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Department of Environmental Conservation

Division of Environmental Remediation

(F)

Record of Decision

Rotron-Woodstock Site
Operable Unit No. 1
Town of Woodstock, Ulster County
Site Number 3-56-009

March 1997

New York State Department of Environmental Conservation

GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Operable Unit No. 1
Rotron-Woodstock Inactive Hazardous Waste Site
Town of Woodstock, Ulster County, New York
Site No. 356009

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for Operable Unit No. 1 of the Rotron-Woodstock 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 Operable Unit No. 1 of the Rotron-Woodstock Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. 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 (RI) for Operable Unit No. 1 of the Rotron-Woodstock site and the Interim Remedial Measure (IRM) currently underway, the NYSDEC has selected no further action other than continued operation, maintenance and monitoring of the remedial systems currently in place and continuation of the IRM, as the remedy for Operable Unit No. 1 of the site. The components of the remedy are as follows:

- Continuation of the IRM which includes:

  Groundwater Pump and Treat System(s) - It is required that Rotron, Inc. continue to operate bedrock groundwater recovery well RW-8 and the existing the Fernwood Garden Apartment Wells WR-6(1), WR-6(4), and WR-6(A) for plume control and groundwater remediation purposes until

such a time that Rotron related dissolved VOC concentrations in the bedrock groundwater have reached Class GA groundwater standards, to the extent feasible.

Extension of Public Water Supply - Rotron, Inc. and the Town of Woodstock have reached agreement for Rotron, Inc. to fund the extension of the public water supply to the residents whose wells are either impacted or threatened by the bedrock aquifer contaminated groundwater. ~~Service to the homes in the expanded water district must begin by the end of 1997.~~

Groundwater Monitoring Program - Until the installation of the municipal water supply extension is complete, Rotron has agreed to undertake an enhanced residential sampling program as outlined by the Ulster County Department of Health (UCDOH) and the NYSDOH.

- Bedrock monitoring wells MW-5 through MW-11, MW-16 and MW-20 through MW-27 are required to be monitored quarterly for a period of two years for EPA Method 8260 VOCs plus Freon 113.

- Data gathered during the ongoing OU2 RI will be used, where possible, to refine or confirm the hydrogeologic and hydrochemical conclusions of the OU1 RI Report.

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 preference for remedies that reduce toxicity, mobility, or volume as a principal element.

Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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RECORD OF DECISION

ROTRON-WOODSTOCK
OPERABLE UNIT No. 1
Town of Woodstock, Ulster County, New York
Site No. 356009
March 1997

SECTION 1: SITE LOCATION AND DESCRIPTION

The EG&G Rotron-Woodstock inactive hazardous waste site is located off Route 375 in the Town of Woodstock, Ulster County. The site is located on a 95 acre parcel, most of which is wooded and undeveloped. The property is surrounded by residential properties including apartment dwellings. Near the center of the EG&G Rotron property, a cluster of administrative and industrial buildings lie on a low hill. Surface drainage and shallow groundwater are controlled by topography. A low lying drainage area, referred to as a swale, lies along the western edge of the property. Water in the swale drains slowly toward off-site streams and is believed to also infiltrate and recharge an underlying sedimentary bedrock aquifer. See Figure 1.

Operable Unit No. 1 (OU1), which is the subject of this PRAP, addresses the bedrock groundwater to the west, south, southeast, and to the north of the Rotron, Inc. property. Bedrock groundwater to the east and to the northeast of the Plant 4 building on the Rotron facility, surface water and all remaining source areas on the Rotron facility will be addressed in the Operable Unit No. 2 (OU2) RI. See Figure 1.

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

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

EG&G Rotron manufactures special purpose air-moving devices and controls. As part of the manufacturing operations, solvents are used to degrease metal parts prior to application of paint or epoxy or in preparation for other processing steps. From the mid-1960s to 1976, the solvent trichloroethene (TCE) was used as the degreaser. Since then, the solvent 1,1,1-trichloroethane (TCA) has been used instead of TCE. Freon 113 was also used intermittently for ultrasonic cleaning from the mid-1960s until 1992. These solvents are volatile organic compounds (VOCs). Over time, spent solvents have entered soils under the site due to spills and discharges from the septic system and impacted groundwater both on and off of the site.

2.2: Remedial History

Investigations conducted in 1982 identified several areas where VOCs were released to the environment. These areas included a drain and former drywell associated with the C-1 Building, the site septic system and sand filter bed, and various locations around the plant where spills occurred. The drywell and surrounding gravel have been removed and the septic system was cleaned prior to 1982.

Beginning in 1982, Rotron, Inc. provided granular activated carbon (GAC) filtration units to residences and the Fernwood Garden Apartment complex, whose wells have been impacted above drinking water standards by the contaminated groundwater. Sampling of private residential wells has occurred since 1982. TCE is the primary contaminant of concern and in the last two years has been detected at concentrations up to 720 parts per billion in wells between the western edge of the Rotron property and Jones Quarry Road. Currently there are 12 residences and the Fernwood Garden Apartment complex which have GAC filtration units connected to their water supplies. Appendix B and C1 of the RI report provide complete residential well sampling results.

In 1985, soil investigations were conducted in the swale, in the open area between Buildings 4 and 7, and along the discharge line to the former drywell. The studies identified approximately 1,500 cubic yards of VOC contaminated soils in the swale and near Building 7. In addition, dissolved TCE and TCA were detected in shallow groundwater migrating toward the swale and downward into the deeper bedrock aquifer.

Late in 1985, VOC contaminated soils were remediated through on-site volatilization and a groundwater extraction well system was installed to remove and treat perched groundwater in the overburden soils. Small quantities of contaminated groundwater continue to be extracted and treated using an air stripper and activated carbon and discharged to the swale under a State Pollution Discharge Elimination System permit.

The site has been designated a Class 2 in the New York State Registry of Inactive Hazardous Waste Disposal Sites. Class 2 sites have been determined by the New York State Department of Environmental Conservation (NYSDEC) to pose a significant threat to human health and/or the environment and action is required.

In 1994, it was determined that the previous remedial measures performed at the site were not sufficient to address the continuing threat to public health and the environment from the contaminated groundwater and that sources of VOC contaminated soils likely remained on site. The NYSDEC and Rotron, Inc. entered into discussions to reach agreement on completing the remediation needed at the site.

SECTION 3: CURRENT STATUS

Since there is a continuing threat to public health and the environment from contaminated groundwater, Rotron, Inc. agreed to conduct the RI to determine the nature and extent of contamination and to evaluate additional remedial alternatives. Work on the RI began in November 1995 with NYSDEC oversight and approvals.

To expedite the installation of a public water supply extension to the affected residential area and cleanup of the VOC contaminated bedrock aquifer, the NYSDEC agreed to define the site to include two operable units. OU1 addresses bedrock groundwater to the west, south, southeast, and to the north of the site. OU2 will address remaining on-site contaminant sources in shallow groundwater and soils, surface water, and bedrock groundwater to the east and to the northeast of the Plant 4 building. These operable units are used to separate this site into distinct, manageable areas where each area may require a different remedy. Establishment of the two units will allow the remediation of groundwater in OU1 to proceed independent of the investigation of OU2.

