TECHNICAL REPORT

Site Characterization Summary and Data Transmittal for the Goshen Site

New York State Electric & Gas Corporation
Goshen Former MGP
Goshen, New York

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BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

consultants with focus

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1. Introduction

1.1 General

This report presents the data and findings of two voluntary environmental investigations conducted by the New York State Electric & Gas Corporation (NYSEG) at a former manufactured gas plant (MGP) located in Goshen, New York (the Goshen Site). NYSEG undertook both investigations between 1990 and 1994 in order to characterize the environmental conditions of its property and to provide a foundation for later work, if needed. The first investigation, the Site Prioritization Investigation (SPI), was conducted by Engineering Science, Inc. (ES) of Liverpool, New York, and was reported in the internal Site Prioritization Report in September 1991. Based on the findings and recommendations of that report, NYSEG contracted with Blasland, Bouck & Lee, Inc. (BBL) to conduct a Task II Remedial Investigation (Task II RI).

NYSEG undertook these investigations voluntarily and has not, until now, provided the New York State Department of Environmental Conservation (NYSDEC) with its findings. NYSEG has chosen to condense its reporting to this single unified document. On NYSEG's behalf, BBL has prepared this Site Characterization Summary and Data Transmittal (SCS). This report provides a brief review of the activities, analytical data and other findings of each investigation. Sections 2 and 3 describe the SPI and the Task II RI, respectively. Section 4 provides a synopsis of the investigation findings and serves as NYSEG's current conceptual model for the site.

The Goshen Site is currently scheduled for additional investigation, beginning in 2007. This schedule was outlined in a January 25, 2000 letter from Joseph Simone (NYSEG) to James VanHoesen (NYSDEC) and approved in a March 10, 2000 letter from David Crosby (NYSDEC) to Joseph Simone.

1.2 Site Description and History

The Goshen Site is located on West Main Street in the Village of Goshen, Orange County, New York, and encompasses approximately one acre. The site is bounded by the Rio Grande (a creek) at the northwest corner, by property belonging to the Village of Goshen to the north and northeast, by private commercial property to the east and west, and by West Main Street to the south. The site is owned by NYSEG and presently serves as a service center for its gas operations in that area. Figure 1 shows the site location.

NYSEG undertook the site investigation due to its history as an MGP. The known extent of the former MGP is shown on the site figures (Figures 2 through 7) and includes features located off the NYSEG-owned property. Most notably, the structure identified as Gas Holder 3 was located west of the Goshen Site, on property owned at the time of the investigation by the McBride Development Corporation. Due to property access limitations, these investigations were limited to properties owned by NYSEG and the Village of Goshen. Therefore, former Gas Holder 3 is not addressed in this report.

MGP operations began at the Goshen Site between 1885 and 1889 and continued until sometime between 1945 and 1947, when the facility was converted to a natural gas operations center (ES, 1991). During this time period, site ownership was held by the A. VanDerwerken Water Gas Works (circa 1889-circa 1905), Goshen Gas Light Company Water Gas Works (circa 1905-circa 1923), Goshen Illuminating Company Coal Gas Plant (circa 1923-1945), Associated Gas & Electric Company (1945-1947), and NYSEG. During the period of its operation, the

MGP is known to have included a gas house (composed of a meter house, purifying/purifier houses, oil tanks, a boiler, a generator, a washer, and a superheater), three gas holders, a shed, furnace area, coal storage area, and a lime kiln.

2. Site Prioritization Investigation

2.1 Overview

In October and November 1990, ES conducted a Site Prioritization Investigation (SPI) on behalf of NYSEG. The SPI was a preliminary site evaluation designed to meet two objectives:

- Determine if the site posed an imminent threat to human health and/or the environment; and
- Establish a rank for the site relative to NYSEG's other MGP sites.

2.2 Activities

2.2.1 Site Screening Samples

To meet the SPI objectives, ES collected a limited number of analytical samples of the three media considered potential exposure routes: surface soil, surface water, and sediment. These sample locations are shown on Figure 2.

Five surface-soil samples were collected from the upper 0.5 feet of soil. Surface-soil sample SS-1 was collected in the former furnace/shed area. Surface-soil sample SS-2 was collected at the edge of the site, north of Gas Holder 1. Surface-soil sample SS-3 was collected off site at the edge of the Rio Grande. Surface-soil samples SS-4 and SS-5 were collected in the northwest corner of the site. Note that the nomenclature "SS-1, SS-2, etc." has been used twice to identify analytical samples at the Goshen Site. As a result, some of the surface-soil samples collected for the SPI and sediment samples collected during the Task II RI have the same names, but can be distinguished by date and location.

Three surface-water samples were collected from the Rio Grande: SW-1 upstream of the site, SW-2 adjacent to the site, and SW-3 100 feet downstream of the site. Three sediment samples, SED-1, SED-2, and SED-3, were collected at the same locations as the surface-water samples.

All surface-soil, surface-water and sediment samples were analyzed using United States Environmental Protection Agency (USEPA) methods for the parameters listed below.

Site Prioritization Investigation Analyses

Analyses	Surface-Soil and Sediment Analytical Method	Surface Water Analytical Method
Volatile organic compounds (VOCs)	USEPA Method 8270	USEPA Method 624
Semivolatile organic compounds (SVOCs)	USEPA Method 8240	USEPA Method 625
Iron, zinc, aluminum, cadmium, antimony, copper, cobalt, manganese, and nickel	USEPA Method 6010	USEPA Method 200.7
Lead	USEPA Method 7421	USEPA Method 7421
Chromium	USEPA Method 7191	USEPA Method 7191
Cyanide	USEPA Method 9010	USEPA Method 335

2.2.2 Site Ranking

As part of the SPI, NYSEG used the Site Screening and Priority Setting System (SSPSS) to rank the Goshen Site relative to its other MGP sites. This system was developed by the Electric Power Research Institute (EPRI) to provide a consistent means for utilities to prioritize and manage former MGP sites. The SSPSS takes into account potential routes of exposure to calculate both an actual and a perceived risk. The SSPS ranking generated for the Goshen Site incorporated the site screening sampling results, information about land use near the site, and (where site specific data were unavailable) statistical data derived from other former MGP sites.

2.3 Investigation Findings

The laboratory results of the site screening samples are presented in Appendix A. The following sections briefly review those results.

2.3.1 Surface Soil

ES submitted surface-soil samples from the four locations shown on Figure 2. They are identified SS-1 through SS-4. The sample SS-5 was a blind duplicate of SS-4. The results are summarized as follows:

- Methylene chloride was the only VOC detected in the surface soil, but is considered a probable laboratory contaminant.

- SVOCs were detected at two of the four sample locations (SS-3 and SS-4). All of the SVOCs detected were Polycyclic Aromatic Hydrocarbons (PAHs), with pyrene and fluoranthene most abundant. Total concentrations of SVOCs in surface soils were as follows: non-detect in SS-1 and SS-2; 230 parts per million (ppm) in SS-3; and 4,011 ppm in SS-4. Note that the correlation between SS-4 and SS-5 (its duplicate) was poor: 320 ppm total SVOCs at SS-5, versus the 4,011 ppm at SS-4.

- Cyanide was detected in two surface-soil samples, SS-4 (13 ppm) and its duplicate SS-5 (6.2 ppm). None of the cyanide in these samples was amenable.

- All the metals detected were within the naturally occurring ranges for the Goshen Site, as determined from a United States Geological Survey (USGS) reference (Shacklette and Boerngen, 1984).

2.3.2 Surface Water and Sediment

ES submitted surface-water and sediment samples from three locations in the Rio Grande. They are identified SS-1/SW-1, SS-2/SW-2, and SS-3/SW-3. The results are summarized as follows:

- No VOCs were detected in the surface-water samples. Methylene chloride was the only VOC detected in the sediment samples, but is considered a probable laboratory contaminant.

- Only one SVOC, bis(2-ethylhexyl)phthalate, was detected in the surface-water samples. This compound is a common laboratory and/or sampling contaminant. No SVOCs were detected in the sediment samples.

- Lead and zinc were detected at comparable concentrations in all three surface water samples. Aluminum, iron, and manganese were detected at slightly higher concentrations in samples SW-2 and/or SW-3. All the metals detected in sediment were judged by ES to be within the naturally occurring ranges. Cyanide was not detected in the sediment or surface-water samples.

2.4 Conclusions

In its September 1991 submittal to NYSEG, ES reached the following conclusions:

- The most significant risk associated with the Goshen Site was direct contact with surface soil, fill, and residues exposed along the banks of the Rio Grande, where SS-3 and SS-4/5 were collected.

- Sampling of sediment and surface water for the Rio Grande showed no indications of MGP impacts.

- Groundwater and subsurface soil had not been investigated and posed the most significant data gap.

Based on these findings and the site priority ranking, NYSEG chose to initiate further investigation of the Goshen Site in the form of a Task II Remedial Investigation.

3. Task II Remedial Investigation

3.1 Overview

Following completion of the SPI, NYSEG initiated its second voluntary investigation of the Goshen Site, the Task II Remedial Investigation. In 1992, at NYSEG's request, BBL developed a conceptual model for the Goshen Site which noted data gaps to be addressed by the Task II RI. These gaps included the nature of potential source areas, and the extent of MGP impacts on environmental media, particularly subsurface soil and groundwater.

The Task II RI consisted of the following five activities:

- Background Information Review
- Source Investigation
- Surface-Soil Investigation
- Groundwater Investigation
- Sediment Investigation

Each activity is discussed in Section 3.2. These activities were performed in accordance with the RI Work Plan, finalized by BBL in July 1993. This work plan included a Sampling and Analysis Plan (SAP), a Health and Safety Plan (HASP), and a Quality Assurance Project Plan (QAPP), all conforming to industry standard practice.

3.2 Activities

3.2.1 Background Information Review

The background review consisted of a site reconnaissance and a review of the NYSEG project files, Orange County real estate records, and documents available at the Village of Goshen Tax Assessment Office and Orange County Historical Society. BBL also contacted local and public sources of information (e.g., USGS and local utilities). The findings are summarized below.

On July 30, 1992, BBL and NYSEG performed a site visit. The following information was obtained during this visit. In the basement of the former gas house, a shallow tar tank referred to as the drip tank, was present approximately one foot below the floor. The volume of this drip tank was not known. In addition, in the northwest corner of the former gas house was an opening in the basement floor, referred to as a "cistern." A tar odor was noted in this area, but no tar was observed. Outside the former gas house to the northeast lies an underground steel tank. NYSEG had no information on this tank other than its existence.

At the time of the investigation, the McBride Development Corporation owned two groundwater production wells located near the site: one on the adjacent property west of the site, and another south and upgradient of the site. The Village of Goshen received its water from the Goshen Reservoir located on Reservoir Road, approximately 6,200 feet south of the Goshen Site. At the time of the investigation, the Village had installed and tested a new water supply well, known as the "High School Well," located on the Goshen High School property approximately 5,800 feet north-northeast of the Goshen Site. The Village received approval to put this well on line as a public

water supply but had not done so as of August 1994. The High School Well is installed 500 feet deep in shale bedrock.

At the time of the investigation, the Town of Goshen had two water supply well fields located outside the village boundary. The first well field is called Goshen Water Distinct No. 1 and is located in Hambiltonian Park on Craigville Road, approximately 1.5 miles east of the Goshen Site. This well field consists of five to six wells installed approximately 500 feet deep into bedrock. The second well field is called Goshen Water District No. 2 and is located on Arcadia Hill Road, approximately 2 to 3 miles southeast of the Goshen Site. This well field consists of 14 wells installed between 400 and 500 feet deep into bedrock.

3.2.2 Source Investigation

The objective of the Source Investigation was to verify the locations of potential MGP related source areas and confirm the presence and extent of MGP residues. The Source Investigation was divided into the following tasks:

- Excavation of Test Pits;
- Drilling of Test Borings;
- Characterization of the Underground Tank; and
- Characterization of the Cistern.

The test pit and test boring locations are shown on Figure 3. The underground tank is shown on the same figure. The cistern is located in the basement of the former gas house, but is not labeled on the figures.

3.2.2.1 Excavation of Test Pits/Trenches

A total of six test pits were excavated on September 13 and 14, 1993. The depths of the test pits ranged between 1.5 feet to 7 feet below grade. The test pits were excavated until significant coal tar residue was encountered, a foundation was encountered, or groundwater entered the excavation. The test pits logs are presented in Appendix B. As shown on Figure 3, the test pits were located in or near potential source areas.

The following table lists the name, location and rationale for each test pit. Where analytical samples were collected, the sample depth is listed, along with the categories of analysis. General analyses included VOCs, SVOCs, metals, and total and amenable cyanide. Waste characterization included a full Toxicity Characteristics Leaching Procedure (TCLP) analysis, British Thermal Unit (BTU) content, reactivity testing, and a total petroleum hydrocarbon (TPH) scan. A summary of these analyses and their laboratory methods is provided in Table 1.

Test Pit ID	General Location	Rationale	Sample Depth (if submitted)	Analyses Conducted
TP-1	Furnace area	Potential source area identification	6.0 ft.	General
TP-2	Gas Holder 1	Delineate horizontal extent of gas holder foundation	4.5 ft.	General & Waste Characterization
TP-3	Gas Holder 2	Delineate horizontal extent of gas holder foundation	2.0 ft.	General & Waste Characterization

Test Pit ID	General Location	Rationale	Sample Depth (if submitted)	Analyses Conducted
TP-4	Furnace/shed area	Potential source area identification	none submitted	–
TP-5	Coal Storage	Potential source area identification	none submitted	–
TP-6	Underground steel tank	Delineate horizontal and vertical extent of the oil tank	Water Sample	General (see below)

BBL submitted three soil samples from the test pits for general chemical characterization. These analytical samples (from TP-1, TP-2 and TP-4) were selected from representative samples of potential source areas to determine their chemical composition. The laboratory results are summarized in Table 2. No soil samples were submitted from TP-6; however, a water sample was collected from the steel tank uncovered in that excavation. Characterization of the steel tank is discussed later in Section 3.2.2.3.

As noted in the table above, two of the test pit soil samples were submitted for waste disposal characterization. The laboratory results of these analyses are summarized in Table 3.

3.2.2.2 Drilling of Test Borings

The Source Area Investigation included seven test borings, drilled to depths between 24 and 40 feet. The boring locations, shown on Figure 3, were chosen to be in or near potential MGP source areas to delineate their horizontal and vertical extent. Note that the boring names begin at TB-4, rather than TB-1. The prior three borings are associated with the groundwater investigation and were converted to monitoring wells, as discussed later in this report.

Each test boring was advanced to the top of till, as determined by split spoon/auger refusal and visual observation. Drilling was conducted using a conventional truck rig, with 4 ¼-inch inner-diameter hollow stem augers, and 2-inch diameter split spoons. Upon completion, each boring was tremie-grouted to grade. Geologic descriptions and additional drilling details are available on the boring logs in Appendix B.

The following table lists the name and location of each test boring. Where analytical samples were collected, the sample depth is listed along with the categories of analysis. General analyses included VOCs, SVOCs, metals, and total and amenable cyanide. Waste characterization included a full TCLP analysis, BTU content, reactivity, and TPH. A summary of these analyses and their laboratory methods is provided in Table 1.

Test Boring ID	General Location	Sample Depth (if submitted)	Analyses Conducted
TB-4	Furnace area	none	none
TB-5	Inside Gas Holder 1	17 to 19.5 ft.	General & Waste Characterization
TB-6	Inside Gas Holder 2	10 to 12.5 ft.	General
TB-7	Downgradient of oil tanks	none	none
TB-8	Northern perimeter of Gas Holder 1 downgradient of tar drip	5.5 to 20 ft.	General & Waste Characterization
TB-9	Downgradient of purifier	none	none
TB-10	Downgradient of Gas Holder 1	7.2 to 10 ft.	General & Waste Characterization

Four soil samples from the test borings were submitted to the laboratory for general chemical characterization. Three samples were selected from visually affected soil intervals. One sample (TB-10) was selected from a soil interval below visually affected soils and above till to assess the vertical distribution of constituents. The analytical results of the general analyses are summarized in Table 2.

As noted in the table above, three of the test boring soil samples were submitted to the laboratory for waste disposal characterization. These analytical results are summarized in Table 3.

3.2.2.3 Characterization of Underground Steel Tank

The location of Test Pit 6 (TP-6) was chosen to uncover an underground steel tank northeast of the former gas house. The excavation revealed that the tank is approximately 5 feet in diameter by approximately 12 feet long and is filled with water to within 0.5 feet of the top of the tank. Gravel filled the tank to 2.7 feet below the top of the tank. The field staff noted a coal tar odor when the top of the tank was removed, but found no further evidence of MGP impacts. A sample of the water in the tank was obtained and submitted for chemical characterization (VOCs, SVOCs, metals, and total and amenable cyanide). A summary of these analyses and their laboratory methods is provided in Table 1. The analytical results are presented in Table 2.

3.2.2.4 Characterization of the Cistern

The investigation of potential source areas included a cistern located in the basement of the former gas house. To determine if the water in the cistern had been affected by MGP-related constituents, BBL collected and submitted a water sample for chemical characterization (VOCs, SVOCs, metals, and total and amenable cyanide). A summary of these analyses and their laboratory methods is provided in Table 1. The analytical results are presented in Table 2.

3.2.3 Surface-Soil Investigation

The objective of the surface-soil investigation was to evaluate the presence and concentration of MGP-related constituents in the near-surface soils. Five surface-soil samples were collected using a decontaminated stainless steel scoop. Four of the five samples were collected at the surface where MGP-related residues had been observed in the subsurface during the source investigation. Care was taken to avoid sampling directly within the areas disturbed by the test pits and test borings. One background sample was obtained from an area where MGP-related activities were not documented to have occurred.

The surface-soil sampling locations are shown on Figure 3 and summarized below.

Surface-Soil ID	General Location
SF-1	Background sample obtained southeast of former gas house
SF-2	Inside Gas Holder 2
SF-3	Inside Gas Holder 1
SF-4	In furnace area
SF-5	Near coal storage area

BBL submitted each of the surface-soil samples for laboratory analysis of VOCs, SVOCs, metals, total and amenable cyanide, and polychlorinated biphenyls (PCBs). A summary of these analyses and their laboratory methods is provided in Table 1. The analytical results are presented in Table 4.

3.2.4 Groundwater Investigation

Prior to the Task II RI, groundwater at the site had not been investigated. The tasks outlined for this investigation would provide means to characterize groundwater presence, flow patterns, and general quality beneath the Goshen Site. The groundwater investigation consisted of the following two phases: monitoring well installation; and groundwater sampling and analysis.

3.2.4.1 Monitoring Well Installation

In September 1993, six overburden monitoring wells were installed in three well pairs. The locations of the wells are shown on Figure 3. The MW93-1 well pair was installed by the site entrance, hydraulically upgradient of affected areas, to determine the background quality of water entering the site. The other two monitoring well pairs (MW93-2 and MW93-3) were installed hydraulically downgradient of the former MGP to determine if MGP-related constituents were migrating in groundwater.

The monitoring wells consisted of 2-inch diameter stainless steel well casings and 5 or 10-foot lengths of 0.010-inch slotted stainless steel screen. As with the test borings, each well was drilled with a conventional truck-mounted rig, using 4 ¼-inch inner-diameter hollow stem augers. The deep wells were continuously sampled using 2-inch diameter split spoons until the till unit was identified (generally from 35 to 40 feet deep).

The deep wells were designed with 5-foot lengths of screen to span the interval directly above the till. The shallow wells were designed with 10-foot lengths of screen spanning the uppermost portion of the saturated overburden. A summary of the monitoring well construction details is presented in Table 5. Geologic descriptions and well installation details are included on the monitoring wells logs in Appendix B.

After well installation, the following tasks were completed:

- Each well was developed to remove fine-grained materials that may have settled in or around the well screen during installation and to enhance hydraulic communication between the screen and the formation.

- In-situ hydraulic conductivity tests were performed at each well on October 21, 1993. The results of the hydraulic conductivity tests are presented in Section 3.3.1.2 and Appendix C.

- The monitoring well locations and elevations were surveyed and referenced to the National Geodetic Vertical Datum (NGVD) of 1929 based on the site datum provided by Modi Associates, Land Surveyor (ES, 1991). Survey data are provided in Appendix D.

3.2.4.2 Groundwater Sampling and Analysis

The six site monitoring wells were sampled quarterly for one year to evaluate groundwater quality. Groundwater samples were obtained on October 18, 1993, and January 25, April 27, and July 20, 1994.

Prior to each event, the field staff recorded water-levels in each monitoring well. Table 5 includes a summary of the water-level elevations calculated from these measurements. When sampled, each well was purged of three well-casing volumes using a dedicated Teflon™ bailer. With a field instrument, the pH, temperature and specific conductivity of the water was measured and recorded. During all four quarters, the groundwater samples were submitted for analysis of VOCs, SVOCs, metals, and total and amenable cyanide. For the first quarter only (October 1993), the water samples were also submitted for PCB analysis. A summary of these analyses and their laboratory methods is provided in Table 1. Each quarter's analytical results are tabulated separately on Tables 6, 7, 8, and 9, consecutively.

3.2.5 Sediment Investigation

The Task II RI expanded upon the sediment sampling conducted for the SPI with a more extensive program to determine the presence and distribution site related constituents in the Rio Grande sediments. This phase of the investigation included two tasks, sediment probing and sediment sampling, completed September 27 and 28, 1993. More details on methods and findings of the sediment investigation are include in a short technical memorandum, attached as Appendix E.

3.2.5.1 Sediment Probing

BBL probed sediment along the near edge of the Rio Grande upstream, downstream, and adjacent to the site. The study included a total of 25 sediment probes at approximately 20-foot intervals starting 80 feet downstream of the former MGP property line. The field staff used Lexan™ core tubes to retrieve and visually characterize the sediment at each probing location. A summary of these observations is included in Appendix E.

3.2.5.2 Sediment Sampling and Analysis

BBL collected eight sediment samples from the Rio Grande. Three samples were collected upstream of the site, two adjacent to site, and three downstream of the site. Sediment samples were collected from areas with visual evidence of contamination, and/or from locations where a significant depth of sediment was encountered. The field staff collected each sample by driving Lexan™ core tubes into the sediment with a stainless steel core driver. The locations of the sediment samples shown on Figure 7, and are summarized below:

Sediment Sample ID	Depth of Sample (feet below bed)	Location Relative to Site	Sample Rationale
SS-1	0 to 1.2	Downstream	oil sheen
SS-2	0 to 1.9	Downstream	oil sheen
SS-3	0 to 1.7	Downstream	oil sheen
SS-4	0 to 1.5	Adjacent	oil sheen
SS-5	0 to 1.5	Adjacent	oil sheen

Sediment Sample ID	Depth of Sample (feet below bed)	Location Relative to Site	Sample Rationale
SS-6	0 to 1.0	Upstream	organics and oil sheen
SS-7	0 to 1.7	Upstream	oil sheen
SS-8	0 to 2.2	Upstream	oil sheen

The eight sediment samples listed above were submitted to the laboratory and analyzed for VOCs, SVOCs, metals, total and amenable cyanide, moisture content, and total organic carbon. A summary of these analyses and their laboratory methods is provided in Table 1. The analytical results are presented in Table 10.

3.2.6 Investigation Derived Waste

3.2.6.1 The Recharge Pit

A recharge pit was installed at the Goshen Site to accept groundwater extracted from site monitoring wells and decontamination water generated throughout the investigation. The recharge pit was installed near the center of Gas Holder 1, an area known to have fill materials and MGP residues in the subsurface. The pit is a 4-foot square by 5-foot deep hole that was excavated by a backhoe. A 6-inch diameter, 5-foot long casing was perforated, braced with reinforcing bar, placed in the pit, and surrounded with pea gravel to grade. The recharge pit is identified as "recharge well" on the site figures.

3.2.6.2 Waste Characterization

In addition to the five test pit and test boring soil samples submitted for waste characterization analyses, the field staff submitted four samples composited from drums of soil cuttings. Thus, a total of nine soil samples were submitted for full TCLP analysis, BTU content, reactivity, and TPH. A summary of these analyses and their laboratory methods is provided in Table 1. The laboratory results are summarized on Table 3. These data were used to determine the appropriate disposal methods for the investigation-derived waste. Note that no reported values exceeded the RCRA TCLP Regulatory Levels.

3.3 Findings

The investigations outlined above provided a broad base of data for assessing the environmental conditions of the Goshen Site. The following sections provide a brief review of those data (both analytical results and the observations of field staff). Section 4 of this document provides a brief overview of these findings as a conceptual model for the site.

3.3.1 Site Physical Characterization

3.3.1.1 Physiography

The land surface at the Goshen Site slopes gently to the north across most of the site, from West Main Street to the more steeply sloping south bank of the Rio Grande. The elevation of the site ranges between 430 and 437 feet

above mean sea level (AMSL). The eastern property boundary of the site is bordered by a concrete wall that is approximately 3 feet high in the southeast corner and approximately 10 feet high in the northeast corner.

The site contains no distinctive surface water runoff pathways, such as drainage ditches. The paved driveway and parking areas allow for surface runoff to the Rio Grande. The Rio Grande flows from the northeast to the southwest.

3.3.1.2 Hydrogeology

The Task II RI test pit, test boring, and monitoring well data provided specific information on the subsurface geology of the Goshen Site to a maximum depth of 41 feet. Detailed test pit and boring logs are included in Appendix B of this report. Based on observations of field geologists, the overburden geology can be divided into the four units described below, in order of increasing depth:

- A fill unit consisting of varying amounts of sand, gravel, and silt with fill materials (e.g., slag, ash, wood, brick).
- A silt and sand unit consisting primarily of a brown to gray silt with varying amounts of sand and gravel;
- A sand and gravel unit composed primarily of shale fragments; and
- Till consisting of very dense silt, sand, and gravel.

The water table occurs at depths between 8 to 15 feet across the site, and is interpreted to intercept the Rio Grande to the north. Figure 4 depicts the water table based on water-level measurements in the three shallow monitoring wells taken April 27, 1994. The water table shows a gradient to the northwest toward the Rio Grande. Figure 5 depicts a potentiometric surface developed from water-level measurements in the three deep monitoring wells, taken April 27, 1994. Though less steep, the gradient of the deep potentiometric surface mimics the water table and trends to the northwest. Groundwater elevations from all four quarters are shown on Table 5. Review of those data shows little seasonal shift in groundwater flow patterns.

The slug-test data for each monitoring well were analyzed using the Bouwer-Rice method for unconfined aquifers. These calculations are shown in Appendix E. The calculated hydraulic conductivities are summarized below:

Well ID	In-Situ Slug Test	Hydraulic Conductivity (cm/sec)	Screened Lithology
MW93-1S	Rising Head	6.4×10^{-5}	Fine sand and silt, loose
MW93-1D	Rising Head	5.7×10^{-4}	Silt and fine sand, loose
MW93-2S	Rising Head	7.8×10^{-5}	Sand and silt some clay, loose
MW93-2D	Rising Head	8.5×10^{-4}	Sand and gravel, loose
MW93-3S	Rising Head	4.9×10^{-5}	Silt and fine to coarse sand, loose
MW93-3D	Rising Head	1.1×10^{-3}	Sand and gravel, loose

3.3.2 Site Chemical Characterization

3.3.2.1 Source Areas

The Task II RI investigated seven locations as potential source areas: Gas Holder 1, Gas Holder 2, the tar drip tank, the eastern and western portions former gas house, the underground steel tank, the cistern, and the furnace/shed/coal storage area. Analytical samples collected from test pits and soil borings provide the best measure of each area's potential MGP impacts. A summary of the analytical samples submitted is provided on Table 1. Figure 3 shows the sample locations and the approximate locations of the former MGP structures. Table 2 summarizes the analytical results of the source area samples.

A review of the analytical data shows that the extent of affected soil, sediment, and groundwater at the Goshen Site is relatively limited. The subsurface does show evidence of MGP-impacts, most notably near former Gas Holder 1, Gas Holder 2, and the tar drip tank. Potential coal tar non-aqueous phase liquid (NAPL) was identified only in these three areas, and to a maximum depth of 20 feet below grade (in Gas Holder 1 and near the tar drip tank). The other areas did not appear to have been greatly affected by the MGP.

Gas Holder 1
Test Pit 2 (TP-2) uncovered the holder's brick wall foundation. Test Boring 5 (TB-5) did not identify a floor to the holder. Potential coal tar was identified in a sand and silt unit between 17 and 20 feet below grade. An analytical sample from this interval exceeded the NYSDEC Soil Cleanup Objectives (Technical and Administrative Guidance Memorandum #4046, 1994) for four SVOCs (see Table 2). No evidence of MGP-impacts was observed below this interval.

Gas Holder 2
Test Pit 3 (TP-3) uncovered the holder's brick wall foundation. Test Boring 6 (TB-6) did not identify a floor to the holder. Potential coal tar was identified at the base of a coarse fill unit between 10 and 12.5 feet below grade. An analytical sample from this interval exceeded the NYSDEC Soil Cleanup Objectives for five VOCs and eight SVOCs. No evidence of MGP-impacts was observed below this interval.

Tar Drip Tank
The tar drip tank is located inside the former gas house and was not investigated directly. Test Boring 8 (TB-8) was advanced outside the building, just north (downgradient) of the tank. Potential coal tar was identified at the base of a coarse fill unit and in the uppermost silt and sand unit, between approximately 14 and 20 feet below grade. An analytical sample from this interval exceeded the NYSDEC Soil Cleanup Objectives for four VOCs, and five SVOCs. No evidence of MGP-impacts was observed below this interval.

Former Gas House (eastern and western portions)
Test Borings 7 and 9 (TB-7 and TB-9) were advanced outside the former gas house north of the western and eastern sections, respectively. These locations were chosen to identify impacts related to the purifiers and oil tanks located inside the former gas house, if any. The field geologist observed no coal tar or other evidence of MGP-related impacts in either boring. No analytical samples were submitted.

Underground Steel Tank
This tank was uncovered in Test Pit 6 (TP-6), northeast of the former gas house. A water sample collected from the tank had no detections of VOCs or SVOCs.

Cistern

A water sample collected from the cistern in the basement of the former gas house returned trace detections of VOCs and SVOCs. These amounted to 0.002 ppm total VOCs, and 0.299 ppm total SVOCs.

Furnace/Shed/Coal Storage Area

This area in the northwest corner of the site was investigated by three test pits (TP-1, 4, and 5), one test boring (TB-4), and the MW93-2 monitoring well pair. An oil sheen was identified at 6 feet below grade on water pooling in TP-1. An analytical sample of soil submitted from this interval exceeded the NYSDEC Soil Cleanup Objectives for four SVOCs. No other soil samples were submitted from this area.

3.3.2.2 Groundwater

Analytical results from four quarterly rounds of groundwater sampling are summarized in Tables 6, 7, 8, and 9, consecutively. Figure 6 posts the total concentrations of VOCs, PAHs, other SVOCs, and Cyanide, for each well over all four quarters. The data show little impact on groundwater quality in either the shallow or deep monitoring units, with no consistent detections or exceedances of the NYSDEC Class GA Standards for VOCs or SVOCs. Cyanide was consistently found in the two downgradient shallow monitoring wells (MW93-2S and MW93-3S). The total cyanide concentration at MW-933S exceeded the 0.2-ppm Class GA Standard each quarter, with a maximum concentration of 0.479 ppm reported during the October 1993 event. Amenable cyanide was detected periodically at both MW93-2S and MW93-3S, albeit at much lower concentrations.

3.3.2.3 Surface Soil

The analytical results of the five surface-soil samples submitted are summarized in Table 4. The results show low level SVOC exceedances of the NYSDEC Soil Cleanup Objectives in SF-1 through SF-4. The concentrations in SF-5 are an order of magnitude higher, with a total SVOCs concentration of 463 ppm.

3.3.2.4 Sediment

The sediment data collected from the Rio Grande adjacent to the Goshen Site were evaluated based on a criteria-specific analysis. The evaluation includes samples collected from adjacent to and downstream of the Site, and background samples (i.e., samples SS-6, SS-7, and SS-8). Specifically, this evaluation compares detected concentrations against ecological-based screening values. The criteria used for the comparison are from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. The NYSDEC (1999) sediment criteria for organic and inorganic compounds are based on three ecological risk levels of protection: acute toxicity to aquatic life, chronic toxicity to aquatic life, and protection of wildlife from bioaccumulation in the food chain. For this evaluation, only the NYSDEC (1999) sediment criteria based on the protection of aquatic life are relevant because bioaccumulation-based criteria are not available for any of the constituents detected in sediment. In addition to the NYSDEC criteria, sediment screening values from the Ontario Ministry of Environment (1993) are used. These values are used for sediment constituents when NYSDEC criteria are not available. A comparison of the chemical concentrations detected in sediment to criteria is presented in Table 10. The results are shown on Figure 7 and described below.

Volatile Organic Compounds

Several volatile organic compounds were detected in the sediment samples, including 2-butanone, acetone, carbon disulfide, chloromethane, ethylbenzene, methylene chloride, toluene, and xylene. Each of these compounds was detected at extremely low concentrations, and detections were generally infrequent (except for acetone, which was detected in each of the samples, including the background samples). Of these compounds, sediment criteria are available only for ethylbenzene, toluene, and xylene. The detected concentrations of these constituents are well below both the acute toxicity and chronic toxicity criteria.

Semivolatile Organic Compounds

Several semivolatile organic compounds were detected in the sediment samples collected from the Rio Grande River. The detected concentrations for most constituents typically exceed the more conservative chronic toxicity sediment criteria, and some of the constituents [i.e., acenaphthylene, benzo(a)anthracene, chrysene, fluorene, and indeno(1,2,3-cd)pyrene] exceed the acute values. Similar exceedances are also frequently observed for the background samples. In almost all instances, the concentrations detected in samples collected adjacent to or immediately downstream of the Goshen Site are not significantly higher (i.e., less than 3X) than the concentrations detected in upstream (background) samples.

Inorganics

Several inorganic constituents were detected in the sediment samples. As shown in Table 10, some concentrations exceed the more conservative chronic toxicity sediment criteria. In addition, several of the constituents (i.e., copper, lead, mercury, silver, and zinc) exceed the acute toxicity sediment criteria. Similar to the results for the semivolatile organic compounds, in most instances the concentrations detected adjacent to or downstream of the site are comparable to results for upstream (background) samples. The only exception is a single detected concentration of silver [4.1 mg/kg in sample SS-2(DUP)]. However, this sample was a duplicate of sample SS-2, which has a detected concentration of only 0.82 mg/kg, which is below both the acute and chronic toxicity criteria.

Cyanide

Cyanide was detected in only one of the nine samples, with a concentration of 16.2 mg/kg detected in sediment sample SS-4. Sediment criteria are not available for cyanide.

Summary

Several volatile organic compounds, semivolatile organic compounds, inorganics, and cyanide were detected in sediment samples collected from locations adjacent to and immediately downstream of the Site. According to the criteria-specific analysis, several of the sediment samples collected from the Rio Grande near the site exhibit concentrations greater than conservative screening criteria. However, similar exceedances are observed in the upstream (background) samples. Similarly, the concentrations detected in the samples collected adjacent to and downstream of the site are not significantly greater than the concentrations reported for the background samples.

4. Site Overview/Conceptual Model

NYSEG conducted the SPI and the Task II RI at the Goshen Site in order to characterize the environmental conditions of its property and to provide a foundation for later work, scheduled to begin in 2007. The following discussion briefly summarizes BBL's understanding of these investigation findings, as presented in this document.

The physical setting of the Goshen Site is relatively simple. Surface water runoff follows the low site relief to the northwest into the Rio Grande, just north of the site. Groundwater, both shallow and deep, appears to follow this same pattern and is expected to discharge to the Rio Grande. Based on the available subsurface data, the stratigraphy can be divided into four generalized units: fill, a silt and sand unit, a sand and gravel unit, and a very dense till. Groundwater is present in each unit with a water table ranging from 8 to 15 feet below grade across the site. The till unit, identified at depths of 35 to 40 feet, is expected to act as a confining unit and form a lower boundary for the shallow groundwater flow system at the site.

The site investigations have shown that the extent of MGP-affected soil, sediment, and groundwater at the Goshen Site is relatively limited. These investigations have identified several areas with evidence of limited MPG impacts. In particular, subsurface soils from test borings in Gas Holders 1 and 2, and north of the former tar drip tank were observed to contain a coal tar-type NAPL. Laboratory analyses and field observations have documented lower levels of MGP-type impacts in the subsurface soils of the furnace area, and downgradient of Gas Holders 1 and 2 at boring TB-10.

Groundwater monitoring has shown that water quality at the site perimeter is largely unaffected by the MGP sources, with the exception of low levels of total and amenable cyanide in the shallow downgradient wells. It should also be noted that NAPL was observed no deeper than 20-feet below grade and does not appear to have penetrated the intervals of silt found in the silt and sand unit.

The results of the sediment samples collected in the Rio Grande exceed the conservative screening criteria used in this report. However, the concentrations and constituents detected are similar in upstream (background) samples and in samples adjacent to and downstream of the site. These sediment impacts therefore do not appear to be related to the former MGP.

Tables

TABLE 1

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SUMMARY OF TASK II RI ANALYTICAL SAMPLES

Sample Location	Depth (ft.bgs)	Field ID	Soil	Water	Includes MS/MSD	VOCs	SVOCs	Metals	Cyanide	PCBs	TOC	Moisture Content	TCLP	BTU content	Reactivity	TPH
Test Pit Samples																
TP-1	6.0	GSVITP9301GG	x			x	x	x	x							
TP-2	4.5	GSVITP9302G4.5	x			x	x	x	x				x	x	x	x
TP-2 (DUP)	4.5	GSVITP9342G	x			x	x	x	x							
TP-3	2.0	GSVITP9303	x		x	x	x	x	x				x	x	x	x
Test Boring Samples																
TB-5	17 to 19.5	GSVIB-9305	x			x	x	x	x				x	x	x	x
TB-6	10 to 12.5	GSVIB-9306C10-12.5	x			x	x	x	x							
TB-8	15.5 to 20	GSVIB-9308	x			x	x	x	x				x	x	x	x
TB-10	7.2 to 10	GSVIB-9310	x			x	x	x	x				x	x	x	x
Tanks & Cistern Water Samples																
Steel Tank (TP-6)		GSQICR9301		x		x	x	x	x							
Cistern		GSSIPS9311B		x		x	x	x	x							
Surface Soil Samples																
SF-1		GSUUSF9301	x			x	x	x	x	x						
SF-2		GSUCSF9302	x			x	x	x	x	x						
SF-3		GSUCSF9303	x		x	x	x	x	x	x						
SF-4		GSUCSF9304	x			x	x	x	x	x						
SF-4 (DUP)		GSUCSF9314	x			x	x	x	x	x						
SF-5		GSUDSF9305	x			x	x	x	x	x						
Sediment Samples																
SS-1	0 to 1.2	GSTDSS9301	x			x	x	x	x		x	x				
SS-2	0 to 1.9	GSTDSS9302	x			x	x	x	x		x	x				
SS-2 (DUP)	0 to 1.9	GSTDDU9302	x			x	x	x	x		x	x				
SS-3	0 to 1.7	GSTCSS9303	x		x	x	x	x	x		x	x				
SS-4	0 to 1.5	GSTCSS9304	x			x	x	x	x		x	x				
SS-5	0 to 1.5	GSTCSS9305	x			x	x	x	x		x	x				
SS-6	0 to 1.0	GSTCSS9306	x			x	x	x	x		x	x				
SS-7	0 to 1.7	GSTUSS9307	x			x	x	x	x		x	x				
SS-8	0 to 2.2	GSTUSS9308	x			x	x	x	x		x	x				
Groundwater Samples 10/18/93																
MW93-1D		GSGUD-9301B1-93		x		x	x	x	x	x						
MW93-1S		GSGUSH9301B10-95		x		x	x	x	x	x						
MW93-2D		GSGDD-9302B10-93		x		x	x	x	x	x						
MW93-2S		GSGDSH9302B10-92		x		x	x	x	x	x						
MW93-3D		GSGDD-9303B10-93		x		x	x	x	x	x						
MW93-3D (DUP)		GSGXDUXX96B10-93		x		x	x	x	x	x						
MW93-3S		GSGSH9303B10-93		x	x	x	x	x	x	x						
Groundwater Samples 1/24/94																
MW93-1D		GSGUD-9301B1-94		x		x	x	x	x							
MW93-1S		GSGUSH9301B1-94		x		x	x	x	x							
MW93-2D		GSGDD-9302B1-94		x		x	x	x	x							
MW93-2S		GSGDSH9302B1-94		x		x	x	x	x							
MW93-3D		GSGDD-9303B1-94		x		x	x	x	x							
MW93-3D (DUP)		GSGXDUXX96B1-94		x		x	x	x	x							
MW93-3S		GSGSH-9303B1-94		x	x	x	x	x	x							

TABLE 1

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SUMMARY OF TASK II RI ANALYTICAL SAMPLES

Sample Location	Depth (ft.bgs)	Field ID	Soil	Water	Includes MS/MSD	VOCs	SVOCs	Metals	Cyanide	PCBs	TOC	Moisture Content	TCLP	BTU content	Reactivity	TPH
Groundwater Samples 4/27/94																
MW93-1D		GSGUD-9301B4-94		x		x	x	x	x							
MW93-1S		GSGUSH9301B4-94		x		x	x	x	x							
MW93-2D		GSGDD-9302B4-94		x		x	x	x	x							
MW93-2S		GSGDSH9302B4-94		x		x	x	x	x							
MW93-3D		GSGDD-9303B4-94		x		x	x	x	x							
MW93-3D (DUP)		GSGXDUXX96B4-94		x		x	x	x	x							
MW93-3S		GSGSH-9303B4-94		x	x	x	x	x	x							
Groundwater Samples 7/20/94																
MW93-1D		GSGUD-9301B7-94		x		x	x	x	x							
MW93-1S		GSGUSH9301B7-94		x		x	x	x	x							
MW93-2D		GSGDD-9302B7-94		x		x	x	x	x							
MW93-2S		GSGDSH9302B7-94		x		x	x	x	x							
MW93-3D		GSGDD-9303B7-94		x		x	x	x	x							
MW93-3D (DUP)		GSGXDUXX96B7-94		x		x	x	x	x							
MW93-3S		GSGSH-9303B7-94		x	x	x	x	x	x							

Analysis (short form)	Explanation	Analytical Method
VOCs	Volatile Organic Compounds	EPA Method 8240
SVOCs	Semivolatile Organic Compounds	EPA Method 8270
PCBs	Polychlorinated Biphenols	EPA Method 8080
TOC	Total Organic Carbon	EPA Lloyd Kahn Method
Moisture Content		ASP 91
Cyanide	Includes total and amenable	EPA Method 9010
Metals	Including: Cu, Ni, Sb, Fe, Se, As, Pb, Ag, Ba, Mn, V, Cd, Hg, Zn, Cr	EPA Method 6010/7000
TCLP	Toxicity Characteristic Leaching Procedure	EPA Method 1311
BTU content	British Thermal Unit	Method A006 (USEPA, 1984)
Reactivity	Includes both reactive cyanide and sulfide	
TPH	Total Petroleum Hydrocarbons	EPA Method 418.1

Abbreviations:

ft. bgs	feet below ground surface
DUP	blind duplicate sample
MS/MSD	matrix spike/matrix spike duplicate

TABLE 2

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SOURCE AREA INVESTIGATION ANALYTICAL DATA
SEPTEMBER & OCTOBER 1993

Sample ID / Depth (feet bgs)	NYSDEC Soil Cleanup Objectives	Test Pit/Test Boring Soil Samples										Water Samples	
		TP-1 (6)	TP-2 (4.5)	TP-2 (DUP) (4.5)	TP-2DL DUP/Dilution (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-6 (10-12.5)	TB-6DL dilution (10-12.5)	TB-8 (15.5-20)	TB-10 (7.2-10)	Steel Tank	Basement Cistern
VOLATILES (ppm)													
1,1,1-Trichloroethane	0.76	0.006 U	0.007 U	0.007 U	-	0.006 U	**0.03**	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	0.6	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,1,2-Trichloroethane	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,1- Dichloroethane	0.2	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,1- Dichloroethylene	0.4	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,2-Dichloroethane	0.1	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,2-Dichloroethene,Total	0.25*	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
1,2-Dichloropropane	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
2-Butanone	0.3	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
2-Hexanone	NA	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
4-Methyl-2-Pentanone	1.0	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
Acetone	0.11	0.012 U	**0.025 N**	**0.068 N**	-	**0.024 N**	0.06 UD	8.1 UD	-	1.4 U	**0.1 N**	0.01 U	0.01 U
Benzene	0.06	0.006 U	0.007 U	0.007 U	-	0.006 U	0.35 UD	**34 ND**	-	**4.4 N**	**0.075 N**	0.005 U	0.005 U
Bromodichloromethane	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 ND	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Bromoform	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Methyl Bromide (Bromomethane)	NA	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
Carbon Disulfide	2.7	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Carbon Tetrachloride	0.6	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Chlorobenzene	1.7	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Chloroethane	1.9	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
Chloroform	0.3	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Chloromethane	NA	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	**1.1 JD**	-	1.4 U	0.013 U	0.01 U	**0.002 J**
Dibromochloromethane	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Ethylbenzene	5.5	0.006 U	0.007 U	0.007 U	-	0.006 U	0.9 UD	**59 ND**	-	**0.88 N**	**0.059 N**	0.005 U	0.005 U
Methylene Chloride	0.1	0.006 U	0.007 U	0.007 U	-	0.006 U	**0.03 ND**	**1.6 JD**	-	**1.2 N**	**0.003 J**	0.005 U	0.005 U
Styrene	NA	0.006 U	0.007 U	0.007 U	-	0.006 U	0.093 UD	4 UD	-	**3.4 N**	0.006 U	0.005 U	0.005 U
Tetrachloroethene	1.4	0.006 U	0.007 U	0.007 U	-	0.006 U	**0.03 ND**	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Toluene	1.5	0.006 U	0.007 U	0.007 U	-	0.002 J	0.07 UD	**62 ND**	-	**9.6 N**	**0.04 N**	0.005 U	0.005 U
Trichloroethene	0.7	0.006 U	0.007 U	0.007 U	-	0.006 U	**0.03 ND**	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Vinyl Acetate	NA	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
Vinyl Chloride	0.12	0.012 U	0.014 U	0.014 U	-	0.013 U	0.06 UD	8.1 UD	-	1.4 U	0.013 U	0.01 U	0.01 U
Total Xylenes	1.2	0.006 U	0.007 U	0.007 U	-	0.006 U	1.8 UD	**100 ND**	-	**16 N**	**0.091 N**	0.005 U	0.005 U
Cis-1,3-Dichloropropene	0.3**	0.006 U	0.007 U	0.007 U	-	0.006 U	**0.03 ND**	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
Trans-1,3-Dichloropropene	0.3**	0.006 U	0.007 U	0.007 U	-	0.006 U	0.03 UD	4 UD	-	0.7 U	0.006 U	0.005 U	0.005 U
TOTAL VOLATILES DETECTED		**ND**	**0.025**	**0.068**	-	**0.026**	**3.213 UD**	**257.7**	-	**35.48**	**0.368**	**ND**	**0.002**

See notes on Page 4.

