600	--	--	25.8
		RW-18	02JUN88	--	--	0.1900	--	--	65.6
		RW-1I	02JUN88	0.0246	--	0.5500	--	--	175
		RW-2	02JUN88	--	--	0.2100	--	--	279

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q2	RW-3	02JUN88	0.0064	--	0.1100	--	--	49.9
		RW-4	02JUN88	0.0102	--	0.1600	--	0.0045	110
		RW-5	02JUN88	--	--	0.2400	--	--	185
		RW-6	02JUN88	--	--	0.2000	--	0.0052	118
		RW-7	02JUN88	0.0063	--	0.2700	--	--	106
		RW-8	02JUN88	--	1.6200	0.1300	--	--	102
		RW-9	02JUN88	--	0.1200	0.2400	--	--	175
		SW-1	02JUN88	0.2300	--	0.4800	--	--	247
		SW-2	02JUN88	--	--	0.1800	--	--	298
		SW-3	02JUN88	0.2300	--	0.2000	--	--	9.12
		SW-4	02JUN88	--	--	0.1400	--	--	222
	Q3	RW-1	08SEP88	0.0216	--	0.2800	--	--	170
		RW-10	08SEP88	0.0030	0.0520	0.1100	0.0490	--	85.8
		RW-11	08SEP88	0.0078	--	--	--	--	82.6
		RW-12	08SEP88	0.0052	--	0.1800	--	--	33.7
		RW-12I	08SEP88	--	--	0.4000	--	--	23.7
		RW-13	08SEP88	0.0120	--	0.2000	--	--	45.8
		RW-14	08SEP88	0.0172	--	0.1100	--	--	39.2
		RW-14D	08SEP88	0.0126	--	0.3400	--	--	42.7
		RW-15	08SEP88	0.0122	--	0.2000	--	--	47.8
		RW-15I	08SEP88	0.0056	--	0.9500	--	--	38
		RW-16	08SEP88	0.0032	--	0.2400	--	--	74.5
		RW-16I	08SEP88	--	--	0.4400	--	--	36.6
		RW-17	08SEP88	0.0052	--	--	--	--	43.3
		RW-18	08SEP88	36.8000	--	--	--	--	0.12
		RW-1I	08SEP88	0.0192	--	0.3700	--	--	57.6
		RW-2	08SEP88	0.0347	--	0.1600	--	--	151
		RW-3	08SEP88	0.0222	--	0.1400	--	--	27.4
		RW-4	08SEP88	0.0108	--	0.1600	--	--	67
		RW-5	08SEP88	--	--	0.1500	--	--	.
		RW-6	08SEP88	0.0065	--	0.2200	--	--	73.2
		RW-7	08SEP88	0.0065	0.0560	0.2200	--	--	120
		RW-8	08SEP88	--	2.3100	0.1300	--	--	64.2
		RW-9	08SEP88	--	0.0520	0.1800	--	--	89.4
		SW-1	08SEP88	0.0298	--	0.2500	--	--	208
		SW-2	08SEP88	0.0092	--	0.1500	--	--	206
		SW-3	08SEP88	--	--	0.2400	--	--	27.4
		SW-4	08SEP88	--	--	0.1100	--	--	155
1991	Q1	RW-1	20FEB91	0.5100	--	0.2700	--	--	141
		RW-10	20FEB91	0.0700	--	0.1200	--	--	64
		RW-10I	20FEB91	0.0200	--	0.2200	--	--	88
		RW-11	19FEB91	--	--	--	--	--	146
		RW-12	20FEB91	0.1000	--	0.1700	--	--	55.3
		RW-12I	20FEB91	0.0100	--	0.4100	--	--	25.5
			20FEB91	0.0100	--	0.4300	--	--	24.6
		RW-13	19FEB91	0.1200	--	0.1500	--	--	65.4
		RW-14	19FEB91	0.0900	--	--	--	--	62
		RW-14I	19FEB91	0.0300	--	0.3400	--	--	33.3

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q1	RW-15	19FEB91	0.1000	--	0.1300	--	--	88.4
		RW-15I	19FEB91	0.0300	--	0.9500	--	--	51.5
		RW-16	19FEB91	--	--	0.1800	--	--	83.4
			19FEB91	--	--	0.1800	--	--	85.3
		RW-16I	19FEB91	0.0300	--	0.4800	--	--	46.3
		RW-17	19FEB91	--	--	--	--	--	11.9
		RW-18	19FEB91	--	--	0.1200	--	--	59.9
		RW-1I	20FEB91	0.0400	--	0.5400	--	--	94
		RW-2	20FEB91	0.0300	--	0.1600	--	--	168
		RW-3	20FEB91	0.0500	--	--	--	--	48.6
		RW-4	19FEB91	0.0200	--	0.1400	--	--	97.9
		RW-5	20FEB91	0.0100	--	0.1100	--	--	143
		RW-6	19FEB91	0.0100	--	0.2300	--	--	110
		RW-7	20FEB91	0.1200	--	0.1700	--	--	104
			20FEB91	0.0500	--	0.1700	--	--	--
		RW-8	20FEB91	--	--	0.1700	--	--	107
		RW-9	20FEB91	0.0200	--	0.2100	--	--	144
		SW-1	20FEB91	0.1100	--	0.2500	--	--	143
		SW-2	20FEB91	0.0300	--	0.1200	--	--	255
		SW-3	20FEB91	0.0100	--	0.1700	--	--	50.6
		SW-4	19FEB91	--	--	--	--	--	143
	Q3	RW-1	28AUG91	0.0300	--	0.2900	--	--	169
		RW-10	30AUG91	0.0100	--	0.1500	--	--	74.6
		RW-10I	30AUG91	0.0300	--	0.1700	--	--	95.9
		RW-11	28AUG91	--	--	0.0900	--	--	68.9
		RW-12	29AUG91	0.0100	--	0.1600	--	--	42.5
			29AUG91	0.0100	--	0.1400	--	--	42.2
		RW-12I	29AUG91	0.0100	--	0.4200	--	--	24
		RW-13	28AUG91	0.0300	--	0.1700	--	--	89.2
		RW-14	29AUG91	0.0400	--	0.1000	--	--	68.2
		RW-14I	29AUG91	0.0100	--	0.1100	--	--	23.3
		RW-15	28AUG91	0.0300	--	0.2000	--	--	69.5
		RW-15I	28AUG91	0.0200	--	0.8000	--	--	61.2
		RW-16	28AUG91	--	--	0.1400	--	--	78.7
			28AUG91	--	--	0.1500	--	--	78.5
		RW-16I	28AUG91	0.0100	--	0.6100	--	--	46
		RW-17	28AUG91	0.0100	--	--	--	--	10.3
			28AUG91	0.0100	--	--	--	--	--
		RW-18	28AUG91	--	--	0.1400	--	--	54.7
		RW-1I	28AUG91	0.0300	--	0.4200	--	--	107
		RW-2	30AUG91	0.0400	--	0.1000	--	--	225
		RW-3	29AUG91	0.0600	--	0.1000	--	--	52.1
		RW-4	28AUG91	0.0200	--	0.1400	--	--	101
		RW-5	29AUG91	0.0100	--	0.1100	--	--	184
		RW-6	28AUG91	0.0100	--	0.2200	--	--	112
		RW-7	29AUG91	0.0100	--	0.2100	--	--	108
		RW-8	29AUG91	0.0100	--	0.1100	--	--	82.8
		RW-9	29AUG91	0.0100	--	0.2300	--	--	160

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLOURIDE	NICKEL	SELENIUM	SULFATE
	Q3	SW-1	28AUG91	0.3700	--	0.2900	--	--	178
		SW-2	30AUG91	0.0200	--	0.0900	--	--	243
		SW-3	29AUG91	0.0100	--	0.1700	--	--	32
		SW-4	28AUG91	--	--	0.1100	--	--	191
	Q4	RW-1	14NOV91	0.0500	--	0.3800	--	--	177
		RW-10I	15NOV91	0.0100	--	0.3600	--	--	85.6
		RW-11	14NOV91	--	--	0.1100	--	--	85.4
		RW-12	15NOV91	0.0300	--	0.1600	--	--	61.3
		RW-12I	15NOV91	0.0100	--	0.5400	--	--	.
		RW-13	14NOV91	0.0400	--	0.2100	--	--	91
		RW-14	14NOV91	0.0600	--	0.1500	--	--	52.5
		RW-14D	15NOV91	--	--	2.8000	--	--	--
		RW-14I	14NOV91	--	--	0.1500	--	--	22.2
		RW-15	13NOV91	0.0300	--	0.9200	--	--	41.2
		RW-15I	13NOV91	0.0900	--	0.2100	--	--	80
			13NOV91	0.0700	--	0.1900	--	--	81.5
		RW-16	13NOV91	--	--	0.2600	--	--	77.3
			13NOV91	--	--	0.1500	--	--	77.7
		RW-16I	13NOV91	0.0100	--	0.5800	--	--	39.2
		RW-17	13NOV91	0.0100	--	0.2900	--	--	13.1
		RW-18	13NOV91	0.0100	--	0.1900	--	--	47.6
		RW-1I	14NOV91	0.0100	--	0.3300	--	--	125
		RW-2	15NOV91	0.0200	--	0.1400	--	--	221
		RW-3	15NOV91	0.0200	--	0.1500	--	--	43.1
		RW-4	14NOV91	0.0300	--	0.1600	--	--	107
			13NOV91	0.0400	--	0.1500	--	--	100
		RW-5	15NOV91	--	--	0.1400	--	--	149
		RW-6	14NOV91	0.0200	--	0.2600	--	--	109
		RW-7	14NOV91	0.0100	--	0.2200	--	--	117
		RW-8	15NOV91	--	--	0.2400	--	--	108
		RW-9	15NOV91	--	--	0.2800	--	--	140
		SW-1	14NOV91	0.4100	--	0.3700	--	--	197
		SW-2	15NOV91	0.0100	--	0.1200	--	--	210
		SW-3	15NOV91	--	--	0.2300	--	--	.
		SW-4	14NOV91	0.0100	--	0.1200	--	--	163
1992	Q1	RW-1	27FEB92	0.0300	--	0.2100	--	--	134
		RW-10I	28FEB92	0.0300	0.2400	0.2200	--	--	80.4
		RW-11	27FEB92	--	--	--	--	--	138
		RW-12	28FEB92	0.0100	--	0.1100	--	--	35
			28FEB92	0.0200	--	0.1000	--	--	37.9
		RW-12I	28FEB92	0.0100	--	0.3700	--	--	17.7
		RW-13	27FEB92	0.0400	--	0.1200	--	--	75.9
		RW-14	27FEB92	0.1400	--	--	--	--	56
		RW-14D	27FEB92	0.0100	--	1.9900	--	--	--
		RW-14I	27FEB92	0.0200	--	0.1400	--	--	33.7
		RW-15	27FEB92	0.0800	--	0.1100	--	--	95.4
		RW-15I	27FEB92	0.0200	--	0.9500	--	--	47.9
		RW-16	27FEB92	--	--	0.1300	--	--	80.8

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q1	RW-16I	27FEB92	--	--	0.5300	--	--	54
		RW-17	27FEB92	0.0100	--	--	--	--	7.73
			27FEB92	0.0100	--	--	--	--	7.63
		RW-18	27FEB92	--	--	--	--	--	61.3
		RW-1I	27FEB92	0.0400	--	0.3500	--	--	121
		RW-2	28FEB92	0.0400	0.0900	0.1300	0.0900	--	135
		RW-3	28FEB92	0.1300	--	--	--	--	39.7
		RW-4	27FEB92	0.0400	--	0.1100	--	--	112
		RW-5	27FEB92	0.0100	--	--	--	--	144
		RW-6	27FEB92	0.0100	--	0.1700	--	--	114
		RW-7	27FEB92	0.1400	4.3000	0.1600	1.8500	--	98.3
		RW-8	28FEB92	0.0100	1.1800	0.1200	0.1700	--	135
		RW-9	28FEB92	0.0600	--	0.1400	--	--	211
		SW-1	27FEB92	0.3300	--	0.2300	--	--	142
		SW-2	28FEB92	0.0400	0.1000	--	0.1900	--	153
		SW-3	28FEB92	--	--	0.1300	--	--	14.2
		SW-4	27FEB92	0.0200	--	--	0.0700	--	152
			27FEB92	--	--	--	0.0700	--	147
	Q2	RW-1	12MAY92	0.0500	--	0.2300	--	--	127
		RW-10I	13MAY92	0.0200	0.0600	0.2900	--	--	70
		RW-11	12MAY92	0.0100	--	--	--	--	122
		RW-12	13MAY92	0.0200	--	0.1200	--	--	28.2
		RW-12I	13MAY92	--	--	0.4100	--	--	21.5
		RW-13	12MAY92	0.0800	--	0.1500	--	--	64.9
		RW-14	12MAY92	0.2800	0.1700	0.1000	0.1000	--	48.1
		RW-14I	12MAY92	0.0300	--	0.2000	--	--	29.3
		RW-15	12MAY92	0.1100	--	0.1400	--	--	72.8
			12MAY92	0.1100	--	0.1500	--	--	79
		RW-15I	12MAY92	0.0300	--	1.2200	--	--	47.3
		RW-16	12MAY92	--	--	0.2400	--	--	95.2
			12MAY92	--	--	0.2200	--	--	83.1
		RW-16I	12MAY92	0.0300	--	0.7200	--	--	40.8
		RW-17	12MAY92	0.0100	--	--	--	--	.
		RW-18	12MAY92	0.0300	--	0.1100	--	--	141
		RW-1I	12MAY92	0.0400	--	0.3300	--	--	108
		RW-2	13MAY92	0.0300	--	0.1300	--	--	142
		RW-5	13MAY92	0.0200	--	--	--	--	134
		RW-6	12MAY92	0.0100	--	0.2100	--	--	109
		RW-7	13MAY92	0.0300	2.0700	0.1700	0.2100	--	88.4
			13MAY92	0.0300	0.6500	0.1600	0.1800	--	87.2
		RW-8	13MAY92	0.0200	1.2400	0.1400	0.2300	--	112
		RW-9	13MAY92	0.0500	--	0.1500	--	--	98.1
		SW-1	12MAY92	0.1000	--	0.2300	--	0.2000	120
		SW-2	13MAY92	0.0100	--	--	0.0600	--	163
	Q3	RW-1	20AUG92	0.0300	--	0.2900	--	--	118
		RW-10I	20AUG92	0.0100	--	0.1200	--	--	61.3
		RW-11	20AUG92	0.0100	--	--	--	--	93.4
			20AUG92	0.0100	--	--	--	--	94.3

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q3	RW-12	20AUG92	0.0100	--	0.1300	--	--	32.5
		RW-12I	20AUG92	--	--	0.4100	--	--	15.8
		RW-13	19AUG92	0.0300	--	0.2000	--	--	50.7
		RW-14	19AUG92	0.0900	--	0.1100	--	--	40.7
		RW-14I	19AUG92	0.0700	0.0700	0.2800	0.0500	--	16.8
		RW-15	19AUG92	0.0200	--	0.1500	--	--	87.7
		RW-15I	19AUG92	0.0200	--	0.9700	--	--	41.8
		RW-16	19AUG92	--	--	0.2000	--	--	113
			19AUG92	--	--	0.1900	--	--	115
		RW-16I	19AUG92	--	--	0.5600	--	--	40
		RW-18	19AUG92	--	--	0.1400	--	--	40.8
		RW-1I	20AUG92	0.0200	--	0.2500	--	--	105
		RW-2	20AUG92	0.0200	--	0.1400	--	--	123
		RW-5	20AUG92	0.0100	--	0.1100	--	--	128
		RW-6	19AUG92	0.0100	--	0.2200	--	--	96.9
		RW-7	20AUG92	0.0800	3.3500	0.1400	0.6100	--	82.8
		RW-8	20AUG92	--	--	0.1100	--	--	85
		RW-9	20AUG92	0.0300	--	0.2000	--	--	115
			20AUG92	0.0400	--	0.1900	--	--	114
		SW-1	20AUG92	0.0600	--	0.2600	--	--	129
		SW-2	20AUG92	0.0100	--	--	--	--	156
	Q4	RW-1	10NOV92	0.0500	--	0.3500	--	--	133
		RW-10I	10NOV92	0.0200	0.0100	0.2900	--	--	70.1
		RW-11	10NOV92	--	--	--	--	--	105
		RW-12	10NOV92	0.0100	--	0.1500	--	--	30.4
			10NOV92	0.0100	--	0.1500	--	--	31.2
		RW-12I	10NOV92	0.0100	0.0300	0.5000	--	--	11.1
		RW-13	10NOV92	0.0700	0.0200	0.1800	--	--	49.1
		RW-14	09NOV92	0.0500	0.0100	0.1100	--	--	51.5
			09NOV92	0.0600	0.0100	--	--	--	51.3
		RW-14I	09NOV92	0.0100	--	0.1100	--	--	11.5
		RW-15	09NOV92	0.0300	--	0.1600	--	--	71
		RW-15I	09NOV92	0.0100	--	1.0100	--	--	38.4
		RW-16	09NOV92	--	--	0.1500	--	--	71.4
		RW-16I	09NOV92	0.0200	0.0200	0.6600	--	--	27.2
		RW-17	09NOV92	0.0100	--	--	--	--	--
			09NOV92	0.0100	--	--	--	--	--
		RW-18	09NOV92	--	--	0.1100	--	--	43.8
		RW-1I	10NOV92	0.0100	--	0.2300	--	--	93.2
		RW-5	11NOV92	0.0100	0.0200	0.1200	--	--	123
		RW-6	10NOV92	0.0100	--	0.2600	--	0.0100	104
		RW-7	10NOV92	0.1300	10.3000	0.1800	0.6500	--	73.6
		RW-8	10NOV92	--	0.0300	0.1300	--	--	115
		RW-9	10NOV92	0.0300	0.0100	0.2100	--	--	123
		SW-1	10NOV92	0.1400	0.0100	0.3400	--	--	129
1993	Q1	RW-1	04FEB93	0.0300	--	0.3100	--	--	123
		RW-10I	05FEB93	0.0200	0.0200	0.3400	--	--	75.9
		RW-11	04FEB93	0.0100	--	--	--	--	96.9

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q1	RW-12	05FEB93	0.0100	--	0.1600	--	--	36.2
			05FEB93	0.0100	0.0100	0.1500	--	--	35
		RW-12I	05FEB93	0.0100	--	0.5400	--	--	17.1
		RW-13	04FEB93	0.0400	--	0.1900	--	--	49.9
		RW-14	04FEB93	0.0700	--	--	--	--	65.3
			04FEB93	0.0700	0.0100	0.1000	--	--	57.7
		RW-14I	04FEB93	0.0300	--	0.1800	--	--	32.1
		RW-15	04FEB93	0.0200	--	0.1300	--	--	80.7
		RW-15I	04FEB93	0.0200	--	1.2200	--	--	50.3
		RW-16	04FEB93	--	--	0.1700	--	--	70.4
			04FEB93	--	--	0.1600	--	--	70.6
		RW-16I	04FEB93	0.0100	--	0.7800	--	--	41
		RW-17	04FEB93	0.0100	--	--	--	--	--
		RW-18	04FEB93	--	--	0.1100	--	--	63.8
		RW-1I	04FEB93	0.0200	--	0.3000	--	--	99.2
		RW-5	04FEB93	--	--	0.1000	--	--	138
		RW-6	04FEB93	0.0100	--	0.2500	--	--	124
		RW-7	05FEB93	0.4200	12.7000	0.1600	0.7000	--	61
		RW-8	05FEB93	0.0100	0.2500	0.1100	0.0700	--	140
		RW-9	05FEB93	0.0300	--	0.2100	--	--	115
		SW-1	04FEB93	0.3300	--	0.2800	--	--	147
	Q2	RW-1	06MAY93	0.1600	--	0.2100	--	--	--
		RW-10I	06MAY93	0.0200	0.0300	0.2600	--	--	--
		RW-11	06MAY93	--	0.0100	--	--	--	--
		RW-12	06MAY93	0.0100	--	--	--	--	--
		RW-12I	06MAY93	0.2400	0.1100	0.4000	0.0600	--	--
		RW-13	05MAY93	0.3200	0.0400	0.2000	--	--	--
		RW-14	05MAY93	0.0400	0.0100	--	--	--	--
		RW-14I	05MAY93	0.0400	--	0.2000	--	--	--
		RW-15	05MAY93	0.0400	--	0.1500	--	--	--
		RW-15I	05MAY93	0.0300	--	1.2100	--	--	--
		RW-16	05MAY93	0.0100	--	0.2300	--	--	--
			05MAY93	0.0100	--	0.2400	--	--	--
		RW-16I	05MAY93	0.0600	0.0600	0.7800	0.0700	--	--
		RW-17	05MAY93	0.0100	--	--	--	--	--
		RW-18	05MAY93	0.0100	--	--	--	--	--
		RW-1I	06MAY93	0.0200	--	0.1900	--	--	--
		RW-5	05MAY93	0.0200	0.0100	0.1000	--	--	--
		RW-6	05MAY93	0.0100	0.0100	0.2500	--	--	--
			05MAY93	0.0100	0.0100	0.2400	--	--	--
		RW-7	06MAY93	0.0400	0.3300	0.1100	--	--	--
		RW-8	06MAY93	--	0.4800	--	0.0800	--	--
		RW-9	06MAY93	0.0400	--	0.1400	--	--	--
		SW-1	06MAY93	0.1500	0.0100	0.2000	--	--	--
	Q3	RW-1	12AUG93	0.0400	--	0.2200	--	--	151
			12AUG93	0.0400	--	0.2200	--	--	146
		RW-10	26AUG93	1.2000	85.4000	0.1100	--	0.02 S	57.6
			26AUG93	0.7300	63.6000	0.1100	--	0.02 S	57.2

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
	Q3	RW-10I	13AUG93	0.0300	0.0100	0.1800	--	--	74.7
		RW-11	12AUG93	--	0.0100	--	--	--	51.2
		RW-12	12AUG93	0.02 S	0.0300	--	--	--	30.8
		RW-12I	12AUG93	0.02 S	0.0500	0.3700	--	--	16.5
		RW-13	12AUG93	0.0400	0.0100	0.1300	--	--	86.3
		RW-14	12AUG93	0.0900	0.0200	--	--	--	54.8
		RW-14D	12AUG93	0.0100	0.0100	2.1700	--	--	5.63
		RW-14I	12AUG93	0.0100	0.0100	0.1300	--	--	34.6
		RW-15	11AUG93	0.0300	--	0.1200	--	--	69
		RW-15I	11AUG93	0.0300	--	0.9100	--	--	51.3
		RW-16	11AUG93	0.0600	0.0600	0.1200	0.0800	--	98.5
			11AUG93	0.0600	0.0500	0.1200	0.0800	--	86.7
		RW-16I	11AUG93	0.0800	0.2400	0.7400	0.3000	0.02 S	40.8
		RW-17	11AUG93	0.0100	--	--	--	--	6.37
		RW-18	11AUG93	0.0100	--	--	--	--	56.2
		RW-1I	12AUG93	0.0200	--	0.1700	--	--	110
		RW-2	26AUG93	0.1300	0.0400	0.1800	--	--	111
		RW-3	26AUG93	2.91 S	0.0200	0.1000	--	--	65.4
		RW-4	26AUG93	0.07 S	--	0.1300	--	--	86
		RW-5	12AUG93	0.0100	0.0100	--	--	--	192
		RW-6	11AUG93	0.0100	--	0.1900	--	--	107
		RW-7	12AUG93	0.0700	0.9300	0.1000	0.0500	--	75.3
		RW-8	13AUG93	--	0.0400	--	--	--	133
		RW-9	13AUG93	0.0400	0.0100	0.1400	--	--	127
		SW-1	12AUG93	0.2200	0.0200	0.2200	--	--	139
		SW-2	26AUG93	0.0400	0.0800	--	0.0600	0.0100	108
		SW-3	26AUG93	0.0100	0.0100	--	--	--	34.9
		SW-4	26AUG93	1.3100	0.0200	--	--	0.0100	110
	Q4	RW-1	10NOV93	0.0400	--	0.2600	--	--	125
		RW-10I	11NOV93	--	0.0200	--	--	--	59.5
		RW-11	10NOV93	--	--	--	--	--	43.5
			10NOV93	--	--	--	--	--	43.9
		RW-12	11NOV93	0.0200	--	--	--	--	32.8
		RW-12I	11NOV93	0.0100	--	0.3700	--	--	6.15
		RW-13	09NOV93	0.0500	--	0.1300	--	--	61.4
		RW-14	10NOV93	0.1800	--	.	--	--	58.8
		RW-14D	11NOV93	0.0100	--	3.0700	--	--	--
		RW-15	09NOV93	0.0400	0.0100	0.1300	--	--	63.6
		RW-15I	09NOV93	0.0300	--	0.9100	--	--	49.3
		RW-16	09NOV93	0.0100	0.0100	0.1500	--	--	122
		RW-16I	09NOV93	0.1500	0.2900	0.7700	0.3300	--	32
		RW-17	09NOV93	0.0100	--	--	--	--	9.4
			09NOV93	0.0100	--	--	--	--	10.9
		RW-18	09NOV93	--	--	--	--	--	73.9
		RW-1I	10NOV93	--	--	0.1200	--	--	79.6
		RW-2	11NOV93	--	0.1500	0.1500	0.2100	--	112
		RW-3	11NOV93	0.04 S	--	--	--	--	52.1
		RW-4	11NOV93	0.5600	--	0.1100	--	--	76.1

TABLE (CONT.)

YEAR	QUARTER	WELL	DATE	ARSENIC	CHROMIUM	FLUORIDE	NICKEL	SELENIUM	SULFATE
1993	Q4	RW-5	09NOV93	0.0100	0.0100	--	--	--	215
		RW-6	10NOV93	0.0100	--	0.1700	--	--	70
		RW-7	11NOV93	0.2400	3.3400	0.1000	0.2000	--	71.6
		RW-8	11NOV93	--	0.5300	--	0.0700	--	120
		RW-9	11NOV93	0.0200	0.0700	0.1600	0.0900	--	119
		SP-1	10NOV93	0.0500	0.0300	--	--	--	39.4
		SP-2	10NOV93	0.1500	--	0.1000	--	--	72.2
		SP-3	10NOV93	0.0800	0.3400	0.1300	0.4400	--	20.1
		SP-4	10NOV93	0.0300	0.1100	0.1300	0.1000	--	126
		SW-1	10NOV93	0.2300	--	0.2500	--	--	125
		SW-2	11NOV93	0.0100	0.0500	--	--	0.1500	159
		SW-3	11NOV93	0.0100	--	0.1400	--	--	41.1
		SW-4	11NOV93	0.0800	--	--	--	--	108
1994	Q1	RW-1	09FEB94	0.0900	--	--	--	--	--
		RW-10	15FEB94	0.0500	7.6500	--	--	--	--
		RW-10I	11FEB94	0.0100	0.0300	--	--	--	--
		RW-12	09FEB94	0.0200	--	--	--	--	--
		RW-12I	09FEB94	0.0100	--	--	--	--	--
		RW-13	11FEB94	0.0400	--	--	--	--	--
		RW-1I	09FEB94	0.0100	--	--	--	--	--
		RW-2	15FEB94	0.0200	0.0100	--	--	--	--
		RW-3	10FEB94	0.0900	--	--	--	--	--
		RW-4	10FEB94	0.5700	--	--	--	--	--
		RW-5	11FEB94	0.0200	0.0200	--	--	--	--
		RW-6	09FEB94	0.0100	0.0100	--	--	--	--
		RW-7	09FEB94	0.1600	1.3600	--	0.4000	--	--
			09FEB94	0.2200	2.0100	--	0.4400	--	--
		RW-8	11FEB94	--	1.0600	--	0.1300	--	--
		RW-9	11FEB94	0.1900	0.0200	--	--	--	--
	Q2	RW-1	13MAY94	0.0700	--	--	--	--	--
		RW-12	12MAY94	0.0100	--	--	--	--	--
			12MAY94	0.0100	--	--	--	--	--
		RW-12I	12MAY94	0.0100	--	--	--	--	--
		RW-13	12MAY94	0.0500	--	--	--	--	--
		RW-1I	13MAY94	0.0100	--	--	--	--	--
		RW-7	13MAY94	0.7000	4.7400	--	0.2000	--	--

NOTES:

1. ALL CONCENTRATIONS PRESENTED IN UNITS OF MILLIGRAMS PER LITER (mg/L) OR PART PER MILLION (PPM).
2. "--" PARAMETER WAS NOT ANALYSED FOR BUT NOT DETECTED.
3. S - VALUE DETERMINED BY METHOD OF STANDARD ADDITIONS (MSA).
4. REFER TO TEXT FOR ADDITIONAL INFORMATION.

TABLE XIV
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF HISTORICAL GROUNDWATER QUALITY RESULTS
DETECTED VOLATILE ORGANICS - BUILDING 201 AREA
COMPOUNDS DETECTED IN ug/L (ppb)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHYLENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLORO- ETHYLENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHYLENE	TRICHLORO- ETHYLENE	VINYL CHLORIDE	TOTAL VOLATILES
1986	Q2	RW-2	07JUN86	--	--	--	--	--	--	--	--	--	--	3,400	--	3.4
		RW-3	07JUN86	--	150	--	--	--	23	1170	--	--	56	520	2050	3969
		RW-4	07JUN86	--	--	--	--	--	--	28	--	--	--	132	--	160
		RW-5	07JUN86	--	--	--	--	--	--	326	--	--	--	917	--	1243
		RW-8	07JUN86	--	--	--	--	--	--	160	--	--	--	25600	--	25760
		RW-9	07JUN86	--	--	--	--	--	--	96	--	--	--	14300	--	28469
		SW-1	07JUN86	--	--	--	--	--	--	--	--	--	--	2	--	2
		SW-2	07JUN86	9,200	--	28	--	--	--	1210	--	--	450	7360	--	9057.2
		SW-3	07JUN86	--	--	--	--	--	--	1670	--	--	--	1060	480	3210
		SW-4	07JUN86	--	--	--	--	--	--	299	--	--	--	300	--	1060
		RW-2	09JUL86	--	--	--	--	--	--	2,100	--	--	--	9,600	--	16.7
		RW-3	10SEP86	--	--	--	--	--	--	--	--	--	--	3,200	--	3.2
			08JUL86	--	--	--	--	--	--	5430	--	58	--	1440	--	6928
			10SEP86	--	--	--	33	--	--	3110	--	--	--	1750	4680	9573
			08JUL86	--	--	--	--	--	--	41	--	2,500	--	121	--	164.5
		RW-4	10SEP86	--	--	--	--	--	--	221	--	--	--	880	--	1101
		RW-5	08JUL86	--	--	--	--	--	31	2590	--	27	--	2400	--	10027
			10SEP86	--	--	--	--	--	73	2440	--	--	4,800	1670	116	7831.5
		RW-6	08JUL86	--	--	--	--	--	--	--	--	4,800	--	--	--	4.8
		RW-8	08JUL86	--	--	--	--	--	--	--	--	600	--	30200	--	30800
			10SEP86	--	--	--	--	--	--	--	--	--	--	29800	--	29800

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
1987	Q4	RW-9	08JUL86	--	--	--	--	--	--	--	--	--	--	29000	--	29000
			08JUL86	--	--	--	--	--	--	--	--	--	--	30900	--	30900
			10SEP86	--	--	--	--	--	--	--	--	--	--	29400	--	29400
		SW-2	09JUL86	--	--	--	--	--	--	3600	--	--	350	17400	--	21350
			10SEP86	--	--	--	--	--	--	2900	--	--	280	11800	--	14980
		SW-3	08JUL86	--	--	--	--	--	--	4440	--	51	--	980	--	5471
			10SEP86	--	--	--	--	--	--	2100	--	--	--	300	1000	3400
		SW-4	08JUL86	--	--	1,800	--	--	1,400	1150	--	2,200	--	392	--	15474
			10SEP86	--	--	--	--	--	5,500	88	--	--	1,300	1050	49	1199
			05DEC86	--	--	--	--	--	--	2840	--	15	--	3180	3700	10275
		RW-4	05DEC86	--	--	--	--	--	--	182	--	--	--	240	--	422
		RW-5	05DEC86	--	--	--	--	--	48	3000	--	--	--	2100	110	5258
		RW-8	05DEC86	--	--	--	--	--	--	--	--	--	--	58000	--	58000
		RW-9	05DEC86	--	--	--	--	--	--	300	--	--	--	46000	--	46300
		SW-1	05DEC86	--	--	--	--	--	--	--	--	--	--	21	--	21
		SW-2	05DEC86	--	--	--	--	--	--	3400	--	--	880	--	--	4280
		SW-3	05DEC86	--	--	--	--	--	--	970	--	--	--	150	930	2050
		SW-4	05DEC86	--	--	--	--	--	--	1530	--	--	--	3430	53	5013
	Q1	RW-2	05MAR87	--	--	13	--	--	--	110	--	--	--	250	--	379
		RW-3	05MAR87	--	--	--	--	--	--	4780	--	--	--	3230	5150	13160
		RW-4	05MAR87	--	--	--	--	--	--	133	--	--	--	84	--	217
		RW-5	05MAR87	220	--	--	--	--	--	4900	--	--	--	5590	270	10980
		RW-7	05MAR87	--	--	--	--	--	--	--	--	--	--	1,400	--	14
		RW-8	05MAR87	--	--	--	--	--	--	--	--	--	--	100000	--	100000
		RW-9	05MAR87	--	--	--	--	--	--	--	--	--	--	40600	--	40600
		SW-1	05MAR87	--	--	--	--	--	--	--	--	--	--	4,500	--	45
		SW-2	15JAN87	--	--	--	--	--	--	8800	--	--	2600	34400	--	45800
		SW-3	15JAN87	--	--	--	--	--	--	880	--	--	39	--	1710	2799
			05MAR87	18	--	--	--	--	--	220	--	12	--	--	100	350

TABLE (cont.)

