Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision
XEROX CORPORATION
Town of Henrietta, Monroe County
Site Number 8-28-069

March 1995

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Xerox Corporation
Town of Henrietta, Monroe County, New York
Site No. 8-28-069

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Xerox-Henrietta inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Xerox-Henrietta Inactive Hazardous Waste Site and upon the Proposed Remedial Action Plan (PRAP) presented to the public by the NYSDEC. A responsiveness summary of public comments is included in Appendix A of the ROD. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Xerox-Henrietta site and the criteria identified for evaluation of alternatives, the NYSDEC has selected dual-phase vacuum extraction (DPVE) with on-site treatment of groundwater and soil vapor. The components of the remedy are as follows:

Installation of additional dual phase vacuum extraction wells;

Redirect surface water runoff away from the contaminated area;

Evaluate the existing treatment system to determine if it is adequately sized; and

Long-term groundwater and surface water monitoring.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the statutory preference for remedies that reduce toxicity, mobility, or volume as a principal element.

If the cleanup goals for groundwater or soil cannot be achieved, a focused Feasibility Study will be performed to evaluate the need for system enhancements or no further action.

3/29/95
Date

Michael J. O'Toole
Division Director
Hazardous Waste Remediation

TABLE OF CONTENTS

Record of Decision

Xerox Corporation

Town of Henrietta
Monroe County, New York
Site No. 8-28-069
March 1995

SECTION 1: SITE LOCATION AND DESCRIPTION

The Xerox Corporation site (Building 801) is located at 1350 Jefferson Road in the Town of Henrietta, Monroe County and has been in operation since 1972. The area is served by public water and is predominantly a light industrial/commercial area. The facility is within one-half mile of several major shopping centers, and the nearest residential area is an apartment complex which is located on the adjacent property to the east. Please refer to *Figure 1* for the general site location.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

From 1972 to 1978, Xerox used this facility to refurbish photocopy machines. Copier parts were cleaned in the northeastern corner of the building using mixtures of chlorinated and non-chlorinated solvents. The solvent mixtures were made from petroleum distillates (mineral spirits) with varying amounts of 1,1,1-trichloroethane, tetrachloroethene, methylene chloride, and trichloroethene. The cleaning process area included solvent and waste solvent storage areas, a paint shop, and cleaning equipment set in concrete containment pits. Outside the building, there were two 8,000-gallon and two 1,000-gallon solvent storage tanks, a 500-gallon overflow tank and a 500-gallon concrete spill containment structure (spill crock). *Figure 2* illustrates the locations of the former process equipment and storage tanks.

In 1977, a spill of waste solvents occurred in the lawn area immediately to the north of the solvent storage tanks. The solvent covered the grass and drainage ditches and formed globules of dense brown liquid in a nearby drainage ditch which connects to a tributary of Allen Creek. Xerox Corporation dammed the ditch and excavated surficial soils. No additional information exists about the spill cleanup.

The solvent storage tanks and associated equipment were removed after refurbishing operations discontinued in 1978. The facility is currently used for research and development, laboratory work, and administrative activities.

2.2 Remedial History

In 1986, Xerox Corporation voluntarily conducted an on-site environmental investigation. The results showed that groundwater, surface water, soil, and sediments were contaminated with chlorinated solvents and mineral spirits. The results of this investigation are presented in a report entitled Remedial Investigation, June 1987. Subsequent to this study, the site was added to the New York State Registry of Inactive Hazardous Waste Disposal Sites as a class 2. This classification means the site poses a significant threat to public health or the environment.

In 1988, Xerox Corporation performed another voluntary investigation to determine if there were any off site impacts. The results indicated that solvent contamination had migrated northward and impacted the groundwater and soils off site. The results of this study are presented in a report entitled Off Site Remedial Investigation, February 1989.

The two studies identified three main areas of contamination: the north-south ditch (ditch area); the former solvent storage tanks and spill crock (lawn area); and beneath the former solvent

cleaning operations (building area). *Figure 3* illustrates the location of each of these areas. Based upon the results of the two studies, Xerox Corporation initiated consent order negotiations with NYSDEC to conduct an interim remedial measure (IRM) and an RI/FS.

SECTION 3: CURRENT STATUS

Pursuant to a consent order, Xerox Corporation initiated an IRM and a RI/FS in March 1990 to address contamination at the site. The purpose of the IRM was to mitigate the off site spread of groundwater contamination. The purpose of the remedial investigation (RI) was to define the nature and extent of contamination.

3.1: Interim Remedial Measure

The purpose of the IRM was to mitigate the spread of groundwater contamination, and to divert stormwater runoff away from contaminated areas. The IRM consisted of five groundwater recovery wells, an on-site treatment system using activated carbon, and surface water diversion berms. The recovery wells were installed in April 1990 and construction of the treatment system and surface water diversion berms was completed in August 1990. During construction of the pipeline trenches connecting the wells to the treatment system, high levels of volatile organic vapors were generated. The majority of the construction work required workers to use supplied air for breathing. The IRM system has been in operation since October 1990.

Treated groundwater was discharged to the sanitary sewer system under a sewer use permit. Xerox Corporation provided quarterly monitoring reports to the Department since operations began. Approximately 500 gallons of contaminated groundwater were treated each day. Approximately 472 pounds of contaminants were removed using this system. The levels of contaminants in the groundwater did not show any decreasing trends.

In June 1994, Xerox Corporation received approval from the Department to modify the IRM recovery well system to a 2-PHASE ® extraction system. This innovative DPVE technology involves the use of a high-powered vacuum to extract both groundwater and soil vapor from the ground using a patented design. Vapors and groundwater are treated using activated carbon. Treated water is discharged to the sanitary sewer system and treated vapors are discharged to the air. The carbon is periodically shipped off site for regeneration. Xerox Corporation is using this site to further develop this technology for use at other sites, and they have applied for additional patents for design improvements.

Using the 2-PHASE ® extraction system, an additional 3,121 pounds of contaminants were removed from groundwater and soil during a six month pilot study and the six week startup phase of the new extraction wells. When compared to the groundwater pump-and-treatment technology, DPVE technology removed almost seven times more contaminants in 1/8th the amount of time. Full scale operation of the modified IRM began in the Fall of 1994.

3.2: Summary of the Remedial Investigation

The RI was conducted over a period of three years. A report entitled Remedial Investigation (August 1994) has been prepared describing the field activities and findings of the RI in detail. A summary of the RI activities follows:

- *Surface and sub-surface soil sampling and analyses to determine chemical and physical properties of known and potential source areas;*
- *Installation of monitoring wells for chemical analyses of groundwater and assessment of hydrogeologic conditions;*
- *A pilot study using DPVE extraction wells under the building and in the lawn area;*
- *A pilot study using ex-situ vacuum extraction on excavated soils from the lawn area;*
- *Quarterly monitoring of groundwater and surface water quality;*
- *Air Pathway Analysis;*
- *Health Based Risk Assessment; and*
- *Ecological Assessment.*

The RI determined the extent and magnitude of soil and groundwater contamination in the lawn area, the ditch area, and the building area. An extensive database of groundwater, soil, and surface water data is presented in the RI report and 14 quarterly progress reports. Additionally, an extensive amount of data was generated to evaluate both the pump-and-treat and the DPVE technologies.

Based upon the data the predominant groundwater contaminants are:

Methylene chloride	Trichloroethene
1,1,1-Trichloroethane	Tetrachloroethene
Vinyl chloride	1,2-Dichloroethene
1,1-Dichloroethane	1,1-Dichloroethene
Mineral spirits	1,2-Dichloroethane

Groundwater contamination appears limited to the upper aquifer and the concentrations of contaminants generally decrease with depth. Floating product has been regularly detected in four shallow monitoring wells, and dense phase product has been detected in one shallow well. Analyses of the floating product are presented in *Table 1.* The concentration of contaminants decrease by several orders of magnitude within 200 feet downgradient of the source areas.

A clay confining layer is present from 20-24 feet. The clay layer is over a glacial till and weathered bedrock aquifer which is under artesian conditions. No contaminants have been detected in the deep aquifer over the past seven years of monitoring. *Figure 4* illustrates the extent of groundwater and soil contamination. *Figures 5, 6, and 7* provide total volatile organic compound (VOC) concentrations in selected monitoring wells for the past seven years.

