Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Gaess Environmental - S.C.A.
Harriman, Orange County, New York
Site Number 3-36-045

March 1997

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

"Gaess Environmental - S.C.A." Inactive Hazardous Waste Site
Harriman, Orange County, New York
Site No. 3-36-018

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Gaess Environmental - S.C.A. 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 Gaess Environmental - S.C.A. 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/Feasibility Study (RI/FS) for the Gaess Environmental - S.C.A. (Gaess) Site and the criteria identified for evaluation of alternatives the NYSDEC has selected no further action with continued operation of the air stripper and monitoring of the water.

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.

3/14/97
Date

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

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SECTION 1: SITE LOCATION AND DESCRIPTION

The Gaess Site, #336018, is located in the Village of Harriman, Orange County, New York, on Meadow Road, approximately one quarter mile west of NYS Highway Route 17 and just southwest of the Ramapo River. The property on which Gaess is situated is a 4 acre parcel that is owned by Conrail and extends along an inactive railroad spur. This site is bordered to the north by property owned by the Village of Harriman that serves as a recreational park and a facility for the Department of Public Works that also includes a pump station for two Village of Harriman public drinking water supply wells, Mary Harriman Wells MH-1 and MH-3. See Figures 1 and 2.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

From 1962 to 1972 the site was leased from Conrail by Harriman Sewage Disposal Company. In 1972 the site was subleased to Gaess Environmental Services. Gaess and its successor, SCA Chemical Services (SCA), operated a waste handling transfer service until 1978.

In June 1980, an NYSDEC Task Force discovered wastes abandoned at the site. The wastes were contained in two tanker trailers and various other waste containers. Further investigation discovered another tanker, a vacuum truck and four 55-gallon drums buried at the site. The wastes included various industrial wastes and an unknown quantity of solvent waste (F001, F002) such as trichloroethene, also known as TCE.

2.2: Remedial History

In April 1981, an order on consent requiring the remediation of the site was executed by SCA and the NYSDEC. Under the supervision of the NYSDEC, the wastes including three tanker trailers, a vacuum truck, four 55-gallon drums and the suspected contaminated soils were removed from the site during the summer of 1981.

In September 1984, a limited hydrogeological investigation was completed under the direction of SCA but was never approved by the NYSDEC.

In July 1990, the MH-1 well was sampled by the Village of Harriman and found to contain TCE at a concentration that exceeded the NYS Drinking Water Standard. The NYSDEC was notified in October 1990 by the Village and in turn, contacted Chemical Waste Management (CWM), who acquired SCA in 1986. CWM responded by performing a Phase I in March 1991 to determine if the site was the source of the contamination. This investigation was inconclusive.

A Phase II investigation was completed in July 1991. TCE was detected in the soils and the groundwater on site.

In December 1991, the NYSDEC and CWM entered into an order on consent that required CWM to provide treatment for the contaminated Village of Harriman's public water supply well. An air stripper was installed in April 1992 and continues to operate.

In February 1994, an order on consent requiring CWM to perform a Remedial Investigation and Feasibility Study was executed.

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the Site presents a significant threat to human health, the PRP has recently completed a Remedial Investigation/Feasibility Study (RI/FS).

3.1: Summary of the Remedial Investigation

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

The RI was conducted between April 1994 and June 1995. A report entitled Draft Remedial Investigation Report dated August, 1995 along with a January 17, 1996 attachment entitled Responses to NYSDEC Comments on the August 1995 Remedial Investigation Report have been prepared describing the field activities and findings of the RI in detail.

The RI included the following activities:

- Soil Gas Survey
- Geophysical Survey
- Soil Sampling and Analysis Program
- Monitoring Well Installation
- Groundwater, Surface Water and Sediment Sampling and Analysis

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the Gaess site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used as SCGs for soil and the Division of Fish and Wildlife Technical Guidance for Screening Contaminated Sediments was used for surface water sediments.

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

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

3.1.1: Nature of Contamination

As described in the RI Report, soil, soil gas, groundwater, surface water and sediment samples were collected at the Site to characterize the nature and extent of contamination.

The contaminants of concern at this site are TCE and 1,1,1 trichloroethane (TCA), both of which are volatile organic compounds (VOCs). The investigations have shown that TCE and TCA have been transported from the site through the groundwater to the Village of Harriman's public supply well, MH-1. However, only TCE has been detected in concentrations that exceed the NYS Drinking Water Standards. After the installation of the treatment system on MH-1, TCE and TCA concentrations in the water leaving the pump house for distribution, have been consistently below detection levels.

3.1.2: Extent of Contamination

Table 1 summarizes the extent of contamination for the contaminants of concern in groundwater and soil and compares the data with the proposed remedial action levels (SCGs) for the Site. The following is a summary of the findings for the various media.

Soil

During previous investigations, 21 subsurface soil samples were collected on the site. Please refer to Figure 3. These samples were analyzed for the Target Compound List (TCL) for VOCs, TCL semi-volatile organics, and the Target Analyte List (TAL) of metals. Only one, B-7, out of the 21 samples contained a contaminant, TCE at 830 ppb, that exceeded the clean-up objective set forth in TAGM 4046 of 700 ppb. Two soil samples, B-6 and B-8, were found to contain low levels of VOCs.

Eleven subsurface soil samples were collected during the RI in order to better define the magnitude of the contamination in the two previously identified areas of contamination. The samples were analyzed for the TCL VOCs, TCL semi-volatile organics, and the TAL metals. There were no contaminants in any of the samples detected at concentrations that exceeded the clean-up objectives in TAGM 4046. SB-3 contained the highest concentration of TCE at 520 ppb. Please refer to Figure 4.

Groundwater

Groundwater samples were collected from the two public drinking water supply wells downgradient of the site, two monitoring wells installed during the RI, two monitoring wells installed during a previous investigation, and from several upgradient and downgradient locations using a hydropunch. These samples were analyzed for VOCs using EPA Methods 502.1 and 503.1. MH-1 contained TCE at a maximum concentration of 14 ppb which exceeds the drinking water standard of 5 ppb. TCE and TCA were detected at two downgradient locations at a concentration of 8.9 ppb and 8.2 ppb respectively, both of which exceeded the groundwater standard of 5 ppb. See Figures 5 and 6.