[illegible]

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHORO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES		
		RW-10	04SEP87	--	--	--	100	--	--	428	--	30	--	196000	23	196581		
		RW-11	08SEP87	--	--	--	--	--	--	16	--	3.9	--	4.5	--	24.4		
		RW-12	08SEP87	--	--	--	--	--	--	--	--	--	4.3	--	--	--	4.3	
		RW-12I	04SEP87	--	--	--	--	--	--	--	--	--	4.7	--	1.3	--	6	
		RW-13	08SEP87	--	--	--	3.800	--	--	--	353	--	4.5	--	2980	56	3397.3	
		RW-14	08SEP87	--	--	--	--	--	--	--	3.900	--	4.7	--	19	--	27.6	
		RW-14D	04SEP87	--	--	--	--	--	--	--	--	--	4.6	--	--	--	4.6	
		RW-1I	04SEP87	--	--	--	2	--	--	--	294	--	4.2	--	995	9	1304.2	
		RW-2	04SEP87	--	--	9.900	17	--	--	--	205	--	--	--	577	--	808.9	
		RW-3	04SEP87	--	--	--	144	--	--	--	--	--	--	--	2080	--	2224	
		RW-4	04SEP87	--	--	--	--	--	--	--	47	--	4.5	--	23	--	74.5	
		RW-5	04SEP87	--	--	--	--	--	--	--	7000	--	--	--	14050	406	21456	
		RW-6	04SEP87	--	--	--	--	--	--	--	--	--	4.4	--	--	--	4.4	
		RW-7	04SEP87	--	--	--	--	--	--	--	--	--	4.1	--	--	--	4.1	
		RW-8	04SEP87	--	--	--	--	--	--	--	--	--	4.4	--	64700	--	64704.4	
		RW-9	04SEP87	--	--	--	--	--	--	--	--	--	--	--	16600	--	16600	
		SW-1	04SEP87	--	--	--	--	--	--	--	--	--	4.1	--	--	--	4.1	
		SW-2	04SEP87	--	--	--	--	--	--	--	4120	--	--	620	20300	--	25040	
		SW-3	04SEP87	--	--	--	--	--	--	--	840	--	--	--	420	--	2266	
		SW-4	04SEP87	--	--	--	--	--	--	--	11400	--	11000	--	21400	--	43800	
		Q4	RW-1	31DEC87	--	--	--	--	--	--	--	--	--	4.6	--	--	--	4.6
			RW-10	31DEC87	--	--	--	--	--	--	380	220	--	8.4	16	720000	30	720654.4
			RW-11	31DEC87	--	--	--	--	--	--	--	51	--	7.2	--	14.2	--	72.4
			RW-12	31DEC87	--	--	--	--	--	--	--	--	--	8.2	--	3.500	--	11.7
	RW-12I		31DEC87	--	--	--	--	--	--	--	--	--	8	--	3.400	--	11.4	
	RW-13	31DEC87	--	--	--	--	--	--	--	--	--	410	--	4040	44	4494		
	RW-14	31DEC87	--	--	--	--	--	--	--	--	--	--	--	2.9	--	2.9		
	RW-1I	31DEC87	--	--	--	66	--	--	--	3190	--	4.600	--	23900	130	27290.6		
	RW-2	31DEC87	--	--	37	12	--	--	--	680	--	4.600	--	15900	--	16633.6		

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
1988	Q1	RW-3	31DEC87	--	--	--	--	--	--	19500	--	--	--	17400	5080	41980
		RW-4	31DEC87	--	--	--	--	--	--	79	--	4,300	--	240	4,600	377.9
		RW-5	31DEC87	--	--	--	--	--	--	12300	--	--	--	66900	330	79530
		RW-6	31DEC87	--	--	--	--	--	--	--	--	2,800	--	2,800	--	5.6
		RW-8	31DEC87	--	--	--	--	--	--	--	--	--	--	130000	--	130000
		RW-9	31DEC87	--	--	--	--	--	--	130	--	--	--	2700	--	2830
		SW-1	31DEC87	--	--	--	--	--	--	--	--	8.6	--	120	--	128.6
		SW-2	31DEC87	--	--	--	--	--	--	3270	--	--	1930	21800	--	27000
		SW-3	31DEC87	--	--	--	12,300	--	--	283	--	56.3	--	162	1440	1933.6
		SW-4	31DEC87	--	--	--	--	--	--	5830	--	--	--	15300	560	21690
		RW-1	08MAR88	--	--	--	--	--	--	--	--	3.5	--	--	--	3.5
		RW-10	08MAR88	--	--	--	55,600	--	--	183	--	5.5	--	500000	34,500	500278.6
		RW-11	08MAR88	--	--	--	--	--	--	27,300	--	2.7	--	7,500	--	37.5
		RW-12	08MAR88	--	--	--	--	--	--	--	--	2.4	--	--	--	2.4
		RW-12I	10MAR88	--	--	--	--	--	--	--	--	2	--	--	--	2
		RW-13	08MAR88	--	--	--	--	--	--	151	--	--	--	2140	--	2291
		RW-14	08MAR88	--	--	--	--	--	--	--	--	1.1	--	--	--	1.1
		RW-14D	10MAR88	--	--	--	--	--	--	--	--	1.1	--	3.3	--	4.4
		RW-1I	10MAR88	--	--	--	--	--	--	122	--	33.7	--	448	--	603.7
		RW-2	08MAR88	--	--	--	--	--	--	154	--	--	--	1340	74	1568
		RW-3	08MAR88	--	--	--	330	--	--	5400	--	--	--	6980	4300	17010
		RW-4	08MAR88	--	--	--	--	--	--	15,600	--	3	--	35.1	--	53.7
		RW-5	08MAR88	--	--	--	--	--	--	4620	--	--	--	12900	388	17908
		RW-6	08MAR88	--	--	--	--	--	--	--	--	4.4	--	--	--	4.4
		RW-7	08MAR88	--	--	--	--	--	--	--	--	4.6	--	--	--	4.6
		RW-8	08MAR88	--	--	--	--	--	--	--	--	--	--	42000	--	42000
		RW-9	08MAR88	--	--	--	--	--	--	89	--	--	--	4510	--	4599
		SW-1	08MAR88	--	--	--	--	--	--	--	--	1,800	--	3,700	--	5.5
		SW-2	08MAR88	--	--	--	--	--	--	2930	--	--	2420	26100	--	31450

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
Q2	Q2	SW-3	08MAR88	--	--	--	40,500	--	--	202	--	--	--	1260	388	18905
		SW-4	08MAR88	--	--	--	--	--	--	5380	--	--	250	18900	--	24530
		RW-1	02JUN88	--	--	--	--	--	--	--	--	2.34	--	11.8	--	14.14
		RW-10	02JUN88	--	--	--	--	--	--	--	--	--	--	556000	--	556000
			17MAY88	--	--	--	--	--	--	77,800	--	--	--	226000	--	226077.8
			18MAY88	--	--	--	--	--	--	130	--	--	--	600000	--	600130
			19MAY88	--	--	--	--	--	--	170	--	--	192	448000	--	448362
		RW-11	02JUN88	--	--	--	--	--	--	7,080	--	1.8	--	30,300	--	69.48
			02JUN88	--	--	--	--	--	--	128	--	2.32	--	1890	--	202032
			02JUN88	--	--	--	--	--	--	--	--	2.06	--	13.6	--	15.66
			02JUN88	--	--	--	--	--	--	289	--	--	--	3090	--	3379
		RW-13	09MAY88	--	--	--	--	--	--	492	--	--	--	3970	27	4489
			10MAY88	--	--	--	--	--	--	442	--	--	--	3730	--	4172
			11MAY88	--	--	--	3,600	--	--	543	--	--	2	5260	81,800	58904
			12MAY88	--	--	--	--	--	--	377	--	--	--	4550	43,500	49705
		RW-14	13MAY88	--	--	--	--	--	--	623	--	--	--	4970	41	5634
			02JUN88	--	--	--	--	--	--	--	--	--	--	104.9	--	104.9
			02JUN88	--	--	--	--	--	--	2,350	--	--	--	15.7	--	18.05
			02JUN88	--	--	--	--	--	--	202	--	--	--	581	--	783
		RW-11	04MAY88	--	--	--	--	--	--	478	--	--	--	5170	50,600	56986
			05MAY88	--	--	--	--	--	--	1170	--	--	--	6380	72	7622
			02JUN88	--	--	--	36,700	--	--	1140	--	--	--	17300	74	18550.7
			02JUN88	--	--	--	538	--	--	5090	--	--	--	8530	1150	15308
		RW-4	02JUN88	--	--	--	--	--	--	27	--	--	3.48	98.6	--	129.08
			02JUN88	--	--	--	--	--	--	4720	--	--	--	20300	--	25220
			02JUN88	--	--	--	--	--	--	93,500	--	1.85	3.31	9070	40	9216.27
			02JUN88	--	--	--	7,610	--	--	1,960	--	2.05	3.31	8.89	--	16.21
		RW-8	02JUN88	--	--	--	--	--	--	--	--	--	--	91500	--	91500
			02JUN88	--	--	--	--	--	--	--	--	--	--	397	--	403.98

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHORO- ETHENE	1,1- DICHORO- ETHANE	1,2- DICHORO- ETHANE	1,2- DICHORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-13	19FEB91	--	--	--	--	--	--	280	--	--	--	2310	--	2590
		RW-14	19FEB91	--	--	--	--	--	--	1,300	--	--	--	--	--	1.3
		RW-14I	19FEB91	--	--	--	--	--	--	6,270	--	--	--	35,400	--	41,67
		RW-11	20FEB91	--	--	--	--	--	--	3,270	--	--	--	2,720	49,700	6039.7
		RW-2	20FEB91	--	--	--	--	--	--	3,640	--	265	--	3,1500	--	35,405
		RW-3	20FEB91	--	--	--	587	--	--	7,110	--	--	--	10,100	1620	19,417
		RW-4	19FEB91	--	--	--	--	--	--	3,380	--	--	--	1	2,150	6,53
		RW-5	20FEB91	--	--	--	--	--	145	4,920	--	--	--	1,7200	--	22,265
		RW-6	19FEB91	--	--	--	--	--	--	--	--	--	--	28.8	--	28.8
		RW-7	20FEB91	--	--	1,680	--	--	--	--	--	--	--	--	--	1.68
			20FEB91	--	--	1,570	--	--	--	--	--	--	--	--	--	1.57
		RW-8	20FEB91	--	--	--	--	--	--	--	--	--	--	10300	--	10300
		RW-9	20FEB91	--	--	3,030	--	--	--	7,990	--	--	--	191	--	202.02
		SW-1	20FEB91	--	--	1,270	--	--	--	2,530	--	--	--	3,160	--	6.96
		SW-2	20FEB91	--	--	--	--	--	--	10,200	--	1680	2350	45,800	--	60,030
		SW-3	20FEB91	--	--	--	8,190	--	--	146	--	2,580	--	52,900	174	383.67
		SW-4	19FEB91	--	--	--	--	112	--	6340	--	--	--	43700	--	50,152
Q2		RW-1	15MAY91	--	--	1,050	--	--	--	1,730	--	1.53 B	--	2,680	--	6.99
		RW-10	16MAY91	--	--	--	--	--	--	--	--	--	--	--	--	7,7950
			17MAY91	--	--	--	--	--	--	15,600	--	700 B	--	59500	2150	7,7950
		RW-10I	16MAY91	--	--	--	--	--	--	--	--	--	--	--	--	16,758
			17MAY91	--	--	--	--	--	--	4,400	--	181 B	--	11,800	377	16,758
		RW-11	16MAY91	--	--	--	--	--	--	1,770	--	1.87 B	--	8.73	--	12.37
		RW-12	16MAY91	--	--	--	--	--	--	--	--	1.65	--	--	--	1.65
		RW-12I	16MAY91	--	--	--	--	--	--	--	--	1.72	--	--	--	1.72
		RW-13	16MAY91	--	--	--	--	--	--	10,900	--	68 B	--	11,700	79,900	129,379
		RW-14	16MAY91	--	--	--	--	--	--	--	--	2.45 B	--	--	--	2.45
		RW-14I	16MAY91	--	--	--	--	--	--	4,030	--	3.37	--	23,400	--	30.8
		RW-11	15MAY91	--	--	--	--	--	--	51,100	--	1.72	--	104	--	156.82

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHORO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHORO- ETHANE	1,2- DICHORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-11	15MAY91	--	--	--	--	--	--	--	--	--	--	--	--	155.62
		RW-2	16MAY91	--	--	--	--	--	--	--	--	--	--	--	--	22305
			17MAY91	--	--	--	--	--	--	2960	--	319	226	18800	--	22305
		RW-3	15MAY91	--	--	--	431	--	--	7250	--	882	--	8680	1320	18563
		RW-4	15MAY91	--	--	--	--	--	--	3,530	--	1	--	2,64	--	7,17
		RW-5	15MAY91	--	--	--	--	--	--	440	--	--	52,700	2320	--	28127
		RW-6	16MAY91	--	--	--	--	--	--	--	--	2,550	--	14,500	--	17,05
		RW-7	15MAY91	--	--	1,480	--	--	--	--	--	1,250	--	--	--	2,73
		RW-8	15MAY91	--	--	--	--	--	--	--	--	181	--	8920	--	9101
		RW-9	15MAY91	--	--	1,870	--	--	--	2,580	--	2,040	--	90,2	--	96,69
		SW-1	15MAY91	--	--	--	--	--	--	--	--	1,120	--	2,98	--	4,1
			15MAY91	--	--	--	--	--	--	--	--	--	--	--	--	3,97
		SW-2	16MAY91	--	--	--	--	--	--	--	--	--	--	--	--	72572
			17MAY91	--	--	--	--	--	--	11000	--	862	2710	58000	--	72572
		SW-3	15MAY91	--	--	--	5,720	--	--	169	--	1,630	--	56	164	396,35
		SW-4	15MAY91	--	--	--	--	--	--	6130	--	1240	--	32200	--	39570
		RW-1	28AUG91	--	--	--	--	--	--	3,510	--	--	--	4,790	--	8,3
		RW-10	30AUG91	--	--	--	--	--	--	2940	--	--	--	34100	--	37040
		RW-101	30AUG91	--	--	--	--	--	--	3270	--	--	--	15200	312	18782
		RW-11	28AUG91	--	--	--	--	--	--	1,310	--	--	--	9,29	--	10,6
		RW-12	29AUG91	--	--	--	--	--	--	--	--	--	--	4,5	--	4,5
			29AUG91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-121	29AUG91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	28AUG91	--	--	--	--	--	--	951	--	--	--	10100	--	11051
		RW-14	29AUG91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-141	29AUG91	--	--	--	--	--	--	12,700	--	--	--	23,200	--	35,9
		RW-11	28AUG91	--	--	--	--	--	--	1820	--	--	--	9150	--	10970
		RW-2	30AUG91	--	--	--	--	--	--	4430	--	--	265	24200	--	28895
		RW-3	29AUG91	--	--	--	367	--	--	5320	--	--	--	7660	1350	14697

Q3

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLORO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
Q4		RW-4	28AUG91	--	--	--	--	--	--	2,710	--	--	--	3,520	--	6.23
		RW-5	29AUG91	--	--	--	--	--	--	3320	--	--	299	30600	--	34219
		RW-6	28AUG91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-7	29AUG91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-8	29AUG91	--	--	--	--	--	--	24,700	--	--	--	5630	--	5654.7
		RW-9	29AUG91	--	--	1,960	--	--	--	3,840	--	--	--	109	--	114.8
		SW-1	28AUG91	--	--	1,150	--	75	--	3,060	--	--	--	3,650	--	82.86
		SW-2	30AUG91	--	--	--	--	--	--	8750	--	--	2030	50100	--	60880
		SW-3	29AUG91	--	--	--	1,520	--	--	103	--	--	--	53,800	249	407.32
		SW-4	28AUG91	--	--	--	--	--	--	5650	--	--	--	35700	--	41350
		RW-1	14NOV91	--	--	--	--	--	--	5,830	--	--	--	6,270	--	12.1
		RW-101	15NOV91	--	--	--	--	--	--	2600	--	--	--	11000	135	13755
		RW-11	14NOV91	--	--	--	--	--	--	1,680	--	--	--	5,920	--	7.6
		RW-121	15NOV91	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	14NOV91	--	--	--	--	--	--	1190	--	--	--	7280	109	8579
		RW-141	14NOV91	--	--	--	--	--	--	13,300	--	--	--	20	--	33.3
		RW-11	14NOV91	--	--	--	--	--	--	151	--	--	--	260	--	411
		RW-2	15NOV91	--	--	--	--	--	--	4990	--	--	276	28500	--	33766
		RW-3	15NOV91	--	--	--	364	--	--	4940	--	--	--	7270	1160	13754
		RW-4	14NOV91	--	--	--	--	--	--	7,070	--	--	--	3,480	3.06	13.61
			15NOV91	--	--	--	--	--	--	6,490	--	--	--	3,290	2.85	12.63
		RW-5	15NOV91	--	--	--	--	--	--	3020	--	--	--	23300	--	26320
		RW-6	14NOV91	--	--	--	--	--	--	--	--	--	--	8,040	--	8.04
		RW-8	15NOV91	--	--	--	--	--	--	109	--	--	--	7390	--	7499
		RW-9	15NOV91	--	--	5,220	--	--	--	1,120	--	--	--	33.3	--	39.64
		SW-1	14NOV91	--	--	1,440	--	--	--	5,440	--	--	--	4.62	--	11.5
		SW-2	15NOV91	--	--	--	--	--	--	8460	--	--	9280	41100	--	58840
		SW-3	15NOV91	--	--	--	3,780	--	--	150	--	--	--	46	492	691.78
		SW-4	14NOV91	--	--	--	--	--	--	5310	--	--	--	32700	--	38010

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHANE	1,2- DICHLO- ETHENE- TOTAL	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
1993	Q4	RW-8	20AUG92	--	--	--	--	--	--	--	55	--	--	--	6300	--	6355
		RW-9	20AUG92	--	--	--	3,200	--	--	--	3,800	--	--	--	42	--	49
			20AUG92	--	--	--	3,300	--	--	--	3,100	--	--	--	35	--	41.4
		SW-1	20AUG92	--	--	--	--	--	--	--	8	--	--	--	6,200	--	14.2
		SW-2	20AUG92	--	--	--	1700	--	--	--	14000	--	--	4400	53000	--	73100
		RW-1	10NOV92	--	--	--	--	--	--	--	11	--	--	--	4,600	--	15.6
		RW-10I	10NOV92	--	--	--	--	--	--	--	1900	--	--	190	6000	--	8090
		RW-11	10NOV92	--	--	--	--	--	--	--	2	--	--	--	8.9	--	10.9
		RW-12	10NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			10NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-12I	10NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	10NOV92	--	--	--	--	--	--	--	190	--	12 B	--	1400	--	1602
		RW-14	09NOV92	--	--	--	--	--	--	--	--	--	1.1 B	--	--	--	1.1
			09NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14I	09NOV92	--	--	--	--	--	--	--	17	--	--	--	13	--	30
		RW-11	10NOV92	--	--	--	--	--	--	--	3,100	--	--	--	3.1	--	6.2
		RW-5	11NOV92	--	--	--	--	--	--	--	2900	--	--	460	15000	--	18360
		RW-6	10NOV92	--	--	--	--	--	--	--	--	--	2 B	--	13	--	15
		RW-7	10NOV92	--	--	--	--	--	--	--	--	--	1.4	--	--	--	1.4
		RW-8	10NOV92	--	--	--	--	--	--	--	--	--	--	--	4900	--	4900
		RW-9	10NOV92	--	--	--	4	--	--	1,900	5,500	--	--	--	32	--	43.4
1993	Q1	SW-1	10NOV92	--	--	--	--	--	--	--	13	--	1.9	--	5	--	19.9
		RW-1	04FEB93	--	--	--	1,200	--	--	--	6,400	--	--	--	2.7	--	10.3
		RW-10I	03FEB93	--	--	--	--	--	--	--	1200	--	--	210	2000	32	3442
		RW-11	04FEB93	--	--	--	--	--	--	--	1,700	--	--	--	5.7	--	7.4
		RW-12	03FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			03FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-12I	03FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	04FEB93	--	--	--	--	--	--	--	150	--	--	150	990	--	1290

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHORO- ETHANE	1,2- DICHORO- ETHANE	1,2- DICHORO- ETHANE	1,2,3- TRICHLORO- PROPANE	1,2- DICHORO- ETHANE	1,2- DICHORO- ETHENE- TOTAL	CHLORO- METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-14	04FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			04FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14I	04FEB93	--	--	--	--	--	--	--	--	10	--	--	7,500	--	17.5
		RW-1I	04FEB93	--	--	--	--	--	--	--	--	1.1	--	--	1.8	--	2.9
		RW-5	04FEB93	--	--	--	--	--	--	--	--	1800	--	220	11000	--	13020
		RW-6	04FEB93	--	--	--	--	--	--	--	--	--	--	--	6.4	--	6.4
		RW-7	05FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-8	05FEB93	--	--	--	--	--	--	--	--	--	--	--	4500	--	4500
		RW-9	05FEB93	--	--	--	1,800	--	--	--	--	1,200	--	--	25	--	28
		SW-1	04FEB93	--	--	--	1,600	--	--	--	--	5,300	--	--	3,700	--	10.6
		RW-1	06MAY93	--	--	--	--	--	--	--	--	3,300	--	--	1,900	--	5.2
		RW-10I	06MAY93	--	--	--	--	--	--	--	--	1400	--	140	4600	--	6140
		RW-11	06MAY93	--	--	--	--	--	--	--	--	5,300	--	--	3,300	--	8.6
			06MAY93	--	--	--	--	--	--	--	--	6,800	--	--	3,300	--	10.1
		RW-12	06MAY93	--	--	--	--	--	--	--	--	1,300	--	--	--	--	1.3
		RW-12I	06MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	05MAY93	--	--	--	--	--	--	--	--	110	--	--	770	--	880
		RW-14	05MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14I	05MAY93	--	--	--	--	--	--	--	--	13	1.4 B	--	13	--	27.4
		RW-1I	06MAY93	--	--	--	--	--	--	--	--	1,300	--	--	3.3	--	4.6
		RW-5	05MAY93	--	--	--	--	--	--	--	--	1100	--	130	7400	--	8630
		RW-6	05MAY93	--	--	--	--	--	--	--	--	--	--	--	8.6	--	8.6
			05MAY93	--	--	--	--	--	--	--	--	--	--	--	7.2	--	7.2
		RW-7	06MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-8	06MAY93	--	--	--	--	--	--	--	--	35	--	--	3500	--	3535
		RW-9	06MAY93	--	--	--	--	--	--	--	--	1,100	--	--	27	--	28.1
		SP-1	05MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		SP-2	06MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		SP-4	05MAY93	--	--	--	--	--	--	--	--	--	--	1,100	1.3	--	2.4

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1,2- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLO- ETHENE	1,2,3- TRICHLORO- PROPANE	1,2- DICHLORO- ETHENE	CHLORO- FORM	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRICHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-13	11FEB94	--	--	--	--	--	140	--	--	--	910	--	1050
		RW-14	09FEB94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14D	09FEB94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14I	09FEB94	--	--	--	--	--	8,500	--	--	--	4.3	--	12.8
		RW-11	09FEB94	--	--	--	--	--	5,100	--	--	--	9.8	--	14.9
		RW-2	15FEB94	--	--	--	--	--	380	--	24	18	1600	--	2022
		RW-3	10FEB94	--	--	--	--	--	390	--	--	180	1700	59	2329
		RW-4	10FEB94	--	--	--	--	--	200	--	--	14	740	11	965
		RW-5	11FEB94	--	--	--	--	--	600	--	--	240	4100	--	4940
		RW-6	09FEB94	--	--	--	--	--	--	--	--	--	4.4	--	4.4
		RW-7	09FEB94	--	--	--	--	--	--	--	--	--	--	--	--
			09FEB94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-8	11FEB94	--	--	--	--	--	14	--	--	--	1100	--	1114
		RW-9	11FEB94	--	--	--	--	--	20	--	--	43	3300	--	3363
		SW-1	09FEB94	--	--	--	--	--	5.5	--	--	--	2.7	--	8.2
		SW-2	15FEB94	--	--	--	--	--	1200	--	--	--	7700	--	8900
		SW-3	10FEB94	--	--	--	--	--	2600	--	--	--	16000	--	18600
		SW-4	10FEB94	--	--	--	--	--	480	--	--	41	1600	--	2121
		RW-1	13MAY94	--	--	--	--	--	3.8	--	--	--	1.5	--	5.3
		RW-11	13MAY94	--	--	--	--	--	2.3	--	--	--	4.5	--	6.8
		RW-7	13MAY94	--	--	--	--	--	1.2	--	--	--	--	--	1.2
		SW-1	13MAY94	--	--	--	--	--	--	--	--	--	2.3	--	2.3
		RW-12	12MAY94	--	--	--	--	--	1.1	--	--	--	--	--	1.1
			12MAY94	--	--	--	--	--	1.1	--	--	--	--	--	1.1
		RW-12I	12MAY94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-13	12MAY94	--	--	--	--	--	160	--	--	--	760	--	920
		RW-14	12MAY94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14D	12MAY94	--	--	--	--	--	--	--	--	--	--	--	--
		RW-14I	12MAY94	--	--	--	--	--	20	--	--	--	51	--	71

Q2

NOTES:

1. ALL CONCENTRATIONS PRESENTED IN UNITS OF MICROGRAMS PER LITER (ug/L) OR PARTS PER BILLION (PPB).
2. "----" PARAMETER WAS ANALYZED FOR BUT NOT DETECTED.
3. B - PARAMETER DETECTED IN THE LABORATORY METHOD BLANK.
4. REFER TO TEXT FOR ADDITIONAL INFORMATION.

X:\JWL\WKS2A\70307-44\BLDG201.WK1

TABLE XV
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF HISTORICAL GROUNDWATER QUALITY RESULTS
DETECTED VOLATILE ORGANICS - BUILDING 206 AREA
COMPOUNDS DETECTED IN ug/L (PPB)

YEAR	QUARTER	WELL	DATE	1,1,1- TRICHLORO- ETHANE	1,1- DICHLORO- ETHANE	1,1- DICHLORO- ETHYLENE	1,2- DICHLORO- ETHYLENE- CIS	1,2- DICHLORO- ETHYLENE- TOTAL	CHLORO- ETHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHYLENE	TOLUENE	TRI- CHLORO- ETHYLENE	VINYL CHLORIDE	TOTAL VOLATILES
1991	Q1	206-1	12FEB91	--	31.7	10.1	--	67.7	--	--	3.28 B	3.01	--	1.82	--	117.61
		206-2	12FEB91	210	77	--	--	3480	--	--	51.3 B	715	--	204	1300	6037.3
		206-3	12FEB91	--	1.08	--	--	1.36	--	--	4.07 B	--	--	--	--	6.51
	Q2	206-1	28MAY91	--	24.9	5.18	--	50.8	--	--	--	3.29	--	1.41	--	85.58
		206-2	28MAY91	187	101	35.1	--	6970	--	--	--	2630	--	939	1670	2532.1
		206-3	28MAY91	--	1.46	--	--	12.2	--	--	--	2.37	--	--	--	16.03
	Q3	206-1	21AUG91	--	25	4.51	--	45.5	--	--	--	1.03	--	1.46	--	77.5
		206-2	21AUG91	24.1	27.6	16.1	--	5680	--	--	--	391	29	266	273	6706.8
		206-3	21AUG91	--	1.78	--	--	50.4	--	5.45	--	3.95	--	2.9	--	59.03
	Q4	206-1	08NOV91	0.76	41.1	9.93	--	83.5	--	--	1.05 B	1.92	--	2.19	--	140.45
		206-1-OB	08NOV91	1.72	30.8	12.5	--	115	--	--	1.96 B	201	--	8.46	--	371.44
		206-2	07NOV91	89.1	133	--	--	2970	--	--	--	1260	--	323	3170	7945.1
1992	Q1	206-2I	07NOV91	--	--	--	--	4400	--	--	53	--	--	3940	121	8514
		206-3	07NOV91	--	--	--	--	83.9	--	--	--	11.9	--	6.9	7.85	110.55
		206-1	25FEB92	--	29	6.500	57	--	--	--	--	--	--	--	--	92.5
	Q2	206-1-OB	25FEB92	--	--	--	--	--	--	--	--	1100	--	11	--	1111
		206-2	25FEB92	41	32	--	617	--	--	--	--	710	--	100	490	1990
		206-2I	25FEB92	--	--	--	1600	--	--	--	--	--	--	950	60	2610
	Q3	206-3	25FEB92	5.6	--	--	5,800	--	--	--	--	--	--	--	--	11.4
		206-1	06MAY92	--	32	--	--	82	--	--	--	--	--	2,900	--	116.9
		206-1-OB	06MAY92	--	--	--	--	--	--	--	--	2500	--	17	--	2517
	Q4	206-2	07MAY92	45	180	--	--	900	--	--	--	2200	--	110	600	4035

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHANE	1,1-DI CHLORO- ETHENE- CIS	1,2-DI CHLORO- ETHENE- TOTAL	CHLORO- ETHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TOLUENE	TRI- CHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
1993	Q2	206- 2I	07MAY92	--	--	--	1600	29	--	--	22	--	1200	--	2851
		206- 3	07MAY92	--	--	--	--	--	--	--	--	--	--	--	--
	Q3	206- 1	13AUG92	29	8.9	--	100	--	--	--	4.9	--	4.5	--	147.3
		206- 1-OB	13AUG92	--	--	--	--	--	--	--	5300	--	46	--	5346
		206- 2	13AUG92	--	--	--	5000	--	--	78	1000	--	260	5800	2608
		206- 2I	13AUG92	8.2	--	--	900	--	--	--	26	--	560	16	1510.2
	Q4	206- 3	13AUG92	--	--	--	2.7	--	--	--	--	--	--	--	2.7
		206- 1	05NOV92	32	9.8	--	100	--	--	--	9.2	--	5	--	156
		206- 1-OB	05NOV92	--	--	--	--	--	--	--	2300	--	24	--	2324
		206- 2	05NOV92	470	--	--	6000	--	--	90 B	640	98	130	3900	1328
	Q1	206- 2I	05NOV92	16	--	--	790	--	--	--	39	--	650	32	1527
		206- 3	05NOV92	--	--	--	4.7	--	--	1.2 B	--	--	--	--	5.9
		206- 1	11FEB93	30	9.8	--	94	--	--	--	8.7	--	4.5	--	147
		206- 1-OB	11FEB93	--	--	--	--	--	--	--	3900	--	32	--	3932
	Q2	206- 2	11FEB93	--	--	--	2700	--	--	--	390	--	98	3200	6598
		206- 2I	11FEB93	14	5	--	750	--	--	--	18	--	490	40	1317
		206- 3	11FEB93	--	--	--	1.3	--	--	--	--	--	--	--	1.300
		206- 1	11MAY93	38	13	--	140	--	--	1.2 B	18	--	10	--	219
	Q3	206- 1-OB	11MAY93	--	11	--	130	--	--	--	15	--	8.300	--	198.3
		206- 2	13MAY93	17	5.8	--	560	--	--	--	3900	--	22	--	3922
206- 2D		13MAY93	--	--	--	--	--	--	--	690	--	89	580	1975.8	
206- 2I		13MAY93	16	--	--	1100	--	--	--	16	--	610	37	1779	
Q3	206- 3	13MAY93	--	--	--	2.2	--	--	--	--	--	--	--	2.2	
	206- 1	17AUG93	29	9.1	--	97	--	--	--	7.5	--	6.3	--	148.9	
	206- 1-OB	17AUG93	--	--	--	94	--	--	--	860	--	21	--	1011	
	206- 2	18AUG93	--	--	--	5300	--	--	--	170	--	130	5100	1170	
Q3	206- 2D	19AUG93	--	--	--	--	--	--	--	--	--	--	--	--	
	206- 2I	19AUG93	12	--	--	1100	--	--	--	--	--	460	37	1609	
	206- 3	18AUG93	--	--	--	4.4	--	--	--	--	--	--	2.8	7.2	

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHENE	1,2-DI- CHLORO- ETHENE- CIS	1,2- DICHORO- ETHENE- TOTAL	CHLORO- ETHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TOLUENE	TRI- CHLORO- ETHENE	VINYL CHLORIDE	TOTAL VOLATILES
1994	Q4	206-1	17NOV93	--	28	7.4	--	70	--	--	--	6.1	--	4.9	--	116.4
		206-1-OB	17NOV93	5.5	5.4	--	--	19	--	--	--	230	--	7.800	--	267.7
		206-2	17NOV93	63	170	--	--	1600	--	--	--	2200	--	190	1100	5323
		206-2D	17NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--
		206-2I	17NOV93	--	--	--	--	1500	--	--	--	--	--	1200	45	2745
		206-3	17NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--
	Q1	206-1	03FEB94	--	31	9.2	--	84	--	--	--	15	--	6.8	--	146
		206-1-OB	03FEB94	--	--	--	--	--	--	--	--	8100	--	52	--	8152
		206-2	03FEB94	130	68	--	--	1100	--	--	--	1500	--	160	1200	4158
		206-2D	03FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--
	Q2	206-2I	03FEB94	--	--	--	--	2100	--	--	--	--	--	890	31	3021
		206-3	03FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--
		206-2D	12MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--

NOTES:

1. ALL CONCENTRATIONS PRESENTED IN UNITS OF MICROGRAMS PER LITER (ug/L) OR PARTS PER BILLION (PPB).
2. "--" PARAMETER WAS ANALYSED FOR BUT NOT DETECTED.
3. B - PARAMETER DETECTED IN THE LABORATORY METHOD BLANK.
4. REFER TO TEXT FOR ADDITIONAL INFORMATION.

TABLE XVI
XEROX CORPORATION
WEBSTER, NEW YORK
BUILDING 201/206/218 RFI FINAL REPORT

SUMMARY OF HISTORICAL GROUNDWATER QUALITY RESULTS
DETECTED VOLATILE ORGANICS - BUILDING 218 AREA
COMPOUNDS DETECTED IN ug/L (ppb)

[illegible]

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO ETHANE	1,1-DI- CHLORO ETHANE	1,2-DI CHLORO ETHENE	1,2-DI- CHLORO ETHENE	1,2-DI- CHLORO ETHENE	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO ETHANE	CHLORO BENZENE (PID)	CHLORO- FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO- ETHENE	TRI- CHLORO- FLUOROM- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES
1991	Q2	RW-161	08SEP88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.600	--	--	1.6
		218-1	12FEB91	1240000	--	34900	25000	--	--	--	--	--	--	--	--	420	--	--	--	--	--	299920
		218-2	12FEB91	124	--	183	50	--	--	--	--	--	--	--	164	--	13.2 B	124	670	--	43	1384.6
		218-3	12FEB91	211	--	208	74	--	--	--	--	--	--	--	--	--	11.1	51,500	748	--	--	1442.6
		218-31	12FEB91	10,900	--	75,200	10,300	--	--	--	--	--	--	--	--	--	7.67 B	7,770	275	--	5,290	453.03
		218-4	12FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-5	12FEB91	9,630	--	62	1,700	--	--	--	--	4.78	--	--	--	--	2.99 B	1,610	--	--	5,150	195.86
		218-51	12FEB91	11,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25,400	--	2,850	59.85
		218-6	12FEB91	1030	--	807	350	--	--	--	--	21.9	--	--	--	--	--	40,600	31,900	--	--	2525.4
		218-7	12FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	3.65 B	--	--	--	--	3.65
		218-71	12FEB91	--	--	1,090	--	--	--	--	--	--	--	--	--	--	4.12 B	--	--	--	--	5.21
		RW-15	18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10,300	--	--	12.27
		RW-151	18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-16	18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.82
		RW-161	18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.93
			18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			18FEB91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-1	28MAY91	1250000	--	32500	22500	--	--	--	--	--	--	--	--	471	--	--	10100	--	--	315571
		218-2	28MAY91	132	--	173	58	--	--	--	--	--	--	--	--	--	--	354	759	--	51,200	1676.2
		218-3	28MAY91	205	--	196	73	--	--	--	--	--	--	--	--	--	--	51	705	--	12,800	1380.8
		218-31	28MAY91	12.7	--	109	16.5	--	--	--	--	--	--	--	--	--	--	22,400	447	--	--	692.1
		218-4	28MAY91	--	--	1.82	--	--	--	--	--	--	--	--	--	--	--	--	415	--	--	5.97
		218-5	28MAY91	7.2	--	49.5	--	--	--	--	--	2.84	--	--	--	--	1.17 B	51.80	--	--	2,550	152.54
		218-51	28MAY91	2.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33,200	--	2,640	74.33
		218-6	28MAY91	1330	--	1190	481	17.1	--	--	--	30.5	--	--	--	--	--	97,000	527	--	--	4219.8
		218-7	28MAY91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-71	28MAY91	6.24	--	3.73	--	--	--	--	--	--	--	--	--	--	--	--	1,430	--	--	13.4
		RW-15	18MAY91	--	--	--	--	--	--	--	--	--	--	--	--	--	3.43	--	14,400	--	--	21.45
1991	Q2	218-1	28MAY91	1250000	--	32500	22500	--	--	--	--	--	--	--	--	471	--	--	10100	--	--	315571
		218-2	28MAY91	132	--	173	58	--	--	--	--	--	--	--	--	--	--	354	759	--	51,200	1676.2
		218-3	28MAY91	205	--	196	73	--	--	--	--	--	--	--	--	--	--	51	705	--	12,800	1380.8
		218-31	28MAY91	12.7	--	109	16.5	--	--	--	--	--	--	--	--	--	--	22,400	447	--	--	692.1
		218-4	28MAY91	--	--	1.82	--	--	--	--	--	--	--	--	--	--	--	--	415	--	--	5.97
		218-5	28MAY91	7.2	--	49.5	--	--	--	--	--	2.84	--	--	--	--	1.17 B	51.80	--	--	2,550	152.54
		218-51	28MAY91	2.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33,200	--	2,640	74.33
		218-6	28MAY91	1330	--	1190	481	17.1	--	--	--	30.5	--	--	--	--	--	97,000	527	--	--	4219.8
		218-7	28MAY91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-71	28MAY91	6.24	--	3.73	--	--	--	--	--	--	--	--	--	--	--	--	1,430	--	--	13.4
		RW-15	18MAY91	--	--	--	--	--	--	--	--	--	--	--	--	--	3.43	--	14,400	--	--	21.45

TABLE (cont.)