The majority of the soil contamination is limited to the upper twelve feet of soil with the highest concentrations of soil contamination being near the source areas. Percent levels of chlorinated solvents have been detected in soils beneath the building. *Figure 4* depicts the approximate extent of soil contamination.

Surface water contamination appears limited to the ditch area and a stormwater outfall at the northern property line. Surface water is monitored quarterly and has not been detected off site. Contaminants have not been detected in Allen Creek. *Figure 8* illustrates the results of the most recent quarterly sampling event.

Xerox Corporation conducted a pilot study using DPVE in the building and lawn areas. The results of the study indicated that contaminants were removed at a rate of ten or more times faster than the existing pump-and-treat system. The results of this pilot study are presented in the Feasibility Study.

Xerox Corporation also conducted a pilot study using ex-situ vacuum extraction on previously excavated soils from the lawn area. The soils were treated to almost non-detectable levels of contaminants. The results of this study are presented in the Feasibility Study.

The analytical data obtained from the RI were compared to NYS Applicable Standards, Criteria, and Guidance (SCGs) in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified for the Xerox Corporation site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protections of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure rates, soil and groundwater adjacent and beneath the building area, the ditch area, and the lawn area require remediation.

3.3 Summary of Human Exposure Pathways:

The RI included an evaluation of human health risks, both current and probable future scenarios, that are posed by the contaminants detected at the site. The health risk assessment evaluates the analytical results from various media (air, soils and groundwater) and identifies possible exposure routes to site contaminants by the general public.

The results of the risk assessment can be found in Section VI of the RI report.

Data from the RI indicate that soil and groundwater are contaminated underneath the building, below the surface of the lawn area, and in the north-south ditch. Since their initial site investigations, Xerox Corporation purchased the adjacent land to the north of their property. Consequently, contamination has not been detected leaving Xerox Corporation property. The area is served by a public water supply.

The risk assessment evaluated present and future land uses where exposure to contaminated soils, surface water, and groundwater is likely.

Many factors were considered during the development of the risk assessment. These factors include: EPA guidance; permanence of the remedy; current and future use of the site; and compliance with New York State SCGs. Based upon the results of the RI, contaminant levels in the groundwater and soil exceeded NYS groundwater standards and the soil cleanup criteria. The risk assessment determined that if remedial action is not taken at the site, there would be a potential threat to public health and the environment.

3.4 Summary of Environmental Exposure Pathways:

The site is located in a highly commercial setting which lacks significant wildlife habitat. Further, the extent of contamination is limited to surface water, sediment, soil, and groundwater on-site. Contamination has not been detected migrating off site. When the affected media are remediated, there would be no significant environmental exposure pathways at risk from contamination identified at this site.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and Xerox Corporation entered into a consent order on March 6, 1990. The consent order obligates Xerox Corporation to implement an IRM and an RI/FS. Upon issuance of the Record of Decision (ROD) the NYSDEC will approach Xerox Corporation to implement the selected remedy under another consent order. The ROD is the final decision document for the cleanup of the site.

The following is the chronological enforcement history of this site:

Date	Index No.	Subject of Order
3/90	B8-0207-87-09	Implementation of an IRM and RI/FS.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. These goals are established under the guideline of meeting all standard, criteria, and guidelines (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Reduce, control, or eliminate the contamination present within the soils and groundwater on-site;
- Prevent, to the extent possible, migration of contaminants;
- Mitigate environmental impacts from contaminated groundwater and provide attainment of SCGs for groundwater to the extent technically practicable;
- Provide for attainment of SCGs in soil which is protective of groundwater quality at the limits of the area of concern to the extent practicable; and
- The remedial action goals presented in *Tables 2 and 3.*

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the Xerox Corporation site were identified, screened and evaluated in a feasibility study. This evaluation is presented in the report entitled Feasibility Study (October 1994). A summary of the detailed analysis follows.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated soils and groundwater at the site.

Alternative 1 - Fencing and No Further Action

The no further action alternative is evaluated as a procedural requirement and as a basis for comparison. It would require continued operation of the IRM recovery and treatment system, groundwater and surface water monitoring, and fencing the contaminated areas. This alternative would not address the entire area of contamination and it would allow portions of the site to remain in an unremediated state.

Present Worth	$ 2,529,425
Capital Cost	$ 46,500
Annual O&M	$ 106,000
Time to Implement	< 1 year

Alternative 2 - Dual Phase Vacuum Extraction (DPVE)

Alternative #2 would involve the installation of additional DPVE wells within the north-south ditch area, installation of fencing, redirecting surface water, and long-term monitoring of groundwater and surface water. Extracted groundwater, non-aqueous liquids, and vapors would be treated using the existing activated carbon treatment system for the IRM. Treated groundwater would continue to be discharged to the sanitary sewer, and treated vapors would be discharged to the air. Carbon would continue to be sent off site for regeneration.

Present Worth:	$ 3,859,671
Capital Cost:	$ 1,229,250
Annual O&M:	$ 499,800
Time to Implement	1 year

Alternative 3 - Excavation and On-site Treatment

Alternative #3 would involve excavation of 25,000 cubic yards of contaminated soil within the lawn and ditch areas, on-site treatment of excavated soil, installation of fencing, redirecting surface water, and long-term monitoring of groundwater and surface water. Excavated soil would be placed into a lined earthen containment structure for treatment using ex-situ vapor extraction. Vapors would be treated with activated carbon. Soils would be treated until the cleanup goals are attained and placed back on-site. Soils beneath the building would not be excavated.

Present Worth:	$ 7,316,805
Capital Cost:	$ 3,386,000
Annual O&M:	$1,094,100
Time to Implement	1-2 years

Alternative 4 - DPVE and Excavation and On-site Treatment of Lawn Area and Ditch Area Soils

Alternative #4 would involve the excavation and on-site treatment of 25,000 cubic yards of contaminated soil and sediment within the lawn and ditch areas, installation of fencing around the contaminated area, redirecting surface water, and long-term monitoring of groundwater and surface water. The excavated soil would be placed into a lined earthen containment structure for treatment using ex-situ vapor extraction. Extracted vapors would be treated with activated carbon. Soils would be treated until the cleanup goals are attained and placed back on-site. The soils and groundwater beneath the building would be remediated using DPVE wells. Contaminated groundwater, non-aqueous liquids, and vapors would be treated using the existing IRM treatment system.

Present Worth:	$ 10,111,529
Capital Cost:	$ 3,460,950
Annual O&M:	$ 654,416
Time to Implement	1-2 years

Alternative 5 - DPVE and Excavation and On-site Treatment of Ditch Area

Alternative #5 is a variation of alternative #4. This alternative would consist of excavation and on-site treatment of 100 cubic yards of soil and sediment in the ditch area, installation of fencing, redirecting surface water, and long-term monitoring of groundwater and surface water. Excavated soil would be treated on-site using vacuum extraction. The DPVE wells would be used to remediate soils and groundwater beneath the building and in the lawn area. Contaminated groundwater, non-aqueous liquids, and vapors from the DPVE wells would be treated using the existing IRM treatment system.

Present Worth:	$ 4,642,975
Capital Cost:	$ 1,920,000
Annual O&M:	$ 632,800
Time to Implement	1-2 years

6.2 Evaluation Criteria Used to Compare Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidlines (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

The next five primary balancing criteria are used to compare the positive and negative aspects of each remedial strategy.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personal and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in *Table 4*.

The next final criterion is considered a modifying criterion and is taken into account after evaluating the first seven criteria. It is focused on after public comments on the PRAP are received by NYSDEC.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and provides a response to each comment by NYSDEC. If the final remedy selected differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

6.3 Evaluation of Remedial Alternatives

Below is a comparison of each remedy to the various screening criteria. If the alternative did not meet the first two criteria, the remaining criteria were not compared.

Alternative 1 - Fencing and No Further Action

Alternative #1 would not address all of the groundwater and soil contamination at the site. The remedy would not meet SCGs nor would it be protective of human health. This remedy would not be acceptable because it would not meet the threshold criteria.