Soil Gas

Twenty soil gas samples were collected during the Phase II Investigation on site. Nine of these samples contained VOCs. TCE was detected in 6 out of 20 samples with a maximum concentration of 21 ppb, TCA

was detected in three samples with a maximum concentration of 0.6 ppb. There are no standards for soil gas concentrations. See Figure 7.

During the RI, a soil gas survey was conducted on the Village of Harriman's property, downgradient of the site, to identify the contamination migration pathways and any other possible sources. Seventy-six samples were collected. No additional sources were discovered. See Figure 8.

Surface Water/Sediments

Three surface water and three sediment samples were collected from the Ramapo River during the RI at the staff gauge locations presented on Figure 6 and analyzed for the TCL VOCs and cyanide. The VOCs detected on site were not detected in any of the surface water or sediment samples.

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 order on consent dated December 17, 1991, was executed between the NYSDEC and CWM that required CWM to develop and construct a treatment system for public water supply well MH-1 that was contaminated with TCE above the NYSDOH drinking water standard of 5 ppb. The order requires the water pumped from this well be treated so that the TCE is reduced to a concentration of less than 0.5 ppb.

In April 1992, an air stripping tower was installed. This system is operating was designed under the approval of the NYSDOH.

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 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. These elements of an exposure pathway may be based on past, present, or future events.

The only identified possible exposure pathway associated with this site is the ingestion of the contaminated groundwater through the MH-1 public drinking water supply well. However, with the installation and continued operation of the air stripping system, this pathway has been eliminated.

3.4 Summary of Environmental Exposure Pathways

This section summarizes the types of environmental exposures which may be presented by the site. The Fish and Wildlife Impact Assessment included in the RI presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources.

No environmental exposure pathways were identified. The contaminated on-site soil is below the ground surface at concentrations less than the clean-up objectives set forth in TAGM 4046. Although the impacted groundwater leaving the site is traveling towards the Ramapo River, surface water and sediment sampling results indicate there is no impact.

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 Chemical Waste Management, Inc. entered into a Consent Order on February 14, 1994. The Order obligates the responsible parties to implement an RI/FS. Upon issuance of the Record of Decision, the NYSDEC will approach the PRP to implement the selected remedy under an Order on Consent.

The following is the chronological enforcement history of this site.

Date	Index No.	Subject of Order
4/23/81	NA	Removal of Containers, Wastes, Contaminated Soil
12/17/91	W3-0078-87-05	IRM
2/14/94	W3-0078-0870-05	RI/FS

SECTION 5: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI, previous investigations and the IRMs that have been performed at the site, the NYSDEC is selecting no further action as the preferred remedial alternative for the site. This will include the continued operation of the air stripper on the Village of Harriman's water supply well, MH-1 and the addition of treatment on the "Old Lane Well" (MH-1A) if this well were to be utilized in the future and the site related contaminants, TCE and/or TCA and their degradation products, are present at levels exceeding the New York State drinking water standards. The Department will also reclassify the site from a Class 2 to a Class 4 on the New York State Registry of Inactive Hazardous Waste Disposal Sites. A Class 4 indicates the site is properly remediated, but requires continued monitoring and management.

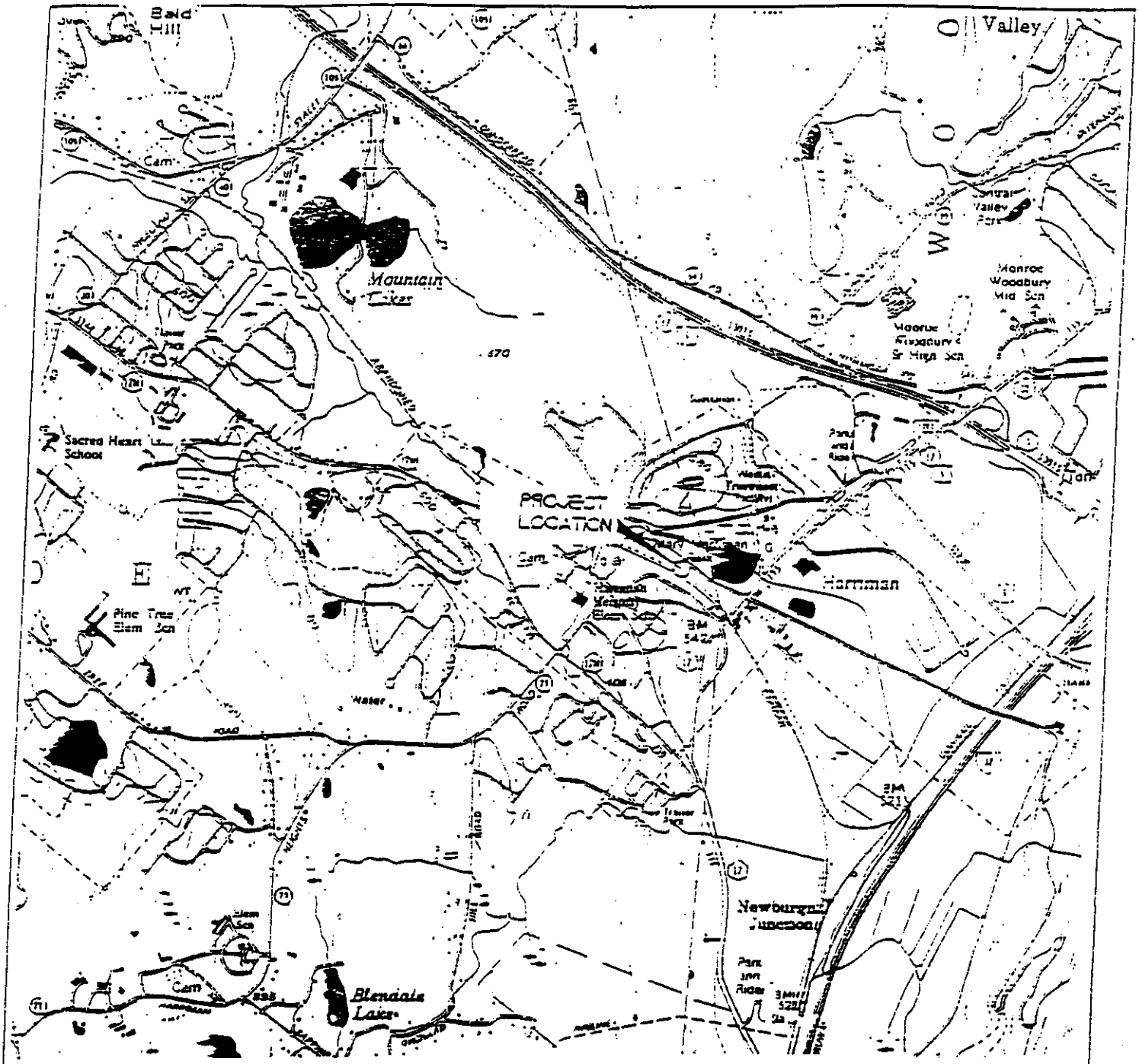
The air stripper will remain in service. If the influent concentration remains consistently and reliably below the maximum contaminant level for one year, then Chemical Waste Management may petition the NYSDOH, Bureau of Public Water Supplies Protection to remove the stripper from service. The NYSDOH will consider allowing the air stripper to be removed based on the trend in results, the number of VOCs detected, and the overall extent of groundwater contamination in the aquifer. Monitoring of the raw water quality will continue as set forth in NYS Sanitary Code, Title 10, Chapter 1, Part 5.