The OU2 investigation is ongoing. As of March 1997, potential contaminant source areas in the vicinity of Plant 4 and the old scrap dump have been investigated, an extensive soil gas survey has been conducted over a large area of the site, and an additional bedrock monitoring well has been installed. It is expected that the OU2 field investigation will be completed by late Summer, 1997 and an OU2 Remedial Investigation draft report submitted in the Fall, 1997.

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of OU1 groundwater contamination resulting from previous activities at the site.

The RI was conducted between **December, 1995 and December, 1996.** A report entitled **Remedial Investigation Report, Rotron, Inc. Woodstock Facility, Woodstock, New York - December, 1996** has been prepared describing the field activities and findings of the RI in detail.
The OU1 Groundwater RI included the following activities:

- All available existing historical groundwater data was gathered to determine impacts and changes.
- A Fracture Trace Analysis task to define fractures in bedrock was completed.
- Six new overburden (soil) and seven new bedrock aquifer monitoring wells have been installed.
- A focused aquifer evaluation was completed to determine the pumping capacity of the bedrock aquifer near the site.
- Three rounds of groundwater samples from the pre-existing wells and two rounds of samples from the new wells have been collected and analyzed for VOCs and field parameters.

The Rotron facility is situated on a drumlin shaped hill composed of silty clay till soils, commonly referred to as overburden, overlying bedrock. The thickness of the till varies from approximately 10 feet to 93 feet. There is a perched water table in the upper portions of the till and there is some limited downward vertical migration of groundwater. The fractured bedrock aquifer is composed of interbedded shale and greywacke rock. Two near-vertical fracture clusters were identified on site which allows precipitation to infiltrate the bedrock and recharge the aquifer. The fractured bedrock aquifer is used as a primary residential drinking water source in the immediate vicinity of the site. There are also three operating production wells drawing from the bedrock aquifer on the Rotron facility.

Undisturbed bedrock groundwater would normally flow from the west to the east/northeast across the site area. However, as a result of the pumping of groundwater from the bedrock aquifer by residential and Fernwood Garden Apartment wells to the west of the site, natural groundwater elevations are lowered and flow is locally reversed. Contaminants were detected in both overburden and bedrock monitoring wells.

To determine whether groundwater continues to contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater and drinking water SCGs identified for the Rotron-Woodstock site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code.

Based upon the review of the results from the remedial investigation in comparison to the SCGs and potential public health exposure routes, OU1 groundwater requires remediation. The results are summarized below. More complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb). For comparison purposes, SCGs are given for each medium.

3.1.1 Nature of Contamination:

The most commonly detected contaminant of concern associated with the Rotron-Woodstock Site is trichloroethene (TCE). TCE is a colorless, man-made liquid which is used as a solvent for removing grease from metal. It generally gets into drinking water by improper waste disposal. TCE causes cancer in laboratory animals exposed at high levels over their lifetimes. Whether or not TCE causes cancer in humans is unknown. Some humans exposed to large amounts of this chemical have had nervous system, liver, and kidney damage. Other contaminants include 1,1,1-trichloroethane (TCA), Freon 113, 1,2-dichloroethene (1,2-DCE) and 1,1-dichloroethane (1,1-DCA). All of these contaminants are volatile organic compounds (VOCs).

As described in the RI Report, samples were collected from monitoring wells on and off-site to characterize the nature and extent of contamination in groundwater. Samples were also collected from streams on the Rotron property. All samples were analyzed for VOCs by EPA method 8260 plus Freon 113 by a NYS-certified laboratory. All data was reviewed by an independent data validator and necessary qualifications to the data were noted in the data tables. Temperature, pH, specific conductance, turbidity and dissolved oxygen were measured in the field. The NYSDEC also collected split samples for independent verification of the analytical data presented in the RI report.

3.1.2 Extent of Contamination

Table 1 summarizes the extent of contamination in groundwater and compares the data with the proposed remedial action levels (SCGs) for the site. The following is a summary of the findings of the OU1 groundwater investigation.

In the overburden groundwater, TCE was detected in monitoring well MW-3 at 6,100 ppb, MW-13 at 120 ppb, MW-18 at 560 ppb and RW-6 at 1,200 ppb. TCA was detected in MW-3 at 82 ppb, MW-13 at 3,500 ppb, and MW-12B at 200 ppb. 1,1- DCA was detected in MW-13 at 250 ppb, MW-12B at 110 ppb and elsewhere on site. 1,2-DCE was detected in MW-3 at 400 ppb, MW-14 at 18 ppb, MW-16R at 9 ppb, and

elsewhere. Freon 113 was detected in MW-12A at 1200 ppb, MW-12B at 180 ppb, MW-13 at 150 ppb and elsewhere on site. 1,1-DCE was detected in MW-13 at 90 ppb. The NYS Class GA groundwater standard for all of these compounds is 5 ppb. See Figure 2 for a graphical representation of the TCE contamination in the overburden groundwater.

In the bedrock aquifer, the highest TCE concentrations were found in bedrock groundwater recovery well RW-8, on the Rotron property, at 890 to 1,400 parts per billion (ppb) and in monitoring well MW-16 at 220 ppb. Both of these wells are located in the swale area on the western side of the Rotron property. TCE concentrations in the off-site portion of the bedrock aquifer plume range from trace levels (1 to 5 ppb) to 720 ppb in recent years. Freon 113 was detected in RW-8 from 8 to 50 ppb. Vinyl chloride was detected in RW-8 at trace amounts (3 ppb). Based on this data, the extent of the VOC plume in the OU1 bedrock groundwater aquifer was determined. The OU1 bedrock groundwater plume boundaries are depicted in Figure 3.

3.2 Interim Remedial Measures:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

An IRM Work Plan was submitted in early August of 1996 to the NYSDEC for review. After a public meeting, a revised IRM work plan was submitted in September of 1996 and approved by the NYSDEC. Rotron, Inc. has implemented the following IRM to address groundwater contamination in the vicinity of the site.

- Groundwater Pump and Treat System - A bedrock groundwater extraction well, RW-8, was installed in the north-south trending fracture system extending along the western edge of Rotron's property. Results of an aquifer pump test performed on this well indicate that pumping this well will substantially contain VOC migration. See Figure 4. On a pilot test basis, this well was connected on July 25, 1996 to the existing groundwater treatment system which has been modified to accommodate the increased flow. The pilot test was completed successfully and RW-8 is now fully operational. Continued operation of well RW-8 is believed to provide contaminant source control in the swale area, preventing further contaminants from entering the OU1 bedrock aquifer plume. An engineering evaluation of the modified treatment system has been completed and has determined that water and air discharge limitations are being met. Monthly monitoring of the treatment system is required.

- Maintenance of Existing Groundwater Pumping Wells - As a component of the approved IRM work plan, Rotron, Inc. is to continue to operate for a period of time existing extraction wells and treatment systems, such as those at the Fernwood Garden Apartments, after the public water extension is completed. This will contain VOC plume migration and address the potential for outlying portions of the existing plume to pass either north or south of the limits of influence of RW-8.