Alternative 2 - Dual Phase Vacuum Extraction

Alternative #2 would be protective of human health and the environment and would meet SCGs. This technology has been clearly demonstrated at this site during an extensive pilot study. The remedy would be easy to implement and would have very little short-term impacts during construction. The remedy would permanently reduce the toxicity, mobility and volume of contaminants in soils and groundwater. Construction of the extraction wells would minimally disturb the sub-surface, and the threat of releasing any contaminants to the air would be minimal. This remedy is already partially constructed as part of the IRM. The treatment system is already constructed and can be easily expanded to handle additional extraction wells. When compared to the other proposed remedies, DPVE was the most favorable.

Alternative 3 - Excavation and On-site Treatment

Alternative #3 would not address groundwater and soil contamination beneath the building. This remedy would not meet SCGs, nor would it be considered to be protective of human health and the environment. This remedy would not be acceptable because it would not meet the threshold criteria.

Alternative 4 - DPVE and Excavation and On-site Treatment

Alternative #4 would be protective of human health and the environment and would meet SCGs. DPVE and ex-situ vacuum extraction of excavated soil have been demonstrated to be effective technologies at this site. The remedy would permanently reduce the toxicity, mobility and volume of contaminants in soils and groundwater. The main drawbacks to this remedy are the short-term impacts, space requirements, and uncertainties involved with soil excavation. Previous excavations on-site have demonstrated significant releases of volatile organic compounds within the work zone. Because of the potential risk of contaminant releases during soil excavation, and complications during implementation, this remedy was not recommended.

Alternative 5 - DPVE and Excavation and On-site Treatment of Ditch Area

Alternative #5 would be protective of human health and the environment and would meet SCGs. DPVE and ex-situ vacuum extraction of excavated soil have been demonstrated to be effective technologies at this site. The remedy would permanently reduce the toxicity, mobility and volume of contaminants in soils and groundwater. The main draw backs to this remedy are the short-term impacts, and uncertainties involved with soil excavation. Previous excavations on-site have demonstrated significant releases of volatile organic compounds within the work zone. When compared to the preferred remedy, the cost to implement alternative #5 is very close. Because of the potential risk of contaminant releases during soil excavation, and complications during implementation, this remedy was not recommended.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC

has selected **Alternative # 2 - Dual Phase Vacuum Extraction (DPVE)** as the remedy for this site.

Following the signing of the ROD by NYSDEC, a remedial design program will be initiated to verify components of the conceptual design and provide details necessary for construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved.

7.1 Elements of the Selected Remedy

The selected remedial action includes the following:

1. Remedial Design

- Determine the placement of additional extraction wells;
- Evaluate well design and capping the surface around the well with a low permeability material;
- Determine whether the treatment system is adequately sized and expand system if necessary;
- Determine operational parameters of the DPVE system;
- Develop a procedure to determine when contaminant levels reach asymptotic conditions;
- Develop a long-term monitoring program for surface water and groundwater; and
- Install fencing to restrict access to the site.

2. Soil, Sediment and Groundwater Remediation

- Soil and sediment cleanup goals, are presented in *Table 2* and they will become incorporated into the remedial design;
- The cleanup goals for groundwater contaminants are the 6NYCRR Part 703 standards. The NYSDEC recognizes that groundwater in the upper water bearing zone is not currently used for either industrial or potable purposes. Therefore, the dual phase vacuum extraction system will be operated until it is determined that asymptotic conditions are reached. The evaluation criteria for determining asymptotic conditions will be established during the remedial design;
- If it is determined that asymptotic conditions have been reached, but the cleanup goals for groundwater and soil are not obtained, then a focused FS will be conducted by Xerox Corporation to evaluate the necessity of further groundwater, soil, and sediment remediation. The NYSDEC will evaluate the focused FS report and determine whether additional remediation is required; and
- If the remedy results in consequential hazardous waste remaining untreated at the site, further long-term monitoring will be required.

3. Surface Water Remediation

Stormwater runoff will be redirected away from the contaminated area. Xerox Corporation applied for a permit with the Army Corp of Engineers to construct a new drainage ditch to replace the north-south ditch. Stormwater runoff will be directed in a new ditch around the area of contamination. This activity is scheduled for 1995. The long-term monitoring program will include surface water monitoring.

Upon completion of the remedial action, the site will be reclassified to a '4' and the boundaries will be defined as the areas of hazardous waste disposal. If the site cannot be remediated to the cleanup goals, a deed restriction will be placed on the contaminated area of the site.

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

Item	Date Issued
Citizens' Participation Plan	4/92
Fact Sheet	1/26/95
Public Comment Period	1/30 - 2/28/1995
Public Meeting	2/7/95

Comments received during the 30-day public comment period are presented in the responsiveness summary in Appendix A. The public comments received did not affect the selected remedy.

Table 1
Physical and Chemical Properties of Non-Aqueous Product

Analyte	Well Number		
	RW-1	RW-3	VE-1A
Acetone	0.40%	ND	ND
1,1,1-Trichloroethane	2.00%	7.20%	ND
Trichloroethene	1.10%	6.20%	ND
Tetrachloroethene	8.90%	6.70%	0.60%
Total volatiles	12.30%	20.10%	0.60%
Mineral spirits	75.00%	53.00%	66.00%
Unknown hydrocarbons	24.00%	39.30%	38.60%
Viscosity (cs)	1.15	2.15	3.17
Specific gravity	1.010	0.786	0.860

All chemical concentrations are in percent
% unknown hydrocarbons may include mineral spirits constituents
ND=Not Detected

Table 2
Soil Cleanup Goals

Parameter	Proposed Cleanup Goal (mg/kg)
Vinyl chloride	0.07
Methylene chloride	0.07
1,1,1-Trichloroethane	0.5
Trichloroethene	0.5
Tetrachloroethene	1.2
cis-1,2-Dichloroethene	0.05