TABLE 2

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SOURCE AREA INVESTIGATION ANALYTICAL DATA
SEPTEMBER & OCTOBER 1993

Sample ID Depth (feet bgs)	NYSDEC Soil Cleanup Objectives	Test Pit/Test Boring Soil Samples										Water Samples	
		TP-1 (6)	TP-2 (4.5)	TP-2 (DUP) (4.5)	TP-2DL DUP/Dilution (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-6 (10-12.5)	TB-6DL dilution (10-12.5)	TB-8 (15.5-20)	TB-10 (7.2-10)	Steel Tank	Basement Cistern
SEMIVOLATILES (ppm)													
1,2,4-Trichlorobenzene	3.4	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
1,2-Dichlorobenzene	7.9	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
1,3-Dichlorobenzene	1.55	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
1,4 - Dichlorobenzene	8.5	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Bis(2-Chloroisopropyl) Ether	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2,4,5-Trichlorophenol	0.1	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
2,4,6 Trichlorophenol	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2,4 -Dichlorophenol	0.4	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2,4- Dimethylphenol	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	**0.29 JD**	**0.07 J**	0.012 U	0.012 U
2,4- Dinitrophenol	0.2	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
2,4- Dinitrotoluene	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2,6-Dinitrotoluene	1.0	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2-Chloronaphthalene	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2-Chlorophenol	0.8	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
2-Methylnaphthalene	36.4	**0.48 JD**	**0.057 J**	**0.063 J**	2.3 UD	0.42 U	**5.9 ND**	**10 JD**	**12 ND**	**6.3 ND**	**0.51 N**	0.012 U	**0.002 J**
2-Methylphenol	0.1	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	**0.22 JD**	**0.3 JD**	0.42 U	0.012 U	0.012 U
2-Nitroaniline	0.43	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
2-Nitrophenol	0.33	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
3,3 Dichlorobenzidine	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
3-Nitroaniline	0.5	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
2-Methyl-4,6-Dinitrophenol	NA	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
4-Bromophenyl Phenyl Ether	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
4-Chloro-3-Methylphenol	0.24	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
4-Chloroaniline	0.22	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
4-Chlorophenyl Phenyl Ether	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
4-Methylphenol	0.9	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	**0.6 JD**	**0.44 JD**	**0.088 J**	0.012 U	0.012 U
4-Nitroaniline	NA	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
4-Nitrophenol	0.1	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.012 U	0.012 U
Acenaphthene	90	**0.23 JD**	**0.33 J**	**0.3 J**	**0.29 JD**	0.42 U	**1.6 JD**	**7.8 JD**	**8.3 ND**	**0.71 JD**	**1.1 N**	0.012 U	0.012 U
Acenaphthylene	41	**1.3 JD**	**0.46 N**	**0.4 J**	**0.33 JD**	0.42 U	**7.2 ND**	**7.7 JD**	**8.6 ND**	**4.3 ND**	**0.54 N**	0.012 U	**0.002 J**
Anthracene	700	**3.6 ND**	**1.8 N**	**2.5 N**	**2.8 ND**	**0.03 J**	**8.5 ND**	**11 ND**	**13 ND**	**4.4 ND**	**0.68 N**	0.012 U	**0.014 N**
Benzo (A) Anthracene	3.0	**11 ND**	**5.2 N**	**5.6 N**	**6 ND**	**0.092 J**	**6.6 ND**	**21 ND**	**24 ND**	**3.1 ND**	**0.59 N**	0.012 U	**0.016 N**
Benzo (A) Pyrene	11	**10 ND**	**4.6 N**	**5.1 N**	**5.6 ND**	**0.083 J**	**4.7 ND**	**21 ND**	**24 ND**	**2.2 ND**	**0.48 N**	0.012 U	**0.011 J**
Benzo (B) Fluoranthene	1.1	**12 ND**	**6 N**	**6.6 N**	**6.4 ND**	**0.083 J**	**4.2 ND**	**20 ND**	**23 ND**	**2 ND**	**0.31 J**	0.012 U	**0.013 N**

See notes on Page 4.

TABLE 2

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SOURCE AREA INVESTIGATION ANALYTICAL DATA
SEPTEMBER & OCTOBER 1993

Sample ID / Depth (feet bgs)	NYSDEC Soil Cleanup Objectives	Test Pit/Test Boring Soil Samples										Water Samples	
		TP-1 (6)	TP-2 (4.5)	TP-2 (DUP) (4.5)	TP-2DL DUP/Dilution (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-6 (10-12.5)	TB-6DL dilution (10-12.5)	TB-8 (15.5-20)	TB-10 (7.2-10)	Steel Tank	Basement Cistern
Benzo (G,H,I,) Perylene	800	6.8 ND	2.6 N	3.3 N	4.2 ND	0.42 U	1.7 JD	12 ND	16 ND	0.78 JD	0.27 J	0.012 U	0.008 J
Benzo (K) Fluoranthene	1.1	7 ND	3.4 N	3.8 N	5.2 ND	0.062 J	3.6 ND	15 ND	19 ND	1.8 JD	0.33 J	0.012 U	0.012 N
Benzoic Acid	NA	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
Benzyl Alcohol	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Butylbenzylphthalate	122	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 N	0.012 U	0.012 U
Carbazole	NA	1 JD	0.78 N	0.85 N	0.85 JD	0.42 U	2 ND	5.8 JD	6.6 ND	1.6 JD	0.27 J	0.012 U	0.008 J
Chrysene	0.4	9.9 ND	5.4 N	5.6 N	6.1 ND	0.087 J	5.1 ND	25 ND	25 ND	2.6 ND	0.6 N	0.012 U	0.022 N
Di-N-Butylphthalate	8.1	0.74 JD	0.21 J	0.35 J	0.32 JD	0.38 J	0.51 JD	11 UD	0.58 JD	0.7 JD	6.6 N	0.012 U	0.012 U
Di-N-Octylphthalate	120	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Dibenzo (A,H) Anthracene	165,000	2.6 ND	0.83 N	0.96 N	2.3 UD	0.42 U	0.55 JD	4.8 JD	4.6 ND	0.4 JD	0.078 J	0.012 U	0.012 U
Dibenzofuran	6.2	0.96 JD	0.75 N	0.93 N	0.94 JD	0.42 U	5.9 ND	5.9 JD	6.4 ND	3.2 ND	0.43 N	0.012 U	0.004 J
Diethylphthalate	7.1	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Dimethylphthalate	2.0	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Fluoranthene	1,900	20 ND	11 N	11 N	15 ND	0.2 J	14 ND	63 ND	57 ND	6.9 ND	2.6 N	0.012 U	0.057 N
Fluorene	350	1 JD	1.5 N	1.7 N	1.8 JD	0.42 U	7.5 ND	12 ND	13 ND	3.8 ND	0.88 N	0.012 U	0.003 J
Hexachlorobenzene	1.4	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Hexachloro-1,3-Butadiene	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Hexachlorocyclopentadiene	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Hexachloroethane	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Indeno (1,2,3-CD) Pyrene	3.2	9.3 ND	3.9 N	4 N	5 ND	0.42 U	2.7 ND	15 ND	19 ND	1.2 JD	0.32 J	0.012 U	0.01 J
Isophorone	4.4	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
N-Nitroso-Di-N-Propylamine	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
N-Nitrosodiphenylamine	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Naphthalene	13	1.3 JD	0.36 J	0.37 J	0.38 JD	0.059 J	29 ND	86 ND	83 ND	36 ND	2.7 N	0.012 U	0.006 J
Nitrobenzene	0.2	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Pentachlorophenol	1.0	4.9 UD	1.1 U	1.1 U	5.7 UD	1 U	5 UD	27 UD	5.4 UD	4.7 UD	1 U	0.029 U	0.029 U
Phenanthrene	220	12 ND	2.5 N	1.8 N	1.9 JD	0.092 J	21 ND	69 ND	65 ND	10 ND	2.9 N	0.012 U	0.04 N
Phenol, Acid Extract. By GC/GCMS	0.03	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Pyrene	665	20 ND	11 N	11 N	14 ND	0.15 J	12 ND	53 ND	70 ND	5.3 ND	2.4 N	0.012 U	0.043 N
Bis (2-Chloroethoxy) Methane	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Bis (2-Chloroethyl) Ether	NA	2 UD	0.45 U	0.46 U	2.3 UD	0.42 U	2 UD	11 UD	2.2 UD	1.9 UD	0.42 U	0.012 U	0.012 U
Bis (2-Ethylhexyl) Phthalate	435	2 UD	0.072 J	0.13 J	2.3 UD	0.42 U	0.19 JD	11 UD	0.36 JD	0.65 JD	0.8 N	0.012 U	0.004 J
TOTAL SEMIVOLATILES DETECTED		131.21	62.749	66.353	77.11	1.318	144.45	465	499.26	98.97	25.966	ND	0.299

See notes on Page 4.

TABLE 2

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SOURCE AREA INVESTIGATION ANALYTICAL DATA
SEPTEMBER & OCTOBER 1993

Sample ID / Depth (feet bgs)	NYSDEC Soil Cleanup Objectives	Test Pit/Test Boring Soil Samples										Water Samples	
		TP-1 (6)	TP-2 (4.5)	TP-2 (DUP) (4.5)	TP-2DL DUP/Dilution (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-6 (10-12.5)	TB-6DL dilution (10-12.5)	TB-8 (15.5-20)	TB-10 (7.2-10)	Steel Tank	Basement Cistern
INORGANICS (ppm)													
Aluminum, Total	SB	12600 N	19000 N	20500 N	-	13100 N	8800 N	12100 N	-	11000 N	21000 N	0.253 N	4.01 N
Antimony, Total	SB	0.56 U	0.61 U	0.67 U	-	0.55 U	0.52 U	0.62 U	-	0.54 U	0.59 U	0.005 U	0.005 U
Arsenic, Total	7.5 or SB	16 N	7.9 N	10.6 N	-	7.9 N	6.4 N	8.3 N	-	4.4 N	11.2 N	0.002 U	0.0121 N
Barium, Total	300 or SB	70.9 N	106 N	111 N	-	60.6 N	28.3 N	76.1 N	-	52.9 N	147 N	0.041 J	0.049 J
Cadmium, Total	10	0.89 N	0.49 U	0.54 U	-	0.44 U	0.42 U	0.5 U	-	0.43 U	0.47 U	0.004 U	0.004 U
Chromium, Total	50	20.8 N	30.8 N	29.5 N	-	19.6 N	14 N	19 N	-	17.8 N	33.6 N	0.004 U	0.019 N
Copper, Total	25 or SB	94.1 N	31.7 N	28.8 N	-	30.6 N	21.6 N	31 N	-	25.4 N	35.8 N	0.004 U	0.021 J
Iron, Total	2,000 or SB	27700 N	28600 N	27600 N	-	26600 N	19300 N	34200 N	-	22700 N	48600 N	1.9 N	11.1 N
Lead, Total	400	178 N	72 N	122 N	-	19.9 N	11.5 N	218 N	-	7.9 N	23.1 N	0.0049 N	0.0488 N
Manganese, Total	SB	891 N	286 N	261 N	-	543 N	466 N	798 N	-	612 N	329 N	0.891 N	0.352 N
Mercury, Total	0.1	0.18 N	0.07 J	0.07 J	-	0.21 N	0.06 U	0.19 N	-	0.06 U	0.06 J	0.0001 U	0.0378 N
Nickel, Total	13 or SB	27 N	30.2 N	30.6 N	-	26.7 N	17.8 N	24.2 N	-	23.6 N	44.4 N	0.008 U	0.014 J
Selenium, Total	2 or SB	0.09 U	0.14 U	0.13 U	-	0.11 U	0.11 U	0.12 U	-	0.1 U	0.12 U	0.001 U	0.001 U
Silver, Total	SB	0.78 U	0.86 U	0.94 U	-	0.78 U	0.73 U	0.87 U	-	0.75 U	0.83 U	0.007 U	0.007 U
Total Vanadium	150 or SB	22 N	35.8 N	36.2 N	-	20.3 N	13.7 N	20.1 N	-	18.5 N	31.4 N	0.006 U	0.019 J
Zinc, Total	20 or SB	287 N	89.9 N	92.3 N	-	77 N	48.8 N	95.8 N	-	65.3 N	93.6 N	0.015 J	0.184 N
Cyanide, Total	***	72.6 N	39.3 N	125 N	-	2.7 U	2.3 U	6.7 N	-	1.9 U	1.2 U	0.01 U	1.45 N
Cyanide, Amenable	***	10 U	10 U	2.5 U	-	-	-	10 U	-	-	-	-	0.01 U
Reactive Cyanide	***	-	100 U	-	-	100 U	100 U	-	-	100 U	100 U	-	-
Reactive Sulfide	NA	-	100 U	-	-	100 U	100 U	-	-	100 U	100 U	-	-
Total Petroleum Hydrocarbons	NA	-	70 U	-	-	60 U	270 U	-	-	270 U	120 N	-	-
Heat Content (BTU/LB)	NA	-	333 N	-	-	100 U	126 N	-	-	100 U	73.5 N	-	-

Notes:

Except as notes, all values expressed as as parts per million (ppm), equivalent to milligrams per kilogram (mg/Kg) for soil, milligrams per liter (mg/L) for water.

NYSDEC TAGMs Soil Cleanup Objectives, revised 4/95.

Shaded values exceed criteria.

Criteria are not valid for water samples, and therefore are not used for comparision.

SB - Site background.

bgs - below ground surface.

NA - Not Available.

U - Undetected. The value listed is the detection limit.

The detection limit is defined for organic compounds as the quantitation limit.

The inorganic detection limit is the instrument detection limit.

J - Detected at an estimated concentration below the minimum quantitation limit.

I - Possible matrix interference.

N - Detected concentrations.

D - Indicates the sample was diluted to quantify the concentration.

B - Indicates the compound was found in the blank.

* - Value is for cis- isomer.

** - Value is for total of both cis- and trans- isomers.

*** - Some cyanide complexes can be very stable while others are pH dependent and can be unstable. Site-specific form(s) of cyanide should be taken into consideration.

TABLE 3

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

WASTE CHARACTERIZATION DATA
SEPTEMBER & OCTOBER 1993

Sample ID / Depth (feet BGS)	RCRA TCLP Regulatory Level	Subsurface Soil Grab Samples					Drum Composite Soil Samples			
		TP-2 (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-8 (5.5-20)	TB-10 (7.2-10)	MW-3S	MW-2D	MW-1D	TB-7
VOLATILE TCLP (ppm)										
1,1-Dichloroethylene	0.7	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethane	0.5	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methylethylketone	200	0.01 U	0.01 U	0.01 U	0.017 UD	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzene	0.5	0.005 U	0.005 U	**0.17 N**	**0.24 ND**	0.005 U	0.005 U	0.005 U	0.005 U	**0.18 N**
Carbon Tetrachloride	0.5	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	100	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloroform	6.0	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.7	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trichloroethene	0.5	0.005 U	0.005 U	0.005 U	0.008 UD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl Chloride	0.2	0.01 U	0.01 U	0.01 U	0.017 UD	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
SEMIVOLATILES TCLP (ppm)										
1,4-Dichlorobenzene TCLP/Base Neutrals	7.5	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-Trichlorophenol TCLP/Acid Extraction	400	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol TCLP/Acid Extraction	2.0	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene TCLP/Base Neutrals	0.13	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
O-Cresol TCLP/Acid Extraction	200	0.01 U	0.012 U	0.011 U	**0.015 N**	**0.002 J**	0.01 U	0.01 U	0.01 U	**0.042 N**
M,P Cresol TCLP/Acid Extraction	200	0.01 U	0.012 U	0.011 U	**0.022 N**	**0.006 J**	**0.004 J**	0.01 U	0.01 U	**0.017 N**
Hexachlorobenzene TCLP/Base Neutrals	0.13	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachloro-1,3-Butadiene TCLP/Base Neutral	0.5	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachloroethane TCLP/Base Neutral	3.0	0.1 U	0.12 U	0.11 U	0.096 U	0.1 U	0.1 U	0.1 U	0.096 U	0.01 U
Nitrobenzene TCLP/Base Neutral	2.0	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol TCLP/Acid Extraction	100.0	0.005 U	0.006 U	0.006 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Pyridine TCLP/Base Neutral	5.0	0.1 U	0.12 U	0.11 U	0.096 U	0.1 U	0.1 U	0.1 U	0.096 U	0.01 U
HERBICIDE TCLP (ppm)										
2,4,5-TP (Silvex)	1.0	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2,4-D	10	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PESTICIDE TCLP (ppm)										
Chlordane	0.03	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endrin	0.02	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U
Heptachlor	0.008	5E-04 U	5E-04 U	**1E-04 JP**	5E-04 U	**3E-05 JP**	5E-04 U	5E-04 U	5E-04 U	5E-04 U
Heptachlor Epoxide	0.008	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U	5E-04 U
Methoxychlor	10	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Toxaphene	0.5	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lindane	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
INORGANICS TCLP (ppm)										
Arsenic	5.0	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U
Barium	100.0	**0.161 J**	**0.678 J**	**0.474 J**	**0.65 J**	**0.543 J**	**0.38 J**	**0.69 J**	**0.37 J**	**0.62 J**
Cadmium	1.0	**0.004 J**	0.004 U	0.004 U	0.004 U	**0.005 J**	0.005 U	0.05 U	0.005 J	**0.006 N**
Chromium	5.0	0.004 U	0.004 U	0.004 U	0.004 U	**0.004 J**	0.01 U	0.01 U	0.015 N	**0.014 N**
Lead	5.0	**0.182 J**	**0.052 J**	0.038 U	0.038 U	0.038 U	0.09 U	0.09 U	0.09 U	0.09 U
Mercury	0.2	1E-04 U	1E-04 U	1E-04 U	1E-04 U	1E-04 U	2E-04 U	2E-04 U	2E-04 U	2E-04 U
Selenium	1.0	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U	0.1 U	0.1 U	0.1 U
Silver	5.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	**0.03 J**	0.03 U	0.03 U	0.03 U

See notes on Page 2.

TABLE 3

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

WASTE CHARACTERIZATION DATA
SEPTEMBER & OCTOBER 1993

Sample ID / Depth (feet BGS)	RCRA TCLP Regulatory Level	Subsurface Soil Grab Samples					Drum Composite Soil Samples			
		TP-2 (4.5)	TP-3 (2.0)	TB-5 (17-19.5)	TB-8 (5.5-20)	TB-10 (7.2-10)	MW-3S	MW-2D	MW-1D	TB-7
Other Analyses										
Reactive Cyanide (ppm)	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Reactive Sulfide (ppm)	NA	100 U	100 U	100 U	100 U	100 U	100 U	100 U	**159 N**	100 U
Total Petroleum Hydrocarbons (ppm)	NA	70 U	60 U	270 U	270 U	**120 N**	250 U	60 U	70 U	**65 J**
BTU Content (BTU/LB)	NA	**333 N**	100 U	**126 N**	100 U	**73.5 N**	**162 N**	DNB U	**20 N**	**87 N**

Notes:

Except as noted, all values expressed as parts per million (ppm), equivalent to milligrams per liter (mg/L).

RCRA TCLP Regulatory Level - revised 11/91.

Shaded values exceed criteria.

SB - Site background.

NA - Not Available.

U - Undetected. The value listed is the dctection limit.

The detection limit is defined for organic compounds as the quantitaiton limit.

The inorganic detection limit is the instrument detection limit.

J - Detected at an estimated concentration below the minimum detection limit.

N - Detected conceintration.

D - Indicates the sample was dilnted to quantify the concentration.

E - Indicates the compound was found in the blank.

* - Value is for cis- isomer.

** - Value is for total of both cis- and trans- isomers.

*** - Some cyanide complexes can be very stable while others are pH dependent and can be unstable. Site-specific form(s) of Cyanide should be taken into consideration.

TABLE 4

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SURFACE SOIL ANALYTICAL DATA
OCTOBER 19, 1993

FIELD LOCATION:	NYSDEC Soil Cleanup Objectives	SF-01 Background	SF-02	SF-03	SF-04	SF-04 Dup.	SF-05
VOLATILES (ppm)							
1,1,1-Trichloroethane	0.76	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,1,2,2-Tetrachloroethane	0.6	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,1,2-Trichloroethane	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,1- Dichloroethane	0.2	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,1- Dichloroethylene	0.4	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,2-Dichloroethane	0.1	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,2-Dichloroethene,Total	0.25*	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
1,2-Dichloropropane	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
2-Butanone	0.3	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
2-Hexanone	NA	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
4-Methyl-2-Pentanone	1.0	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Acetone	0.11	**0.018 B**	**0.018 B**	**0.019 B**	**0.021 B**	**0.019 B**	**0.02 B**
Benzene	0.06	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Bromodichloromethane	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Bromoform	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Methyl Bromide (Bromomethane)	NA	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Carbon Disulfide	2.7	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Carbon Tetrachloride	0.6	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Chlorobenzene	1.7	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Chloroethane	1.9	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Chloroform	0.3	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Chloromethane	NA	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Dibromochloromethane	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Ethylbenzene	5.5	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Methylene Chloride	0.1	**0.021 B**	**0.022 B**	**0.022 B**	**0.02 B**	**0.02 B**	**0.023 B**
Styrene	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Tetrachloroethene	1.4	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Toluene	1.5	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Trichloroethene	0.7	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Vinyl Acetate	NA	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Vinyl Chloride	0.12	0.01 U	0.01 U	0.011 U	0.011 U	0.011 U	0.012 U
Total Xylenes	1.2	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Cis-1,3-Dichloropropene	0.3**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
Trans-1,3-Dichloropropene	0.3**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006 U
TOTAL DETECTED VOLATILES:		**0.039**	**0.04**	**0.041**	**0.041**	**0.039**	**0.043**
SEMIVOLATILES (ppm)							
1,2,4-Trichlorobenzene	3.4	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
1,2-Dichlorobenzene	7.9	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
1,3-Dichlorobenzene	1.55	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
1,4 - Dichlorobenzene	8.5	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Bis(2-Chloroisopropyl) Ether	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD

See notes on Page 4.

TABLE 4

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SURFACE SOIL ANALYTICAL DATA
OCTOBER 19, 1993

FIELD LOCATION:	NYSDEC Soil Cleanup Objectives	SF-01 Background	SF-02	SF-03	SF-04	SF-04 Dup.	SF-05
2,4,5-Trichlorophenol	0.1	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
2,4,6 Trichlorophenol	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2,4 -Dichlorophenol	0.4	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2,4- Dimethylphenol	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2,4- Dinitrophenol	0.2	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
2,4- Dinitrotoluene	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2,6-Dinitrotoluene	1.0	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2-Chloronaphthalene	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2-Chlorophenol	0.8	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2-Methylnaphthalene	36.4	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2-Methylphenol	0.1	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
2-Nitroaniline	0.43	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
2-Nitrophenol	0.33	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
3,3 Dichlorobenzidine	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
3-Nitroaniline	0.5	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
2-Methyl-4,6-Dinitrophenol	NA	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
4-Bromophenyl Phenyl Ether	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
4-Chloro-3-Methylphenol	0.24	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
4-Chloroaniline	0.22	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
4-Chlorophenyl Phenyl Ether	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
4-Methylphenol	0.9	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
4-Nitroaniline	NA	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
4-Nitrophenol	0.1	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
Acenaphthene	90	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Acenaphthylene	41	**0.13 J**	**0.38 JD**	**0.65 JD**	**0.28 J**	**0.11 J**	**5.9 JD**
Anthracene	700	**0.29 J**	**0.78 JD**	**0.97 JD**	**0.19 J**	**0.14 J**	**12 ND**
Benzo (A) Anthracene	3.0	**1.6 N**	**4 ND**	**6.1 ND**	**1.5 N**	**1.2 N**	**52 ND**
Benzo (A) Pyrene	11	**0.95 N**	**3.5 ND**	**5.2 ND**	**1 N**	**0.73 N**	**42 ND**
Benzo (B) Fluoranthene	1.1	**1.5 N**	**3.4 ND**	**5.9 ND**	**1.6 N**	**1.2 N**	**39 ND**
Benzo (G,H,I,) Perylene	800	**0.059 J**	**1.2 JD**	**1.7 JD**	**0.092 J**	0.36 U	**11 ND**
Benzo (K) Fluoranthene	1.1	**1.4 N**	**2.8 ND**	**5.4 ND**	**1.1 N**	**1.4 N**	**40 ND**
Benzoic Acid	NA	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
Benzyl Alcohol	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Butylbenzylphthalate	122	0.35 U	1.8 UD	1.8 UD	0.36 U	**0.69 N**	7.7 UD
Carbazole	NA	**0.13 J**	**0.45 JD**	**0.36 JD**	**0.062 J**	**0.065 J**	**2 JD**
Chrysene	0.4	**1.3 N**	**4.1 ND**	**5 ND**	**1.1 N**	**1.1 N**	**41 ND**
Di-N-Butylphthalate	8.1	0.35 U	1.8 UD	1.8 UD	0.36 U	**0.083 J**	7.7 UD
Di-N-Octylphthalate	120	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Dibenzo (A,H) Anthracene	165,000	**0.32 J**	**0.74 JD**	**1.2 JD**	**0.28 J**	**0.26 J**	**7.9 ND**
Dibenzofuran	6.2	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	1.8 JD
Diethylphthalate	7.1	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Dimethylphthalate	2.0	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Fluoranthene	1,900	**3.1 N**	**8.6 ND**	**10 ND**	**3.1 N**	**2.1 N**	**74 ND**

See notes on Page 4.

TABLE 4

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SURFACE SOIL ANALYTICAL DATA
OCTOBER 19, 1993

FIELD LOCATION:	NYSDEC Soil Cleanup Objectives	SF-01 Background	SF-02	SF-03	SF-04	SF-04 Dup.	SF-05
Fluorene	350	0.11 J	0.45 JD	1.8 UD	0.17 J	0.36 U	3.7 JD
Hexachlorobenzene	1.4	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Hexachloro-1,3-Butadiene	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Hexachlorocyclopentadiene	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Hexachloroethane	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Indeno (1,2,3-CD) Pyrene	3.2	0.54 N	1.7 JD	2.6 ND	0.58 N	0.4 N	14 ND
Isophorone	4.4	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
N-Nitroso-Di-N-Propylamine	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
N-Nitrosodiphenylamine	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Naphthalene	13	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Nitrobenzene	0.2	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Pentachlorophenol	1.0	0.88 U	4.4 UD	4.5 UD	0.89 U	0.89 U	19 UD
Phenanthrene	220	1.4 N	5.1 ND	4.7 ND	2 N	0.74 N	41 ND
Phenol, Acid Extract. By GC/GCMS	0.03	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Pyrene	665	2.2 N	9.2 ND	10 ND	3.3 N	1.8 N	76 ND
Bis (2-Chloroethoxy) Methane	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Bis (2-Chloroethyl) Ether	NA	0.35 U	1.8 UD	1.8 UD	0.36 U	0.36 U	7.7 UD
Bis (2-Ethylhexyl) Phthalate	435	0.17 J	1.8 UD	1.8 UD	0.1 J	0.13 J	7.7 UD
TOTAL DETECTED SEMIVOLATILES		15.2	46.4	59.8	16.5	11.5	463
PCBs (ppm)							
PCB-1016	10	0.035 U	0.035 U	0.036 U	0.036 U	0.036 U	0.039 U
PCB-1221	10	0.07 U	0.07 U	0.072 U	0.072 U	0.072 U	0.077 U
PCB-1232	10	0.035 U	0.035 U	0.036 U	0.036 U	0.036 U	0.039 U
PCB-1242	10	0.035 U	0.035 U	0.036 U	0.036 U	0.036 U	0.039 U
PCB-1248	10	0.035 U	0.035 U	0.036 U	0.036 U	0.036 U	0.039 U
PCB-1254	10	0.035 U	0.035 U	0.012 JP	0.017 JP	0.041 N	0.039 U
PCB-1260	10	0.035 U	0.03 JP	0.036 U	0.036 U	0.044 N	0.039 U
TOTAL DETECTED PCBs		ND	0.03	0.012	0.017	0.085	ND
INORGANICS (ppm)							
Aluminum, Total	SB	12700 N	7870 N	9440 N	10300 N	9330 N	14100 N
Antimony, Total	SB	0.52 U	0.52 U	0.53 U	0.54 U	0.53 U	0.79 U
Arsenic, Total	7.5 or SB	12.6 N	5.1 N	6.6 N	6.9 N	7 N	20.5 N
Barium, Total	300 or SB	39.9 N	31 N	36.7 N	33.7 N	29.8 N	108 N
Cadmium, Total	10	0.42 U	0.41 U	0.43 J	0.54 N	0.53 N	0.79 N
Chromium, Total	50	19.8 N	14 N	16.7 N	16.3 N	15.5 N	25.8 N
Copper, Total	25 or SB	34.1 N	25.3 N	30.3 N	28.3 N	27.2 N	59.9 N
Iron, Total	2,000 or SB	27300 N	18800 N	21400 N	24000 N	21600 N	34700 N
Lead, Total	400	27.6 N	52 N	57.2 N	42 N	42 N	143 N
Manganese, Total	SB	722 N	478 N	476 N	631 N	640 N	836 N
Mercury, Total	0.1	0.07 J	0.22 N	2.8 N	0.11 N	0.1 J	0.41 N
Nickel, Total	13 or SB	47.2 N	19.6 N	21.8 N	24.9 N	22.2 N	34.7 N

See notes on Page 4.

TABLE 4

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SURFACE SOIL ANALYTICAL DATA
OCTOBER 19, 1993

FIELD LOCATION:	NYSDEC Soil Cleanup Objectives	SF-01 Background	SF-02	SF-03	SF-04	SF-04 Dup.	SF-05
Selenium, Total	2 or SB	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.16 U
Silver, Total	SB	0.73 U	0.72 U	2.1 N	0.75 U	0.74 U	1.1 U
Total Vanadium	150 or SB	**18.8 N**	**17 N**	**18 N**	**17.7 N**	**17.7 N**	**31.3 N**
Zinc, Total	20 or SB	**89.6 N**	**140 N**	**121 N**	**95.2 N**	**90.5 N**	**210 N**
Cyanide, Total	***	2.4 U	2.3 U	2.4 U	2.5 U	2.3 U	3.3 U

Notes:

All units expressed as parts per million (ppm), equivalent to milligrams per kilogram (mg/Kg).

NYSDEC TAGMs Soil Cleanup Objectives, revised 4/95.

Shaded values exceed criteria.

SB - Site background.

NA - Not Available.

U - Undetected. The value listed is the detection limit.

The detection limit is defined for organic compounds as the quantitation limit.

The inorganic detection limit is the instrument detection limit.

J - Detected at an estimated concentration below the minimum quantitation limit.

I - Possible matrix interference.

N - Detected concentration.

D - Indicates the sample was diluted to quantify the concentration.

B - Indicates the compound was found in the blank.

* - Value is for cis- isomer.

** - Value is for total of both cis- and trans- isomers.

*** - Some cyanide complexes can be very stable while others are pH dependent and can be unstable. Site-specific form(s) of Cyanide should be taken into consideration.

TABLE 5

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

MONITORING WELL DETAILS AND WATER-LEVEL ELEVATIONS

Well	Ground Elevation ft. AMSL	Top of Well Elevation ft. AMSL	Bottom of Boring Elevation ft. AMSL	Screen Interval Elevation ft. AMSL	Groundwater Elevations 9/28/93 ft. AMSL	10/19/93 ft. AMSL	01/25/94 ft. AMSL	04/27/94 ft. AMSL	07/20/94 ft. AMSL
MW93-1S	436.3	432.23	412.3	413.65 - 423.65	428.91	429.00	426.93	429.05	429.03
MW93-1D	436.7	436.51	399.3	399.65 - 404.65	425.29	425.11	421.39	425.87	425.11
MW93-2S	430.5	430.32	408.5	408.9 - 418.9	425.29	421.83	420.22	421.97	421.11
MW93-2D	430.5	430.29	394.1	394.5 - 399.5	422.99	418.32	417.18	422.55	418.08
MW93-3S	430.1	432.16	407.6	408 - 418	421.96	422.70	420.73	422.85	422.52
MW93-3D	430.1	342.57	392.1	393.95 - 398.95	422.16	420.54	418.36	423.23	420.69

Notes:

Elevations based on National Geodetic Vertical Datum of 1929.

ft. AMSL = feet Above Mean Sea Level

TABLE 6

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
OCTOBER 18, 1993

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
VOLATILES (ppm)								
1,1,1-Trichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2-Trichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethylene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethene,Total	0.005 c	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloropropane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
2-Butanone	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Methyl-2-Pentanone	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acetone	0.050 G	**0.011 B**	**0.010 B**	**0.014 B**	**0.011 B**	**0.011 B**	**0.012 B**	**0.012 B**
Benzene	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromodichloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromoform	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methyl Bromide (Bromomethane)	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Carbon Disulfide	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon Tetrachloride	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloroethane	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chloroform	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloromethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromochloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methylene Chloride	0.005	**0.019 B**	**0.018 B**	**0.019 B**	**0.019 B**	**0.020 B**	**0.019 B**	**0.019 B**
Styrene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trichloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl Acetate	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vinyl Chloride	0.002	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Total Xylenes	0.005 d	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cis-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trans-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
TOTAL DETECTED VOLATILES		**0.030**	**0.028**	**0.033**	**0.030**	**0.031**	**0.031**	**0.031**
SEMIVOLATILES (ppm)								
1,2,4-Trichlorobenzene	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2-Dichlorobenzene	0.003	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.003	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1,4 - Dichlorobenzene	0.003	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Bis(2-Chloroisopropyl) Ether	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-Trichlorophenol	0.001 a	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U

See notes on Page 4.

TABLE 6

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
OCTOBER 18, 1993

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
2,4,6 Trichlorophenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4 -Dichlorophenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4- Dimethylphenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4- Dinitrophenol	0.001 a	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
2,4- Dinitrotoluene	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene	0.010 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chlorophenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylnaphthalene	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylphenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline	0.005	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
2-Nitrophenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
3,3 Dichlorobenzidine	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
3-Nitroaniline	0.005	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
2-Methyl-4,6-Dinitrophenol	0.001 a	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
4-Bromophenyl Phenyl Ether	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chloro-3-Methylphenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl Phenyl Ether	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Methylphenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline	0.005	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
4-Nitrophenol	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.020 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo (A) Anthracene	0.000002 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo (A) Pyrene	ND	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo (B) Fluoranthene	0.000002 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo (G,H,I,) Perylene	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo (K) Fluoranthene	0.000002 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzoic Acid	NA	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
Benzyl Alcohol	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Butylbenzylphthalate	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Carbazole	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	0.000002 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-N-Butylphthalate	0.050	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-N-Octylphthalate	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo (A,H) Anthracene	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Diethylphthalate	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dimethylphthalate	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.00004	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

See notes on Page 4.

TABLE 6

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
OCTOBER 18, 1993

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
Hexachloro-1,3-Butadiene	0.001	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorocyclopentadiene	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachloroethane	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Indeno (1,2,3-CD) Pyrene	0.000002 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitroso-Di-N-Propylamine	NA	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.010 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.0004	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.001 a	0.025 U	0.024 U	0.025 U	0.025 U	0.031 U	0.024 U	0.032 U
Phenanthrene	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenol, Acid Extract. By GC/GCMS	0.001 a	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	0.050 G	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Bis (2-Chloroethoxy) Methane	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Bis (2-Chloroethyl) Ether	0.001	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Bis (2-Ethylhexyl) Phthalate	0.005	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
TOTAL DETECTED SEMIVOLATILES		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
PCBs (ppm)								
PCB-1016	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1221	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1232	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1242	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1248	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1254	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
PCB-1260	0.00009 b	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
TOTAL DETECTED PCBs		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
INORGANICS (ppm)								
Aluminum, Total	NA	**9.05 N**	**29.50 N**	**16.80 N**	**26.60 N**	**20.80 N**	**50.40 N**	**20.10 N**
Antimony, Total	0.003	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic, Total	0.025	**0.0071 J**	**0.0163 N**	**0.0106 N**	**0.0317 N**	**0.0143 N**	**0.0458 N**	**0.0144 N**
Barium, Total	1.000	**0.141 J**	**0.298 N**	**0.219 N**	**0.185 J**	**0.264 N**	**0.245 N**	**0.252 N**
Cadmium, Total	0.005	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Chromium, Total	0.050	**0.023 N**	**0.059 N**	**0.039 N**	**0.061 N**	**0.049 N**	**0.094 N**	**0.045 N**
Copper, Total	0.200	**0.033 N**	**0.087 N**	**0.050 N**	**0.086 N**	**0.060 N**	**0.138 N**	**0.060 N**
Iron, Total	0.30 h	**16.9 N**	**59.1 N**	**29.9 N**	**58.3 N**	**38.1 N**	**97.9 N**	**37.7 N**
Lead, Total	0.025	**0.0072 N**	**0.0218 N**	**0.0125 N**	**0.0225 N**	**0.0143 N**	**0.0215 N**	**0.0183 N**
Manganese, Total	0.30 h	**1.05 N**	**2.57 N**	**2.13 N**	**4.97 N**	**2.12 N**	**7.88 N**	**2.07 N**
Mercury, Total	0.001	0.0001 U	**0.0001 J**	0.0001 U	**0.0001 J**	0.0001 U	**0.0001 J**	0.0001 U
Nickel, Total	0.100	**0.029 J**	**0.082 N**	**0.043 N**	**0.079 N**	**0.084 N**	**0.126 N**	**0.054 N**
Selenium, Total	0.010	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver, Total	0.050	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Total Vanadium	NA	**0.022 J**	**0.058 N**	**0.037 J**	**0.048 J**	**0.041 J**	**0.086 N**	**0.038 J**

See notes on Page 4.

TABLE 6

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
OCTOBER 18, 1993

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
Zinc, Total	2.0 G	**0.068 N**	**0.173 N**	**0.104 N**	**0.176 N**	**0.142 N**	**0.297 N**	**0.166 N**
Cyanide, Total	0.20 L	0.01 U	0.01 U	0.01 U	**0.075 N**	0.01 U	0.01 U	**0.479 U**
Cyanide, Amenable	0.20 L	-	-	-	0.010 U	-	-	**0.052 N**

Notes:

ppm - parts per million.
NYSDEC TOGS Class GA Ambient Water Quality Standards and Guidance Values, revised 6/98.
SB - Site background.
NA - Not Available.
Shaded values exceed criteria.

Data Qualifiers:

U - Undetected. The value listed is the detection limit.
The detection limit is defined for organic compounds as the quantitation limit.
The inorganic detection limit is the instrument detection limit.
J - Detected at an estimated concentration below the minimum quantitation limit.
I - Possible matrix interference.
N - Detected concentration.
D - Indicates the sample was diluted to quantify the concentration.
B - Indicates the compound was found in the blank.

Criteria Qualifiers:

a - Value listed applies to the sum of these substances.
b - Value listed applies to the sum of these substances.
c - Value listed applies to both the cis and trans isomers separately.
d - Value listed applies to each isomer individually.
e - Value listed applies to the sum of the isomers.
G - Guidance Value.
h - Iron and Manganese criteria are 0.3 ppm individually or 0.5 ppm as a sum.
L - Applies to total Cyanide.
NA - No GA standard or guidance value for ground water is available for these substances.

TABLE 7

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
JANUARY 24, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
VOLATILES (ppm)								
1,1,1- Trichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2-Trichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethylene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethene,Total	0.005 c	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloropropane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
2-Butanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.003 J**	0.010 U
2-Hexanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Methyl-2-Pentanone	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acetone	0.050 G	**0.006 J**	0.010 U	0.010 U	0.010 U	**0.004 J**	**0.007 J**	**0.012 N**
Benzene	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.002 J**	**0.002 J**
Bromodichloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromoform	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methyl Bromide (Bromomethane)	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Carbon Disulfide	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon Tetrachloride	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloroethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chloroform	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloromethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromochloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methylene Chloride	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Styrene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trichloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl Acetate	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Vinyl Chloride	0.002	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total Xylenes	0.005 d	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cis-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trans-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
TOTAL DETECTED VOLATILES		**0.006**	**ND**	**ND**	**ND**	**0.004**	**0.012**	**0.014**
SEMIVOLATILES (ppm)								
1,2,4-Trichlorobenzene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,2-Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,3-Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,4 - Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U

See notes on Page 4.

TABLE 7

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
JANUARY 24, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
Bis (2-Chloroisopropyl) Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4,5-Trichlorophenol	0.001 a	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
2,4,6 Trichlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4 -Dichlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4- Dimethylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4- Dinitrophenol	0.001 a	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
2,4- Dinitrotoluene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,6-Dinitrotoluene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Chloronaphthalene	0.010 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Chlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Methylnaphthalene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Nitroaniline	0.005	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
2-Nitrophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
3,3 Dichlorobenzidine	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
3-Nitroaniline	0.005	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
2-Methyl-4,6-Dinitrophenol	0.001 a	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
4-Bromophenyl Phenyl Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chloro-3-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chloroaniline	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chlorophenyl Phenyl Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Nitroaniline	0.005	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
4-Nitrophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Acenaphthene	0.020 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Acenaphthylene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Anthracene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (A) Anthracene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (A) Pyrene	ND	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (B) Fluoranthene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (G,H,I,) Perylene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (K) Fluoranthene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzoic Acid	NA	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
Benzyl Alcohol	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Butylbenzylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Carbazole	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Chrysene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Di-N-Butylphthalate	0.050	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Di-N-Octylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Dibenzo (A,H) Anthracene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Dibenzofuran	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Diethylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U

See notes on Page 4.

TABLE 7

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
JANUARY 24, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
Dimethylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Fluoranthene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	**0.004 J**	0.010 U	0.012 U
Fluorene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachlorobenzene	0.000	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachloro-1,3-Butadiene	0.001	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachlorocyclopentadiene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachloroethane	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Indeno(1,2,3-CD)Pyrene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Isophorone	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
N-Nitroso-Di-N-Propylamine	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
N-Nitrosodiphenylamine	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Naphthalene	0.010 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Nitrobenzene	0.000	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Pentachlorophenol	0.001 a	0.030 U	0.025 U	0.024 U	0.029 U	0.025 U	0.025 U	0.030 U
Phenanthrene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	**0.005 J**	0.010 U	0.012 U
Phenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Pyrene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	**0.005 J**	0.010 U	0.012 U
Bis(2-Chloroethoxy)Methane	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis (2-Chloroethyl) Ether	0.001	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis (2-Ethylhexyl) Phthalate	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
TOTAL SEMIVOLATILES		**ND**	**ND**	**ND**	**ND**	**0.014**	**ND**	**ND**
INORGANICS (ppm)								
Aluminum, Total	NA	**3.410 N**	**3.780 N**	**1.430 N**	**1.960 N**	**41.100 N**	**23.800 N**	**26.400 N**
Antimony, Total	0.003	0.003 U	0.003 U	0.004 J	0.003 U	0.003 U	0.003 U	0.003 U
Arsenic, Total	0.025	**0.005 J**	**0.002 J**	**0.015 N**	**0.003 J**	**0.033 N**	**0.016 N**	**0.018 N**
Barium, Total	1.000	**0.232 N**	**0.156 J**	**0.090 J**	**0.193 J**	**0.209 N**	**0.301 N**	**0.301 N**
Cadmium, Total	0.005	**0.004 J**	0.003 U	**0.003 J**	0.003 U	**0.006 N**	**0.006 N**	**0.004 J**
Chromium, Total	0.050	**0.008 J**	**0.008 J**	**0.005 J**	**0.010 N**	**0.102 N**	**0.061 N**	**0.082 N**
Copper, Total	0.200	**0.041 N**	**0.025 N**	**0.033 N**	**0.028 N**	**0.186 N**	**0.070 N**	**0.073 N**
Iron, Total	0.30 h	**9.030 N**	**5.360 N**	**8.610 N**	**4.720 N**	**75.000 N**	**43.700 N**	**48.000 N**
Lead, Total	0.025	**0.011 N**	**0.001 J**	**0.006 N**	**0.005 N**	0.001 U	**0.021 N**	**0.023 N**
Manganese, Total	0.30 h	**3.250 N**	**1.460 N**	**4.550 N**	**2.290 N**	**6.230 N**	**2.300 N**	**2.300 N**
Mercury, Total	0.001	**0.0002 J**	0.0001 U	0.0001 U	0.0001 U	**0.0002 J**	0.0001 U	0.0001 U
Nickel, Total	0.100	**0.027 J**	**0.009 J**	**0.016 J**	**0.010 J**	**0.104 N**	**0.059 N**	**0.069 N**
Selenium, Total	0.010	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver, Total	0.050	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Total Vanadium	NA	**0.022 J**	**0.016 J**	**0.018 J**	**0.019 J**	**0.083 N**	**0.051 N**	**0.055 N**

See notes on Page 4.