- Extension of Public Water Supply - Rotron, Inc. and the Town of Woodstock have reached agreement for Rotron, Inc. to fund the extension of the public water supply to affected residents. Approximately 42 properties are in this expanded service area. The water will come from the

existing Town of Woodstock water district supply wells. A study by the Town of Woodstock's engineer determined that there is sufficient capacity and pressure in the existing water supply system to supply water to the expanded service area. Rotron, Inc. will also fund the installation of the service line from the new water main and the connection to existing plumbing in the individual homes, as well as the disconnection and proper disposal of the existing GAC filtration units in the homes. Service to the homes in the expanded water district must begin by the end of 1997. Operation, maintenance and water usage costs will be the responsibility of the water district and their customers. Figure 5 delineates the expanded service area.

- Groundwater Monitoring Program - Until the installation of the municipal water supply extension is complete, Rotron has agreed to undertake an enhanced residential sampling program as outlined by the Ulster County Department of Health (UCDOH) and the NYSDOH. The residences included in this sampling program are identified in Figure 4 of the IRM Work Plan dated July 1996. This sampling program is underway.

  Based on the agreements between Rotron, Inc. and a group of local residents known as the Citizens for Clean Water (CCW), after the installation of the water supply extension, groundwater will continue to be monitored at a number of residences along the perimeter of the expanded water district for a period of two years on a quarterly basis. The residences included in this sampling program make up the Rebuttable Presumption Zone (RPZ). The specific residences are identified as properties 1 through 19 in Figure 5 of this document.

  The agreements are reported to state that should VOCs be detected in any of the numbered properties identified on Figure 5, those home will be resampled immediately and temporarily provided with bottled water. If VOCs are found in the resampling event, a carbon filtration unit will be provided. If VOCs continue to be detected for a period of up to one year, Rotron will fund the connection of those homes to the water supply district if it is demonstrated that Rotron is responsible for the contamination. Rotron reserves the right to rebut the presumption, based on the location of the residence that the Rotron VOC groundwater plume has caused the problem. In such a rebuttal, Rotron shall consider the chemical "fingerprint", groundwater flow direction, geology and hydrogeology, proximity to the spill zone and other relevant factors. For further information on the RPZ, please refer to the IRM Work Plan.

3.3 Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 7 and Appendix K of the RI Report.

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are: 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. The elements of an exposure pathway may be based on past, present, or future events. Pathways which were evaluated at the site include:

- Ingestion of VOC contaminated groundwater may occur if granular activated carbon (GAC) units did not exist or fail on private water supplies which have contaminated bedrock drinking water wells. In the future, municipal water will be available to residences with impacted or threatened water supplies, which will eliminate this potential pathway.

- Inhalation of VOCs through the migration of gaseous VOCs from the groundwater plume into excavations or basements was evaluated. Shallow soil gas monitoring adjacent to homes over the most contaminated portion of groundwater plume show no evidence of VOC migration into shallow soils. Therefore, exposures in buildings to gaseous VOCs from the groundwater plume are not anticipated. In addition, health affects on day laborers who may be exposed to low concentrations of gaseous VOCs are not expected based on the concentrations identified in the area groundwater.

3.4 Summary of Environmental Exposure Pathways:

Environmental exposure pathways and potential impacts from the site to fish and wildlife resources will be evaluated in the OU2 Remedial Investigation.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The NYSDEC and Rotron, Inc. entered into a Consent Order on December 18, 1995. The Order obligates the responsible parties to implement a full remedial program.

SECTION 5: SUMMARY OF THE SELECTED ALTERNATIVE

The selected remedy for any site should, at a minimum, eliminate or mitigate all significant threats to the public health or the environment presented by the hazardous waste present at the site. The State believes that the groundwater remediation system now in place for the OU1 groundwater (provided that it continues to be operated and maintained in a manner consistent with the design), the extension of the public water supply, and the enhanced groundwater monitoring program, which are described in Section 3.2, will accomplish this objective.

Based upon the results of the RI, previous investigations and the IRM that is underway at the site, the NYSDEC is selecting no further action other than continued operation, maintenance and monitoring of the remedial systems currently in place, as the remedy for Operable Unit No. 1 of the site. The components of the remedy are as follows:

- Continuation of the IRM which includes:

  Groundwater Pump and Treat System(s) - It is required that Rotron, Inc. continue to operate bedrock groundwater recovery well RW-8 and the existing the Fernwood Garden Apartment Wells WR-6(1), WR-6(4), and WR-6(A) for plume control and groundwater remediation purposes until such a time that Rotron related dissolved VOC concentrations in the bedrock groundwater have reached Class GA groundwater standards, to the extent feasible. If asymptotic, or steady state,

concentration levels above Class GA groundwater standards are reached, Rotron, Inc. and the NYSDEC will jointly decide to terminate further pumping. It is anticipated that RW-8 will require approximately two years of continuous pumping and that the Fernwood Garden Apartment wells will require approximately six months of pumping after the termination of other residential pumping.

Extension of Public Water Supply - Rotron, Inc. and the Town of Woodstock have reached agreement for Rotron, Inc. to fund the extension of the public water supply to affected residents. Approximately 42 properties are in this expanded service area. Rotron, Inc. will also fund the installation of the service line from the new water main and the connection to existing plumbing in the individual homes, as well as the disconnection and proper disposal of the existing GAC filtration units in the homes. Service to the homes in the expanded water district must begin by the end of 1997.

Groundwater Monitoring Program - Until the installation of the municipal water supply extension is complete, Rotron has agreed to undertake an enhanced residential sampling program as outlined by the Ulster County Department of Health (UCDOH) and the NYSDOH. The residences included in this sampling program are identified in Figure 4 of the IRM Work Plan dated July 1996.

- Bedrock monitoring wells MW-5 through MW-11, MW-16 and MW-20 through MW-27 are required to be monitored quarterly for a period of two years for EPA Method 8260 VOCs plus Freon 113. The program will be reevaluated after two years to determine any necessary further monitoring requirements. This procedure will verify that the groundwater pump and treat systems are effective.

- Data gathered during the ongoing OU2 RI will be used, where possible, to refine or confirm the hydrogeologic and hydrochemical conclusion of the OU1 RI Report. Detections of VOCs in monitoring well MW-12B necessitates installation of additional monitoring wells near the Plant 4 building and to the east and northeast of this building. This work will be performed as part of the ongoing OU2 RI.

The site will remain classified as a Class 2 site in the New York State Registry of Inactive Hazardous Waste Disposal Sites. The Department can reclassify the site from a Class 2 to a Class 4 once all operable units associated with the site are remediated. A Class 4 designation means the site has been properly remediated, and/or all remediation systems are operating properly and only continued management is necessary.

SECTION 6: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established at the Woodstock Library.

- A site mailing list was established which included nearby property owners, local elected officials, local media and other interested parties. Project fact sheets and updates were sent out periodically using the mailing list.