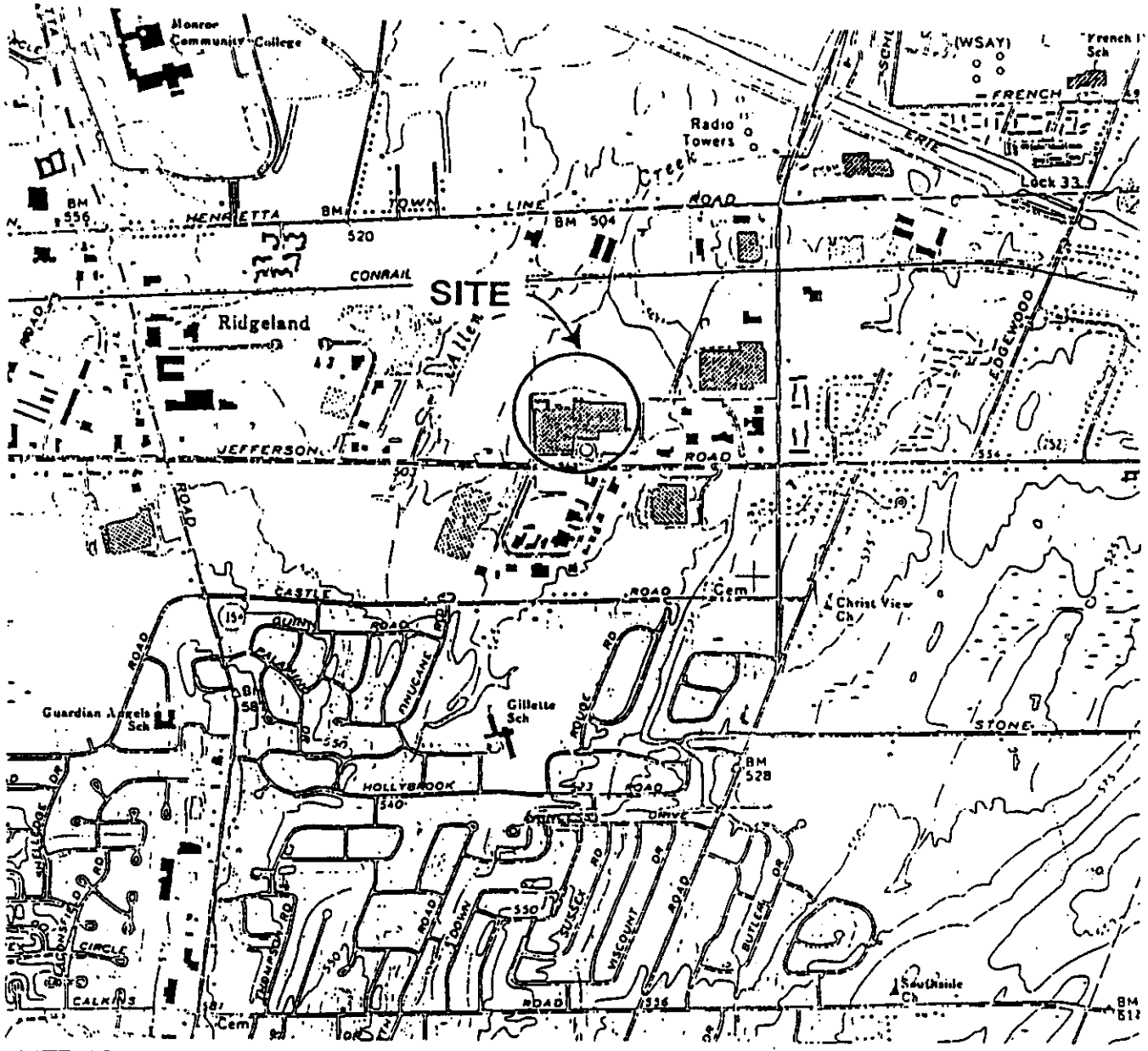
Table 3
Groundwater Cleanup Goals

Compound	Groundwater Quality Standard (mg/l)
Vinyl chloride	0.002
Methylene chloride	0.005
cis-1,2-Dichloroethene	0.005
Trichloroethene	0.005
Tetrachloroethene	0.005
1,1,1-Trichloroethane	0.005
1,2-Dichloroethane	0.005
1,1-Dichloroethene	0.005
1,1-Dichloroethane	0.005

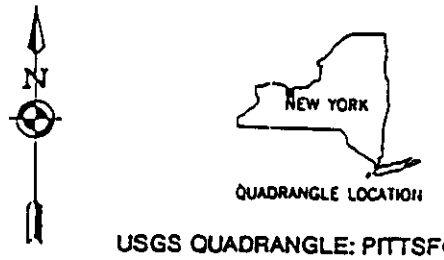
Table 4
Estimated Costs of Remedial Alternatives

Alternative	Capital Cost	Annual O&M Cost	Net Present Worth
Fencing & No Further Action (#1)	$46,500	$106,020	$2,529,435
Dual-Phase Vacuum Extraction (DPVE) (#2)	$1,229,250	$499,800	$3,859,671
Excavation and On-site Treatment (#3)	$3,486,000	$654,416	$7,316,805
Combined DPVE and Excavation of Lawn and Ditch Area (#4)	$3,460,950	$1,094,100	$10,111,529
Combined DPVE and Excavation of Ditch Area (#5)	$1,920,000	$632,800	$4,642,975

Figure 1
Site Location Map



LATITUDE: 43° 05' 20"N LONGITUDE: 77° 35' 30"W



USGS QUADRANGLE: PITTSFORD, N.Y.