[illegible]

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO ETHANE	1,1-DI- CHLORO ETHANE	1,2-DI CHLORO ETHANE	1,2- DICHLORO ETHENE- CIS	1,2- DICHLORO ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO ETHANE	CHLORO- BENZENE (PID)	CHLORO FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO ETHENE	TRI- CHLORO- FLUOROM- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES	
Q3		RW-15I	12MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-16	12MAY92	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3
			12MAY92	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6
		RW-16I	12MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-17	12MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-18	12MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-19	21APR92	--	--	--	--	--	9.9	--	--	--	--	--	--	--	--	--	1.700	60	--	--	71.6
			06MAY92	--	--	--	--	--	7.4	--	--	--	--	--	--	--	--	--	1.300	62	--	--	70.7
		RW-19I	06MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20	20APR92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			06MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20I	06MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-21	20APR92	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
			07MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-22	20APR92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		06MAY92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	SP-3	20APR92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	218-1	14AUG92	150000	--	40000	23000	--	--	--	--	--	--	--	--	--	--	--	13000	18000	--	--	594000	
	218-3D	13AUG92	9.4	--	98	12	--	--	120	--	--	--	--	--	--	--	--	--	310	--	--	549.4	
	218-4	13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	1.3	
	218-5	14AUG92	--	--	37	--	--	--	95	--	--	--	--	--	--	--	--	--	--	--	--	132	
	218-5I	14AUG92	--	--	--	--	--	--	120	--	--	--	--	--	--	--	--	--	70	--	--	4200	194.2
	218-6	14AUG92	1400	--	1300	540	--	--	780	--	--	--	--	--	--	--	--	290	140	--	--	4450	
	218-7	13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	218-7I	13AUG92	--	--	2.8	--	--	--	1.5	--	--	--	--	--	--	--	--	--	1.4	--	--	5.7	
	218-9	13AUG92	--	--	4.6	--	--	--	7.2	--	--	--	--	--	--	--	--	--	13	--	--	24.8	
	218-9I	13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		RW-15	19AUG92	--	--	--	--	--	4.4	--	--	--	--	--	--	--	--	--	14	--	--	--	18.4

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TM CHLORO ETHANE	1,1-DI- CHLORO ETHENE	1,2-DI CHLORO ETHANE	1,2- DICHLORO- ETHENE- CIS	1,2- DICHLORO- ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO- ETHANE	CHLORO- BENZENE (PID)	CHLORO- FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO- ETHENE	TRI- CHLORO- FLUOROM- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES		
Q4		RW-151	19AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		RW-16	19AUG92	--	--	--	--	2.2	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	4.3	
			19AUG92	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	
		RW-161	19AUG92	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	1.9	--	--	--	3.3	
		RW-17	19AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	1.9	
		RW-18	19AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		RW-19	13AUG92	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	1.7	66	--	--	78.7	
		RW-191	13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		RW-20	14AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		RW-201	14AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		RW-21	13AUG92	--	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	
		RW-22	13AUG92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		218-1	04NOV92	200000	--	--	48000	38000	--	--	--	--	--	--	--	--	--	26000 B	--	21000	--	--	133000	
		218-2	24NOV92	56	--	70	33	--	--	--	--	--	--	--	--	--	--	--	180	320	--	75	854	
		218-3	24NOV92	8.9	--	3	--	--	--	--	--	--	--	--	--	--	--	--	1.600	5.100	--	--	18.6	
		218-3D	04NOV92	3.3	--	65	8.2	--	--	110	--	--	--	--	--	--	--	2.2 B	--	160	--	--	344.7	
		218-3I	24NOV92	10	--	76	12	--	--	--	--	--	--	--	--	--	--	--	7.800	150	--	--	344.8	
		218-4	04NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 B	--	--	--	--	2	
		218-5	08NOV92	--	--	52	1.2	--	--	110	--	--	3.5	--	--	--	--	--	--	--	--	3	169.7	
		218-5I	08NOV92	1	--	--	--	--	--	98	--	--	--	--	--	--	--	--	--	--	56	--	3.500	158.5
		218-6	08NOV92	1300	--	--	1200	540	11	570	--	--	37	--	--	--	--	--	180	45	--	--	348.3	
		218-7	04NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7 B	--	--	--	--	2.7	
	218-7I	04NOV92	--	--	6.9	--	--	--	4.6	--	--	--	--	--	--	--	2.3 B	--	2.700	--	--	16.5		
	218-9	04NOV92	--	--	3.2	--	--	--	3.5	--	--	--	--	--	--	--	1 B	--	6.700	--	--	14.4		
		04NOV92	--	--	3.4	--	--	--	3.2	--	--	--	--	--	--	--	--	--	6.300	--	--	12.9		
	218-9I	04NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 B	--	--	--	--	1.3		
	RW-15	08NOV92	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	1.3 B	--	9.300	--	--	13.2		
	RW-151	08NOV92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1 B	--	--	--	--	1.1		
	RW-16	08NOV92	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--	--	--	1.100	--	--	5		

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO ETHANE	1,1-DI- CHLORO ETHANE	1,2-DI CHLORO ETHENE- CIS	1,2- DICHLORO ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO ETHANE	CHLORO BENZENE (PID)	CHLORO FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO- ETHENE	TRI- CHLORO- FLUOROM- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-17	04FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-18	04FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-19	11FEB93	--	--	--	--	10	--	--	--	--	--	--	--	--	--	43	--	--	53
		RW-19I	11FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20	10FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20I	10FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-21	10FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	--	--	13
		RW-22	10FEB93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-1	18MAY93	54000	--	--	--	--	--	--	--	--	--	--	--	9800 B	--	--	--	--	62000
		218-2	12MAY93	61	10	92	--	120	--	--	--	--	--	--	--	--	300	390	--	27	1023
		218-3	12MAY93	2,900	--	4.2	--	1.7	--	--	--	--	--	--	--	--	1,400	4,800	--	--	15
		218-3D	11MAY93	5.1	--	120	15	120	--	--	--	--	--	--	--	--	4,400	280	--	53	549.8
		218-3I	12MAY93	15	--	140	18	89	--	--	--	--	--	--	--	--	22	440	--	--	724
		218-4	11MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-5	14MAY93	--	--	55	1.1	120	--	--	3.1	--	--	--	--	2.1 B	--	--	--	3.2	182.4
		218-5I	14MAY93	--	--	--	--	160	--	--	--	--	--	--	--	1.1 B	--	77	--	7.3	244.3
		218-6	14MAY93	1500	--	1400	680	830	--	--	--	--	--	--	--	2.1 B	310	170	--	--	4890
		218-7	12MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-7D	13MAY93	--	--	3.1	--	1.5	--	--	--	--	2	--	--	--	--	--	--	--	6.6
		218-7I	12MAY93	--	--	7	--	6	--	--	--	--	--	--	--	--	--	32	--	--	162
		218-9	12MAY93	--	--	3.7	--	5.1	--	--	--	--	--	--	--	--	--	9	--	--	17.8
		218-9D	13MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-9I	12MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-15	03MAY93	--	--	--	--	1	--	--	--	--	--	--	--	--	--	33	--	--	43
		RW-15I	03MAY93	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	--	--	--	1.1
		RW-16	03MAY93	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	1.4
			03MAY93	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	--	--	--	1.3
		RW-16I	03MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-17	03MAY93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	1.1

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO- ETHANE	1,1-DI- CHLORO ETHANE	1,1-DI- CHLORO ETHANE	1,2-DI CHLORO- ETHENE- CIS	1,2- DICHORO- ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO- ETHANE	CHLORO- FORM (PID)	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO- ETHENE	TRI- CHLORO- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES
		RW-17	11AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-18	11AUG93	--	--	--	--	--	--	--	--	--	--	--	--	1 B	--	--	--	--	--
		RW-19	18AUG93	--	--	9.5	--	--	32	--	--	--	--	--	--	--	13	220	--	--	274.5
		RW-19I	18AUG93	--	--	--	--	--	--	--	--	--	--	--	--	1 B	--	--	--	--	--
		RW-20	18AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20I	18AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-21	18AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-22	19AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-23	19AUG93	--	--	1.7	--	--	6.2	--	--	--	--	--	--	--	1.6	23	--	--	32.5
			19AUG93	--	--	1.5	--	--	5.3	--	--	--	--	--	--	--	1.6	24	--	--	32.4
		RW-24	19AUG93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-1	18NOV93	13000	--	1300	--	--	--	--	--	--	--	--	--	--	--	2200	--	--	33600
		218-2	18NOV93	220	--	190	92	2.6	100	--	--	--	--	--	--	--	73	320	--	14	1011.6
		218-3	18NOV93	110	--	43	68	1.3	29	--	--	--	--	--	--	--	5.7	50	1.9	2.900	311.8
		218-3D	18NOV93	2.4	--	57	6.9	--	52	--	--	--	--	--	--	--	--	120	--	2.300	240.6
			18NOV93	2.4	--	55	6.5	--	50	--	--	--	--	--	--	--	--	110	--	2.500	226.4
		218-3I	18NOV93	140	--	97	24	--	41	--	--	--	--	--	--	--	7.6	120	--	--	429.6
		218-4	18NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-5	17NOV93	--	--	41	--	--	86	--	--	--	--	--	--	--	--	--	--	--	127
		218-5I	17NOV93	2.5	--	--	--	--	83	--	--	--	--	--	--	--	--	56	--	--	121.5
		218-6	18NOV93	1100	--	1200	580	--	580	--	--	--	--	--	--	--	360	130	--	--	5972
		218-7	18NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-7D	18NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-7I	18NOV93	--	--	1.6	--	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--
		218-9	17NOV93	1	--	2.6	--	--	4.2	--	--	--	--	--	--	--	--	11	--	--	42
		218-9D	17NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18.8
		218-9I	17NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-15	08NOV93	1.1	--	5	--	--	5.6	--	--	--	--	--	--	--	1.4	37	--	--	50.1
		RW-15I	08NOV93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Q4

TABLE (cont.)

[illegible]

TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO ETHANE	1,1-DI- CHLORO ETHANE	1,2-DI- CHLORO ETHANE	1,2-DI- CHLORO ETHENE- CIS	1,2- DICHLORO ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO- ETHANE	CHLORO- BENZENE (PID)	CHLORO- FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO- FLUOROM- ETHANE	TRI- CHLORO- VINYL CHLORIDE	TOTAL VOLATILES
		218-91	02FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-15	10FEB94	--	--	8.5	--	--	8.6	--	--	--	--	--	--	--	--	2.900	42	--	62
			10FEB94	1.3	--	11	--	--	12	--	--	--	--	--	--	--	--	4.400	64	--	92.7
		RW-151	10FEB94	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	--	--	1.1
		RW-16	10FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-161	10FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-17	10FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-18	10FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-19	02FEB94	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--	13	--	14.7
		RW-191	02FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20	02FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-201	02FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-21	03FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-22	03FEB94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-24	03FEB94	--	--	2.4	--	--	3.5	--	--	--	--	--	--	--	--	--	21	--	8
		218-1	13MAY94	41000	--	1100	420	--	--	--	--	--	--	--	--	--	370	--	480	--	3370
		218-10	17MAY94	80	--	39	25	--	28	--	--	--	--	--	--	--	--	17	110	--	299
		218-2	12MAY94	140	--	160	61	--	140	--	--	--	--	--	--	--	--	140	360	--	1018
		218-4	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-7	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-7D	11MAY94	--	--	72	--	--	9.8	--	--	--	--	--	--	--	--	--	--	--	17
		218-71	11MAY94	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2
		218-9	11MAY94	--	--	6	--	--	9	--	--	--	--	--	--	--	--	--	16	--	31
		218-9D	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		218-91	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-15	10MAY94	--	--	1.1	--	--	1.9	--	--	--	--	--	--	--	--	--	12	--	15
		RW-151	10MAY94	--	--	--	--	--	2.6	--	--	--	--	--	--	--	--	--	--	--	2.6
		RW-16	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	2.2

Q2

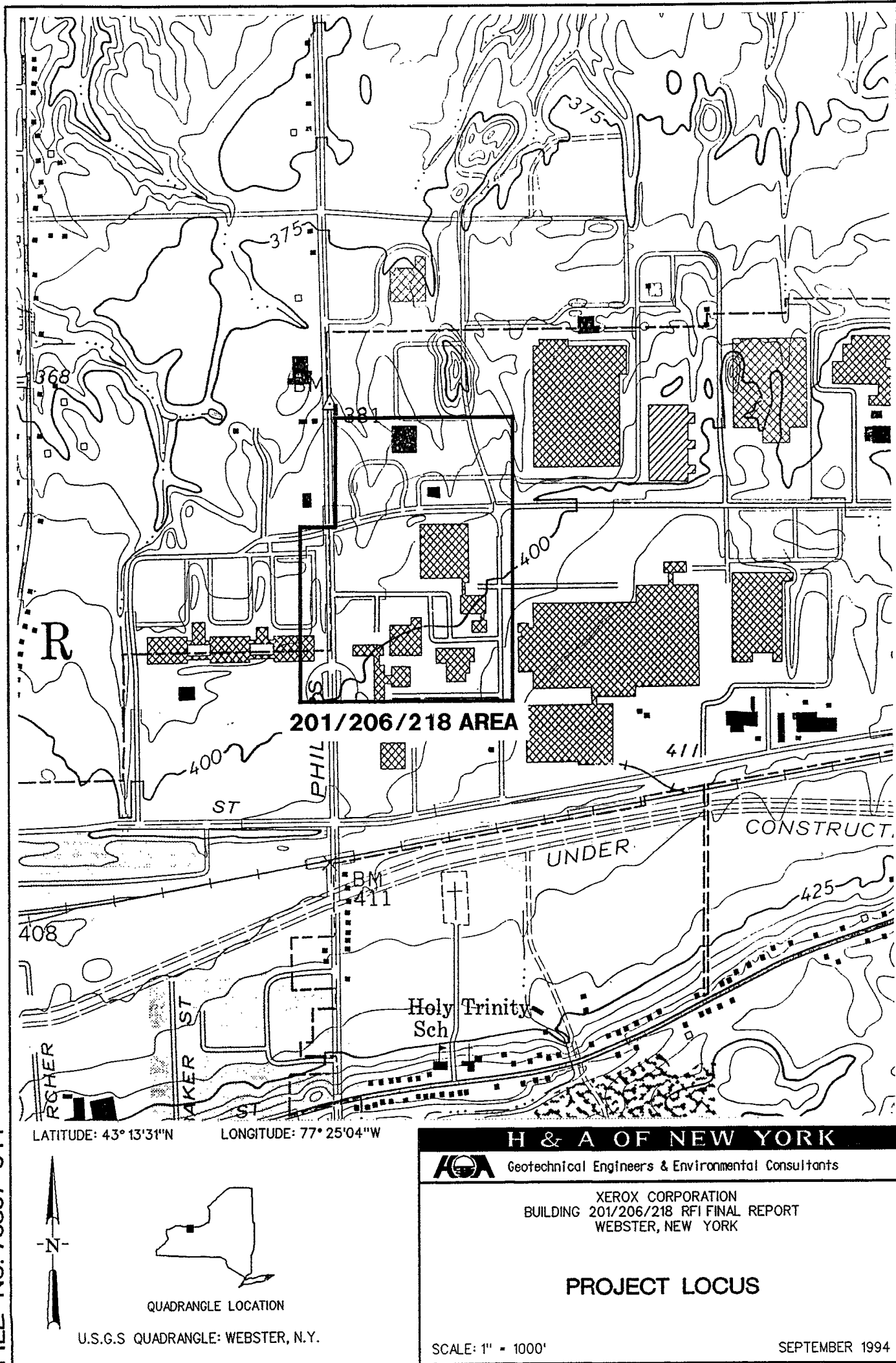
TABLE (cont.)

YEAR	QUARTER	WELL	DATE	1,1,1-TRI CHLORO- ETHANE	1,1,2-TRI CHLORO ETHANE	1,1-DI- CHLORO ETHENE	1,1-DI- CHLORO ETHANE	1,2-DI CHLORO- ETHENE- CIS	1,2- DICHLORO ETHENE- TOTAL	2-BROMO- CHLORO- PROPANE	BROMO- CHLORO- METHANE	CHLORO ETHANE	CHLORO BENZENE (PID)	CHLORO- FORM	DIBROMO- CHLORO- METHANE	METHYL ETHYL KETONE	METHYLENE CHLORIDE	TETRA- CHLORO- ETHENE	TRI- CHLORO ETHENE	TRI- CHLORO- ETHANE	VINYL CHLORIDE	TOTAL VOLATILES	
		RW-16I	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	1.1
		RW-17	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-18	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-19	11MAY94	--	--	5	--	--	7.6	--	--	--	--	--	--	--	--	5.1	30	--	--	--	47.7
		RW-19I	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-20I	10MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-21	11MAY94	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	3.1	--	--	--	4.3
			11MAY94	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	4.5	--	--	--	6.1
		RW-22	11MAY94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		RW-23	10MAY94	--	--	--	--	--	5.1	--	--	--	90	--	--	--	--	--	11	--	--	--	16.1
		RW-24	10MAY94	--	--	5.5	1.6	--	6.2	--	--	--	92	--	--	--	--	--	3.2	--	--	4.6	21.1
			10MAY94	--	--	5.6	1.7	--	6.8	--	--	--	87	--	--	--	--	--	3.5	--	--	4.7	109.5

NOTES:

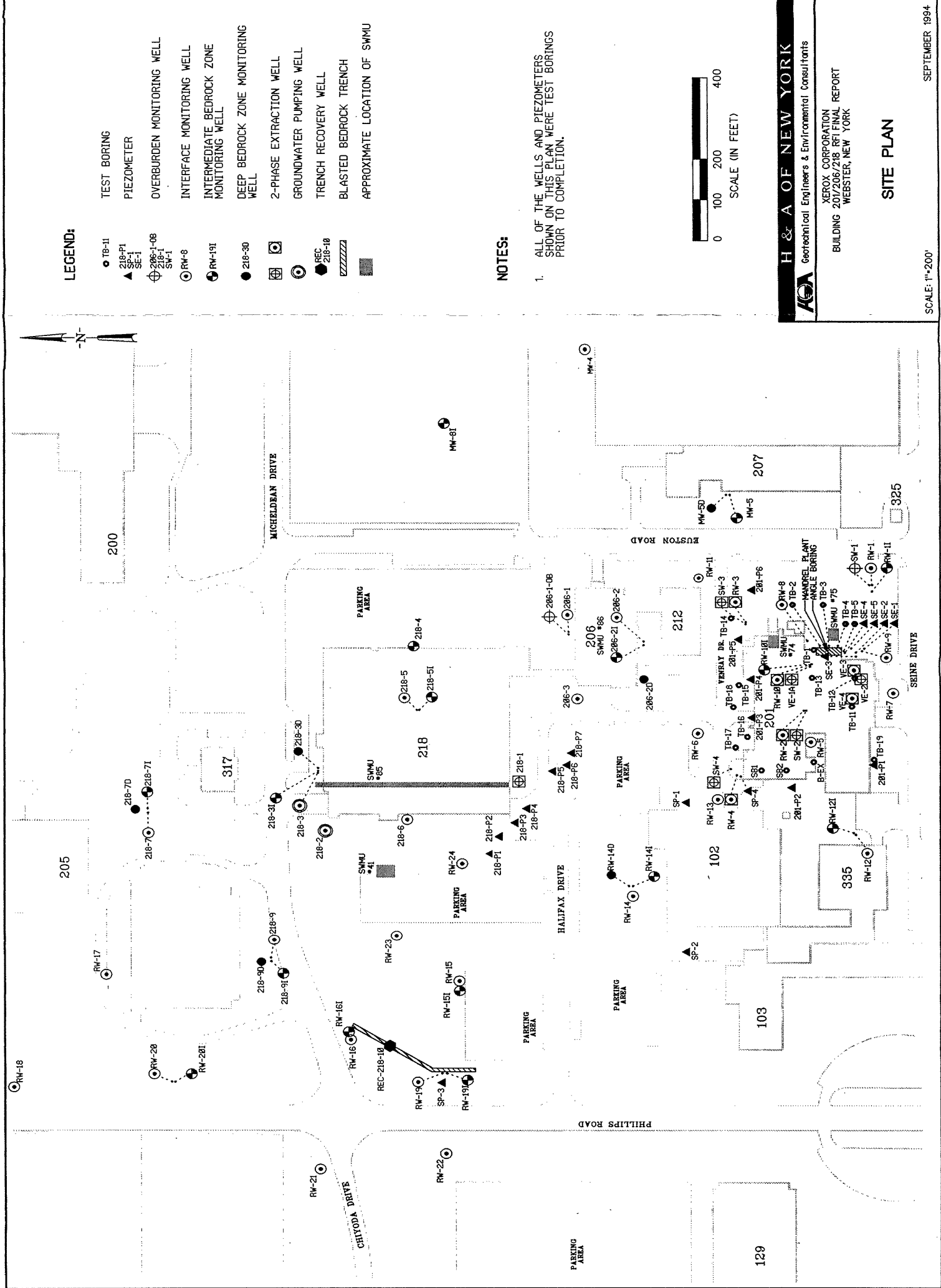
1. ALL CONCENTRATIONS PRESENTED IN UNITS OF MICROGRAMS PER LITER (µg/L) OR PARTS PER BILLION (PPB).
2. "--" PARAMETER WAS ANALYZED FOR BUT NOT DETECTED.
3. B - PARAMETER DETECTED IN THE LABORATORY METHOD BLANK.
4. REFER TO TEXT FOR ADDITIONAL INFORMATION.

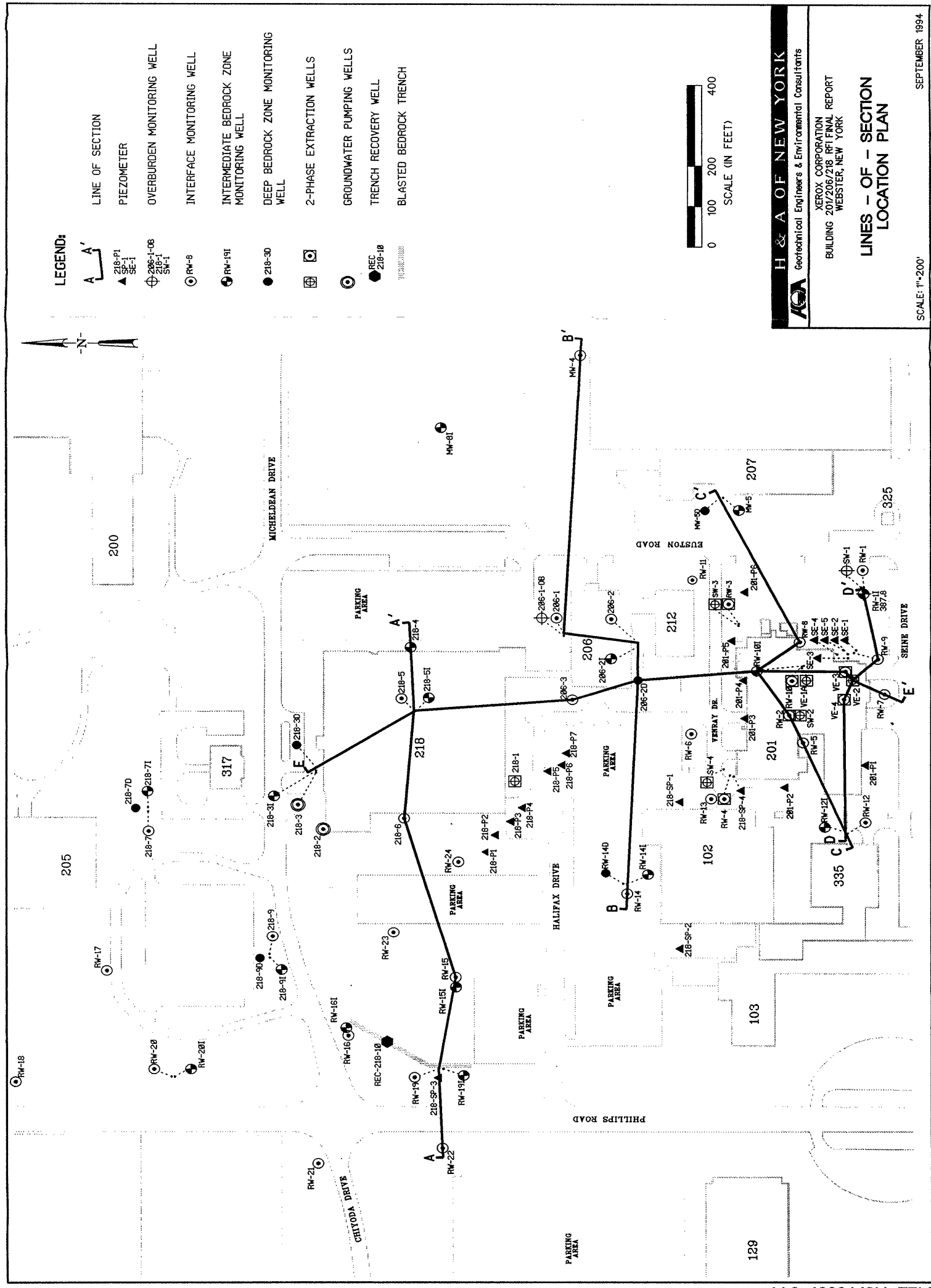
FILE No. 70307-044

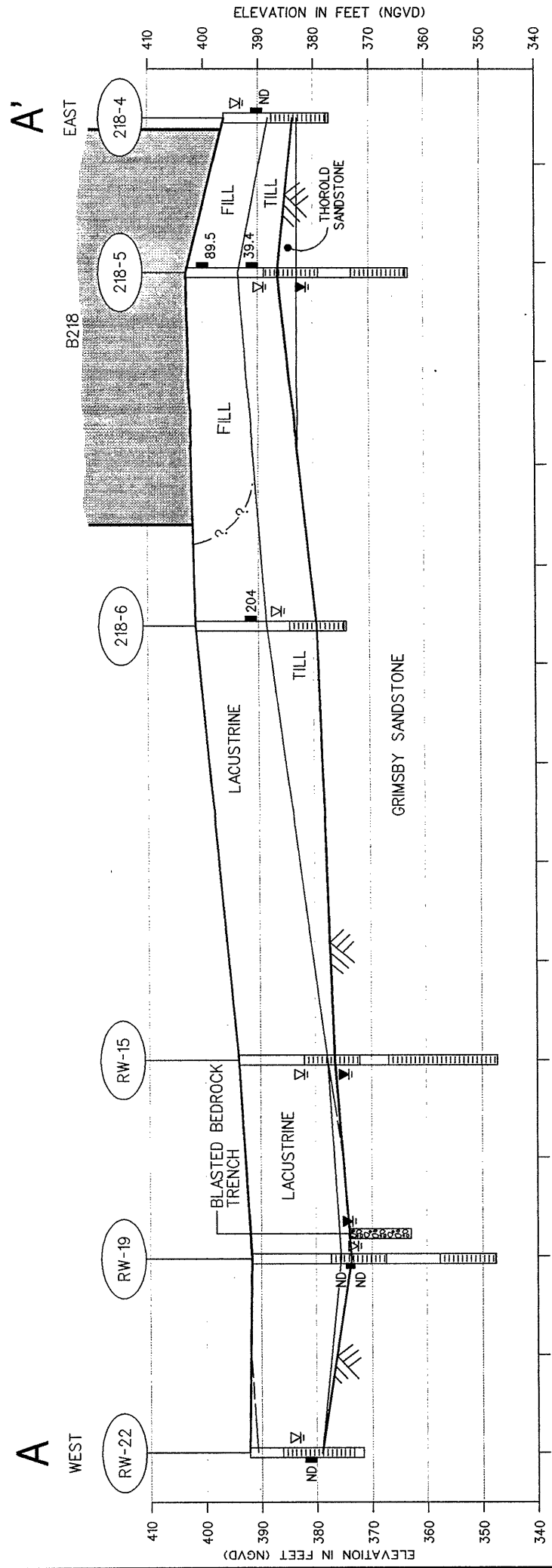


FILENAME: 70307-044:HYL005A.MAN

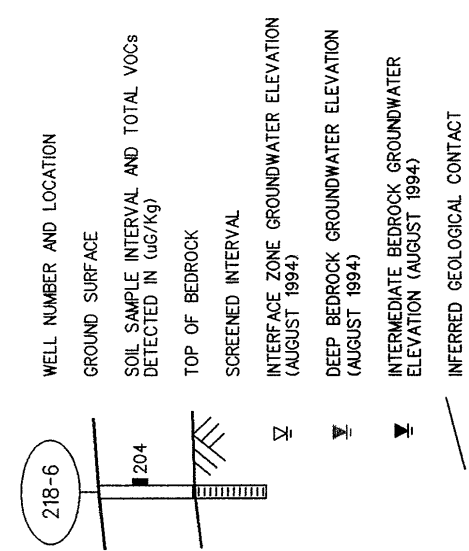
FIGURE 1





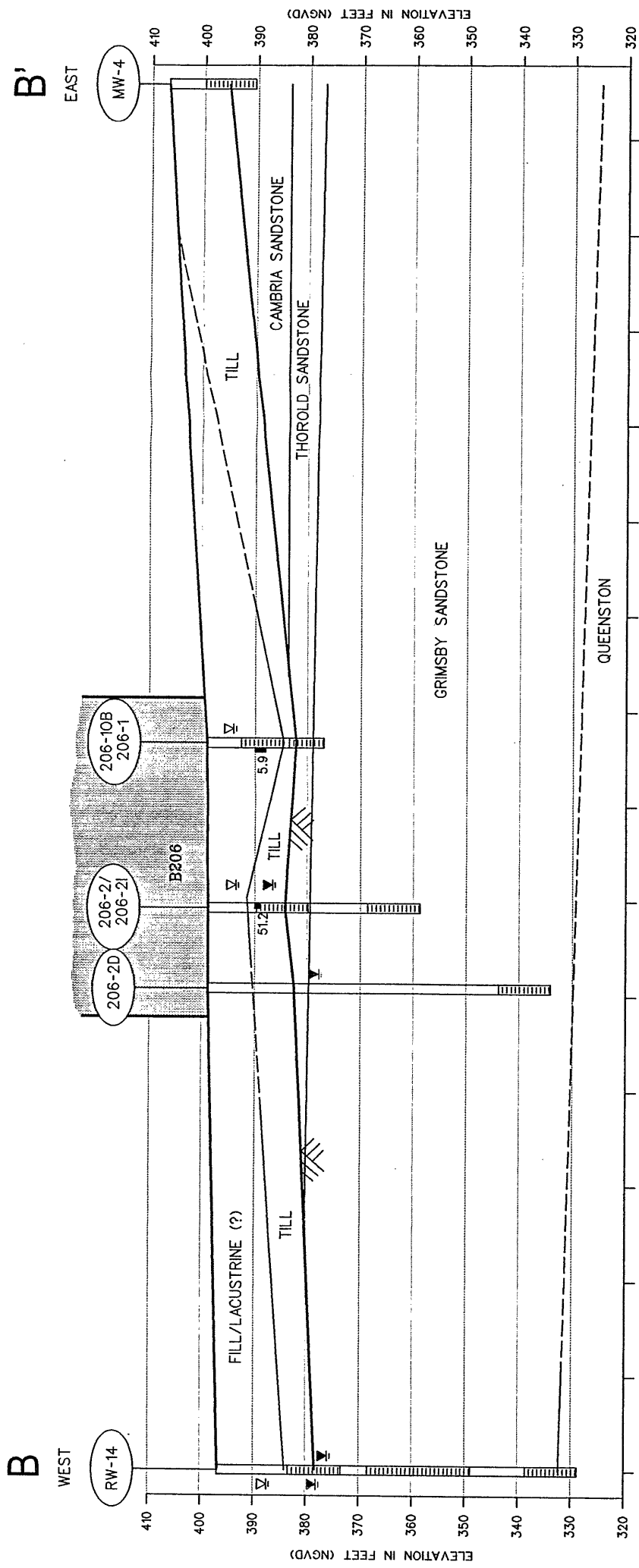


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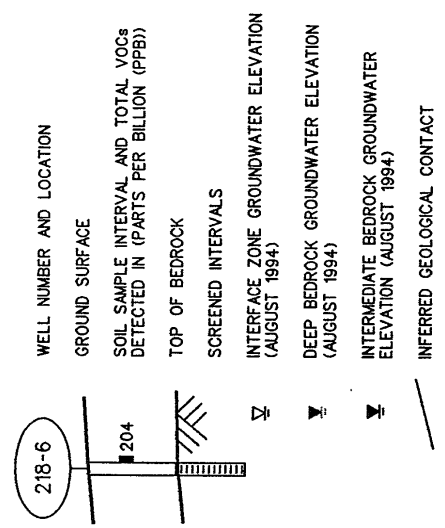


NOTES:

- MULTIPLE SCREENED INTERVALS SHOWN IN INTERMEDIATE AND DEEP WELLS REPRESENT SCREENED INTERVALS OF SHALLOW AND/OR INTERMEDIATE BEDROCK WELLS AT SAME WELL CLUSTER.
- REFER TO FIGURE 3, SITE EXPLORATION PLAN, FOR WELL LOCATIONS.
- THE GEOLOGIC FEATURES DEPICTED ON THIS FIGURE REPRESENT AN INTERPRETATION OF SUBSURFACE CONDITIONS BASED ON THE FINDINGS OF THE IDENTIFIED EXPLORATIONS. ACTUAL CONDITIONS AT UNEXPLORED LOCATIONS MAY VARY FROM THOSE DEPICTED.
- ALL WELL AND BUILDING LOCATIONS ARE APPROXIMATE.
- SOIL CONCENTRATIONS DEPICTED REPRESENTS SAMPLES OBTAINED AT THE TIME OF INSTALLATION - NOT PRESENT DAY CONCENTRATIONS.



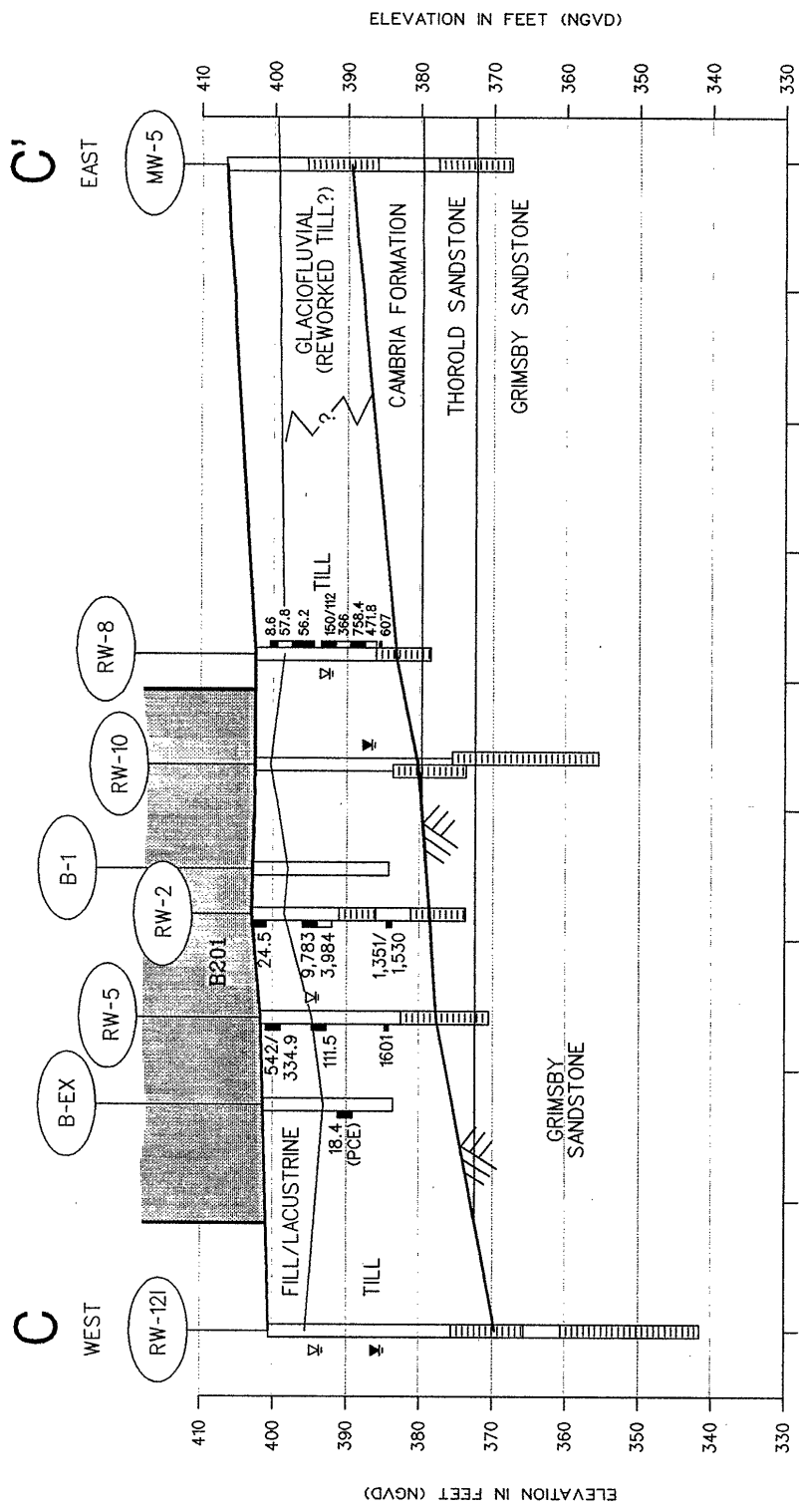
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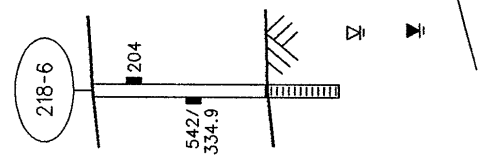
NOTES:

1. MULTIPLE SCREENED INTERVALS SHOWN IN INTERMEDIATE AND DEEP WELLS REPRESENT SCREENED INTERVALS OF SHALLOW AND/OR INTERMEDIATE BEDROCK WELLS AT SAME WELL CLUSTER.
2. REFER TO FIGURE 3, SITE EXPLORATION PLAN, FOR WELL LOCATIONS.
3. THE GEOLOGIC FEATURES DEPICTED ON THIS FIGURE REPRESENT AN INTERPRETATION OF SUBSURFACE CONDITIONS BASED ON THE FINDINGS OF THE IDENTIFIED EXPLORATIONS. ACTUAL CONDITIONS AT UNEXPLORED LOCATIONS MAY VARY FROM THOSE DEPICTED.
4. ALL WELL AND BUILDING LOCATIONS ARE APPROXIMATE.
5. SOIL CONCENTRATIONS DEPICTED REPRESENTS SAMPLES OBTAINED AT THE TIME OF INSTALLATION - NOT PRESENT DAY CONCENTRATIONS.