TABLE 7

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
JANUARY 24, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
Zinc, Total	2.0 G	**0.033 N**	**0.031 N**	**0.032 N**	**0.028 N**	**0.281 N**	**0.118 N**	**0.130 N**
Cyanide, Total	0.20 L	0.010 U	0.010 U	**0.039 N**	0.010 U	**0.476 N**	0.010 U	0.010 U
Cyanide, Amenable	0.20 L	-	-	0.010 U	-	0.010 U	-	-

Notes:

ppm - parts per million.

NYSDEC TOGS Class GA Ambient Water Quality Standards and Guidance Values, revised 6/98.

SB - Site background.

NA - Not Available.

Shaded values exceed criteria.

Data Qualifiers:

U - Undetected. The value listed is the detection limit.

The detection limit is defined for organic compounds as the quantitation limit.

The inorganic detection limit is the instrument detection limit.

J - Detected at an estimated concentration below the minimum quantitation limit.

I - Possible matrix interference.

N - Detected concentration.

D - Indicates the sample was diluted to quantify the concentration.

B - Indicates the compound was found in the blank.

Criteria Qualifiers:

a - Value listed applies to the sum of these substances.

b - Value listed applies to the sum of these substances.

c - Value listed applies to both the cis and trans isomers separately.

d - Value listed applies to each isomer individually.

e - Value listed applies to the sum of the isomers.

G - Guidance Value.

h - Iron and Manganese criteria are 0.3 ppm individually or 0.5 ppm as a sum.

L - Applies to total Cyanide.

NA - No GA standard or guidance value for ground water is available for these substances.

TABLE 8

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
APRIL 27, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
VOLATILES (ppm)								
1,1,1- Trichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2-Trichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethylene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethene,Total	0.005 c	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloropropane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
2-Butanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Hexanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Methyl-2-Pentanone	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acetone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzene	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromodichloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromoform	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methyl Bromide (Bromomethane)	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Carbon Disulfide	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon Tetrachloride	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloroethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chloroform	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloromethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromochloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methylene Chloride	0.005	0.005 U	0.005 U	**0.001 JB**	0.005 U	**0.001 JB**	**0.001 JB**	**0.001 JB**
Styrene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trichloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl Acetate	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Vinyl Chloride	0.002	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total Xylenes	0.005 d	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cis-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trans-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
TOTAL DETECTED VOLATILES		**ND**	**ND**	**0.001**	**ND**	**0.001**	**0.001**	**0.001**
SEMIVOLATILES (ppm)								
1,2,4-Trichlorobenzene	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
1,2-Dichlorobenzene	0.003	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U

See notes on Page 4.

TABLE 8

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
APRIL 27, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
1,3-Dichlorobenzene	0.003	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
1,4 - Dichlorobenzene	0.003	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Bis (2-Chloroisopropyl) Ether	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2,4,5-Trichlorophenol	0.001 a	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
2,4,6 Trichlorophenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2,4 -Dichlorophenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2,4- Dimethylphenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2,4- Dinitrophenol	0.001 a	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
2,4- Dinitrotoluene	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2,6-Dinitrotoluene	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Chloronaphthalene	0.010 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Chlorophenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Methylnaphthalene	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Methylphenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Nitroaniline	0.005	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
2-Nitrophenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
3,3 Dichlorobenzidine	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
3-Nitroaniline	0.005	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
2-Methyl-4,6-Dinitrophenol	0.001 a	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
4-Bromophenyl Phenyl Ether	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Chloro-3-Methylphenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Chloroaniline	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Chlorophenyl Phenyl Ether	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Methylphenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Nitroaniline	0.005	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
4-Nitrophenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acenaphthene	0.020 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acenaphthylene	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Anthracene	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo (A) Anthracene	0.000002 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo (A) Pyrene	ND	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo (B) Fluoranthene	0.000002 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo (G,H,I,) Perylene	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo (K) Fluoranthene	0.000002 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzoic Acid	NA	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
Benzyl Alcohol	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Butylbenzylphthalate	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Carbazole	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chrysene	0.000002 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Di-N-Butylphthalate	0.050	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Di-N-Octylphthalate	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U

See notes on Page 4.

TABLE 8

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
APRIL 27, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
Dibenzo (A,H) Anthracene	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Diethylphthalate	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dimethylphthalate	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Fluoranthene	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	**0.003 J**	0.010 U	0.010 U
Fluorene	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobenzene	0.000	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloro-1,3-Butadiene	0.001	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-CD)Pyrene	0.000002 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Isophorone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
N-Nitroso-Di-N-Propylamine	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
N-Nitrosodiphenylamine	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Naphthalene	0.010 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Nitrobenzene	0.000	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Pentachlorophenol	0.001 a	0.026 U	0.025 U	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U
Phenanthrene	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	**0.004 J**	0.010 U	0.010 U
Phenol	0.001 a	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Pyrene	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	**0.004 J**	0.010 U	0.010 U
Bis(2-Chloroethoxy)Methane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Bis (2-Chloroethyl) Ether	0.001	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Bis (2-Ethylhexyl) Phthalate	0.005	0.010 U	**0.010**	0.010 U	**0.010**	0.010 U	0.010 U	0.010 U
TOTAL DETECTED SEMIVOLATILES		**ND**	**0.010**	**ND**	**0.010**	**0.011**	**ND**	**ND**
INORGANICS (ppm)								
Aluminum, Total	NA	**23.600**	**15.400**	**28.100**	**12.300**	**32.300**	**14.800**	**14.400**
Antimony, Total	0.003	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Arsenic, Total	0.025	**0.019**	**0.011**	**0.059**	**0.009 B**	**0.071**	**0.012**	**0.011**
Barium, Total	1.000	**0.281**	**0.205**	**0.216**	**0.225**	**0.178 B**	**0.255**	**0.254**
Cadmium, Total	0.005	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Chromium, Total	0.050	**0.205**	**0.031**	**0.210**	**0.062**	**0.118**	**0.142**	**0.143**
Copper, Total	0.200	**0.068**	**0.042**	**0.098**	**0.041**	**0.088**	**0.036**	**0.038**
Iron, Total	0.30 h	**48.000**	**31.800**	**67.800**	**24.500**	**66.600**	**28.800**	**28.000**
Lead, Total	0.025	**0.029**	**0.014**	**0.046**	**0.014**	**0.034**	**0.016**	**0.015**
Manganese, Total	0.30 h	**2.050**	**1.700**	**3.990**	**1.880**	**6.170**	**1.790**	**1.740**
Mercury, Total	0.001	0.000 U	0.000 U	0.000 U	0.000 U	0.000	0.000 U	0.000 U
Nickel, Total	0.100	**0.066**	**0.036 B**	**0.093**	**0.031 B**	**0.076**	**0.053**	**0.049**
Selenium, Total	0.010	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver, Total	0.050	**0.015**	**0.004 B**	**0.003 B**	0.003 U	0.003 U	0.003 U	0.003 U
Total Vanadium	NA	**0.057**	**0.038 B**	**0.067**	**0.038 B**	**0.071**	**0.044 B**	**0.037 B**

See notes on Page 4.

TABLE 8

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL DATA
APRIL 27, 1994

	NYSDEC Class GA Standards	MW93-1S	MW93-1D	MW93-2S	MW93-2D	MW93-3S	MW93-3D	MW93-3D DUP
Zinc, Total	2.0 G	**0.142**	**0.093**	**0.195**	**0.248**	**0.661**	**1.060**	**0.276**
Cyanide, Total	0.20 L	0.010 U	0.010 U	**0.049**	0.010 U	**0.237**	0.010 U	0.010 U
Cyanide, Amenable	0.20 L	-	-	0.010 U	-	**0.025**	-	-

Notes:

ppm - parts per million.

NYSDEC TOGS Class GA Ambient Water Quality Standards and Guidance Values, revised 6/98.

SB - Site background.

NA - Not Available.

Shaded values exceed criteria.

Data Qualifiers:

U - Undetected. The value listed is the detection limit.

The detection limit is defined for organic compounds as the quantitation limit.

The inorganic detection limit is the instrument detection limit.

J - Detected at an estimated concentration below the minimum quantitation limit.

I - Possible matrix interference.

N - Detected concentration.

D - Indicates the sample was diluted to quantify the concentration.

B - Indicates the compound was found in the blank.

Criteria Qualifiers:

a - Value listed applies to the sum of these substances.

b - Value listed applies to the sum of these substances.

c - Value listed applies to both the cis and trans isomers separately.

d - Value listed applies to each isomer individually.

e - Value listed applies to the sum of the isomers.

G - Guidance Value.

h - Iron and Manganese criteria are 0.3 ppm individually or 0.5 ppm as a sum.

L - Applies to total Cyanide.

NA - No GA standard or guidance value for ground water is available for these substances.

TABLE 9

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL RESULTS
JULY 20, 1994

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
VOLATILES (ppm)								
1,1,1- Trichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2,2-Tetrachloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1,2-Trichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethane	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,1- Dichloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloroethene,Total	0.005 c	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
1,2-Dichloropropane	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
2-Butanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
2-Hexanone	0.050 G	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
4-Methyl-2-Pentanone	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acetone	0.050 G	0.010 U	**0.011**	**0.003 J**	**0.006 J**	**0.005 J**	0.010 U	0.010 U
Benzene	0.001	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromodichloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Bromoform	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methyl Bromide (Bromomethane)	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Carbon Disulfide	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Carbon Tetrachloride	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorobenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloroethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chloroform	0.007	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloromethane	0.005	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibromochloromethane	0.050 G	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Ethylbenzene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methylene Chloride	0.005	**0.004 J**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.002 JB**
Styrene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trichloroethene	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Vinyl Acetate	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Vinyl Chloride	0.002	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total Xylenes	0.005 d	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cis-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Trans-1,3-Dichloropropene	0.0004 e	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
TOTAL DETECTED VOCs		**0.004**	**0.011**	**0.003**	**0.006**	**0.005**	**ND**	**0.002**
SEMIVOLATILES (ppm)								
1,2,4-Trichlorobenzene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,2-Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,3-Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
1,4 - Dichlorobenzene	0.003	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis (2-Chloroisopropyl) Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4,5-Trichlorophenol	0.001 a	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
2,4,6 Trichlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4 -Dichlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4- Dimethylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,4- Dinitrophenol	0.001 a	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
2,4- Dinitrotoluene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2,6-Dinitrotoluene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U

See notes on Page 3.

TABLE 9

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL RESULTS
JULY 20, 1994

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
2-Chloronaphthalene	0.010 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Chlorophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Methylnaphthalene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
2-Nitroaniline	0.005	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
2-Nitrophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
3,3 Dichlorobenzidine	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
3-Nitroaniline	0.005	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
2-Methyl-4,6-Dinitrophenol	0.001 a	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
4-Bromophenyl Phenyl Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chloro-3-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chloroaniline	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Chlorophenyl Phenyl Ether	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Methylphenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
4-Nitroaniline	0.005	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
4-Nitrophenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Acenaphthene	0.020 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Acenaphthylene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Anthracene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (A) Anthracene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (A) Pyrene	ND	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (B) Fluoranthene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (G,H,I,) Perylene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzo (K) Fluoranthene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Benzoic Acid	NA	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
Benzyl Alcohol	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Butylbenzylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Carbazole	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Chrysene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Di-N-Butylphthalate	0.050	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Di-N-Octylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Dibenzo (A,H) Anthracene	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Dibenzofuran	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Diethylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Dimethylphthalate	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Fluoranthene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Fluorene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachlorobenzene	0.00004	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachloro-1,3-Butadiene	0.001	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachlorocyclopentadiene	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Hexachloroethane	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Indeno(1,2,3-CD)Pyrene	0.000002 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Isophorone	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
N-Nitroso-Di-N-Propylamine	NA	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
N-Nitrosodiphenylamine	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Naphthalene	0.010 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Nitrobenzene	0.000	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Pentachlorophenol	0.001 a	0.030 U	0.024 U	0.024 U	0.028 U	0.024 U	0.024 U	0.029 U
Phenanthrene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Phenol	0.001 a	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U

See notes on Page 3.

TABLE 9

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

GROUNDWATER ANALYTICAL RESULTS
JULY 20, 1994

	NYSDEC Class GA Standards	MW93-1D	MW93-1S	MW93-2D	MW93-2S	MW93-3D	MW93-3D DUP	MW93-3S
Pyrene	0.050 G	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis(2-Chloroethoxy)Methane	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis (2-Chloroethyl) Ether	0.001	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
Bis (2-Ethylhexyl) Phthalate	0.005	0.012 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U	0.012 U
TOTAL DETECTED SVOCs		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
INORGANICS (ppm)								
Aluminum, Total	NA	**9.30**	**24.7**	**7.61**	**12.3**	**5.1**	**6.3**	**15.7**
Antimony, Total	0.003	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Arsenic, Total	0.025	**0.0063 B**	**0.0221**	**0.0065 B**	**0.0227**	**0.0064 B**	**0.0076 B**	**0.019 B**
Barium, Total	1.000	**0.168 B**	**0.286**	**0.203**	**0.125 B**	**0.207**	**0.225**	**0.105**
Cadmium, Total	0.005	0.004 U	0.004 U	0.015	0.004 U	0.004 U	0.004 U	0.004 U
Chromium, Total	0.050	**0.015**	**0.140**	**0.050**	**0.077**	**0.033**	**0.044**	**0.033**
Copper, Total	0.200	**0.024 B**	**0.067**	**0.020 B**	**0.042**	**0.018 B**	**0.054**	**0.041**
Iron, Total	0.30 h	**15.4**	**50.5**	**13.1**	**30.4**	**9.3**	**12.5**	**28.9**
Lead, Total	0.025	**0.0099**	**0.0332**	**0.0094**	**0.0190**	**0.0068**	**0.0061**	**0.0130**
Manganese, Total	0.30 h	**1.19**	**2.34**	**1.48**	**3.55**	**1.22**	**1.33**	**5.50**
Mercury, Total	0.001	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Nickel, Total	0.100	**0.018 B**	**0.059**	**0.038 B**	**0.036 B**	**0.013 B**	**0.047**	**0.043**
Selenium, Total	0.010	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver, Total	0.050	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Total Vanadium	NA	**0.017 B**	**0.046 B**	**0.020 B**	**0.025 B**	**0.015 B**	**0.021 B**	**0.042 B**
Zinc, Total	2.0 G	**0.045**	**0.144**	**0.054**	**0.085**	**0.036**	**0.041**	**0.920**
Cyanide, Total	0.20 L	0.010 U	0.010 U	0.010 U	**0.0662**	0.010 U	0.010 U	**0.371**
Cyanide, Amenable	0.20 L	--	--	--	**0.0662**	--	--	**0.371**

Notes:

ppm - parts per million.
NYSDEC TOGS Class GA Ambient Water Quality Standards and Guidance Values, revised 6/98.
SB - Site background.
NA - Not Available.
Shaded values exceed criteria.

Data Qualifiers:

U - Undetected. The value listed is the detection limit.
The detection limit is defined for organic compounds as the quantitation limit.
The inorganic detection limit is the instrument detection limit.
J - Detected at an estimated concentration below the minimum quantitation limit.
I - Possible matrix interference.
N - Detected concentration.
D - Indicates the sample was diluted to quantify the concentration.
B (organic compounds) - Indicates the compound was found in the blank.
B (inorganic compounds) - Indicates the reported value is greater than the contract required detection limit but greater than the instrument detection limit.

Criteria Qualifiers:

a - Value listed applies to the sum of these substances.
b - Value listed applies to the sum of these substances.
c - Value listed applies to both the cis and trans isomers separately.
d - Value listed applies to each isomer individually.
e - Value listed applies to the sum of the isomers.
G - Guidance Value.
h - Iron and Manganese criteria are 0.3 ppm individually or 0.5 ppm as a sum.
L - Applies to total Cyanide.
NA - No GA standard or guidance value for ground water is available for these substances.

TABLE 10

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SEDIMENT ANALYTICAL DATA
OCTOBER 28, 1993

Field Location:	Benthic Aquatic Life Toxicity Criteria (1,2)		Downstream						Background		
	Chronic (ug/g OC)	Acute (ug/g OC)	SS-1	SS-2	SS-2 Dup.	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8
Volatiles (mg/Kg)											
2-Butanone	--	--	0.014 U	0.062 UD	0.066 UD	0.032 UD	0.027	0.017 U	0.029	0.019 U	0.027
Acetone	--	--	0.081	0.13 D	0.13 D	0.15 D	0.14	0.06	0.14	0.052	0.12
Carbon Disulfide	--	--	0.007 U	0.031 UD	0.033 UD	0.016 UD	0.009 U	0.008 U	0.009 U	0.009 U	0.002 J
Chloromethane	--	--	0.014 U	0.062 UD	0.066 UD	0.021 JD	0.018 U	0.017 U	0.018 U	0.019 U	0.016 U
Ethylbenzene	24	212	0.004 J	0.031 UD	0.033 UD	0.016 UD	0.009 U	0.008 U	0.009 U	0.009 U	0.008 U
Methylene Chloride	--	--	0.007 U	0.02 JD	0.033 UD	0.013 JD	0.009 U	0.008 U	0.009 U	0.009 U	0.008 U
Toluene	49	235	0.007 U	0.007 JD	0.033 UD	0.016 UD	0.009 U	0.008 U	0.009 U	0.009 U	0.002 J
Xylene, Total	92	833	0.009	0.031 UD	0.033 UD	0.016 UD	0.009 U	0.008 U	0.009 U	0.009 U	0.008 U
Semivolatiles (mg/Kg)											
2-Methylnaphthalene	34	304	**1.4 JD**	0.32 JD	0.4 JD	1.8 D	0.088 J	0.16 JD	0.055 J	0.19 JD	0.37 JD
Acenaphthene	140	--	2.3 D	4 D	**4.3 D**	3 D	3.6	0.47 JD	0.12 J	0.72 JD	0.87 JD
Acenaphthylene	0.044 (a)	0.64 (a)	**1.1 JD**	**1.1 JD**	**1.4 JD**	**0.77 JD**	**0.63**	**0.39 JD**	**0.12 J**	**0.27 JD**	**0.55 JD**
Anthracene	107	986	**4.9 D**	5.3 D	**5.7 D**	2.8 D	1.2	1.2 D	0.29 J	1 JD	2.5 JD
Benzo (A) Anthracene	12	94	**14 D**	**12 D**	**14 D**	**8.9 D**	**4**	**5.1 D**	**1.4**	**4 D**	**7.3 D**
Benzo (A) Pyrene	0.37 (c)	1440 (b)	**12 D**	**9.8 D**	**12 D**	**7.5 D**	**3.5**	**4.4 D**	**1.4**	**3.5 D**	**6.4 D**
Benzo (B) Fluoranthene	--	--	13 D	10 D	10 D	8 D	4.3	5.1 D	1.7	4.4 D	6.3 D
Benzo (G,H,I,) Perylene	0.17 (c)	320 (b)	**6 D**	**4.6 D**	**5.2 D**	**3.6 D**	**1.6**	**2.3 D**	**0.71**	**1.9 D**	**3 D**
Benzo (K) Fluoranthene	0.24 (c)	1340 (b)	**7.9 D**	**6.8 D**	**10 D**	**5.2 D**	**2.8**	**3.3 D**	**1.2**	**2.6 D**	**5.4 D**
Butylbenzylphthalate	--	--	1.5 JD	0.58 JD	0.58 JD	1.7 UD	0.46 J	1.1 UD	0.6 U	1.2 UD	2.7 UD
Carbazole	--	--	0.74 JD	0.62 JD	0.9 JD	0.37 JD	0.33 J	0.35 JD	0.079 J	0.22 JD	0.36 JD
Chrysene	0.34 (c)	460 (b)	**14 D**	**11 D**	**12 D**	**8.6 D**	**4.2**	**5.2 D**	**1.8**	**4.4 D**	**8.1 D**
Di-N-Butylphthalate	--	--	4.3 D	3.7 D	1.8 JD	2.8 D	5.2	0.77 JD	1.5	3.9 D	1.2 JD
Di-N-Octylphthalate	--	--	1.9 UD	2.1 UD	2.2 UD	1.7 UD	0.048 J	1.1 UD	0.6 U	1.2 UD	2.7 UD
Dibenzo (A,H) Anthracene	0.06 (c)	130 (b)	1.9 UD	**2 JD**	**2.4 D**	**1.4 JD**	**0.72**	**0.96 JD**	**0.29 J**	1.2 UD	2.7 UD
Dibenzofuran	--	--	1.1 JD	1.4 JD	1.6 JD	0.88 JD	0.66	0.21 JD	0.051 J	0.23 JD	0.43 JD
Fluoranthene	1020	--	26 D	24 D	**26 D**	17 D	7.7	10 D	2.7	8.8 D	16 D
Fluorene	8	73	**3.4 D**	**4.7 D**	**5.3 D**	**3.1 D**	**1.7**	**0.73 JD**	0.18 J	**1.1 JD**	**1.6 JD**
Indeno (1,2,3-CD) Pyrene	0.2 (c)	320 (b)	**8.7 D**	**7 D**	**8.3 D**	**5.3 D**	**2.4**	**3.4 D**	**0.93**	**2.7 D**	**4.3 D**
Naphthalene	30	258	0.38 JD	0.42 JD	0.48 JD	0.41 JD	0.25 J	0.34 JD	0.051 J	0.21 JD	0.26 JD
Phenanthrene	120	950 (b)	**18 D**	**16 D**	**18 D**	**11 D**	4	**6.2 D**	1	5.4 D	**12 D**
Pyrene	961	8775	29 D	24 D	**27 D**	20 D	11	11 D	3.9	9.6 D	17 D
Bis (2-Ethylhexyl) Phthalate	199.5	--	1.7 JD	1.1 JD	1.1 JD	1.1 JD	1.6	1.6 D	1.4	13 D	1.5 JD
Inorganics (mg/Kg)											
Aluminum, Total	--	--	11900	5420	9380	9930	11400	11100	11400	10800	10100
Arsenic, Total	6	33	**6.8**	3.2	5.4	**7.2**	**12.1**	**8.5**	**12**	**10**	**8.5**
Barium, Total	--	--	130	56.1	197	151	136	83.1	95.4	101	111
Cadmium, Total	0.6	9	**4.6**	**0.94**	**1.8**	**2.5**	**1.6**	**0.75**	**1.3**	**1.6**	**1.2**
Chromium, Total	26	110	**26.1**	13.8	14.8	19.5	**28.2**	**31.2**	24.5	22.5	19.5
Copper, Total	16	110	**88.4**	**43.3**	**138**	**84.3**	**97.6**	**70.1**	**120**	**73.2**	**57.6**
Iron, Total	20000	40000	**26900**	15500	15900	**22600**	**29800**	**23100**	**22600**	**22900**	**20200**
Lead, Total	31	110	**344**	**203**	**195**	**284**	**332**	**306**	**334**	**604**	**326**
Manganese, Total	460	1100	392	181	185	333	391	205	269	289	268
Mercury, Total	0.15	1.3	**0.23**	**0.16**	0.11 J	**0.18**	**0.42**	**1.5**	**0.69**	**0.42**	**0.52**
Nickel, Total	16	50	**25.7**	13.3	13.9	**21.9**	**25**	**23.8**	**24.8**	**22.5**	**20.6**
Silver, Total	1	2.2	1.2 U	0.82 J	**4.1**	0.99 U	1.4 U	**1.2 J**	1.2 U	1.4 U	1.2 U
Vanadium, Total	--	--	26.6	12.1	12.6	22.3	24.5	21	26.1	22.5	19.7
Zinc, Total	120	270	**879**	**127**	**244**	**236**	**406**	**240**	**423**	**360**	**292**
Cyanide (mg/Kg)											
Cyanide, Total	--	--	1.4 U	1.2 U	1.1 U	1.2 U	16.2	1.5 U	3.2 U	3.4 U	3.5 U
TOC (%)											
% TOC	--	--	3.6	5.8	2.5	5.6	6	4.6	7	9.5	7.6

See Notes on Page 2.

TABLE 10

NEW YORK STATE ELECTRIC AND GAS
GOSHEN MGP SITE, GOSHEN, NEW YORK

SEDIMENT ANALYTICAL DATA
OCTOBER 28, 1993

Notes:

(1) Sediment criteria are from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments.
Criteria for organic compounds are in ug/g OC and are adjusted for TOC concentration.
If NYSDEC criteria are not available, additional values are used as described below.

(a) Chronic and acute sediment criteria are ERL and ERM values, respectively from Long et al. (1995), as reported in NYSDEC (1999). Units are in mg/kg and are not adjusted for TOC concentration.

(b) Acute sediment criteria are Ontario Ministry of Environment (OME, 1993) Severe Effect Levels.
Units are in ug/g OC and are adjusted for TOC concentration.

(c) Chronic sediment criteria are Ontario Ministry of Environment (OME, 1993) Lowest Effect Levels.
Units are in mg/kg and are not adjusted for TOC concentration.

(2) Criteria which are presented in ug/g OC (organic carbon) are adjusted for each sample based on sample-specific TOC concentrations. For example, for flourene (chronic value of 8 ug/g OC; acute value of 73 ug/g OC) and sample SS-1 (TOC of 3.6%, or 36 g OC/Kg), the criteria are adjusted as follows:

chronic: (8 ug/g OC) * (36 g OC/Kg) = 288 ug/Kg or 0.288 mg/Kg

acute: (73 ug/g OC) * (36 g OC/Kg) = 2628 ug/Kg or 2.628 mg/Kg

The fluorene concentration detected in sample SS-1 was 3.4. This concentration exceeds both the sample-specific chronic and acute values.

TOC - Total Organic Carbon.

Results are reported in milligrams per kilogram (mg/Kg).

DUP = Field duplicate.

U = Compound was analyzed for but not detected.

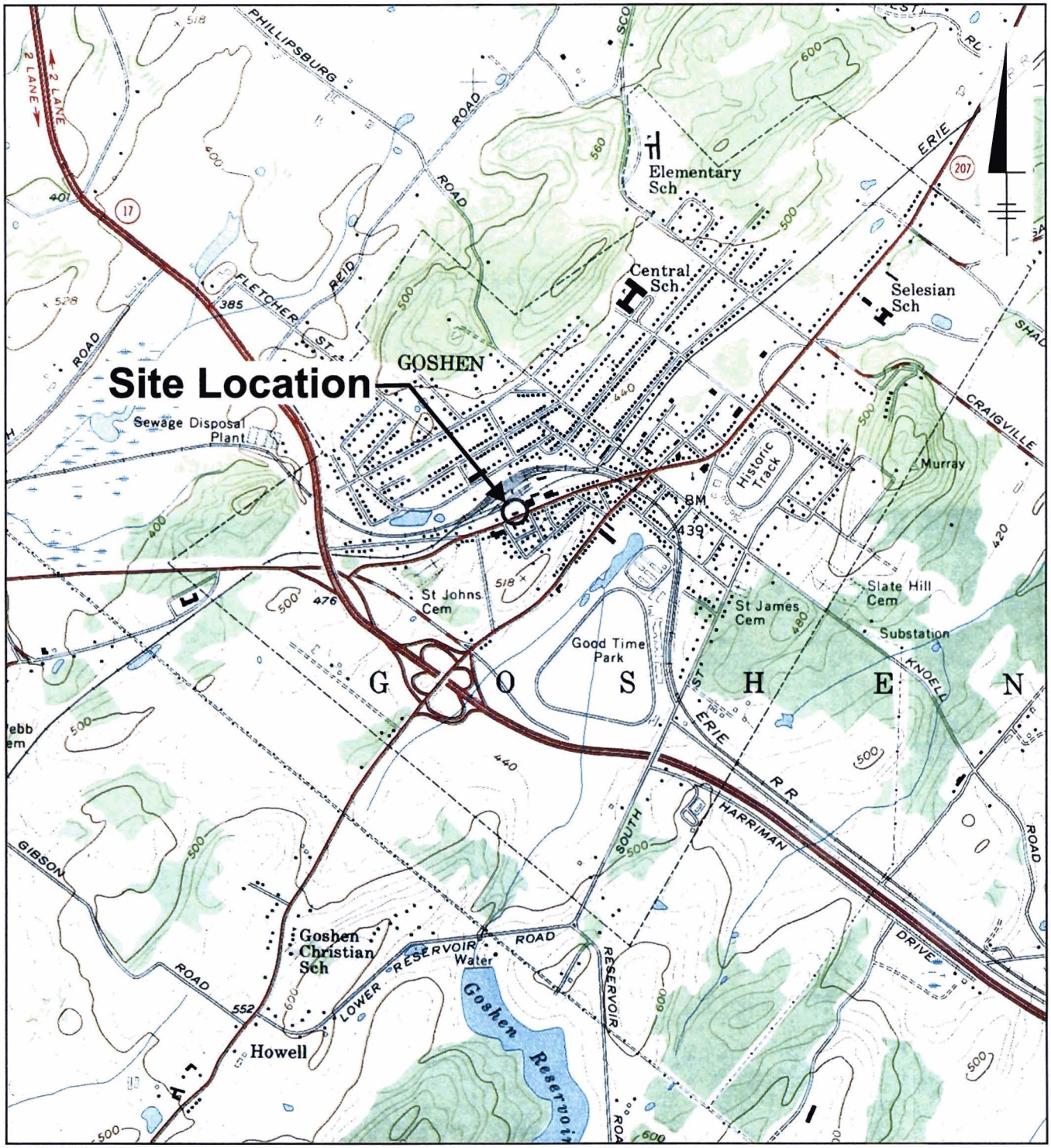
J = Estimated value below the laboratory quantitation limit.

D = Concentration is based on a diluted sample analysis.

Boldface values exceed Benthic Aquatic Life Chronic Toxicity Level

Shaded values exceed Benthic Aquatic Life Acute Toxicity Level

Figures



REFERENCE: Base Map Source USGS 7.5 Minute Quads. Series Goshen, New York, 1957.

2000' 0 2000'

Approximate Scale: 1" = 2000'

AREA LOCATION

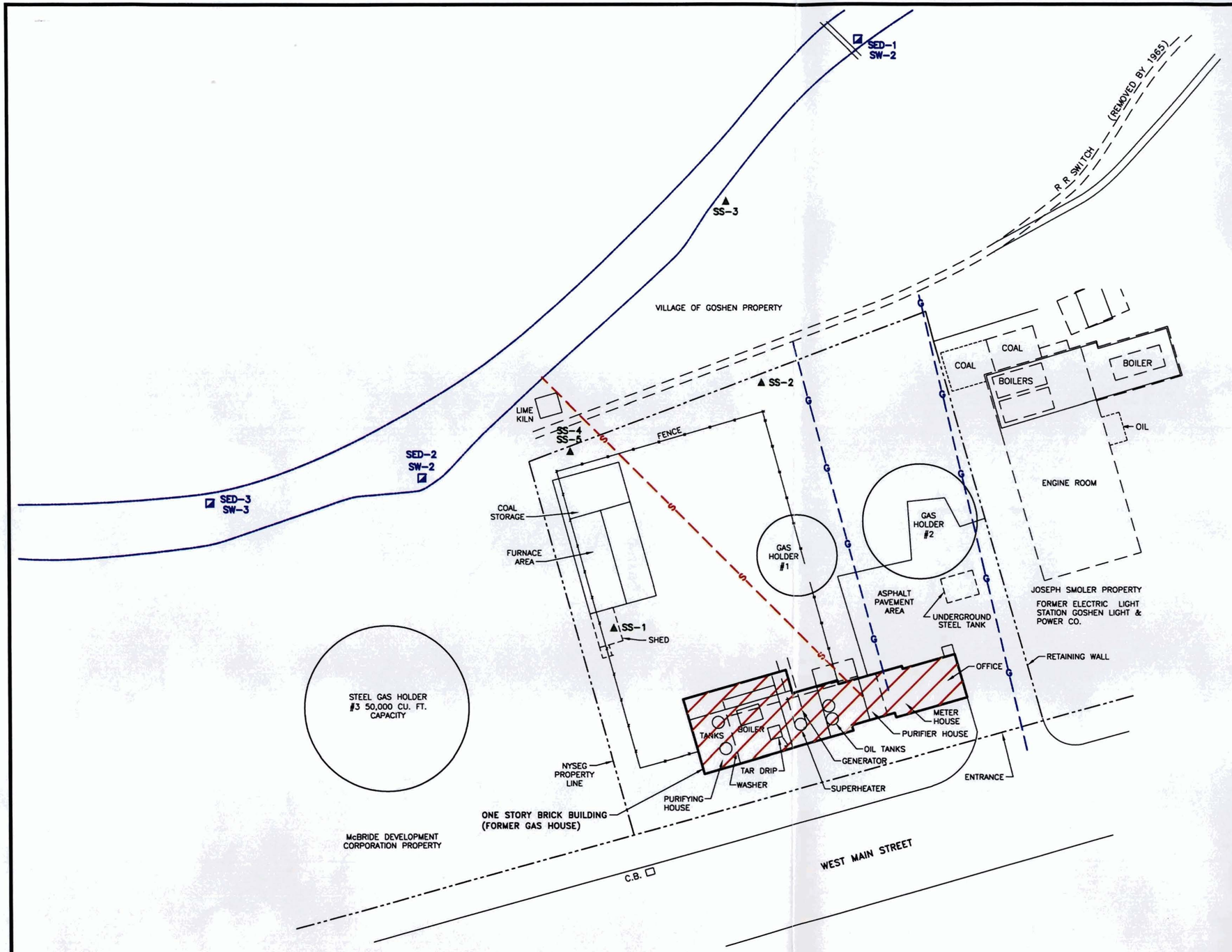
11/00 SYR-D54-LBR
13038001/13038n01.cdr

NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE
SITE CHARACTERIZATION SUMMARY

SITE LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 1



LEGEND

- 1889–1945 STRUCTURES
- EXISTING STRUCTURES
- SOIL SAMPLE
- WATER AND SEDIMENT SAMPLE
- S—S APPROXIMATE SEWER LINE LOCATION
- G—G APPROXIMATE GAS LINE LOCATION
- FENCE LINE

NOTES:

1. BASE MAP DIGITIZED FROM DRAWING TITLED: SAMPLING LOCATIONS, BY MODI ASSOCIATES, DATED 11/27/90.
2. LOCATIONS OF 1889–1945 STRUCTURES AND PROPERTY LINES ARE APPROXIMATE ONLY.
3. SEWER AND GAS LINES DIGITIZED FROM COPY OF DRAWINGS BY ASSOCIATED GAS AND ELECTRIC CO. COAL GAS PLANT DATED 1947, GOSHEN ILLUMINATING COMPANY COAL GAS PLANT (CIRCA 1923–1945), GOSHEN GAS LIGHT CO. WATER GAS WORKS (CIRCA 1905–1923), AND A. VANDERWERKEN WATER GAS WORKS (CIRCA 1889–1905).

0 40' 80'

GRAPHIC SCALE

NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE
SITE CHARACTERIZATION SUMMARY

SITE SCREENING SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE **2**

X: 13038X01.DWG
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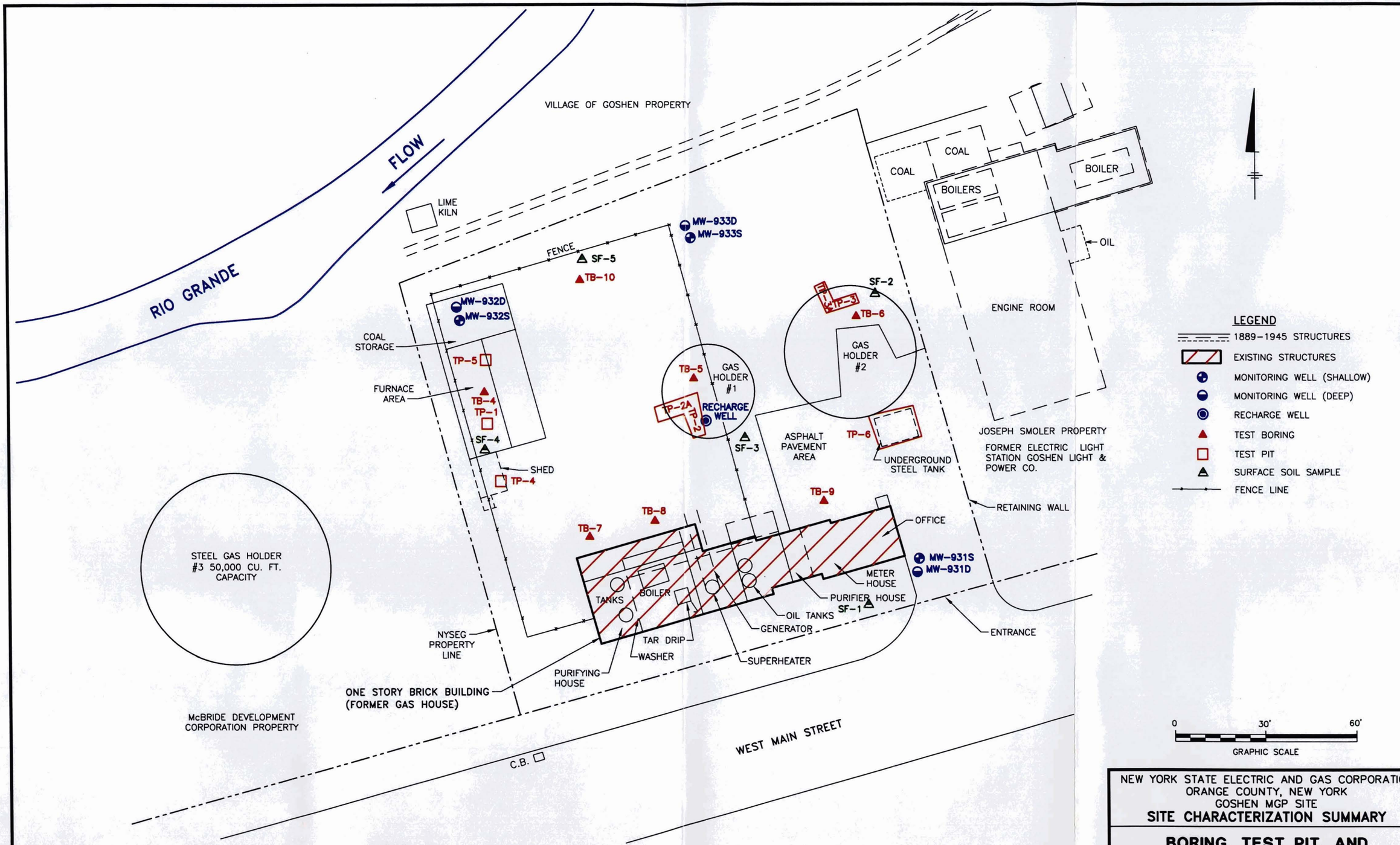
12/19/00 SYR-54-RCA
13038001/13038B02.DWG



NOTES:

1. BASE MAP DIGITIZED FROM DRAWING TITLED: SAMPLING LOCATIONS, BY MODI ASSOCIATES, DATED 11/27/90.
2. LOCATIONS OF 1889-1945 STRUCTURES AND PROPERTY LINES ARE APPROXIMATE ONLY.

X: 13038X01.DWG
L: ON == OFF=*REF*
P: STD-PCP/BL
12/19/00 SYR-54-RCA
13038001/13038B01.DWG

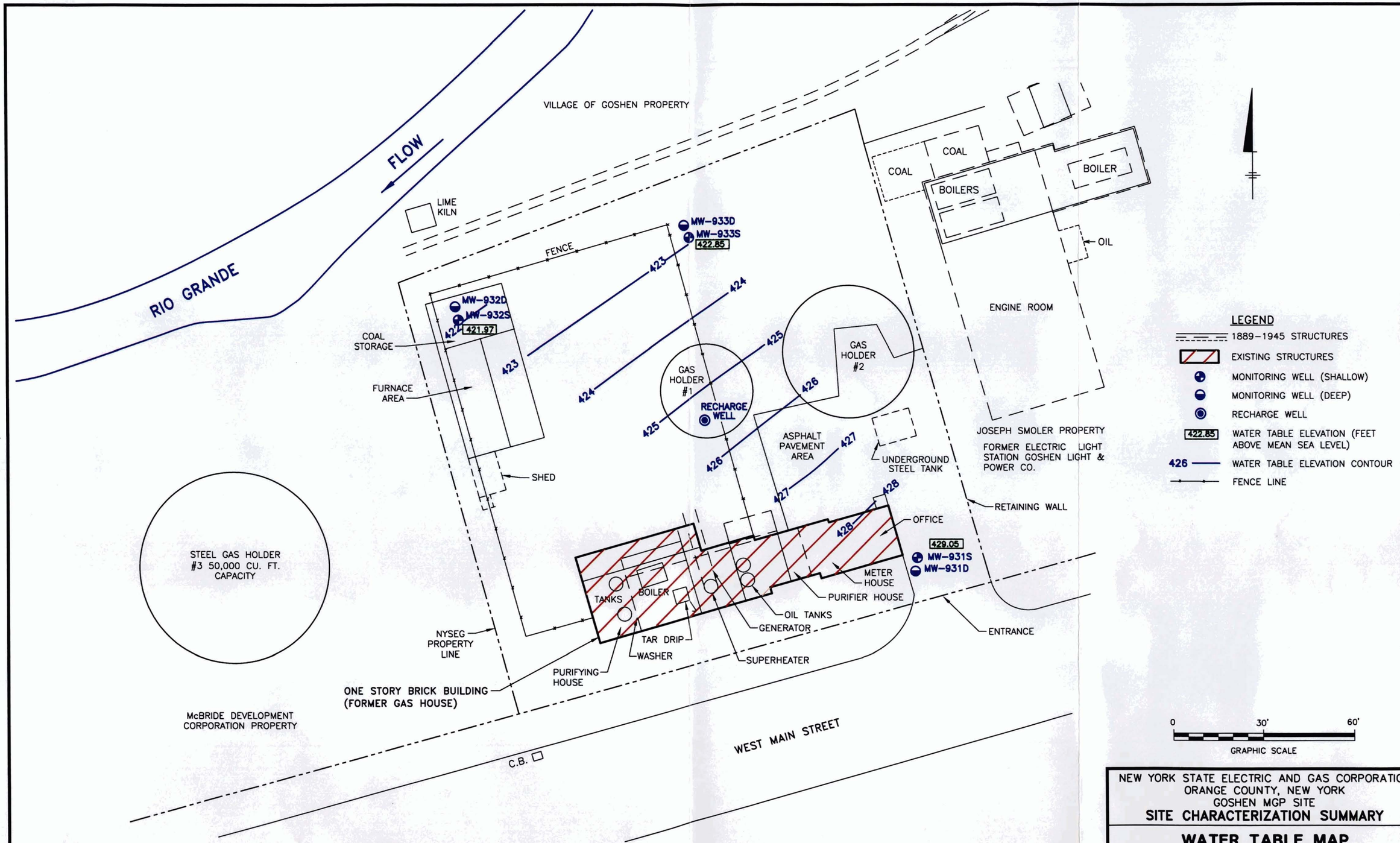
NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

SITE CHARACTERIZATION SUMMARY

BORING, TEST PIT, AND MONITORING WELL LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 3



NOTES:

1. BASE MAP DIGITIZED FROM DRAWING TITLED: SAMPLING LOCATIONS, BY MODI ASSOCIATES, DATED 11/27/90.
2. LOCATIONS OF 1889–1945 STRUCTURES AND PROPERTY LINES ARE APPROXIMATE ONLY.

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P: STD-PCP/BL
12/19/00 SYR-54-RCA
13038001/13038W02.DWG

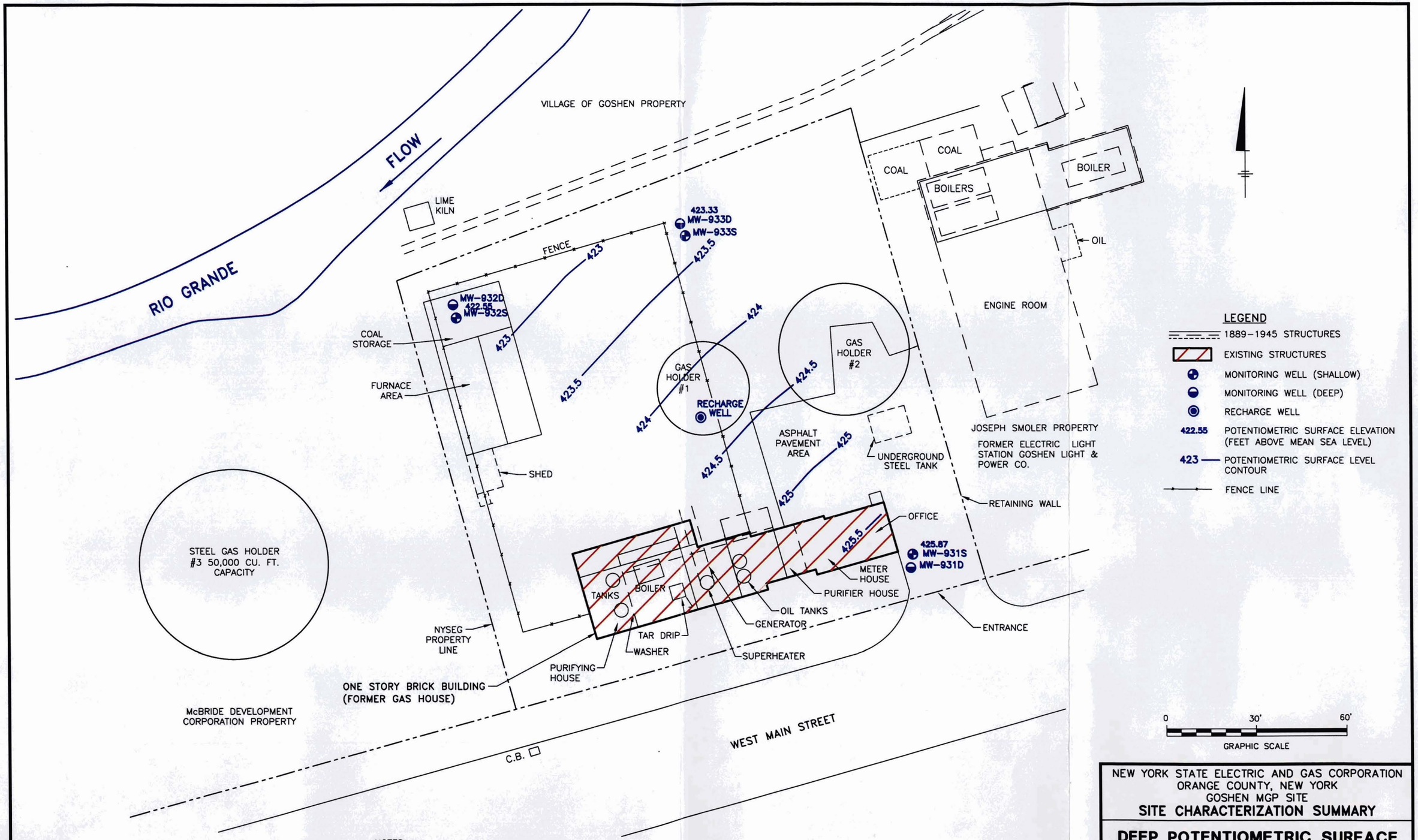
NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

SITE CHARACTERIZATION SUMMARY

WATER TABLE MAP
APRIL 27, 1994

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 4



NOTES:

1. BASE MAP DIGITIZED FROM DRAWING TITLED: SAMPLING LOCATIONS, BY MODI ASSOCIATES, DATED 11/27/90.
2. LOCATIONS OF 1889-1945 STRUCTURES AND PROPERTY LINES ARE APPROXIMATE ONLY.