Figure 2
Potential Contaminant Source Areas

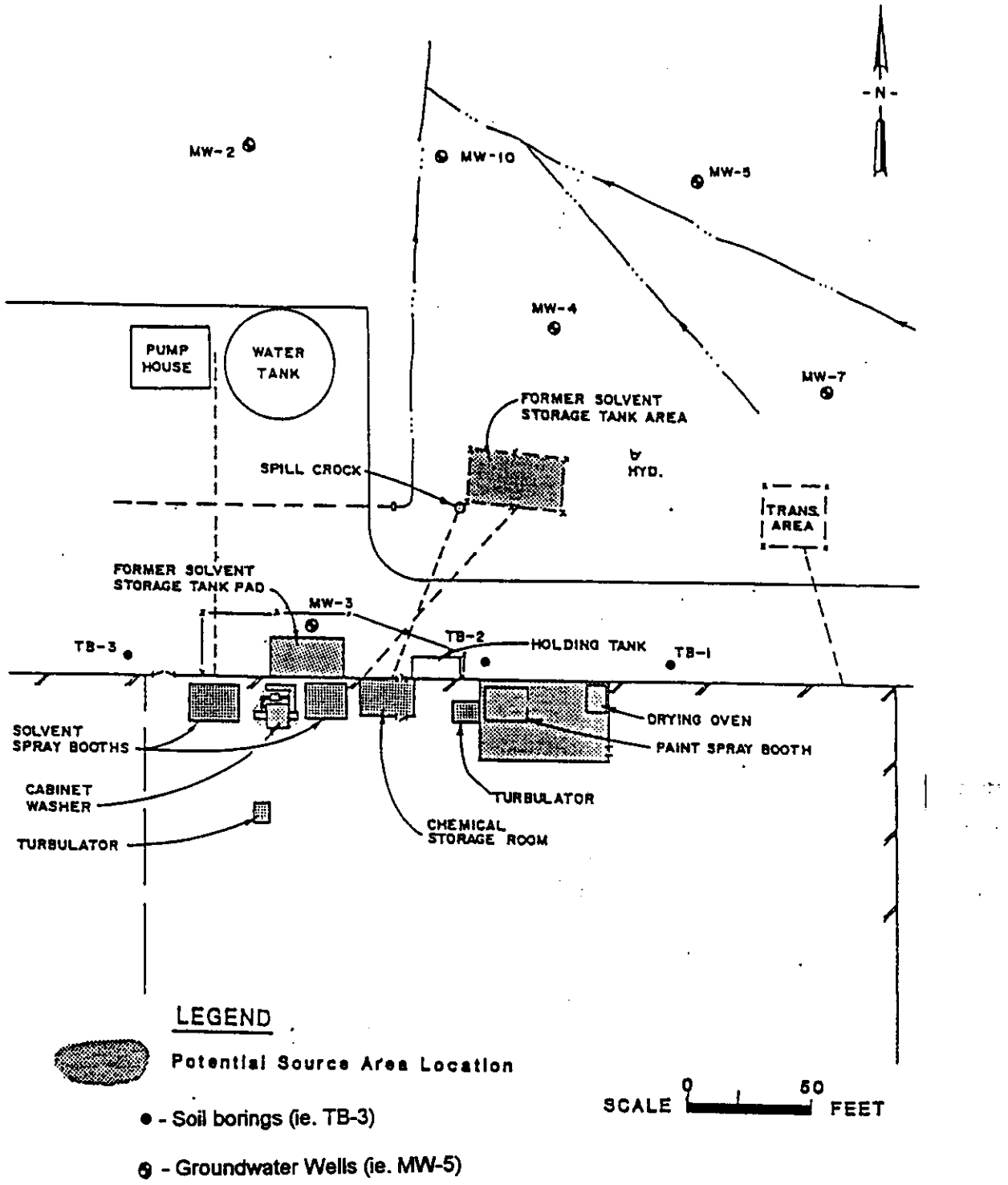


Figure 3
General Site Features

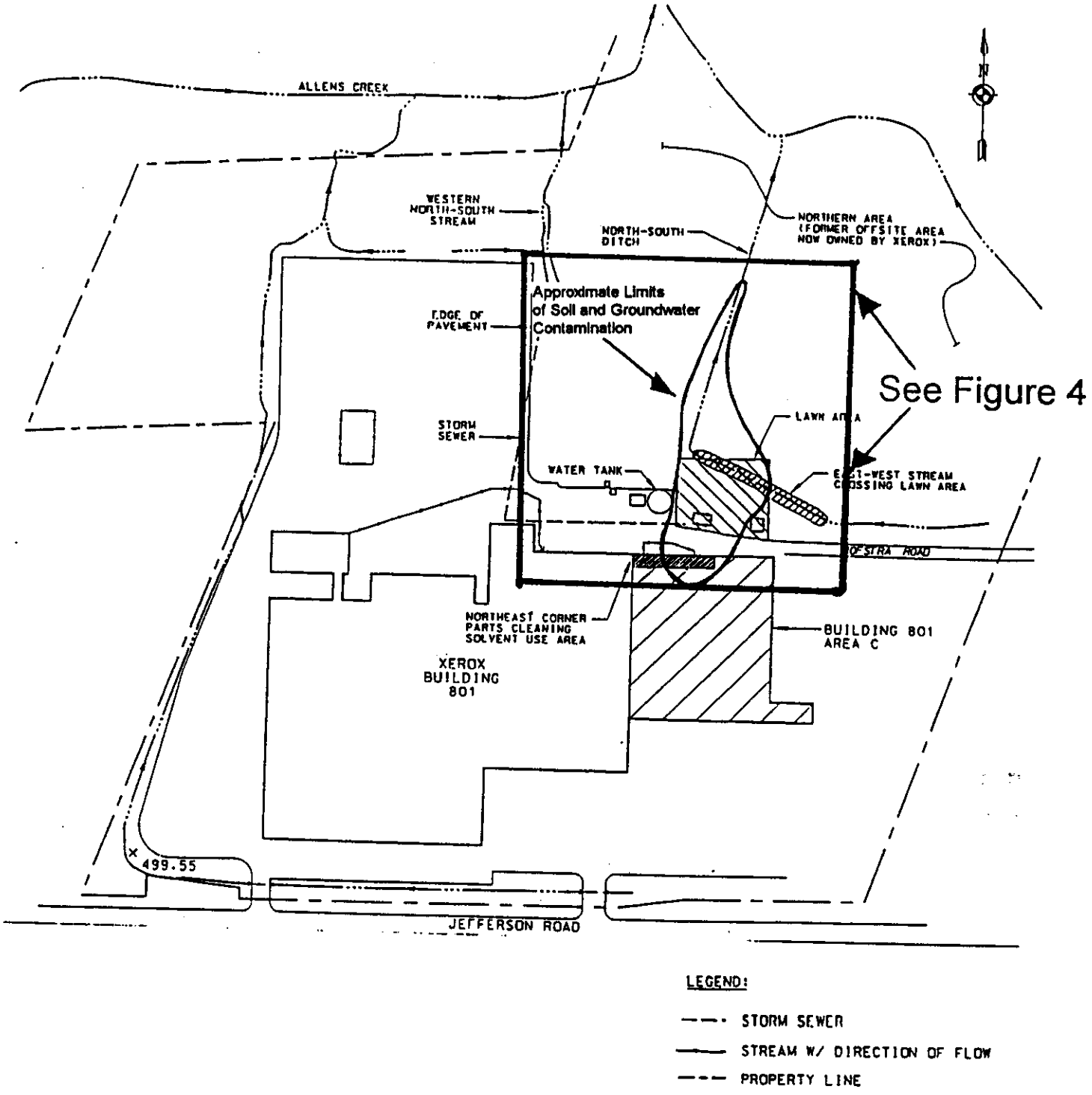


Figure 4
Extent of Soil and Groundwater Contamination

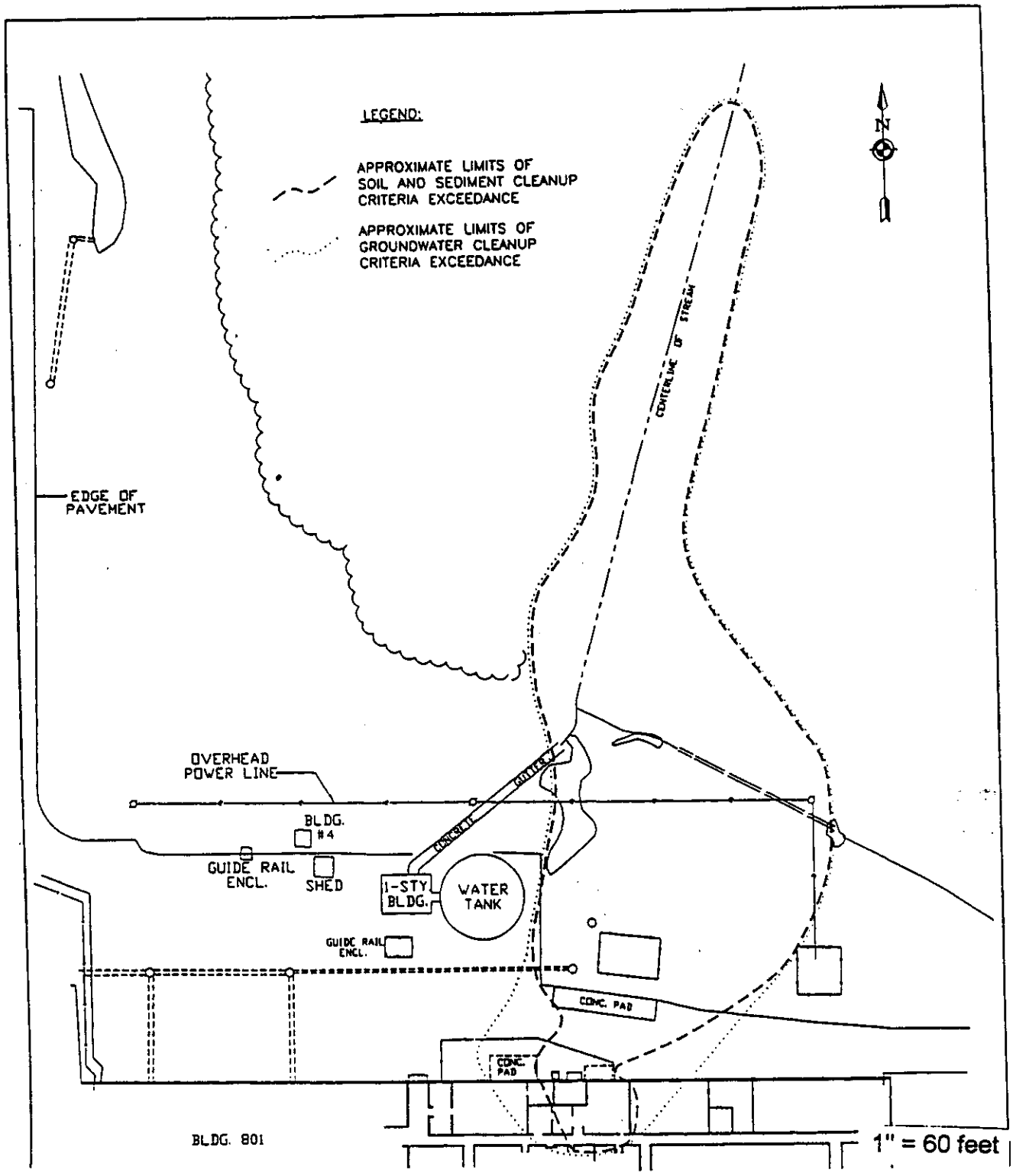
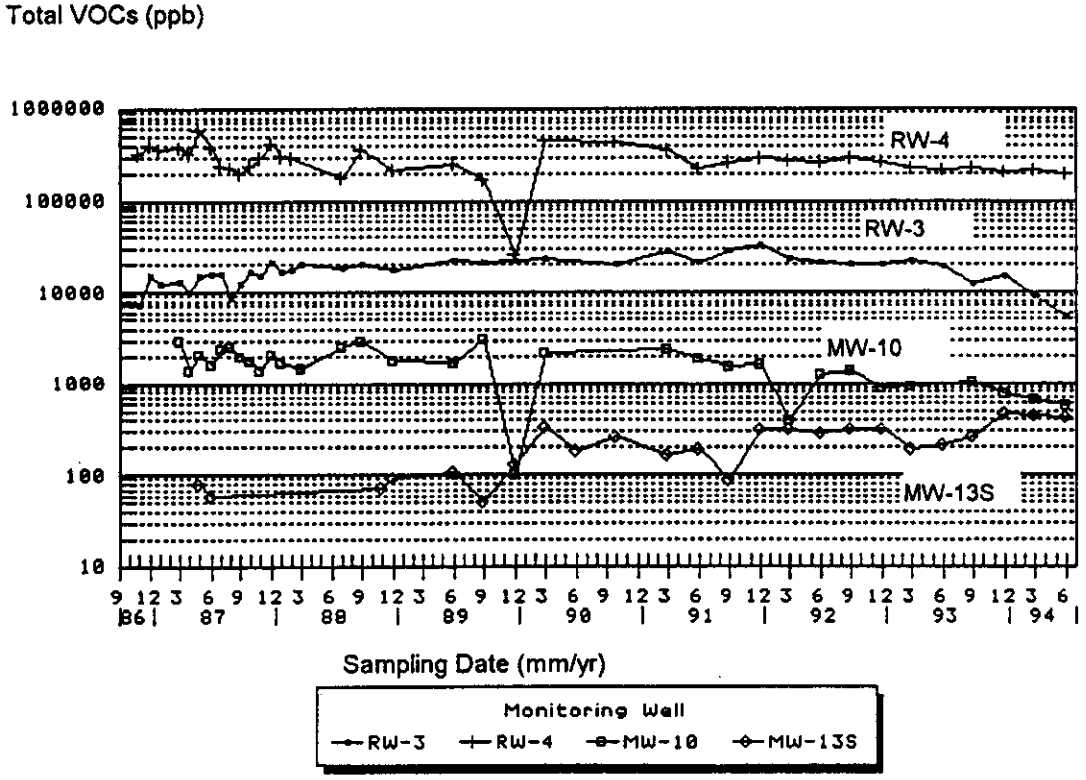
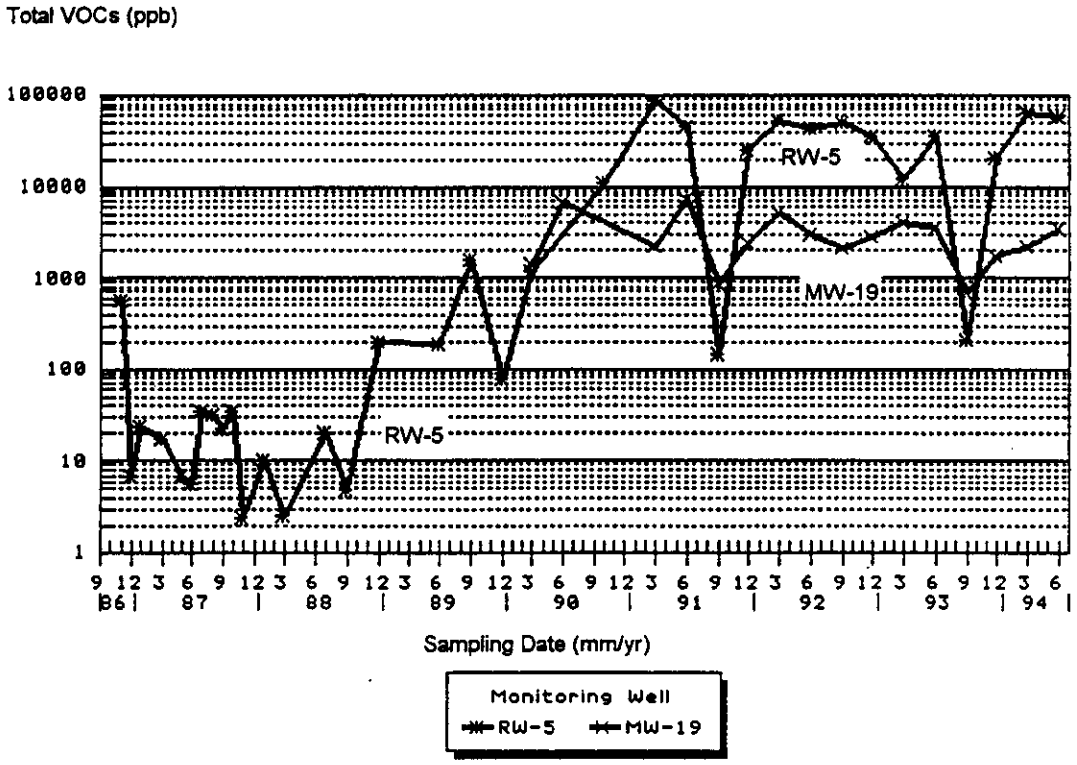