VERTICAL SCALE: 1" = 20'
HORIZONTAL SCALE: 1" = 100'



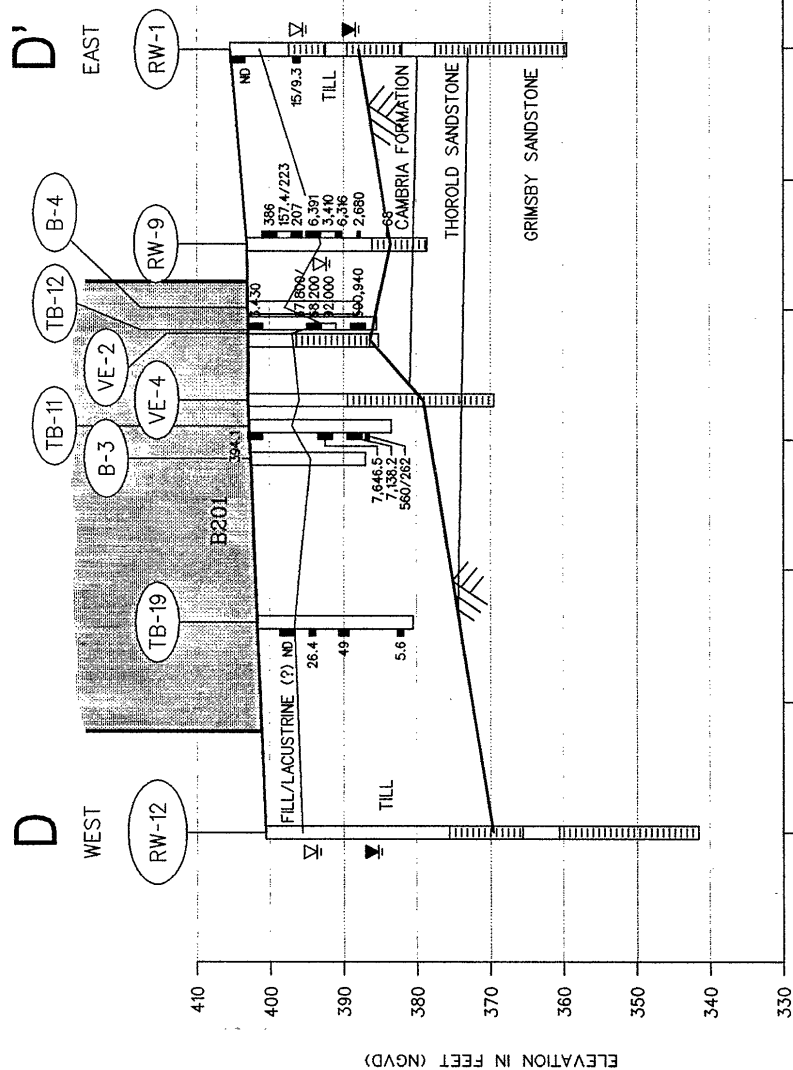
LEGEND:



NOTES:

1. MULTIPLE SCREENED INTERVALS SHOWN IN INTERMEDIATE AND DEEP WELLS REPRESENT SCREENED INTERVALS OF SHALLOW AND/OR INTERMEDIATE BEDROCK WELLS AT SAME WELL CLUSTER.
2. REFER TO FIGURE 3, SITE EXPLORATION PLAN, FOR WELL LOCATIONS.
3. THE GEOLOGIC FEATURES DEPICTED ON THIS FIGURE REPRESENT AN INTERPRETATION OF SUBSURFACE CONDITIONS BASED ON THE FINDINGS OF THE IDENTIFIED EXPLORATIONS. ACTUAL CONDITIONS AT UNEXPLORED LOCATIONS MAY VARY FROM THOSE DEPICTED.
4. ALL WELL AND BUILDING LOCATIONS ARE APPROXIMATE.
5. SOIL CONCENTRATIONS DEPICTED REPRESENTS SAMPLES OBTAINED AT THE TIME OF INSTALLATION - NOT PRESENT DAY CONCENTRATIONS.

VERTICAL SCALE: 1" = 20'
HORIZONTAL SCALE: 1" = 100'



NOTES:

1. MULTIPLE SCREENED INTERVALS SHOWN IN INTERMEDIATE AND DEEP WELLS REPRESENT SCREENED INTERVALS OF SHALLOW AND/OR INTERMEDIATE BEDROCK WELLS AT SAME WELL CLUSTER.
2. REFER TO FIGURE 3, SITE EXPLORATION PLAN, FOR WELL LOCATIONS.

GROUND SURFACE

SOIL SAMPLE INTERVAL AND TOTAL VOCs
DETECTED IN (PARTS PER BILLION (PPB))

TWO SOIL QUALITY RESULTS FROM SAME
DEPTH INTERVAL INDICATES A DUPLICATE
SAMPLE WAS COLLECTED

TOP OF BEDROCK

SCREENED INTERVALS

INTERFACE ZONE GROUNDWATER ELEVATION
(AUGUST 1994)

INTERMEDIATE BEDROCK GROUNDWATER
ELEVATION (AUGUST 1994)

INFERRED GEOLOGICAL CONTACT

VERTICAL SCALE: 1" = 20'
HORIZONTAL SCALE: 1" = 100'



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WEBSTER, NEW YORK

GEOLOGIC CROSS-SECTION

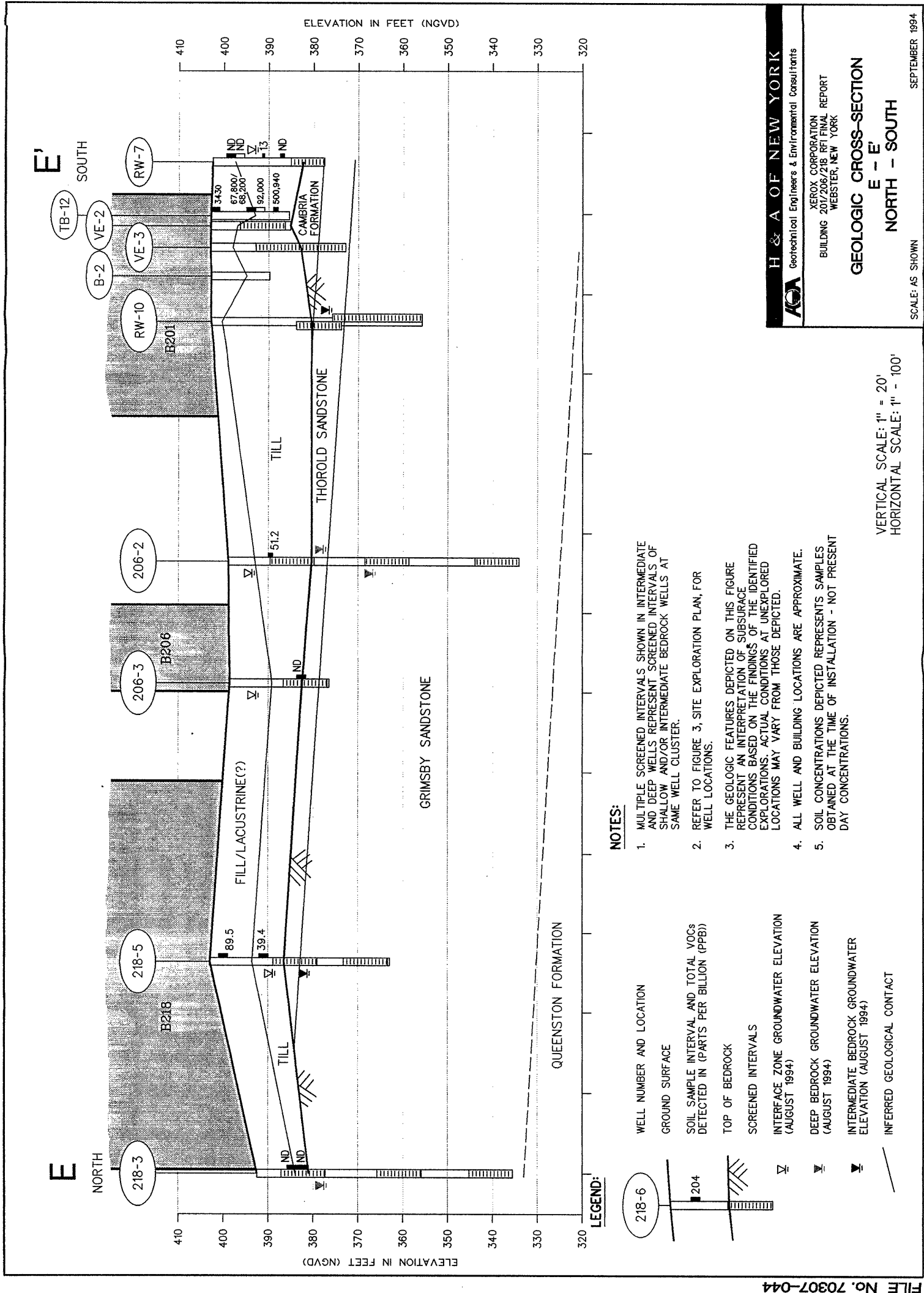
D - D

WEST - EAST

SCALE: AS SHOWN

SEPTEMBER 1994

FIGURE 7



GENERAL STRATIGRAPHIC PROFILE

FORMATION DESCRIPTION:

ERAMOSA DOLOSTONE* - Medium gray, medium to fine-grained, medium to thin-bedded, argillaceous partings, few stylolites, moderately closely to closely spaced argillaceous partings, covites, vugs and pits often lined with secondary dolomite, selenite and quartz.

PENFIELD DOLOSTONE - Light gray, fine-grained, medium to thin-bedded, argillaceous partings, with stylolites, moderately closely to closely spaced argillaceous partings. The partings are uneven, wavy and are frequently slickensided, giving the rock an enterolithic bedding structure.

ROCHESTER FORMATION - Light to dark gray, fine-grained, fossiliferous, dolomitic mudstone with interbedded thin dolostone and limestone, and secondary gypsum seams in closely spaced partings.

Upper 30 ft. called the Gates Dolostone Member and consists of thin to very thin dolostone beds. Very thin limestone beds occur from 30 to 40 ft. below the top of Rochester and increase in thickness and frequency downward. They grade into the adjacent mudstone and contain fine quartz silt. Infrequently, thin weathered clay partings and clay beds occur. Pits and vugs occur in trace amounts in the upper Rochester and their frequency decreases downwards. Gypsum nodules are present in trace amounts throughout the formation.

IRONDEQUOIT LIMESTONE - Light to medium gray, medium to fine-grained, medium to thin-bedded, fossiliferous limestone with thin interbedded dark gray, dolomitic shale. Trace amounts of pits and vugs, gypsum nodules. Secondary gypsum seams at partings. Limestone bedding wavy. Small reef-like structures in upper beds.

ROCKWAY DOLOSTONE - Light to dark gray, fine-grained, medium to thin-bedded, fossiliferous, argillaceous dolostone. Historically basal rounded, a few very thin limestone beds and dark gray to black, very thin platy to fissile shale beds, containing graptolite fossils, at the base.

WILLIAMSON SHALE - Dark green-gray shale with trace fossils, a few very thin limestone beds and dark gray to black, very thin platy to fissile shale beds, containing graptolite fossils, at the base.

LOWER SODUS SHALE - Dark green-gray to gray-brown shale with trace amounts of fossils. Upper part contains several light gray, thin, moderately closely to closely spaced limestone beds containing abundant brachiopod fossils. Sometimes weathered zone is present at the upper contact.

REYNOLDS LIMESTONE - Light to medium gray, medium to fine-grained, thin-bedded, fossiliferous, crystalline limestone with dark gray, very thin interbedded dolomitic shale. Thin siliceous zones (chert or chalcodony and quartz siltstone) observed. Trace stylolites, secondary gypsum seams at partings, and a persistent, red, oolitic, fossiliferous, hematitic limestone bed (Seneca Park Hematite Member) present near base.

KODAK SANDSTONE - Light gray to green-gray, medium to fine-grained, thick to medium-bedded sandstone. Bioherbed. Historically referred to as the Thorold Sandstone, which is now recognized to be older (see below).

CAMBRIA FORMATION - Red-brown, fine-grained, medium to thin-bedded shaly sandstone with gray mottling and bioturbation. This formation has historically been considered the top portion of the Grimby Sandstone (see below).

THOROLD SANDSTONE - Red-brown and light gray mottled, fine-grained, medium-bedded sandstone, with bioturbation. Once thought to be equivalent to, or synonymous with, the Kodak Sandstone (see above).

GRIMSBY SANDSTONE - Red-brown, medium to fine-grained, thick to thin-bedded argillaceous partings with occasional gypsum seams. Bioturbated.

DEVIL'S HOLE SANDSTONE - Medium to light red-brown and brown-gray, medium to fine-grained, thick to thin-bedded, thin-bedded, cross-bedded sandstone. Historically basal Grimby. Basal contact is sharp and undulating; the Cherokee disconformity in Rochester area, frequently marked by a weathered shaly or clay parting.

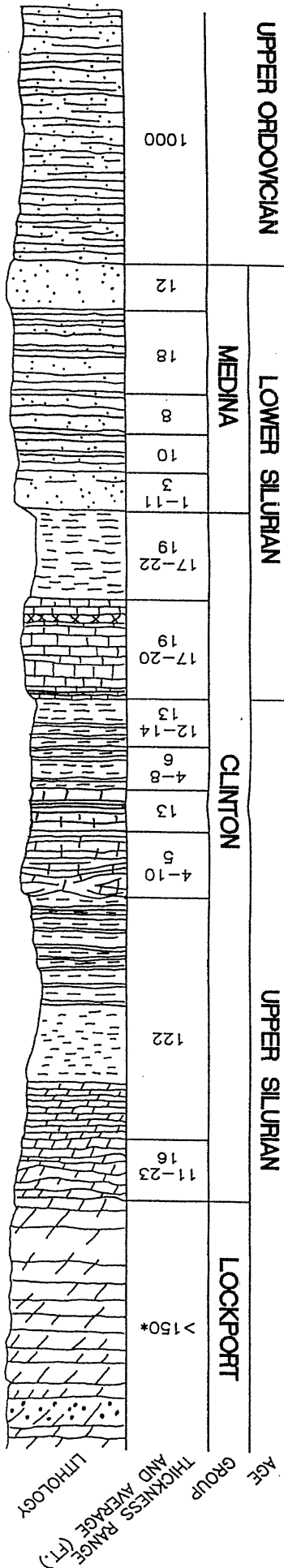
QUEENSTON FORMATION - Red-brown, fine-grained, thick to thin-bedded sandstone, with some green-gray to light gray mottling and very thin color banding. Moderately closely to closely spaced argillaceous partings, some of which have secondary gypsum seams. Lithology grading laterally and vertically, including sandstone, siltstone, mudstone and very thin limestone beds.

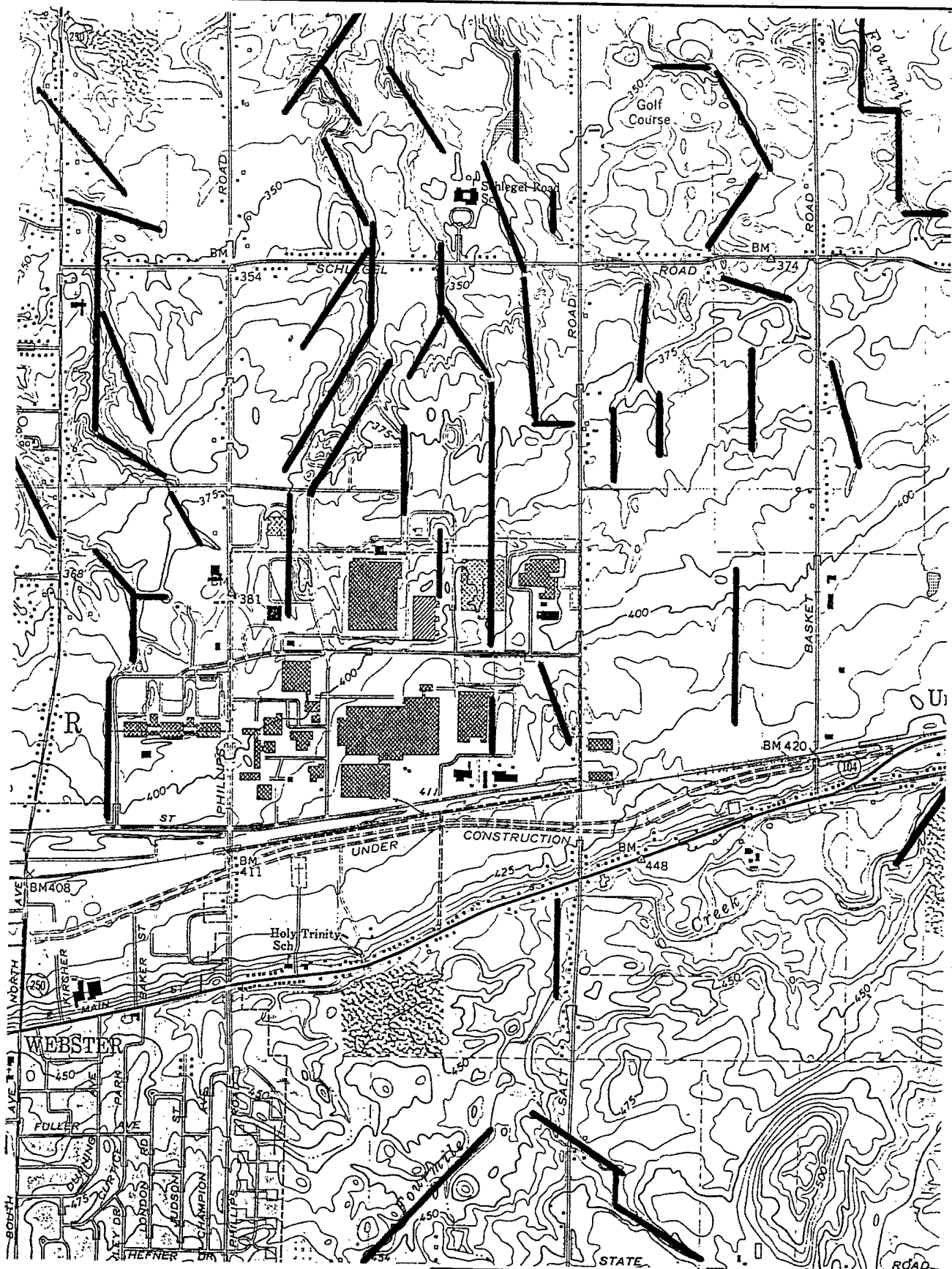
NOTES:

1. Rock descriptions and thicknesses obtained from available test borings drilled for Monroe County Department of Engineering sewer tunnel project, modified with new formation names, descriptions and relationships proposed by geology staff at University of Rochester and accepted by New York state geologist.
2. Profile not to scale.
3. Swirly bedding caused by activity of marine worms.

GENERAL STRATIGRAPHIC PROFILE
ROCHESTER, NEW YORK
H&A OF NEW YORK
SEPTEMBER 1991

FIGURE 6





NOTES:

1. STREAM ORIENTATIONS MAY REFLECT BEDROCK JOINTING PATTERNS. PREFERRED ORIENTATIONS ARE N-S, N 35°E, AND N 25°W.
2. SEE TEXT FOR FURTHER INFORMATION.

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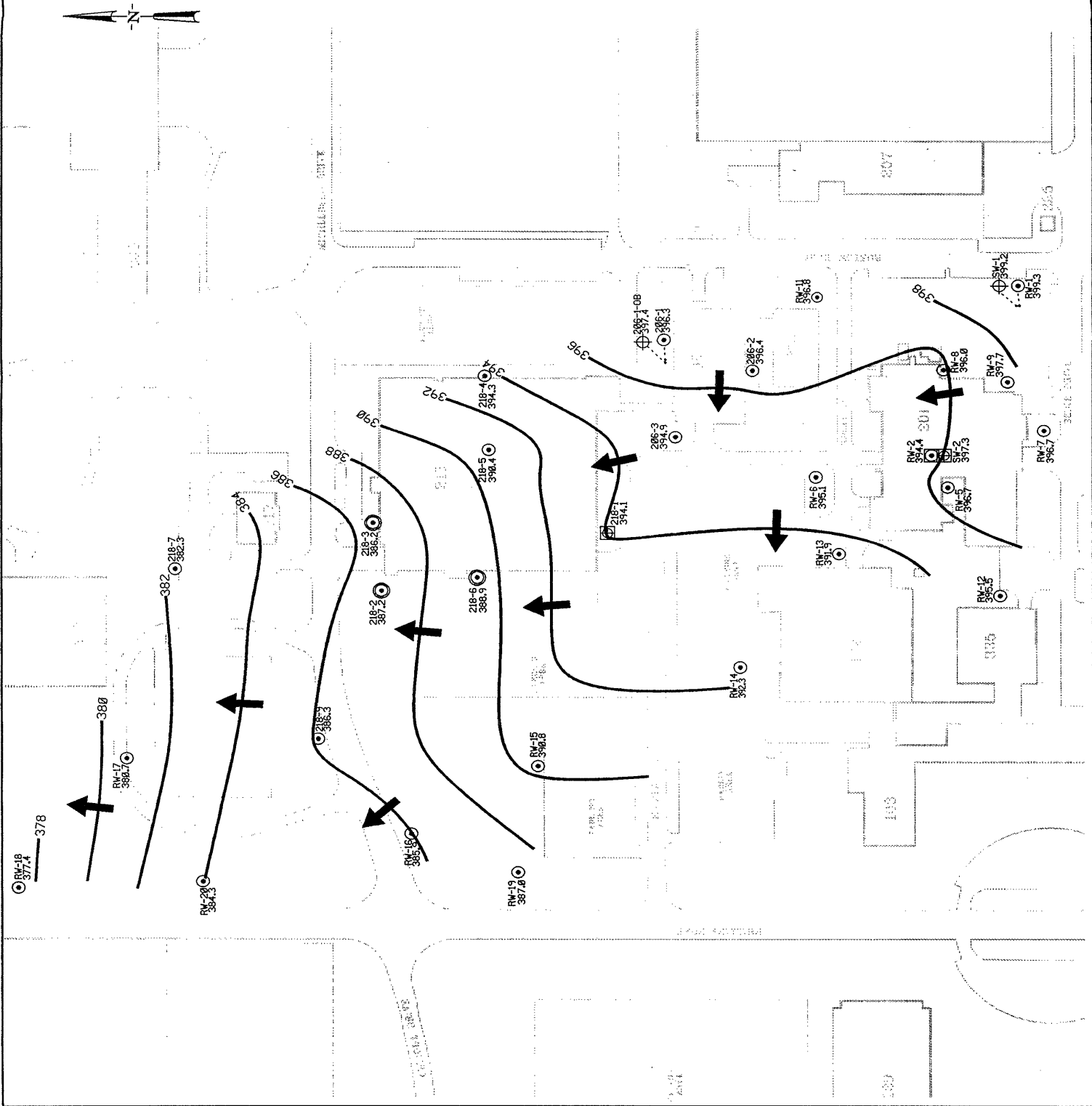
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WEBSTER, NEW YORK

**PREFERRED
STREAM ORIENTATIONS
WEBSTER, NEW YORK**

SCALE: 1" = 2000'

SEPTEMBER 1994

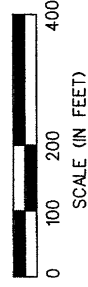


LEGEND:

- 208-1-08
395.1
394.1
 - RW-8
 -
 -
 - 229.3
 -
- OVERBURDEN MONITORING WELL
INTERFACE MONITORING WELL
INTERFACE GROUNDWATER PUMPING WELL
INDICATES 2-PHASE EXTRACTION WELL
GROUNDWATER ELEVATION
GROUNDWATER CONTOUR
INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

- GROUNDWATER CONTOURS ARE INFERRED FROM WATER LEVELS RECORDED IN MONITORING WELLS IN APRIL 1992 AND CREATED WITH DPWS SURFACE DISPLAY SYSTEM USING THE LINEAR INTERPOLATION METHOD.
- ACTUAL WATER LEVELS MAY VARY SEASONALLY AND BETWEEN WELL LOCATIONS.
- ELEVATION SHOWN IN FEET RELATIVE TO NGVD.



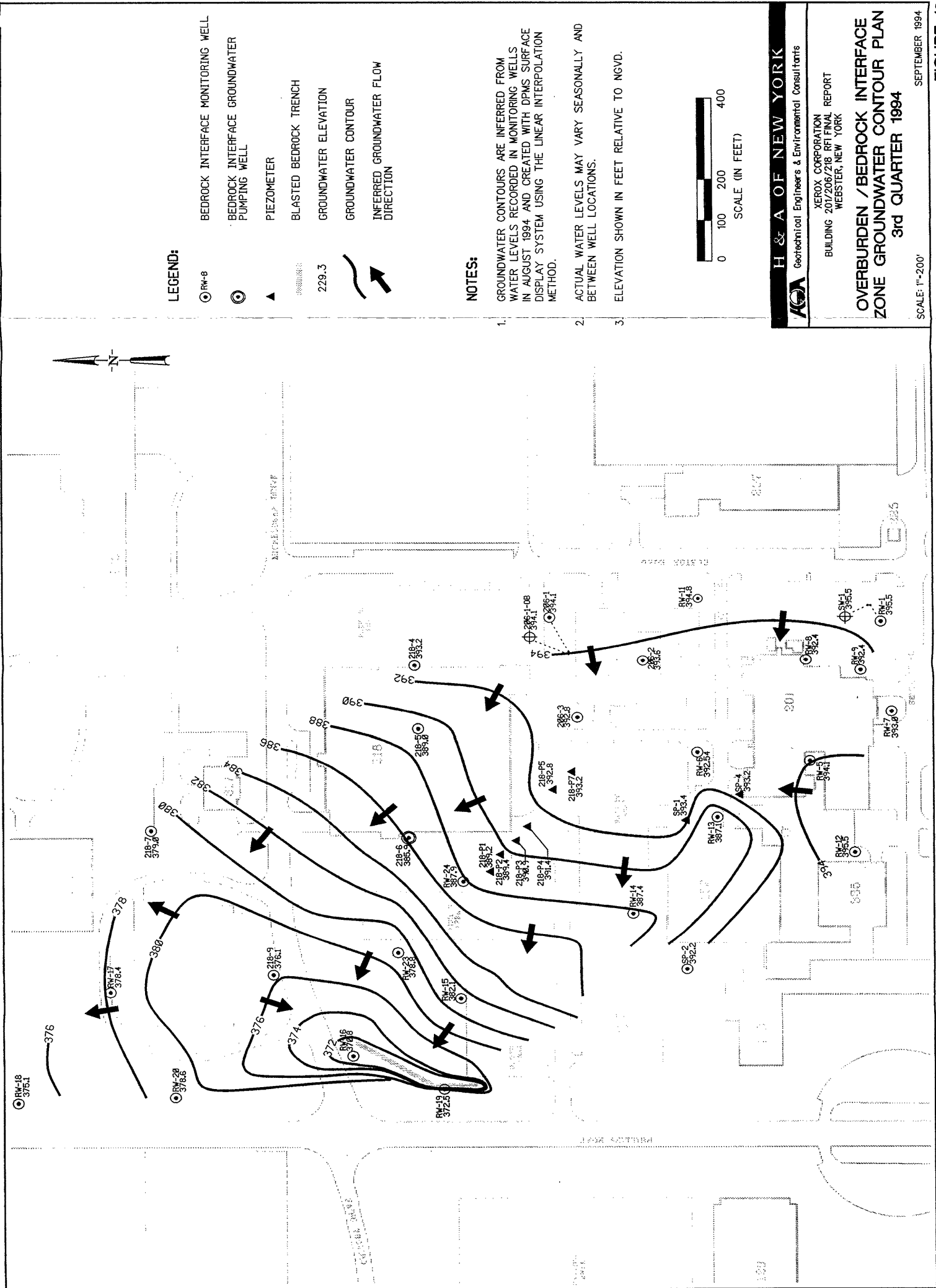
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**OVERBURDEN / BEDROCK INTERFACE
ZONE GROUNDWATER CONTOUR PLAN
2nd QUARTER 1992**

SCALE: 1"=200'



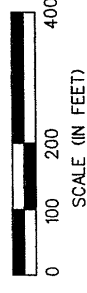


LEGEND:

- BEDROCK INTERFACE MONITORING WELL
- BEDROCK INTERFACE GROUNDWATER PUMPING WELL
- PIEZOMETER
- BLASTED BEDROCK TRENCH
- GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

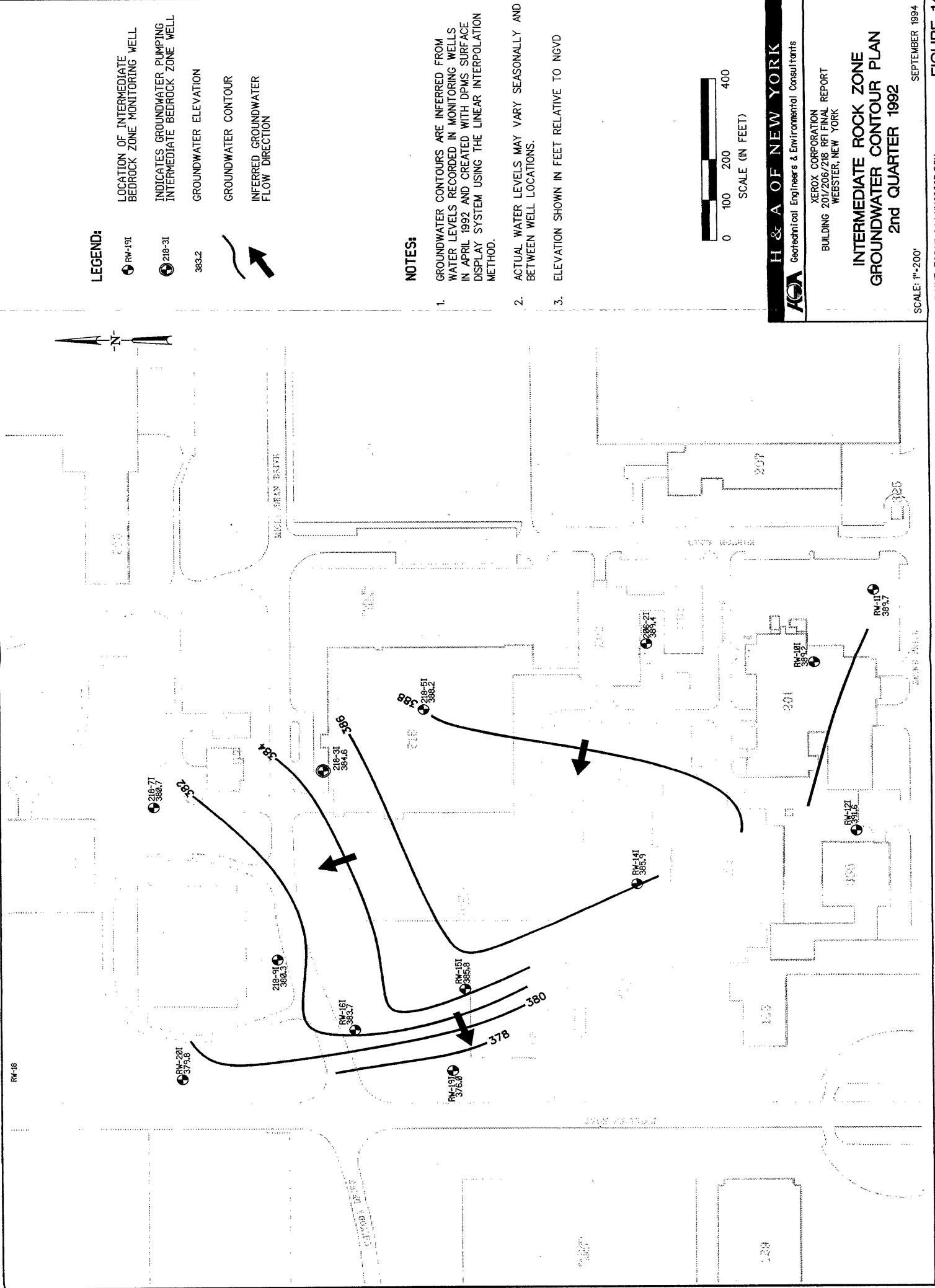
- GROUNDWATER CONTOURS ARE INFERRED FROM WATER LEVELS RECORDED IN MONITORING WELLS IN AUGUST 1994 AND CREATED WITH DPMS SURFACE DISPLAY SYSTEM USING THE LINEAR INTERPOLATION METHOD.
- ACTUAL WATER LEVELS MAY VARY SEASONALLY AND BETWEEN WELL LOCATIONS.
- ELEVATION SHOWN IN FEET RELATIVE TO NGVD.

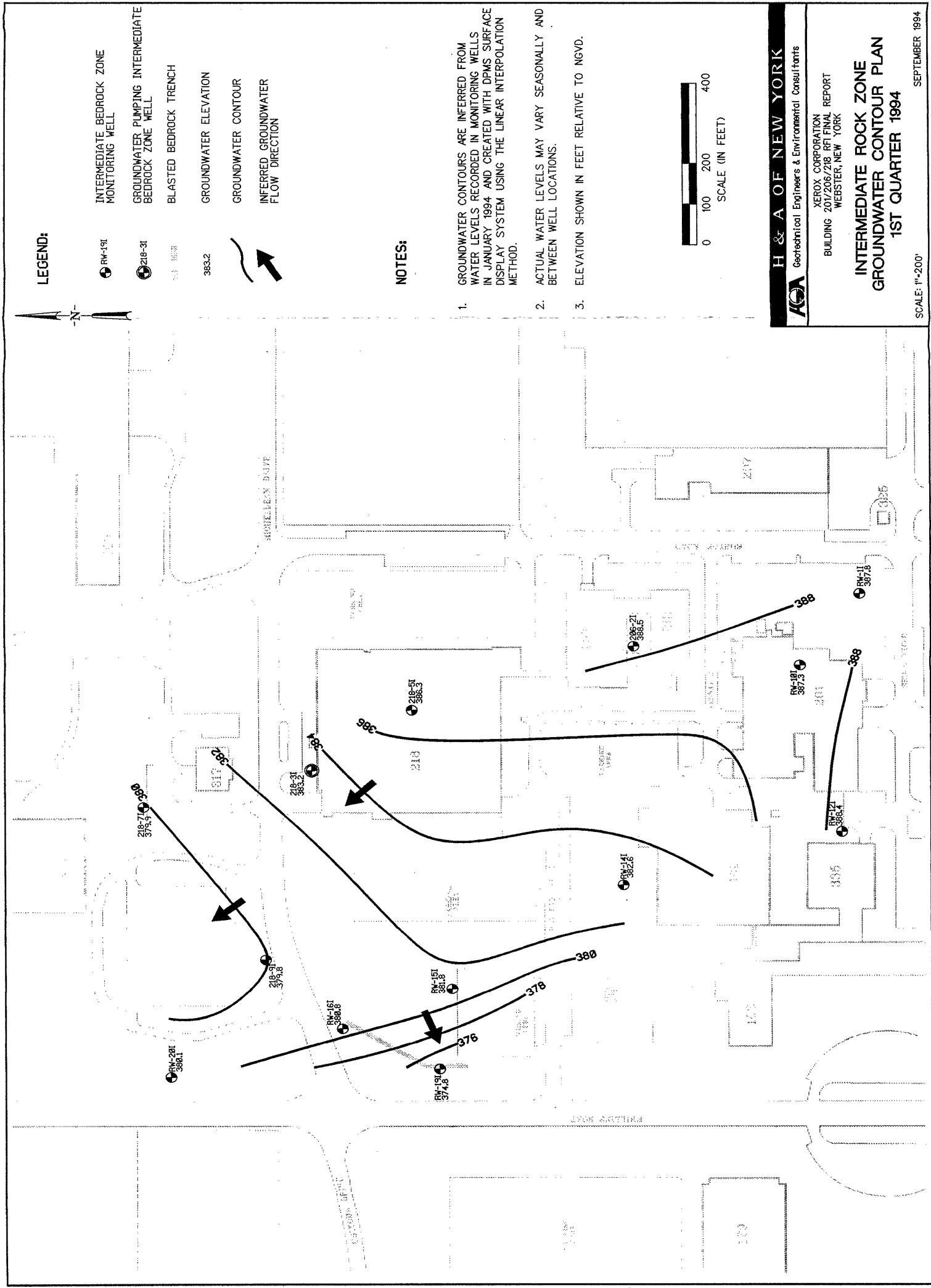


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**OVERBURDEN / BEDROCK INTERFACE
ZONE GROUNDWATER CONTOUR PLAN
3rd QUARTER 1994**

SCALE: 1"=200'
SEPTEMBER 1994
FIGURE 13
FILENAME: 70307-044-HYC0128.DGN



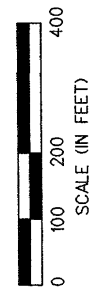


LEGEND:

- INTERMEDIATE BEDROCK ZONE MONITORING WELL
- GROUNDWATER PUMPING INTERMEDIATE BEDROCK ZONE WELL
- BLASTED BEDROCK TRENCH
- GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER CONTOURS ARE INFERRED FROM WATER LEVELS RECORDED IN MONITORING WELLS IN JANUARY 1994 AND CREATED WITH DPMS SURFACE DISPLAY SYSTEM USING THE LINEAR INTERPOLATION METHOD.
2. ACTUAL WATER LEVELS MAY VARY SEASONALLY AND BETWEEN WELL LOCATIONS.
3. ELEVATION SHOWN IN FEET RELATIVE TO NGVD.