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 the potential remedial alternatives. The following public participation activities were conducted for the site:

- A Citizen Participation Plan was developed for the site.
- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials local media and other interested parties.
- A fact sheet was sent to the parties included on the mailing list April 1994 that announced a public availability session and summarized the remedial investigation workplan.
- A public availability was held on May 3, 1994 to discuss the findings of the remedial investigation.
- A fact sheet was sent to the parties included on the mailing list July 1995 that announced a public availability session and summarized the results of the remedial investigation.
- A public availability was held on August 8, 1995 to discuss the findings of the remedial investigation.
- A fact sheet was sent to the parties included on the mailing list July 1996 that announced the proposed remedial action plan, the dates for the public comment period and the date of the public meeting.
- The public comment period on the proposed remedial action plan extended from July 16, 1996 to August 16, 1996.
- A public meeting was held on July 31, 1996 to discuss the proposed remedial action plan.
- In February 1997 a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

Figure 1



NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
MONROE QUADRANGLE
NEW YORK–ORANGE CO.
7.5 MINUTE SERIES

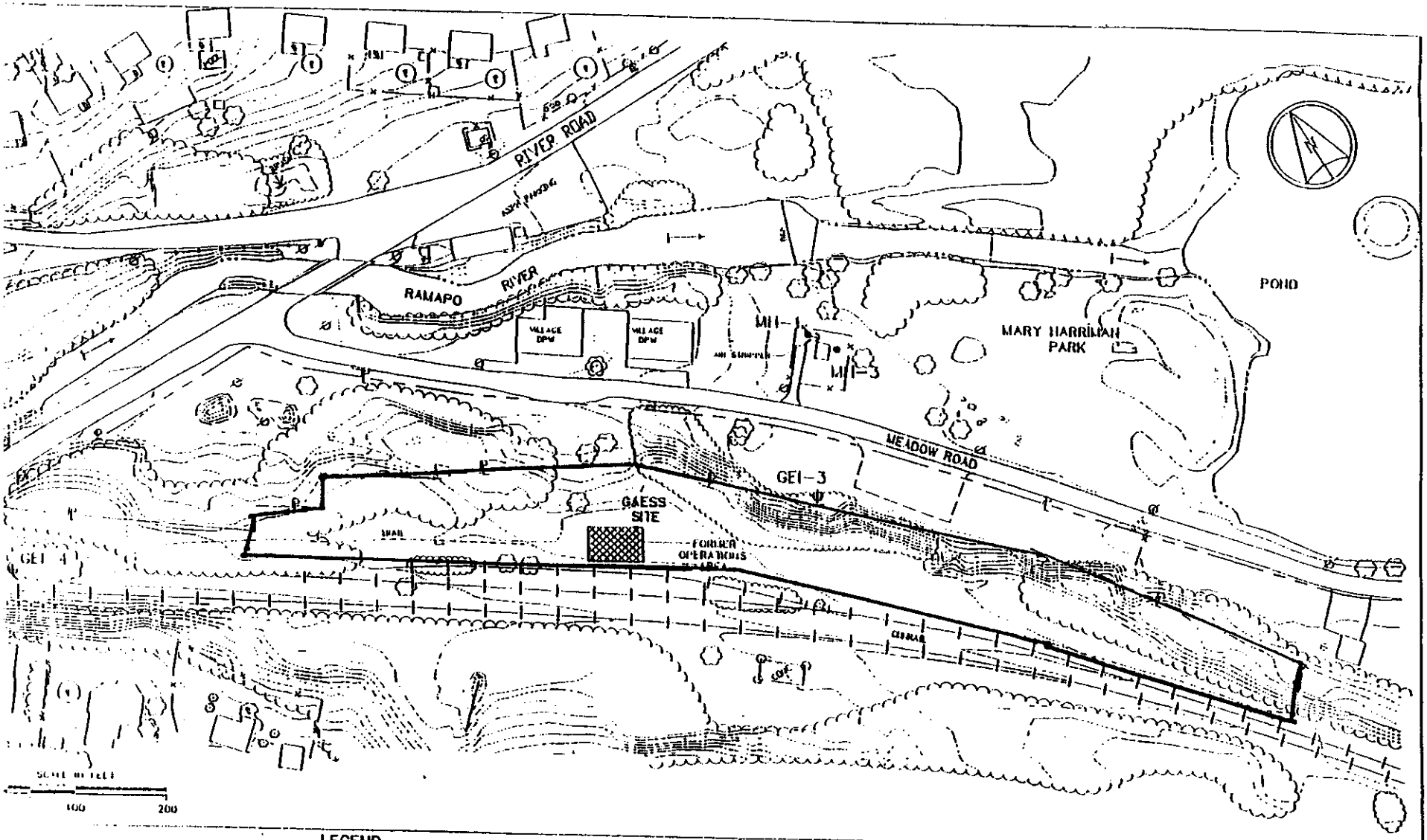
QUADRANGLE LOCATION

RUST ENVIRONMENT & INFRASTRUCTURE

SITE LOCATION MAP

WASTE MANAGEMENT INC.
CASES SITE PLANS

5/6/2011 DWG



LEGEND

EXISTING GEOPROBE SAMPLER

SURFACE WATER FLOW DIRECTION

EXISTING VILLAGE WELL

RUST ENVIRONMENT & INFRASTRUCTURE

SITE PLAN

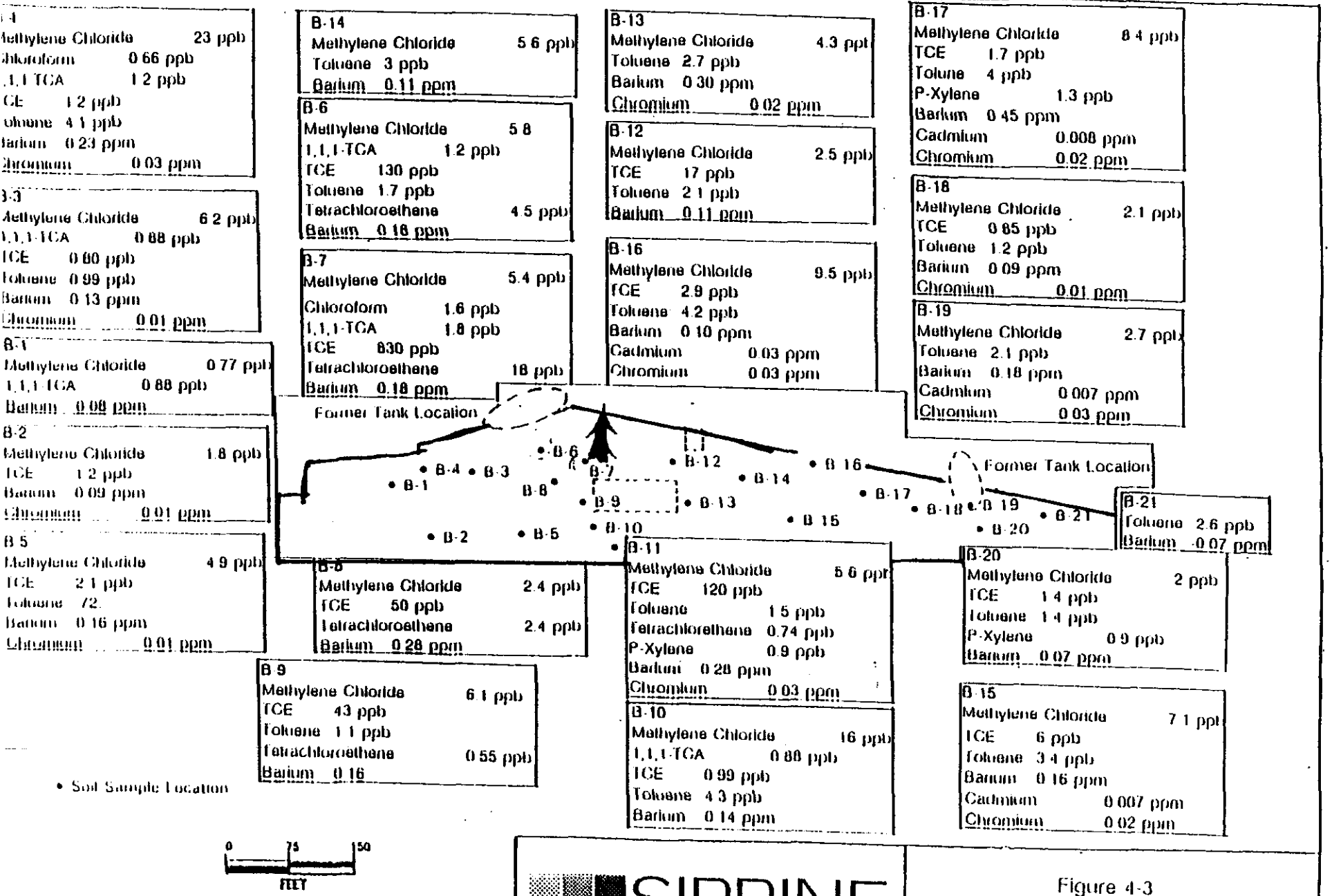
WASTE MANAGEMENT, INC
GAESS SITE RI/FS
VILLAGE OF HARRIMAN ORANGE COUNTY, NEW YORK

PROJECT No. 37673.209	DATE 6/27/95	DWG. No. 37673-A3	SCALE 1"=100'	FIGURE No. 1-2

Drawings, specifications and other documents prepared by the Engineer for this project are instruments of the Engineer's service for use solely with respect to this project and, [illegible] the Engineer shall be deemed the author of these documents and shall retain all common law, statutory and other reserved rights, including the copyright.