Figure 5
Volatile Organic Compounds in Selected Wells



Source: Quarterly Progress Reports #1-13

Figure 6
Volatile Organic Compounds in Selected Wells



Source: Quarterly Progress Reports #1-13

Figure 7
Map of Groundwater Contamination

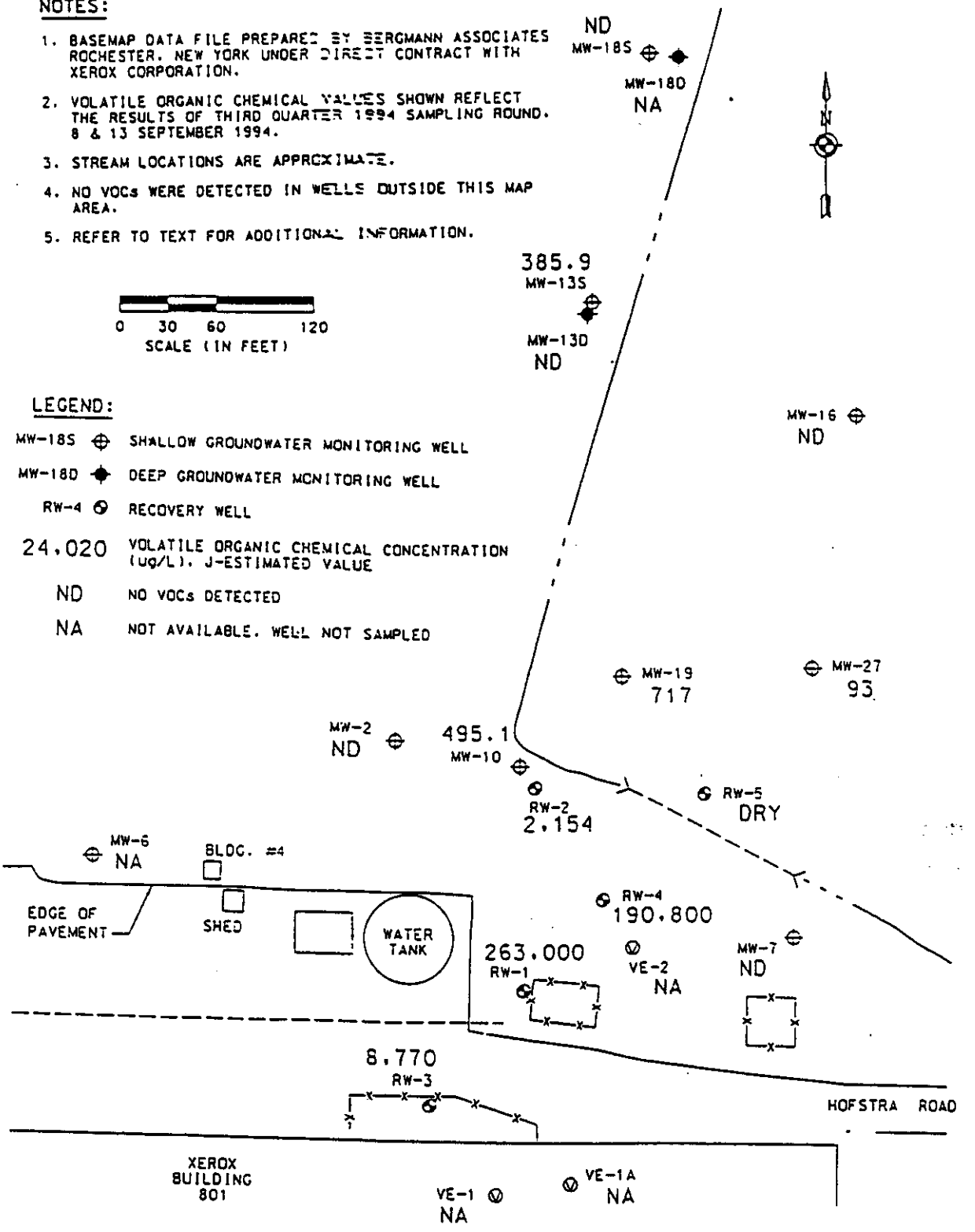
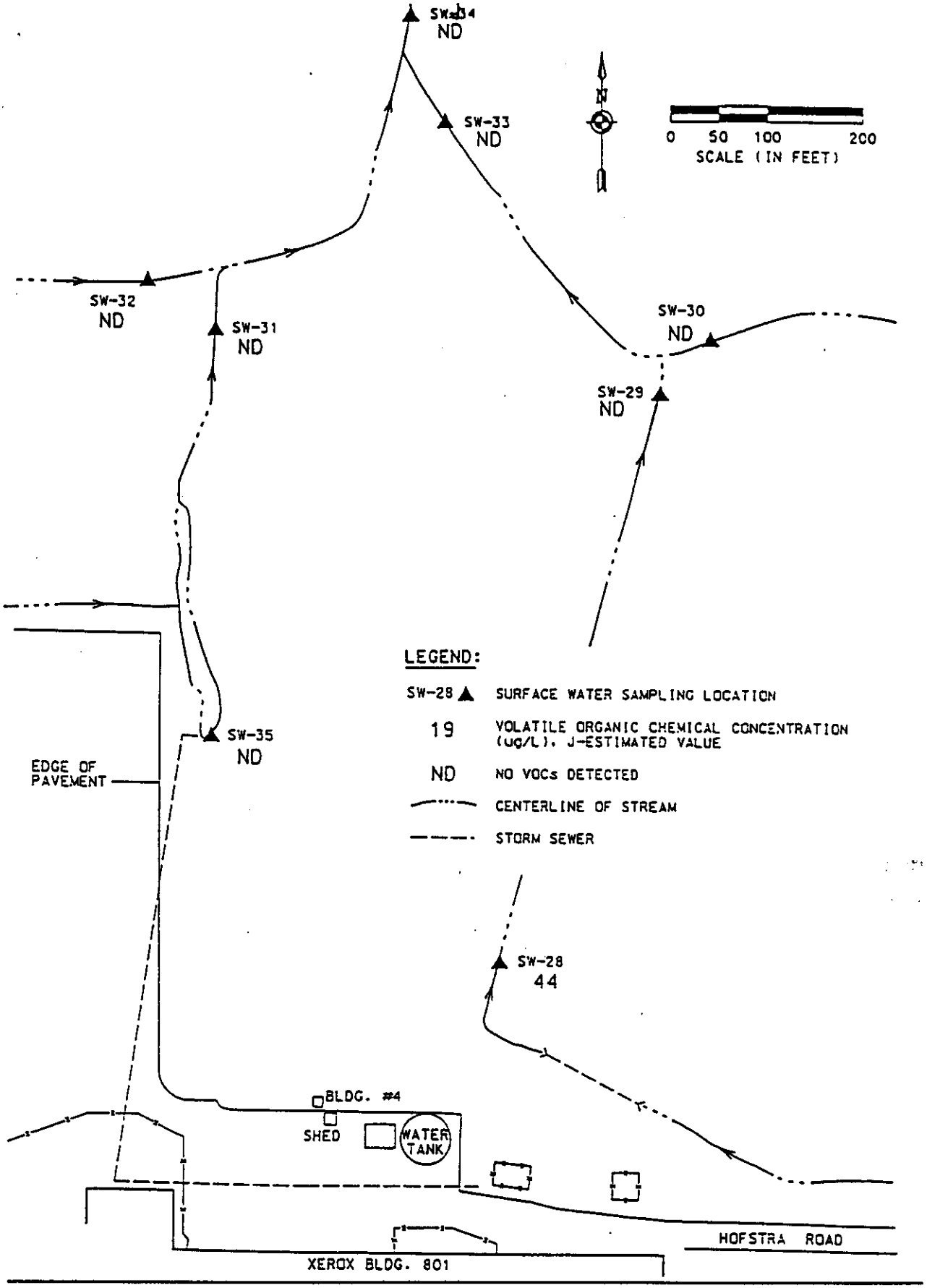