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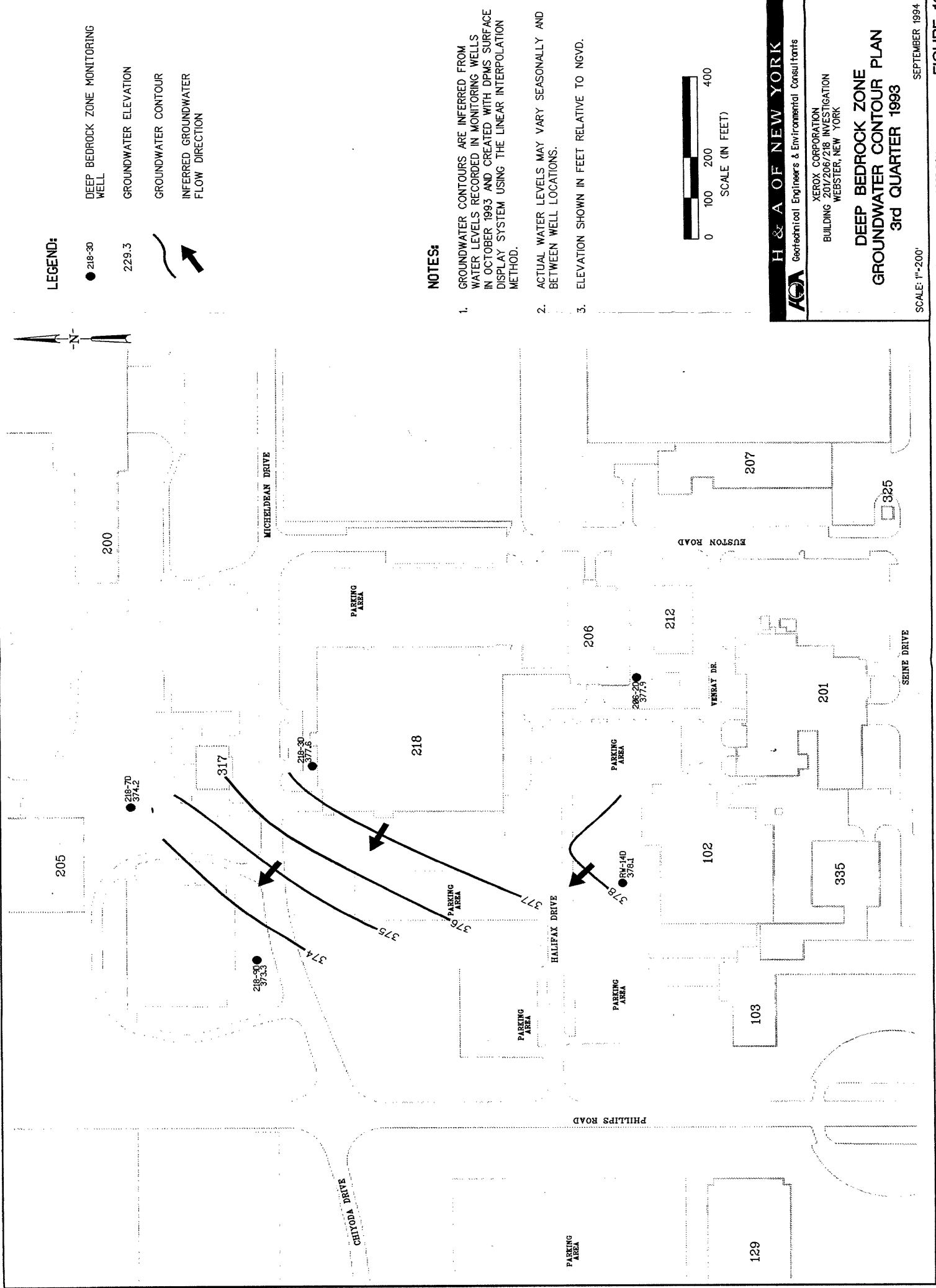
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WEBSTER, NEW YORK

**INTERMEDIATE ROCK ZONE
GROUNDWATER CONTOUR PLAN
1ST QUARTER 1994**

SCALE: 1"=200'
SEPTEMBER 1994

FIGURE 15
FILENAME: 70307-044.HYC008B.DGN



LEGEND:

- 218-30
- 218-70
374.2
- 229.3
- GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER CONTOURS ARE INFERRED FROM WATER LEVELS RECORDED IN MONITORING WELLS IN OCTOBER 1993 AND CREATED WITH DPMS SURFACE DISPLAY SYSTEM USING THE LINEAR INTERPOLATION METHOD.
2. ACTUAL WATER LEVELS MAY VARY SEASONALLY AND BETWEEN WELL LOCATIONS.
3. ELEVATION SHOWN IN FEET RELATIVE TO NGVD.

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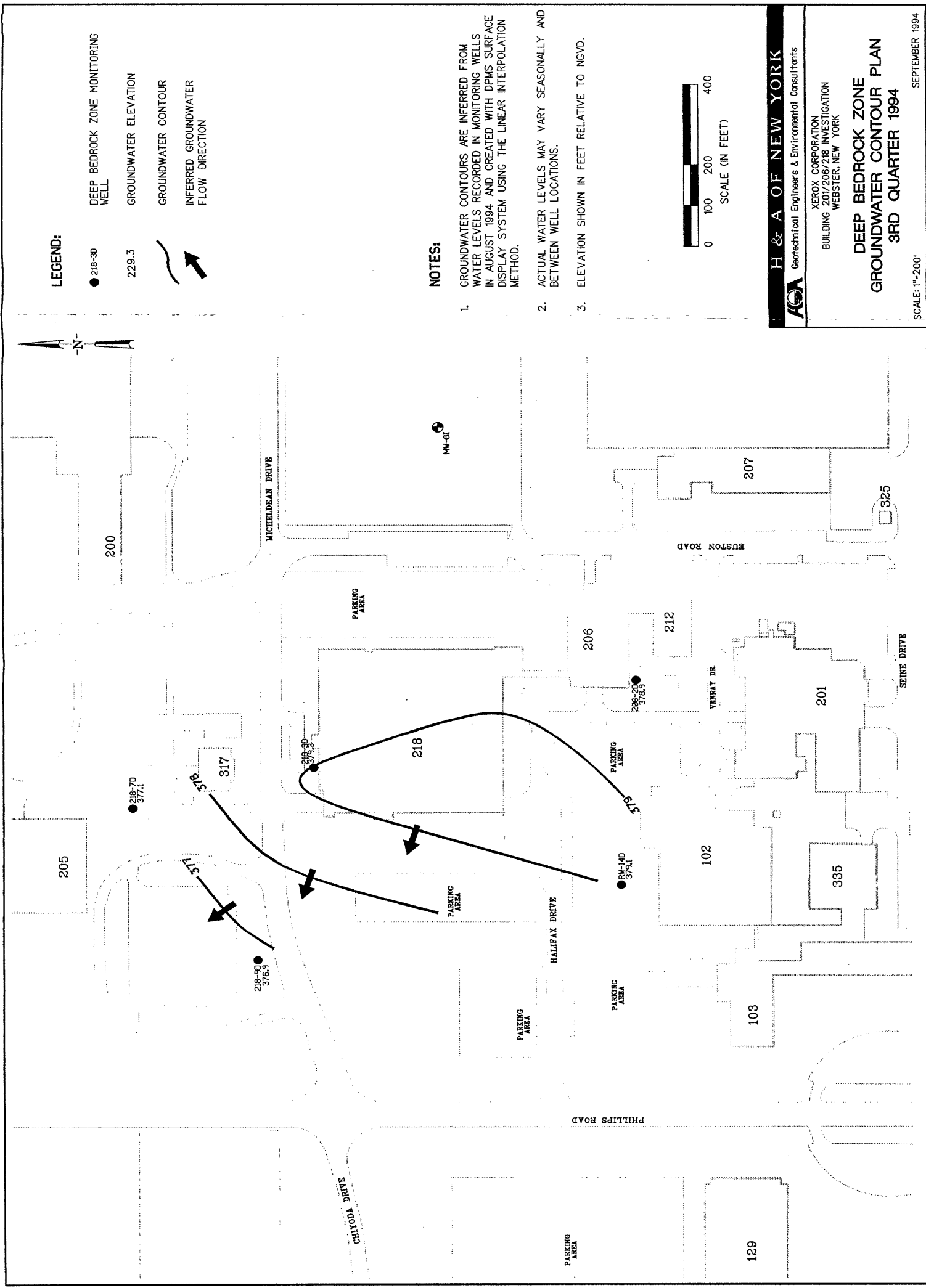
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BUILDING 207/206/218 INVESTIGATION
WEBSTER, NEW YORK

**DEEP BEDROCK ZONE
GROUNDWATER CONTOUR PLAN
3rd QUARTER 1993**

SCALE: 1"=200'

SEPTEMBER 1994
FIGURE 16
FILENAME: 70307-044-HYC0285.DGN

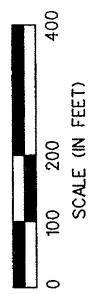


LEGEND:

- 218-30 DEEP BEDROCK ZONE MONITORING WELL
- 229.3 GROUNDWATER ELEVATION
- GROUNDWATER CONTOUR
- ➔ INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER CONTOURS ARE INFERRED FROM WATER LEVELS RECORDED IN MONITORING WELLS IN AUGUST 1994 AND CREATED WITH DPMS SURFACE DISPLAY SYSTEM USING THE LINEAR INTERPOLATION METHOD.
2. ACTUAL WATER LEVELS MAY VARY SEASONALLY AND BETWEEN WELL LOCATIONS.
3. ELEVATION SHOWN IN FEET RELATIVE TO NGVD.



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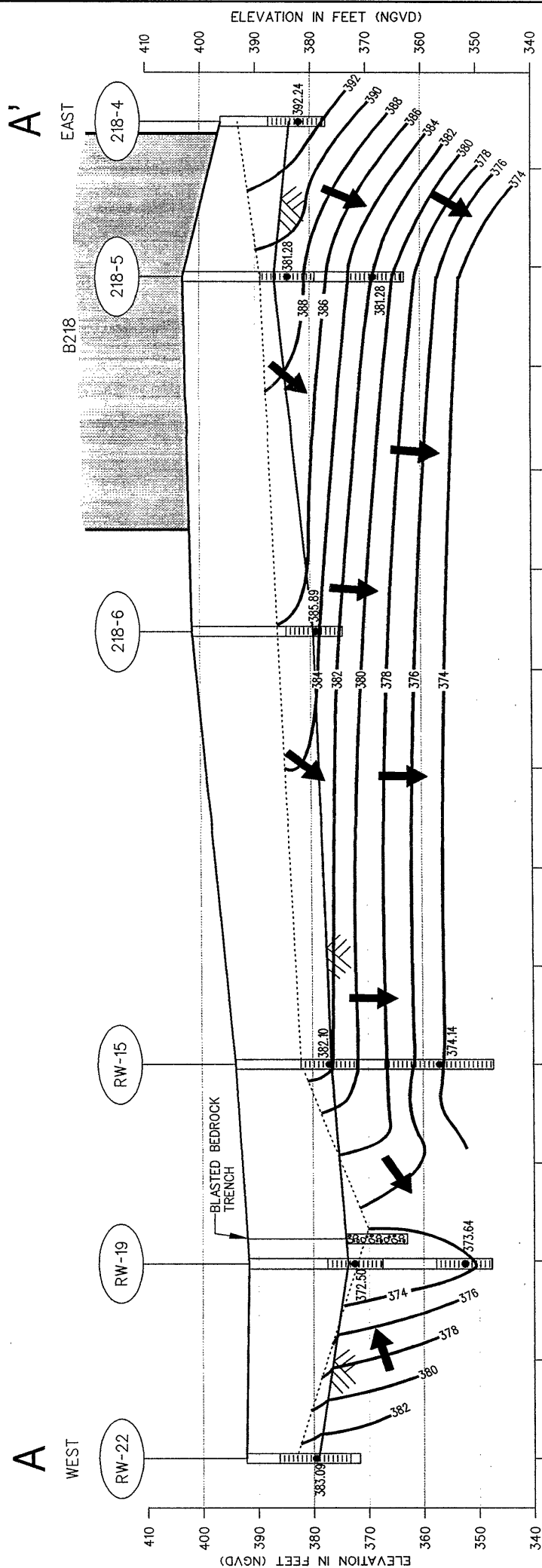
**DEEP BEDROCK ZONE
GROUNDWATER CONTOUR PLAN
3RD QUARTER 1994**

SCALE: 1"=200'

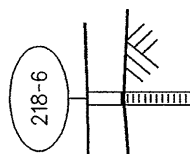
FILENAME: 70307-044:HYG027B.DGN

SEPTEMBER 1994

FIGURE 17



LEGEND:



378.04 •

386



WELL NUMBER AND LOCATION

GROUND SURFACE

TOP OF BEDROCK

SCREENED INTERVAL

GROUNDWATER ELEVATION MEASURED IN WELL IN AUGUST 1994

WATER TABLE SURFACE (AUGUST 1994)

INFERRED CONTOUR OF EQUAL GROUNDWATER HYDRAULIC HEAD (PRESSURE HEAD + ELEVATION HEAD).

INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. WELL LOCATIONS ARE BASED ON AVAILABLE PLANIMETRIC INFORMATION.
2. HYDRAULIC HEAD CONTOURS ARE BASED ON WATER LEVEL DATA COLLECTED BY GENERAL TESTING CORPORATION IN AUGUST 1994.
3. HYDRAULIC HEADS ARE ASSUMED TO BE ACTING AT THE MIDPOINTS OF SCREENED INTERVALS.
4. CONTOURS REFLECT VALUES INTERPOLATED BETWEEN DATA POINTS. ACTUAL VALUES BETWEEN DATA POINTS WILL VARY.
5. CONTOUR INTERVAL IS 2 FT.

VERTICAL SCALE: 1" = 20'
HORIZONTAL SCALE: 1" = 100'

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HYDROGEOLOGIC CROSS-SECTION

A - A'
WEST - EAST

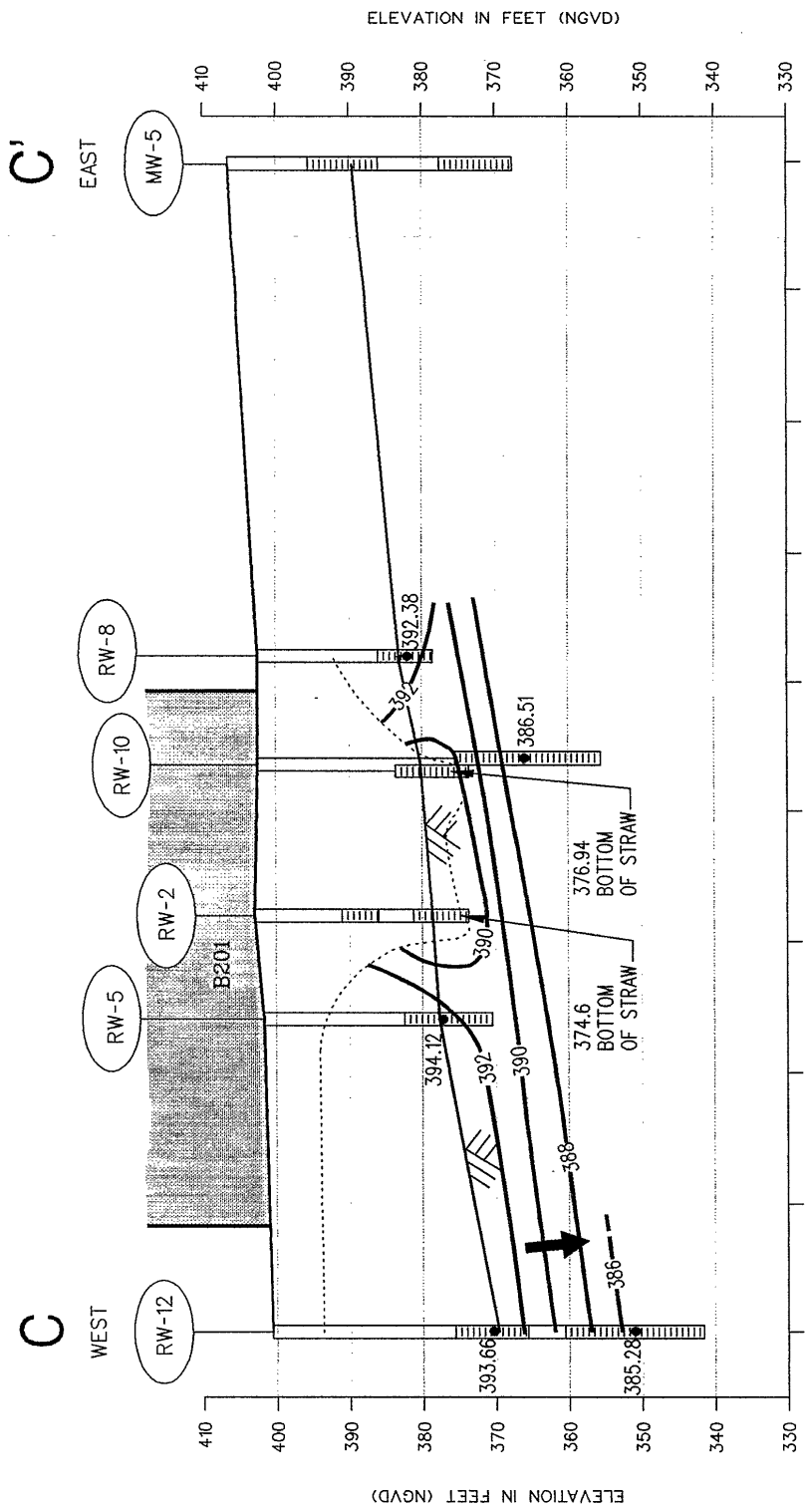
SCALE: AS SHOWN

SEPTEMBER 1994

FILENAME: 70307-044:HYG022B.DGN

FIGURE 18





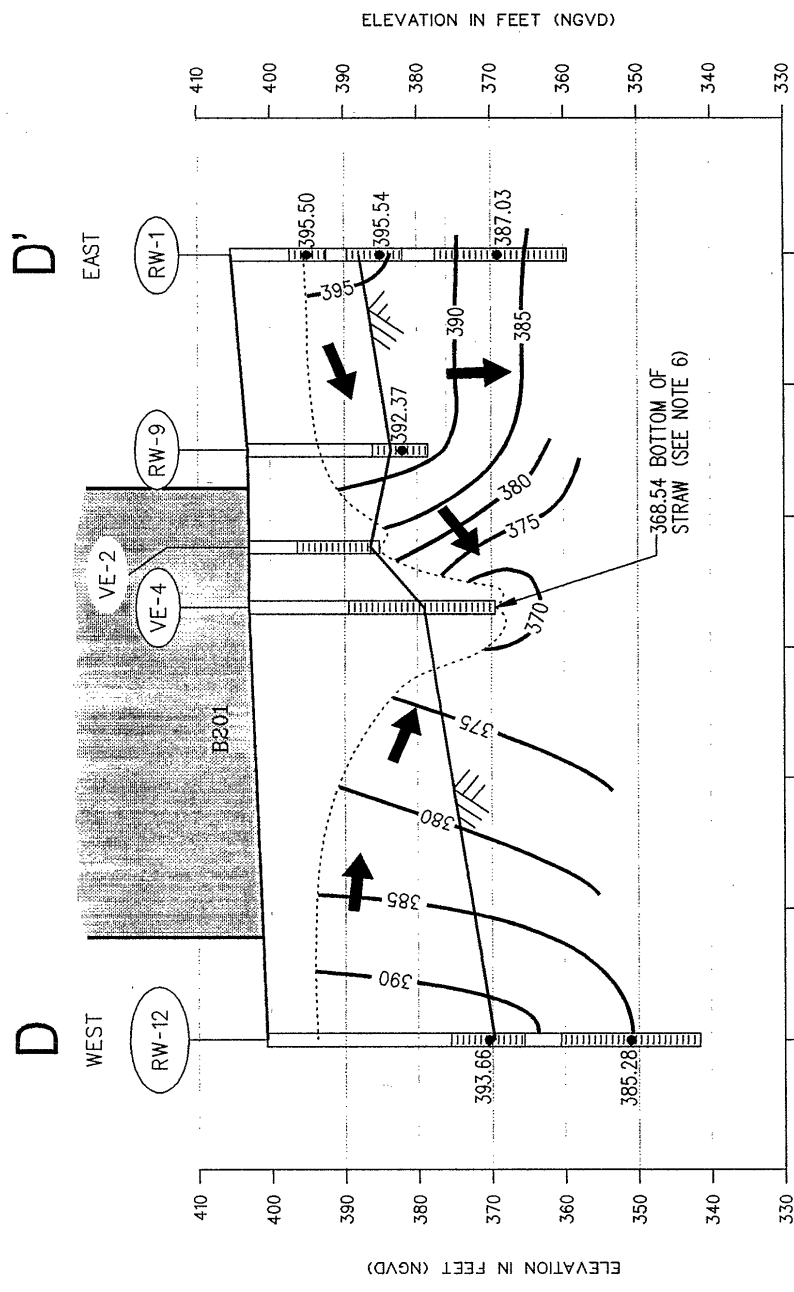
LEGEND:

- 218-6
- GROUND SURFACE
- TOP OF BEDROCK
- SCREENED INTERVAL
- GROUNDWATER ELEVATION MEASURED IN WELL IN AUGUST 1994
- WATER TABLE SURFACE (AUGUST 1994)
- INFERRED CONTOUR OF EQUAL GROUNDWATER HYDRAULIC HEAD (PRESSURE HEAD + ELEVATION HEAD).
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. WELL LOCATIONS ARE BASED ON AVAILABLE PLANIMETRIC INFORMATION.
2. HYDRAULIC HEAD CONTOURS ARE BASED ON WATER LEVEL DATA COLLECTED BY GENERAL TESTING CORPORATION IN AUGUST 1994.
3. HYDRAULIC HEADS ARE ASSUMED TO BE ACTING AT THE MIDPOINTS OF SCREENED INTERVALS.
4. CONTOURS REFLECT VALUES INTERPOLATED BETWEEN DATA POINTS. ACTUAL VALUES BETWEEN DATA POINTS WILL VARY.
5. CONTOUR INTERVAL IS 2 FT.

VERTICAL SCALE: 1" = 20'
 HORIZONTAL SCALE: 1" = 100'



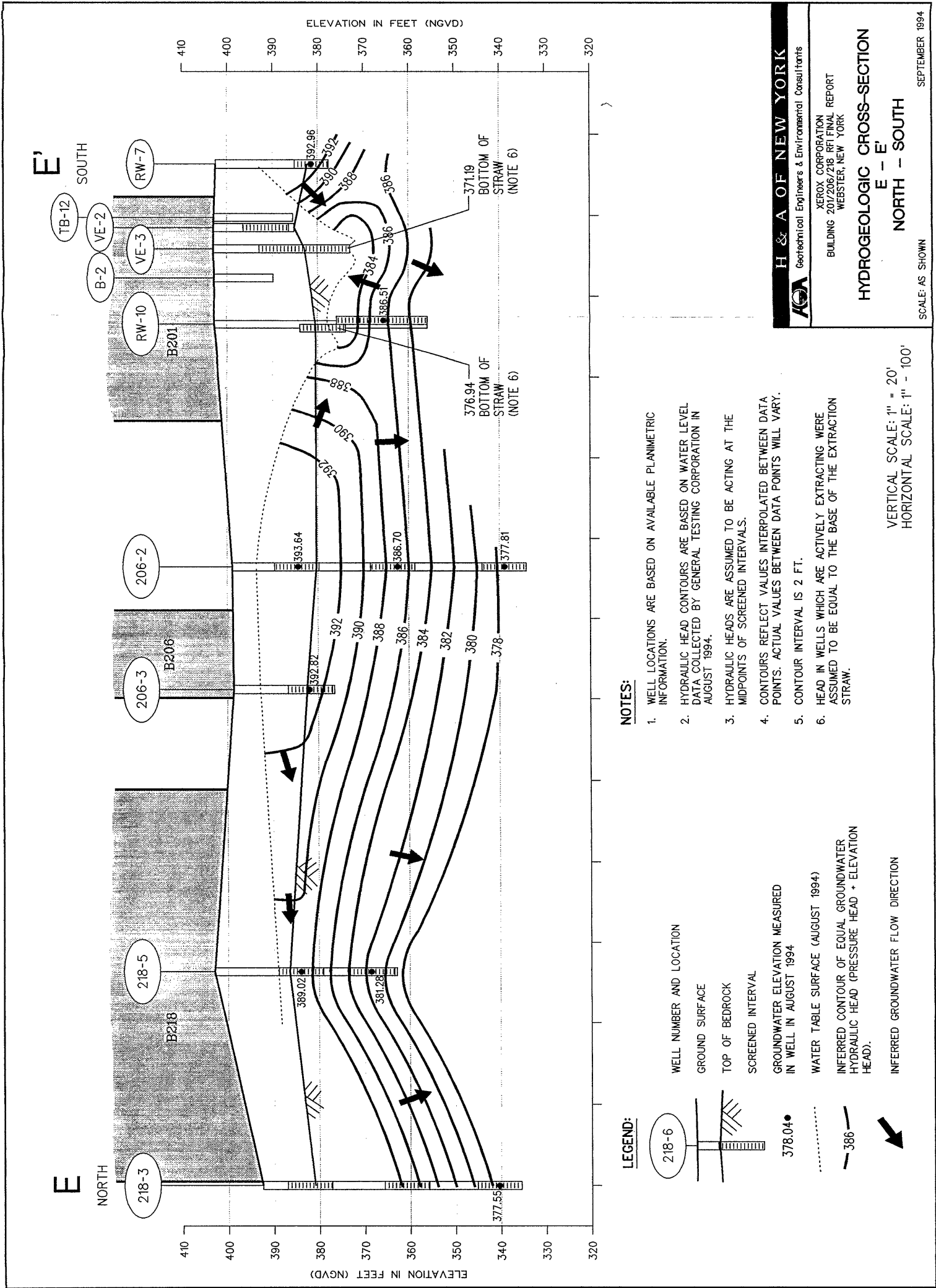
LEGEND:

- 218-6
- GROUND SURFACE
- TOP OF BEDROCK
- SCREENED INTERVAL
- GROUNDWATER ELEVATION MEASURED IN WELL IN AUGUST 1994
- WATER TABLE SURFACE (AUGUST 1994)
- INFERRED CONTOUR OF EQUAL GROUNDWATER HYDRAULIC HEAD (PRESSURE HEAD + ELEVATION HEAD).
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. WELL LOCATIONS ARE BASED ON AVAILABLE PLANIMETRIC INFORMATION.
2. HYDRAULIC HEAD CONTOURS ARE BASED ON WATER LEVEL DATA COLLECTED BY GENERAL TESTING CORPORATION IN AUGUST 1994.
3. HYDRAULIC HEADS ARE ASSUMED TO BE ACTING AT THE MIDPOINTS OF SCREENED INTERVALS.
4. CONTOURS REFLECT VALUES INTERPOLATED BETWEEN DATA POINTS. ACTUAL VALUES BETWEEN DATA POINTS WILL VARY.
5. CONTOUR INTERVAL IS 5 FT.
6. HEAD IN WELLS WHICH ARE ACTIVELY EXTRACTING WERE ASSUMED TO BE EQUAL TO THE BASE OF THE EXTRACTION STRAW.

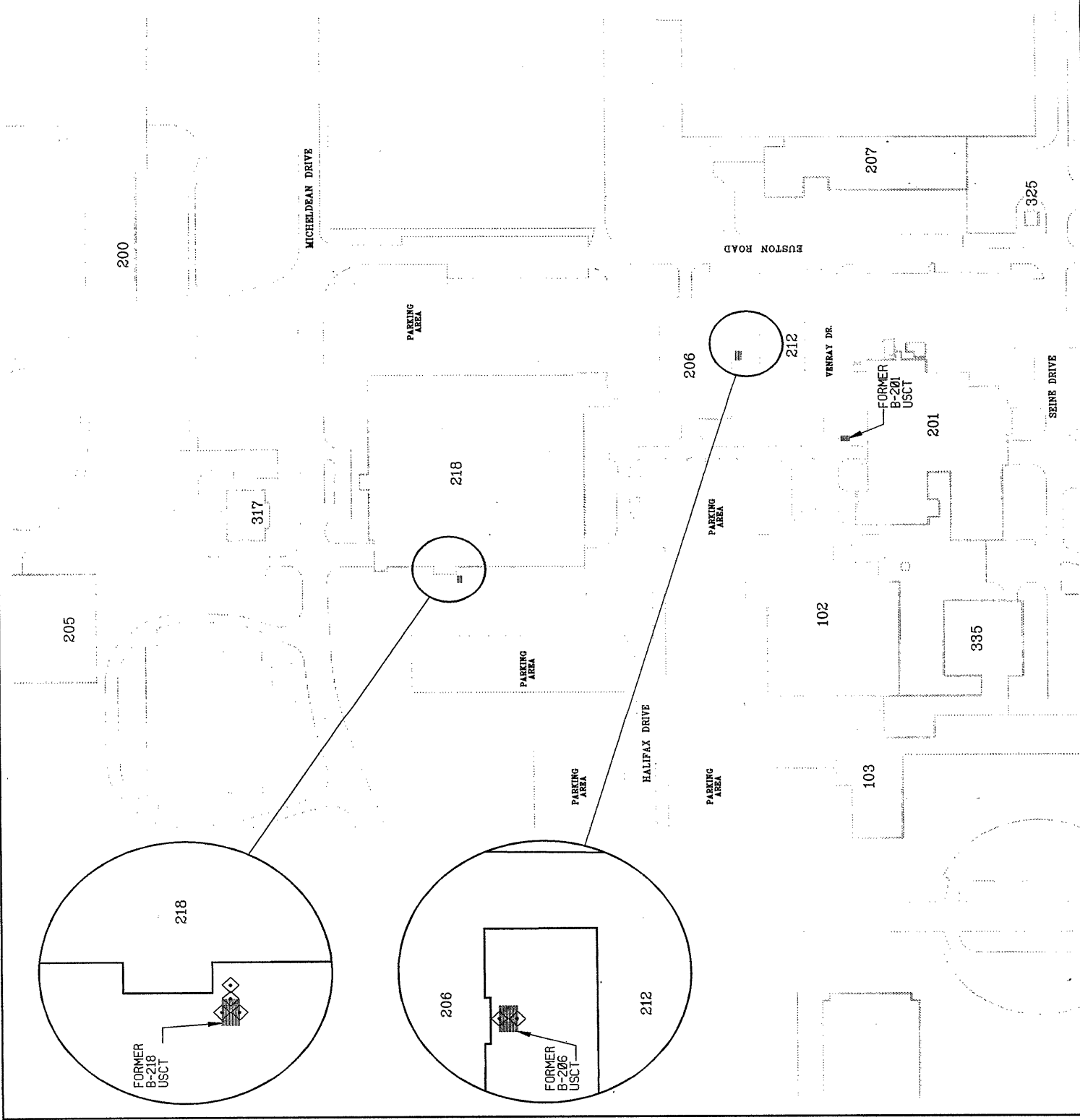
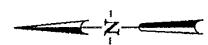
VERTICAL SCALE: 1" = 20'
HORIZONTAL SCALE: 1" = 100'



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HYDROGEOLOGIC CROSS-SECTION
E - E'
NORTH - SOUTH

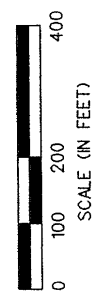


LEGEND:

-  USCT SOIL SAMPLING LOCATION
-  APPROXIMATE LOCATION OF TANK

NOTES:

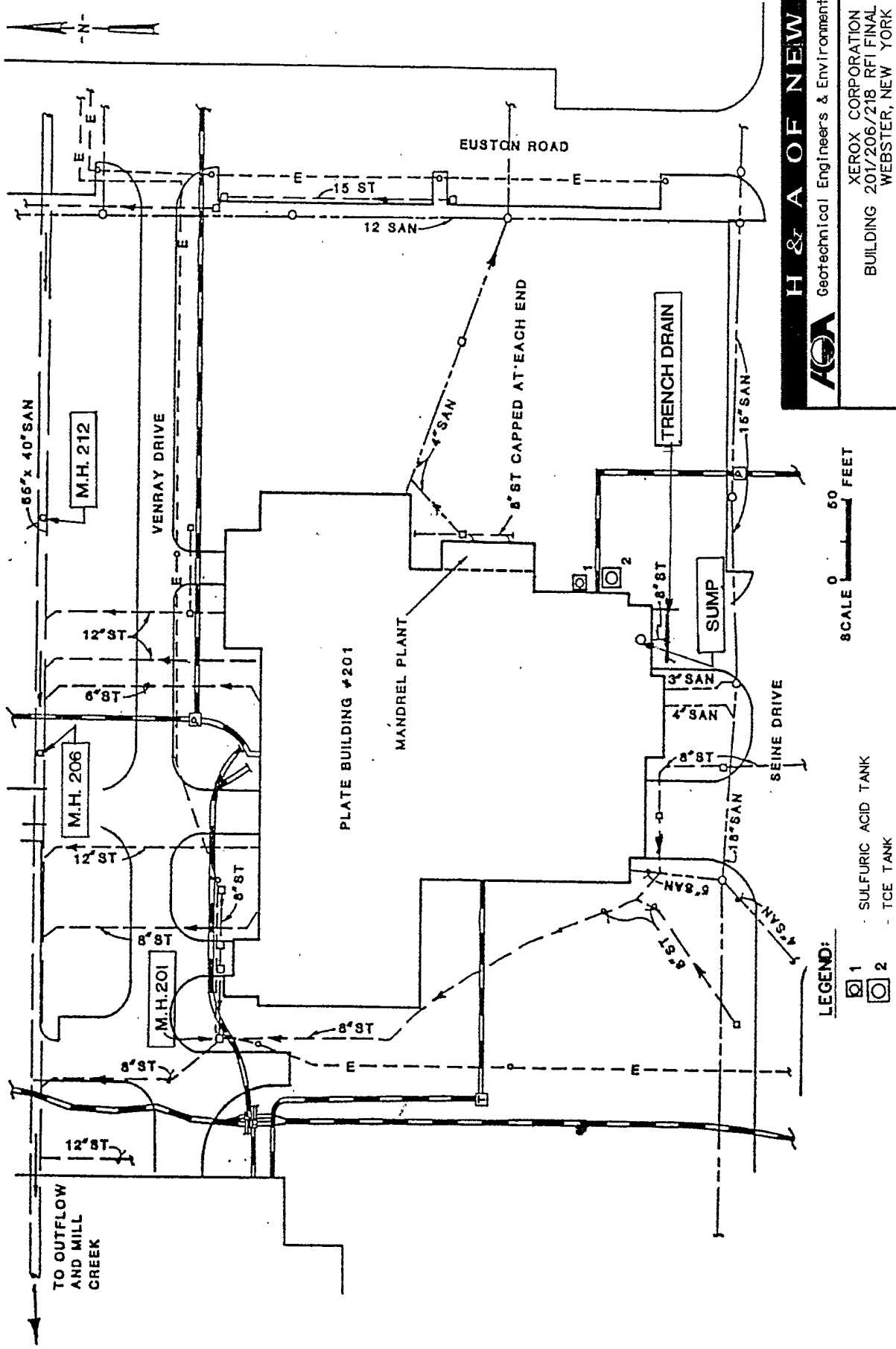
1. USCT= UNDERGROUND SPILL CONTAINMENT TANK.
2. USCT AND SOIL SAMPLING LOCATIONS APPROXIMATED BASED ON INFORMATION CONTAINED IN REPORTS BY D.D. DAY ENGINEERING, PC (1990) AND ENGINEERING-SCIENCE (1987)