- Public meetings to discuss the remedial investigation and interim remedial program were conducted on August 15, 1995, November 30, 1995, and August 8, 1996.

- Project Progress Reports and site related reports and documents associated with the remedial program being conducted at the site were placed in the document repository.

- On February 12, 1997 a public meeting to present the Proposed Remedial Action Plan (PRAP) was conducted. A public comment period on the PRAP extended from January 29, 1997 to February 28, 1997.

- In March 1997 a Responsiveness Summary, to address the comments received at the PRAP public meeting, was prepared and made available to the public.

Table 1
Operable Unit No. 1
Rotron-Woodstock Site # 366009
Nature and Extent of Contamination in the Shallow and Bedrock Groundwater

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCs)	Trichloroethylene (TCE)	ND to 6100	19 of 42	5
		1,1,1-Trichloroethane (TCA)	ND to 3500	9 of 42	5
		1,1-Dichloroethane (1,1-DCA)	ND to 250	6 of 42	5
		1,2-Dichloroethene (1,2-DCE)	ND to 400	10 of 42	5
		Freon 113	ND to 1200	5 of 42	5

ppb - parts per billion
SCGs - Standards, Criteria, and Guidance Values
ND - Non-detect

Appendix C of the Remedial Investigation (RI) Report provides a more detailed presentation of the RI data base in table format. These data base tables will be updated after each quarterly sampling event and submitted to the NYSDEC for review. The updated data base tables are available for review by the public.

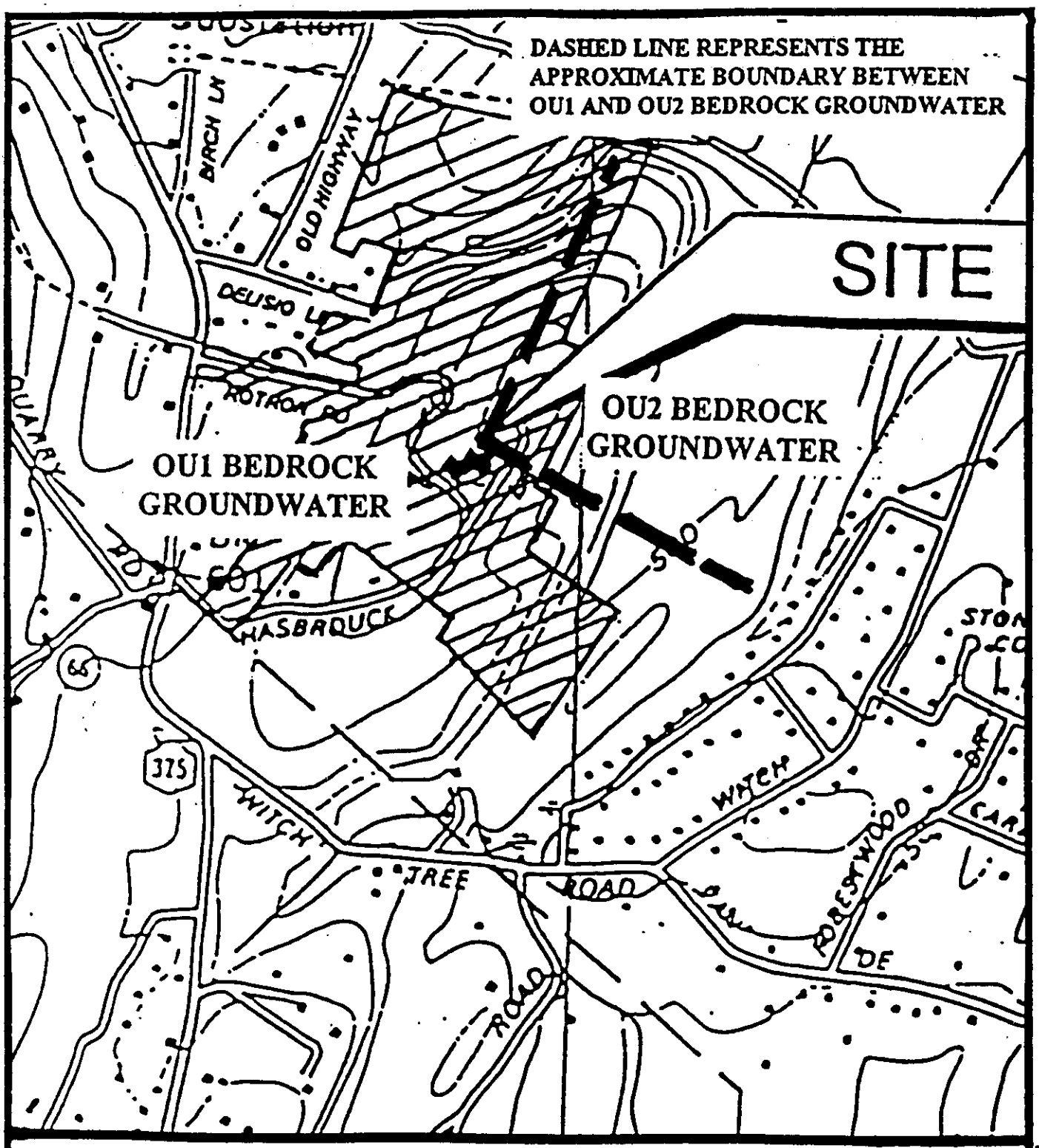
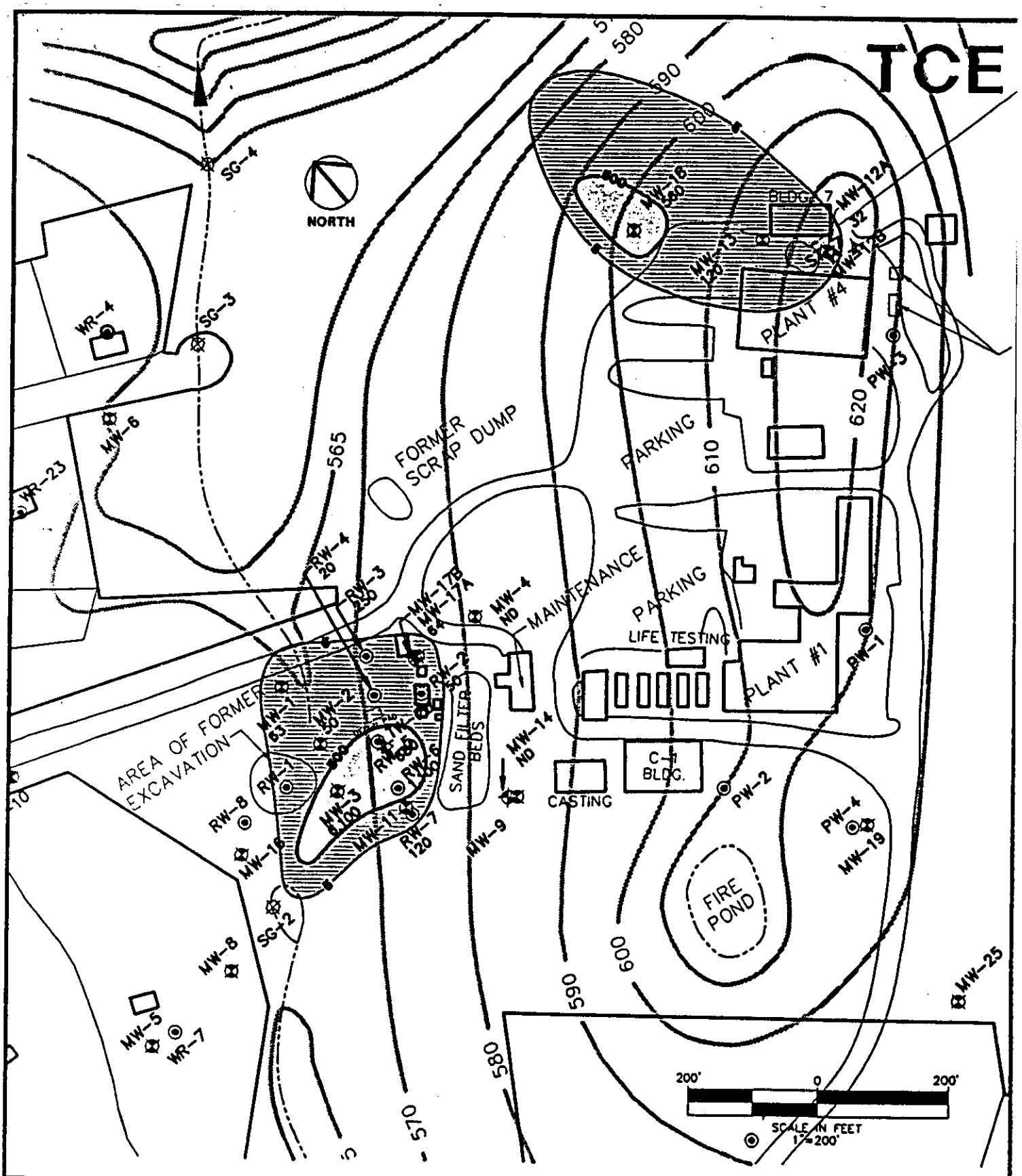