Figure 8
Surface Water Sampling Locations



Appendix A
Responsiveness Summary

This document summarizes the comments and questions received by the NYSDEC regarding the proposed remedial action plan (PRAP) for this site. A public comment period opened on January 30, 1995 and closed on February 28, 1995 to receive comments on the PRAP. A public meeting was held on February 7, 1995 to present results of the investigations performed at the site and to describe the PRAP. The public meeting received significant media coverage (newspaper, radio, and TV) both before and during the meeting. The information below summarizes the comments and questions received by NYSDEC at the public meeting and provides a response. No additional comments were received during the public comment period.

1. I am James D. Andrew from 1177 East Avon-Rochester Road. I own the land immediately to the north of the property as discussed tonight [shows map]. It is a 25-acre parcel between the Residence Inn and the Ford truck shop, and it extends north to the power line. Ten acres are located north of the site you are discussing. Your presentation mentioned testing of Allen Creek which goes through my property. I appreciate the work and expense of Xerox and the cooperation with the NYSDEC. There are no signs of pollution. I would appreciate being put on the mailing list. My office is 1900 East Henrietta Road, Rochester, NY 14623.

   Thank you. Your name has been added to the mailing list.

2. I work at building 801 [the site] directly across from the contaminated area. There was a lack of notification for the public meeting at Xerox. What is my impact working 40 hours per week for 4-5 years? What is the potential exposure of a worker? I work 25 feet from those [extraction] wells. What do the air monitoring results show?

   The Department distributed fact sheets and public meeting announcements to adjacent property owners, the media, local environmental interest groups, and local politicians. The public meeting received significant media attention both prior to and during the public meeting. Xerox would be responsible for notification of its employees.

   The results of the remedial investigation have shown that contaminants are present in groundwater and subsurface soils at the site. The extent of this contamination is shown on Figure 4. As illustrated in the firgure, most of the contamination is found in the area north of the building while some contamination is present beneath the building. There is no human exposure to these contaminants by individuals who work at this facility or by the general public because site groundwater is not being used for drinking or any other purposes and the contaminated soil is beneath the building and below the ground's surface.

   Regarding the room where the treatment system is located, Xerox conducts air monitoring in this room on a regular basis. Reportedly, the results of the air monitoring have shown that no contaminants are present in the air within the treatment system room.

3. I'm the manager at the Residence Inn. We get a lot of drainage [from the Xerox property], especially rain. It is significant enough that it floods our property. Was there ever any monitoring of the west side ditch of the property? Based upon what we see, the western ditch is inadequate. It should be six feet deep, but its only two feet deep. The drainage is going into the swamp. At times, we have eight inches of water in the parking lot going into our guest rooms. Can contaminants go sideways?

   Surface water and sediment samples were taken from the western ditch in 1987. The analytical results showed low levels of volatile organic compounds in the surface water. Contamination detected in the ditch was not considered attributable to the Xerox site for the following reasons: This ditch receives drainage from off site sources and from the western portion of the Xerox property. Typically, surface water drainage would not be from the area of contamination because there is a drainage divide between the western ditch and the

source area; Surface water samples were taken from Allen Creek and drainage ditches in the vicinity of the source area on a quarterly basis. The analytical results have not shown off site migration of contamination. Based upon the avalilable data, contamination has not been detected moving sideways from the Xerox site.

The adequacy of the depth of the drainage ditch would have to be evaluated by an Engineer. The amount of stormwater runoff, the drainage area, and the surface elevations with respect to Allens Creek would need to considered during such an evaluation. Because the ditch is on Xerox Corporation property, any drainage improvement would have to be coordinated with Xerox. Please contact Mr. Al Mancini (716-422-3683) and he will provide you with the proper contact people at Xerox to discuss the problem.

Appendix B
Administrative Record

Reports, Work Plans, and Consent Orders

Remedial Investigation at Building 801, Volumes I and II, Engineering-Science (E-S), June 1987.

Off Site Remedial Investigation Building 801, Volumes I and II, E-S, February 1989.

Work Plan for Interim Remediation at Xerox Building 801, E-S, November 1989.

Addendum to Work Plan for Interim Remediation at Xerox Building 801, E-S, February 1990.

Consent Order - Implementation of Remedial Investigation/Feasibility Study and Interim Remedial Measure. Index #B8-0207-87-09, March 16, 1990.

Remedial Investigation at Building 801, Volume III-Data Update, E-S, May 1990.

Groundwater Data and Geologic Cross Sections for Xerox Building 801, E-S, March 1991.

Environmental Laboratory Audit and Data Validation Summary for Xerox Building 801, E-S, May 1991

Operations and Maintenance Manual Carbon Treatment System Xerox Building 801 Interim Remediation, E-S, May 1991.

Construction and Completion Report for Interim Remediation at Xerox Building 801, Volumes I and II, E-S, November 1991.

Remediation Progress Reports #1-3, E-S, September 1991-February 1992.

Work Plan for Remedial Investigation and Feasibility Study at Xerox Building 801, E-S, July 1991

Remedial Investigation and Feasibility Study Work Plan Addendum, H&A of New York, May 1992.

Quarterly Monitoring Reports #4-15, H&A of New York (H&A), May 1992-February 1995.