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12/19/00 SYR-54-RCA
13038001/13038W03.DWG

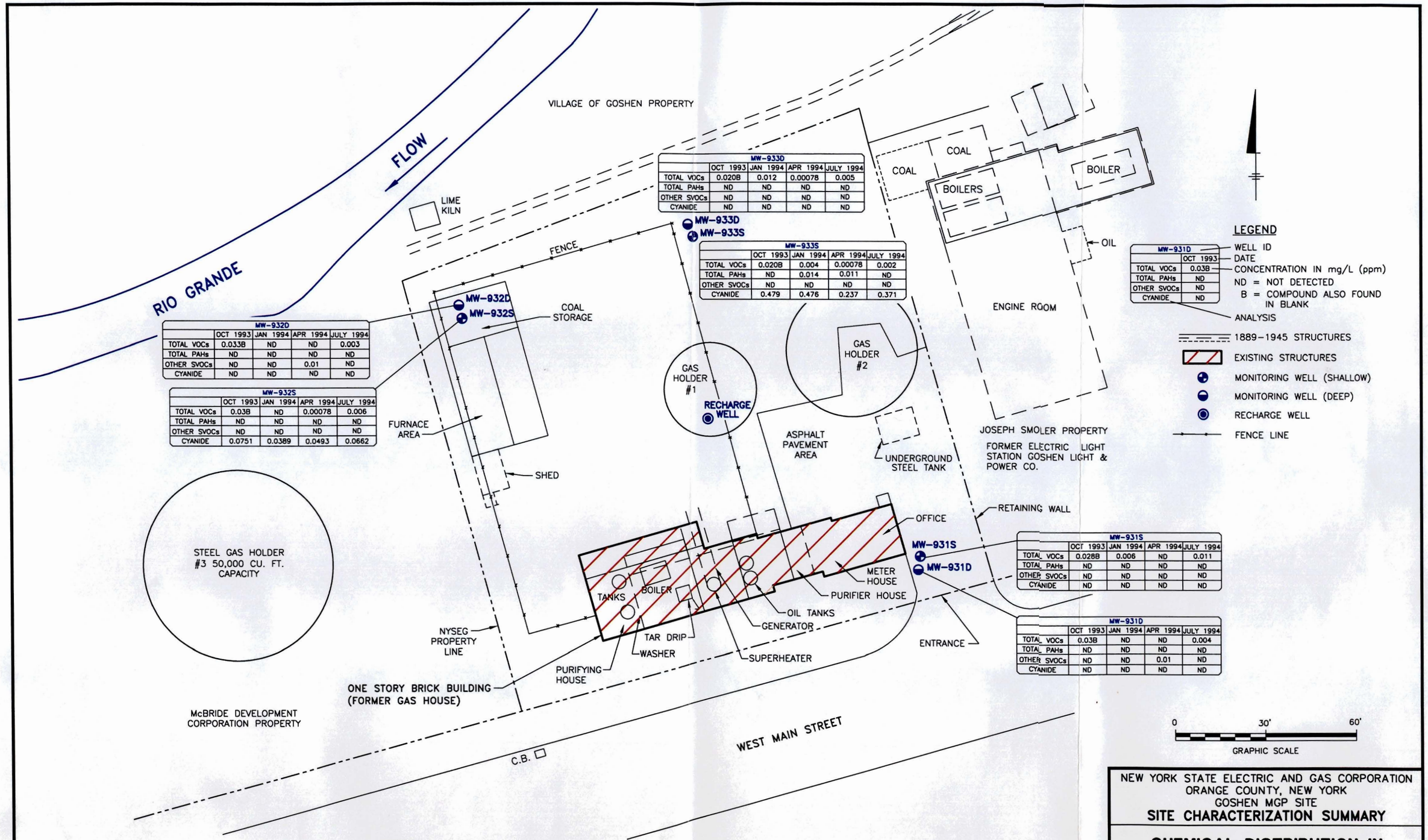
NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

SITE CHARACTERIZATION SUMMARY

DEEP POTENTIOMETRIC SURFACE MAP-APRIL 27, 1994

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 5



MW-932D	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.033B	ND	ND	0.003
TOTAL PAHs	ND	ND	ND	ND
OTHER SVOCs	ND	ND	0.01	ND
CYANIDE	ND	ND	ND	ND

MW-932S	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.03B	ND	0.00078	0.006
TOTAL PAHs	ND	ND	ND	ND
OTHER SVOCs	ND	ND	ND	ND
CYANIDE	0.0751	0.0389	0.0493	0.0662

MW-933D	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.020B	0.012	0.00078	0.005
TOTAL PAHs	ND	ND	ND	ND
OTHER SVOCs	ND	ND	ND	ND
CYANIDE	ND	ND	ND	ND

MW-933S	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.020B	0.004	0.00078	0.002
TOTAL PAHs	ND	0.014	0.011	ND
OTHER SVOCs	ND	ND	ND	ND
CYANIDE	0.479	0.476	0.237	0.371

MW-931S	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.028B	0.006	ND	0.011
TOTAL PAHs	ND	ND	ND	ND
OTHER SVOCs	ND	ND	ND	ND
CYANIDE	ND	ND	ND	ND

MW-931D	OCT 1993	JAN 1994	APR 1994	JULY 1994
TOTAL VOCs	0.03B	ND	ND	0.004
TOTAL PAHs	ND	ND	ND	ND
OTHER SVOCs	ND	ND	0.01	ND
CYANIDE	ND	ND	ND	ND

NOTES:
1. BASE MAP DIGITIZED FROM DRAWING TITLED: SAMPLING LOCATIONS, BY MODI ASSOCIATES, DATED 11/27/90.
2. LOCATIONS OF 1889–1945 STRUCTURES AND PROPERTY LINES ARE APPROXIMATE ONLY.

X: 13038X01.DWG
L: ON == OFF=«REF»
P: STD-PCP/BL
12/19/00 SYR-54-RCA
13038001/13038W04.DWG

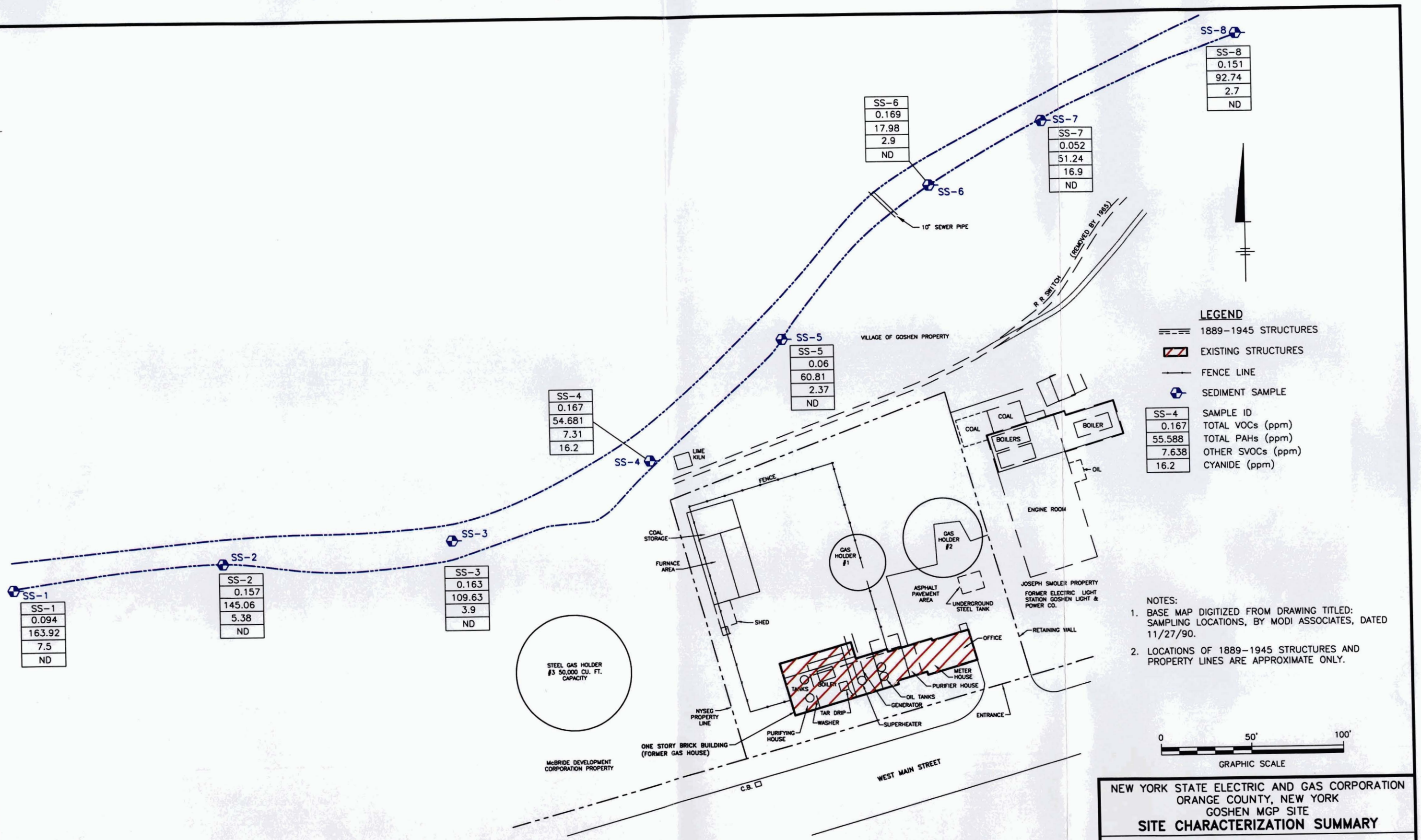
NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

SITE CHARACTERIZATION SUMMARY

CHEMICAL DISTRIBUTION IN GROUND WATER

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 6



NEW YORK STATE ELECTRIC AND GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE
SITE CHARACTERIZATION SUMMARY

CHEMICAL DISTRIBUTION IN SEDIMENTS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 7

X: 13038X01.DWG
L: ON == OFF=*REF*
P: STD-PCP/BL
12/19/00 SYR-54-RCA
13038001/13038C01.DWG

Appendices

Appendix A
Site Screening Samples
Laboratory Analytical Data

ENGINEERING-SCIENCE, INC.

BERKELEY LABORATORY
600 BANCROFT WAY
BERKELEY, CA 94710
Tel: (415) 841-7353

Report Date: 12/21/90

Work Order No.:2436

Client: Ken Whitaker
ES Syracuse
New York Gas & Electric Co.
290 Elwood Davis Road
Liverpool, NY 13088

Date of Sample Receipt: 11/16/90

Your samples identified as:

CGGS-SW-1
CGGS-SW-2
CGGS-SW-3

were analyzed for volatile organics by EPA Method 624, semivolatile organics by EPA Method 625 and metals. Total cyanide and cyanide amenable to chlorination results will follow on a separate work order.

In addition your samples identified as:

CGGS-SED-1
CGGS-SED-2
CGGS-SED-3
CGGS-SS-1
CGGS-SS-2
CGGS-SS-3
CGGS-SS-4
CGGS-SS-5

were analyzed for volatile organics by EPA Method 8240 semivolatile organics by EPA Method 8270, metals, total cyanide and cyanide amenable to chlorination.

Finally, your samples identified as:

CGGS-TRIP BLANK

was analyzed for volatile organics by EPA Method 624.

The analytical reports for the samples listed above are attached.

Biographical Data

RICHARD L. MERRELL

Lab Director

EXPERIENCE SUMMARY

Twenty-five years experience in analytical chemistry with 17 years in laboratory management. Responsible for all operations of 3 chemistry labs within a region employing over 200 people with annual sales over 12 million. Analytical laboratory experience includes combined gas chromotography-mass spectrometry, gas chromotography, mass spectrometry, thermal analysis, infrared spectrometry, wet chemical analysis and physical testing.

EXPERIENCE RECORD

1989-Date	Engineering-Science, Inc. **Director - Berkeley Lab.** Responsible for overall management of ES lab services including overall profitability.
1987-1989	IT - Corporation. **Regional Lab Director.** Responsible for overall management of the Western region including profitability.
1983-1987	IT - Corporation. **Lab Manager.** Responsible for overall management of the Cerritos lab including profitability.
1977-1983	IT - Corporation. **Lab Manager.** Responsible for lot production and scheduling, salary and personnel administration and policy.
1972-1977	IT - Corporation. **Group Leader - Mass Spectrometry.** Responsible for all aspects of the operation of the mass spectrometry groups.
1968-1972	IT - Corporation. **Chemist.** Performed a variety of analyses using MS, GC, GC-MS, IR and thermal analyses.
1967-68	Shell Chemical Co. **GC Section Supervisor.** Supervised and scheduled several technicians in the GC area that were performing routine analyses.
1966-67	Shell Chemical Co. **Chemist.** Calibrated and repaired process GCs used for process control in a styrene and butadine plant.
1965-66	Chevron Research. **Lab Technician.** Performed many physical and wet chemical analyses of crude oil, core samples and soil samples.
1963-64	General Dynamics. **Lab Technician.** Performed many wet chemical analyses on electroplating solutions.

EDUCATION

B.S. in Chemistry, 1966, Brigham Young University, Provo, Utah

BART - Warm Springs Project - 1991

Mr. Merrell as Laboratory Director of the Engineering Science Berkeley Laboratory (ESBL), Mr. Merrell has had overall responsibility for ESBL's analytical portion of the project. The project technically includes various organic and inorganic analysis. He is responsible to assure that the analytical quality of the project is maintained as well as being responsible for managing the project so all the data is delivered to the client on schedule, complete and within financial budgets.

Purity/Wastech and Selma/Wastech, SITES Projects 1989-1990

Mr. Merrell has had overall responsibility for ESBL's analytical portion of these SITES projects. He is responsible to assure that the analytical quality of the project is maintained according to the project's specific QAPP. Also, he is responsible for managing the project so all the data is delivered to the client on schedule, complete, and within financial budgets.

The project technically included total analysis of the waste for organic and inorganic characterization. Also the waste was treated and analyzed by the Toxic Characteristic Leaching Procedure (TCLP) and the California Assessment Manuals (CAM) Leaching procedure to determine how effective the treating procedure was in stablizing the waste.

Moffett Naval Air Station 1987-1989

Mr. Merrell as the Western Regional Laboratory Director for International Technology Analytical Services (ITAS) was responsible for development and implementation of the sampling and analysis plan at the Moffett Naval Air Station, as part of their HAZWRAP program. His Field Analytical Service group worked with the ITAS laboratories to establish the methods, detection limits, holding times, QC criteria, sample containers, and preservatives that were specifically required for the project. The project was a multi-million dollar analytical project that involved the analysis of both soils and waters for a wider variety of parameters including volatile organic compounds (VOC), base neutral acid extractable (BNA), HSL metals, PCBs and anions.

HAZWRAP Projects 1987 to Present

Mr. Merrell as both the Western Regional Laboratory Director of ITAS and the Laboratory Director of ESBL has had overall analytical responsibilities for many HAZWRAP projects similar in scope of work to the Moffett Naval Air

Station outlined above. These sites included Offutt AFB, Rickenbacker ANGB, Duluth ANGB, Castle AFB, Concord Naval Weapons Station, Mare Island, Mather AFB, McClellan AFB and San diego Naval Facilities.

Rocky Mountain Arsenal 1987-1989

Mr. Merrell as the Western Regional Laboratory Director of ITAS had overall responsibility for the analytical portion of the Rocky Mountain Arsenal F Basin clean up and the review of the QA/QC and sampling and analysis plans. The analysis included primarily air monitoring samples for many HSL volatile and base neutral/acid extractable organics and several metals. This was to ensure the safety of the workers and surrounding residents. Many rapid turn around analysis were necessary on this project.

U.S. Environmental Protection Agency Contract Laboratory Program (EPA CLP) 1980-1989

Mr. Merrell as the Laboratory Manager of IT Cerritos Laboratory and later the Western Regional Laboratory Director of ITAS had overall responsibility for the laboratory's performance in the CLP program. His IT Cerritos laboratory has been a participant in the CLP since its inception in 1980. The Cerritos laboratory has had as many as 13 bid lots at one time. They were required to perform full organic CLP analysis on as many as 390 water and soil samples per month from known or suspected hazardous waste sites. These analyses for HSL compounds includes volatile organics, base neutral/acid extractable organics, pesticides and PCBs. CLP protocols are designed to be stand alone legally defendable methodologies and are currently used when the most rigorous QA/QC requirements are needed.

PROPERTY OF

NEW YORK STATE DEPARTMENT OF HEALTH

DAVID AXELROD, M.D. *COMMISSIONER*

Expires 13:01 AM April 1, 1991
ISSUED September 20, 1990

INTERIM **CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

(Issued in accordance with the Laws of New York State)

pursuant to Section 502 of the Public Health Law

Laboratory ID. Number 11170

Director: Mr. Richard Merrell

Laboratory Name: Engineering Science, Inc.
Number & Street: 600 Bancroft Way
City,State,Zip : Berkeley CA 94710
VALID AT THIS ADDRESS ONLY

is hereby APPROVED as an Environmental Laboratory for the category

ENVIRONMENTAL ANALYSES/SOLID AND HAZARDOUS WASTE

All approved subcategories and/or analytes are listed below:

Characteristic Testing :
- Corrosivity
- Ignitability
- Reactivity
- Toxicity - Metals Only

Nitroaromatics Isophorone (ALL)
Phthalate Esters (ALL)
Purgeable Aromatics (ALL)

Miscellaneous :
- Cyanide, Total
- Hydrogen Ion (pH)
- Sulfide (as S)

Metals I (ALL)
Polynuclear Aromatic Hydrocarbons (ALL)
Priority Pollutant Phenols (ALL)
Purgeable Halocarbons (ALL)

Acrolein and Acrylonitrile (ALL)
Chlorinated Hydrocarbon Pesticides
Chlorinated Hydrocarbons (ALL)
Haloethers (ALL)
Metals II (ALL)
Polychlorinated Biphenyls (ALL)

Herbert W. Dickerman

Herbert W. Dickerman, M.D., Ph.D.
Director
Wadsworth Center for Laboratories and Research

PROPERTY OF

NEW YORK STATE DEPARTMENT OF HEALTH

DAVID AXELROD, M.D. *COMMISSIONER*

Expires 12:01 AM April 1, 1991
ISSUED September 20, 1990

INTERIM **CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

(Issued in accordance with the Laws of New York State)

pursuant to Section 502 of the Public Health Law

Laboratory ID. Number 11178

Director: Mr. Richard L Merrell

Laboratory Name: Engineering Science, Inc.
Number & Street: 600 Bancroft Way
City,State,Zip : Berkeley CA 94710

VALID AT THIS ADDRESS ONLY

is hereby APPROVED as an Environmental Laboratory for the category

NON-POTABLE WATER

All approved subcategories and analytes are listed on the attached addendum

Herbert W. Dickerman

Herbert W. Dickerman, M.D., Ph.D.
Director
Wadsworth Center for Laboratories and Research

FORM LR 23.F

7447

CASE NARRATIVE
WORK ORDER NO. 2436
EPA METHODS 8240 AND 624

These five soil and three sediment samples were analyzed by EPA Method 8240, and these four water samples were analyzed by EPA Method 624. CLP compounds, spiking amounts, and QC acceptance criteria were used for the internal standards, surrogates, and matrix spike/spike duplicates.

All samples were analyzed within EPA Data Validation Technical Holding Times.

Three blanks were analyzed with these samples and met CLP acceptance criteria for internal standard areas, surrogates and contamination.

The continuing calibration checks (CCC) used for quantifying these samples met CLP acceptance criteria.

All internal standard areas were within CLP acceptance criteria.

All surrogate recoveries were within CLP acceptance criteria.

All matrix spike/spike duplicate recoveries and relative percent differences were within CLP acceptance criteria.

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/26/90

Laboratory ID: 2436-01 Matrix: WATER

Client ID: CGGS-SW-1 Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/L	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/26/90

Laboratory ID: 2436-02 Matrix: WATER

Client ID: CGGS-SW-2 Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/L	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/26/90

Laboratory ID: 2436-03 Matrix: WATER

Client ID: CGGS-SW-3 Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/L	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-04 Matrix: SOIL

Client ID: CGGS-SED-1 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	115	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Mike Heath

Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-05 Matrix: SOIL

Client ID: CGGS-SED-2 Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	22	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Mike Heath Group Leader: Robert West

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-06 Matrix: SOIL

Client ID: CGGS-SED-3 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	55	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Nicki Heath Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/29/90

Laboratory ID: 2436-07 Matrix: SOIL

Client ID: CGGS-SS-1 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	ND	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Mike Heath Group Leader: Robert Wood

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/29/90

Laboratory ID: 2436-08 Matrix: SOIL

Client ID: CGGS-SS-2 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	ND	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Nicki Heath Group Leader: Richard Wood

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-09 Matrix: SOIL

Client ID: CGGS-SS-3 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	115	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Mike Heath

Group Leader: Robert Wood

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-10 Matrix: SOIL

Client ID: CGGS-SS-4 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	75	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Nicki Heath

Group Leader: Robert Wood

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: 2436-11 Matrix: SOIL

Client ID: CGGS-SS-5 Level:LOW Dilution Fact: 5.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	50
Bromomethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Methylene Chloride	195	25
Acrolein	ND	50
Acetone	ND	500
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	25
Vinyl Acetate	ND	250
Bromodichloromethane	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	25
Benzene	ND	25
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	25
trans-1,3-Dichloropropene	ND	25
2-Chloroethylvinylether	ND	50
Bromoform	ND	25
2-Hexanone	ND	250
4-Methyl-2-pentanone	ND	250
Tetrachloroethene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
Styrene	ND	25
m/p-Xylene	ND	25
o-Xylene	ND	25
1,3-Dichlorobenzene	ND	25
1,2/1,4-Dichlorobenzene	ND	25

Analyst: Group Leader:

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/26/90

Laboratory ID: 2436-12 Matrix: WATER

Client ID: CGGS-TRIP_BLANK Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/L	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Nicki Heath Group Leader: Richard Wood

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/26/90

Laboratory ID: MWVM2901126 Matrix: WATER

Client ID: VBLANK Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/L	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/27/90

Laboratory ID: MSVM1901127 Matrix: SOIL

Client ID: VBLANK Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
,2/1,4-Dichlorobenzene	ND	5

Analyst: Mike Heath

Group Leader: Richard Ward

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
VOLATILE ORGANICS

Work Order No: 2436 Date Analyzed: 11/29/90

Laboratory ID: MSVM1901129 Matrix: SOIL

Client ID: VBLANK Level:LOW Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5
Acrolein	ND	10
Acetone	ND	100
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	100
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinylether	ND	10
Bromoform	ND	5
2-Hexanone	ND	50
4-Methyl-2-pentanone	ND	50
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
m/p-Xylene	ND	5
o-Xylene	ND	5
1,3-Dichlorobenzene	ND	5
1,2/1,4-Dichlorobenzene	ND	5

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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SOIL VOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436 DATE ANALYZED: 11/27/90

LEVEL: LOW

LABORATORY ID	S1 (DCE)	S2 (TOL)	S3 (BFB)	Total Out
MSVM1901127	96	98	102	0
2436-04	105	110	106	0
2436-05	111	115	94	0
2436-06	108	117	97	0
2436-09	113	109	93	0
2436-10	108	117	97	0
2436-11	105	110	98	0

	QC LIMITS
S1(DCE)= 1,2-Dichloroethane	(70-121)
S2(TOL)= Toluene-d8	(81-117)
S3(BFB)= Bromofluorobenzene	(74-121)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST: Mich Heaton

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
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SOIL VOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 11/29/90

LEVEL: LOW

LABORATORY ID	S1 (DCE)	S2 (TOL)	S3 (BFB)	Total Out
MSVM1901129	100	102	95	0
2436-07	106	107	95	0
2436-08	107	98	93	0
2436-07MS	109	112	104	0
2436-07MSD	109	105	102	0

	QC LIMITS
S1(DCE)= 1,2-Dichloroethane	(70-121)
S2(TOL)= Toluene-d8	(81-117)
S3(BFB)= Bromofluorobenzene	(74-121)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST: Nick Heath

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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WATER VOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436 DATE ANALYZED: 11/26/90

LEVEL: LOW

LABORATORY ID	S1 (DCE)	S2 (TOL)	S3 (BFB)	Total Out
MWVM2901126	91	95	99	0
2436-01	100	91	101	0
2436-02	103	93	107	0
2436-03	98	93	98	0
2436-03MS	105	98	102	0
2436-03MSD	111	106	103	0
2436-12	98	99	106	0

	QC LIMITS
S1(DCE)= 1,2-Dichloroethane-d4	(76-114)
S2(TOL)= Toluene-d8	(88-110)
S3(BFB)= Bromofluorobenzene	(86-115)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST: Nicholas Heath

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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Matrix Spike/Spike Duplicate Recovery

Volatile Organics

Work Order: 2436 — Analysis Date: 11/26/90

QC Sample : 2436-03 — Matrix: WATER

Instrument: VMS-2 — Units: ug/L

Level: LOW — Cor. Fact: 1

Compound	Conc. Sample	Conc. Spiked	Conc. MS	Percent Recovered
1,1-Dichloroethene	0	50	65	130
Trichloroethene	0	50	45	91
Benzene	0	50	47	94
Toluene	0	50	49	98
Chlorobenzene	0	50	56	112

Compound	Conc. MSD	Percent Recovered	RPD	Criteria RPD %REC
1,1-Dichloroethene	62	124	5	14 (61-145)
Trichloroethene	49	97	7	14 (71-120)
Benzene	48	95	1	11 (76-127)
Toluene	51	101	3	13 (76-125)
Chlorobenzene	55	110	2	13 (75-130)

ANALYST: mcke Heath — QA APPROVAL:

* = Value Outside QC Limit

$$\text{Percent Recovered} = \frac{\text{Conc. MS|MSD} - \text{Conc. Sample}}{\text{Conc. Spiked}} * 100$$

$$\text{RPD} = \left(\frac{\text{Conc. MS} - \text{Conc. MSD}}{(\text{Conc. MS} + \text{Conc. MSD})/2}\right) * 100$$

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Matrix Spike/Spike Duplicate Recovery

Volatile Organics

Work Order: 2436 — Analysis Date: 11/29/90

QC Sample : 2436-07 — Matrix: SOIL

Instrument: VMS-1 — Units: ug/Kg

Level: LOW — Cor. Fact: 5

% Moisture: NA

Compound	Conc. Sample	Conc. Spiked	Conc. MS	Percent Recovered
1,1-Dichloroethene	0	250	300	120
Trichloroethene	0	250	226	91
Benzene	0	250	230	92
Toluene	0	250	242	97
Chlorobenzene	0	250	267	107

Compound	Conc. MSD	Percent Recovered	RPD	Criteria RPD %REC
1,1-Dichloroethene	290	116	3	22 (59-172)
Trichloroethene	244	98	8	24 (62-137)
Benzene	239	96	4	21 (66-142)
Toluene	243	97	0	21 (59-139)
Chlorobenzene	271	108	2	21 (60-133)

ANALYST: Mike Heath — QA APPROVAL:

* = Value Outside QC Limit

$$\text{Percent Recovery} = \frac{\text{Conc. MS|MSD} - \text{Conc. Sample}}{\text{Conc. Spiked}} * 100$$

$$\text{RPD} = \left(\frac{\text{Conc. MS} - \text{Conc. MSD}}{(\text{Conc. MS} + \text{Conc. MSD})/2}\right) * 100$$

CASE NARRATIVE
WORK ORDER NO. 2436
EPA METHOD 8270 AND 625

These five soil and three sediment samples were analyzed by EPA Method 8270 and these three water samples were analyzed by EPA Method 625. CLP compounds, spiking amounts, and QC acceptance criteria were used for the internal standards, surrogates, and matrix spike/spike duplicates.

All samples were analyzed within EPA Data Validation Technical Holding Times.

Two blanks were analyzed with these samples and met CLP acceptance criteria for internal standard areas, surrogates and contamination.

The continuing calibration checks (CCC) used for quantifying these samples met CLP acceptance criteria.

All internal standard areas were within CLP acceptance criteria.

All surrogate recoveries were within CLP acceptance criteria.

All matrix spike/spike duplicate recoveries and relative percent differences were within CLP acceptance criteria with the following exceptions:

The percent recoveries for pentachlorophenol, phenol and 4-nitrophenol in the soil MS and MSD (2436-07) were outside acceptance criteria.

All blank spike/spike duplicate recoveries and relative percent differences were within CLP acceptance criteria with the following exceptions:

The RPD for 1,4-dichlorobenzene for the soil blank spike/spike duplicate was outside acceptance criteria.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-01 Date Analyzed: 12/14/90

Client ID: CGGS-SW-1 % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L	
N-Nitroso-Dimethylamine	20	U
Phenol	20	U
bis(2-Chloroethyl)ether	20	U
2-Chlorophenol	20	U
1,3-Dichlorobenzene	20	U
1,4-Dichlorobenzene	20	U
Benzyl Alcohol	20	U
1,2-Dichlorobenzene	20	U
2-Methylphenol	20	U
bis(2-chloroisopropyl)Ether	20	U
4-Methylphenol	20	U
N-Nitroso-Di-n-Propylamine	20	U
Hexachloroethane	20	U
Nitrobenzene	20	U
Isophorone	20	U
2-Nitrophenol	20	U
2,4-Dimethylphenol	20	U
bis(2-Chloroethoxy)methane	20	U
2,4-Dichlorophenol	20	U
Benzoic Acid	100	U
1,2,4-Trichlorobenzene	20	U
Naphthalene	20	U
4-Chloroaniline	20	U
Hexachlorobutadiene	20	U
4-Chloro-3-Methylphenol	20	U
2-Methylnaphthalene	20	U
Hexachlorocyclopentadiene	20	U
2,4,6-Trichlorophenol	20	U
2,4,5-Trichlorophenol	100	U
2-Chloronaphthalene	20	U
2-Nitroaniline	100	U
Dimethylphthalate	20	U
Acenaphthylene	20	U
2,6-Dinitrotoluene	20	U
3-Nitroaniline	100	U
Acenaphthene	20	U
2,4-Dinitrophenol	100	U
Dibenzofuran	20	U
4-Nitrophenol	100	U

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-01 Date Analyzed: 12/14/90

Client ID: CGGS-SW-1 % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L	
2,4-Dinitrotoluene	20	U
Fluorene	20	U
Diethylphthalate	20	U
4-Chlorophenyl-phenylether	20	U
4-Nitroaniline	100	U
4,6-Dinitro-2-Methylphenol	100	U
N-Nitrosodiphenylamine	20	U
4-Bromophenyl-phenylether	20	U
Hexachlorobenzene	20	U
Pentachlorophenol	100	U
Phenanthrene	20	U
Anthracene	20	U
Di-n-Butylphthalate	20	U
Fluoranthene	20	U
Pyrene	20	U
Butylbenzylphthalate	20	U
Benzo(a)Anthracene	20	U
3,3'-Dichlorobenzidine	40	U
Chrysene	20	U
bis(2-Ethylhexyl)Phthalate	20	U
Di-n-octylphthalate	20	U
Benzo(b)Fluoranthene	20	U
Benzo(k)Fluoranthene	20	U
Benzo(a)Pyrene	20	U
Indeno(1,2,3-cd)Pyrene	20	U
Dibenz(a,h)Anthracene	20	U
Benzo(g,h,i)Perylene	20	U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

500 Bancroft Way
Berkeley, CA. 94710

GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-02 Date Analyzed: 12/19/90

Client ID: CGGS-SW-2 % Moisture: NA

Matrix: WATER Level: LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L	
2,4-Dinitrotoluene	20	U
Fluorene	20	U
Diethylphthalate	20	U
4-Chlorophenyl-phenylether	20	U
4-Nitroaniline	100	U
4,6-Dinitro-2-Methylphenol	100	U
N-Nitrosodiphenylamine	20	U
4-Bromophenyl-phenylether	20	U
Hexachlorobenzene	20	U
Pentachlorophenol	100	U
Phenanthrene	20	U
Anthracene	20	U
Di-n-Butylphthalate	20	U
Fluoranthene	20	U
Pyrene	20	U
Butylbenzylphthalate	20	U
Benzo(a)Anthracene	20	U
3,3'-Dichlorobenzidine	40	U
Chrysene	20	U
bis(2-Ethylhexyl)Phthalate	7	J
Di-n-Octylphthalate	20	U
Benzo(b)Fluoranthene	20	U
Benzo(k)Fluoranthene	20	U
Benzo(a)Pyrene	20	U
Indeno(1,2,3-cd)Pyrene	20	U
Dibenz(a,h)Anthracene	20	U
Benzo(g,h,i)Perylene	20	U

Analyst: Group Leader:

EE-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-03 Date Analyzed: 12/14/90

Client ID: CGGS-SW-3 % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L	
N-Nitroso-Dimethylamine	20	U
Phenol	20	U
bis(2-Chloroethyl)ether	20	U
2-Chlorophenol	20	U
1,3-Dichlorobenzene	20	U
1,4-Dichlorobenzene	20	U
Benzyl Alcohol	20	U
1,2-Dichlorobenzene	20	U
2-Methylphenol	20	U
bis(2-chloroisopropyl)Ether	20	U
4-Methylphenol	20	U
N-Nitroso-Di-n-Propylamine	20	U
Hexachloroethane	20	U
Nitrobenzene	20	U
Isophorone	20	U
2-Nitrophenol	20	U
2,4-Dimethylphenol	20	U
bis(2-Chloroethoxy)methane	20	U
2,4-Dichlorophenol	20	U
Benzoic Acid	100	U
1,2,4-Trichlorobenzene	20	U
Naphthalene	20	U
4-Chloroaniline	20	U
Hexachlorobutadiene	20	U
4-Chloro-3-Methylphenol	20	U
2-Methylnaphthalene	20	U
Hexachlorocyclopentadiene	20	U
2,4,6-Trichlorophenol	20	U
2,4,5-Trichlorophenol	100	U
2-Chloronaphthalene	20	U
2-Nitroaniline	100	U
Dimethylphthalate	20	U
Acenaphthylene	20	U
2,6-Dinitrotoluene	20	U
3-Nitroaniline	100	U
Acenaphthene	20	U
2,4-Dinitrophenol	100	U
Dibenzofuran	20	U
4-Nitrophenol	100	U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-03 Date Analyzed: 12/14/90

Client ID: CGGS-SW-3 % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L
2,4-Dinitrotoluene	20 U
Fluorene	20 U
Diethylphthalate	20 U
4-Chlorophenyl-phenylether	20 U
4-Nitroaniline	100 U
4,6-Dinitro-2-Methylphenol	100 U
N-Nitrosodiphenylamine	20 U
4-Bromophenyl-phenylether	20 U
Hexachlorobenzene	20 U
Pentachlorophenol	100 U
Phenanthrene	20 U
Anthracene	20 U
Di-n-Butylphthalate	20 U
Fluoranthene	20 U
Pyrene	20 U
Butylbenzylphthalate	20 U
Benzo(a)Anthracene	20 U
3,3'-Dichlorobenzidine	40 U
Chrysene	20 U
bis(2-Ethylhexyl)Phthalate	20 U
Di-n-octylphtnalate	20 U
Benzo(b)Fluoranthene	20 U
Benzo(k)Fluoranthene	20 U
Benzo(a)Pyrene	20 U
Indeno(1,2,3-cd)Pyrene	20 U
Dibenz(a,h)Anthracene	20 U
Benzo(g,h,i)Perylene	20 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: MWBNA901120 Date Analyzed: 12/11/90

Client ID: W/EK BLANK % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L
N-Nitroso-Dimethylamine	20 U
Phenol	20 U
bis(2-Chloroethyl)ether	20 U
2-Chlorophenol	20 U
1,3-Dichlorobenzene	20 U
1,4-Dichlorobenzene	20 U
Benzyl Alcohol	20 U
1,2-Dichlorobenzene	20 U
2-Methylphenol	20 U
bis(2-chloroisopropyl)Ether	20 U
4-Methylphenol	20 U
N-Nitroso-Di-n-Propylamine	20 U
Hexachloroethane	20 U
Nitrobenzene	20 U
Isophorone	20 U
2-Nitrophenol	20 U
2,4-Dimethylphenol	20 U
bis(2-Chloroethoxy)methane	20 U
2,4-Dichlorophenol	20 U
Benzoic Acid	100 U
1,2,4-Trichlorobenzene	20 U
Naphthalene	20 U
4-Chloroaniline	20 U
Hexachlorobutadiene	20 U
4-Chloro-3-Methylphenol	20 U
2-Methylnaphthalene	20 U
Hexachlorocyclopentadiene	20 U
2,4,6-Trichlorophenol	20 U
2,4,5-Trichlorophenol	100 U
2-Chloronaphthalene	20 U
2-Nitroaniline	100 U
Dimethylphthalate	20 U
Acenaphthylene	20 U
2,6-Dinitrotoluene	20 U
3-Nitroaniline	100 U
Acenaphthene	20 U
2,4-Dinitrophenol	100 U
Dibenzofuran	20 U
4-Nitrophenol	100 U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: MWBNA901120 Date Analyzed: 12/11/90

Client ID: W/EW BLANK % Moisture: NA

Matrix: WATER Level:LOW Dilution Fact: 2.0

Compound	Analytical Results ug/L
2,4-Dinitrotoluene	20 U
Fluorene	20 U
Diethylphthalate	20 U
4-Chlorophenyl-phenylether	20 U
4-Nitroaniline	100 U
4,6-Dinitro-2-Methylphenol	100 U
N-Nitrosodiphenylamine	20 U
4-Bromophenyl-phenylether	20 U
Hexachlorobenzene	20 U
Pentachlorophenol	100 U
Phenanthrene	20 U
Anthracene	20 U
Di-n-Butylphthalate	20 U
Fluoranthene	20 U
Pyrene	20 U
Butylbenzylphthalate	20 U
Benzo(a)Anthracene	20 U
3,3'-Dichlorobenzidine	40 U
Chrysene	20 U
bis(2-Ethylhexyl)Phthalate	20 U
Di-n-octylphthalate	20 U
Benzo(b)Fluoranthene	20 U
Benzo(k)Fluoranthene	20 U
Benzo(a)Pyrene	20 U
Indeno(1,2,3-cd)Pyrene	20 U
Dibenz(a,h)Anthracene	20 U
Benzo(g,h,i)Perylene	20 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-04 Date Analyzed: 12/13/90

Client ID: CGGS-SED-1 % Moisture: 51

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	200000 U
Phenol	200000 U
bis(2-Chloroethyl)ether	200000 U
2-Chlorophenol	200000 U
1,3-Dichlorobenzene	200000 U
1,4-Dichlorobenzene	200000 U
Benzyl Alcohol	200000 U
1,2-Dichlorobenzene	200000 U
2-Methylphenol	200000 U
bis(2-chloroisopropyl)Ether	200000 U
4-Methylphenol	200000 U
N-Nitroso-Di-n-Propylamine	200000 U
Hexachloroethane	200000 U
Nitrobenzene	200000 U
Isophorone	200000 U
2-Nitrophenol	200000 U
2,4-Dimethylphenol	200000 U
bis(2-Chloroethoxy)methane	200000 U
2,4-Dichlorophenol	200000 U
Benzoic Acid	990000 U
1,2,4-Trichlorobenzene	200000 U
Naphthalene	200000 U
4-Chloroaniline	200000 U
Hexachlorobutadiene	200000 U
4-Chloro-3-Methylphenol	200000 U
2-Methylnaphthalene	200000 U
Hexachlorocyclopentadiene	200000 U
2,4,6-Trichlorophenol	200000 U
2,4,5-Trichlorophenol	990000 U
2-Chloronaphthalene	200000 U
2-Nitroaniline	200000 U
Dimethylphthalate	200000 U
Acenaphthylene	200000 U
2,6-Dinitrotoluene	200000 U
3-Nitroaniline	990000 U
Acenaphthene	200000 U
2,4-Dinitrophenol	990000 U
Dibenzofuran	200000 U
4-Nitrophenol	990000 U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-04 Date Analyzed: 12/13/90

Client ID: CGGS-SED-1 % Moisture: 51

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
2,4-Dinitrotoluene	200000 U
Fluorene	200000 U
Diethylphthalate	200000 U
4-Chlorophenyl-phenylether	200000 U
4-Nitroaniline	990000 U
4,6-Dinitro-2-Methylphenol	990000 U
N-Nitrosodiphenylamine	200000 U
4-Bromophenyl-phenylether	200000 U
Hexachlorobenzene	200000 U
Pentachlorophenol	990000 U
Phenanthrene	200000 U
Anthracene	200000 U
Di-n-Butylphthalate	200000 U
Fluoranthene	200000 U
Pyrene	200000 U
Butylbenzylphthalate	200000 U
Benzo(a)Anthracene	200000 U
3,3'-Dichlorobenzidine	200000 U
Chrysene	200000 U
bis(2-Ethylhexyl)Phthalate	200000 U
Di-n-octylphthalate	200000 U
Benzo(b)Fluoranthene	200000 U
Benzo(k)Fluoranthene	200000 U
Benzo(a)Pyrene	200000 U
Indeno(1,2,3-cd)Pyrene	200000 U
Dibenz(a,h)Anthracene	200000 U
Benzo(g,h,i)Perylene	200000 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-05 Date Analyzed: 12/17/90

Client ID: CGGS-SED-2 % Moisture: 16

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	120000 U
Phenol	120000 U
bis(2-Chloroethyl)ether	120000 U
2-Chlorophenol	120000 U
1,3-Dichlorobenzene	120000 U
1,4-Dichlorobenzene	120000 U
Benzyl Alcohol	120000 U
1,2-Dichlorobenzene	120000 U
2-Methylphenol	120000 U
bis(2-chloroisopropyl)Ether	120000 U
4-Methylphenol	120000 U
N-Nitroso-Di-n-Propylamine	120000 U
Hexachloroethane	120000 U
Nitrobenzene	120000 U
Isophorone	120000 U
2-Nitrophenol	120000 U
2,4-Dimethylphenol	120000 U
bis(2-Chloroethoxy)methane	120000 U
2,4-Dichlorophenol	120000 U
Benzoic Acid	580000 U
1,2,4-Trichlorobenzene	120000 U
Naphthalene	120000 U
4-Chloroaniline	120000 U
Hexachlorobutadiene	120000 U
4-Chloro-3-Methylphenol	120000 U
2-Methylnaphthalene	120000 U
Hexachlorocyclopentadiene	120000 U
2,4,6-Trichlorophenol	120000 U
2,4,5-Trichlorophenol	580000 U
2-Chloronaphthalene	120000 U
2-Nitroaniline	120000 U
Dimethylphthalate	120000 U
Acenaphthylene	120000 U
2,6-Dinitrotoluene	120000 U
3-Nitroaniline	580000 U
Acenaphthene	120000 U
2,4-Dinitrophenol	580000 U
Dibenzofuran	120000 U
4-Nitrophenol	580000 U

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-05 Date Analyzed: 12/17/90

Client ID: CGGS-SED-2 % Moisture: 16

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
2,4-Dinitrotoluene	120000 U
Fluorene	120000 U
Diethylphthalate	120000 U
4-Chlorophenyl-phenylether	120000 U
4-Nitroaniline	580000 U
4,6-Dinitro-2-Methylphenol	580000 U
N-Nitrosodiphenylamine	120000 U
4-Bromophenyl-phenylether	120000 U
Hexachlorobenzene	120000 U
Pentachlorophenol	580000 U
Phenanthrene	120000 U
Anthracene	120000 U
Di-n-Butylphthalate	120000 U
Fluoranthene	120000 U
Pyrene	120000 U
Butylbenzylphthalate	120000 U
Benzo(a)Anthracene	120000 U
3,3'-Dichlorobenzidine	240000 U
Chrysene	120000 U
bis(2-Ethylhexyl)Phthalate	120000 U
Di-n-octylphthalate	120000 U
Benzo(b)Fluoranthene	120000 U
Benzo(k)Fluoranthene	120000 U
Benzo(a)Pyrene	120000 U
Indeno(1,2,3-cd)Pyrene	120000 U
Dibenz(a,h)Anthracene	120000 U
Benzo(g,h,i)Perylene	120000 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 — Date Extracted: 11/20/90