PLOT DATE: 8/9/95

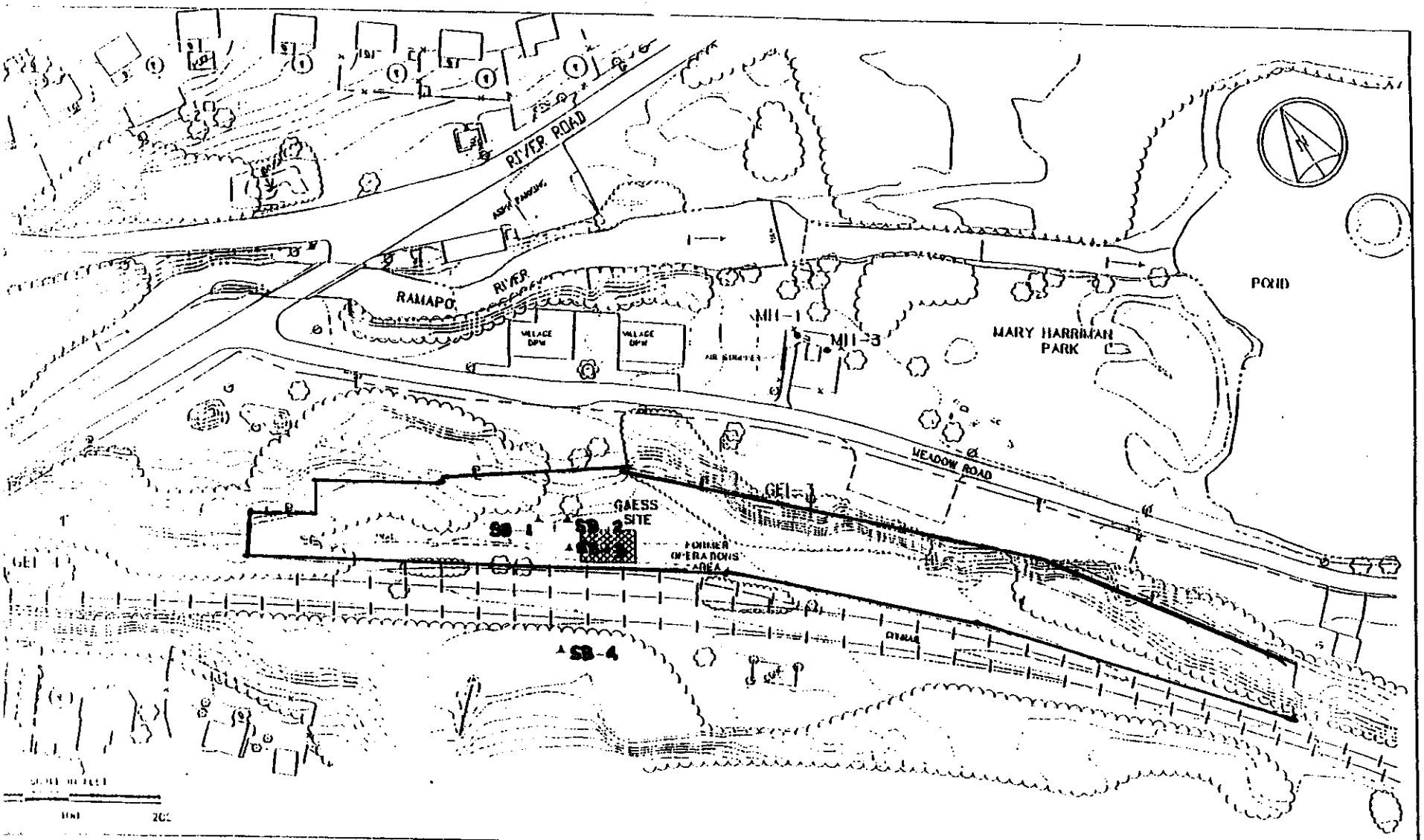
Figure 2



SIRRINE ENVIRONMENTAL CONSULTANTS

Figure 4-3
Soil Sample Analytical Results
Gaess Environmental Site
Harriman, New York

Figure 3



LEGEND

- SURFACE WATER FLOW DIRECTION
- SB-3 SOIL BORING LOCATION

RUST ENVIRONMENT & INFRASTRUCTURE

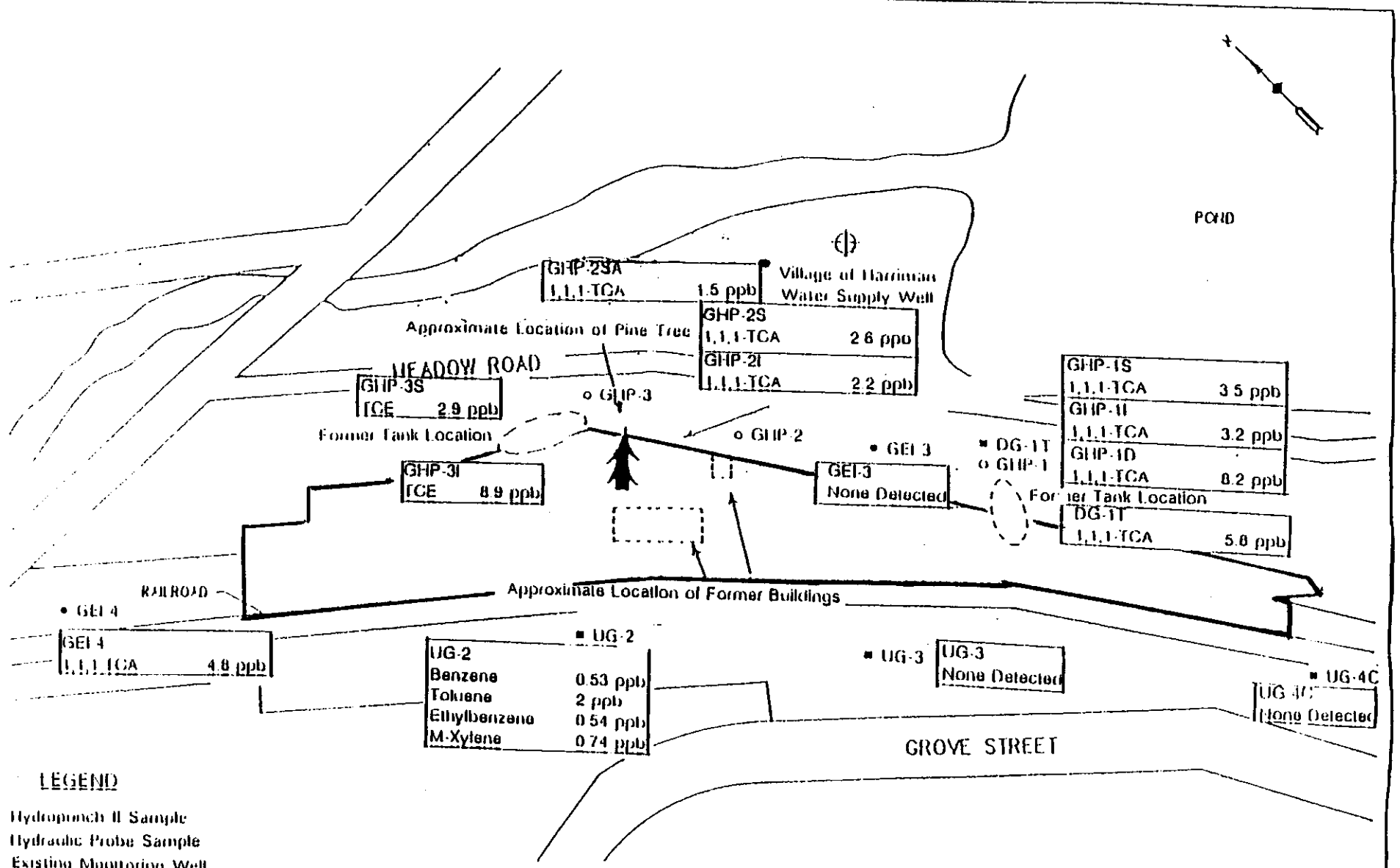
SOIL BORING LOCATIONS
WASTE MANAGEMENT, INC
GAESS SITE RI/FS
VILLAGE OF HARRIMAN ORANGE COUNTY NEW YORK