Operations and Maintenance Manual Xerox 2-Phase Vacuum Extraction System, Bergmann Associates, February 1993.

Work Plan 2-Phase Vacuum Extraction System Test, H&A, March 1993.

Work Plan for IRM Groundwater Recovery and Treatment System Upgrade Xerox Building 801, H&A, May 1994.

Remedial Investigation Xerox Building 801, H&A, August 1994.

Feasibility Study Xerox Building 801, H&A, October 1994.

Citizen Participation

Citizen Participation Plan, April 1992.

Public Meeting Announcement and Fact Sheet, January 1995.

Proposed Remedial Action Plan, January 1995

Correspondence

Letter to M. Khalil (NYSDEC) from R. Hess (Xerox), RE: Off Site Investigation Reports, March 21, 1989.

Letter to R. Hess from M. Desmond (NYSDEC), RE: IRM review comments, June 5, 1989.

Letter to T. Caffoe (NYSDEC) from R. Hess, RE: Response to IRM comments, July 31, 1989.

Letter to T. Caffoe from R. Hess, RE: IRM work plan, September 7, 1989.

Letter to T. Caffoe from R. Hess, RE: Quality assurance plan, September 28, 1989.

Letter to R. Hess from M. Desmond, RE: IRM review comments, October 17, 1989.

Letter to M. Desmond from R. Hess, RE: Response to IRM review comments, November 16, 1989.

Letter to A. Mancini (Xerox) from T. Caffoe, RE: IRM review comments, December 21, 1989.

Letter to T. Caffoe from R. Hess, RE: Response to IRM review comments, January 8, 1990.

Letter to T. Caffoe from D. Babcock (Engineering-Science), RE: IRM design, January 8, 1990.

Letter to A. Mancini from T. Caffoe, RE: IRM design comments, January 30, 1990.

Letter to T. Caffoe from A. Mancini, RE: IRM work plan, February 5, 1990.

Letter to A. Mancini from T. Caffoe, RE: IRM treatment system, February 9, 1990.

Letter to A. Mancini from T. Caffoe, RE: IRM work plan approval, February 20, 1990.

Letter to A. Mancini from T. Caffoe, RE: Surface water sampling, April 11, 1990.

Letter to T. Caffoe from R. Hess, RE: Submittal of historical data, April 25, 1990.

Letter to A. Mancini from T. Caffoe, RE: Data QA/QC, May 17, 1990.

Letter to C. Peterson (NYSDEC) from D. Babcock, RE: IRM construction progress report, May 21, 1990.

Letter to C. Peterson from T. Caffoe, RE: IRM modifications, May 21, 1990.

Letter to T. Caffoe from R. Hess, RE: IRM treatment system secondary containment, May 21, 1990.

Letter to A. Mancini from M. Desmond, RE: Extension of RI/FS work plan submittal deadline, July 23, 1990.

Letter to R. Hess from M. Desmond, RE: IRM soils, August 14, 1990.

Letter to T. Caffoe from R. Hess, RE: Soil relocation work plan, August 24, 1990.

Letter to R. Hess from T. Caffoe, RE: Soil relocation plan approval, August 30, 1990.

Letter to T. Caffoe from R. Hess, RE: RI/FS work plan, August 31, 1990.

Letter to T. Caffoe from R. Hess, RE: Rerouting fire protection water, September 17, 1990.

Letter to T. Caffoe from R. Hess, RE: IRM pump test, September 18, 1990.

Letter to A. Mancini from T. Caffoe, RE: Approval for operation of IRM, October 15, 1990.

Letter to A. Mancini from T. Caffoe, RE: RI/FS work plan review comments, November 16, 1990.

Letter to T. Caffoe from R. Hess, RE: Extension of response to RI/FS comments, December12, 1990.

Letter to M. Desmond from R. Hess, RE: Response to RI/FS work plan comments, February 1, 1991.

Letter to T, Caffoe from R. Hess, RE: Laboratory audit, June 3, 1991.

Letter to M. Desmond from R. Hess, RE: Revised RI/FS work plan, August 22, 1991.

Letter to A. Mancini from T. Caffoe, RE: Revised RI/FS work plan, October 18, 1991.

Letter to T. Caffoe from R. Hess, RE: Revised RI/FS work plan, November 12, 1991.

Letter to A. Mancini from T. Caffoe, RE: RI/FS work plan approval, December 11, 1991.

Letter to A. Mancini from T. Caffoe, RE: Change in consultants, December 12, 1991.

Letter to T. Caffoe from R. Hess, RE: RI/FS schedule delay, January 6, 1992.

Letter to T. Caffoe from R. Hess, RE: Modification of RI/FS work plan, January 22, 1992.

Letter to T. Caffoe from R. Hess, RE: Consultant qualifications, February 5, 1992.

Letter to A. Mancini from T. Caffoe, RE: RI/FS work plan modifications, February 18, 1992.

Letter to A. Mancini from T. Caffoe, RE: Citizen participation plan, March 13, 1992.

Letter to T. Caffoe from R. Hess, RE: RI/FS work plan modifications, March 17, 1992.

Letter to T. Caffoe from R. Hess, RE: Citizen participation plan, March 27, 1992.

Letter to A. Mancini from T. Caffoe, RE: Approval of RI/FS work plan modifications, April 2, 1992.

Letter to A. Mancini from T. Caffoe, RE: Approval of citizen participation plan, April 10, 1992.

Letter to T. Caffoe from R. Hess, RE: IRM completion report and certification, May 19, 1992.

Letter to T, Caffoe from R. Hess, RE: Modification of groundwater sampling, August 14, 1992.

Letter to T. Caffoe from D. Costolnick (H&A of New York), RE: Phase I soil borings, August 26, 1992.

Letter to T. Caffoe from D. Costolnick, RE: 2-PHASE pilot test, November 3, 1992.

Letter to A. Mancini from T. Caffoe, RE: 2-PHASE pilot study approval, March 23, 1993.

Letter to T. Caffoe from R. Hess, RE: RI report, May 28, 1993.

Letter to T. Caffoe from W. Hardison (H&A of New York), RE: Additional 2-PHASE pilot study, August 13, 1993.

Letter to A. Mancini from T. Caffoe, RE: Approval of additional pilot study, August 25, 1993.

Letter to A. Mancini from T. Caffoe, RE: RI report comments, August 26, 1993.

Letter to T. Caffoe from W. Hardison, RE: Response to RI comments, September 9, 1993.

Letter to T. Caffoe from W. Hardison, RE: 2-PHASE pilot system operation, November 2, 1993.

Letter to A. Mancini from T. Caffoe, RE: Approval of 2-PHASE operation, November 15, 1993.

Memo to T. Caffoe from W. Lanik (H&A of New York), RE: Roll-off confirmation sampling, January 17, 1994.

Letter to T. Caffoe from W. Hardison, RE: Revised groundwater sampling, March 3, 1994.

Letter to T. Caffoe from W. Hardison, RE: Disposition of containerized soils, March 21, 1994.

Letter to A. Mancini from T. Caffoe, RE: Approval of soil storage, April 18, 1994.

Letter to A. Mancini from T. Caffoe, RE: Comment on revised RI report, May 13, 1994.

Letter to T. Caffoe from L. Smith (H&A of New York), RE: Response to RI comments, May 31, 1994.

Letter to A. Mancini from T. Caffoe, RE: Approval of IRM upgrade work plan, June 20, 1994.

Letter to A. Mancini from T. Caffoe, RE: Comments on RI report, June 28, 1994.

Letter to A. Mancini from T. Caffoe, RE: Comments on RI report, August 11, 1994.

Letter to T. Caffoe from W. Hardison, RE: Response to RI comments, September 7, 1994.

Letter to A. Mancini from T. Caffoe, RE: FS comments, September 28, 1994.

Letter to T. Caffoe from W. Hardison, RE: Response to FS comments, October 24, 1994.

Letter to A. Mancini from T. Caffoe, RE: Approval of remedial investigation, October 26, 1994.

Letter to A. Mancini from T. Caffoe, RE: FS comments, December 2, 1994.

Letter to A. Mancini from W. Hardison, RE: Response to FS comments, December 19, 1994.

Letter to A. Mancini from T. Caffoe, RE: FS approval letter, January 25, 1995.