FIGURE 1

SITE & BEDROCK GROUNDWATER OPERABLE UNIT
LOCATION MAP

ROTRON-WOODSTOCK SITE
I.D. No. 356009



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ROTRON - WOODSTOCK SITE

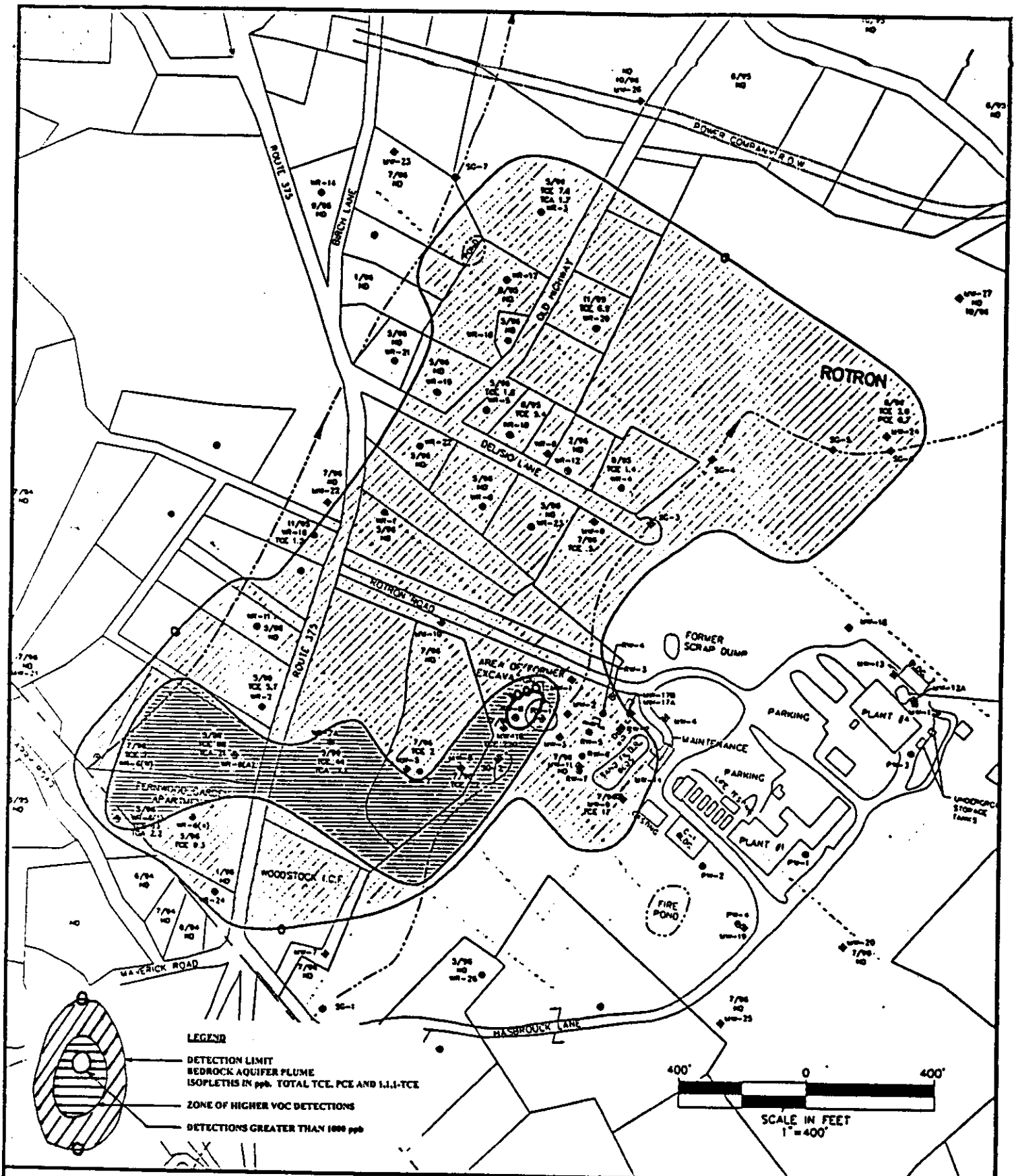
DISSOLVED TCE PLUME IN OVERBURDEN

WOODSTOCK, ULSTER COUNTY, NEW YORK

sheet no.
Figure 2

date
12/23/95

project no.
49531-00



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ROTRON-WOODSTOCK SITE

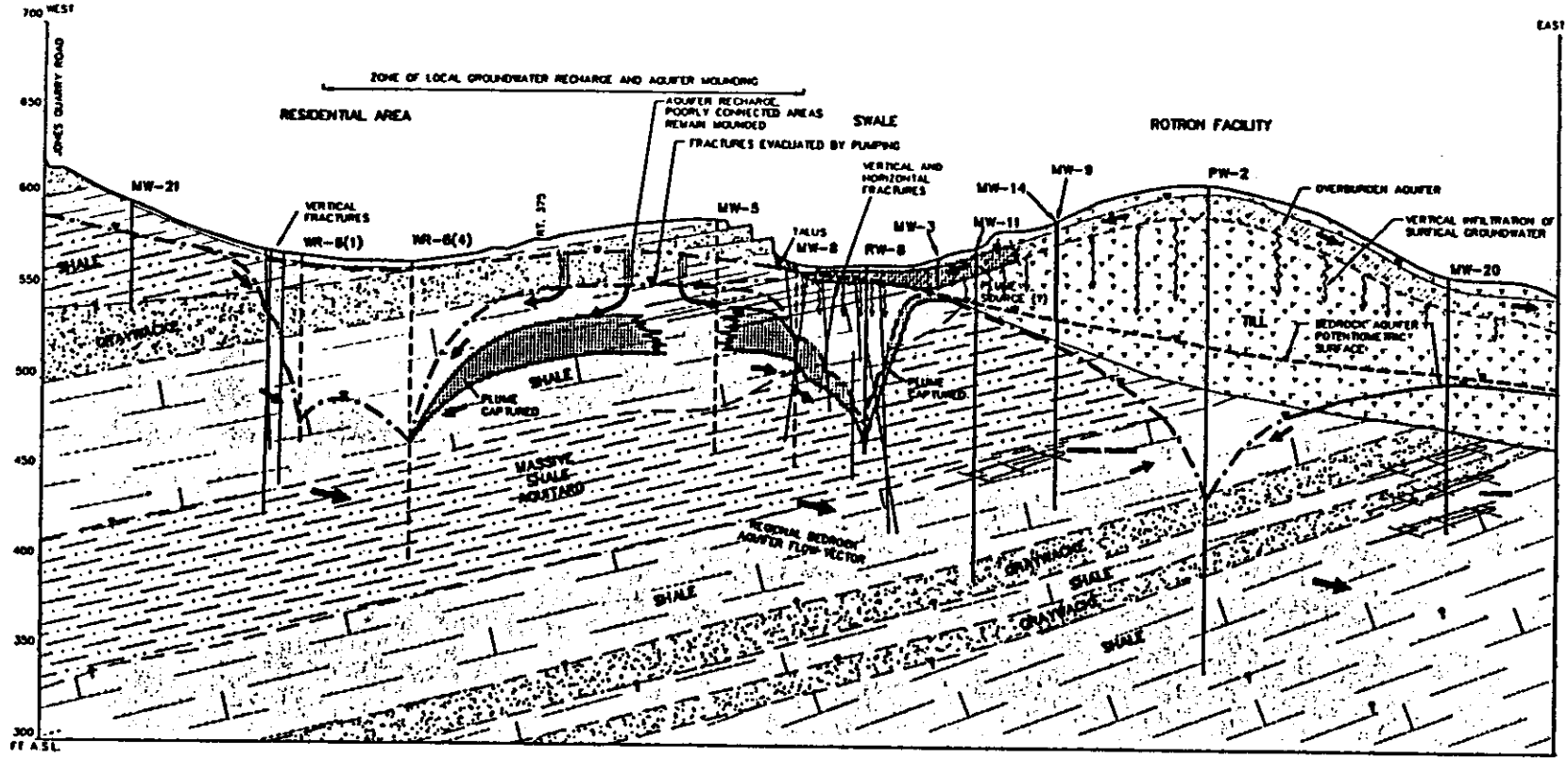
BEDROCK PLUME BOUNDARY

WOODSTOCK, ULSTER COUNTY, NEW YORK

sheet no.
Figure 3

date
12/23/96

project no.
49531-00



Horizontal Scale: 1" = 400'

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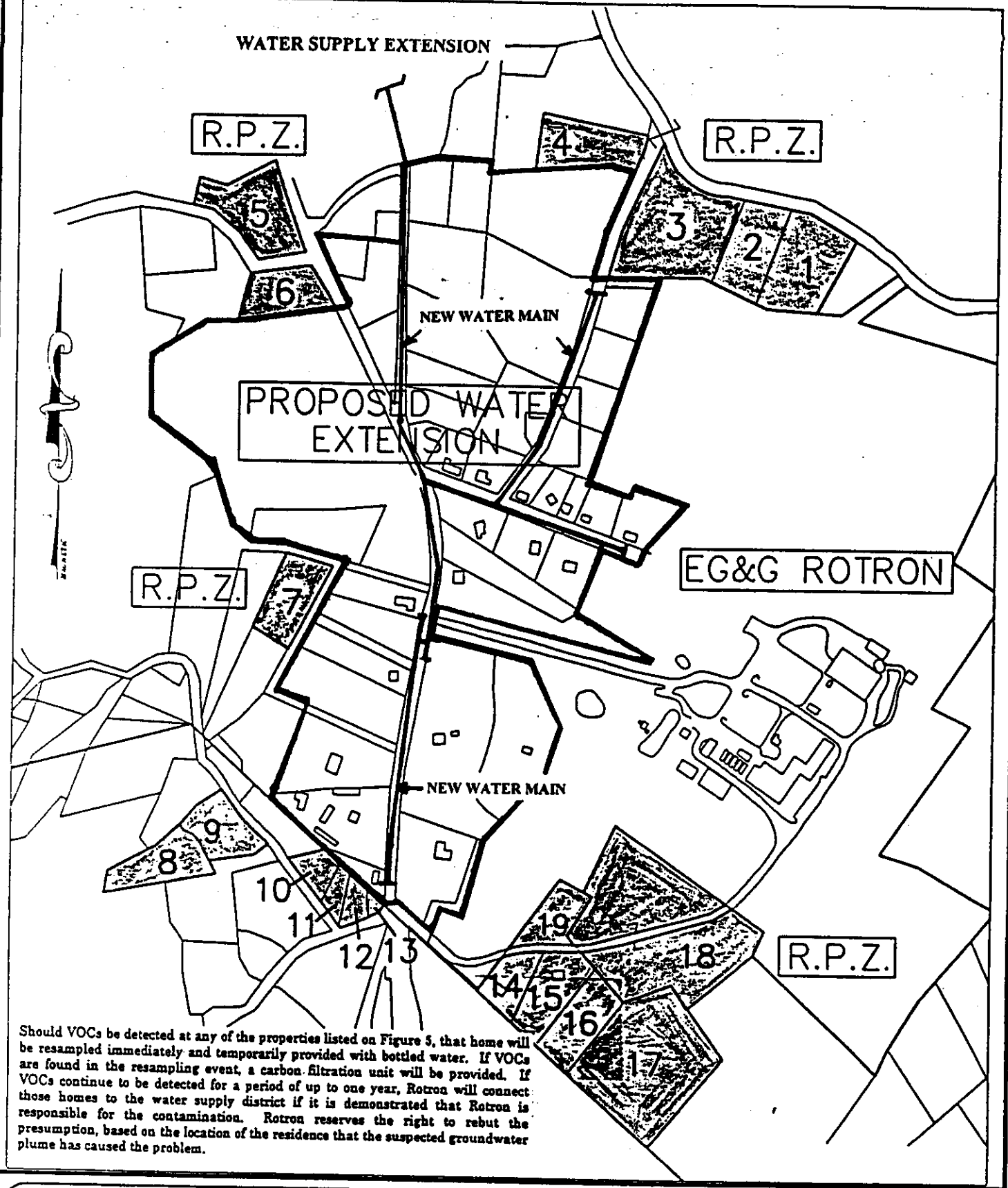
ROTRON - WOODSTOCK SITE

PLUME CAPTURED BY RW-8 AND RESIDENTIAL PUMPING

WOODSTOCK, ULSTER COUNTY, NEW YORK

sheet no. Figure 4
date 12/23/96
project no. 49531-00



Should VOCs be detected at any of the properties listed on Figure 5, that home will be resampled immediately and temporarily provided with bottled water. If VOCs are found in the resampling event, a carbon filtration unit will be provided. If VOCs continue to be detected for a period of up to one year, Rotron will connect those homes to the water supply district if it is demonstrated that Rotron is responsible for the contamination. Rotron reserves the right to rebut the presumption, based on the location of the residence that the suspected groundwater plume has caused the problem.