PROJECT No. 37873.209	DATE 6/27/95	DWG. No. 37873-A4	SCALE 1"=100'	FIGURE No. 2-3

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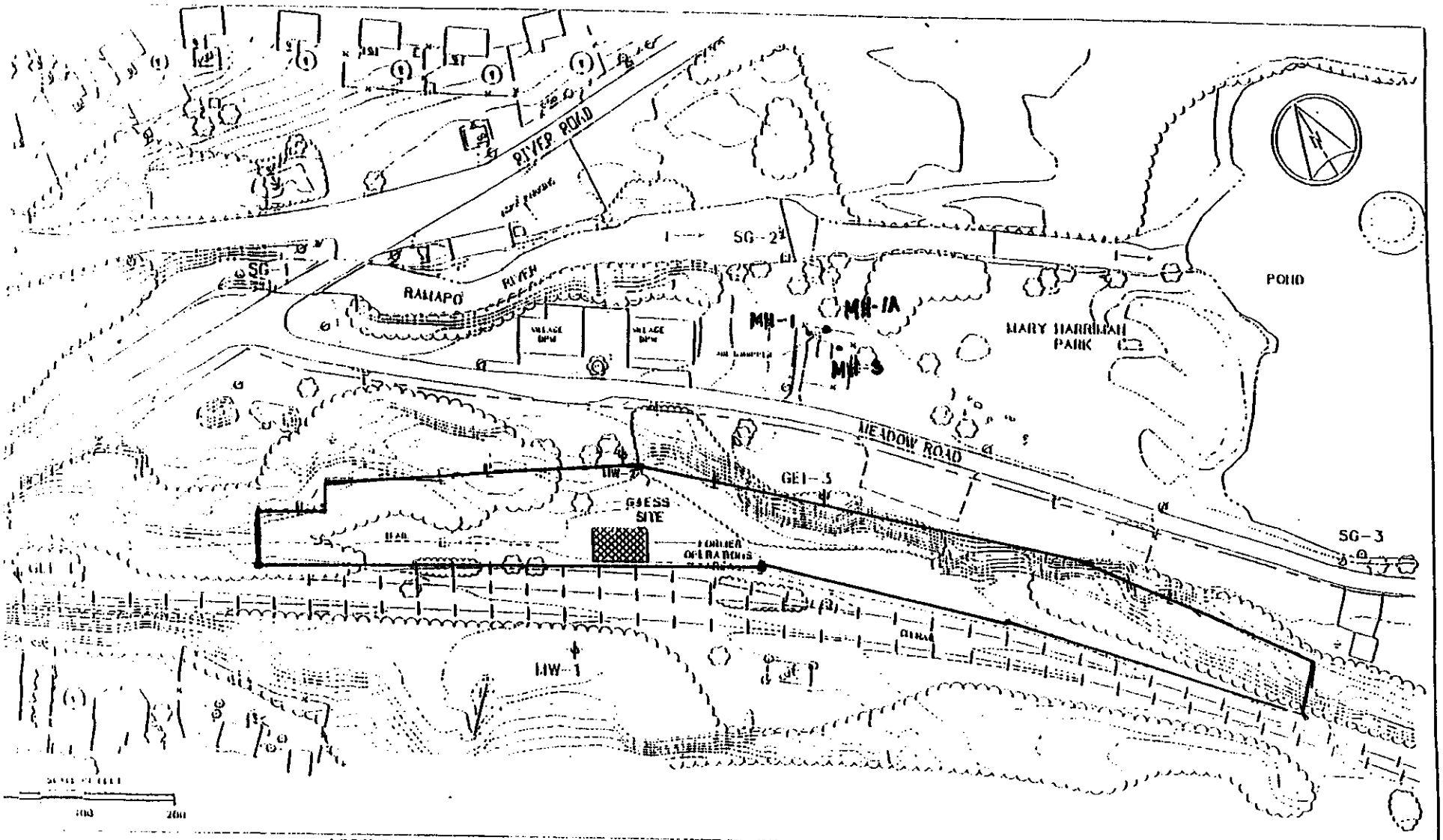
Figure 4



SIRRINE ENVIRONMENTAL CONSULTANTS

Figure 4-4
Groundwater Sample Analytical Results
Gaess Environmental Site
Harriman, New York