Laboratory ID: 2436-06 — Date Analyzed: 12/13/90

Client ID: CGGS-SED-3 — % Moisture: 49

Matrix: SOIL — Level:MED — Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	39000 U
Phenol	39000 U
bis(2-Chloroethyl)ether	39000 U
2-Chlorophenol	39000 U
1,3-Dichlorobenzene	39000 U
1,4-Dichlorobenzene	39000 U
Benzyl Alcohol	39000 U
1,2-Dichlorobenzene	39000 U
2-Methylphenol	39000 U
bis(2-chloroisopropyl)Ether	39000 U
4-Methylphenol	39000 U
N-Nitroso-Di-n-Propylamine	39000 U
Hexachloroethane	39000 U
Nitrobenzene	39000 U
Isophorone	39000 U
2-Nitrophenol	39000 U
2,4-Dimethylphenol	39000 U
bis(2-Chloroethoxy)methane	39000 U
2,4-Dichlorophenol	39000 U
Benzoic Acid	190000 U
1,2,4-Trichlorobenzene	39000 U
Naphthalene	39000 U
4-Chloroaniline	39000 U
Hexachlorobutadiene	39000 U
4-Chloro-3-Methylphenol	39000 U
2-Methylnaphthalene	39000 U
Hexachlorocyclopentadiene	39000 U
2,4,6-Trichlorophenol	39000 U
2,4,5-Trichlorophenol	190000 U
2-Chloronaphthalene	39000 U
2-Nitroaniline	39000 U
Dimethylphthalate	39000 U
Acenaphthylene	39000 U
2,6-Dinitrotoluene	39000 U
3-Nitroaniline	190000 U
Acenaphthene	39000 U
2,4-Dinitrophenol	190000 U
Dibenzofuran	39000 U
4-Nitrophenol	190000 U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-06 Date Analyzed: 12/13/90

Client ID: CGGS-SED-3 % Moisture: 49

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	
2,4-Dinitrotoluene	39000	U
Fluorene	39000	U
Diethylphthalate	39000	U
4-Chlorophenyl-phenylether	39000	U
4-Nitroaniline	190000	U
4,6-Dinitro-2-Methylphenol	190000	U
N-Nitrosodiphenylamine	39000	U
4-Bromophenyl-phenylether	39000	U
Hexachlorobenzene	39000	U
Pentachlorophenol	190000	U
Phenanthrene	39000	U
Anthracene	39000	U
Di-n-Butylphthalate	39000	U
Fluoranthene	39000	U
Pyrene	39000	U
Butylbenzylphthalate	39000	U
Benzo(a)Anthracene	39000	U
3,3'-Dichlorobenzidine	39000	U
Chrysene	39000	U
bis(2-Ethylhexyl)Phthalate	39000	U
Di-n-octylphthalate	39000	U
Benzo(b)Fluoranthene	39000	U
Benzo(k)Fluoranthene	39000	U
Benzo(a)Pyrene	39000	U
Indeno(1,2,3-cd)Pyrene	39000	U
Dibenz(a,h)Anthracene	39000	U
Benzo(g,h,i)Perylene	39000	U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-07 Date Analyzed: 12/13/90

Client ID: CGGS-SS-1 % Moisture: 9

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	110000 U
Phenol	110000 U
bis(2-Chloroethyl)ether	110000 U
2-Chlorophenol	110000 U
1,3-Dichlorobenzene	110000 U
1,4-Dichlorobenzene	110000 U
Benzyl Alcohol	110000 U
1,2-Dichlorobenzene	110000 U
2-Methylphenol	110000 U
bis(2-chloroisopropyl)Ether	110000 U
4-Methylphenol	110000 U
N-Nitroso-Di-n-Propylamine	110000 U
Hexachloroethane	110000 U
Nitrobenzene	110000 U
Isophorone	110000 U
2-Nitrophenol	110000 U
2,4-Dimethylphenol	110000 U
bis(2-Chloroethoxy)methane	110000 U
2,4-Dichlorophenol	110000 U
Benzoic Acid	530000 U
1,2,4-Trichlorobenzene	110000 U
Naphthalene	110000 U
4-Chloroaniline	110000 U
Hexachlorobutadiene	110000 U
4-Chloro-3-Methylphenol	110000 U
2-Methylnaphthalene	110000 U
Hexachlorocyclopentadiene	110000 U
2,4,6-Trichlorophenol	110000 U
2,4,5-Trichlorophenol	530000 U
2-Chloronaphthalene	110000 U
2-Nitroaniline	110000 U
Dimethylphthalate	110000 U
Acenaphthylene	110000 U
2,6-Dinitrotoluene	110000 U
3-Nitroaniline	530000 U
Acenaphthene	110000 U
2,4-Dinitrophenol	530000 U
Dibenzofuran	110000 U
4-Nitrophenol	530000 U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 — Date Extracted: 11/20/90

Laboratory ID: 2436-07 — Date Analyzed: 12/13/90

Client ID: CGGS-SS-1 — % Moisture: 9

Matrix: SOIL — Level:MED — Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
2,4-Dinitrotoluene	110000 U
Fluorene	110000 U
Diethylphthalate	110000 U
4-Chlorophenyl-phenylether	110000 U
4-Nitroaniline	530000 U
4,6-Dinitro-2-Methylphenol	530000 U
N-Nitrosodiphenylamine	110000 U
4-Bromophenyl-phenylether	110000 U
Hexachlorobenzene	110000 U
Pentachlorophenol	530000 U
Phenanthrene	110000 U
Anthracene	110000 U
Di-n-Butylphthalate	110000 U
Fluoranthene	110000 U
Pyrene	110000 U
Butylbenzylphthalate	110000 U
Benzo(a)Anthracene	110000 U
3,3'-Dichlorobenzidine	110000 U
Chrysene	110000 U
bis(2-Ethylhexyl)Phthalate	110000 U
Di-n-octylphthalate	110000 U
Benzo(b)Fluoranthene	110000 U
Benzo(k)Fluoranthene	110000 U
Benzo(a)Pyrene	110000 U
Indeno(1,2,3-cd)Pyrene	110000 U
Dibenz(a,h)Anthracene	110000 U
Benzo(g,h,i)Perylene	110000 U

Analyst: _____ Group Leader: _____

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-08 Date Analyzed: 12/13/90

Client ID: CGGS-SS-2 % Moisture: 19

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	120000 U
Phenol	120000 U
bis(2-Chloroethyl)ether	120000 U
2-Chlorophenol	120000 U
1,3-Dichlorobenzene	120000 U
1,4-Dichlorobenzene	120000 U
Benzyl Alcohol	120000 U
1,2-Dichlorobenzene	120000 U
2-Methylphenol	120000 U
bis(2-chloroisopropyl)Ether	120000 U
4-Methylphenol	120000 U
N-Nitroso-Di-n-Propylamine	120000 U
Hexachloroethane	120000 U
Nitrobenzene	120000 U
Isophorone	120000 U
2-Nitrophenol	120000 U
2,4-Dimethylphenol	120000 U
bis(2-Chloroethoxy)methane	120000 U
2,4-Dichlorophenol	120000 U
Benzoic Acid	600000 U
1,2,4-Trichlorobenzene	120000 U
Naphthalene	120000 U
4-Chloroaniline	120000 U
Hexachlorobutadiene	120000 U
4-Chloro-3-Methylphenol	120000 U
2-Methylnaphthalene	120000 U
Hexachlorocyclopentadiene	120000 U
2,4,6-Trichlorophenol	120000 U
2,4,5-Trichlorophenol	600000 U
2-Chloronaphthalene	120000 U
2-Nitroaniline	120000 U
Dimethylphthalate	120000 U
Acenaphthylene	120000 U
2,6-Dinitrotoluene	120000 U
3-Nitroaniline	600000 U
Acenaphthene	120000 U
2,4-Dinitrophenol	600000 U
Dibenzofuran	120000 U
4-Nitrophenol	600000 U

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-08 Date Analyzed: 12/13/90

Client ID: CGGS-SS-2 % Moisture: 19

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
2,4-Dinitrotoluene	120000 U
Fluorene	120000 U
Diethylphthalate	120000 U
4-Chlorophenyl-phenylether	120000 U
4-Nitroaniline	600000 U
4,6-Dinitro-2-Methylphenol	600000 U
N-Nitrosodiphenylamine	120000 U
4-Bromophenyl-phenylether	120000 U
Hexachlorobenzene	120000 U
Pentachlorophenol	600000 U
Phenanthrene	120000 U
Anthracene	120000 U
Di-n-Butylphthalate	120000 U
Fluoranthene	120000 U
Pyrene	120000 U
Butylbenzylphthalate	120000 U
Benzo(a)Anthracene	120000 U
3,3'-Dichlorobenzidine	120000 U
Chrysene	120000 U
bis(2-Ethylhexyl)Phthalate	120000 U
Di-n-octylphthalate	120000 U
Benzo(b)Fluoranthene	120000 U
Benzo(k)Fluoranthene	120000 U
Benzo(a)Pyrene	120000 U
Indeno(1,2,3-cd)Pyrene	120000 U
Dibenz(a,h)Anthracene	120000 U
Benzo(g,h,i)Perylene	120000 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-09 Date Analyzed: 12/14/90

Client ID: CGGS-SS-3 % Moisture: 38

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	
N-Nitroso-Dimethylamine	160000	U
Phenol	160000	U
bis(2-Chloroethyl)ether	160000	U
2-Chlorophenol	160000	U
1,3-Dichlorobenzene	160000	U
1,4-Dichlorobenzene	160000	U
Benzyl Alcohol	160000	U
1,2-Dichlorobenzene	160000	U
2-Methylphenol	160000	U
bis(2-chloroisopropyl)Ether	160000	U
4-Methylphenol	160000	U
N-Nitroso-Di-n-Propylamine	160000	U
Hexachloroethane	160000	U
Nitrobenzene	160000	U
Isophorone	160000	U
2-Nitrophenol	160000	U
2,4-Dimethylphenol	160000	U
bis(2-Chloroethoxy)methane	160000	U
2,4-Dichlorophenol	160000	U
Benzoic Acid	780000	U
1,2,4-Trichlorobenzene	160000	U
Naphthalene	160000	U
4-Chloroaniline	160000	U
Hexachlorobutadiene	160000	U
4-Chloro-3-Methylphenol	160000	U
2-Methylnaphthalene	160000	U
Hexachlorocyclopentadiene	160000	U
2,4,6-Trichlorophenol	160000	U
2,4,5-Trichlorophenol	780000	U
2-Chloronaphthalene	160000	U
2-Nitroaniline	160000	U
Dimethylphthalate	160000	U
Acenaphthylene	160000	U
2,6-Dinitrotoluene	160000	U
3-Nitroaniline	780000	U
Acenaphthene	160000	U
2,4-Dinitrophenol	780000	U
Dibenzofuran	160000	U
4-Nitrophenol	780000	U

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-09 Date Analyzed: 12/14/90

Client ID: CGGS-SS-3 % Moisture: 38

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	
2,4-Dinitrotoluene	160000	U
Fluorene	160000	U
Diethylphthalate	160000	U
4-Chlorophenyl-phenylether	160000	U
4-Nitroaniline	780000	U
4,6-Dinitro-2-Methylphenol	780000	U
N-Nitrosodiphenylamine	160000	U
4-Bromophenyl-phenylether	160000	U
Hexachlorobenzene	160000	U
Pentachlorophenol	780000	U
Phenanthrene	160000	U
Anthracene	160000	U
Di-n-Butylphthalate	160000	U
Fluoranthene	120000	J
Pyrene	110000	J
Butylbenzylphthalate	160000	U
Benzo(a)Anthracene	160000	U
3,3'-Dichlorobenzidine	160000	U
Chrysene	160000	U
bis(2-Ethylhexyl)Phthalate	160000	U
Di-n-octylphthalate	160000	U
Benzo(b)Fluoranthene	160000	U
Benzo(k)Fluoranthene	160000	U
Benzo(a)Pyrene	160000	U
Indeno(1,2,3-cd)Pyrene	160000	U
Dibenz(a,h)Anthracene	160000	U
Benzo(g,h,i)Perylene	160000	U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-10 Date Analyzed: 12/17/90

Client ID: CGGS-SS-4 % Moisture: 25

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	130000 U
Phenol	130000 U
bis(2-Chloroethyl)ether	130000 U
2-Chlorophenol	130000 U
1,3-Dichlorobenzene	130000 U
1,4-Dichlorobenzene	130000 U
Benzyl Alcohol	130000 U
1,2-Dichlorobenzene	130000 U
2-Methylphenol	130000 U
bis(2-chloroisopropyl)Ether	130000 U
4-Methylphenol	130000 U
N-Nitroso-Di-n-Propylamine	130000 U
Hexachloroethane	130000 U
Nitrobenzene	130000 U
Isophorone	130000 U
2-Nitrophenol	130000 U
2,4-Dimethylphenol	130000 U
bis(2-Chloroethoxy)methane	130000 U
2,4-Dichlorophenol	130000 U
Benzoic Acid	650000 U
1,2,4-Trichlorobenzene	130000 U
Naphthalene	130000 U
4-Chloroaniline	130000 U
Hexachlorobutadiene	130000 U
4-Chloro-3-Methylphenol	130000 U
2-Methylnaphthalene	130000 U
Hexachlorocyclopentadiene	130000 U
2,4,6-Trichlorophenol	130000 U
2,4,5-Trichlorophenol	650000 U
2-Chloronaphthalene	130000 U
2-Nitroaniline	130000 U
Dimethylphthalate	130000 U
Acenaphthylene	130000 U
2,6-Dinitrotoluene	130000 U
3-Nitroaniline	650000 U
Acenaphthene	130000 U
2,4-Dinitrophenol	650000 U
Dibenzofuran	130000 U
4-Nitrophenol	650000 U

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-10 Date Analyzed: 12/17/90

Client ID: CGGS-SS-4 % Moisture: 25

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	
2,4-Dinitrotoluene	130000	U
Fluorene	130000	U
Diethylphthalate	130000	U
4-Chlorophenyl-phenylether	130000	U
4-Nitroaniline	650000	U
4,6-Dinitro-2-Methylphenol	650000	U
N-Nitrosodiphenylamine	130000	U
4-Bromophenyl-phenylether	130000	U
Hexachlorobenzene	130000	U
Pentachlorophenol	650000	U
Phenanthrene	240000	
Anthracene	71000	J
Di-n-Butylphthalate	130000	U
Fluoranthene	710000	
Pyrene	800000	
Butylbenzylphthalate	130000	U
Benzo(a)Anthracene	430000	
3,3'-Dichlorobenzidine	130000	U
Chrysene	380000	
bis(2-Ethylhexyl)Phthalate	130000	U
Di-n-octylphthalate	130000	U
Benzo(b)Fluoranthene	370000	
Benzo(k)Fluoranthene	300000	
Benzo(a)Pyrene	280000	
Indeno(1,2,3-cd)Pyrene	250000	
Dibenz(a,h)Anthracene	130000	U
Benzo(g,h,i)Perylene	180000	

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-11 Date Analyzed: 12/14/90

Client ID: CGGS-SS-5 % Moisture: 33

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	150000 U
Phenol	150000 U
bis(2-Chloroethyl)ether	150000 U
2-Chlorophenol	150000 U
1,3-Dichlorobenzene	150000 U
1,4-Dichlorobenzene	150000 U
Benzyl Alcohol	150000 U
1,2-Dichlorobenzene	150000 U
2-Methylphenol	150000 U
bis(2-chloroisopropyl)Ether	150000 U
4-Methylphenol	150000 U
N-Nitroso-Di-n-Propylamine	150000 U
Hexachloroethane	150000 U
Nitrobenzene	150000 U
Isophorone	150000 U
2-Nitrophenol	150000 U
2,4-Dimethylphenol	150000 U
bis(2-Chloroethoxy)methane	150000 U
2,4-Dichlorophenol	150000 U
Benzoic Acid	720000 U
1,2,4-Trichlorobenzene	150000 U
Naphthalene	150000 U
4-Chloroaniline	150000 U
Hexachlorobutadiene	150000 U
4-Chloro-3-Methylphenol	150000 U
2-Methylnaphthalene	150000 U
Hexachlorocyclopentadiene	150000 U
2,4,6-Trichlorophenol	150000 U
2,4,5-Trichlorophenol	720000 U
2-Chloronaphthalene	150000 U
2-Nitroaniline	150000 U
Dimethylphthalate	150000 U
Acenaphthylene	150000 U
2,6-Dinitrotoluene	150000 U
3-Nitroaniline	720000 U
Acenaphthene	150000 U
2,4-Dinitrophenol	720000 U
Dibenzofuran	150000 U
4-Nitrophenol	720000 U

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: 2436-11 Date Analyzed: 12/14/90

Client ID: CGGS-SS-5 % Moisture: 33

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg	
2,4-Dinitrotoluene	150000	U
Fluorene	150000	U
Diethylphthalate	150000	U
4-Chlorophenyl-phenylether	150000	U
4-Nitroaniline	720000	U
4,6-Dinitro-2-Methylphenol	720000	U
N-Nitrosodiphenylamine	150000	U
4-Bromophenyl-phenylether	150000	U
Hexachlorobenzene	150000	U
Pentachlorophenol	720000	U
Phenanthrene	150000	U
Anthracene	150000	U
Di-n-Butylphthalate	150000	U
Fluoranthene	110000	J
Pyrene	100000	J
Butylbenzylphthalate	150000	U
Benzo(a)Anthracene	55000	J
3,3'-Dichlorobenzidine	150000	U
Chrysene	55000	J
bis(2-Ethylhexyl)Phthalate	150000	U
Di-n-octylphthalate	150000	U
Benzo(b)Fluoranthene	150000	U
Benzo(k)Fluoranthene	150000	U
Benzo(a)Pyrene	150000	U
Indeno(1,2,3-cd)Pyrene	150000	U
Dibenz(a,h)Anthracene	150000	U
Benzo(g,h,i)Perylene	150000	U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: MSBNA901120A Date Analyzed: 12/11/90

Client ID: SBLANK % Moisture: NA

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
N-Nitroso-Dimethylamine	20000 U
Phenol	20000 U
bis(2-Chloroethyl)ether	20000 U
2-Chlorophenol	20000 U
1,3-Dichlorobenzene	20000 U
1,4-Dichlorobenzene	20000 U
Benzyl Alcohol	20000 U
1,2-Dichlorobenzene	20000 U
2-Methylphenol	20000 U
bis(2-chloroisopropyl)Ether	20000 U
4-Methylphenol	20000 U
N-Nitroso-Di-n-Propylamine	20000 U
Hexachloroethane	20000 U
Nitrobenzene	20000 U
Isophorone	20000 U
2-Nitrophenol	20000 U
2,4-Dimethylphenol	20000 U
bis(2-Chloroethoxy)methane	20000 U
2,4-Dichlorophenol	20000 U
Benzoic Acid	97000 U
1,2,4-Trichlorobenzene	20000 U
Naphthalene	20000 U
4-Chloroaniline	20000 U
Hexachlorobutadiene	20000 U
4-Chloro-3-Methylphenol	20000 U
2-Methylnaphthalene	20000 U
Hexachlorocyclopentadiene	20000 U
2,4,6-Trichlorophenol	20000 U
2,4,5-Trichlorophenol	97000 U
2-Chloronaphthalene	20000 U
2-Nitroaniline	20000 U
Dimethylphthalate	20000 U
Acenaphthylene	20000 U
2,6-Dinitrotoluene	20000 U
3-Nitroaniline	97000 U
Acenaphthene	20000 U
2,4-Dinitrophenol	97000 U
Dibenzofuran	20000 U
4-Nitrophenol	97000 U

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
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GC/MS ANALYTICAL REPORT
SEMIVOLATILE ORGANICS

Work Order No: 2436 Date Extracted: 11/20/90

Laboratory ID: MSBNA901120A Date Analyzed: 12/11/90

Client ID: SBLANK % Moisture: NA

Matrix: SOIL Level:MED Dilution Fact: 1.0

Compound	Analytical Results ug/Kg
2,4-Dinitrotoluene	20000 U
Fluorene	20000 U
Diethylphthalate	20000 U
4-Chlorophenyl-phenylether	20000 U
4-Nitroaniline	97000 U
4,6-Dinitro-2-Methylphenol	97000 U
N-Nitrosodiphenylamine	20000 U
4-Bromophenyl-phenylether	20000 U
Hexachlorobenzene	20000 U
Pentachlorophenol	97000 U
Phenanthrene	20000 U
Anthracene	20000 U
Di-n-Butylphthalate	20000 U
Fluoranthene	20000 U
Pyrene	20000 U
Butylbenzylphthalate	20000 U
Benzo(a)Anthracene	20000 U
3,3'-Dichlorobenzidine	20000 U
Chrysene	20000 U
bis(2-Ethylhexyl)Phthalate	20000 U
Di-n-octylphthalate	20000 U
Benzo(b)Fluoranthene	20000 U
Benzo(k)Fluoranthene	20000 U
Benzo(a)Pyrene	20000 U
Indeno(1,2,3-cd)Pyrene	20000 U
Dibenz(a,h)Anthracene	20000 U
Benzo(g,h,i)Perylene	20000 U

Analyst: Group Leader:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley,CA 94710

SOIL SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 12/11/90

LEVEL: MED

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
MSBNA901120A	77	73	96	74	77	53	0
SSBNA901120A	72	68	96	60	70	67	0
SSBNA901120B	70	63	83	56	63	63	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(23-120)
S2(FBP)= 2-Fluorobiphenyl	(30-115)
S3(TPH)= Terphenyl-d14	(18-137)
S4(PHL)= Phenol-d5	(24-113)
S5(2FP)= 2-Fluorophenol	(25-121)
S6(TBP)= 2,4,6-Tribromophenol	(19-122)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST:

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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SOIL SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436 DATE ANALYZED: 12/13/90

LEVEL: MED

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
2436-04	50	65	63	56	54	22	0
2436-06	59	71	74	63	60	30	0
2436-07	88	102	104	91	88	28	0
2436-08	90	101	107	88	89	16 *	1

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(23-120)
S2(FBP)= 2-Fluorobiphenyl	(30-115)
S3(TPH)= Terphenyl-d14	(18-137)
S4(PHL)= Phenol-d5	(24-113)
S5(2FP)= 2-Fluorophenol	(25-121)
S6(TBP)= 2,4,6-Tribromophenol	(19-122)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST: QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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SOIL SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 12/14/90

LEVEL: MED

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
2436-11	44	53	62	51	49	25	0
2436-09	42	53	57	48	45	14 *	1
2436-07MSD	97	106	111	100	93	38	0
2436-07MS	88	98	104	92	87	39	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(23-120)
S2(FBP)= 2-Fluorobiphenyl	(30-115)
S3(TPH)= Terphenyl-d14	(18-137)
S4(PHL)= Phenol-d5	(24-113)
S5(2FP)= 2-Fluorophenol	(25-121)
S6(TBP)= 2,4,6-Tribromophenol	(19-122)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST:

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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WATER SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 12/14/90

LEVEL: LOW

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
2436-01	74	71	88	38	52	66	0
2436-03	38	38 *	46	43	57	72	1
2436-03MS	68	65	86	34	49	67	0
2436-03MSD	68	65	83	35	48	69	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(35-114)
S2(FBP)= 2-Fluorobiphenyl	(43-116)
S3(TPH)= Terphenyl-d14	(33-141)
S4(PHL)= Phenol-d5	(10-94)
S5(2FP)= 2-Fluorophenol	(21-100)
S6(TBP)= 2,4,6-Tribromophenol	(10-123)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST:

QA APPROVAL:

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SOIL SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 12/17/90

LEVEL: MED

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
2436-05	73	81	83	76	76	48	0
2436-10	74	78	97	67	74	62	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(23-120)
S2(FBP)= 2-Fluorobiphenyl	(30-115)
S3(TPH)= Terphenyl-d14	(18-137)
S4(PHL)= Phenol-d5	(24-113)
S5(2FP)= 2-Fluorophenol	(25-121)
S6(TBP)= 2,4,6-Tribromophenol	(19-122)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST:

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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WATER SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436

DATE ANALYZED: 12/19/90

LEVEL: LOW

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
2436-02 ~~DE~~ jpm	62	61	130	27	44	92	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(35-114)
S2(FBP)= 2-Fluorobiphenyl	(43-116)
S3(TPH)= Terphenyl-d14	(33-141)
S4(PHL)= Phenol-d5	(10-94)
S5(2FP)= 2-Fluorophenol	(21-100)
S6(TBP)= 2,4,6-Tribromophenol	(10-123)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST:

QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

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WATER SEMIVOLATILE SURROGATE RECOVERY

WORK ORDER NO: 2436 DATE ANALYZED: 12/11/90

LEVEL: LOW

LABORATORY ID	S1 NBZ	S2 FBP	S3 TPH	S4 PHL	S5 2FP	S6 TBP	TOT OUT
MWBNA901120	72	51	78	60	64	54	0

	QC LIMITS
S1(NBZ)= Nitrobenzene-d5	(35-114)
S2(FBP)= 2-Fluorobiphenyl	(43-116)
S3(TPH)= Terphenyl-d14	(33-141)
S4(PHL)= Phenol-d5	(10-94)
S5(2FP)= 2-Fluorophenol	(21-100)
S6(TBP)= 2,4,6-Tribromophenol	(10-123)

D =Surrogate Diluted Out
* =Surrogate Outside QC Limit

ANALYST: QA APPROVAL:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
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Matrix Spike/Spike Duplicate Recovery

Semivolatile Organics

Ext. Date : 11/20/90 Analysis Date: 12/13/90

Work order: 2436 Matrix: SOIL

QC Sample : 2436-07 Units: ug/Kg

Instrument: EMS-2 Cor. Fact: 10000

Level: MED % Moisture: 9

Compound	Conc. Sample	Conc. Spiked	Conc. MS	Percent Recovered
1,2,4-Trichlorobenzene	0	109890	96484	88
Acenapthene	0	109890	95604	87
2,4-Dinitrotoluene	0	109890	39451	36
Pyrene	0	109890	118352	108
N-Nitrosodipropylamine	0	109890	95275	87
1,4-Dichlorobenzene	0	109890	95824	87
Pentachlorophenol	0	219780	0	0 *
Phenol	0	219780	197912	90 *
2-Chlorophenol	0	219780	193736	88
4-Chloro-m-cresol	0	219780	171758	78
4-Nitrophenol	0	219780	0	0 *

Compound	Conc. MSD	Percent Recovered	RPD	Criteria RPD	Criteria %REC
1,2,4-Trichlorobenzene	102967	94	7	23	(38-107)
Acenapthene	105385	96	10	19	(31-137)
2,4-Dinitrotoluene	38571	35	2	47	(28-89)
Pyrene	125495	114	6	36	(35-142)
N-Nitrosodipropylamine	102637	93	7	38	(41-126)
1,4-Dichlorobenzene	103516	94	8	27	(28-104)
Pentachlorophenol	0	0 *	NC	47	(17-109)
Phenol	211429	96 *	7	35	(26-90)
2-Chlorophenol	207802	95	7	50	(25-102)
4-Chloro-m-cresol	182198	83	6	33	(26-103)
4-Nitrophenol	0	0 *	NC	50	(11-114)

ANALYST: QA APPROVAL:

* = Value Outside QC Limits

$$\text{Percent Recovery} = \frac{\text{Conc. MS|MSD} - \text{Conc. Sample}}{\text{Conc. Spiked}} * 100$$

$$\text{RPD} = \left(\frac{\text{Conc. MS} - \text{Conc. MSD}}{(\text{Conc. MS} + \text{Conc. MSD})/2}\right) * 100$$

ES-ENGINEERING SCIENCE, INC.
600 Bancroft Way
Berkeley, CA. 94710

Matrix Spike/Spike Duplicate Recovery

Semivolatile Organics

Ext. Date : 11/20/90 Analysis Date: 12/11/90

Work order: 2436 Matrix: SOIL

QC Sample : MSBNA901120A Units: ug/Kg

Instrument: EMS-2 Cor. Fact: 2000

Level: MED % Moisture: NA

Compound	Conc. Sample	Conc. Spiked	Conc. MS	Percent Recovered
1,2,4-Trichlorobenzene	0	100000	69200	69
Acenaphthene	0	100000	69100	69
2,4-Dinitrotoluene	0	100000	62700	63
Pyrene	0	100000	88360	88
N-Nitrosodipropylamine	0	100000	63220	63
1,4-Dichlorobenzene	0	100000	52280	52
Pentachlorophenol	0	200000	81880	41
Phenol	0	200000	122840	61
2-Chlorophenol	0	200000	119040	60
4-Chloro-m-cresol	0	200000	143000	72
4-Nitrophenol	0	200000	97000	49

Compound	Conc. MSD	Percent Recovered	RPD	Criteria RPD	Criteria %REC
1,2,4-Trichlorobenzene	64260	64	7	23	(38-107)
Acenaphthene	67000	67	3	19	(31-137)
2,4-Dinitrotoluene	65220	65	4	47	(28-89)
Pyrene	75960	76	15	36	(35-142)
N-Nitrosodipropylamine	58560	59	8	38	(41-126)
1,4-Dichlorobenzene	38280	38	31 *	27	(28-104)
Pentachlorophenol	82800	41	1	47	(17-109)
Phenol	106320	53	14	35	(26-90)
2-Chlorophenol	99000	50	18	50	(25-102)
4-Chloro-m-cresol	156720	78	9	33	(26-103)
4-Nitrophenol	115000	58	17	50	(11-114)

ANALYST: QA APPROVAL:

* = Value Outside QC Limits

$$\text{Percent Recovery} = \frac{\text{Conc. MS|MSD} - \text{Conc. Sample}}{\text{Conc. Spiked}} * 100$$

$$\text{RPD} = \left(\frac{\text{Conc. MS} - \text{Conc. MSD}}{(\text{Conc. MS} + \text{Conc. MSD})/2}\right) * 100$$

ES-ENGINEERING SCIENCE, INC.
500 Bancroft Way
Berkeley, CA. 94710

Matrix Spike/Spike Duplicate Recovery

Semivolatile Organics

Ext. Date : 11/20/90 Analysis Date: 12/14/90

Work order: 2436 Matrix: WATER

QC Sample : 2436-03 Units: ug/L

Instrument: EMS-2 Cor. Fact: 2

Level: LOW

Compound	Conc. Sample	Conc. Spiked	Conc. MS	Percent Recovered
1,2,4-Trichlorobenzene	0	100	55	55
Acenapthene	0	100	56	56
2,4-Dinitrotoluene	0	100	46	46
Pyrene	0	100	78	78
N-Nitrosodipropylamine	0	100	65	65
1,4-Dichlorobenzene	0	100	52	52
Pentachlorophenol	0	200	107	54
Phenol	0	200	65	33
2-Chlorophenol	0	200	122	61
4-Chloro-m-cresol	0	200	127	64
4-Nitrophenol	0	200	26	13

Compound	Conc. MSD	Percent Recovered	RPD	Criteria RPD %REC
1,2,4-Trichlorobenzene	56	56	2	28 (39-98)
Acenapthene	58	58	3	31 (46-118)
2,4-Dinitrotoluene	48	48	6	38 (24-96)
Pyrene	75	75	5	31 (26-127)
N-Nitrosodipropylamine	66	66	2	38 (41-116)
1,4-Dichlorobenzene	55	55	5	28 (36-97)
Pentachlorophenol	124	62	14	50 (9-103)
Phenol	67	33	2	42 (12-89)
2-Chlorophenol	122	61	1	40 (27-123)
4-Chloro-m-cresol	132	66	3	42 (23-97)
4-Nitrophenol	34	17	25	50 (10-80)

ANALYST: QA APPROVAL:

* = Value Outside QC Limits

$$\text{Percent Recovered} = \frac{\text{Conc. MS|MSD} - \text{Conc. Sample}}{\text{Conc. Spiked}} * 100$$

$$\text{RPD} = \left(\frac{\text{Conc. MS} - \text{Conc. MSD}}{(\text{Conc. MS} + \text{Conc. MSD})/2}\right) * 100$$

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Water

Client's ID: CGGS-SW-1 CGGS-SW-2 CGGS-SW-3

	1120	1135	1200				
Sample Date:	11/15/90	11/15/90	11/15/90				
% Moisture:	NA	NA	NA				
Lab ID:	2436.01	2436.02	2436.03				
	F	F	V		Normal		
Parameter	----------Results----------			Method	Report Limit	Units	Date Analyzed
Aluminum	0.65	1.3	2.0	ICP	.2	mg/L	12/17/90
Antimony	ND	ND	ND	ICP	.1	(PPM)	12/17/90
Cadmium	ND	ND	ND	ICP	.005	in	12/17/90
Chromium	ND	ND	ND	GF-AA	.005	Water	12/17/90
Cobalt	ND	ND	ND	ICP	.05	"	12/17/90
Copper	ND	ND	ND	ICP	.03	"	12/17/90
Iron	0.95	2.0	2.8	ICP	.05	"	12/17/90
Lead	0.035	0.028	0.035	GF-AA	.003	"	12/17/90
Manganese	0.095	0.16	0.18	ICP	.02	"	12/17/90
Nickel	ND	ND	ND	ICP	.04	"	12/17/90
Zinc	0.036	0.054	0.069	ICP	.02	"	12/17/90

ND- Not Detected

ANALYST: L. Michaud

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Water

Client's ID: Prep Blank

Sample Date:
% Moisture: NA
Lab ID: Prep Blank

Parameter	Results	Method	Normal Report Limit	Units	Date Analyzed
Aluminum	ND	ICP	.2	mg/L	12/17/90
Antimony	ND	ICP	.1	(PPM)	12/17/90
Cadmium	ND	ICP	.005	in	12/17/90
Chromium	ND	GF-AA	.005	Water	12/17/90
Cobalt	ND	ICP	.05	"	12/17/90
Copper	ND	ICP	.03	"	12/17/90
Iron	ND	ICP	.05	"	12/17/90
Lead	ND	GF-AA	.003	"	12/17/90
Manganese	ND	ICP	.02	"	12/17/90
Nickel	ND	ICP	.04	"	12/17/90
Zinc	ND	ICP	.02	"	12/17/90

ND- Not Detected

ANALYST: J. Michaud

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS QC SUMMARY - LAB CONTROL SAMPLE - WATER

Work Order: 2436 % Moisture: NA

Lab ID of LCS:
ICP: 380.01 LCS
GF-AA: 380.02 LCS

Matrix: Water

Units: mg/L
Water

Parameter	Date Analyzed LCS	LCS Result	Conc Added	% Rec LCS	-QC Limits- -- % Rec -- Low	High
Aluminum ICP	12/17/90	2.087	2	104	80	120
Antimony ICP	12/17/90	.460	.5	92	66	126
Cadmium ICP	12/17/90	.051	.05	102	80	120
Chromium GF	12/17/90	.019	.02	95	80	120
Cobalt ICP	12/17/90	.497	.5	99	80	120
Copper ICP	12/17/90	.246	.25	98	80	120
Iron ICP	12/17/90	.964	1	96	80	120
Lead GF	12/17/90	.021	.02	105	74	133
Manganese ICP	12/17/90	.491	.5	98	80	120
Nickel ICP	12/17/90	.468	.5	94	80	120
Zinc ICP	12/17/90	.501	.5	100	80	120

ANALYST: _____ Date 12/20/90 REVIEWER: _____ Date 12/21/90

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ES-ENGINEERING-SCIENCE, INC.
600 Bancroft Way
Berkeley, CA 94710

INORGANIC QC SUMMARY - MS and MSD
WATER - ug/L

Work Order: 2436 % Moisture: NA

	ICP	GF-AA		
Lab ID Spiked:	2436.03	2436.03	Matrix:	Water
QC Batch:	380.01	380.02	Units:	ug/L Water

Parameter	Date Analyzed MS	Unspiked Sample	Results MS	Results MSD	RPD	RPD QC Limit	Conc Added MS	Conc Added MSD	Percent Recovered MS	Percent Recovered MSD
Aluminum	12/17/90	2.012	3.567	3.691	3	20	2.000	2.000	78	84
Antimony	12/17/90	.000	.468	.467	0	20	.500	.500	94	93
Cadmium	12/17/90	.000	.050	.053	6	20	.050	.050	100	106
Chromium GF	12/17/90	.003	.020	.020	3	20	.020	.020	85	89
Cobalt	12/17/90	.003	.481	.497	3	20	.500	.500	96	99
Copper	12/17/90	.014	.242	.242	0	20	.250	.250	91	91
Iron	12/17/90	2.811	3.736	3.819	2	20	1.000	1.000	93	101
Lead GF	12/17/90	.035	.053	.050	5	20	.020	.020	86	73
Manganese	12/17/90	.181	.660	.677	3	20	.500	.500	96	99
Nickel	12/17/90	.000	.449	.461	3	20	.500	.500	90	92
Zinc	12/17/90	.069	.530	.555	5	20	.500	.500	92	97

ANALYST: _____ Date 12/20/90 REVIEWER: _____ Date 12/21/90
File:M1QCMSWH

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Soil

Client's ID: CGGS-SED-1 CGGS-SED-2 CGGS-SED-3

	1120	1135	1200				
Sample Date:	11/15/90	11/15/90	11/15/90				
% Moisture:	50.9	16.0	49.1				
Lab ID:	2436.04	2436.05	2436.06				
	C	C	C				
Parameter	----------Results----------			Method	Normal Report Limit	Units	Date Analyzed
Aluminum	18,000.	8800.	11,000.	ICP	40	mg/Kg	12/14/90
Antimony	ND	ND	ND	ICP	20	(PPM)	12/17/90
Cadmium	2.5	ND	2.4	ICP	1	in Soil	12/17/90
Chromium	25.	11.	28.	GF-AA	1	Dry	12/14/90
Cobalt	11.	ND	ND	ICP	10	"	12/17/90
Copper	85.	23.	89.	ICP	6	"	12/14/90
Iron	29,000.	21,000.	25,000.	ICP	10	"	12/18/90
Lead	370.	73.	270.	GF-AA	.6	"	12/14/90
Manganese	410.	450.	640.	ICP	4	"	12/17/90
Nickel	30.	17.	21.	ICP	8	"	12/17/90
Zinc	480.	100.	380.	ICP	4	"	12/17/90

ND- Not Detected

ANALYST: John Gong

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Soil

Client's ID:	CGGS-SS-1	CGGS-SS-2	CGGS-SS-3				
	1350	1320	1330				
Sample Date:	11/15/90	11/15/90	11/15/90				
% Moisture:	10.8	18.6	38.0				
Lab ID:	2436.07	2436.08	2436.09				
	C	C	C		Normal		
Parameter	----------Results----------			Method	Report Limit	Units	Date Analyzed
Aluminum	14,000.	19,000.	13,000.	ICP	40	mg/Kg	12/14/90
Antimony	ND	ND	ND	ICP	20	(PPM)	12/17/90
Cadmium	ND	ND	1.8	ICP	1	in Soil	12/17/90
Chromium	17.	22.	22.	GF-AA	1	Dry	12/14/90
Cobalt	ND	ND	ND	ICP	10	"	12/17/90
Copper	28.	25.	57.	ICP	6	"	12/14/90
Iron	31,000.	33,000.	31,000.	ICP	10	"	12/18/90
Lead	52.	33.	250.	GF-AA	.6	"	12/14/90
Manganese	780.	790.	910.	ICP	4	"	12/17/90
Nickel	26.	28.	26.	ICP	8	"	12/17/90
Zinc	100.	120.	340.	ICP	4	"	12/17/90

ND- Not Detected

ANALYST: _____ GROUP LEADER: _____

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Soil

Client's ID: CGGS-SS-4 CGGS-SS-5

	1340	1350				
Sample Date:	11/15/90	11/15/90				
% Moisture:	24.9	33.3				
Lab ID:	2436.10	2436.11				
	C	C				
Parameter	Results		Method	Normal Report Limit	Units	Date Analyzed
Aluminum	6300.	6900.	ICP	40	mg/Kg	12/14/90
Antimony	ND	ND	ICP	20	(PPM)	12/17/90
Cadmium	ND	1.1	ICP	1	in Soil	12/17/90
Chromium	34.	21.	GF-AA	1	Dry	12/14/90
Cobalt	ND	ND	ICP	10	"	12/17/90
Copper	140.	96.	ICP	6	"	12/14/90
Iron	75,000.	63,000.	ICP	10	"	12/18/90
Lead	620.	520.	GF-AA	.6	"	12/14/90
Manganese	640.	520.	ICP	4	"	12/17/90
Nickel	25.	21.	ICP	8	"	12/17/90
Zinc	220.	160.	ICP	4	"	12/17/90

ND- Not Detected

ANALYST: John Gomez

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2436
Matrix: Soil

Client's ID: Prep Blank

Sample Date:
% Moisture: 0.0
Lab ID: Prep Blank

Parameter	Results	Method	Normal Report Limit	Units	Date Analyzed
Aluminum	ND	ICP	40	mg/Kg	12/14/90
Antimony	ND	ICP	20	(PPM)	12/17/90
Cadmium	ND	ICP	1	in Soil	12/17/90
Chromium	ND	GF-AA	1	Dry	12/14/90
Cobalt	ND	ICP	10	"	12/17/90
Copper	ND	ICP	6	"	12/14/90
Iron	ND	ICP	10	"	12/18/90
Lead	ND	GF-AA	.6	"	12/14/90
Manganese	ND	ICP	4	"	12/17/90
Nickel	ND	ICP	8	"	12/17/90
Zinc	ND	ICP	4	"	12/17/90

ND- Not Detected

ANALYST: John Gomez

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS QC SUMMARY - LAB CONTROL SAMPLE - SOIL

Work Order: 2436 % Moisture: 0.0

Lab ID of LCS:
ICP: 370.96 LCS
GF-AA: 370.97 LCS

Matrix: Soil

Units: mg/Kg Dry

Parameter	Date Analyzed LCS	LCS Result	Conc Added	% Rec LCS	-QC Limits- -- % Rec -- Low	High
Aluminum ICP	12/14/90	457.600	400	114	80	120
Antimony ICP	12/17/90	96.800	100	97	80	120
Cadmium ICP	12/17/90	10.600	10	106	80	120
Chromium GF	12/14/90	4.380	4	110	80	120
Cobalt ICP	12/17/90	98.600	100	99	80	120
Copper ICP	12/14/90	46.600	50	93	80	120
Iron ICP	12/18/90	219.000	200	110	80	120
Lead GF	12/14/90	4.340	4	109	74	132
Manganese ICP	12/17/90	102.400	100	102	80	120
Nickel ICP	12/17/90	104.600	100	105	67	127
Zinc ICP	12/17/90	101.800	100	102	80	120

ANALYST: John Gong 12-19-90 Date ____ REVIEWER: Eric Date 12/21/90

File:M1QCLCSS

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANIC QC SUMMARY - MS and MSD
SOIL - ug/Kg Dry Basis

Work Order: 2436 % Moisture: 10.8

	ICP	GF-AA		
Lab ID Spiked:	2436.07	2436.07	Matrix:	Soil
QC Batch:	370.96	370.97	Units:	ug/Kg Dry

Parameter	Date Analyzed MS	Unspiked Sample	Results MS	Results MSD	RPD	RPD QC Limit	Conc Added MS	Conc Added MSD	Percent Recovered MS	Percent Recovered MSD
Aluminum	12/14/90	13978.429	11954.615	10664.449	11	20	418.953	418.953	NC	NC
Antimony	12/17/90	.000	38.963	53.626	32	20	104.738	104.738	37	51
Cadmium	12/17/90	.640	11.102	11.312	2	20	10.474	10.474	100	102
Chromium GF	12/14/90	16.974	21.255	21.000	1	20	3.864	4.039	NC	NC
Cobalt	12/17/90	8.325	107.671	110.185	2	20	104.738	104.738	95	97
Copper	12/14/90	28.391	78.554	79.601	1	20	52.369	52.369	96	98
Iron	12/18/90	30715.700	30005.415	27818.480	8	20	209.477	209.477	NC	NC
Lead GF	12/14/90	52.227	51.591	51.290	1	20	3.864	4.039	NC	NC
Manganese	12/17/90	782.995	851.522	767.522	10	20	104.738	104.738	NC	NC
Nickel	12/17/90	26.043	126.943	131.761	4	20	104.738	104.738	96	101
Zinc	12/17/90	103.745	200.050	206.125	3	20	104.738	104.738	92	98

NC- Not Calculated; sample concentration is greater than four times that of spike added.

ANALYST: [signature] Date 12-19-90 REVIEWER: [signature] Date 12/21/90

File:M1QCMSSD

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley,CA 94710

INORGANIC ANALYTICAL REPORT

Work Order NO.:2436

Parameter:Total Cyanide

Matrix: Soil

Unit: mg/Kg

Sample ID:	Client ID:	Result	% Solids	Date Analyzed
2436-04	CGGS-SED-1	<1.3	76	11/29/90
2436-05	CGGS-SED-2	<1.2	85	11/29/90
2436-06	CGGS-SED-3	<1.7	58	11/29/90
2436-07	CGGS-SS-1	<1.2	84	11/29/90
2436-08	CGGS-SS-2	<1.7	60	11/29/90
2436-09	CGGS-SS-3	<1.6	62	11/29/90
2436-10	CGGS-SS-4	13	74	11/29/90
2436-11	CGGS-SS-5	6.2	73	11/29/90

NA_ Not Available
ND_ Not Detected

APPROVED BY:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley,CA 94710

INORGANIC ANALYTICAL REPORT

Work Order NO.:2436

Parameter:Amenable Cyanide

Matrix: Soil

Unit: mg/Kg

Sample ID:	Client ID:	Result	% Solids	Date Analyzed
2436-04	CGGS-SED-1	<1.3	76	11/29/90
2436-05	CGGS-SED-2	<1.2	85	11/29/90
2436-06	CGGS-SED-3	<1.7	58	11/29/90
2436-07	CGGS-SS-1	<1.2	84	11/29/90
2436-08	CGGS-SS-2	<1.7	60	11/29/90
2436-09	CGGS-SS-3	<1.6	62	11/29/90
2436-10	CGGS-SS-4	<1.0	74	11/29/90
2436-11	CGGS-SS-5	<1.0	73	11/29/90

NA_ Not Available
ND_ Not Detected

APPROVED BY: 

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley. CA 94710

INORGANIC QUALITY CONTROL RESULTS SUMMARY

Work Order NO.:	2436	% Solids:	84
QC Sample NO.:	2436-7	Matrix:	Soil
Client ID:	CGGS-SS-1	Unit:	mg/Kg

Parameter	SR	SA	MS	PR	MSD	PR	RPD
Total Cyanide	ND	5	4.5	90	4.8	96	6

MS-Matrix Spike
MSD-Matrix Spike Duplicate
SA-SPike Added
SR_Sample Result
NA-Not Applicable
NC- Not Calculated
ND- Not Detected

APPROVED BY:

ES-ENGINEERING SCIENCE, INC.