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ROTRON - WOODSTOCK SITE

PROPOSED WATER DISTRICT BOUNDARIES AND REBUTTABLE PRESUMPTION ZONE (R.P.Z.)

(Properties numbered 1 through 19)

WOODSTOCK, ULSTER COUNTY, NEW YORK

Figure 5

12/23/96

49531-00

APPENDIX A
RESPONSIVENESS SUMMARY
OPERABLE UNIT No. 1
ROTRON-WOODSTOCK INACTIVE HAZARDOUS WASTE SITE
I.D. NO. 356009

The issues addressed below were raised during a public meeting conducted by the New York State Department of Environmental Conservation (NYSDEC) in conjunction with the New York State Department of Health (NYSDOH) and the Ulster County Health Department (UCHD). The meeting was held on February 12, 1997 at the Woodstock Community Center, Woodstock, New York. The purpose of the meeting was to present the Proposed Remedial Action Plan (PRAP) for Operable Unit No.1 of the site and receive comments on the PRAP for consideration during the final remedy selection. The public comment period for the PRAP extended from January 29, 1997 to February 28, 1997.

I. Questions Related to the Remedial Investigation Findings:

1. **In reference to Figure 4 of the PRAP, what is the direction of bedrock groundwater flow?**

Under non-stressed bedrock aquifer conditions, without groundwater pumping or returns, the predominant groundwater flow within the bedrock aquifer is expected to be in a eastward or northeastward direction. Due to pumping from wells located both on the Rotron property and to the west of the Rotron property, natural groundwater elevations have been lowered and the bedrock flow direction has been locally reversed, allowing site related contaminants to move westward in the bedrock aquifer. Figure 4 of the PRAP is a west to east cross section of the bedrock aquifer and is designed to graphically explain current bedrock groundwater conditions and the effect that recovery well RW-8 will have in preventing further contaminant migration to the west. The Remedial Investigation (RI) Report discusses this issue in much more detail and Figures 10(A), 10(B) and 10(C) of the RI Report present conceptual hydrogeologic cross sections for the site.

2. **Has the full extent of the Operable Unit No. 1 bedrock aquifer contamination been determined?**

Yes. This is based on up to three rounds of sampling data from each of the bedrock monitoring wells. Operable Unit No. 1 (OU1) includes bedrock groundwater to the west, south, southeast, and to the north of the Rotron property. Bedrock groundwater to the east and to the northeast of the Rotron property will be addressed in the ongoing Operable Unit No. 2 RI for the site. The extent of the OU1 bedrock groundwater contamination is depicted in Figure 3 of the Record of Decision and Figure 11 of the OU1 RI Report.

3. **Please explain Table 1 of the PRAP?**

Table 1 is a very brief summary of the groundwater sampling data obtained from all the shallow and bedrock monitoring wells during the OU1 RI. The five primary contaminants of concern are listed, the range of detections for each contaminant based on the complete sample data base, the frequency of exceeding the standards, criteria and guidance value (SCGs) for that contaminant, and the SCG for each contaminant. Appendix C of the RI Report provides a more detailed presentation of the RI data base in table format. These data base tables will be updated after each quarterly sampling event and submitted to the NYSDEC for review. The updated data base tables are available for review by the public.

4. **Why is only trichloroethene (TCE) depicted in Figure 2 of the PRAP? Why not include other site contaminants of concern, such as Freon 113 and trichloroethane (TCA)?**

TCE is the primary contaminant of concern for the site. Figure 12 of the RI Report provides separate concentration distributions (or plumes) for TCE, Freon 113, and TCA in the shallow overburden groundwater. Each are similar in nature, so only the TCE plume was presented in the PRAP.

II. Questions Related to Public Health:

1. **The residents of No. 5 Birch Lane asked why they are no longer being sampled?**

The private well at this location has been sampled in the past and no contaminants have been detected. In addition, recently installed monitoring wells MW-23 (off Birch Lane) and MW-26 (off the Old Highway at the Power Company Right-Of-Way) are located upgradient or between this property and the bedrock plume boundary. Site related contaminants have not been detected in either of these monitoring wells. Therefore, continued sampling of the private well at No. 5 Birch Lane is not warranted. The health departments will continue to review groundwater sampling data to determine whether groundwater conditions are remaining stable.

2. **How does the Rebuttable Presumption Zone (RPZ) work?**

Based on the agreements between Rotron, Inc. and the members of the Citizens for Clean Water (CCW), after the installation of the water supply extension, groundwater will continue to be monitored at a number of residences along the perimeter of the expanded water district for a period of two years on a quarterly basis. The residences included in this sampling program make up the Rebuttable Presumption Zone (RPZ).

The specific residences are identified as properties 1 through 19 in Figure 5 of the Record of Decision.

Although the actual agreements have remained confidential between Rotron, Inc. and the members of the CCW, they are reported to state that should VOCs be detected in any of the numbered properties identified on Figure 5, those home will be resampled immediately and temporarily provided with bottled water. If VOCs are found in the resampling event, a carbon filtration unit will be provided. If VOCs continue to be detected for a period of up to one year, Rotron will fund the connection of those homes to the water supply district if it is demonstrated that Rotron is responsible for the contamination. Rotron reserves the right to rebut the presumption, based on the location of the residence that the Rotron VOC groundwater plume has caused the problem. In such a rebuttal, Rotron shall consider the chemical "fingerprint", groundwater flow direction, geology and hydrogeology, proximity to the spill zone and other relevant factors.

3. **Is there any problem with planting a garden in the shallow soils on properties surrounding the Rotron property due to the Rotron related on-site contamination and groundwater contamination?**

No. Shallow soil gas samples were collected adjacent to residences and buildings to the west of the Rotron, Inc. property. No contaminants of concern were detected in these samples. Please refer to Section 6 of Appendix K - Human Health Risk Assessment of the RI Report for further information.

III. Questions Related to the Extension of Public Water to the Affected Area:

1. **Why is No. 7 Birch Lane included in the expanded water district?**

Certain residences, which are adjacent to residences whose wells have shown detection of contaminants of concern in the past, have been included in the expanded water district boundaries as a precautionary measure. No. 7 Birch Lane is one of these adjacent residences. See Question No. 4 below for further information on this matter.