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LOCATION OF FORMER USCTs



NOTE:
FIGURE FROM SUPPLEMENTAL SITE INVESTIGATION AT BUILDING 201
ENGINEERING-SCIENCE, OCTOBER 1987

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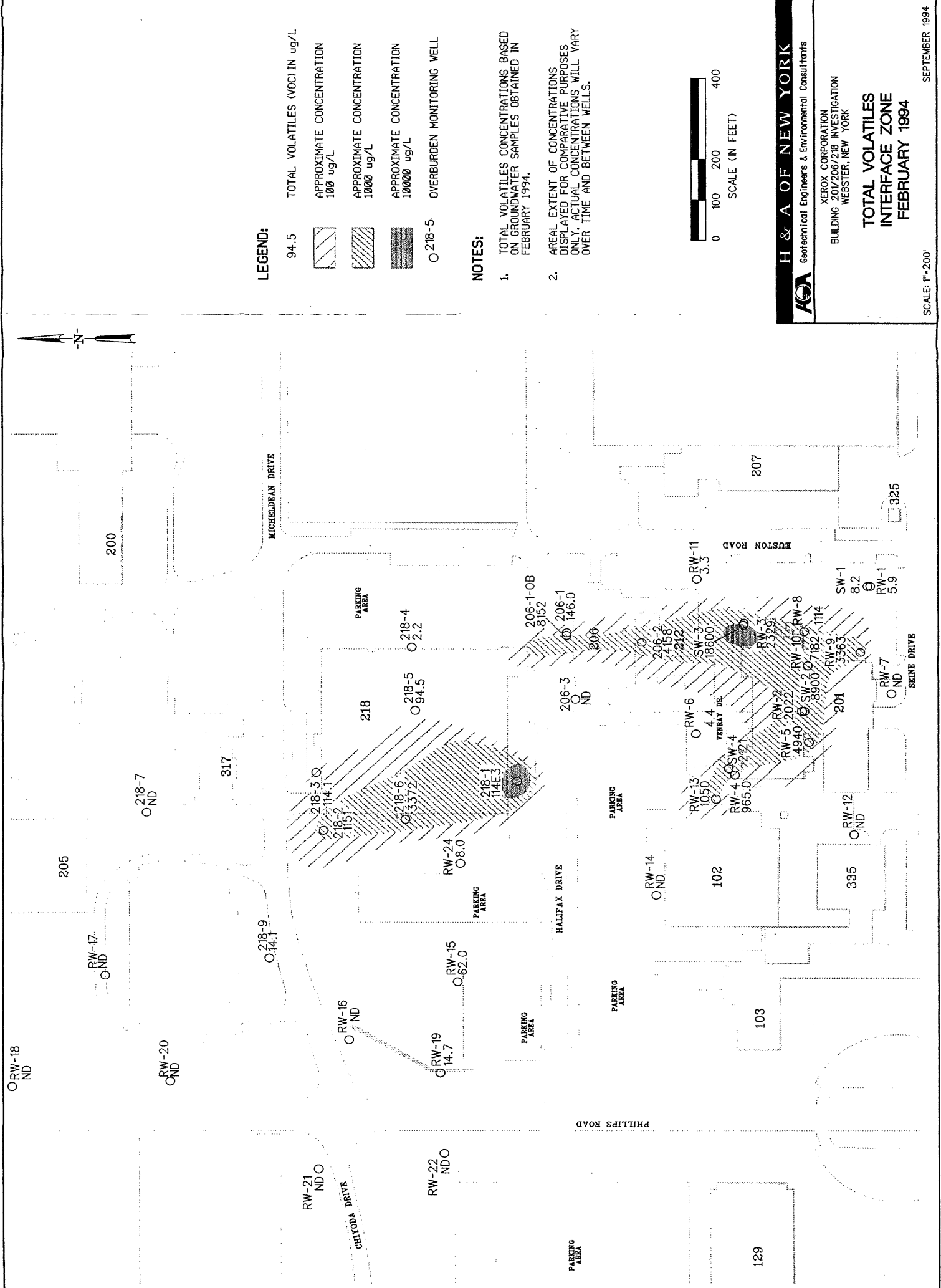
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BUILDING 201/206/218 RFI FINAL REPORT
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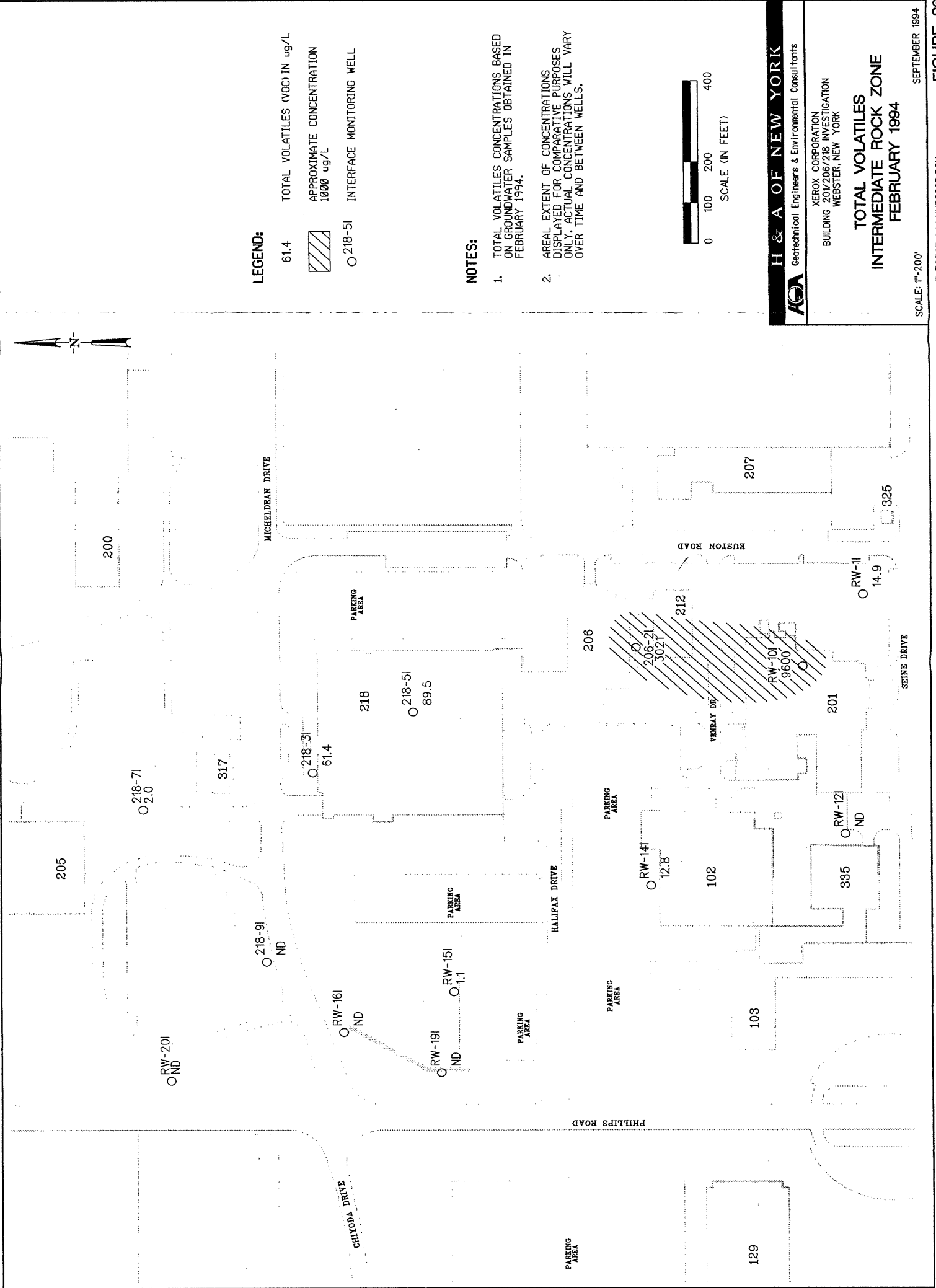
STORM SEWER / SEDIMENT SAMPLING LOCATIONS

SCALE: AS SHOWN

SEPTEMBER 1994

FILENAME: 70307-044-HYS032A.DGN





LEGEND:

61.4 TOTAL VOLATILES (VOC) IN ug/L

 APPROXIMATE CONCENTRATION
1000 ug/L

 218-51 INTERFACE MONITORING WELL

NOTES:

1. TOTAL VOLATILES CONCENTRATIONS BASED ON GROUNDWATER SAMPLES OBTAINED IN FEBRUARY 1994.
2. AREAL EXTENT OF CONCENTRATIONS DISPLAYED FOR COMPARATIVE PURPOSES ONLY. ACTUAL CONCENTRATIONS WILL VARY OVER TIME AND BETWEEN WELLS.

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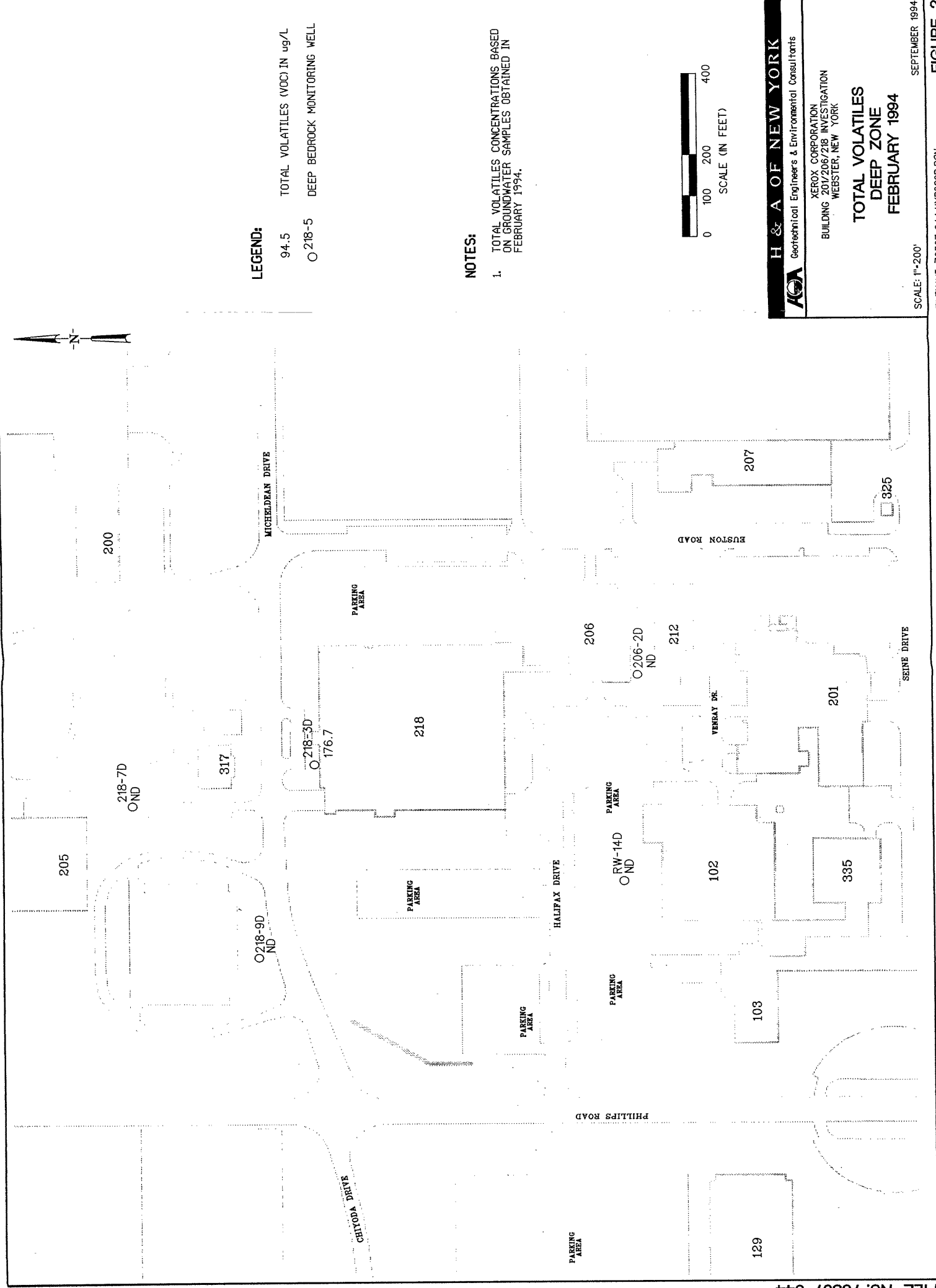
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WEBSTER, NEW YORK

**TOTAL VOLATILES
INTERMEDIATE ROCK ZONE
FEBRUARY 1994**

SCALE: 1"=200'

SEPTEMBER 1994
FILENAME: 70307-044-HYR020B.DGN

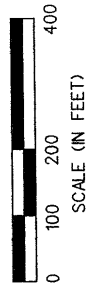


LEGEND:

- 94.5 TOTAL VOLATILES (VOC) IN ug/L
- 218-5 DEEP BEDROCK MONITORING WELL

NOTES:

1. TOTAL VOLATILES CONCENTRATIONS BASED ON GROUNDWATER SAMPLES OBTAINED IN FEBRUARY 1994.



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 BUILDING 201/206/218 INVESTIGATION
 WEBSTER, NEW YORK

**TOTAL VOLATILES
 DEEP ZONE
 FEBRUARY 1994**

SCALE: 1"=200'

SEPTEMBER 1994

FIGURE 27

APPENDIX A
SWMU Descriptions

I.D. NO. AND DESCRIPTION: #41 Underground Spill Containment Tank Bldg.218
LOCATION: Building 218 - See plan

UNIT PHYSICAL CONDITIONS

DESIGN CAPACITY: 375 gallons

DIMENSIONS: 4 ft. diameter x 4 ft. deep

MATERIAL
OF CONSTRUCTION: Unknown (12/86)

SECONDARY CONTAINMENT: Unknown (12/86)

SITE ACCESS: Fair, in building

AGE: 14 years

PRESENT
PHYSICAL CONDITION: Removed/backfilled

WASTE DESCRIPTION: Solvent Wastes

PERIOD OF OPERATION: 1975 - 1986

PREVIOUSLY INVESTIGATED? : No

CONSULTANT:

REPORT TITLE, DATE:

PURPOSE:

SCOPE:

RESULTS:

PREVIOUS ACTIONS TAKEN

ENVIRONMENTAL SAMPLING: TYPE OF SAMPLE: DATES: CONSULTANT:
None N/A N/A

ON-GOING MONITORING: None

HYDROGEOLOGIC CONDITIONS

SOILS TYPE: Unknown

DEPTH TO BEDROCK: Unknown

DEPTH TO GROUNDWATER: Unknown

ENVIRONMENTAL
QUALITY DATA

*SOIL: As - 5.0 mg/kg
Be - 1.2 mg/kg
Cr - 36.0 mg/kg
Ni - 12.0 mg/kg

PREVIOUS RELEASES? YES (potential leaks)

SOURCES OF INFORMATION

DOCUMENTING RELEASE: Xerox report of groundwater infiltrating into tank

DATE(S) OF RELEASE: Unknown

TYPE OF WASTE/
MATERIAL RELEASED: Solvent wastes

QUANTITY OF WASTE/
MATERIAL RELEASED: Unknown

NATURE OF RELEASE: Possible seepage to groundwater

RCRA STATUS:

REMARKS * - Soil quality data from Xerox core study, 1985

I.D. NO. AND DESCRIPTION: # 74 Building 201 Chromium Seep
LOCATION: Eastern edge of Building 201 - See plan

UNIT PHYSICAL CONDITIONS

DESIGN CAPACITY: N/A

DIMENSIONS: Unknown

MATERIAL
OF CONSTRUCTION: Concrete floor with resin coating

SECONDARY CONTAINMENT: N/A

SITE ACCESS: Poor; under Building 201

AGE: 1980 to present

PRESENT
PHYSICAL CONDITION: Floor has been periodically repaired

WASTE DESCRIPTION: Nickel and Chromium Plating Wastewater

PERIOD OF OPERATION: 1980 to present

PREVIOUSLY INVESTIGATED? : Yes

CONSULTANT: Dames & Moore

REPORT TITLE, DATE: Plume Evaluation Study, Xerox Corporation,
Building 201, Webster, New York, March 3, 1989

PURPOSE: The purpose of the above mentioned report was to
evaluate the nature and extent of groundwater and soil
contamination in the vicinity of building 201.

SCOPE: Summarized previous work including soil sampling, soil
gas surveys, geophysical surveys, installation of soil
borings and monitoring wells, aquifer testing and design
of a soil gas extraction system.

RESULTS: Characterized geology and hydrogeology. Volatile
organics unrelated to SWMU #74 have been found in
soil and in the overburden, interface and bedrock
aquifer. Chromium has been detected above the NYSDEC
drinking water standards in the interface aquifer.

PREVIOUS INVESTIGATIVE STUDIES: See Table 1

ENVIRONMENTAL SAMPLING:	TYPE OF SAMPLE:	DATE:	CONSULTANT:
	Soil Vapor and Soil	4/86, 5/86	Engineering Science
	Groundwater	6/86-9/86, 10/86	Engineering Science
	Soil and Groundwater	3/88-9/88, 5/88	Woodward-Clyde
	Soil	8/88-2/89	Dames & Moore

ON-GOING MONITORING: Quarterly groundwater sampling

HYDROGEOLOGIC CONDITIONS

SOILS TYPE: Fill, lacustrine, glaciafluvial, and glacial till (see attached cross-sections)

DEPTH TO BEDROCK: 20 ft. below ground surface (see attached cross-sections)

DEPTH TO GROUNDWATER: 6 ft. below ground surface (see attached groundwater contour map)

ENVIRONMENTAL QUALITY DATA:

SOIL: See Table 2

GROUNDWATER: See Table 3

PREVIOUS RELEASES? YES

SOURCES OF INFORMATION

DOCUMENTING RELEASE: Visual inspection by Xerox of the floor underneath plating tanks indicated leakage; visual evidence of leakage from side of building as well.

DATE(S) OF RELEASE: Unknown

TYPE OF WASTE/
MATERIAL RELEASED: Chromium Plating solutions

QUANTITY OF WASTE/
MATERIAL RELEASED: Unknown

NATURE OF RELEASE: Long term seepage of chromic acid and nickel chromium plating wastes through the concrete floor slab and wall.

RCRA STATUS:

REMARKS

TABLE 1 (#74)
PREVIOUS INVESTIGATIVE STUDIES

REPORT TITLE:

1. "Remedial Investigation at Building 201, Webster, New York"
(Engineering-Science Inc., 1986)
2. "Supplemental Site Investigation at Building 201"
(Engineering-Science Inc., 1987)
3. "Contamination Migration Evaluation, Building 201, Webster, New York"
(Woodward-Clyde Consultants, 1988)
4. "Aquifer Analysis Program and Conceptual Recovery System,
Xerox, Building 201"
(Woodward-Clyde Consultants, 1988)
5. "Plume Evaluation Study Xerox Corp. Building 201, Webster, New York"
(Dames & Moore, 1989)
6. "Report on Angle-Boring at Building 201"
(Woodward-Clyde Consultants, 1988)
7. "Building 201 Pilot Study Results"
(Dames & Moore, 1989)

TABLE 2 (#74)
SOIL ANALYTICAL DATA (MAXIMUM VALUES)

RW-8	
Inorganic Constituent	Concentration (ppm)
-----	-----
Fluoride	1.0
Sulfate	50.0
Arsenic	4.1
Chromium	18.0
Nickel	15.0
Organic Constituent	Concentration (ppb)
-----	-----
Trans-1,2-Dichloroethene	19.0
1,1,1-Trichloroethane	8.8
Trichloroethylene	31.0

TABLE 3 (#74)
GROUNDWATER ANALYTICAL DATA

Inorganic Constituent	Concentration (ppb)	
	9/08/88	
	Well RW-8	Well RW-10
Fluoride	0.13	0.11
Sulfate	64.2	85.8
Arsenic	ND	0.003
Chromium, Total	1.62	0.052
Nickel	ND	0.049
Selenium	ND	ND

Organic Constituent	Concentration (ppm)	
	9/08/88	
	Well RW-8	Well RW-10
Vinyl Chloride	ND	ND
1,1-Dichloroethene	ND	ND
Methylene Chloride	ND	ND
1,1-Dichloroethane	ND	ND
1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Dichloroethane	ND	ND
Trichloroethylene	82,200	661,000
Dibromochloronethane	ND	ND
Tetrachloroethene	ND	ND
Chlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
Total Volatiles	82,200	661,000

ND - Not Detected

I.D. NO. AND DESCRIPTION: # 75 Building 201 Trichloroethylene Spill
LOCATION: East side of Building 201 - See plan

UNIT PHYSICAL CONDITIONS

DESIGN CAPACITY: N/A

DIMENSIONS: Unknown

MATERIAL
OF CONSTRUCTION: Concrete

SECONDARY CONTAINMENT: N/A

SITE ACCESS: Difficult, portion of spill under
Building

AGE: N/A

PRESENT
PHYSICAL CONDITION: Floor has been periodically repaired

WASTE DESCRIPTION: Trichloroethylene

PERIOD OF OPERATION: NA

PREVIOUSLY INVESTIGATED? : Yes

CONSULTANT: Dames & Moore

REPORT TITLE, DATE: Plume Evaluation Study, Xerox Corporation,
Building 201, Webster, New York, 3 March, 1989

PURPOSE: The purpose of the above mentioned report was to evaluate the nature and extent of groundwater and soil contamination in the vicinity of Building 201.

SCOPE: Summarized previous work including soil sampling, soil gas surveys, geophysical surveys, installation of soil borings and monitoring wells, aquifer testing and design of a soil gas extraction system.

RESULTS: Identified halogenated organic plume as extending from south east corner of Building 201 (virgin TCE tank location) under the building to the northwest, and west of the building. Other halogenated hydrocarbons detected within the building, but TCE is the dominant chemical in the plume. TCE concentration decrease radially from the virgin TCE tank in the north, northwest, and westerly directions.

PREVIOUS INVESTIGATIVE STUDIES: See Table 1

ENVIRONMENTAL SAMPLING:	TYPE OF SAMPLE:	DATE:	CONSULTANT:
	Soil and Soil vapor	4/86, 5/86	Engineering Science
	Groundwater	6/86-9/86, 10/86	Engineering Science
	Soil and Groundwater	3/88-9/88, 5/88	Woodward-Clyde
	Soil	8/88-2/89	Dames & Moore

ON-GOING MONITORING: Quarterly groundwater sampling

HYDROGEOLOGIC CONDITIONS

SOILS TYPE: Fill, lacustrine, glaciafluvial, and glacial till (see attached cross-sections)

DEPTH TO BEDROCK: 20 ft. below ground surface (see attached cross-sections)

DEPTH TO GROUNDWATER: 6 ft. below ground surface (see attached groundwater contour map)

ENVIRONMENTAL QUALITY DATA:

SOIL: See Table 2

GROUNDWATER: See Table 3

PREVIOUS RELEASES? Suspected

SOURCES OF INFORMATION

DOCUMENTING RELEASE: Employees recollection of spilling in the early 1970's during tank filling

DATE(S) OF RELEASE: Early 1970's

TYPE OF WASTE/
MATERIAL RELEASED: Trichloroethylene

QUANTITY OF WASTE/
MATERIAL RELEASED: Unknown

NATURE OF RELEASE: Overfilling of above grade tank during delivery and filling of virgin TCE. The spilled TCE flowed into the area adjacent to the building and into a trench-drain-sump system at the building southeast corner.

RCRA STATUS:

REMARKS

TABLE 1 (#75)
PREVIOUS INVESTIGATIVE STUDIES

REPORT TITLE:

1. "Remedial Investigation at Building 201, Webster, New York"
(Engineering-Science Inc., 1986)
2. "Supplemental Site Investigation at Building 201"
(Engineering-Science Inc., 1987)
3. "Contamination Migration Evaluation, Building 201, Webster, New York"
(Woodward-Clyde Consultants, 1988)
4. "Aquifer Analysis Program and Conceptual Recovery System,
Xerox, Building 201"
(Woodward-Clyde Consultants, 1988)
5. "Plume Evaluation Study Xerox Corp. Building 201, Webster, New York"
(Dames & Moore, 1989)
6. "Report on Angle-Boring at Building 201"
(Woodward-Clyde Consultants, 1988)
7. "Building 201 Pilot Study Results"
(Dames & Moore, 1989)

TABLE 2 (#75)
SOIL ANALYTICAL DATA

Constituent	Concentration (ppb)	
	5/88 RW-1	TB-12
Trichloroethene	15	500,000

TABLE 3 (#75)
GROUNDWATER ANALYTICAL DATA

Constituent	Concentration (ppb)			
	10/88 RW-1	RW-8	RW-9	SW-1
Trichloroethene	<1	30,000	29,000	2.0

I.D. NO. AND DESCRIPTION: # 85 Building 218 vault survey
LOCATION: Telephone manhole sumps within Building 218 - See plan

UNIT PHYSICAL CONDITIONS

DESIGN CAPACITY: The telephone vaults house equipment and serve as
pulling chambers for cable replacment.
Dewatered by conventional sump pumps.

DIMENSIONS: Unknown

MATERIAL
OF CONSTRUCTION: Concrete

SECONDARY CONTAINMENT: None

SITE ACCESS: Varies - depending on location of manhole

AGE: Unknown

PRESENT
PHYSICAL CONDITION: Concrete vaults contain groundwater

WASTE DESCRIPTION: The vaults contain infiltrated groundwater

PERIOD OF OPERATION: N/A

PREVIOUSLY INVESTIGATED? : Yes

CONSULTANT: H & A of New York

REPORT TITLE, DATE: Summary Report, Manhole sump sampling
project, 15 July, 1988

PURPOSE: To delineate local areas of contamination
within the site telephone and electrical
duct system

SCOPE: Water samples were collected from 112 sumps,
and analysed for volatile organic chemicals

RESULTS: Levels of total volatile organics over
35,000 ppb were found in sumps in
building 218

PREVIOUS INVESTIGATIVE STUDIES: "Final Report of the Findings of the Petrex Soil Gas Survey Conditions in and around Building 218 at Xerox Facility, Webster, New York", Petrex Co., February 19, 1989

ENVIRONMENTAL SAMPLING: TYPE OF SAMPLE: DATES: CONSULTANT:
Water 4/13/89 H & A of New York
ON-GOING MONITORING:

HYDROGEOLOGIC CONDITIONS*

SOILS TYPE: Unknown

DEPTH TO BEDROCK: Unknown

DEPTH TO GROUNDWATER: Unknown

ENVIRONMENTAL QUALITY DATA:
WATER: See Table 1

PREVIOUS RELEASES? N/A

SOURCES OF INFORMATION
DOCUMENTING RELEASE:

DATE(S) OF RELEASE:

TYPE OF WASTE/
MATERIAL RELEASED:

QUANTITY OF WASTE/
MATERIAL RELEASED:

NATURE OF RELEASE:

RCRA STATUS:

REMARKS * - See information on Building 201 and 208 for nearby conditions.

Table 1 (#85)
Manhole Sump Sampling Results

Constituent -----	Concentration (ppb) 7/15/88 -----		
	Sump 22	Sump 23	Sump 2188
1,1-Dichloroethene	931	66	3,5
Methylene Chloride	716	46	ND
1,1-Dichloroethane	1,490	1,700	2.9
1,1,1-Trichloroethane	31,200	32,000	33.9
1,2-Dichloroethylene	ND	ND	3.7
Trichloroethylene	356	290	6.7

I.D. NO. AND DESCRIPTION: #86 Building 206 contamination
LOCATION: Southwest of Building 206 - See plan

UNIT PHYSICAL CONDITIONS

DESIGN CAPACITY: N/A

DIMENSIONS: Unknown

MATERIAL
OF CONSTRUCTION: N/A

SECONDARY CONTAINMENT: N/A

SITE ACCESS:

AGE: N/A

PRESENT
PHYSICAL CONDITION: N/A

WASTE DESCRIPTION: Solvents

PERIOD OF OPERATION: 1975 - 1989

PREVIOUSLY INVESTIGATED? : No

CONSULTANT:
REPORT TITLE, DATE:

PURPOSE:

SCOPE:

RESULTS:

PREVIOUS INVESTIGATIVE STUDIES: None

ENVIRONMENTAL SAMPLING: TYPE OF SAMPLE:
NoneDATE:
N/ACONSULTANT:
N/A

ON-GOING MONITORING: None

HYDROGEOLOGIC CONDITIONS (1)

SOILS TYPE: Unknown

DEPTH TO BEDROCK: Unknown

DEPTH TO GROUNDWATER: Unknown

ENVIRONMENTAL QUALITY DATA:

(2) SOIL: Core study indicated concentrations of
TCE, PERC and 1,2-DCE.

PREVIOUS RELEASES? Suspected

SOURCES OF INFORMATION

DOCUMENTING RELEASE: Xerox suspected the possibility of contamination

DATE(S) OF RELEASE: No known release

TYPE OF WASTE/
MATERIAL RELEASED: SolventsQUANTITY OF WASTE/
MATERIAL RELEASED: Unknown

NATURE OF RELEASE: Unknown

RCRA STATUS:

REMARKS 1- See information on Building 201 and 208 for nearby conditions
2 - Soil quality data from Xerox Core Study, 1985

Woodward-Clyde Consultants



Engineering & sciences applied to the earth & its environment

March 19, 1992
91C2756

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, New York 14580

Re: Summary Report
Thallium Areas, Webster Facility

Dear Elliott,

Woodward-Clyde Consultants is pleased to provide you with this Summary Report for the thallium issue at your Webster, New York facility. This report has been prepared as per the Project Decision Matrix for the Thallium areas formulated by WCC in 1989 and included in the Facility Reference Document (FRD) prepared by H&A of New York, submitted to the New York State Department of Environmental Conservation (NYSDEC). The purpose of this report is to summarize the results of investigations conducted by Xerox to date, and to petition the NYSDEC to delete the thallium areas as an investigative site.

This report has been prepared in accordance with our proposal dated November 18, 1991, and your subsequent authorization to proceed via Purchase Order C3316254. The data presented in this report were generated during sampling activities and analyses by others. Evaluations presented herein are based on review of those data, which were assumed to be representative of actual site conditions.

INTRODUCTION

The history of the thallium areas was summarized in the FRD previously submitted to the NYSDEC by Xerox. A summary of the history from the FRD is included here for ease of review. "The Thallium area consists of SWMU units #41, 79 and 66 and two areas; one north of Building 123 and the other north of Building 124. The areas north of Buildings 123 and 124 were added to the Corrective Action Module after the results of the Site-wide Soil Boring program conducted by Xerox indicated detectable concentrations of thallium in these areas. These areas are described as the chemical storage room scuppers. Both Building 123 and 124 are used for storage of virgin chemicals for various plant manufacturing processes. Chemicals stored in Buildings 123 and 124 include chlorinated and flammable solvent.

91C2756/THALLIUM.REP/XW-D1/sal 3-19-92

SWMU #79 is the area including the wailing wall which was used as a destruction area for shock sensitive/reactive chemicals. This area is located north of Building 343. From the early 1970's through 1987, the wailing wall was the area where detonation and burning of these chemicals was performed. Since approximately 1974, Building 343 has been used as the waste drum storage area where wastes are collected and stored for shipment. As part of the 3004(u) sampling, elevated thallium detections were observed in these areas.

SWMU #41 and #66 are also included under Investigative Sites-W218 and W200, respectively, as well as the Thallium area. Detectable concentrations of thallium were discovered in both areas as a result of the site wide Soil Boring program undertaken by Xerox. The source of the thallium is unknown."

As referenced in the quoted section of the FRD, thallium was detected in soil samples collected by RECRA Research in 1985. The results of the sampling were included in the 3004(u) submission supplied to the NYSDEC in 1986. The results of this sampling episode are provided in Appendix A of this Summary Report. On October 20, 1989, Xerox submitted a letter to the NYSDEC providing the position of Xerox, that the thallium detected as part of the 3004(u) submission was the result of rodenticide application prior to ownership of the site by Xerox. In order to demonstrate that thallium concentrations detected in the 3004(u) sampling represented background conditions, Xerox proposed to conduct a focused sampling program in SWMU areas where the initial concentrations of thallium were detected, and non-SWMU areas of the Webster facility. A copy of this letter is also included in Appendix A.

On November 3, 1989 the NYSDEC responded to the aforementioned letter from Xerox with a request for additional information on the past use of thallium in research projects at the Webster site, including the use, storage and ultimate disposal of the material.

Xerox authorized WCC to prepare a Work Plan for the focused soil sampling program proposed to the NYSDEC by Xerox in their October 1990 letter. This Work Plan provided a summary of the site usage of thallium by Xerox. The summary was prepared on the basis of a review of pertinent project files provided by Xerox. As part of the review process, WCC interviewed Xerox personnel (in person and over the telephone) identified during the records search as being involved with thallium research and use on site. In addition, the Work Plan provided a summary of thallium analyses conducted on soil samples collected at the site to that date; which included the 3004(u) results, and soil samples collected during the RCRA Facilities Investigation conducted in the Nursery/Pilot-Plant area of the Webster facility and excavations made during construction in Building 119. Thallium was included as an analyte in the 1988 investigations to address whether Thallium was present in the soils at this location, either as a background compound or from historical site operations. The Work Plan is included as Appendix B of this Summary Report.

RESULTS OF CONFIRMATORY SOIL SAMPLING

In August 1991, Xerox retained General Testing Corporation (GTC) to implement the work plan prepared by WCC (Appendix B). GTC collected forty-two soil samples at locations specified in the work plan, and at additional locations selected by Xerox. The sampling locations specified in the work plan are shown on Figure 1. The samples were collected to a maximum depth of three feet, which was the predominant depth where thallium was detected in the 3004 (u) submission. This depth also appeared to be the depth where thallium would likely be encountered from past rodenticide application.

The laboratory data sheets are contained in Appendix C of this summary report. The sampling results are tabulated on Table 1 of this report.

Thallium was not detected in any of the soil samples collected during the August 1991 sampling episode. The detection limits ranged from 5.33 parts per million (ppm) to 6.29 ppm. This indicates that thallium is not present as a widespread compound in the shallow soils at the Webster facility.

The significant findings of Thallium in the previous 1985 soil sampling and analysis episode were in samples from Buildings 123, 124, 128, 150, 200, 218 and the Wailing Wall. At these locations, thallium was detected at concentrations in excess of 100 ppm. The analytical results are included in Appendix A. In boring B-4 of the 1988 Nursery/Pilot-Plant RFI, total thallium was detected at a concentration of 17 ppm in one sample from the Nursery area. Data are presented in Appendix B.

DATA ANALYSIS

The proposed rule for RCRA Corrective Action Levels dated July 27, 1990, calls for additional action or consideration for remediation where the concentration of individual thallium salts exceeds six to seven ppm. The levels of total thallium for samples collected during the 3004 (u) submission exceeded this guideline at certain locations. During subsequent soil sampling at the site (the Nursery/Pilot-Plant RFI and the recent Webster Site Thallium Survey 1991), no concentrations of thallium were detected which exceeded the proposed RCRA action levels. Therefore, based on the recent sampling and analysis, the soils at the Webster site do not contain thallium on a widespread basis.

CONCLUSIONS

Based on our review of the data obtained in the various soil sampling episodes where thallium was detected, several conclusions can be made.

Woodward-Clyde Consultants

- Previous soil sampling in selected areas detected thallium at levels which required additional investigation in the Site Core Study; (3004 (u) submission). These samples were collected in 1985.
- Soil sampling conducted in 1988 did not detect thallium at concentrations which would require additional investigation based on proposed RCRA Corrective Action Levels. The 1988 soil sampling and analysis program was conducted in accordance with procedures proposed in a Work Plan approved by NYSDEC.
- Soil sampling conducted in 1991 (in accordance with the work plan approved by the NYSDEC), did not detect thallium in the site soils (as represented by 42 samples from around the entire site).
- The occurrence of thallium in soils at levels which would require additional investigation was detected in samples from a number of discrete locations around the Webster facility. Subsequent sampling stations in the proximity of the previous 3004 (u) sampling locations did not confirm the presence of thallium at concentrations which would require additional investigation or corrective action.
- There is not a regional problem with thallium in the soils at the Webster site. However, this does not rule out local exceedances of thallium in site soils due to the use of rodenticides at the property prior to Xerox ownership. Rodenticides were used at discrete locations, which would result in environmental impacts at selected locations.
- Thallium was detected at locations around the plant during the 3004 (u) sampling which could suggest local impacts to site soils during historical plant operations. However the pattern of detection in previous analyses could also be related to localized use of rodenticides. In addition, these analyses were conducted in 1985 and documentation for field and lab QA/QC are not available.