600 Bancroft Way
Berkeley. CA 94710

INORGANIC QUALITY CONTROL RESULTS SUMMARY

Work Order NO.:	2436	% Solids:	NA
QC Sample NO.:	Laboratory Control Sample	Matrix:	Soil
Client ID:	NA	Unit:	mg/Kg

Parameter	BR	SA	BS	PR
Total Cyanide	ND	5	4.75	95

BS-Blank Spike
SA-SPike Added
BR_Blank Result
NA-Not Applicable
NC- Not Calculated
ND- Not Detected

APPROVED BY: Eleanor Hall

[redacted]

CHAIN OF CUSTODY RECORD

W.O.# 2436

PROJECT NO.	PROJECT NAME
5436.30.02	NYSEG MPG- Goshen

SAMPLERS: (Signature)	(Printed)
MDWilley	W. D. Willey

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: 624	625	Metal	CN - total	CN - Amenable	8240	4270	REMARKS
CGGS-SW-1	11/15	11 20		X	Rio Grand Upgradient	8	X	X	X	X	X			-61ABCDEFG1
CGGS-SW-2	11/15	11 35		X	Rio Grand Below sewer	8	X	X	X	X	X			-62ABC
CGGS-SW-3	11/15	1200		X	Rio Grand Down gradient	24/8	X	X	X	X	X			MS/MSD-3A-E
CGGS-SED-1	11/15	11.20		X	SW-1 location	5			X	X	X	X	X	-4A-E
CGGS-SED-2	11/15	11 35		X	SW-2 location	5			X	X	X	X	X	-5A-E
CGGS-SED-3	11/15	12:00		X	SW-3 location	5			X	X	X	X	X	-6A-E
CGGS-SS-1	11/15	1:50		X	Along Fence McBride	10/8			X	X	X	X	X	MS/MSD-7A-E
CGGS-SS-2	11/15	1:20		X	Along Fence near pipe	5			X	X	X	X	X	-8A-E
CGGS-SS-3	11/15	1:30		X	On Bank near tree	5			X	X	X	X	X	-9A-E
CGGS-SS-4	11/15	1:40		X	On Bank near sewer pipe	5			X	X	X	X	X	-10A-E
CGGSSS-5	11/15	1:50		X	Along Fence McBride	5			X	X	X	X	X	-11A-E
CCGS Trip Blank					Trip Blank From lab	2	X							-12AB

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
MDWilley	11/15 5:00	FedExp			
(Printed)		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	11/16/95 0900		
(Printed)		(Printed) [illegible]			

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2546
Matrix: Water

Client's ID:	CGEW SW-3	CGEW SW-4	CGGS SW-1				
	0920	0920					
Sample Date:	12/21/90	12/21/90	12/21/90				
% Moisture:							
Lab ID:	2546.07 A	2546.08 A	2546.09 A				
Parameter	Results			Method	Normal Report Limit	Units	Date Analyzed
Cyanide, Total	ND*	ND*	ND*	Color	.02	mg/L	12/26/90

* Since no Total Cyanide was detected, Amenable Cyanide was not analyzed.

ND- Not Detected

ANALYST: D. Brennan / WJP

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANICS ANALYTICAL REPORT

Client: ES-Syracuse
Project: NYSEG

Work Order: 2546
Matrix: Water

Client's ID:	CGGS SW-2	CGGS SW-3				
Sample Date:	12/21/90	12/21/90				
% Moisture:						
Lab ID:	2546.10 A	2546.11 A				
Parameter	Results		Method	Normal Report Limit	Units	Date Analyzed
Cyanide, Total	ND*	ND*	Color	.02	mg/L	12/26/90

* Since no Total Cyanide was detected, Amenable Cyanide was not analyzed.

ND- Not Detected

ANALYST: D Bunnell

GROUP LEADER:

ES-ENGINEERING-SCIENCE, INC.

600 Bancroft Way
Berkeley, CA 94710

INORGANIC QC SUMMARY - MS and MSD
WATER - ug/L

Work Order: 2546 % Moisture: NA

Cyanide Matrix: Water

Lab ID Spiked: 2546.11

QC Batch: 285.81 Units: ug/L

Parameter	Date Analyzed MS	Unspiked Sample	Results MS	Results MSD	RPD	RPD QC Limit	Conc Added MS	Conc Added MSD	Percent Recovered MS	Percent Recovered MSD
Cyanide, Total	12/26/90	.000	.155	.153	1	20	.172	.172	90	89

ANALYST: [signature] Date 12/27/90 REVIEWER: [signature] Date 12/27/90

File:M1QCMSWW

CHAIN OF CUSTODY RECORD

W.O.# ~~6478~~ 3446

PROJECT NO. SY 156.30

PROJECT NAME NYSEG Elmira
NYSEG Goshen

SAMPLERS (Signatures)

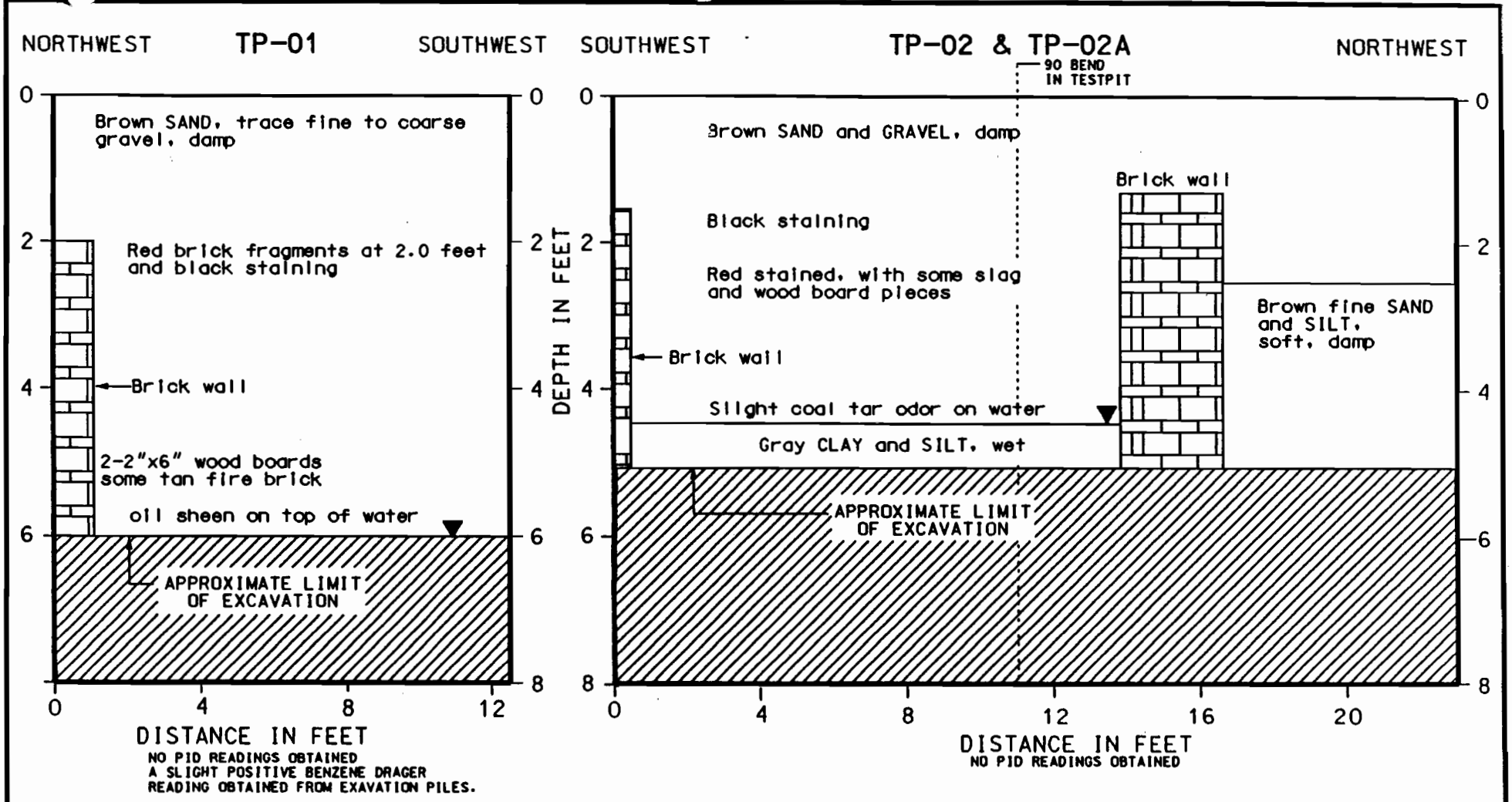
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Total Cn.	Amenable Cn.					REMARKS
-1-F C6EW SW-1	12/21	0946		X	Chemung, Upgrad.	6	X	X					ms, msD
-6AB C6EW SW-2		0930		X	Chemung, Mid	2	X	X					
-7AB C6EW SW-3		0920		X	Chemung, Downgrad	2	X	X					
8AB C6EW SW-4		0920		X	Chemung, Downgrad	2	X	X					
-9AB C665 SW-1					Rio Grande Upgrad.	2	X	X					
-10AB C665 SW-2					Rio Grande Mid	2	X	X					
-11A-F C665 SW-3					Rio Grande Downgrad	6	X	X					ms, msD

RELINQUISHED BY (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)
	12/21/90			
RELINQUISHED BY (SIGNATURE)	TIME 1345	RECEIVED BY: (SIGNATURE)	TIME	RECEIVED BY: (SIGNATURE)
	DATE		DATE	
	TIME		TIME	
RELINQUISHED BY (SIGNATURE)	DATE	RECEIVED FOR LAB: (SIGNATURE)	DATE 12/22/90	REMARKS
	TIME		TIME 0915	

ENGINEERING-SCIENCE, INC.
290 Elwood Road, Suite 312
Liverpool, New York 13088
Telephone: (315) 451-9560

031.0021/YO

Appendix B
Subsurface Logs



NOTES:

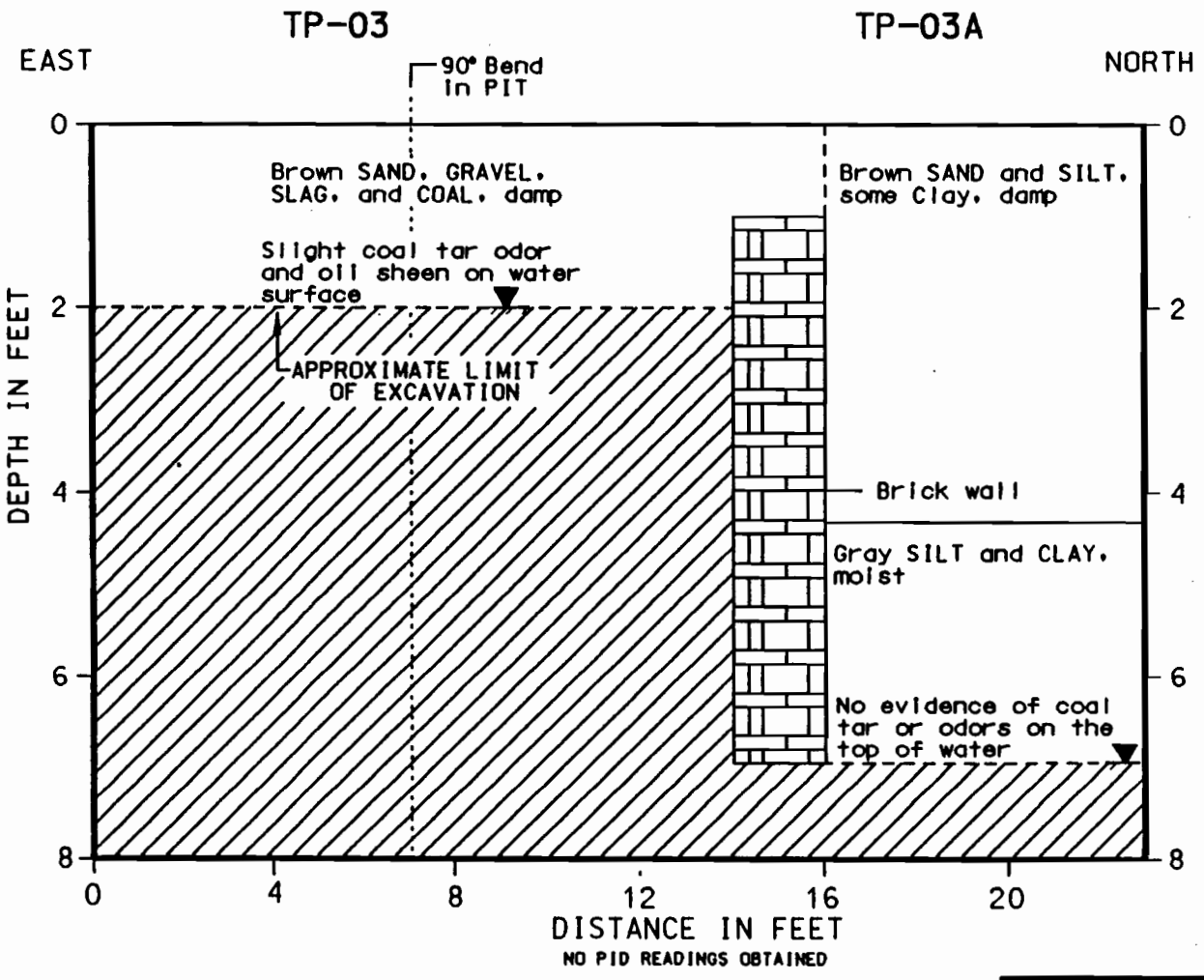
1. ALL LOCATIONS ARE APPROXIMATE.
2. TEST PIT TP-01 IS 12.5 FEET IN LENGTH
3. SAMPLE #GSV1TP9301G6 WAS OBTAINED IN TP-01 FROM 6.0 FEET AND SUBMITTED TO THE LABORATORY FOR CHEMICAL CHARACTERIZATION.
4. TEST PITS TP-2 AND TP-2A ARE A TOTAL OF 23 FEET IN LENGTH.
5. SAMPLE #GSV1TP9302G4.5 AND DUPLICATE SAMPLE #GSVXDUXX9C WERE OBTAINED IN TP-02 FROM 4.5 FEET AND SUBMITTED TO THE LABORATORY FOR CHEMICAL CHARACTERIZATION.
6. THE SOIL AT THE CORNER OF THE TWO TEST PITS ASSOCIATED WITH TESTPITS TP-2 & TP-02A FELL AWAY DURING EXCAVATION REVEALING THAT THE WALL WAS CONTINOUS IN AN ARC. (SEE FIG. 1 FOR PLAN VIEW)

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NEW YORK STATE ELECTRIC & GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

TP-01 & TP-02 PROFILES

8/10/94 S4-PGL/RCB
M:/PROJECTS.DGN/WIP/13009041/13009TP1.DGN



NOTES:

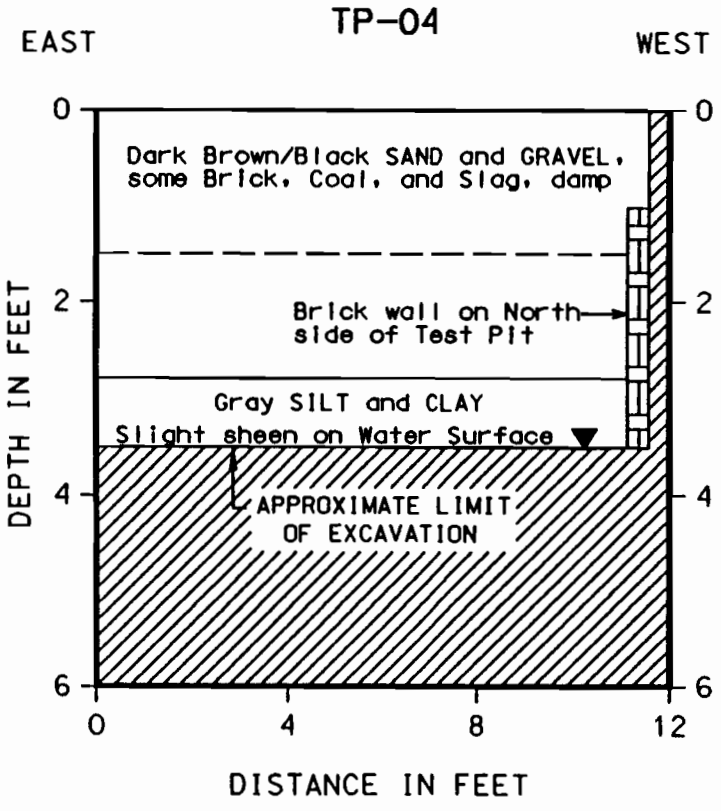
1. ALL LOCATIONS ARE APPROXIMATE.
2. TOTAL LENGTH OF TEST PITS TP-3 AND TP-3A IS APPROXIMATELY 23 FEET.
3. SAMPLE # GSVITP9303G2 AND MS/MSD SAMPLE #GSVXMSXX03G WAS OBTAINED FROM 2.0 FEET AND SUBMITTED TO THE LABORATORY FOR CHEMICAL CHARACTERIZATION. WATER WAS ENTERING THE PIT AT 2.0 FEET INSIDE THE WALL OF GAS HOLDER #2 AND AT 7.0 FEET OUTSIDE THE WALL OF GAS HOLDER #2.

8/10/94 SA-PGL/RCB
M:/PROJECTS.DGN/WIP/DGN/13009041/13009TP3.DGN

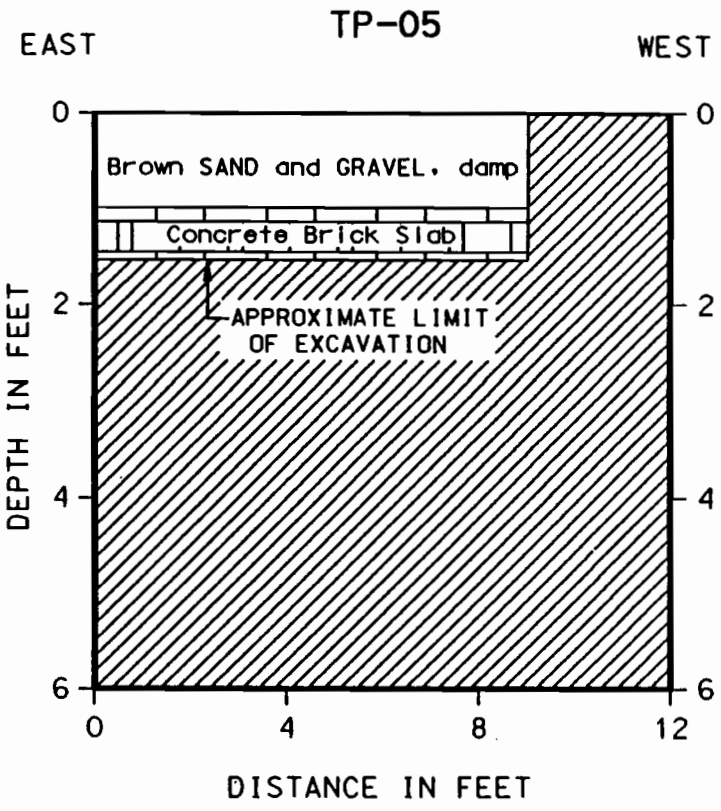
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NEW YORK STATE ELECTRIC & GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

TP-03 & TP-03A PROFILES



NO PID READINGS OBTAINED



NO PID READINGS OBTAINED

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.
2. TEST PIT TP-4 IS APPROXIMATELY 9.5 FEET LONG
3. TEST PIT TP-5 IS APPROXIMATELY 9 FEET LONG.
4. NO ANALYTICAL SAMPLES WERE SUBMITTED FOR TEST PIT TP-4 OR TEST PIT TP-5.

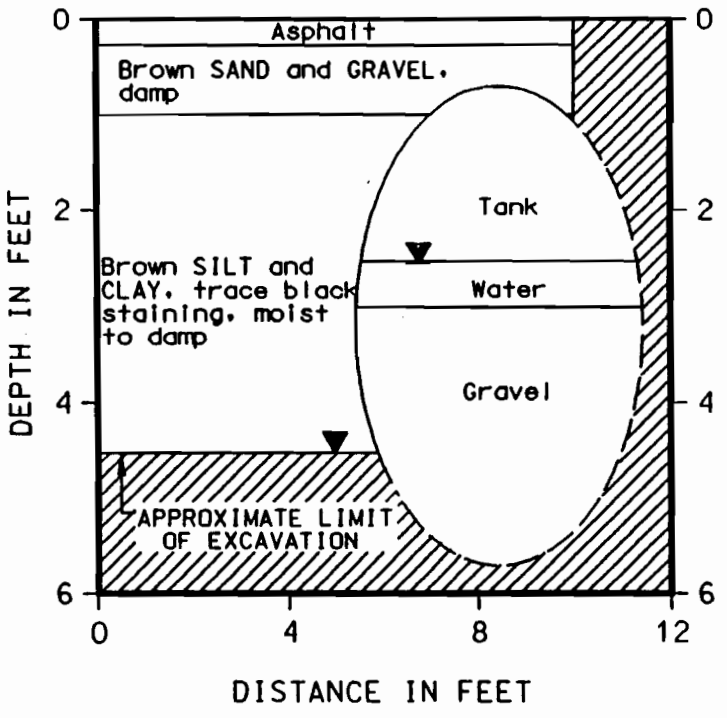
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NEW YORK STATE ELECTRIC & GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

TP-04 & TP-05 PROFILES

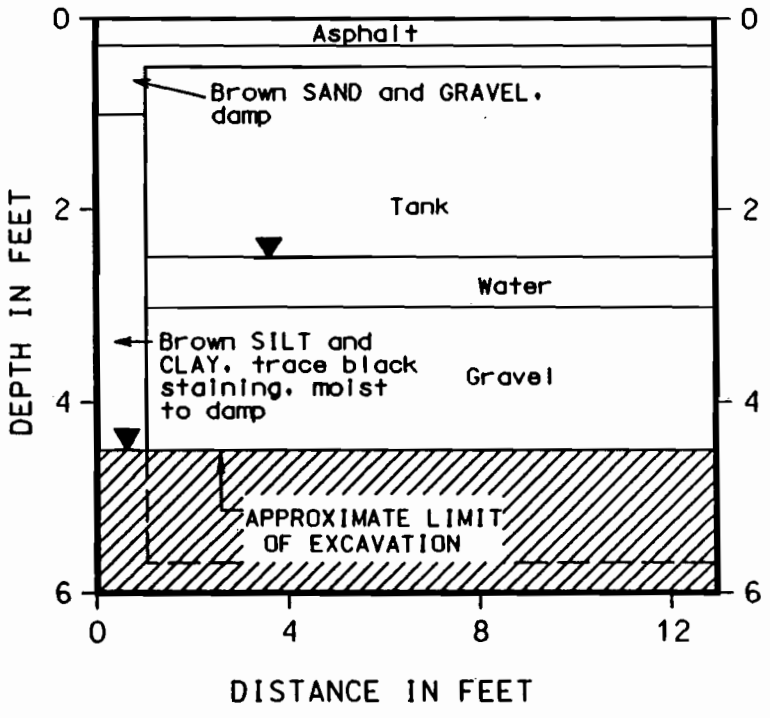
8/10/94 SA-PGL/RCB
M:/PROJECTS.DGN/WIP/DGN/13009041/13009TPS.DGN

TP-06 View 1



NO PID READINGS OBTAINED

TP-06 View 2



NO PID READINGS OBTAINED

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.
2. TEST PIT TP-6 IS APPROXIMATELY 10 FEET WIDE BY 13 FEET LONG.
3. SAMPLE # GSOICR9301G WAS OBTAINED FROM THE OIL TANK AND SUBMITTED TO THE LABORATORY FOR CHEMICAL CHARACTERIZATION.

6/10/94 SA-PGL/RCB
M:/PROJECTS.DGN/WIP/13009041/13009TP6.DGN

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NEW YORK STATE ELECTRIC & GAS CORPORATION
ORANGE COUNTY, NEW YORK
GOSHEN MGP SITE

TP-06 PROFILE

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW931D Well No. MW931D
Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/22/93 - 9/22/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 436.51 ft.
Corehole Depth: N/A ft.
Borehole Depth: 37.4 ft.
Ground Surface Elev.: 436.7 ft.

Location Sketch:

Scale:

Depth (ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		9 11 8 7	19	1.8			1.4	0.0			Blacktop. Black stained SLAG.			4-inch diameter outer protective flush mount locking cap installed to 0.25' above ground level.
-2	S2		2 4 5 5	9	1.6			0.0	0.0			Brown fine to coarse SAND and SILT, little fine gravel, trace clay, medium stiff, damp. grades to little clay and trace fine gravel.			Cement surface pad 1.5' - 0.0'
-4	S3		4 5 8 9	13	1.6			0.0	0.0						
-6	S4		15 20 25 37	45	NR			NR	NR			grades to grey fine to coarse SAND and SILT, little clay, moist to damp.			
-8	S5		6 11 18 18	29	2.0			0.0	0.0			grades to fine SAND and SILT, stiff, damp.			
-10	S6		7 12 15 17	27	1.8			0.0	0.0						
-12	S7		17 22 25 25	47	1.6			0.0	0.0						2-inch diameter stainless steel (SS) well riser 32.5' - 0.19'
-14	S8		5 9 14 20	23	1.6			0.0	0.0			grades to dark grey. Dark gray fine to coarse SAND, some silt, little fine to medium shale gravel, trace clay, medium dense, moist.			
-16	S9		33 15 15 50/0.3	30	1.0			0.0	0.0			grades to little silt, moist to wet.			
-18	S10		10 50/0.2		NR			NR	NR						
-20	S11		39 22 22 23	44	1.1			0.0	0.0			Dark gray fine SAND and SILT, some fine to medium shale gravel, stiff, damp.			Cement/bentonite grout 27.0' - 1.5'

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:12	426.47

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW831D Well No. MW831D
Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/22/93 - 9/22/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: Auger Size : 4-1/4

Northing:
Easting:
Well Casing Elev.: 436.51 ft.
Corehole Depth: N/A ft.
Borehole Depth: 37.4 ft.
Ground Surface Elev.: 436.7 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	%Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		23 20 21 20	41	1.0			0.0	0.0						
-24	S13		8 9 15 16	24	1.5			0.0	0.0			grades to trace fine to medium gravel. grades to moist to wet.			
-26	S14		14 20 21 23	41	1.8			0.0	0.0			grades to damp to moist. grades with trace fine to medium shale gravel.			
-28	S15		18 19 22 20	41	1.2			0.0	0.0			Grades to little fine to medium shale gravel.			Bentonite seal 30.0' - 27.0'
-30	S16		9 13 14 10	27	NR			NR	NR			wet.			Grade # 00 Silica Sand pack 30.5' - 30.0'
-32	S17		15 12 12 17	24	1.0			0.0	0.0			Dark gray fine to coarse SAND, some fine to coarse shale gravel, medium dense, moist to damp.			Grade # 0 Silica Sand pack 37.4' - 30.5'
-34	S18		19 26 32 62/0.3	58	1.0			0.0	0.0						
-36	S19		50/0.3		0.1			0.0	0.0			grades with little silt, very dense, damp.			0.010-inch slot well screen 37.05 - 32.05 Bottom of well set at 37.4'
-38												Bottom of boring at 37.4 ft.			
-40															
-42															
-44															

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:12	426.47

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW831S Well No. MW831S

Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/22/93 - 9/22/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 436.23 ft.
Corehole Depth: N/A ft.
Borehole Depth: 24 ft.
Ground Surface Elev.: 436.3 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-0												Blacktop.			4-inch diameter outer protective flush mount locking cap installed to 0.25' above ground level.
												Black stained SLAG.			
-2												Brown fine to coarse SAND and SILT, little fine gravel, trace clay, medium stiff, damp.			
-4												grades to little clay and trace fine gravel.			Cement surface pad 1.5' - 0.0'
	S1		4 6 9 11	15	1.0			0.0	0.0						
-6												grades to grey fine to coarse SAND and SILT, little clay, moist to damp.			2-inch diameter stainless steel (SS) well riser 12.65' - 0.07'
-8												grades to fine SAND and SILT, stiff, damp			Cement/bentonite grout 8.0' - 1.5'
-10	S2		6 12 16 18	28	1.8			0.0	0.0						Bentonite seal 11.0' - 8.0'
-12															Grade # 00 Silica Sand pack 11.5' - 11.0'
-14												grades to dark grey.			Grade # 0 Silica Sand pack 24.0' - 11.5'
	S3		10 14 12 16	26	1.8			0.0	0.0			grades to fine to coarse SAND, some silt, little fine to medium shale gravel, trace clay, medium stiff, moist.			
-16												grades to little silt, moist to wet.			
-18															0.010-inch slot well screen 22.65 - 12.65
-20	S4		50/0.4		0.4			0.0	0.0			Dark gray fine SAND and SILT, some fine to medium shale gravel, stiff, damp.			
-22															

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:10	429.09

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW831S Well No. MW831S

Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/22/93 – 9/22/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 436.23 ft.
Corehole Depth: N/A ft.
Borehole Depth: 24 ft.
Ground Surface Elev.: 436.3 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S5		15 15 15 17	30	1.6			0.0	0.0						Bottom of well set at 23.0'
-24												Bottom of boring at 24.0 ft.			
-26															
-28															
-30															
-32															
-34															
-36															
-38															
-40															
-42															
-44															

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:10	429.09

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW832D Well No. MW832D

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 9/23/93 – 9/23/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 430.29 ft.
Corehole Depth: N/A ft.
Borehole Depth: 36.4 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		3 5 5	10	1.0			0.0	0.0			Brown, fine to coarse SAND and fine to medium GRAVEL, some coarse coal sand and black staining, little silt, loose, damp.			4-inch diameter outer protective flush mount locking cap installed to 0.25' above ground level.
			4												
2	S2		3 2	4	1.0			0.0	0.0			grades to some silt and trace clay			
			2 2									grades with some fine to medium coal gravel and trace red brick.			
4	S3		3 4	7	1.7			0.0	0.0						Cement surface pad 1.5' – 0.0'
			3 3									Red fine to coarse sand lense 5' to 5.2'			
6	S4		7 7	17	1.5			0.0	0.0			Black fine to medium coal GRAVEL, little fine to coarse sand lense, loose, damp.			
			10 8												
8	S5		4 6	14	2.0			0.0	0.0			Brown fine to coarse SAND and fine to medium GRAVEL, some fine to coarse coal sand and black staining, damp, loose.			
			8 8												
10	S6		5 6	12	1.6			0.0	0.0			grades to dark brown and with little fine coal gravel and trace clay.			
			6 6							▽		Brown, fine to coarse SAND and SILT, little fine gravel, medium stiff, damp.			
12	S7		6 8	16	1.5			0.0	0.0			grades to little fine to medium gravel, damp to moist			2-inch diameter stainless steel (SS) well riser 31' – 0.2'
			8 8									Gray/green/brown fine to coarse SAND and fine GRAVEL, some silt and clay, soft, moist.			
14	S8		15 21	45	1.5			0.0	0.0						
			24 27									Dark grey, fine to coarse SAND and SILT, some fine to medium shale gravel, stiff, moist.			
16	S9		19 21	49	1.5			0.0	0.0			grades with little clay			
			28 28									grades to some silt, moist to wet.			
18	S10		8 14	34	0.8			0.0	0.0						
			20 15												
20	S11		35 19	33	1.0			0.0	0.0			grades to fine SAND and SILT, medium stiff, wet to moist.			Cement/bentonite grout 26.0' – 1.5'
			14 15												
22												Dark gray fine to coarse SAND			

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:20	424.62

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW832D Well No. MW832D

Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/23/93 – 9/23/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 430.29 ft.
Corehole Depth: N/A ft.
Borehole Depth: 36.4 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		19 19 27 50/0.3	46	1.0			0.0	0.0			some fine to medium shale gravel, little silt, loose, wet.			
-24	S13		50/0.3		NR										
-26	S14		19 21 27 30	48	0.8			0.0	0.0			grades to medium stiff, damp.			
-28	S15		37 38 41 26	79	0.8			0.0	0.0			grades to fine to coarse SAND and fine to medium shale GRAVEL, medium dense, damp to moist.			Bentonite seal 29.0' – 26.0' Grade # 00 Silica Sand pack 29.5' – 29.0'
-30	S16		18 16 20 24	36	0.4			0.0	0.0						
-32	S17		50/0.4		0.5			0.0	0.0						Grade # 0 Silica Sand pack 36.4' – 29.5' 0.010-inch slot well screen 36' – 31'
-34	S18		50/0.5		0.5			0.0	0.0			grades to very dense, damp.			
-36												Bottom of boring at 36.4 ft.			Bottom of well set at 36.4'
-38															
-40															
-42															

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:20	424.62

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW832S **Well No. MW832S**

Project: NYSEG
Location: GOSHEN, NY

Date Start/Finish: 9/23/93 – 9/23/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 430.32 ft.
Corehole Depth: N/A ft.
Borehole Depth: 22 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0												Brown, fine to coarse SAND and fine to medium GRAVEL, some coarse coal sand and black staining, little silt, loose, damp.			4-inch diameter outer protective flush mount locking cap installed to 0.25' above ground level.
2												grades to some silt and trace clay			
4												grades with some fine to medium coal gravel and trace red brick.			Cement surface pad 1.5' – 0.0'
	S1		6 4 3 2	7	1.1			0.0	0.0			Red fine to coarse sand lense 5' to 5.2'			2-inch diameter stainless steel (SS) well riser 11.6' – 0.18'
6												Black fine to medium coal GRAVEL, little fine to coarse sand lense, loose, damp 5.2' to 6'.			Cement/bentonite grout 6.5' – 1.5'
8												Brown fine to coarse SAND and fine to medium GRAVEL, some fine to coarse coal sand and black staining, loose, damp.			Bentonite seal 9.5' – 6.5'
10	S2		6 8 9 10	17	1.8			0.0	0.0			grades to dark brown and with little fine coal gravel and trace clay.			Grade # 00 Silica Sand pack 10.0' – 9.5'
12												Brown, fine to coarse SAND and SILT, little fine gravel, medium stiff, damp.			Grade # 0 Silica Sand pack 22.0' – 10.0'
14												grades to little fine to medium gravel, damp to moist			
												Gray/green/brown fine to coarse SAND and fine GRAVEL, some silt and clay, soft, moist.			
	S3		8 12 15 17	27	1.8			0.0	0.0			Dark grey, fine to coarse SAND and SILT, some fine to medium shale gravel, stiff, moist.			
16												grades with little clay			
18												grades to some silt, moist to wet.			0.010-inch slot well screen 21.6' – 11.6'
20	S4		22 24 14 17	38	1.5			0.0	0.0			grades to fine SAND and SILT, medium stiff, wet to moist.			
22															

Geologist Initials: TRO
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:18	422.08

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW832S Well No. MW832S

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 9/23/93 – 9/23/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 430.32 ft.
Corehole Depth: N/A ft.
Borehole Depth: 22 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22												Dark gray fine to coarse SAND, some fine to medium gravel, little silt, loose, wet.			Bottom of well set at 22.0'
												Bottom of boring at 22 ft.			
-24															
-26															
-28															
-30															
-32															
-34															
-36															
-38															
-40															
-42															
-44															

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:18	422.08

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW833D Well No. MW833D

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 8/22/83 – 8/22/83
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: Mobile B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 432.57 ft.
Corehole Depth: N/A ft.
Borehole Depth: 36.5 ft.
Ground Surface Elev.: 430.1 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-0	S1		5 13 14 8	27	NR			0.0	0.0			Dark brown, fine to coarse SAND and fine to medium GRAVEL, some coarse coal sand and black staining, loose, damp.			6-inch diameter outer protective PVC casing with locking cap installed to 2.7' above ground level.
-2	S2		8 6 5 8	11	NR			0.0	0.0						Cement surface pad 1.5' – 0.0'
-4	S3		6 8 6 9	14	1.6			0.0	0.0						
-6	S4		8 6 7 8	13	1.5			0.0	0.0			Brown, fine to coarse SAND and SILT, trace fine gravel, medium stiff, damp.			
-8	S5		10 10 13 15	23	1.8			0.0	0.0			grades to brown SILT, some fine sand, stiff.			
-10	S6		13 18 24 21	42	1.8			0.0	0.0						
-12	S7		10 30 50/0.2	80	1.8			0.0	0.0						2-inch diameter stainless steel (SS) well riser 31.5' – 2.47' above ground level
-14	S8		9 9 21 15	30	1.8			0.0	0.0			grades to brown, fine to coarse SAND, little fine shale gravel, medium dense.			
-16	S9		9 12 16 20	28	1.4			0.0	0.0			grades to dark grey, little silt and clay, moist to damp.			
-18	S10		4 5 13 9	18	1.0			0.0	0.0			grades to fine to coarse SAND and fine to medium shale GRAVEL, trace silt, wet.			
-20	S11		10 10 7 9	17	1.0			0.0	0.0						Cement/bentonite grout 27.0' – 1.5'

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT32	10:30	424.41

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW833D Well No. MW833D

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 9/22/93 – 9/22/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: Mobile B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 432.57 ft.
Corehole Depth: N/A ft.
Borehole Depth: 36.5 ft.
Ground Surface Elev.: 430.1 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		10 13 13 12	26	0.8			0.0	0.0			grades to fine to coarse SAND, little fine gravel, trace clay, medium dense, moist to damp.			
-24	S13		6 15 15 21	30	1.1			0.0	0.0			grades to some fine to medium shale gravel, moist.			
-26	S14		9 20 13 17	33	1.0			0.0	0.0			grades to little fine to medium shale gravel, trace silt.			
-28	S15		5 7 11 14	18	0.5			0.0	0.0			grades to fine to coarse SAND and fine to medium shale GRAVEL, loose, wet.			Bentonite seal 30.0' – 27.0'
-30	S16		7 16 13 10	29	1.0			0.0	0.0						Grade # 00 Silica Sand pack 30.5' – 30.0'
-32	S17		19 20 23 22	43	1.1			0.0	0.0						Grade # 0 Silica Sand pack 36.5 – 30.5'
-34	S18		21 30 50/0.3	80	1.2			0.0	0.0			grades to fine to coarse SAND, some silt, trace clay, medium dense, moist. grades to very dense.			0.010-inch slot well screen 36.15' – 31.15'
-36	S19		19 30 22 22	52	1.1			0.0	0.0			grades to some fine to medium shale gravel and little silt.			Bottom of well set at 36.5'
-38												Bottom of boring at 38.0 ft.			
-40															
-42															

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT32	10:30	424.41

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW833S Well No. MW833S

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 9/24/93 – 9/24/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: Mobile B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 432.16 ft.
Corehole Depth: N/A ft.
Borehole Depth: 22.5 ft.
Ground Surface Elev.: 430.1 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0															6-inch diameter outer protective PVC casing with locking cap installed to 2.39' above ground level.
												Dark brown, fine to coarse SAND and fine to medium GRAVEL, some coarse coal sand and black staining, loose, damp.			Cement surface pad 1.5' – 0.0'
2															
4															2-inch diameter stainless steel (SS) well riser 12.1' – 2.06' above ground level
	S1		6 7 8 9	15	2.0			0.0	0.0			Brown, fine to coarse SAND and SILT, trace fine gravel, medium stiff, damp.			
6															Cement/bentonite grout 7.0' – 1.5'
8												grades to brown SILT, some fine sand, stiff.			Bentonite seal 10.0' – 7.0'
10	S2		9 14 17 20	31	1.7			0.0	0.0						Grade # 00 Silica Sand pack 10.5' – 10.0'
12															
14												Brown, fine to coarse SAND, little fine gravel, medium dense, damp.			Grade # 0 Silica Sand pack 22.5' – 10.5'
	S3		12 50/0.2	50	0.3			0.0	0.0						
16												grades to dark grey, little silt and clay, moist to damp.			0.010-inch slot well screen 22.1' – 12.1'
18												grades to fine to coarse SAND and fine to medium shale GRAVEL, trace silt, medium dense, wet.			
20	S4		29 17 9 19	26	1.0			0.0	0.0						
22															

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
21OCT93	10:40	422.12

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. MW833S Well No. MW833S

Project: NYSEG

Location: GOSHEN, NY

Date Start/Finish: 9/24/93 – 9/24/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: Mobile B-57
Spoon Size: 2
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 4-1/4

Northing:
Easting:
Well Casing Elev.: 432.16 ft.
Corehole Depth: N/A ft.
Borehole Depth: 22.5 ft.
Ground Surface Elev.: 430.1 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22												grades to fine to coarse SAND, little fine gravel, trace clay, medium dense, moist to damp.			Bottom of well set at 22.5'
-24												Bottom of boring at 22.5 ft.			
-26															
-28															
-30															
-32															
-34															
-36															
-38															
-40															
-42															

Geologist Initials: TRO

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation
210CT93	10:40	422.12

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-04 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/15/93-9/15/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 2-1/2 IN ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: N/A ft.
Borehole Depth: 40.9 ft.
Ground Surface Elev.: 430.2 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		14 42 20	62	1.8			1.9	0.1			Brown fine to coarse SAND and GRAVEL, loose, damp.			
2	S2		9 8 8	14	1.0			0.0	0.0			Black/brown fine SAND and SILT, some coarse sand and fine gravel, some slag, trace clay, moist.			Cement/bentonite grout 40.9' - 0.0'
			6 6									grades with white flakey material			
4	S3		4 4	9	1.8			0.0	0.0			grades to damp			
			5 6									grades to some clay and trace fine gravel.			
6	S4		6 8	17	1.8			0.0	0.0			grades to Brown/grey with little orange oxidation, damp			
8	S5		9 5 7	14	1.9			0.0	0.0			grades with layers of angular shale fragments.			
10	S6		7 10 41 11	28	2.0			0.1	0.0			Brown fine SAND, some medium to coarse sand lenses, little grey clay lenses, medium dense, damp to moist.			
			17 24												
12	S7		44 20	40	0.2			0.0	0.0			grades to grey fine to coarse shale SAND, moist.			
			20 24									wet.			
14	S8		7 10	21	1.8			85.0	0.3						
			11 12									Dark grey fine SAND and SILT, some medium to coarse shale sand, trace medium sand lenses and clay, stiff, wet.			
16	S9		13 13	22	1.6			47.1	1.1						
			9 11									Dark grey fine to coarse SAND, some silt, trace clay, medium dense, wet.			
18	S10		9 8	17	1.6			0.1	0.0			grades to trace shale gravel.			
			9 11									grades to little fine shale gravel and some to little silt.			
20	S11		4 5	12	1.5			0.0	0.0						
			7 8												
22															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-04 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/15/93-9/15/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size** : 2-1/2 IN ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: N/A ft.
Borehole Depth: 40.9 ft.
Ground Surface Elev.: 430.2 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		7 9 11 11	20	1.6			0.0	0.0			grades to moist.			
-24	S13		8 14 15 22	29	1.7			0.0	0.0			grades to fine to coarse SAND and fine to medium shale GRAVEL, little silt, trace clay, medium dense, moist to wet.			
-26	S14		41 21 27 27	48	1.0			0.0	0.0			Shale fragment layers, some fine to coarse sand, medium dense, moist to wet.			
-28	S15		14 15 19 41	34	1.0			0.0	0.0			Dark grey fine to coarse SAND and fine to medium GRAVEL, some silt, trace clay, loose, wet.			
-30	S16		19 15 15 19	30	0.6			0.0	0.0						
-32	S17		17 27 41 100/0.4	68	0.5			0.0	0.0						
-34	S18		23 24 28 39	52	0.9			0.0	0.0			moist			
-36	S19		27 41 50/0.4	91	0.8			0.0	0.0			damp to moist, very dense.			
-38	S20		50/0.3		0.3			0.0	0.0			moist to damp			
-40	S21		47 50/0.4		0.5			0.0	0.0			damp to dry			
-42												Bottom of boring at 40.9 ft. Note: Test boring located in furnace overn.			

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-05 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/16/93-9/16/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size** : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: 36.3 ft.
Borehole Depth: 36.3 ft.
Ground Surface Elev.: 430.8 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		8 10 9 7	19	1.6			0.0	0.0			Brown fine to coarse SAND and GRAVEL, loose, dry.			
2	S2		6 5 5 6	10	1.1			0.0	0.0			Black/brown Fine to coarse SAND and red brick, loose, damp. grades with some grey brick, little coal fragments, moist.			Cement/bentonite grout 36.3' - 0.0'
4	S3		1 2 1 2	3	1.1			0.0	0.0			Grey fine SAND and SILT, little medium to coarse sand and fine gravel, trace clay, slight coal tar odor, soft, moist.			
6	S4		3 5 7 14	12	1.8			5.3	0.0						
8	S5		9 13 20 22	33	0.8			-	21.5			Black fine to coarse SAND, some fine gravel, slag, and coal fragments, little red brick, trace silt and clay, very slight coal tar odor, medium dense, wet. oil sheen at 8.0'			
10	S6		4 11 13 17	24	NR			NR	NR			grades to brown, with little silt, moist.			
12	S7		13 17 20 24	37	1.6			130	0.0			wet. Grey/brown fine SAND, SILT, and CLAY, moist.			
14	S8		9 11 14 17	25	1.0			139	0.6			grades to brown fine to coarse SAND and SILT, some fine gravel. grades to brown/grey some clay, medium stiff, moist.			
16	S9		10 13 20 24	33	1.8			552	23.6			grades with **black coal tar** and to wet.			
18	S10		13 16 11 14	27	1.8			-	51.7			fine gravel lense from 18.3' to 18.6'			
20	S11		5 7 11 14	18				984	1.1			grades to dark grey, trace clay, moist to damp. No coal tar.			
22															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-05 Well No.