Figure 5



LEGEND

- SURFACE WATER FLOW DIRECTION
- HW — MONITORING WELL
- SG — RIVER STAFF GAUGE LOCATION

RUST ENVIRONMENT & INFRASTRUCTURE

GROUNDWATER WELL, PIEZOMETER AND STAFF GAUGE LOCATION MAP

WASTE MANAGEMENT, INC

GAESS SITE RI /FS

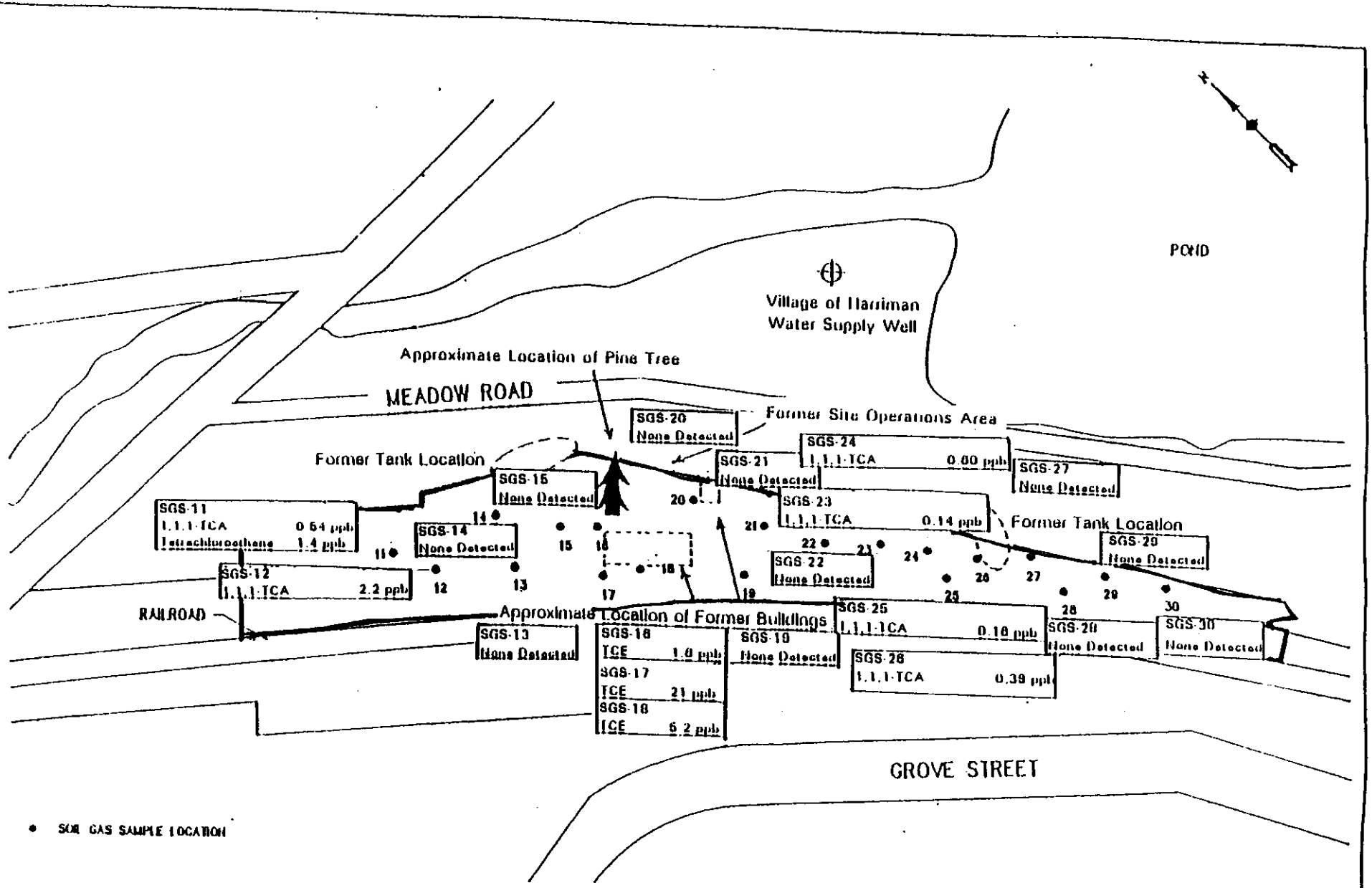
VILLAGE OF HARRIMAN — ORANGE COUNTY, NEW YORK

PROJECT No. 37673.209	DATE 6/27/95
DWG No. 37673 05	SCALE 1"=100'
	FIGURE No. 2-4

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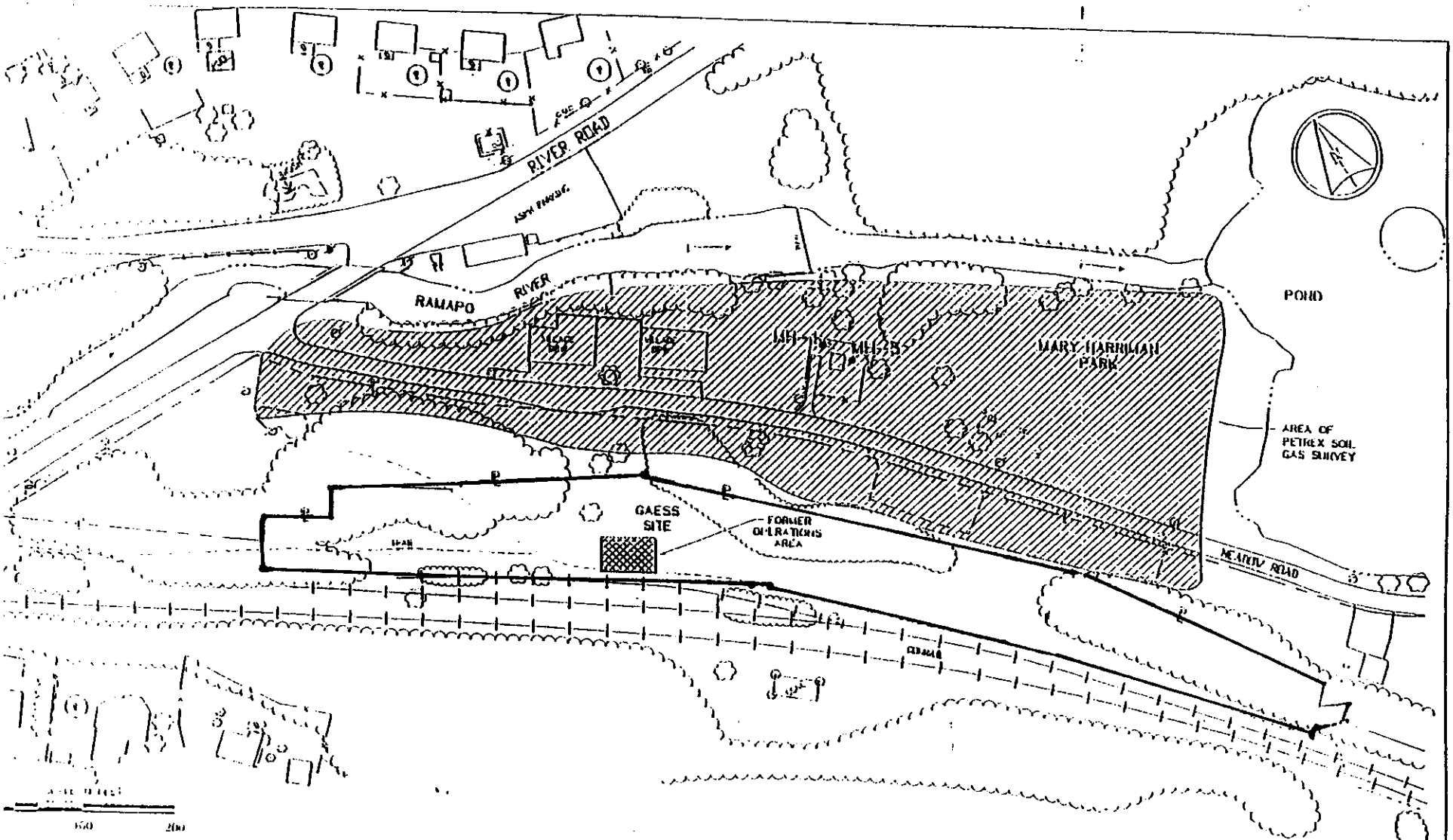
Figure 2