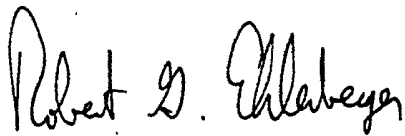
Overall, on the basis of WCC's review of historical operations at the plant which were related to thallium usage, the documented amounts of thallium which were used, the reported handling and disposal of this material, and the analytical results of sampling conducted in 1988 and 1991, it is WCC's professional opinion that there are not environmental impacts to soils at the site, by thallium, which warrant either additional investigation or clean-up. Concentrations of thallium which barely exceed current proposed RCRA Corrective Action Levels, were only detected in historical analyses and were not confirmed by 1988 or 1991 sampling. In addition, those exceedances are very localized and do not indicate an environmental problem.

RECOMMENDATIONS

Recent samplings (1988 and 1991) of soils across the Webster site at random locations and in locations where thallium was reported in the Site Core Study (1985) did not detect thallium at concentrations which require additional investigation or remediation. Based on the recent data, which were generated in accordance with sampling and analytical protocols which were approved by the NYSDEC, WCC is recommending that no further action is required to address thallium issues at the Webster site. Therefore, the thallium issue should not be considered as an environmental concern at the Webster site, and the thallium areas should be deleted as a Solid Waste Management Unit from the Corrective Action Module.

It has been our pleasure to prepare this report for Xerox. If you have any questions about this report or our analysis of the data provided to us, please do not hesitate to call.

Very truly yours,

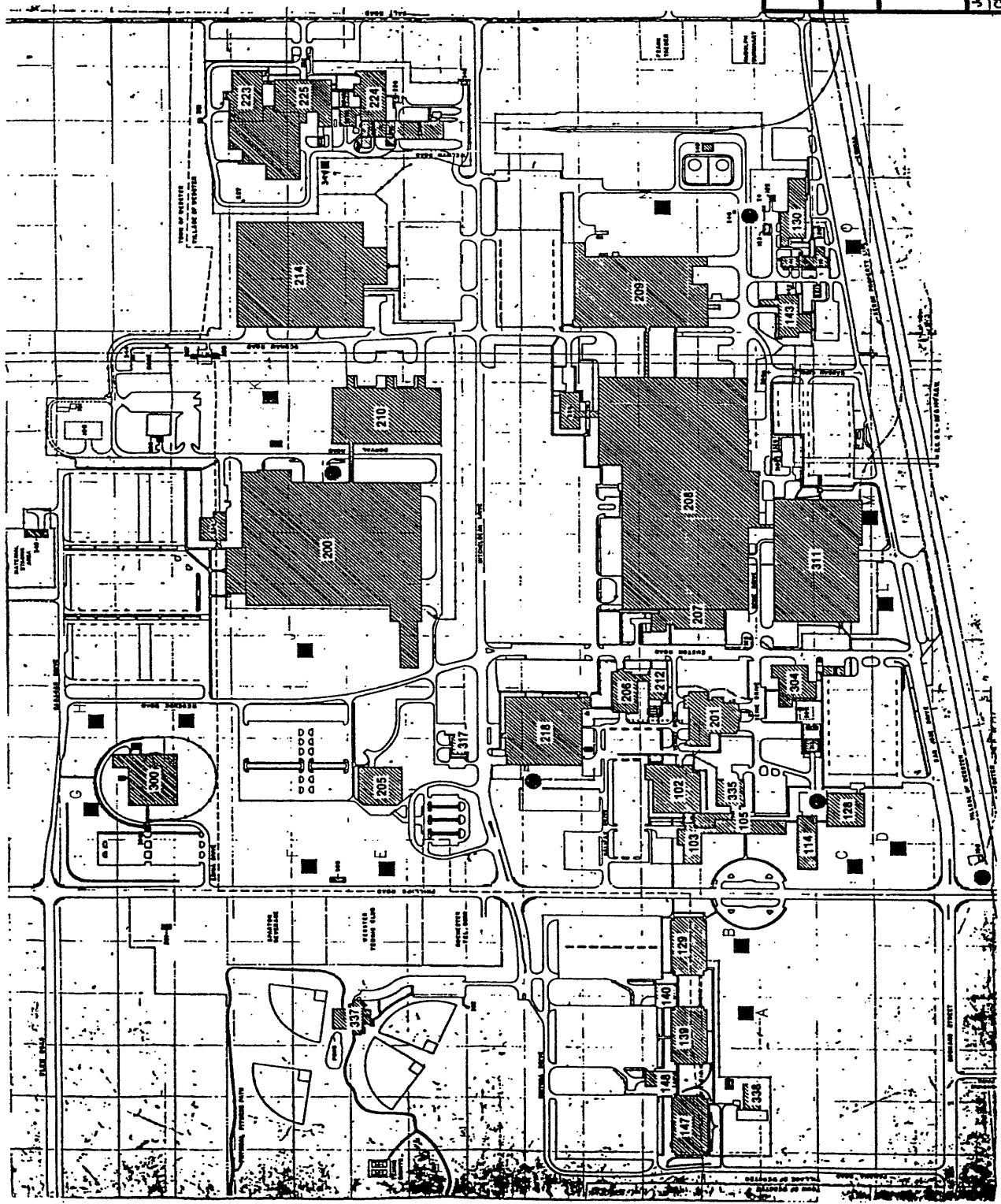
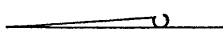


Robert G. Ehlenberger
Project Manager

RGE/sal

TABLE 1
ANALYTICAL RESULTS
XEROX 1991 THALLIUM STUDY

Sample Number	Sampling Location	Thallium, Total (micrograms/gram)
1	130 - A	5.42 U
2	130 - B	5.33 U
3	123 - A	5.36 U
4	123 - B	5.43 U
5	209 - A	5.65 U
6	209 - B	5.38 U
7	200 - A - E	5.36 U
8	200 - B - E	5.54 U
9	Landfill - A	5.35 U
10	Landfill - B	5.33 U
11	J - A	5.35 U
12	J - B	5.47 U
13	G - A	5.47 U
14	G - B	5.36 U
15	H - A	5.44 U
16	H - B	5.34 U
17	I - A	5.40 U
18	I - B	5.39 U
19	F - A	5.50 U
20	F - B	5.50 U
21	E - A	5.48 U



LEGEND:

- 3004(u) THALLIUM
DETECTION AREA
- PROPOSED SAMPLING
LOCATION

XEROX CORPORATION
WEBSTER, NEW YORK

 **WOODWARD-CLYDE CONSULTANTS**
Consulting Engineers, Geologists and Environmental Scientists

SAMPLING LOCATION PLAN

Job No.: 9802859 Drawing No. 98590010 Date: 12/13/89

Checked by: M.D. Rev. No.:
Scale:

FIGURE 1

0 600 FEET

XEROX

October 20, 1989

Mr. Paul Counterman
New York State Department of Environmental Conservation
Bureau of Hazardous Waste Technology
Division of Solid and Hazardous Waste
50 Wolf Road
Albany, New York 12233 - 0001

Dear Mr. Counterman:

In the draft Corrective Actions Module developed for the Xerox Webster facility, Xerox is required to determine the source, cause and extent of the thallium contamination in soils at the following SWMU's:

Building 218
Building 200 Former Drum Storage Area
Wailing Wall

Since receiving the draft Corrective Actions Module, Xerox has submitted to the regulatory agencies documentation stating that Xerox never used Thallium in any of the production activities at the Webster facility. Thallium was documented as being used in laboratory quantities for research and development activities. Attached is a summation of the known thallium use associated with research and development activities.

The Xerox - Webster facility was an orchard area prior to ownership by Xerox and it is expected that both pesticides and rodenticides were used to maintain pest control. It is Xerox' position that the thallium detected as part of the 3004(u) submission in 1986 was the result of rodenticide application prior to Xerox ownership of the property and should be utilized to represent background conditions for not only the facility but for the entire Webster orchard areas. To support this position, Xerox has submitted information documenting that thallium is a common ingredient in rodenticides. Xerox feels that it would be arbitrary and capricious to select and require Xerox to conduct any extensive sampling associated with determining the extent, mobility, etc associated with the thallium concentrations at the Webster facility.

The thallium sampling conducted as part of the 3004(u) submission focused on identified SWMU areas. Xerox does recognize the need to conduct additional sampling to demonstrate that the observed thallium concentrations truly do represent background conditions for the facility and are not the result of SWMU activity.

XEROX

In order to demonstrate that the thallium detections of the 3004(u) submission represent background conditions, Xerox has proposed to conduct limited additional thallium testing in both SWMU areas where the initial thallium concentrations were detected and non SWMU areas of the Webster facility. Three samples will be collected from each of the SWMU areas that had detections of thallium in the 3004(u) submission. Of these three samples, one will be taken in the approximate area of the highest thallium detection while the other two will be taken in surrounding areas in attempt to bound the initially discovered area.

Separate single sample points have been selected in areas across the Webster facility where there have been no known SWMU activity. These locations have been selected to bound the original areas where thallium was detected as part of the 3004(u) submission while being far enough away from the SWMUs to not reasonably be expected to be influenced by them. The highest concentration of sample points have been located in the general area of the SWMUs identified by NYSDEC in the draft Corrective Actions Module.

In total, 32 soil samples will be collected for thallium analysis as part of the proposed sampling program. These samples will be collected at a depth of 1 ft - 3 ft. This depth was selected because it was the predominant depth where thallium was detected in the 3004(u) sampling episode as well as being the area where thallium would reasonably expect to be detected from past rodenticide application. Enclosed is a drawing depicting the approximate location of the thallium sampling points.

In addition, five soil samples have been collected from beneath the concrete floor of building 119 during a recent excavation for construction purposes. It was requested that these samples be analyzed for thallium because building 119 is a major area where thallium research activities were conducted. The results of the analysis for these sample will be included in the final discussion of the proposed sampling program findings.

Xerox will utilize the same analytical protocol employed during the 3004(u) sampling episode to ensure compatibility of the data. Because Thallium is an alkaline earth metal, natural interferences exist that prevent being able to establish extremely low detection limits. For this reason, it is anticipated that the detection limit for thallium will be 25 ppm. This is consistent with the detection limits obtained in the original 3004(u) submission.

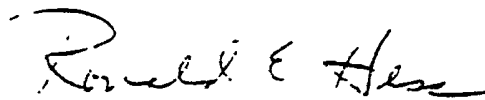
XEROX

Upon receipt of the thallium analytical data from this sampling program, Xerox will develop a summation of the findings and submit this information along with a copy of the analytical results to the appropriate regulatory agencies. Xerox is hopeful that given regulatory approval to conduct the proposed program the final summation of this data can be submitted in time to clarify the thallium matter prior to issuance of a final Corrective Actions Module for the Webster facility.

Due to the time requirements to complete such a task and the pending public comment period for the Part 373 permit including the Corrective Actions Module, Xerox has scheduled this sampling episode to be conducted during the week of November 13, 1989. This allows three full weeks for regulatory review and comment. If any of the regulatory agencies have comments concerning the proposed sampling program, please respond by November 10, 1989 so that any comments can be incorporate into the sampling program.

If you have any questions regarding any of the information provided or the proposed sampling plan, please call me at (716) 422 - 3694.

Very truly yours,



Ronald E. Hess
Program Manger, Environmental Engineering

c: Charles Armento, NYSDOH
Richard Elliott, MCDOH
Frank Langone, USEPA
Doug Nevel, NYSDEC - Central Office
Denise Radtke, NYSDEC - Central Office
Dixon Rollins, NYSDEC - Region 8

Summary Of Thallium Concentrations In Soils (ppm)Observed In Xerox - Webster Site Core Study 1985

<u>Location</u>	<u>Depth</u>	<u>Concentration</u>	<u>Location</u>	<u>Depth</u>	<u>Concentration</u>
102-1	0'-3'2"	NA	218-1	1'-3'	120
123-1	1'-3'6"	110	218-1A	2'6"-4'6"	BDL
123-2	1'-3'6"	120	218-2	6'-8'	110
124-1	1'-3'9"	120	218-3	1'-3'	160
124-2	1'-3'1"	130	218-4	3'-4'3"	NA
128-1	1'-3'10"	200	218-5A	4'-6'	NA
128-2	5'-6'6"	190	218-5B	6'6"-7'3"	NA
130-1	7'-9'	NA	218-6	1'-3'	NA
130-2	1'-3'6"	NA	218-7	1'-3'	NA
130-3	1'-3'6"	NA	218-8	1'-3'	NA
130-4	?	NA	223A-4	1'-3'	NA
130-5	?	NA	223A-7	1'-3'	NA
148-1	0'-3'1"	NA	223A-8	1'-3'	NA
148-2	0'-3'1"	NA	223-9	1'-3'	NA
150-1	1'6"-4'6"	120	223-10	3'-4'3"	NA
200-1	1'-4'	NA	223-10	5'-5'7"	NA
200-2	1'3'6"	130	223-10	7'-7'3"	NA
200-3	1'-4'	120	223-11	1'-2'6"	NA
200-4	1'-4'2"	120	223-12	1'-3'	NA
200-5	1'-3'6"	110	225-1	0'-5'	NA
200-6	1'-4'4"	110	225-1A	0'-2'2"	NA
201-1	0'-3'	NA	225-1B	0'-1'	NA
201-2	2'-4'4"	NA	225A-2	1'-2'9"	NA
201-4	2'-4'	NA	225A-3	1'-3'2"	NA
201-5	1'-2'	NA	225A-5	1'-3'1"	NA
201-7	1'-2'	NA	225A-6	1'-2'6"	NA
201-9	1'2'	NA	225A-6A	1'-2'6"	NA
201-10	1'-2'	NA	227-1	trench	NA
201-11	1'-2'	NA	304-1		NA
201-12	1'-2'	NA	309-1		NA
201-13	1'-2'	NA	309-2		NA
201-14	1'-2'	NA	Nursery-1	?	BDL
206-1	2'-3'4"	NA	Nursery-2	?	BDL
206-2	2'-4'6"	NA	Nursery-3	?	BDL
206-3	4'-6'	NA	Wailing Wall-1	1'-4'	170
206-4	3'8"-5'	NA	Wailing Wall-2	4'-7'	180
208-1	0'-3'	NA	Wailing Wall-3	1'-4'	BDL
209-1A	1'-4'3"	NA			
209-1	1'-4'1"	NA			
209-2	1'-4'	NA			
209-3	1'-4'	NA			
209-4	1'-3'9"	NA			

Samples analyzed for thallium noted in bold

XEROX

Internal Memo

TO
Ron Hess

FROM
Anthony M. Horgan

AMAT Products & Mfg.
0130-01S
8*222-1500
<Donna:Wbst130:Xerox>

SUBJECT
Thallium

DATE
September 19, 1989

R&D experiments involving thallium doped trigonal selenium ($\leq 20\text{gm}$ scale) were performed in buildings W103 and W114 during the period 3/75 to 8/77 inclusive.

To our knowledge only one, and at the most two, pilot plant scale-up runs were performed. These were carried out in W119A in the 8/77 time frame.

All dry waste, supernatants and Binder Generator Layer (BGL) slurries were collected in labelled 55 gal waste drums for disposal.

Detailed laboratory notebook data from Anita Lynch, Virginia Dotschkai and Kathleen Carmichael who all worked on this project to a greater or lesser degree, are enclosed as attachments.

(Original Signed by Anthony M. Horgan)

AMH:dms
attachments

Thallium use, July 1975 - May 1976, Ron Karam labs Bldg 114

Xerox lab notebook # 8448

7/29/75	.99gr	Tl	precipitation of trigonal SeTl
9/2/75	.59gr	Tl	precipitation of trigonal SeTl
9/15/75	.20gr	Tl	precipitation of trigonal SeTl
9/23/75	1.37gr	Tl	precipitation of trigonal SeTl
10/6/75	.39gr	Tl	precipitation of trigonal SeTl
3/2/76	.58gr	Tl	precipitation of trigonal SeTl
3/4/76	.58gr	Tl	precipitation of trigonal SeTl
3/5/76	75.5gr	SeTl alloy, .1% Tl	precipitation of trigonal SeTl
3/17/76	75.5gr	SeTl alloy, .2% Tl	precipitation of trigonal SeTl
3/15/76	14.38gr	SeTl alloy, .75% Tl	prepared SeTl alloys of .01, .02, .03% Tl
3/31/76	75.5gr	SeTl alloy, .03% Tl	precipitation of trigonal SeTl
5/7/76	.58gr	Tl	precipitation of trigonal SeTl
5/24/76	79.5 gr	SeTl alloy, .44% Tl	prepared SeTl alloys of .15, .2% Tl
5/24/76	3.55gr	Tl	prepared SeTl alloy of 1.5% Tl
5/25/76	75.4gr	SeTl alloy, .01% Tl	precipitation of trigonal SeTl
6/2/76	75.4gr	SeTl alloy, .15% Tl	precipitation of trigonal SeTl
6/7/76	75.4gr	SeTl alloy, .2% Tl	precipitation of trigonal SeTl

All the precipitation procedures were carried out in Bldg 114; the SeTl alloys were prepared in Bldg 103.

There is no record of the amounts of trigonal SeTl that were used in BGL solutions. A 55gal drum was available in Bldg 114 for Se and BGL solution disposal. I had stopped working in Karam's labs June 1976 and don't know what became of remaining solids.

V E Dotschkal

VE Dotschkal

9/14/89

XEROX**Internal Memo****TO**
Tony Horgan**FROM**
Anita P. Lynch**SUBJECT**
Experimental Thallium Work**DATE**
Sept 14, 1989

The following work involving the use of thallium was done by me. I have listed a notebook number, date and a brief description of the work.

11213 3/05/75 Surface doping of t-Se powder with TlCl.
11213 3/14/75 Surface doping of t-Se powder with TlNO₃
11213 4/16/75 Tl doping of t-Se by coprecipitation
11213 4/19/75 Surface doping of t-Se powder with TlCl
13270 5/01/75 Tl doping of t-Se by coprecipitation
13270 5/15/75 Solubility experiment for dissolution of Tl
13270 5/25/75 Expt. of addition mode of Tl and Se in dissolution step of process
13270 6/12/75 Repeat of addition mode experiment
13270 6/23/75 Dissolution experiment for Tl continued
13270 6/25/75 Experiment of Se/OH influence on Tl dissolution
13270 6/25/75 Samples of the Tl doped materials sent to C. Bielan for analysis
13270 10/29/75 Tl doping by melting Tl and Se in ampoule before precipitation of t-Se
14023 12/15/75 Additional Tl fusion doping of t-Se done
14023 1/09/76 Counter doping of Tl/Se samples with I₂
14023 02/07/76 0.75% Alloy doping of by melting Tl and Se in ampoule
14023 02/13/76 Surface doping of t-Se with TlCl
14023 02/26/76 Thermal ambient treatment of Tl doped t-Se
14525 10/12/76 Evaluated Tl doped material precipitated by A. Williams.
14525 10/15/76 Surface doping of t-Se with TlCl
14525 11/04/76 Tl doping of t-Se by precipitation from alloy material*
14525 11/09/76 Surface doping of t-Se using TlNO₃
14525 11/22/76 Dissolution study for Tl doping of t-Se
14525 11/27/76 Addition of the Tl dopant during the BGL fabrication step
14525 12/13/76 Addition of the Tl dopant during the BGL fabrication step
14525 02/10/77 Addition of the Tl dopant to BGL slurries provided by J. Johns
14525 02/18/77 Addition of the Tl dopant during the BGL fabrication step
15594 08/22/77 Made 22 lbs of Tl-Se shot doped with .02% Tl for use by 119A for scale up precipitation
15594 08/31/77 Made second 22 lbs. batch of alloy for 119A use.

Both of the 22 lbs of Tl-Se alloy made were made in Bldg. 120 by Larry Kowalzyk and myself.

During the time these experiments were being done all supernatants from reactions were collected in 55gal waste drums, labeled, and the drums were picked up by facilities. The dry waste and the BGL slurries were disposed of in a similar manner.

All of the experiments listed above were carried out in building 103 except the one done 11/4/76. This experiment was done in building 114. This experiment is marked by a *.

XEROX

Internal Memo

To
Tony Horgan

From
Kathy Carmichael

Subject
Thallium Use

Date
September 14, 1989

All of my Thallium work was performed in building 103 between 5/75 and 10/75, and recorded in notebooks #13473 and #13927.

Usage was as follows:

5/75 5 gms. of TlCl was used as a surface dopant for trigonal Se.
5/75 5 gms. of TlNO_3 was used as a surface dopant for trigonal Se.

6/75 to 10/75 Approx. 50gms. of Tl metal was used through the period to co-precipitate with Se from solution in NaOH .

All solutions containing Tl were disposed of in 55 gallon drums also used for Na_2SeO_3 disposal. All solids containing Tl were disposed of in 55 gallon drums used for solid Se waste.

Kathy Carmichael



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

Woodward-Clyde Consultants

January 5, 1990
89C2859

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

Attention: Mr. Elliott Duffney
Senior Environmental Engineer

Re: Work Plan - Shallow Soil
Sampling, Thallium Areas

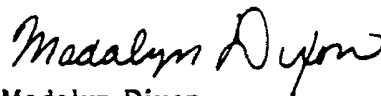
Dear Elliott:

Woodward-Clyde Consultants (WCC) is pleased to submit the enclosed Draft Work Plan for the collection of shallow soil samples to evaluate the nature and extent of thallium in on-site soils at your Webster, New York facility. The Work Plan has been prepared for submittal to the New York State Department of Environmental Conservation following your review and comment. Sampling locations presented in this Work Plan have been selected by Xerox Corporation based upon results of both the Core Study conducted by Recra Research and the evaluation of the former locations of orchard areas on the property, prior to ownership and site utilization by Xerox.

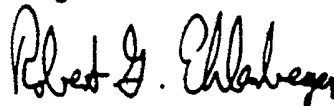
WCC appreciates the opportunity to assist Xerox on this project. WCC remains committed to providing Xerox with any professional resources which are required to meet your technical goals and corrective measures program schedule. If you have any questions or require additional information, please do not hesitate to call.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS



Madalyn Dixon
Geologist



Robert G. Ehlenberger, C.P.G.
Project Manager

MD/RGE/kcs/WM-16T
encl.



WORK PLAN
THALLIUM AREAS
SITE INVESTIGATIVE UNIT
XEROX CORPORATION
WEBSTER, NEW YORK

Prepared for:
XEROX CORPORATION
Webster, New York

Prepared by:
WOODWARD-CLYDE CONSULTANTS
Plymouth Meeting, Pennsylvania

January, 1990

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1.0 INTRODUCTION

This Work Plan has been developed as a guide for the collection of shallow soil samples as part of an initial evaluation to determine the nature, extent, and the concentration of thallium in on-site soils. The objective of the program is to provide sufficient data to allow for a determination of the source of locally elevated thallium (Tl) concentrations in site soils. Potential sources for elevated Tl concentrations are:

- o the use of rodenticides containing Tl during prior usage of portions of the site as an orchard area; and
- o residual contamination resulting from the use of limited quantities of Tl by Xerox Corporation (Xerox) during research activities in the 1970's.

Thallium experiments were conducted at the Xerox Webster Site from March 1975 to August 1977. Thallium was used in a Research & Development Exploratory Photoreceptor Program (R&D). The R&D program involved the synthesis of organic layer photoreceptors and evaluation of their properties.

In an effort to put Thallium use by Xerox in context with the site as a whole, Woodward-Clyde Consultants (WCC) conducted a review of pertinent project files provided by Xerox. As part of the review process, WCC also interviewed Xerox personnel (in person and over the telephone) identified during the record search as being involved with Tl research and use on-site.

2.0 SITE SUMMARY OF THALLIUM USAGE

2.1 THALLIUM QUANTITY

The volume of Tl used during the 1975 - 1977 time period was less than a pound according to lab notes documenting the experiments. Thallium was purchased in the form of salts ($TlCl$ and $TlNO_3$) and elemental metal (metal bar). These materials were stored on the laboratory shelves or in the R&D stockroom (Building 128) prior to use. According to records supplied by Xerox, there were no large quantities stored on site during the 1975-1977 time period.

2.2 THALLIUM DISPOSAL

Xerox maintained formal chemical waste disposal procedures during the period when Tl was used in R&D activities. Specific waste disposal procedures for the R&D group required that all lab wastes were identified, packaged and disposed of in labeled drums. Drummed waste was then delivered via a specified maintenance crew (facilities) to the shipping/receiving dock of Building 128. Generally within a week, the drums were shipped off-site for disposal by an outside vendor. The primary vendor during this time-frame was Chem-Trol Pollution Services, Inc. Their landfill was in Model City, New York (SCA). Due to the small volume and variety of lab chemical wastes, this material was invoiced as "Packaged Lab Chemicals" or "Lab Chemicals" when shipped off-site. It is therefore not possible to reference or identify specific shipments which contained Tl. The landfill on the Webster site was not in operation during the time period of the Tl experiments, as it was closed in 1971. Therefore, Tl wastes could not have been disposed of in the landfill.

2.3 THALLIUM USE

Thallium was used in research of BGL layers of the organic photoreceptor as part of exploratory research. The SeTl alloys were then evaluated by a series of criteria tests (scale-up runs). The scale-up runs were designed to simulate the conditions under which the alloys would be used in production. The tests were conducted within the laboratories and involved very small amounts of Tl. Forty-four pounds of the alloy were used (which typically contained 0.02 percent Tl). All wastes associated with R&D research were disposed of according to the procedures described in Section 2.2. The use of Tl to prepare the Se alloy was found to be unsatisfactory and Tl experiments were discontinued.

2.4 OTHER POTENTIAL THALLIUM SOURCES

Thallium is a common element associated with the formulation of rodenticides. The rodenticides are believed to have been used on the property during previous ownership. The rodenticides were purportedly applied to the site during its previous local use

as an orchard area. It is believed that the distribution of the rodenticides could have resulted in a pattern of wide spread low concentration source areas.

3.0 SUMMARY OF THALLIUM ANALYSIS TO DATE

Analysis for Tl in the site soils was first conducted during the 1985 Recra Research Core Study. Thallium was detected during this study in the immediate vicinity of Buildings 123, 124, 128, 150, 200, 218 and the "Wailing Wall." Thallium concentrations ranged from 110 parts per million (ppm) at Buildings 123, 200, and 218 to 200 ppm at Building 128. Thallium concentrations as reported by Recra Research are presented in Table 1.

Thallium was also analyzed for during the Pilot-Plant/Nursery investigation conducted during 1988 and 1989. Thallium was detected in only one location (in the soils composited at Boring B-4) at a concentration of 17 ppm. Thallium was also detected in the groundwater in monitoring wells MW-1D and MW-7D at a concentration of .43 ppm. Results of the Tl analysis conducted during the Pilot-Plant/Nursery Area investigation, in both the soils and groundwater, are presented in Tables 2 and 3, respectively.

4.0 SCOPE OF WORK

WCC has developed the following scope of work to address additional sampling requirements at the locations presented on Figure 1.

4.1 SOIL SAMPLING

Soil samples will be collected for analysis of Tl for the locations shown on Figure 1. The samples will be collected in the following manner:

- o Prior to sampling all hand-held sampling tools (stainless steel spatulas, stainless steel spoons, stainless steel mixing bowls, etc.) will be decontaminated using the methods presented in Section 4.2.

- o Samples will be collected in a manner such that they are representative of the nature of the local soil at the sample site.
- o Samples will be collected using a split-spoon sampler driven to a maximum depth of two feet or until refusal is encountered.
- o The samples will be transferred to the appropriate sample containers 500 ml plastic jars with plastic lids for metals samples and then stored in a cooler/container maintained at about 4°C until the exteriors of sample jars can be decontaminated.
- o Care will be taken to exclude vegetation or large pieces of non-rock (greater than 1 cm) from the sample.
- o All sampling equipment and exteriors of sample jars will be decontaminated between sampling locations using the procedures presented in Section 4.2.
- o Sample tags and labels will be completed, clearly with indelible ink, and affixed to the jar for sample storage. The tag information and all other appropriate information will be recorded in the sampling log.

Soil samples will be collected using a split-spoon sampler driven into the shallow surface soils. A total of thirty-five soil samples (as discussed in the following paragraphs) will be collected for analysis at a depth of one to three feet. This depth was selected as it represents the predominant depth where Tl was detected in the 3004 (u) sampling episode. This also appears to be the depth where Tl would likely be encountered from past rodenticide application.

In order to demonstrate that the Tl detections of the 3004 (u) submission represent background conditions, Xerox has proposed to conduct limited additional Tl testing in both SWMU areas where the initial Tl concentrations were detected and non-SWMU areas of the Webster facility. Three samples will be collected from each of the SWMU areas that had

detections of Tl in the 3004 (u) submission. Of these three samples, one will be taken in the approximate area of the highest Tl detection while the other two will be taken in surrounding areas in attempt to bound the initially discovered area.

Separate single sample points have been selected in areas across the Webster facility where there have been no known SWMU activity. These locations have been selected to supplement the existing data to establish background Tl concentrations as they are far enough away from the SWMUs to not reasonably be expected to be influenced by them. The highest concentration of sample points have been located in the general area of the SWMUs identified by NYSDEC in the draft Corrective Actions Module.

This sampling episode will utilize the same analytical protocol employed during the 3004 (u) sampling episode to allow for compatibility of the data. Because Tl is an alkaline earth metal, natural interferences exist that prevent being able to establish extremely low detection limits. For this reason, it is anticipated that the detection limit for Tl will be 25 ppm. This is consistent with the detection limits obtained in the original 3004 (u) submission.

4.2 DECONTAMINATION PROCEDURES

All sampling equipment (e.g., trowels, split-spoons, and spatulas), will be decontaminated prior to each use. Decontamination between individual samples will include the following procedures:

1. Wash and scrub with a water solution with a low phosphate detergent (such asalconox).
2. Potable water rinse.
3. Rinse with 10 percent nitric acid, ultrapure.
4. Potable water rinse.
5. Double distilled water rinse.
6. Air dry on clean plastic sheeting or wood supports.

Sample jar exteriors will be decontaminated in the following manner:

- o remove the jar from the cooler:
- o wipe down with a damp paper towel (the paper towel will be dampened in an Alconox and water solution); and
- o replace in cooler for transport to the laboratory.

5.0 QUALITY ASSURANCE PLAN

5.1 INTRODUCTION

This section of the Work Plan presents the Quality Assurance/Quality Control (QA/QC) Plan for the investigations performed for the Thallium Areas Site Investigative unit. This document is not intended to be a detailed account of all field activities; rather, it presents a summary of the procedures and protocols to be followed to meet our QA/QC objectives. Briefly stated, the objective of the QA/QC program is the production of data which are representative of in-situ soil chemistry.

This section is primarily concerned with QA/QC procedures for the field investigation aspects of this project.

5.2 QA/QC OBJECTIVES

As stated above, the primary objective of a field QA/QC program is to produce representative data. This means that all data generated during this study is to be scientifically representative of site conditions, legally defensible, and have the required levels of precision and accuracy. These objectives hold true for data generated entirely by field personnel and for data from laboratory analysis of samples collected by field personnel.

5.2.1 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA/QC samples will consist of duplicates, field blanks, and matrix spikes (incorporated with the laboratories schedule of matrix spiked analyses). A post-sampling performance audit will be performed based on the analytical results of the QA/QC samples.

One field rinsate blank will be taken for every twenty field samples collected. The field blanks will be prepared at the sampling location using distilled or deionized water routed through the split-spoon sampler or other sampling equipment upon completion of normal decontamination procedures. Field blanks will be analyzed for Tl. The field blank serves as a check on the adequacy of decontamination procedures.

Duplicate samples are samples which are identical to those collected for analysis. These samples are obtained to perform as checks on the sampling and handling procedures. One duplicate sample will be collected for every twenty field samples, for each matrix. These samples will be collected at the same time, from the same location, and using the same sampling equipment and procedures. The duplicate samples will be collected in identical containers that have been similarly prepared, filled to approximately the same volume, preserved, and handled as the actual sample. Use of these quality control samples will allow QA personnel to evaluate the field sampling and handling procedures and their impact on obtaining representative samples, and the accuracy and precision of the analytical laboratory.

Matrix spike analysis shall be run by the analytical laboratory on one in twenty for all soil parameters. Methods requiring a greater rate of matrix spike analysis shall be followed exclusively.

Laboratory blank samples will be used to indicate any potential addition of contaminants to the samples as a result of the laboratory environment. The results of these samples are used as feedback to the laboratory personnel to indicate if excessive in-house contamination is occurring.

5.2.2 SAMPLE VALIDITY

In order to establish sample validity, it is necessary to document measures taken to prevent or detect tampering.

Specific procedures to prevent or detect tampering are:

1. Precleaned sample containers will be received from the laboratory in sealed boxes. On receipt by the field personnel, the containers will be inspected for evidence of tampering.
2. An individual sample identifier will be affixed to each bottle or set of bottles comprising the containers(s) for a single sample and each individual sample will be incorporated on a chain-of-custody form.
3. Sample bottles will be stored in containers with custody seals until issued to sampling team.
4. Decontaminated sampling equipment and sample containers in the hands of the sampling team will be kept under personal observation, secured in a locked area or under custody seals at all times.

The Project Manager will be responsible for ensuring that custody procedures are followed and investigate any indication of tampering. The analytical laboratory Radian Corporation maintains its own standard operating procedures for sample custody and security. Radian is a technically acceptable laboratory to the NYSDEC for the analyses that have been proposed herein.

5.2.3 SAMPLE IDENTIFICATION

Sample identification will begin with the sample containers. Precleaned bottles will be received in sealed containers. The analytical laboratory will assign a serial

number to each set. This serial number will be used as the first part of the identification assigned to an individual sample.

The assigned sample numbers will be used on the chain-of-custody form, sample log, and sample collection tags, which include all sampling information, such as sample location, time, sampling team, etc. The sample tag will be filled out in indelible ink and affixed to the sample container prior to the initiation of sampling.

5.2.4 SAMPLE CUSTODY AND SHIPMENT

Samples will be shipped from the site on the same day they are sampled. A chain-of-custody form will be completed for each sample shuttle.

Tables

TABLE 1

**SUMMARY OF RECRA RESEARCH CORE STUDY
THALLIUM CONCENTRATIONS IN SOILS (ppm)**

<u>Location</u>	<u>Depth</u>	<u>Concentration</u>	<u>Location</u>	<u>Depth</u>	<u>Concentration</u>
102-1	0'-3'2"	NA	218-1	1'-3'	120
123-1	1'-3'6"	110	218-1A	2'6"-4'6"	BDL
123-2	1'-3'6"	120	218-2	6'-8'	110
124-1	1'-3'9"	120	218-3	1'-3'	160
124-2	1'-3'1"	130	218-4	3'-4'3"	NA
128-1	1'-3'10"	200	218-5A	4'-6'	NA
128-2	5'-6'6"	190	218-5B	6'6"-7'3"	NA
130-1	7'-9'	NA	218-6	1'-3'	NA
130-2	1'-3'6"	NA	218-7	1'-3'	NA
130-3	1'-3'6"	NA	218-8	1'-3'	NA
130-4	?	NA	223A-4	1'-3'	NA
130-5	?	NA	223A-7	1'-3'	NA
148-1	0'-3'1"	NA	223A-8	1'-3'	NA
148-2	0'-3'1"	NA	223-9	1'-3'	NA
150-1	1'6"-4'6"	120	223-10	3'-4'3"	NA
200-1	1'-4'	NA	223-10	5'-5'7"	NA
200-2	1'-3'6"	130	223-10	7'-7'3"	NA
200-3	1'-4'	120	223-11	1'-2'6"	NA
200-4	1'-4'2"	120	223-12	1'-3'	NA
200-5	1'-3'6"	110	225-1	0'-5'	NA
200-6	1'-4'4"	110	225-1A	0'-2'2"	NA
201-1	0'-3'	NA	225-1B	0'-1'	NA
201-2	2'-4"	NA	225A-2	1'-2'9"	NA
201-4	2'-4'	NA	225A-3	1'-3'2"	NA
201-5	1'-2'	NA	225A-5	1'-3'1"	NA
201-7	1'-2'	NA	225A-6	1'-2'6"	NA
201-9	1'-2'	NA	225A-6A	1'-2'6"	NA
201-10	1'-2'	NA	227-1		NA
201-11	1'-2'	NA	304-1	trench	NA
201-12	1'-2'	NA	309-1		NA
201-13	1'-2'	NA	309-2		NA
201-14	1'-2'	NA	Nursery-1	?	BDL
206-1	2'-3'4"	NA	Nursery-2	?	BDL
206-2	2'-4'6"	NA	Nursery-3	?	BDL
206-3	4'-6'	NA	Wailing Wall-1	1'-4'	170
206-4	3'8"-5'	NA	Wailing Wall-2	4'-7'	180
208-1	0'-3'	NA	Wailing Wall-3	1'-4'	BDL
209-1A	1'-4'3"	NA			
209-1	1'-4'1"	NA			
209-2	1'-4'	NA			
209-3	1'-4'	NA			
209-4	1'-3'9"	NA			

ppm - parts per million
 NA - Tl not analyzed for at this location
 BDL - Below Detectable Limits

WM-16T

TABLE 3
THALLIUM CONCENTRATIONS IN GROUNDWATER SAMPLES

<u>Pilot Plant Samples</u>	<u>Thallium ppm</u>	<u>Sample Date</u>
MW-4	< 0.25	3/14/88
MW-6	< 0.25	3/15/88
MW-3	< 0.25	3/15/88
MW-5	< 0.25	3/15/88
MW-3D	< 0.25	3/15/88
MW-7	< 0.25	3/15/88
MW-9	< 0.25	3/16/88
MW-8	< 0.25	3/16/88
MW-19	< 0.25	3/16/88
MW-17	< 0.25	3/16/88
MW-18	< 0.25	3/16/88
MW-20	< 0.25	3/17/88
MW-15	< 0.25	3/17/88
MW-16	< 0.25	3/17/88
MW-14	< 0.25	3/17/88
MW-12	< 0.25	3/17/88
*S-1	< 12.5	3/20/88
*S-2	< 12.5	3/20/88
*S-3	< 0.25	3/20/88
MW-1D	0.43	3/18/88
MW-10	< 0.25	3/18/88
MW-11	< 0.25	3/18/88
MW-13	< 0.25	3/18/88
MW-7D	0.43	3/19/88
M-2	< 0.25	3/19/88
M-1	< 0.25	3/19/88

ppm - parts per million

* - Drainage Ditch Surface Water Samples

WM-16T

General
Testing
Corporation



A Full Service Environmental Laboratory

AUG. 26 1991

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Re: Webster Site Thallium
Study

Dear Mr. Elliott Duffney

Enclosed are the results of the analysis requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Sue Lochner
Customer Service Manager

aa

Enc.