Project: NYSEG
Location: GOSHEN, NEW YORK

Date Start/Finish: 9/16/93-9/16/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: Auger Size : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: 36.3 ft.
Borehole Depth: 36.3 ft.
Ground Surface Elev.: 430.8 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
22	S12		10 17 20 21	37	0.5			1325	5.9			wet			
24	S13		47 37 21 27	58	1.0			407	4.6			moist			
26	S14		27 41 21 33	62	1.0			501	0.6			very stiff.			
28	S15		31 27 21 30	48	0.9			121	0.9			moist to damp			
30	S16		19 22 24 27	46	0.8			244	6.3			moist			
32	S17		29 34 50/0.4	84	0.8			27.5	0.0			fine sand lense from 32.3' to 32.6'			
34	S18		47 41 42 66	83	1.0			2.6	0.1			hard, moist to damp.			
36	S19		50/0.3		0.3			29.8	-			Bottom of boring at 36.3 ft. Note: Labortary sample number GSVIB-9305C17-19.5 obtained from 17 to 19.5 feet and submitted for chemical characterization. Test boring located in gas holder GH#1. NR - No recovery			
38															
40															
42															
44															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-06 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/15/93-9/15/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size** : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 36.4 ft.
Ground Surface Elev.: 430.8 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		17 17 13 10	30	1.7			0.0	0.1			Brown fine to coarse SAND and GRAVEL, loose, damp.			
2	S2		7 5 5 5	10	NR			–	0.0						Cement/bentonite grout 36.4' – 0.0'
4	S3		2 3 3 4	6	0.5			0.1	0.0			grades to wet with slight odor.			
6	S4		1 2 1 2	3	1.2			10.7	0.0			grades to black.			
8	S5		1 1 1 1	2	0.8			28.3	0.0			grades with trace wood fragments.			
10	S6		13 50/0.2	50	0.6			–	23.8			grades with **coal residue tar in matrix,** coal tar odor, and oil sheen.			
12	S7		7 8 9 10	17	2.0			187.7	296.8			Brown fine SAND and SILT, some clay, no coal tar, medium stiff, moist.			
14	S8		8 8 11 21	19	1.2			2.2	0.3			grades to dark grey fine SAND, SILT, and CLAY, plastic, soft, wet. grades to fine SAND and SILT, some clay, little fine gravel.			
16	S9		15 13 13 15	26	1.0			9.9	2.2			grades to dark grey fine to coarse SAND, trace fine gravel and silt, wet.			
18	S10		17 18 18 21	36	1.1			7.2	3.8			fine sand lense 18.5' to 18.7' grades to moist.			
20	S11		10 14 18 16	32	1.4			21.8	10.1			fine sand lense, wet 20.8' to 22.0'			
22															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-08 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 8/15/93-8/15/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 36.4 ft.
Ground Surface Elev.: 430.8 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		14 17 22 27	39	1.0			0.6	1.7			Dark gray fine to coarse SAND and fine to medium shale GRAVEL, little silt, trace clay, medium dense, moist.			
-24	S13		22 26 27 23	53	1.6			12.4	10.7			grades to damp to moist.			
-26	S14		31 31 30 30	61	1.2			77.9	1.7			coarse shale gravel lense.			
-28	S15		14 28 12 14	40	0.8			52.7	0.2			grades to wet, loose			
-30	S16		12 17 17 12	34	0.8			1.9	0.3			grades to some fine to coarse shale GRAVEL. medium SAND lense 30.2' to 30.4', some medium to coarse sand lenses,			
-32	S17		27 31 50/0.3	81	0.5			4.9	0.2			grades to wet to moist.			
-34	S18		52 50/0.3	50	0.4			1.9	0.0			grades to dense, moist.			
-36	S19		50/0.4		0.4			19.5	0.0			grades to very dense, moist to damp.			
-38												Bottom of boring at 36.4 ft.			
-40												Note: Labortary sample number GSVIB-9306C10-12.5 obtained from 10 to 12.5 feet and submitted for chemical characterization. Test boring located in gas holder GH#2. NR - No recovery			
-42															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-07 Well No.

Project: NYSEG
Location: GOSHEN, NEW YORK

Date Start/Finish: 9/17/93-9/17/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 36.7 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		9 6 5 5	11	1.0			0.0	0.0			Brown fine to coarse SAND and GRAVEL, loose, damp.			
2	S2		3 3 3 3	6	0.8			5.9	0.0			Brown fine SAND and SILT, little clay, trace fine gravel, soft, moist.			Cement/bentonite grout 36.7' - 0.0'
4	S3		8 11 13 15	24	1.7			0.0	0.0			Brown fine to coarse SAND, some silt, some red staining, little clay, medium stiff, moist.			
6	S4		7 11 19 21	30	1.4			0.0	0.0						
8	S5		9 20 21 19	41	1.1			1.9	0.0			Grades to grey/brown with little silt and iron oxidation staining.			
10	S6		12 22 18 21	40	1.8			0.0	0.0			grades to dark grey.			
12	S7		9 16 23 41	39	1.7			335	3.3			slight chemical odor.			
14	S8		10 15 19 24	34	NR			NR	NR						
16	S9		13 19 22 27	41	1.0			15.9	3.9			grades to dark grey, little silt, stiff, moist, slight chemical odor.			
18	S10		5 9 16 19	25	1.5			1.3	1.9			Grades with trace fine gravel and clay.			
20	S11		10 12 15 16	27	1.5			0.0	0.6						
22															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-07 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/17/93-9/17/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size** : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 36.7 ft.
Ground Surface Elev.: 430.5 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		12 19 22 22	41	1.0			0.0	0.0			Dark grey, SILT, some clay, medium stiff, moist.			
-24	S13		10 19 19 27	38	1.1			0.0	0.0						
-26	S14		31 52 37 29	89	NR			NR	NR						
-28	S15		11 19 19 24	38	0.8			0.0	0.0			Fine to coarse SAND, little fine to medium shale gravel, trace clay, dense, moist to damp. grades with some silt.			
-30	S16		18 19 27 37	46	0.8			0.0	0.0			grades to no clay, and damp.			
-32	S17		20 20 47 32	67	1.1			0.0	0.0						
-34	S18		27 50/0.3	50	0.8			0.0	0.0			grades to very dense.			
-36	S19		57 50/0.2	50	0.7			0.0	0.0			Bottom of boring at 36.7 ft. Note: Test boring located downgradient of tanks inside building. NR - No recovery			
-38															
-40															
-42															
-44															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-08 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/16/93-9/16/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: Auger Size : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 38.4 ft.
Ground Surface Elev.: 430.7 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		9 4 5	9	1.8			55.7	0.6			Brown fine to coarse SAND and GRAVEL, loose, damp.			
2	S2		9 8 9	20	1.9			619	4.6			Grey/brown, fine to coarse SAND, some gravel,little clay, stiff, moist.			Cement/bentonite grout 38.4' - 0.0'
4	S3		11 8 13	26	1.1			145	3.9			Brown SILT, some fine sand, trace clay, stiff, damp. slight odor.			
6	S4		13 17 18	78	1.0			173	9.3			very stiff.			
8	S5		28 50/0.2 8 21	40	1.3			53	0.6			grades with some fine sand lenses.			
10	S6		19 25 30	50	1.8			82	1.3			grades with trace fine gravel.			
12	S7		24 26 20 17 19	43	1.8			130	0.6			Brown, fine to coarse SAND, some fine to medium gravel, trace silt, medium dense, damp. grades to dark grey, some silt, trace brick fragments, medium stiff, moist.			
14	S8		22 19 9 11 7	18	1.0			203	25.8			grades to fine to coarse SAND and fine to medium GRAVEL, loose, moist to wet, **coal tar residue** in the matrix.			
16	S9		9 10 25 8	33	2.0			1019	65.4			Dark gray fine SAND and SILT, trace clay, medium stiff, wet, **coal tar residue** in the matrix.			
18	S10		8 4 6 8	14	1.0			1023	18.5			grades to SILT and CLAY, medium stiff, moist, slight naphtha odor.			
20	S11		10 6 6 10	16	1.8			348	17.2			grades to fine to coarse SAND and SILT, some clay, medium stiff, moist, slight chemical odor. No coal tar in the matrix.			
22			9												

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-08 Well No.

Project: NYSEG
Location: GOSHEN, NEW YORK

Date Start/Finish: 9/16/93-9/16/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: Auger Size : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 38.4 ft.
Ground Surface Elev.: 430.7 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		8 10 11 15	21	1.6			18.0	8.6			grades with trace medium shale gravel.			
-24	S13		13 12 20 26	32	2.0			584	13.9			grades to no silt, some fine to medium gravel, little clay, medium stiff, moist. No odors.			
-26	S14		50/0.4	50	0.4			29.0	1.3			Dark gray fine SAND, some fine to medium gravel, trace silt, dense, damp.			
-28	S15		27 33 31 29	64	1.0			3.0	0.6			medium dense, moist.			
-30	S16		26 22 19 19	41	1.8			3.3	0.0			grades to fine to coarse SAND and fine to medium shale GRAVEL, little silt, loose, wet.			
-32	S17		20 23 27 37	50	1.0			1.0	0.0			grades to some silt, medium dense, moist. grades to little fine to medium gravel, some silt lenses, trace silt,			
-34	S18		21 33 57 62	90	1.8			1.9	0.0			Dark grey, fine SAND and SILT, some fine gravel, some fine to medium sand lenses, stiff, damp.			
-36	S19		50/0.3	50	0.3			7.2	0.0			hard			
-38	S20		50/0.4		0.4			2.6	0.0			Bottom of boring at 38.4 ft. Note: Labortary sample number GSVIB-9308C15-20 obtained from 15.5 to 20 feet and submitted for chemical characterization. Test boring located downgradient of tar drive.			
-40															
-42															

Geologist Initials: TRO/VAD
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-09 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/20/93-9/20/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 35.4 ft.
Ground Surface Elev.: 433.4 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		7 5 4	-	0.8			0.0	0.0			Blacktop Brown fine to coarse SAND and GRAVEL, some silt and coal trace clay, loose, damp, slight coal odor.			Cement/bentonite grout 35.4' - 0.0'
2	S2		3 3	9	1.1			0.0	0.0						
4	S3		6 6		2.0			0.0	0.0						
6	S4		9 13 12	22	1.5			0.0	0.0			Brown fine SAND and SILT, very stiff, damp. grades to dry to damp.			
8	S5		16 17 18	35	2.0			0.0	0.0			Grades with grey mottling.			
10	S6		20 6 10	25	2.0			0.0	0.0			grades with little clay. grades to moist to damp.			
12	S7		15 17 11		2.0			0.0	0.0						
14	S8		13 15 21	28	0.2			0.0	0.0						
16	S9		21 27 27	54	0.3			0.0	0.0			Dark brown, fine to coarse SAND, little silt and fine to medium gravel, medium dense, moist to damp. grades to some silt, trace fine coal gravel, moist. grades to dark grey, fine SAND and SILT, trace fine gravel, soft, moist.			
18	S10		19 10 14	27	0.8			0.0	0.0			Dark gray fine to coarse SAND, little clay, medium dense, moist to wet.			
20	S11		13 13 18		NR			NR	NR			grades to wet.			
22			16 30 35	46											
			4 13 19	32											
			22 14 15	31											
			16 17												

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-09 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/20/93-9/20/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size** : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 35.4 ft.
Ground Surface Elev.: 433.4 ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
-22	S12		17 19 19 24	38	1.0			0.0	0.0			grades to fine SAND, some silt, little clay and fine to medium gravel, moist to wet.			
-24	S13		13 12 17 20	29	2.0			0.0	0.0			grades to trace fine gravel, dense, damp.			
-26	S14		19 50/0.4	50	0.9			0.0	0.0			grades to little fine gravel.			
-28	S15		19 19 20 20	39	1.1			0.0	0.0			grades to fine to coarse SAND.			
-30	S16		17 21 24 56	45	0.8			0.0	0.0						
-32	S17		43 30 26 30	56	0.6			0.0	0.0			grades to fine to medium shale GRAVEL, some fine to coarse sand, moist.			
-34	S18		47 39 50/0.4	89	1.2			0.0	0.0			grades to fine to coarse SAND, some silt, little fine to medium shale gravel, very dense, damp.			
-36												Bottom of boring at 35.4 ft. Note: Test boring located downgradient of purifer house. NR - No recovery			
-38															
-40															
-42															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-10 Well No.

Project: NYSEG

Location: GOSHEN, NEW YORK

Date Start/Finish: 9/27/93-9/27/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: **Auger Size :** 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 24.0 ft.
Ground Surface Elev.: ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft.)	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
0	S1		7 14 25 21	39	1.2			125.9	0.0			Brown fine to coarse SAND and fine to medium GRAVEL, loose, damp.			
												Brown fine to coarse SAND and SILT.			
2	S2		6 5 8 10	13	0.2			42.7	0.0			Black fine to coarse coal SAND and fine to medium coal GRAVEL, little clay, stiff, damp, slight creosote odor.			Cement/bentonite grout 24.0' - 0.0'
4	S3		9 6 5 5	11	2.0			180.0	10.4			grades to fine to coarse SAND, some fine gravel, little silt, loose, damp.			
6	S4		6 5 4 4	9	1.5			NA	276.0			grades to dark grey, trace clay and red brick.			
												Brown, fine to coarse SAND and SILT, little clay, medium stiff, damp.			
8	S5		6 7 9 10	16	0.8			NA	172.6			grades to dark grey, some clay, stiff, moist to damp.			
10	S6		6 6 9 13	15	1.0			58.5	161.1			grades to fine SAND and SILT, little clay, medium stiff.			
												grades with trace wood pieces.			
12	S7		22 31 28 34	59	2.0			30.5	46.1			grades to dark grey, some silt, medium stiff.			
												fine to coarse coal sand lense 12.3' to 12.4'.			
14	S8		3 5 8 10	13	1.1			66.2	11.1			grades to fine SAND and SILT, little clay, moist.			
												grades to moist to wet.			
16	S9		12 16 13 13	29	1.3			20.5	5.1			grades to wet.			
18	S10		6 9 9 13	18	1.5			2.2	6.6			grades with little fine to medium shale GRAVEL, damp.			
20	S11		10 13 12 10	25	2.0			17.8	0.0			Dark grey fine to coarse SAND and fine to medium GRAVEL, trace silt and clay, medium dense, moist.			
22															

Geologist Initials: TRO/VAD

Geologist Signature:

Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

Boring No. TB-10 Well No.

Project: NYSEG
Location: GOSHEN, NEW YORK

Date Start/Finish: 9/27/93-9/27/93
Drilling Company: PARRATT-WOLFF
Driller's Name: DOUG RICHMOND
Rig Type: MOBILE B-57
Spoon Size: 2-INCH
Hammer Weight: 140
Height of Fall: 30-inches
Drilling Method: HSA
Bit Size: Auger Size : 2-1/2-INCH ID

Northing:
Easting:
Well Casing Elev.: ft.
Corehole Depth: ft.
Borehole Depth: 24.0 ft.
Ground Surface Elev.: ft.

Location Sketch:

Scale:

Depth (Ft.)	Sample/Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (Ft).	Recovery (%)	RQD (%)	PID Field (ppm)	PID Headspace (ppm)	Drilling Water Level	Geologic Col.	Stratigraphic Description	Misc. Test	Well Column	Well Materials
22	S12		22 22 39 30	61	1.5			22	10.2			grades to no clay, damp.			
24												Bottom of boring at 24.0 ft.			
26												Note: Labortary sample number GSVIB-9310C7.2-10 obtained from 7.2 to 10 feet and submitted for chemical characterization. Test boring located downgradient of gas holder GH#1. NA - Not availble.			
28															
30															
32															
34															
36															
38															
40															
42															

Geologist Initials: TRO/VAD
Geologist Signature:
Project No.: 130.09

Remarks:

Water Levels

Date	Time	Elevation

Appendix C
Hydraulic Conductivity Calculations

SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW931S
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

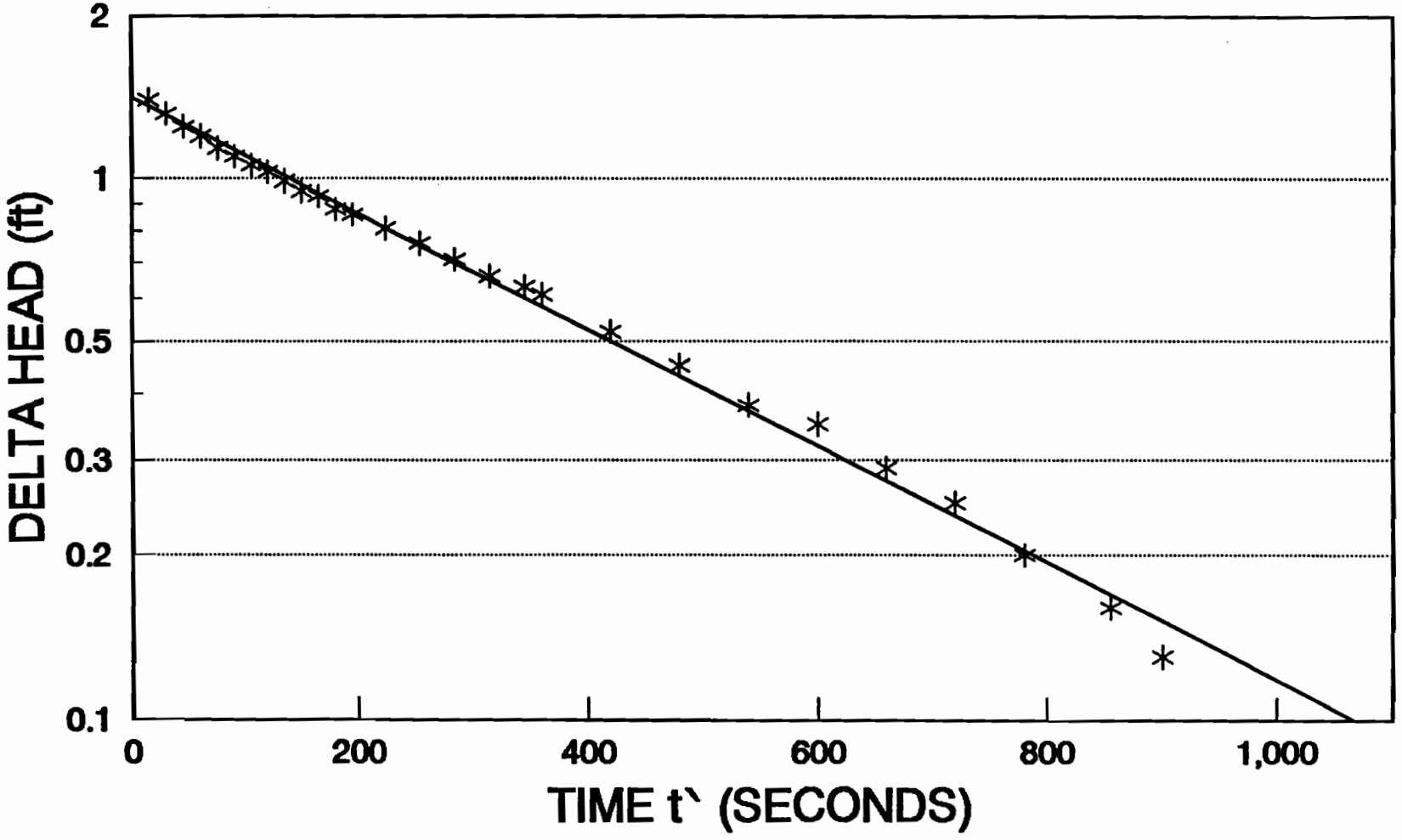
		(cm)
Stickup (ft)	−0.2	−5.79
Static Water Level (ft)	7.14	217.63
Depth to bottom of screen (ft from ground level)	22.7	690.37
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	10.0	304.80
Depth to Boundary	37.4	1139.95
Delta H at time 0 (ft)	1.42	43.22
Delta H at Time t (ft)	0.10	3.05
Time t (seconds)	1067.15	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer−Rice)	6.4E−05	1.4
K (Hvorslev Time Lag)	9.0E−05	1.9
K (Hvorslev Variable Head)	8.9E−05	1.9

MW-931S

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW931D
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

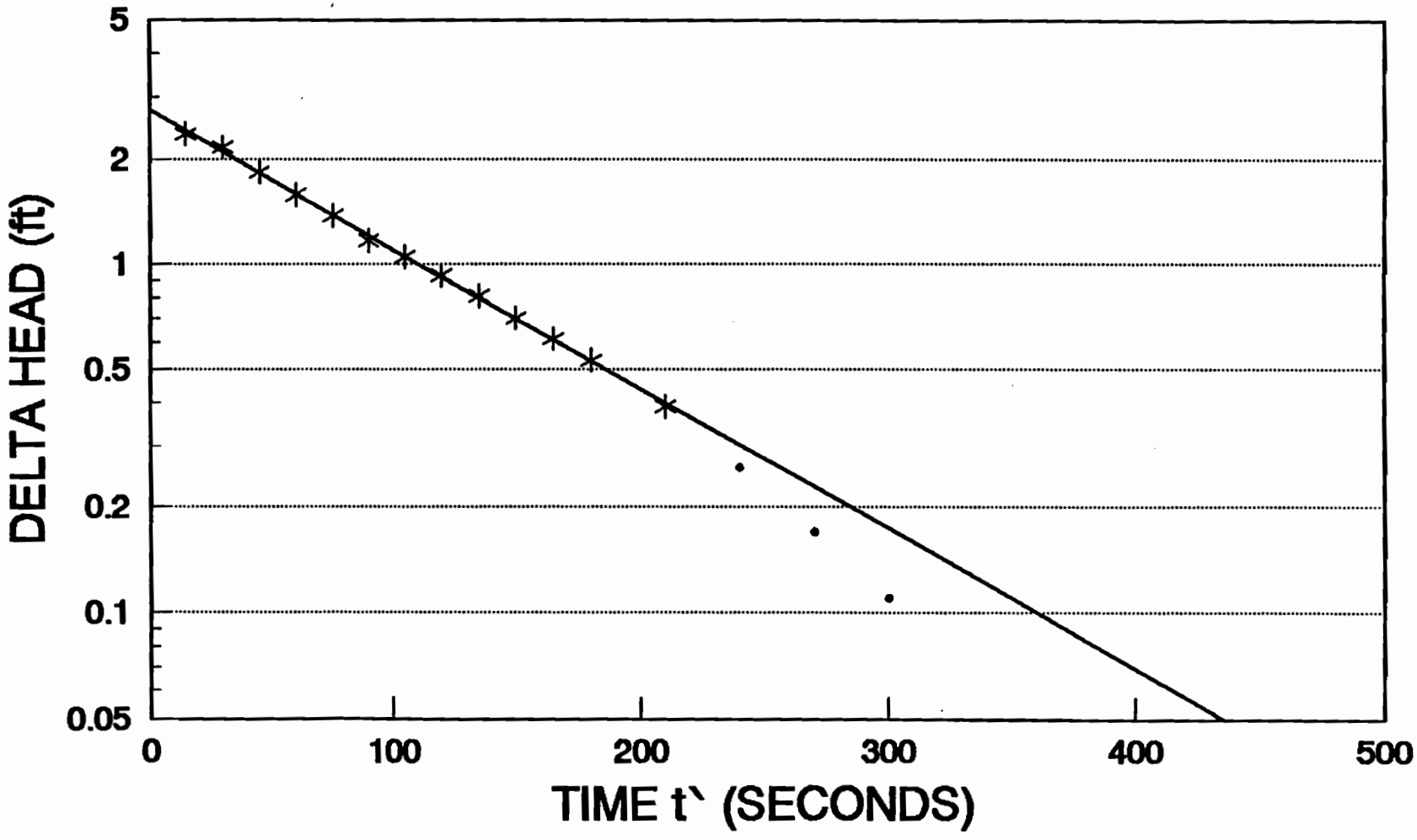
		(cm)
Stickup (ft)	−0.2	−5.79
Static Water Level (ft)	10.04	306.02
Depth to bottom of screen (ft from ground level)	37.1	1129.28
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	5.0	152.40
Depth to Boundary	37.4	1139.95
Delta H at time 0 (ft)	2.77	84.28
Delta H at Time t (ft)	0.05	1.52
Time t (seconds)	435.56	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer−Rice)	5.7E−04	12.0
K (Hvorslev Time Lag)	5.3E−04	11.3
K (Hvorslev Variable Head)	5.3E−04	11.2

MW-931D

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW932S
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

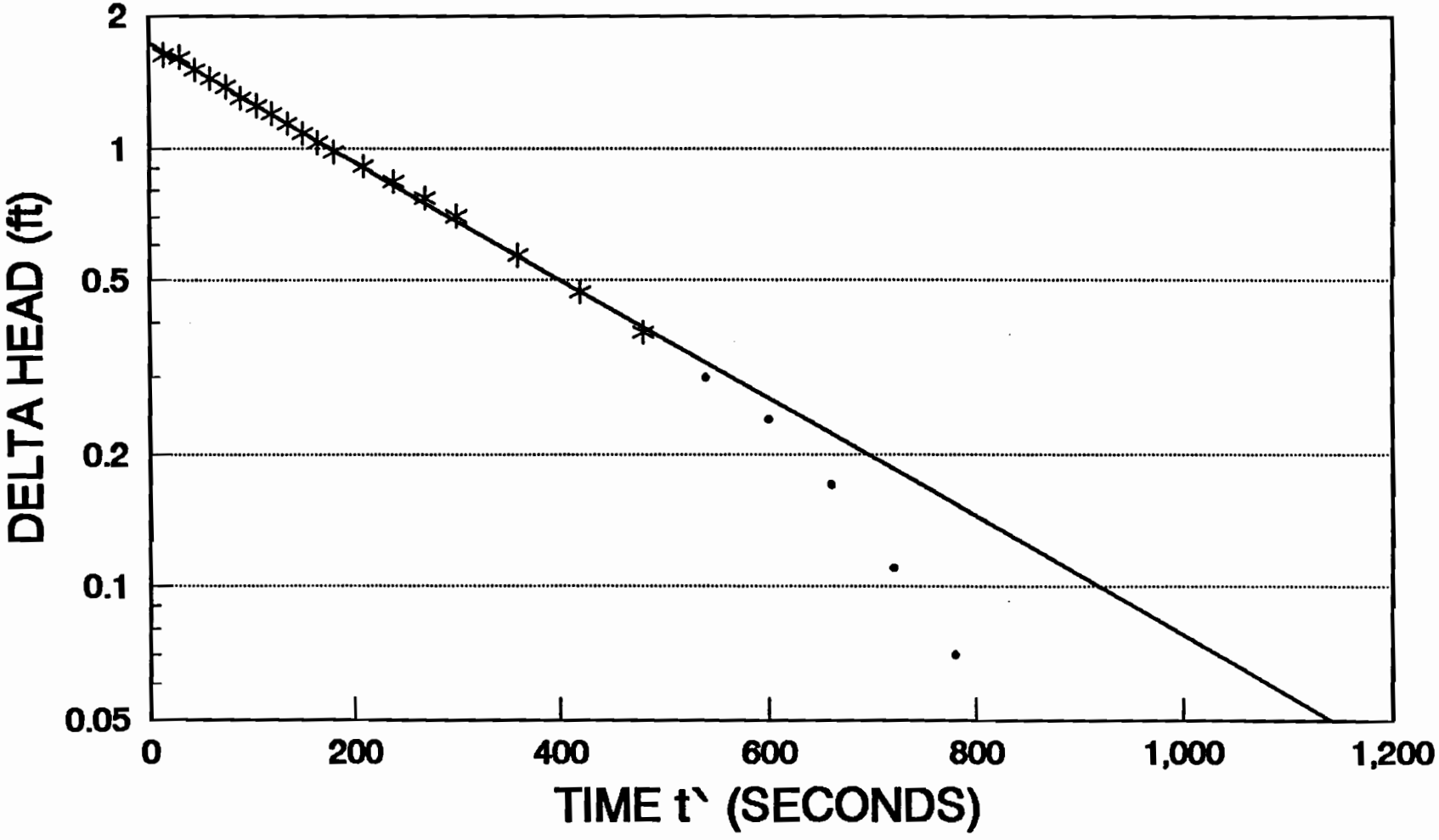
		(cm)
Stickup (ft)	−0.2	−5.49
Static Water Level (ft)	8.24	251.16
Depth to bottom of screen (ft from ground level)	21.6	658.37
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	10.0	304.80
Depth to Boundary	36.4	1109.47
Delta H at time 0 (ft)	1.74	52.97
Delta H at Time t (ft)	0.05	1.52
Time t (seconds)	1141.70	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer−Rice)	7.8E−05	1.7
K (Hvorslev Time Lag)	1.1E−04	2.4
K (Hvorslev Variable Head)	1.1E−04	2.4

MW-932S

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW932D
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

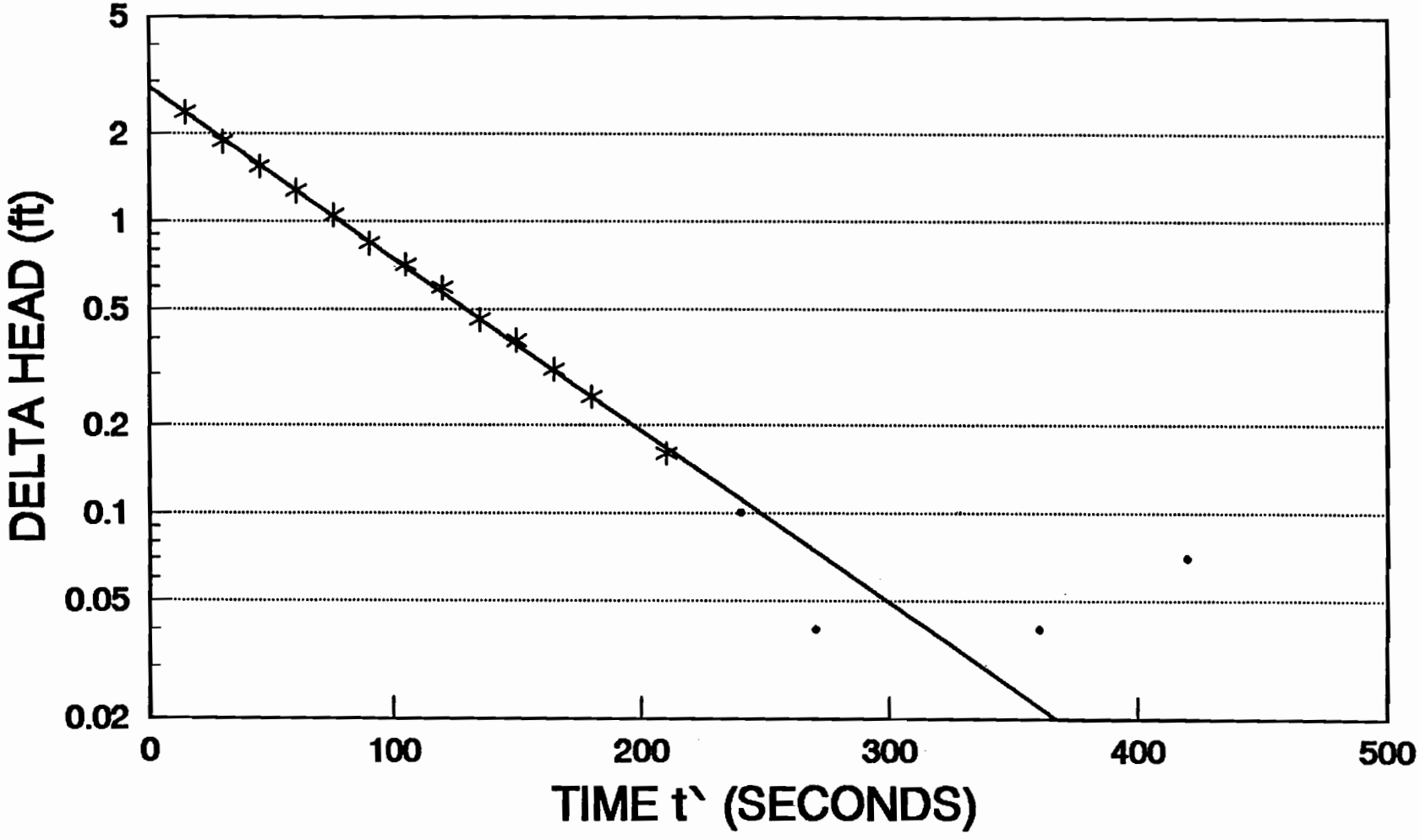
		(cm)
Stickup (ft)	−0.2	−6.40
Static Water Level (ft)	5.86	178.61
Depth to bottom of screen (ft from ground level)	36.0	1097.28
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	5.0	152.40
Depth to Boundary	36.4	1109.47
Delta H at time 0 (ft)	2.88	87.78
Delta H at Time t (ft)	0.02	0.61
Time t (seconds)	366.77	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer−Rice)	8.5E−04	18.0
K (Hvorslev Time Lag)	7.8E−04	16.6
K (Hvorslev Variable Head)	7.8E−04	16.5

MW-932D

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW933S
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

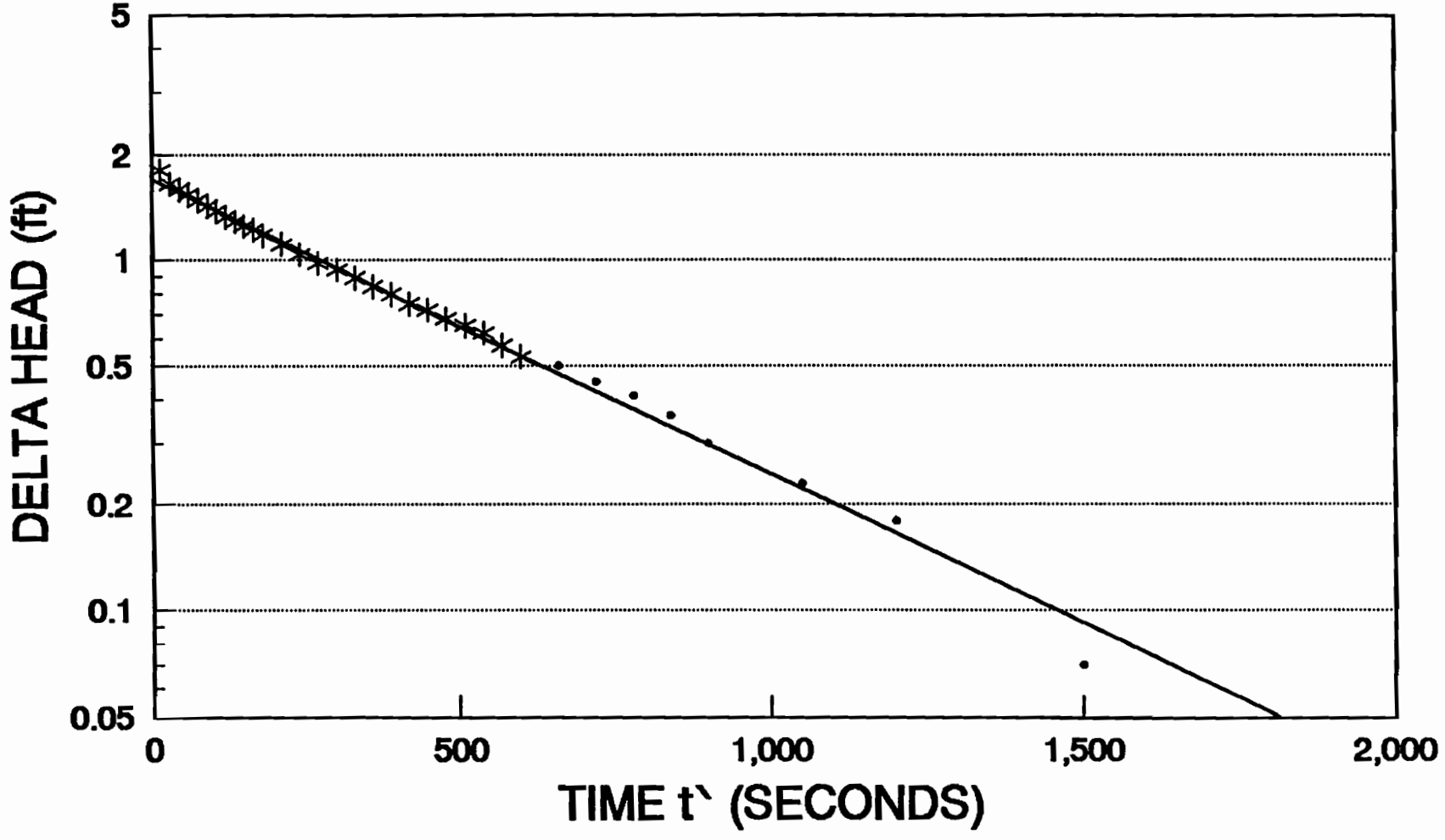
		(cm)
Stickup (ft)	2.1	62.79
Static Water Level (ft)	10.04	306.02
Depth to bottom of screen (ft from ground level)	22.1	673.61
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	10.0	304.80
Depth to Boundary	36.5	1112.52
Delta H at time 0 (ft)	1.71	52.04
Delta H at Time t (ft)	0.05	1.52
Time t (seconds)	1818.09	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer–Rice)	4.9E–05	1.0
K (Hvorslev Time Lag)	7.0E–05	1.5
K (Hvorslev Variable Head)	7.0E–05	1.5

MW-933S

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



SLUGCOMP.WK1 c. S.J. Rossello, 5/88
Modified 12/21/89

Project: NYSEG, GOSHEN
Project No.: 130.09
Well No.: MW933D
Test Date: OCTOBER 21, 1993
Formation Tested: Overburden
Rising Head Slug Test

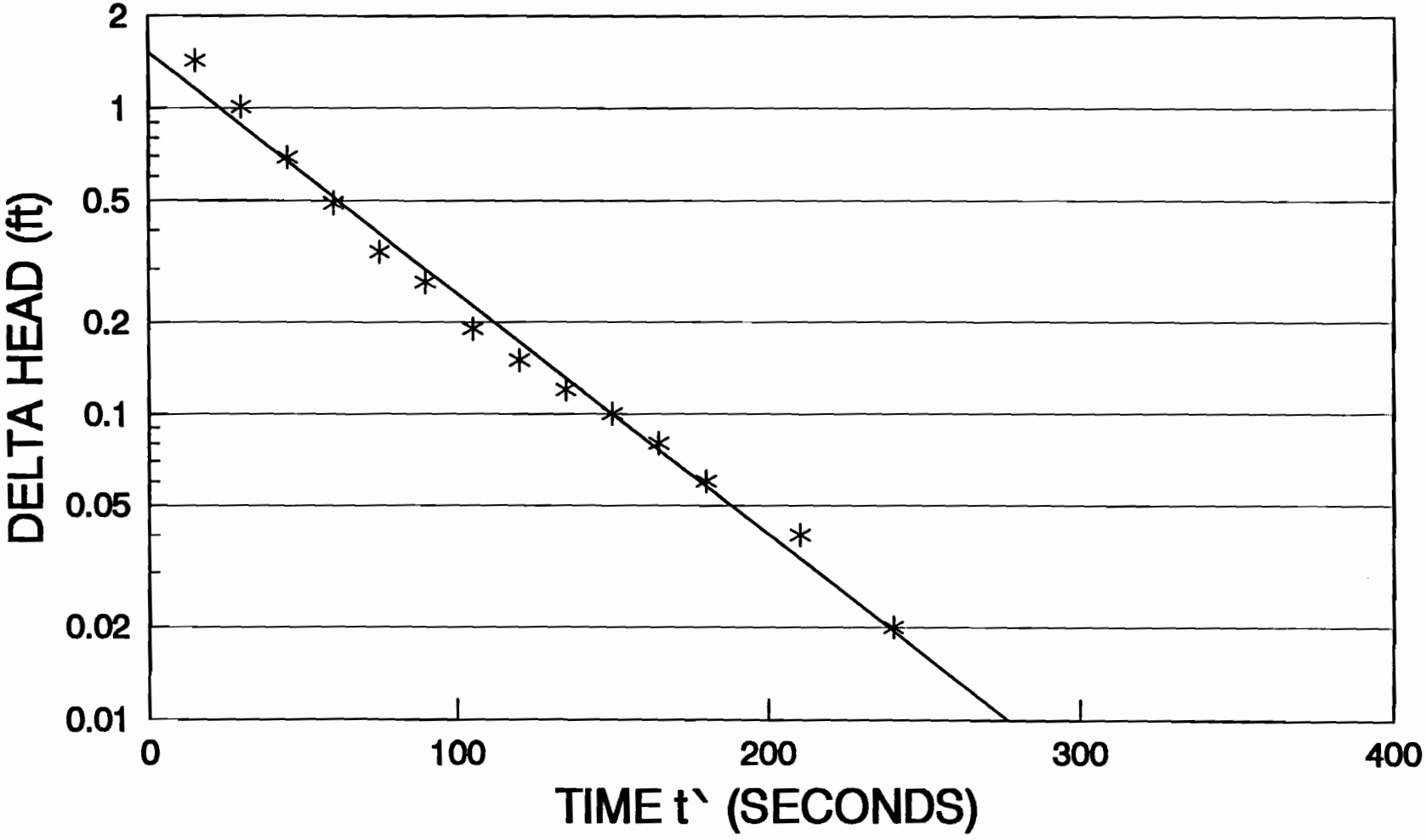
		(cm)
Stickup (ft)	2.5	75.29
Static Water Level (ft)	7.75	236.22
Depth to bottom of screen (ft from ground level)	36.2	1101.85
Boring Diameter (in)	8.00	20.32
Casing Diameter (in)	2.0	5.08
Screen Diameter (in)	2.0	5.08
Screen Length (ft)	5.0	152.40
Depth to Boundary	36.5	1112.52
Delta H at time 0 (ft)	1.52	46.33
Delta H at Time t (ft)	0.01	0.30
Time t (seconds)	276.66	
Ratio Kh/Kv	1	
Porosity of Filter Pack	0.3	

	cm/sec	gpd/ft2
K (Bouwer–Rice)	1.1E–03	24.2
K (Hvorslev Time Lag)	1.0E–03	22.2
K (Hvorslev Variable Head)	1.0E–03	22.1

MW-933D

NYSEG, GOSHEN

RISING HEAD TEST--OCTOBER 21, 1993



Appendix D
Survey Data

SOIL BORINGS/TEST PITS

PROJECT: NYSE&G – Goshen, New York
JOB NO.: 130.09
DATE: 10/13/93

Note: Elevations based on National Geodetic Vertical Datum of 1929.

DESCRIPTION	ELEVATION GROUND	REMARKS
TP–1	430.3	Test Pit
TP–4	430.5	Test Pit
TB–4	430.2	Soil Boring
TB–5	430.8	Soil Boring
TB–6	430.8	Soil Boring
TB–7	430.5	Soil Boring
TB–8	430.7	Soil Boring
TB–9	433.4	Soil Boring

MONITORING WELLS

PROJECT: New York State Electric & Gas Corp. – Goshen MGP Site
JOB NO.: 130.09.04
DATE: 10/08/93

Note: Elevations based on National Geodetic Vertical Datum of 1929.

DESCRIPTION	ELEVATION (feet)			REMARKS
	TOP OF PROTECTIVE CASING	TOP OF WELL	GROUND	
MW–931D	436.75	436.51	436.7	Well 2" stainless, 8" casing
MW–931S	436.38	436.23	436.3	Well 2" stainless, 8" casing
MW–932D	430.48	430.29	430.5	Well 2" stainless, 8" casing
MW–932S	430.53	430.32	430.5	Well 2" stainless, 8" casing
MW–933D	432.80	432.57	430.1	Well 2" stainless, 4" casing
MW–933S	432.49	432.16	430.1	Well 2" stainless, 4" casing
Recharge Well		432.80	431.2	6" PVC

BENCH MARKS
FOR
NYSE&G
GOSHEN, N.Y.

REVISED: 130.09.04

DATE: 10/6/93

FILE NO: 130.09

Elevations based on National Geodetic Vertical Datum of 1929.

BENCH MARK NO.	DESCRIPTION	ELEVATION
TBM–1	Top of concrete retaining wall (southeast corner), 30'± east of southeast corner of NYSE&G building.	439.03
BM–2	Chiseled square on northeast corner of easterly retaining wall for stairwell on north side of NYSE&G building, 40'± west of northeast corner of building.	433.93

Appendix E
Sediment Probing and Sampling Technical Memorandum

Sediment Investigation

The sediment investigation was conducted on the Rio Grande, adjacent to the Goshen MGP site on September 27 and 28, 1993. This appendix has been prepared to present a summary of the field data generated and the procedures used during this investigation.

Work efforts included the following:

- Sediment probing on the Rio Grande.
- Sediment sampling on the Rio Grande.

Sediment Probing on the Rio Grande

Sediment probing involved probing the stream for non-channel sediment deposits along the edge of the site. The probings were started 80 feet downstream of the former MGP western property line. The probing then proceeded upstream every 20 feet to a point 40 feet upstream of the former northeastern property line. A total of 25 probings, numbered P-1 to P-25, were completed.