2. **The residents of No. 5 Birch Lane asked if a curb box could be installed in the water line where it exits the golf course and whether they could be included in the expanded district's service area?**

It was indicated that curb boxes (or corporation stops) could be done at any time and would be considered during the Phase 2 design. Phase 2 of the project is the design and construction of the water main distribution system in the expanded district service area.

The Town of Woodstock's supervisor indicated that the water district could consider servicing homes outside the boundaries of the expanded water district, but that those residents can not expect Rotron to pay for this service and they would be responsible for the cost of the service line to their home.

3. **When will the construction of Phase 2 of the Town of Woodstock public water extension be completed?**

The Town of Woodstock's engineers have estimated the completion date for the construction to be in late July 1997. Phase 3 of the project will be the installation of the service lines from the street water main to individual homes and the necessary modifications to internal plumbing. The Record of Decision stipulates that service to all homes in the expanded water district begin by the end of 1997.

4. **Why are certain homes that are outside the bedrock plume boundary depicted in Figure 3 of the PRAP included in the area of the expanded water district?**

Figure 3 depicts the bedrock plume boundary based on data from 1996 private well and monitoring well sampling events. Historically there have been detections of volatile organic compounds (VOCs) in residential wells that now show no detections of VOCs. Some of these residences are located outside the current bedrock plume boundaries. Based on a review of the historical data, the UCHD determined it would be appropriate that these residents and residents immediately adjacent to them be included in the expanded water district boundaries as a precautionary measure.

IV. Questions Related to the Operation, Maintenance and Monitoring (OM&M) Program:

1. **What oversight will the NYSDEC provide after the Record of Decision is released for Operable Unit No. 1 and the project is in the OM&M phase?**

As a condition of the Order on Consent, Rotron is required to submit monthly progress reports to the NYSDEC for review. These reports are to provide the monthly sampling data from the groundwater treatment system, the quarterly groundwater monitoring well sampling results, and a description of actions which have been taken during the previous month, at a minimum. The NYSDEC will conduct periodic inspections of the groundwater treatment system at the site and may collect split samples with Rotron's consultant. There is also an annual review process which the NYSDEC conducts internally for all sites. The NYSDEC will continue to oversee the remedial activities at the site until such a time that the site is delisted from the registry of Inactive Hazardous Waste Disposal Sites in New York State. The site can not be delisted until all operable units associated with the site are remediated.

2. **What will be the health departments' role be during the OM&M phase?**

The Ulster County Health Department and the NYS Health Department will continue to receive all data associated with the sampling of residential wells in the RPZ for review. They have also indicated that they may collect split residential well samples with Rotron's consultant periodically. The NYS Health Department will also conduct an annual review of the site data and reports until such a time the site is delisted.

V. Miscellaneous Questions:

1. **Is there any possible impact to the trees that surround the Rotron property due to the groundwater VOC contamination?**

The dissolved VOCs in the bedrock groundwater aquifer are at levels which would not be expected to impact tree growth or health. During numerous site visits, NYSDEC staff did not observe any obvious impacted or stressed trees or vegetation which could not be attributed to more obvious reasons than the dissolved VOC concentrations in groundwater. The ongoing Operable Unit No. 2 Remedial Investigation will address this issue further and the report will be reviewed by a NYSDEC - Division of Fish & Wildlife biologist.

APPENDIX B
ADMINISTRATIVE RECORD
OPERABLE UNIT NO. 1
ROTRON-WOODSTOCK SITE NO. 356009

A. Reports and Work Plans

Proposed Investigative Program for Rotron Incorporated Custom Division, Woodstock, New York - July 1982 by EG&G Environmental Consultants.

Design and Construction Specifications for Monitoring Wells, EG&G, Inc., Woodstock, New York - August 1982 by EG&G Environmental Consultants.

Analytical Results for Groundwater and Soil Samples from the Rotron Site and Surrounding Properties, April 1 to November 2, 1982 by EG&G Environmental Consultants - December 1982.

Phase I Investigation Rotron, Inc. Woodstock, New York by Wehran Engineering for NYSDEC - November 1983.

Investigative Program for Rotron, Inc., Custom Division Woodstock - Draft Report by EG&G WASC Oceanographic Services - April 1985.

Summary of Woodstock Soil Clean-Up, EG&G Rotron, Inc., Woodstock, New York. August 14 through September 9, 1985 by EG&G Rotron - March 1986.

Photographs documenting EG&G Rotron Woodstock Soil Remediation assembled by The Chazen Companies.

Investigative Program for Rotron Incorporated Custom Division, Woodstock, Ulster County, New York by EG&G Washington Analytical Services Center, Inc. - June 1985.

Submittal of a Groundwater Treatment Program, EG&G Rotron, Woodstock Facility, Woodstock, New York June 1986 by Groundwater Technology, Inc.

Plans And Specifications, Groundwater Treatment Program, EG&G Rotron, Woodstock, New York - September 1986 by Groundwater Technology, Inc.

Installation Report for Multi-Well Pumping and Treatment System, EG&G Rotron, Woodstock, New York - May 1987 by Groundwater Technology, Inc.

Annual Groundwater Report, January 1987 through February 1988, EG&G Woodstock Facility by Groundwater Technology, Inc., December 1988. (2 volumes)

Work Plan for Soil Removal and Treatment, EG&G Rotron, Woodstock, New York - July 1985 by O.H. Materials.

Annual Ground Water Report January 1987 through February 1988 EG&G Rotron - Woodstock Facility - Reissued December 1988 by Groundwater Technology, Inc.

Remedial Investigation Work Plan, EG&G Rotron Woodstock Facility, Woodstock-New York - September, 1995 prepared by The Chazen Companies.

Draft Feasibility Study for Extending the Woodstock Water District to the NYS Route 375/Birch Lane/Delisio Lane Area, Town of Woodstock, Ulster County, New York - February 1996 (Revised March 19, 1996) prepared by Brinnier and Larios, P.C.

Aquifer Pump Test, EG&G Rotron Woodstock Facility, Woodstock, New York - June 1996 prepared by The Chazen Companies.

Operable Unit #1 Groundwater Interim Remedial Measures Work Plan, EG&G Rotron Woodstock Facility, Woodstock, New York - July 1996 prepared by The Chazen Companies.

Groundwater Treatment Facility Rotron, Inc. Woodstock Facility, Woodstock, New York - December, 1996 prepared by The Chazen Companies

Inactive Hazardous Waste Disposal Site #3-56-009 Operable Unit #1 Remedial Investigation Report, Rotron, Inc. Woodstock Facility, Woodstock, New York - December 1996 (main text plus three volumes of appendices) prepared by The Chazen Companies (approved by the NYSDEC on December 13, 1996.

B. Order on Consent

New York State Department of Environmental Conservation "In the Matter of the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site Under Article 27, Title 13 and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by Rotron, Inc., Respondent" Order on Consent Index # W3-0719-95-02 dated December 18, 1995.