DATA AND QUALITY CONTROL QUALIFIERS

U - Indicates compound was analyzed but was not observed at a quantifiable concentration.

J - Indicates an estimated value

J Qualifiers (used in conjunction with J and/or QC page or chronology)

S - Surrogate recoveries outside of control limits

M - Matrix spike and/or matrix spike-duplicate outside control limits

St - Surrogate recoveries outside of control limits, analysis repeated, same results obtained, matrix interference suspected

Mt - same as M

ORGANIC PARAMETERS: Matrix interference suspected, Organic reference standard was acceptable.

r - Laboratory replicates outside of laboratory advisory limits

INORGANIC PARAMETERS: Matrix interference suspected, Repeat analysis still unacceptable

t - Matrix interference suspected

Mr - INORGANICS PARAMETERS: Matrix interference suspected, repeat analysis not conducted due to holding time limitations

h - Holding time exceeded for analysis

p - EPA-approved protocol has been amended upon client request

B - Indicates that the analyte was found in the associated laboratory or field blank

B Qualifiers (used in conjunction with B)

l - Contamination in lab or method blank

e - Contamination in equipment blank

t - Contamination in trip blank

f - Contamination in field filtration blank

x - Contamination in two or more types of blanks (i.e. Lab or Method, Trip, Equipment, or Field Filtration Blank)

d - Results multiplied by dilution factor

MISCELLANEOUS QC AND DATA QUALIFIERS

ND - Not Detectable

NS - No Sample

NA - Not Analyzed

** - No limits currently established

** - See Attached Data

I - Insufficient sample to re-analyze

D - Surrogate standard diluted out

R - Sample re-analyzed outside of holding time

UP - Unable to perform analysis due to sample matrix

V - Spiked recovery cannot be determined, sample value >4 times spike concentration

++ - Outside Laboratory acceptance limits (Blank Spikes, Ref. Spikes)

RC - Results confirmed via repeat analysis

NC - Not Calculable

LE - Lab Error: No data available

t - Surrogate Matrix Interference

LABORATORY REPORT

Job No: R91/03507

Date: AUG. 26 1991

Client:

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Sample(s) Reference:

Webster Site Thallium
Study

Collected

: 08/08/91

P.O. #: BLANKET

ANALYTICAL UNITS - ug/g Dry Wt.

Sample:	-001	-002	-003	-004	-005	-006	-007	-008
Location:	130-A	130-B	123-A	123-B	209-A	209-B	200A-E	200B-E
Date Collected:	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91
Time Collected:	10:45	10:55	11:10	11:17	11:25	11:30	11:40	11:50
Solids, %	92.2	90.3	93.2	92.0	88.5	92.9	93.3	90.3
Thallium, Total	5.42 U	5.33 U	5.36 U	5.43 U	5.65 U	5.38 U	5.36 U	5.54 U

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145

NJ ID# in Rochester: 73331

NJ ID# in Hackensack: 02317

NY ID# in Hackensack: 10801

**See attached data

Michael K. Perry

Laboratory Director

LABORATORY REPORT

Job No: R91/03507

Date: AUG. 26 1991

Client:

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Sample(s) Reference:

Webster Site Thallium
Study

Collected

: 08/08/91

P.O. #: BLANKET

ANALYTICAL UNITS - ug/g Dry Wt.

Sample:	-009	-010	-011	-012	-013	-014	-015	-016
Location:	Landfill-A	Landfill-B	J-A	J-B	G-A	G-B	H-A	H-B
Date Collected:	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91
Time Collected:	12:20	12:25	12:40	12:50	13:00	13:05	13:10	13:15
Solids, %	93.4	93.8	93.4	91.4	91.4	93.3	91.9	93.6
Thallium, Total	5.35 U	5.33 U	5.35 U	5.47 U	5.47 U	5.36 U	5.44 U	5.34 U

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145

NJ ID# in Rochester: 73331

NJ ID# in Hackensack: 02317

NY ID# in Hackensack: 10801

**See attached data

Michael K. Perry

Laboratory Director

LABORATORY REPORT

Job No: R91/03507

Date: AUG. 26 1991

Client:

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Sample(s) Reference:

Webster Site Thallium
Study

Collected

: 08/08/91

P.O. #: BLANKET

ANALYTICAL UNITS - ug/g Dry Wt.

Sample:	-017	-018	-019	-020	-021	-022	-023	-024
Location:	I-A	I-B	F-A	F-B	E-A	E-B	218-A	218-B
Date Collected:	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91
Time Collected:	13:20	13:25	13:30	13:35	13:40	13:45	13:50	13:55
Solids, %	92.6	92.8	90.9	90.9	91.2	89.4	92.7	91.2
Thallium, Total	5.40 U	5.39 U	5.50 U	5.50 U	5.48 U	5.59 U	5.40 U	5.48 U

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145

NJ ID# in Rochester: 73331

NJ ID# in Hackensack: 02317

NY ID# in Hackensack: 10801

**See attached data

Michael K. Perry

Laboratory Director

LABORATORY REPORT

Job No: R91/03507

Date: AUG. 26 1991

Client:

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Sample(s) Reference:

Webster Site Thallium
Study

Collected

: 08/08/91

P.O. #: BLANKET

ANALYTICAL UNITS - ug/g Dry Wt.

Sample:	-025	-026	-027	-028	-029	-030	-031	-032
Location:	B-A	B-B	C-A	C-B	D-A	D-B	150-A	150-B
Date Collected:	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91
Time Collected:	14:03	14:05	14:10	14:15	14:20	14:25	14:32	14:35
Solids, %	93.9	91.1	89.1	89.2	91.8	90.2	87.8	91.4
Thallium, Total	5.32 U	5.49 U	5.61 U	5.60 U	5.45 U	5.54 U	5.69 U	5.47 U

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145

NJ ID# in Rochester: 73331

NJ ID# in Hackensack: 02317

NY ID# in Hackensack: 10801

**See attached data

Michael K. Perry

Laboratory Director

LABORATORY REPORT

Job No: R91/03507

Date: AUG. 26 1991

Client:

Mr. Elliott Duffney
Xerox Corporation
800 Phillips Road
Webster, NY 14580

Sample(s) Reference:

Webster Site Thallium
Study

Collected

: 08/08/91

P.O. #: BLANKET

ANALYTICAL UNITS - ug/g Dry Wt.

Sample:	-033	-034	-035	-036	-037	-038	-039	-040
Location:	L-A	L-B	M-A	M-B	128-A	128-B	K-A	K-B
Date Collected:	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91	08/08/91
Time Collected:	14:42	14:45	14:55	15:00	15:10	15:15	15:25	15:30
Solids, %	90.6	91.7	81.5	79.5	85.3	92.1	90.4	91.8
Thallium, Total	5.52 U	5.45 U	6.13 U	6.29 U	5.86 U	5.43 U	5.53 U	5.45 U

Unless otherwise noted, analytical methodology has been obtained from references as cited in 40 CFR, parts #136 & #261.

NY ID# in Rochester: 10145

NJ ID# in Rochester: 73331

NJ ID# in Hackensack: 02317

NY ID# in Hackensack: 10801

**See attached data

Michael L. Perry

Laboratory Director



LABORATORY REPORT

Date: AUG. 26 1991

Sample(s) Reference:

Webster Site Thallium Study

P.O. #: BLANKET

[illegible]

****See attached data**

Laboratory Director



A Full Service Environmental Laboratory

LABORATORY REPORT

Job No. R91/03507

Date AUG. 26 1991

Client:

Sample(s)	Reference
1	1
2	2
3	3
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Xerox Corporation

Webster Site Thallium
Study

Date Received: 08/09/91

Date Sample Taken: 08/08/91

LABORATORY CHRONICLE
DATE ANALYZED

[illegible]



LABORATORY REPORT

Date AUG. 26 1991

Sample(s)	Reference
1	1
2	2
3	3
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6	6
7	7
8	8
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10	10
11	11
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Webster Site Thallium Study

Date Sample Taken: 08/08/91

[illegible]



LABORATORY REPORT

Date AUG. 26 1991

Sample(s)	Reference
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98	98
99	99
100	100

Webster Site Thallium Study

Date Sample Taken: 08/08/91

[illegible]



LABORATORY REPORT

Date AUG. 26 1991

Sample(s)	Reference
1	1
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3	3
4	4
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100	100

Webster Site Thallium Study

Date Sample Taken: 08/08/91

THE UNIVERSITY OF CHICAGO

[illegible]



A Full Service Environmental Laboratory

LABORATORY REPORT

Job No. R91/03507

Date AUG. 26 1991

Client:

Sample(s) Reference

Xerox Corporation

Webster Site Thallium Study

Date Received: 08/09/91

Date Sample Taken: 08/08/91

LABORATORY CHRONICLE
DATE ANALYZED

[illegible]



A Full Service Environmental Laborator

LABORATORY REPORT

Job No. R91/03507

Date AUG. 26 1991

Client:

Sample(s)	Reference
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2	2
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Xerox Corporation

Webster Site Thallium Study

Date Received: 08/09/91

Date Sample Taken: 08/08/91

LABORATORY CHRONICLE
DATE ANALYZED

[illegible]

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. 291/350
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Street City State Zip
 Collector BOB URBAN Bob Urban
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via * Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	<u>Bob Urban</u>	1. Sign		<u>8/8/91</u>
for	<u>GTC</u>	for		
2. Sign		2. Sign		<u>/ /</u>
for		for		
3. Sign		3. Sign		<u>/ /</u>
for		for		

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 JB:OC

Client I.D.#	Sample Location	Date/Time	* Analyte or Analyte Group(s) Required (see below for additional)	Sample Preserved		Sample Filtered		Bottle Set(s) (see below)
				Y	N	Y	N	
1	130-A	8/8/91 10:45	SEE REQUEST	Y		N		10
2	130-B	8/8/91 10:55						
3	123-A	8/8/91 11:10						
4	123-B	8/8/91 11:17						
5	209-A	8/8/91 11:25		Y		Y		Y

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	40Z SOIL	
# of each										2	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____(X), _____(Y).

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. 891/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site X-10X THALLIUM STUDY
 Address _____
 Street City State Zip
 Collector BOB URBAN Bob Urban
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via ↓ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	<u>Bob Urban</u>	1. Sign		<u>8/8/91</u>
for	<u>GTC</u>	for		
2. Sign		2. Sign		<u>/ /</u>
for		for		
3. Sign		3. Sign		<u>/ /</u>
for		for		

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 @ 08:00

Client I.D.#	Sample Location	Date/Time	* Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep				Bottle Set(s) (see below)
				Preserved	Filtered			
Lab#				Y	N	Y	N	
6	209-B	8/8/91 11:30	SEE REQUEST	Y	N			10
7	200A-E	8/8/91 11:40						
8	200-B-E	8/8/91 11:50						
9	LANDFILL-A	8/8/91 12:20						
10	LANDFILL-B	8/8/91 12:25						

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	4 OZ SOL	
# of each										7	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H) River or Stream (R), Pond (P), Industrial Discharge (I), _____(X), _____(Y)

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. 891/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Collector BOB W PRAN Street _____ City _____ State _____ Zip _____
 Print _____ Signature Bob Wulan

Bottles Prepared by GTR Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:

1. Sign	for	2. Sign	for	3. Sign	for
<u>Bob Wulan</u>	<u>GTR</u>				

Received by:

Date/Time

Sample(s) Received in Laboratory by Tom Hastings 8/8/91 @ 08:00

	Client I.D.#	Sample Location	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep				Bottle Set(s) (see below)
	Lab#	Date/Time			Preserved Y N	Filtered Y N			
1	11	J-A	S	SEE REQUEST	Y		N	10	
	891/3507-11	8/8/91' 12:40							
2	12	J-B	S						
	891/3507-12	8/8/91' 12:50							
3	13	G-A	S						
	891/3507-13	8/8/91' 13:00							
4	14	G-B	S						
	891/3507-14	8/8/91' 13:05							
5	15	H-A	S						
	891/3507-15	8/8/91' 13:10							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>402 SOIL</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____(X), _____(I)

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. R91/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site VERLOX THALLIUM STUDY
 Address _____
 Collector Bob Urban Street _____ City _____ State Bob Urban Zip _____
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via _____ Seal/Shipping # _____

Sampler(s) Relinquished by:		Received by:		Date/Time
1. Sign	<u>Bob Urban</u>	1. Sign		<u>8/8/91</u>
for	<u>GTC</u>	for		
2. Sign		2. Sign		<u>/ /</u>
for		for		
3. Sign		3. Sign		<u>/ /</u>
for		for		

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 @ 08:00

Lab #	Client I.D.#	Sample Location	Date/Time	*	Analyte or		Sample Prep		Bottle Set(s) (see below)
					Analyte Group(s) Required (Preserved)		Filtered		
					(see below for additional)	Y	N	Y	N
1	<u>16</u>	<u>H-B</u>	<u>8/8/91 13:15</u>	<u>S</u>	<u>SEE REQUEST</u>	<u>Y</u>	<u>N</u>	<u>10</u>	
2	<u>17</u>	<u>I-A</u>	<u>8/8/91 13:20</u>	<u>S</u>					
3	<u>18</u>	<u>I-B</u>	<u>8/8/91 13:25</u>	<u>S</u>					
4	<u>19</u>	<u>F-A</u>	<u>8/8/91 13:30</u>	<u>S</u>					
5	<u>20</u>	<u>F-B</u>	<u>8/8/91 13:35</u>	<u>S</u>					

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>402 SOIL</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____(X), _____(Y).

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street
Rochester, NY 14608

85 Trinity Place
Hackensack, NJ 07601

435 Lawrence Bell Drive
Amherst, NY 14221-7077

GTC Job No. 1291/3507
Client Project No. _____

Sample Origination & Shipping Information

Collection Site VEROX THALLIUM STUDY

Address _____

Collector BOB URBAN Street _____ City _____ State _____ Zip _____
Print Signature

Bottles Prepared by GTC
Bottles Shipped to Client via _____
Samples Shipped via _____

Rec'd by _____
Seal/Shipping # _____
Seal/Shipping # _____

Sample(s) Relinquished by:

1. Sign Bob Urban
for GTC
2. Sign _____
for _____
3. Sign _____
for _____

Received by:

1. Sign _____ Date/Time 8/8/91
for _____
2. Sign _____
for _____
3. Sign _____
for _____

Sample(s) Received in Laboratory by

Tom Hastings

8/9/91 08:00

Client I.D.#	Sample Location	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Filtered Y N Y N	Bottle Set(s) (see below)
Lab#	Date/Time			
1 <u>21</u>	<u>E-A</u>	<u>SEE REQUEST</u>	<u>Y</u>	<u>N</u> <u>SEE REQUEST</u>
<u>1291/3507-21</u>	<u>8/8/91 13:40</u>	<u>S</u>		<u>10</u>
2 <u>22</u>	<u>E-B</u>			
<u>1291/3507-22</u>	<u>8/8/91 13:45</u>	<u>S</u>		
3 <u>23</u>	<u>218-A</u>			
<u>1291/3507-23</u>	<u>8/8/91 13:50</u>	<u>S</u>		
4 <u>24</u>	<u>218-B</u>			
<u>1291/3507-24</u>	<u>8/8/91 13:55</u>	<u>S</u>		
5 <u>25</u>	<u>B-A</u>			
<u>1291/3507-25</u>	<u>8/8/91 14:03</u>	<u>S</u>	<u>↓</u>	<u>↓</u>

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>40 Glass</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y).

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. 191/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Collector BOB URBAN Street _____ City _____ State _____ Zip _____
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign <u>Bob Urban</u>	for <u>GTC</u>	1. Sign _____	for _____	<u>8/8/91</u>
2. Sign _____	for _____	2. Sign _____	for _____	<u>/ /</u>
3. Sign _____	for _____	3. Sign _____	for _____	<u>/ /</u>

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 @ 0800

Lab#	Client I.D.#	Sample Location	Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep				Bottle Set(s) (see below)
						Preserved	Filtered			
						Y	N	Y	N	
1	<u>26</u>	<u>B-B</u>	<u>8/8/91 14:05</u>	<u>S</u>	<u>SEE REQUEST</u>	<u>Y</u>		<u>N</u>		<u>10</u>
2	<u>27</u>	<u>C-A</u>	<u>8/8/91 14:10</u>	<u>S</u>						
3	<u>28</u>	<u>C-B</u>	<u>8/8/91 14:15</u>	<u>S</u>						
4	<u>29</u>	<u>D-A</u>	<u>8/8/91 14:26</u>	<u>S</u>						
5	<u>30</u>	<u>B-D-B</u>	<u>8/8/91 14:25</u>	<u>S</u>						

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>402 SOIL</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y).

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. P91/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Collector Bob Urban Street Bob Urban City _____ State Bah Ulan Zip _____
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via ↓ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	<u>Bob Urban</u>	1. Sign		<u>8/8/91</u>
for	<u>GTC</u>	for		
2. Sign		2. Sign		<u>/ /</u>
for		for		
3. Sign		3. Sign		<u>/ /</u>
for		for		

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 @ 08:00

Client I.D.#	Sample Location	Analyte or * Analyte Group(s) Required (see below for additional)	Sample Prep		Bottle Set(s) (see below)
			Preserved	Filtered	
Lab#	Date/Time		Y	N	
31	150-A	<u>SEE REQUEST</u>	<u>Y</u>	<u>N</u>	<u>10</u>
<u>RM/3507-31</u>	<u>8/8/91 14:32</u>	<u>S</u>			
32	150-B				
<u>RM/3507-32</u>	<u>8/8/91 14:35</u>	<u>S</u>			
33	L-A				
<u>RM/3507-33</u>	<u>8/8/91 14:42</u>	<u>S</u>			
34	L-B				
<u>RM/3507-34</u>	<u>8/8/91 14:45</u>	<u>S</u>			
35	M-A				
<u>RM/3507-35</u>	<u>8/8/91 14:55</u>	<u>S</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>40Z SOIL</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y).

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive GTC Job No. 291/3507
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Collector BOB URBAN City _____ State _____ Zip _____
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via _____ Seal/Shipping # _____
 Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:

1. Sign Bob Urban
 for GTC
 2. Sign _____
 for _____
 3. Sign _____
 for _____

Received by:

1. Sign _____ Date/Time 8/8/91
 for _____
 2. Sign _____
 for _____
 3. Sign _____
 for _____

Sample(s) Received in Laboratory by:

Tom Hastings 8/8/91 @ 08:00

Client I.D.#	Sample Location	Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep				Bottle Set(s) (see below)
					Preserved		Filtered		
Lab#					Y	N	Y	N	
1	36	M-B	S	SEE REQUEST	Y			N	10
	8/8/91-36	8/8/91 15:00							
2	37	128-A	S						
	8/8/91-37	8/8/91 15:10							
3	38	128-B	S						
	8/8/91-38	8/8/91 15:15							
4	39	K-A	S						
	8/8/91-39	8/8/91 15:25							
5	40	K-B	S						
	8/8/91-40	8/8/91 15:30							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	40Z SOIL	
# of each										2	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y)

GENERAL TESTING CORPORATION/CHAIN-OF-CUSTODY RECORD

710 Exchange Street 85 Trinity Place 435 Lawrence Bell Drive
 Rochester, NY 14608 Hackensack, NJ 07601 Amherst, NY 14221-7077

GTC Job No. 291/3507
 Client Project No. _____

Sample Origination & Shipping Information

Collection Site XEROX THALLIUM STUDY
 Address _____
 Collector Bob Urban City _____ State _____ Zip _____
 Print Signature

Bottles Prepared by GTC Rec'd by _____
 Bottles Shipped to Client via ↓ Seal/Shipping # _____
 Samples Shipped via ↓ Seal/Shipping # _____

Sample(s) Relinquished by:		Received by:		Date/Time
1. Sign	<u>Bob Urban</u>	1. Sign		<u>8/8/91</u>
for	<u>GR</u>	for		
2. Sign		2. Sign		<u>/ /</u>
for		for		
3. Sign		3. Sign		<u>/ /</u>
for		for		

Sample(s) Received in Laboratory by Tom Hastings 8/9/91 @ 08:00

	Client I.D.#	Sample Location	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep		Bottle Set(s)	
	Lab#	Date/Time			Preserved	Filtered	(see below)	
					Y	N	Y	N
1	<u>41</u>	<u>A-A</u>	<u>S</u>	<u>SEE REQUEST</u>	<u>Y</u>		<u>N</u>	<u>10</u>
	<u>8/8/91-41</u>	<u>8/8/91 15:46</u>		<u>↓</u>	<u>↓</u>		<u>↓</u>	<u>↓</u>
2	<u>42</u>	<u>A-B</u>	<u>S</u>					
	<u>8/8/91-42</u>	<u>8/8/91 15:43</u>		<u>↓</u>	<u>↓</u>		<u>↓</u>	<u>↓</u>
3								
4								
5								

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.	<u>40Z SOIL</u>	
# of each										<u>2</u>	

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H)
 River or Stream (R), Pond (P), Industrial Discharge (I), _____ (X), _____ (Y)

Job No.: 39C28

APPENDIX C

Summary of Existing Reports

**BLDG. 201/206/218 INVESTIGATIVE AREA
SUMMARY OF EXISTING REPORTS**

Engineering-Science. Building 201 Underground Tank Closure, Webster, New York.
Prepared for Xerox Corporation, Webster, New York. September 1987.

Scope/Objectives

In-place closure of an underground diesel-fuel storage tank located just north of Building 201.

Testing/Analysis

Tank liquids were sampled to determine disposal and health and safety requirements.

Bulk liquids were removed from the tank.

A dewatering well was installed 5 feet west of the tank.

The tank was purged with nitrogen, pressure washed, and remaining sludge was removed with a vacuum truck.

Five cubic yards of fuel-oil-contaminated soil were removed from a manway at the south end of the tank.

Three soil samples were collected from the soil excavated for the installation of the dewatering well. Petroleum hydrocarbon concentrations ranged from below detection limits to 416 ug/g.

The tank was backfilled with sand in a series of compacted lifts and all suction and return lines were capped. Native soil was used to backfill from the top of the tank to ground surface.

Concrete tank manways were disposed of at a NYSDEC-approved landfill.

Engineering-Science. Supplemental Site Investigation at Building 201, Xerox Corporation, Webster, New York. Vol. I - Report. October 1987.

Scope/Objectives

Determine groundwater flow conditions, extent of contamination, location of probable source areas, and evaluate the potential for offsite migration from Building 201.
Review of background site data.

Installations

9 test borings
27 monitoring wells

Testing/Analysis

Performed two electrical-resistivity surveys and one soil-vapor survey.
Collection of soil and groundwater samples.

Conclusions

Surface water drains to the northwest through storm sewers to Mill Creek.

Elevated concentration of solvents detected in the soil under Building 201 near the abandoned salvage area, the former TCE storage tank, and near the buffing line. Outside the building near the virgin TCE storage tank, and north of the Mandrel Plant.

Based on results from 26 wells, concluded that offsite migration was unlikely.

One bedrock well (RW-1D) contained concentrations of solvents above detection limits.

Following potential source area identified:

Mandrel Plan and former Electroforming and Chromate Operation
Former TCE storage and salvage area.
Photoreceptor Buffing Line.
Step 2 area and associated hub drains.
9000 Interface Pilot Plant.

Utility lines along the southeast and north sides of the building and sandy/gravelly lens near wells RW-9, RW-8, and RW-3, may provide migration pathways.

Woodward-Clyde Consultants. Contaminant Migration Evaluation, Xerox Corporation, Building 201, Webster, New York. 28 March 1988.

Scope/Objectives

Estimated potential contaminant concentrations at nearest groundwater receptors (residences along Phillips Road) for several transport scenarios, using an analytical model (AT123D) and input data from Engineering Science Volume I of the Supplemental Site Investigation at Building 201.

Evaluated the potential for migration of contaminants from Building 201 to well fields completed in the Ironde-Genesee Aquifer using published hydrogeologic reports in the vicinity of the Webster site and Irondequoit Bay.

Conclusions

The Building 201 site is hydraulically isolated from the Ironde-Genesee Aquifer by groundwater divides.

Woodward-Clyde Consultants. Soil Evaluation, Proposed Expansion at Building 201, Xerox Corporation, Webster, New York. 15 July 1988.

Scope/Objectives

Evaluate soils in the area of a proposed building expansion at Building 201.

Installations

One boring.

Testing/Analysis

Collected continuous split-spoon samples from one soil boring (B-EX) advanced to refusal within the proposed construction area.

Analyzed selected split-spoon samples for VOCs, headspace readings, and arsenic, chromium, nickel, and selenium.

Reviewed existing soil data from four soil borings advanced in the area of the building expansion.

Conclusions

No soils that would adversely impact the Building 201 expansion were encountered in the B-EX soil boring.

Tetrachloroethene encountered in the 9.5-foot soil sample probably resulted from groundwater contamination and was not assumed to pose an impact on expansion

Woodward-Clyde Consultants. Aquifer Analysis Program, Building 201, Xerox Corporation, Webster, New York. August 1988.

Scope/Objectives

Performed several aquifer tests in B201 area to prepare conceptual design of a groundwater recovery system.

Testing/Analysis

Mini-pump test were performed on 8 interface monitoring wells.

Three long-term aquifer tests

Sampled for VOCs from RW-1D, RW-10, RW-13 during pumping

Sampled for metals from RW-10 and RW-13 during pumping

Conclusions

Transmissivities ranged from 50 to 1500 gpd/ft.

Storage ranged from 0.0001 to 0.000001.

Recommended system of wells within and downgradient of B201 to establish hydraulic control.

Woodward-Clyde Consultants. Report on Angle-boring at Building 201, Xerox Corporation, Webster, New York. 2 September 1988.

Scope/Objectives

Assess soil quality, particularly in regard to the possibility of chromic acid leakage to the soil, under the Building 201 Mandrel Shop and its potential to contaminate groundwater.

Installations

Advanced a soil boring, at an angle of approximately 13 degrees from horizontal, through the concrete footing wall on the east side of the Mandrel Shop to a distance of 30 feet from the face of the footing wall.

Sampling/Testing

Split-spoon samples were collected and analyzed for VOCs by EPA Methods 8010/8020 and for arsenic, chromium, nickel, and selenium. In addition, the pH of each sample was measured in the field to assess the presence of acidic conditions.

Attempted to collect fluids from the structural fill below the Mandrel Shop by installing a well point in the boring; however, no fluids were obtained.

Conclusions

Chromium, nickel, and selenium in soil samples from the angle boring may have been the result of leakage of contaminated fluids from the Mandrel Shop. Concentrations range from non-detect to 13 ppm, non-detect to 1000 ppm, and non-detect to 0.53 ppm respectively.

Total VOC concentrations of up to 119.4 ppb were found in the saturated soils and near the capillary fringe.

Based on the results of pH measurements, no evidence of chromic acid was detected in any of the soil samples from the angle boring.

Dames & Moore. Plume Evaluation Study, Xerox Corporation, Building 201, Webster, New York. 3 March 1989.

Scope/Objectives

Evaluated nature and extent of B201 contamination based on a review of four existing documents and quarterly groundwater quality data.

Summarizes previous work from 1985 through 1988.

Results/Conclusions

Groundwater flow direction northward and downward.

Drinking water standards were exceeded for several chlorinated solvents in the overburden.

Concentration in the overburden increase with time.

As and Cr exceed standards in the interface zone.

Recommended the installation of additional wells and an aquifer test.

Day Engineering, P.C. Partial Closure Report, Underground Spill Containment Tanks,
Xerox Corporation, Webster, New York, March 1990.

Scope/Objectives

Summarized closure activities for 9 underground containment tanks and one abandoned dry well. Two USCTs were in the 201/206/218 area.

Emptied and containerized contents and removed structures.

Tanks and piping were washed with pressurized water and detergent

Testing/Analysis

Soil samples were obtained from each excavation analyzed by 8240.

Concrete samples from dumpsters

Wipe samples from walls of dumpsters and waste pipe

Results/Conclusions

Sampling from area of Tanks 206 and 218 encountered levels of VOCs insufficient to impact groundwater.

Partial closure certification issued.

Law Environmental. Contamination Characterization Report, Buildings 218 and 206. Xerox Corporation, Webster, New York. June 1990.

Scope/Objectives

Investigate the presence of chlorinated solvents in the soil and groundwater of the B218 and B206 area.

Developed a Work Plan, installed 13 wells, collected soil and groundwater samples, and performed a data review.

Installations

10 interface wells
2 intermediate rock wells

Testing/Analysis

Headspace screening of soils (PID)
Highest headspace samples analyzed by 8010/8020 + MEK
Hydraulic conductivity
Groundwater from newly-installed wells analyzed by 8010/8020 + MEK

Results/Conclusions

Former B218 USCT may have acted as source for shallow solvent contamination.

Contamination in B206 SWMU limited, may result from source areas to the south.

Electrical/Telephone utility lines collect groundwater and drains northward beneath Building 218.

Dames & Moore. Delineation of the Extent of Groundwater Impacts, Revised, Building 201 and Surrounding Area, Xerox Corporation, Webster, New York. 7 December 1990.

Scopes/Objectives

Revised summary of previous work focusing on developing a program for remediating 201/206/218 area

Results/Conclusions

All solvents detected in interface zone were also detected in the intermediate bedrock zone. (except 1,2-DCA)

Three discrete source area: near 218-1, near RW-3, and beneath B201.

On-site utilities are not providing significant migration pathways.

Recommended additional VES wells.

H&A of New York. Hydrogeologic Report, Installation of Monitoring Well Clusters RW-19 and RW-20, Building 218 Investigation, Joseph C. Wilson Center, Webster, New York. February 1992.

Scope/Objectives

Summarizes the installation and sampling of two monitoring well clusters in the B218 area.

Installations

Two interface and two intermediate rock wells.

Testing/Analysis

Headspace screening of soils.
Two highest samples submitted for 8240 analysis.
Hydraulic conductivity testing of newly installed wells
Newly installed wells sampled and analyzed by 8010/8020.

Results/Conclusions

VOCs only detected in soil at RW-20I from 14 to 16 feet at 0.022 ppm total VOCs.
1,2-DCE, TCE and PCE present in interface zone at RW-19.
Groundwater flow direction in area of newly installed wells in north/northwesterly.
Additional wells may be warranted to delineate the extent of the interface plume.

H&A of New York. Hydrogeologic Report, Expansion of Monitoring Well RW-19, Investigative Area, Building 201/206/218 Investigation, Joseph C. Wilson Center for Technology, Webster, New York. May 1992.

Scope/Objectives

Additional wells and piezometers were installed to further characterized the areal extent of solvents previously detected in the area of RW-19.

Installations

Two interface-zone monitoring wells (RW-21, RW-22)
Four standpipe peizometers installed adjacent to storm sewer lines.

Testing/Analysis

Headspace screening of soil samples.
Highest sample from each boring analyzed by Method 8240.
Hydraulic conductivity testing of newly installed wells.
Groundwater quality samples from newly installed well analyzed by Method 8010/8020.

Results/Conclusions

No VOCs detected in soils.
Solvent detected in shallow groundwater from the peizometers are the same as those previously detected in B201 area.
Storm sewers do not appear to impact groundwater flow or VOC transport.
VOCs not detected in groundwater from RW-20, RW-21 and RW-22.
Westward areal extent identified and is restricted to the immediate vicinity of RW-19.

Law Environmental. Bedrock Investigation Report, Xerox Buildings 201/206/218
Investigative Area, Webster, New York. July 1992.

Scope/Objectives

Characterize overburden, interface and bedrock contamination 201/206/218 area
Summarizes regulatory background and previous investigations performed to date

Installations

One overburden well: 206-1S
Three interface wells: 218-9, RW-19, RW-20
Four intermediate rock wells: 206-2I, 218-9I, RW-19I, RW-20I
Two deep bedrock wells: 218-3D, RW-14D
(RW wells installed by H&A)

Testing/Analysis

Headspace of soil from 218-9I, highest to GTC for 8010/8020 + MEK
Sampled newly installed wells for 8010/8020 + MEK
206-2I and RW-14D sample for metals
Hydraulic conductivity

Results/Conclusions

Lateral flow direction NW in all zones
Generally downward vertical gradients
Deep bedrock indicates lower VOC concentrations
Potential sources
 Metals for E B201 (SWMU 74)
 localized concentrations of As and Cr
 VOCs B 201 (SWMU 75)
 TCE and degradation products (1,2-DCE, VCI) detected at decreasing
 concentration from the overburden to the intermediate bedrock.
 Lateral extent northward to B206, possibly B218.
 VOCs B206 operations and solvent storage S B218 (SWMU 86)
 TCE (+degradation), PCE, 111-TCA detected in interface zone both
 N and S of B206. TCE (+deg) detected in intermediate rock.

 Southern portion of B218 - elevated levels of 111-TCA with lower
 concentrations of 11-DCA, 11-DCE, and TCE.

 Utility vaults and pipelines (SWMU 85)

 May have acted as a conduit for northward migration of VOCs from
 southern B218.

H&A of New York. Summary of Investigative Activities, 28 July 1992 RFI Work Plan, Building 201/206/218 Investigative Site, Joseph C. Wilson Center for Technology, Webster, New York. September 1993.

Scope/Objectives

Purpose was to further characterize the lateral and vertical extent of contamination

Summarized the installation and sampling of three deep-bedrock-zone monitoring wells and seven temporary overburden peizometers in the 206/218 area.

Installations

Three deep bedrock wells 206-2D, 218-7D and 218-9D

Seven temporary overburden peizometers

Testing/Analysis

Headspace screening of soils

Hydraulic conductivity

Analysis of newly installed wells Method 8010/8020

TCL Analyses of 206-2 and 218-3 (voa, semi and metal)

Results/Conclusions

Target Compound List Sampling

Semivolatiles: ND

Metals: beryllium, cadmium, chromium, iron, magnesium, manganese above NYS groundwater standards

VOCs included same compounds historically detected at the site

VOCs in deep rock insignificant (below NYS GW standards)

No DNAPL identified in overburden peizometers

Discrete zone sampling of RW-10I was not undertaken because the vertical extent of contamination was characterized by the 3 additional deep bedrock wells.

H&A of New York. Hydrogeologic and Geotechnical Summary Report, Phase I Groundwater Migration-Control Trench, Building 201/206/218 Investigative Site, Joseph C. Wilson Center for Technology, Webster, New York. March 1994.

Scope/Objectives

Summarized the implementation of "Interim Corrective Measures Work Plan, Building 201/206/218" including: (1) connection of 218-1 to Building 201 2-PHASE Extraction system, and (2) installation of 300-ft. long fractured-bedrock migration control trench.

Installations

300-ft long fractured-bedrock migration control trench and groundwater collection system
Interface monitoring wells RW-23 and RW-24

Testing/Analysis

Groundwater Quality Sampling
Rising Head Hydraulic Conductivity Testing
Vibration Monitoring
Trench Startup Water Level Monitoring

Results/Conclusions

Level-controlled migration control system in the fractured-bedrock provides effective capture of contaminated groundwater migrating from the 201 and 218 areas.

The application of 2-PHASE Extraction to 218-1 reduced VOCs in the immediate vicinity of the well significantly.

Pumping from the fractured-bedrock trench is balanced with source area 2-PHASE Extraction to minimize the migration of elevated levels of VOCs from the source area to the trench.