SIRRINE ENVIRONMENTAL CONSULTANTS

Figure 4-2
Soil Gas Survey (SGS) Analytical Results
Gaess Environmental Site
Harriman, New York

Figure 7



LEGEND

RUST ENVIRONMENT & INFRASTRUCTURE

GENERAL LAYOUT FOR PETREX SOIL GAS SURVEY
WASTE MANAGEMENT, INC
GAESS SITE RI /FS
VILLAGE OF HARRIMAN ORANGE COUNTY NEW YORK

PROJECT No. 37673.209	DATE 6/27/95	DWG. No. 37673-08	SCALE 1"=100'	FIGURE No. 2-1

PLOT DATE: 6/27/95

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Figure 8

Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCs)	Trichloroethene	ND to 14	2 of 21	5
		1,1,1 Trichloroethane	ND to 8.2	2 of 21	5
Soil	Volatile Organic	Trichloroethene	ND to 830	1 of 32	700
		1,1,1 Trichloroethane	ND to 19	0 of 32	1400

Appendix A

Administrative Record

LIST OF DOCUMENTS IN THE ADMINISTRATIVE RECORD

Phase I Investigation Results, Sirrine Environmental Consultants, March 1991

Phase II Investigation Results, Sirrine Environmental Consultants, August 1991

Groundwater Treatment Basis of Design, Sirrine Environmental Consultants, December 1991

Technical Specifications, Sirrine Environmental Consultants, March 1992

Air Stripping Tower Engineering Report, Sirrine Environmental Consultants, September 1992

Remedial Investigation/ Feasibility Study Workplan, SEC Donohue, September 1993

Results of Seismic Refraction Survey, Rust E & I, August 1994

Results of Petrex Soil Gas Survey, Rust E & I, September 1994

Results of Soil, Surface Water and Sediment Sampling, Rust E & I, February 1995

Draft Remedial Investigation Report, Rust E & I, August 1995

Feasibility Study, Rust E & I, February 1996

Appendix B

Responsiveness Summary

RESPONSIVENESS SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) held a public meeting on July 31, 1996 at the Village of Harriman's Village Hall to discuss the findings of the Remedial Investigation/Feasibility Study (RI/FS) and the NYSDEC's Proposed Remedial Action Plan (PRAP). The RI/FS was performed by RUST Environment & Infrastructure, consultants under contract with the responsible party, Chemical Waste Management, Inc. Present at the meeting were representatives from the NYSDEC, NYSDOH, RUST, Chemical Waste Management, elected Orange County Officials, and concerned citizens.

The Feasibility Study and PRAP were made available for public review on July 16, 1996 at the document repositories established for this site. During the public comment period, which extended from July 16, 1996 to August 16, 1996, NYSDEC received two letters commenting on the PRAP. The letters were from John Iaccarino, the Village of Harriman's Mayor and David Moreira, Chemical Waste Management, Inc.

The following are the questions and comments as they were received either during the public meeting on July 31, 1996 or in writing during the public comment period.

Question 1.
Is groundwater the only route of exposure?
Response.
The only identified possible exposure pathway associated with this site is the ingestion of the contaminated groundwater through the MH-1 public drinking water supply well. However, with the installation and continued operation of the air stripping system, this pathway has been eliminated. Although the impacted groundwater leaving the site is traveling towards the Ramapo River, surface water and sediment sampling results indicate that contaminants are well below levels that would cause health concerns from exposure to these media. Slightly contaminated soils that remain on-site are below ground surface and covered with clean fill.

Question 2.
Is the stripper working properly and reducing the level of contaminants in the groundwater below the drinking water standards?
Response.
Yes. The Village of Harriman samples the water quarterly and the results are shared with the NYS Department of Health, the NYSDEC and the Orange County Department of Health. Sampling to date has demonstrated compliance with Drinking Water Standards.

Comment 1.
The Village of Harriman's engineers and hydrogeologists agree that the existing air stripper is an effective treatment for MH-1. However, the Village disagrees with the "no further action" proposal and would like the final remedy to include the treatment of groundwater from a currently inactive well, MH-1A, that is located in the same well field as MH-1. The old well will be reactivated in order to meet an increasing demand for water. The Village would like Chemical Waste Management to upgrade the existing air stripper to treat the additional amount of groundwater produced from the pumping of MH-1A.
Response.
Laboratory analysis on the groundwater obtained from MH-1A indicates that the level of contamination in this well is below NYS groundwater and drinking water standards. Since the contamination in MH-1A does not currently violate these standards, the NYSDEC cannot require Chemical Waste Management to provide treatment. In the event the contamination in MH-1A exceeds the NYS groundwater or drinking water standards in the future, Chemical Waste Management will be responsible for the treatment.

Comment 2.
The ROD should clarify the relationship between Chemical Waste Management and SCA in Section 2.2.
Response.
Section 2.2 has been modified to indicate that Chemical Waste Management acquired SCA in 1986.

Comment 3.
The ROD should address only the issues regarding MH-1. The issue regarding reactivating MH-1A was not made known until the RI/FS process was completed and therefore any discussion of MH-1A should be deleted.
Response.
Although it is true that the reactivation of MH-1A was not discussed during the RI/FS process, it cannot be dismissed from the ROD. All current and future impacts as a result of the disposal of hazardous waste at the Gaess site must be addressed in the ROD. This includes MH-1A which is located in the same well field as MH-1. In the event MH-1A is reactivated and is found to contain site related contaminates in concentrations exceeding the NYS drinking water standards, Chemical Waste Management will be required to provide treatment. Please see Comment 1.