The distance between each probing point was measured with a 100' tape. At each point, the water depths were measured and recorded using a 6-foot ruler. The sediment depths were probed and measured using a 5/8" metal rod, which was hand driven or pushed into the sediments until refusal. Clear Lexan® tubing was used to retrieve a sample of the sediments at each probing point, so that a physical description could be made. Table A-4A contains a summary of all the data generated during the sediment probing investigation.

Sediment Sampling on the Rio Grande

A total of 8 sediment samples were collected for analytical characterization from the Rio Grande. Two samples were collected downstream of the former MGP's western property line, three samples were collected upstream of the northeastern property line, and the remaining three samples were collected within the former MGP's east and west boundaries. The samples were chosen in areas where a significant depth of sediment was encountered or where visual evidence of contamination was observed during the probing investigation. The most notable type of potential contamination seen during the probing was a visible oil sheen on the water surface or the probing rod once the probing was completed. The oil sheen was noticeable in all probes along the shoreline.

Each sediment sample was obtained by pushing a Lexan© core tube into the sediment and then driving the tubing into the sediment with a stainless steel core driver until resistance. A vacuum was then created within the Lexan tube with a hand pump in order to keep the sediment in the tube during retrieval. Due to the relatively low sediment depth and the volume of sample required for laboratory analyses, several cores were obtained from the same location. The recovered sediments were extruded onto stainless steel trays, and were composited with stainless steel spatulas. The sediments were then distributed into appropriate sample containers, labeled, packaged, and placed into a storage cooler on ice. Table A-4B summarizes the data generated during the sediment sampling investigation.

All sediment samples were analyzed for the following parameters:

- Method 8240 for VOCs;
- Method 8270 for SVOCs;
- Method 6010/7000 Series for Selected Metals;

- Method 9010 for Cyanide; and
- ASP 91 Method for Percent Solids in Soil for Moisture Content; and
- Lloyd Kahn Method for Total Organic Carbon (TOC).

The following quality assurance/quality control (QA/QC) analyses were required for the sediment samples. A duplicate sample was collected from sample location #10 and analyzed for all parameters mentioned above. Extra volume was collected at sediment sample location #3 for the following analyses: a Matrix Spike (MS) for VOCs, SVOCs, metals, and total and amenable cyanide; a Matrix Spike Duplicate (MSD) for VOCs and SVOCs; and a Lab Duplicate for metals and total and amenable cyanide. Finally, the last QA/QC analyses for the sediment samples was an equipment rinse blank for VOCs analysis.

TABLE A-4A
NEW YORK STATE ELECTRIC & GAS CORPORATION
GOSHEN, NEW YORK
RIO GRANDE - SEDIMENT PROBING SUMMARY
UPSTREAM AND DOWNSTREAM
SEPTEMBER 8, 1993

Location	River Flow	Water Depth (ft.)	Sediment Depth Penetrated (ft.)	Sediment Depth Recovered (ft.)	Description	Comments
P-1	Medium	0.8	2.8	2.8	Sand, silt	80' downstream
P-2	Medium	1.0	2.1	2.1	Sand, silt, and gravel	
P-3	Medium	1.1	2.3	2.3	Sand, silt, and gravel	
P-4	Medium	0.8	2.7	2.7	Coarse sand and gravel	
P-5	Medium	0.7	3.2	3.2	Sand and gravel	
P-6	Medium	0.6	3.1	3.1	Sand, silt, and gravel	
P-7	Medium	0.9	2.4	2.4	Sand, silt, and gravel	
P-8	Medium	1.0	3.3	3.3	Sand and silt	
P-9	Medium	0.5	0.5	0.5	Coarse sand and gravel	
P-10	Medium	2.5	0.1	0.1	Coarse sand	
P-11	Medium	1.1	2.4	2.4	Coarse sand and silt	
P-12	Medium	0.7	2.6	2.6	Silt and Sand	
P-13	Medium	1.0	3.6	3.6	Silt, sand, and gravel	
P-14	Medium	1.3	2.4	2.4	Silt, sand, gravel, pieces of brick, concrete, and rubble	
P-15	Medium	1.0	3.0	3.0	Silt, sand, and gravel	
P-26	Medium	0.7	3.0	3.0	Silt, sand, and gravel	
P-17	Medium	0.6	2.7	2.7	Silt, sand, and gravel	

TABLE 1 A (Cont.)
NEW YORK STATE ELECTRIC & GAS CORPORATION
GOSHEN, NEW YORK
RIO GRANDE - SEDIMENT PROBING SUMMARY
UPSTREAM AND DOWNSTREAM
SEPTEMBER 8, 1993

Location	River Flow	Water Depth (ft.)	Sediment Depth Penetrated (ft.)	Sediment Depth Recovered (ft.)	Description	Comments
P-18	Medium	0.3	0.4	0.4	Sand	
P-19	Medium	0.6	2.9	2.9	Sand and gravel	
P-20	Medium	0.6	0.6	0.6	Sand and gravel	
P-21	Medium	0.6	3.0	3.0	Sand, silt, and gravel	
P-22	Medium	0.9	3.5	3.5	Silt, sand, and gravel, coarse sand between large cobbles, rocks	
P-23	Medium	0.7	3.1	3.1	Silt, sand, and gravel	No penetration along river
P-24	Medium	0.7	3.3	3.3	Sand and gravel	
P-25	Medium	0.8	2.9	2.9	Silt, sand, and gravel	

TABLE A-4B
NEW YORK STATE ELECTRIC & GAS CORPORATION
GOSHEN, NEW YORK
RIO GRANDE STREAM SEDIMENT SAMPLING SUMMARY

Relative Location	Sample ID	Date	Time	Water Depth (ft.)	Sediment Depth Penetrated (ft.)	Sediment Depth Recovered (ft.)	Sample Segments (ft.)	Description	Comments
Downstream	BSTDSS9301G	9/28/93	13:45	1.0	3.0	1.2	0-0.5	Dark gray to black medium to coarse sand very heavy oil sheen.	
							0.5-1.2	Dark gray-brown silt, very heavy oil sheen.	
Downstream	GSTDSS9302G	9/28/93	14:15	0.7	2.6	1.9	0-1.9	Dark gray to black fine to coarse sand, some silt, very heavy oil sheen.	
Along Site	GSTCSS9303G	9/28/93	15:35	0.8	2.1	1.7	1.7	Dark gray to black silt and sand, very heavy oil sheen.	
Along Site	BSTCSS9304G	9/28/93	16:15	0.6	2.6	1.5	0-1.5	Dark gray-brown silt, some sand, moderate oil sheen.	
Along Site	GSTCSS9305G	9/28/93	16:45	0.6	2.4	1.5	0-1.5	Gray-brown silt and fine to coarse sand, slight oil sheen.	
Upstream	GSTCSS9306G	9/28/93	17:05	0.5	1.4	1.0	0-1.0	Dark gray to black silt, brown medium sand, roots, wood, some fine to coarse sand, moderate oil sheen.	
Upstream	GSTUSS9307G	9/28/94	17:25	0.6	2.9	1.7	0-1.7	Dark gray-brown silt, some fine tomedium sand, slight oil sheen.	
Upstream	GSTUSS9308G	9/28/94	17:45	0.5	3.2	2.2	0-1.0	Gray-brown silt, some sand, slight oil sheen.	
							1.0-2.0	Dark gray-brown fine to coarse sand, slight oil sheen.	
							2.0-2.2	Gray clay.	

Appendix F
Task II RI Field Notes

INDEX PAGE

JOB NO.	PROJECT	PAGE NUMBER

9/9/93

8:23 TKO + VAD arrive at site with Tracy Blagicek. To meet with Tony Deraggio located pits, borings and well locations. To be approved by Tony.

10:30 call Geles to get ETA on trailer they said to call back late

10:45 left site to go to library

1/13 (Monday) Mob. day

10:15 TKO arrives on site.
Tracy B on site

10:30 VAD arrived on site
~~Test~~ Mark Eaves from PW
arrived started setting up
decon pad
TKO + Tracy B to get ~~some~~
supplies

1:15 Decon pad set up and
ready to start test pitting
Test pit #1,
P.I.D not working called
Response Rental to get another
one. They will ship today.
Test pit see book 1

3:10 Finished TP-1 started
Steam cleaning Backhoe

3:20 Started TP-2

4:30 Finished digging TP 2 + 2A
Started covering.

5:25 TP 2 + 2A covered

5:30 ~~Done~~ Steaming

5:35 Start TP-3

6:50 TP-3 covered
Sample GSUITP9301G6 taken
2:10

7:00 TPO, VAO, Tracy B +
Mark Eaves Left site

Stinging - 2 hrs
decon .5 hrs

9/13 Test pit 2 TP#2

Gas holder #1

0-1.5 Sand + Gravel (Driveway fill) Brick on southend.

1.5-2.0 Black coal staining

2.0-4.5 Red stained Sand + Fine to med gravel
Some slag + wood pieces

4.5 ∇ Grey Clay + Silt

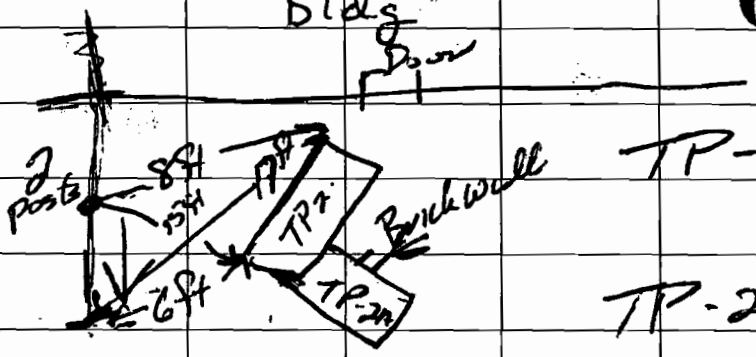
No Sheen on water

Slight odor at top of water

Sample # GSV ITP9302 4.5'
taken from 4.5 ft. 3:45

Dup Sample # GSV ITP9342G
also taken. 4:00

Possibly wall on South
end of Trench TP-2



TP-2 = 11ft long

TP-2A 12 ft long and 2 ft in depth.

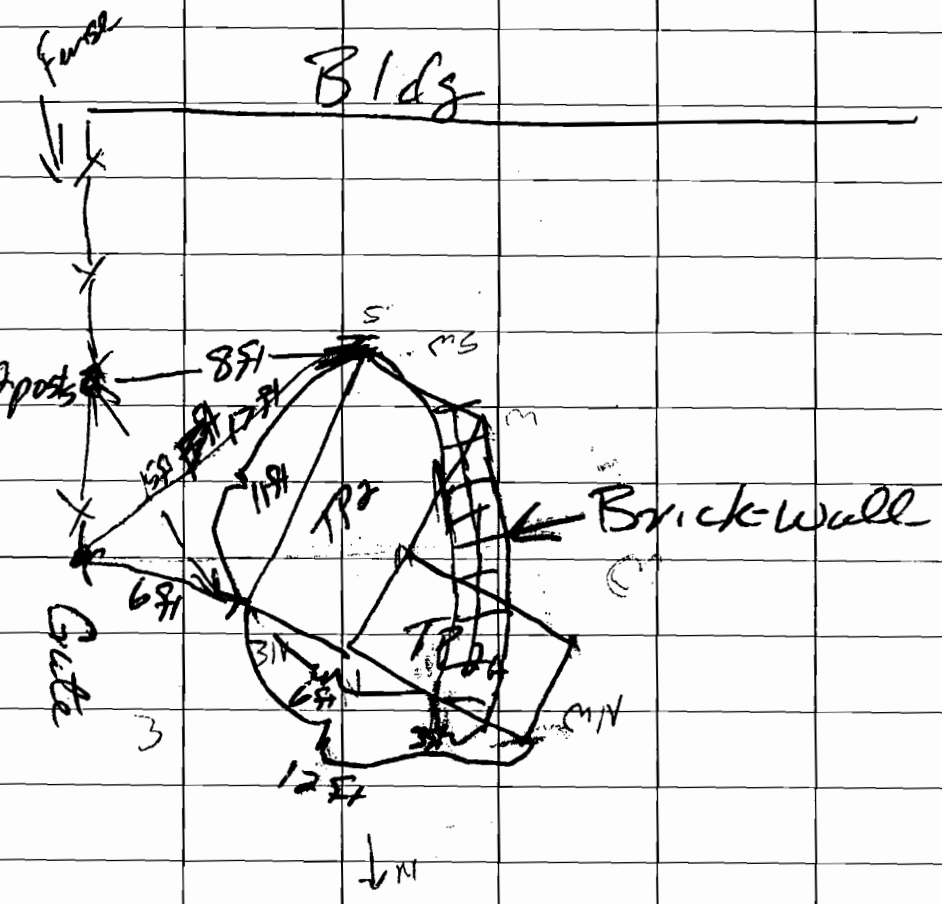
TP-2A is the same as TP-2 except a brick wall is 6 ft from Northeast corner of TP-2A and extends to 8.5 ft from northeast corner.

The corner of test pit 2 + 2A fell in while back fill and exposed the wall of the gas holder. see drawing next page

TP-2 (5)

0-2.5 Same as TP-2 on inside of gas holder.
on outside of gas holder at west end of trench.
2.5-5.5 Ft Fine SAND + SILT some clay.
The brick wall was 4 Ft to the bottom from the top of ground. or 2 Ft thick.

(6)



9/13/95 (1) Test Pit #3

Geo Holder #2

0-2 ft SAND + GRAVEL, SLAG + COAL

I at 2 ft

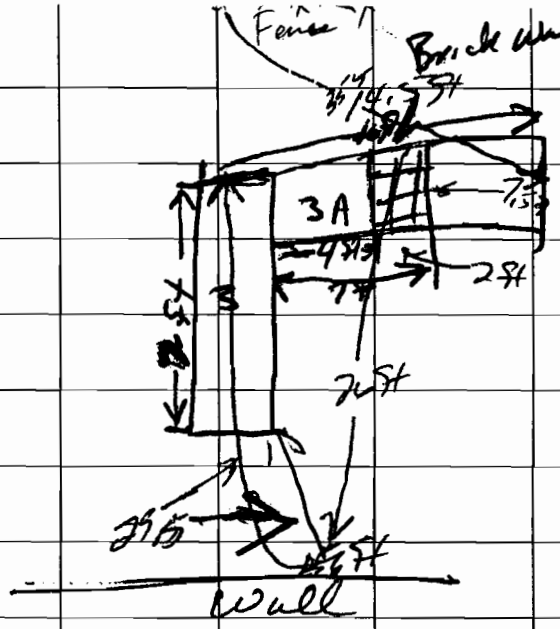
Slight odor at top of water table slight sheen on top of water

Test pit #3A

South end

0-7 ft SAND, SILT, some clay

I 7 ft on north end of trench outside the wall.



Sample # GSVITP930362

MS/MSD taken at this location

TCLP taken

TCLP + Sample 6:15

MS/MSD 6:30

9/14/13 (9)

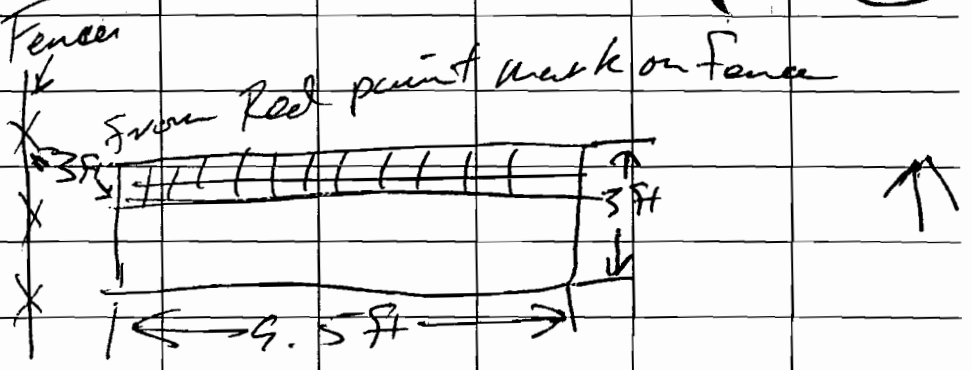
7:15	TRO + VAD to get ice
7:30	TRO + VAD arrive on site Tracy B. + Mark E already on site. VAD + Tracy B decide which Test Pit to start on.
8:00	Started TP-4
8:40	Finished TP-4 started backfill.
8:50	Start steam clean
8:54	Tom La Barbera photographer showed up.
9:00	Steaming done.
9:10	Start digging Test Pit TP-5
9:30	TP 05 finished + backfilled
9:40	Steamed + got fuel
9:50	Started TP-06

(10)

10:00	Test Pit 6 done Start back fill
1:00	Backfill done
1:10	Doug Richmond + Butch Stevens on site unload truck
2:00	setup on 1st Boring and started digging recharge pit
3:00	Finished recharge pit + took sample for TP-2 TCLP. Packaged samples for shipment and packaged old PID.
4:15	TRO + VAD off site

Stringing - 2 hrs
decon - 0.5 hrs

Test Pit #1 TP-04
9/14/93 Shed area



0-1 SAND + GRAVEL (Fill

1-2 Black staining
Brick wall on west end of trench at 1 Ft
Wall on North edge of trench full length
Large coal pieces

2.0-4.0 Brown silt, some clay.
T at 3.5

4" Orange bang pipe at 2 Ft on the South ~~side~~ edge of trench

Brick wall to the bottom of the trench at least

No sample taken test pit the same as Test Pit #1

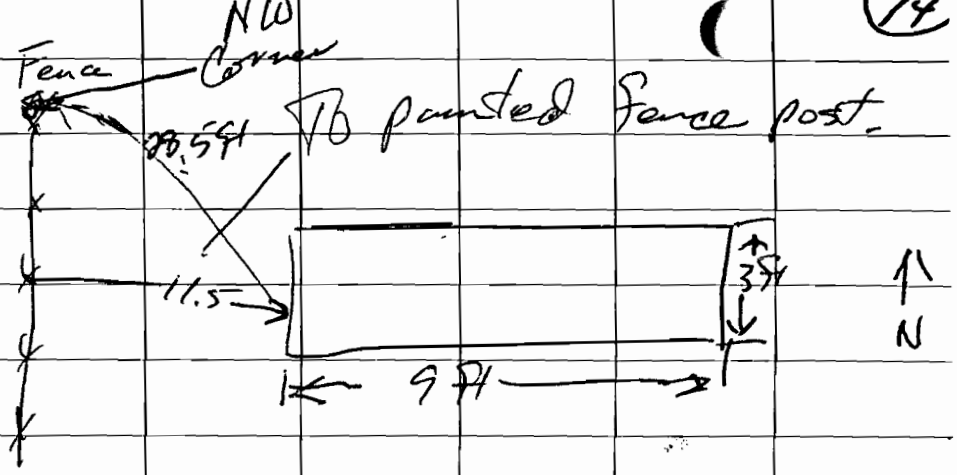
Slight sheen and odor at the top of water

Test Pit #5 TP-05

9/14/93 Coal Storage area

0-1	GRAVEL + SAND (Fill)
1-1.5	Concrete + Brick Slab.

Took out course of brick and layer of concrete formed on top.



No sample taken

(15)

Test Pit #6 TP-06

9/14/93 Tank in driveway.

0-.25 Blacktop

.25-1.0 SAND + GRAVEL (Fill)

1.0-4.0 Brown SAND + SILT

V - 3.5 ft

See book #1

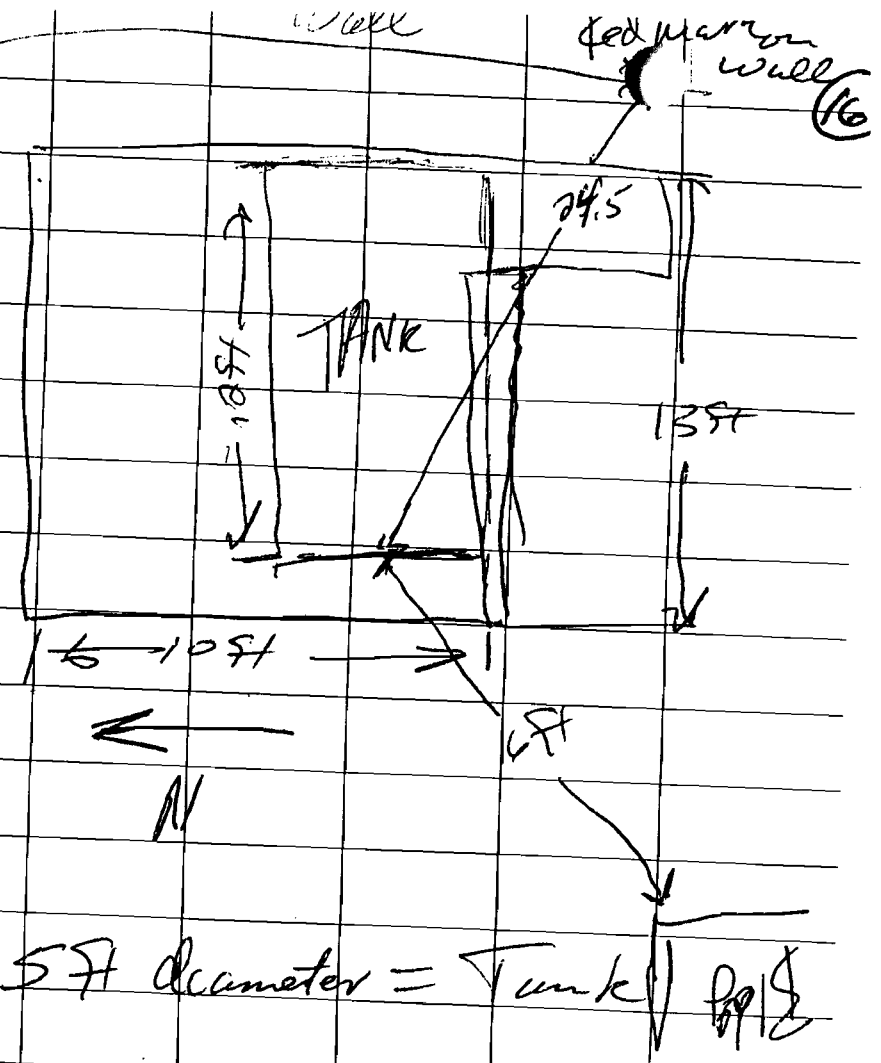
Sample GSQICR9301G

taken from Coal Tar Tank

used Soil VOA vials

no water vials available

11:15



Recharge Pit

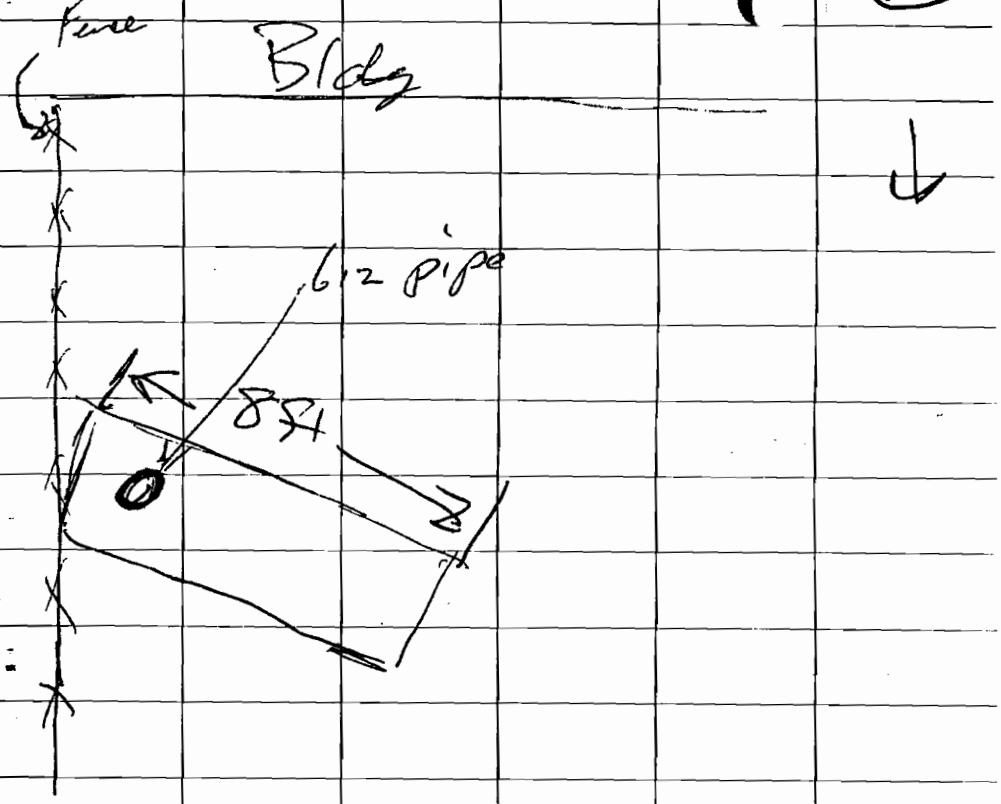
9/14/93

0-1 SAND + GRAVEL (Fill)

1 - 5.5 Black Stained Sand + ~~Gravel~~

Gravel, some slag + Brick

▽ 5.0 Ft



~~$~~ VOA for TCLP collected

9/14/93 - 3:00 pm

Sample GSVITP9306 4.5

9/15/13 (19)

2:00 TRO + VKO on site.
Doug + Mark on site
Going to start on Boring 4

8:45 — stopped TB04 to put gravel into Recharge pit —
Used gravel already available on NYS&G property since delivery of new gravel would not be until tomorrow. Rain overnight + open pit hole may have been an issue —

9:40 Resume TB04 drilling

2:15 Setup on TB-06 GH #2
[P #24 Roll 1 Setup on TB6]

5:30 Stopped at 38' TB06
Begin grouting hole
Do headspace Readings

(20)

6:45 leave Site

Drilling	40ft + 36ft
Spoons	2 extra
Stages	~~1 from~~

TB04
furnace Area

Depth	Blows	Rec	PID ppm	head	Time
0-2	14-42 20-9	1.8	0.1	1.9	7[13]
2-4	8-8 6-6	1.0	0.0	0.0	
4-6	4-4 5-6	1.8	0.0	0.0	7[20]
6-8	6-8 9-8	1.8	0.0	0.0	
8-10	5-7 7-10	1.9	0.0	0.0	7[50]

Description

Brown gravel fill - Sand, f 1.3' Grades to black/brown silt + Sand, some C-Sand + f-gravel, slag trace clay, moist,

SAA with white flakey material that resembles shells, damp,

4-4.5 SAA

4.5-6 Grades to fine sand + silt trace fine gravel, some clay, ~~dark~~ damp ~~brown~~ med stiff

Brown/gray fine Sand + Silt, some Clay, damp, very slightly Semi plastic, little orange oxidation

SAA with little layers of angular shale fragments, V.S. plastic, damp

Note on Color: brown/gray ~~silt~~ interwoven with orange streaks of oxidation

TB04 Furnace Area cont'd 9/15

Depth	Blows	Rec	PID	Head	Time	Description
10-12	41-11 17-24	2.0	0.0	0.1	8 05	Brown f-Sand, Some fn-c Sand in lenses and intermixed in matrix, Sand fragments are angular shale, little lenses of grey clays, damp/moist
						11.7' → Grey angular shale f-c fragments moist,
12-14	44-20 20-24	.2	0.0	0.0	8 10	SAA, Wet
						SAA to 14.6'
14-16	7-10 11-12	1.8	0.3	85.0	8 20	Dark Grey f-Sand + Silt, Some m-c Shale sand size fragments, few m-sand lenses, trace clay
						15.4 - D.G. f-m Sand, Some c-Sand, Some Silt, wet, trace clay
16-18	13-13 9-11	1.6	1.1	47.1	8 30	SAA, trace f-c angular Shale gravel wet, + subangular
18-20	9-8 9-11	1.6	0.0	0.1		f-C Sand, little f-ang+subang gravel, some/little Silt, trace clay, wet, V.S. Plastic in lenses.

TB 04 Furnace Area (cont'd 9/15) (26)

Depth	Blows	Rec	PID	Head	Time	Description
20-22	4-5 7-8	1.5	0.0	0.0	9[40]	SAA
*9[10] 22-24	7-9 11-11	1.6	0.0	0.0		SAA to 22.6 Mdk grey f-Sand + Silt, some m-c Sand, little f-gravel (angular + subangular Shale slightly some-little Clay, semiplastic, moist
24-26	9-14 15-22	1.7	0.0	0.0	10[15]	2.5- Dk grey f-c Sand + f-m Gravel, angular + subangular shale fragments, little Silt, trace clay, moist/wet
26-28	41-21 27-27	1.0	0.0	0.0		layers of Shale fragments, disintegrate into f-c sand size some f-c Sand, moist
28-30	14-15 19-41	1.0	0.0	0.0	10[40]	Dk grey f-c Sand + f-m gravel, some Silt, trace clay, wet
30-32	19-15 15-19	.6	0.0	0.0		SAA (1.4' of spoon is f-c Sand + f gravel Shale wash in
32-34	17-27 41/100/4	.5	0.0	0.0		SAA "
34-36	23-24 28-39	.9	0.0	0.0	11[40]	SAA ~~f-c Sand~~, moist, tight

(21) TB04 Cont'd 9/3/93 (22)

Depth	Blows	Rec	PID	Head	Time	Description
36-38	27-41 50/.4	.8	0/	0.0		SAA, damp/moist, tight, hard
38-40	50/.3	.3	/	0.0	12^00	SAA, moist/damp, tight
40-42	47-50/.4	.5	/	0.0	12^20	SAA damp/dry tight, compact, hard

* Augering was very slow & difficult pushing 700 pounds pressure to turn auger,

use TP-01
Sample to Characterize
Soil from TB04 in
DRUM.

Depth	Blows	Rec	PID	Head	Time	Description
0-2	17-17 13-10	1.7	0.1	0.0	2[15]	Brown w/ some Black Staining 3" gravel fill Cover at Top f-C Sand + f-gravel, little Silt, trace Red Brick fragments + Coal
2-4	7-5 5-5	NR	0.0	—	2[20]	✓
4-6	2-3 3-4	.5	0.0	0.1	2[30]	Brown f-C Sand + f gravel, little Silt, Wet, V. Slight odor, no sheen
6-8	1-2 1-2	1.2	0.0	10.7		SAA to .8 — Black C-Sand + f-gravel, little Silt, V. Slight wet odor, no sheen,
8-10	1-1 1-4	.8	0.0	28.3	2[45]	SAA, trace wood fragments, Wet
10-12	13-50/2	.6	23.8	— used for A. Sample CX	CX	SAA, but w/ Black C.T. Residue in Matrix, C.T. odor, oil sheen, wet
12-14	7-8 9-10	2.0	296.8	187.7		SAA to 12.6.5 Brown f-Sand + Silt, some Clay, Moist, Semiplastic NO C.T. Residue observed.

Sample: GSVIB-9306C 10-12.5
VOC + SVOC only
due to limited Sample
Quantity

TB06 GH-2 cont'd 9/15/93

Depth	Blows	Rec	PID	Head	Time	Description
14-16	8-8 11-21	1.2	.3	2.2 geotech sample *	3^{05}	Brown/Grey f-Sand + Silt + Clay, Plastic, Wet,
				9.9		Grades at 14.9' to f-Sand + Silt, Some Clay, little f-gravel (A + SA Shale fragments)
16-18	15-13 13-15	1.0	2.2		3^{20}	DARK Grey f-C Sand, Trace f-gravel, t-Silt, Wet,
16-20	17 18 18-21	1.1	3.8	7.2.	3^{30}	SAA, 18.5 grades to f-Sand Loose
						18.7- tighter; moist,
20-22	10-14 18-14	1.4	10.1	21,8	3^{50}	SAA to 20.8 → f-Sand, Wet, No odor No C.T.
22-24	14-17 22-27	1.0	1.7	0.6	3^{55}	22' → Dk grey f-C Sand + f-m angular + S.A Shale fragments, little Silt,
						trace clay, moist,
24-26	22-24 27-23	1.6	10.7	12.4	4^{15}	SAA, moist to damp
26-28	31-31 30-30	1.2	1.7	17.9	4^{25}	SAA, with lenses of Shale fragments (likely C-gravel size) damp to moist

Note: PID Readings are likely from Spoon wash not interval

TB06 GH #2

Depth	Blows	Rec.	PID	Head	Time
28-30	~~24-26~~ ~~32-34~~	.8	0.2	52.7	4^{45}
30-32	12-17 17-12	.8	0.3	1.9	4^{55}
32-34	27-31 50/.3	.5	0.2	4.9	5^{00}
34-36	52-50/.3	.4	0.0	1.9	5^{20}
36-38	50/.4	.4	0	19.5	5^{30}

* note: H_2O in auger hole had slight film from C.T. at 10-14', the head PID readings are likely from passing spoon thru the water + not the interval

Description

dk gray f-c SAnd + f-m gravel (Angular shale) Wet, looser

olive gray f-c Sand, Some f-gravel (angular shale frags) Some/little Silt, little M-Sand lense at 30.2-30.4', Wet (upper spoon - gravel washin)

SAA, layered shale fragments, tighter matrix, Wet to moist

* Slow, hard augering

SAA, Very tight, hard, Moist

SAA, V. hard, moist/damp

auger drilling pressure = 700

9/16/93 Daily Log

7:00 TBO + VAD arrive at site
pw on site steaming started at 7:30

7:38 Jack Gray arrives on site

9:00 Set up Begin TB05 (GH4)
Raining, Cloudy, ~60°

12: BWL to site

1:00 Setup on TB-08 6:50 BWL off site

7:15 Finished TB-08
TBO off site

Drilling 36 ft + 38 ft
Spoons 2
Deacon 25/hr
Staging —

(01) 1805 GH #1 9/16 (38) Thursday

Depth	Blows	Rec	PID	Head	Time	Descriptions
0-2	8-10 9-7	1.6	0.0	0.0	900	0-7" gravel + Sand fill cover 7" → Black/Brown f-C sand + Red brick fill, damp,
2-4	6-5 5-6	1.1	0.0	0.0		SAA, Some grey brick, little coal frag., moist, loose
4-6	1-2 1-2	1.1	0.0	0.0		SAA to 4.4' / - Grey f-Sand + Silt, little fA-C Sand + f-gravel, t-clay, moist, V. slight odor,
6-8	3-5 7-14	1.8	0.0 ▽	5.3	9:25	SAA to 6.8' / Black f-C Sand, Some f-gravel, Some Slag + Coal fragments little Red brick (chunk in Spoon Tip) trace Silt + Clay, V. Slight odor, Wet
8-10	9-13 20-22	.8	21.5			Black SAA with Oil Sheen, not really C.T. Residue, Wet
						8.6 - brown f-C Sand, little Silt, moist, no C.T. staining

* Sample GSVIB-930568 for VOC + SVOC only due to Sample Quantity

TB 05 Cont'd

Depth	Blows	Rec.	PID	Head	Time
10-12	4-11 13-17	0	✓	—	9:50
12-14	13-17 20-24	1.6	0	~~0~~ 130	
14-16	9-11 14-17	1.0	.6	139	
16-18	10-13 20-24	1.5	23.6	552	
18-20	13-16 11-14	1.8	51.7		

*Note: Spoon goes thru Oil Sheen H2O which gives the PID Readings

Sample *

GSVI B-9305C 17-19.5

GH #1

Description

NR- all wash (4")

~~Brown~~ grey/brown intermixed f-Sand + Silt + Clay, little m-Sand, Moist, V.S. plastic,

12.5 Brown f-Sand + Silt Some m-c Sand + f-gravel, Moist,

Brown/grey intermixed f-m Sand + Silt, some Clay, few layers of f-Sand (.1") in Matrix, trace m-c Sand + f-gravel (gravel - Shale) Moist, V.S. plastic

SAA to 17' - Black C.T. Residue mixed in Matrix, Wet, metallic sheen,

SAA w/ C.T. Residue, 18.3-18.6

f-gravel layer w/ C.T. Residue

19.5' - f-Sand + Silt, Moist

(41)

9/16/93

MB05

Depth	Blows	Rec	PID	Head	Time
20-22	5-7 11-14		1.1	964	10:35
22-24	10-17 20-21	.5	5.9	1325	10:40
24-26	47-37 21-27	1.0	4.6	407	
26-28	27-41 21-33	1.0	0.6	501	
28-30	31-27 21-30	.9	0.9	121	11:17
30-32	19-22 24-27	.8	6.3	244	11:23
32-34	29-34 50/4	.8	0.0	27.5	
34-36	47-41 42 66	1.0	0.1	2.6	11:45
36-38	50/.3	.3	—	29.8	11:50

GH#1 Cont'd

9/

(42)

Description

Dk grey f-sand/Silt, some m-c Sand + f-gravel (LA + SA mixed), T-clay
Moist/damp, NO C.T. observed

Dk grey f sand, trace silt
Wet, no CT observed

Dk grey f-Sand + Silt, some f-m Ang-Sbr/SA Shale gravel, T-clay, Moist

SAA, Moist

SAA, f-m Shale in layers (likely m-c size)
moist → damp

SAA, Moist

SAA with ~.3" lense of f-Sand at 32.3'
Moist * augering becoming slow difficult

SAA, hard, moist/damp, tight

SAA, (Sample in Spoon nose), hard, tight,
moist/damp

(43) 9/16/93 TB-8

Downgradient of Tank dr.

Depth	Blows	Rec	PID	Head	Time
0-2	9-4 5-9	1.8	0.6	55.7	2:15
2-4	8-9 11-13	1.9	4.6	619	2:20
4-6	8-13 13-17	1.9	3.9	145	2:25
6-8	18-28 50/.2	1.0	9.3	173	2:36
8-10	8-21 19-25	1.3	0.6	53	
10-12	30-24 26-30	1.8	1.3	92	2:50
12-14	17-19 22-19	1.8	0.6	130	2:54

(44)

0-1 Brown SAND + GRAVEL

1-2 Grey-brown Fine to Coarse SAND some gravel, little clay. moist stiff

2-2.8 SAA

2.8-4.0 Grey-brown SILT, some fine Sand, trace clay lumps, stiff.

SAA slight odor

SAA

4.5-5.5 SAA some fine Sand lenses

5.5-10 SAA trace fine gravel

10-11 SAA

11-12 Brown Fine to Coarse SAND some fine to med gravel, trace silt Compact, damp.

12-12.1 SAA

12.1-14 Dk grey Fine-C SAND some silt and fine gravel, trace brick fragments, moist and stiff

45 (

9/16/93

TB-8

(

(

(49)

Depth	Blows	Rec	PID	Head	Time	Desc
14-16	9-11 7-9	1.0	25.8	203	3:15	Dk gray ~~SAA Black~~ f-~~c~~c SAND + f+med gravel, moist to wet trace clay loose. Coal tar globules
16-18	10-15 8-5	2.0	65.4	1019	3:25	15.5 Dk grey fine SAND + SILT, trace clay wet, med. loose some Coal tar globules in matrix
	Sample #GSVIB-9308C 15.5-20 15:30 Composit From 15.5 Ft - 20 Ft					
18-20	4-6 8-10	1.0	18.5	1023	3:48	Dk grey SILT + clay moist mod stiff, slight ~~m~~ petroleum odor
Breathing zone ok.		Positive Benzene Tube taken at top of hole				
20-22	6-6 10-7	1.8	17.2	346	3.52	Dk. grey fine-coarse SAND + SILT, some clay, moist, med stiff. Slight chemical odor.
22-24	8-10 11-15	1.6	8.6	18.0	3:57	SAA trace med gravel size

(47) TB-08 (48)

9/16/93

Depth	Blows	Rec	PID	Head	Time	Desc
24-26	13-12 30-26	2.0	13.9	584	4:15	Dark grey f-c SAND, some fine-med gravel, little clay slightly plastic, med dense, moist No odor
26-28	60/4	0.4	1.3	29.0	4:20	Dark grey f-m SAND, some f-m gravel, trace silt, damp, stiff
28-30	27-33 31-39	1.0	0.6	3.0	4:30	SAA some f-med shale gravel, moist
30-32	26-30 44-44	1.8	0.0	3.3	4:57	30-31.5 Dk grey f-c Sand and f-m shale gravel, little silt loose, wet 31.5 Dk grey f-c sand & f-m gravel, some silt, stiff, moist.
32-34	30-33 37-37	1.0	0	1.0	5:01	Dk grey f-c SAND, little f-m gravel, trace silt med stiff, moist, some silt lenses

(49)

9/16/93

TB-08

Depth	Blows	Rec	PID	Head	Time	Desc.
34-36	21-33 57-62	1.8	0.0	1.9	5:21	Dk grey f-SAND + Si. lt, some fine gravel, sl. M, damp sand f-med sand lenses.
36-38	50/3	0.3	0.0	7.2	5:28	SAA compact
38-40	50/4	0.4	0.0	2.6	5:49	SAA compact.

(52)

(59) 9/17/93 (52)

7:00 TRO on site
Jack Grey to site
PW to site
Raining heavily
7:45 BWL on site
10:30 Finished drilling TB-07
Ready to grout.
11:00 Talked with Vita
need bubble wrap, cooler
and labels
1:00 TRO off site

Drilling	36.5
Spoons	1
Decon	.5

(53) TB-7 9/17/93 (54)

Downgradient of Tan Tanks

Depth	Blows	Rec	PID	Head	Time
0-2	9-6 5-5	1.0	0.0	0.0	7:35
2-4 ~~4-6~~	3-3 3-3	0.8	0.0	5.9	7 40
4-6	8-11 13-15	1.7	0.0	0.8	7:44
6-8	7-11 15-21	1.4	0.0	0.0	7:58
8-10	9-20 21-19	1.1	0.0	1.9	8:02
10-12	12-22 18-21	1.8	0.0	0.0	8:08
12-14	9-16 23-41	1.7	3.3	335	8:11
14-16	10-15 15-24	N/R	—	—	

Desc

0-.5 SAND + GRAVEL (FILL)

.5-2.0 Brown fine SAND + SILT, little clay trace fine gravel, soft, moist ~~grade~~ some clay slight chemical odor

Brown f-c Sand, some silt little clay, moist, stiff Some Red Stain

SAA 6-7.5

7.5-8.0 GREY-Brown f-c SAND little silt, moist, med stiff, little iron oxidation

~~SAA~~ Brown f-c SAND, little silt, trace f gravel, moist, stiff

Dk grey SAA

SAA slight chemical odor

NR Med Gravel piece in nose of spoon, moist to wet

(55)

TB-7

Depth	Blows	Rec	PID	Head	Time
16-18	13-15 22-27	1.0	3.9	15.9	
18-20	5-9 16-15	1.5	1.9	1.3	
20-22	10-12 15-16	1.5	0.6	0.0	
22-24	12-15 22-22	1.0	0.0	0.0	
24-26	10-15 15-27	1.1	0.0	0.0	
26-28	31-52 37-29	NR	—	—	
28-30	11-15 15-24	0.8	0.0	0.0	9:25

(56)

Desc

Dk grey f-m sand, little silt, moist to wet, stiff, slight chemical odor

Dark grey f-m sand little silt, trace f gravel, trace clay, moist, stiff slight chem odor

SAA

Dk grey SILT, some clay soft moist, no odor

26-27 SAA

27-28 Dk grey f-c SAND, little shale f-m gravel, trace clay, soft, moist-damp

N/R

Dk grey f-c SAND, some silt, little f-m shale gravel trace clay ~~soft~~ med stiff, moist to damp.

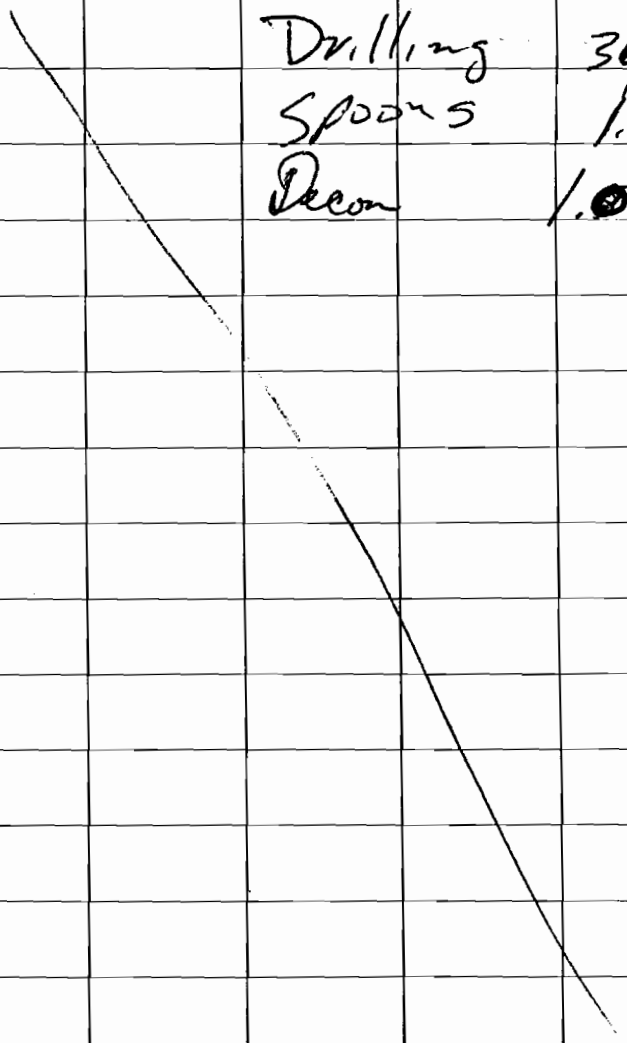
TB7

Depth	Blows	Rec	PID	Head	Time	Desc
30-32	18-15 37-37	0.8	0.0	0.0	9:35	grades to no clay, stiff damp.
32-34	20-20 47-32	1.1	0.0	0.0	9:43	Dk grey f-c SAND, Little f shale gravel, trace silt, damp, stiff.
34-36	27-50/3	0.8	0.0	0.0		SAA grades to very stiff
36-38	57/50/2	0.8	0.0	0.0	10:15	SAA

No Sample Taken

9/30/93

11:30	TKO to site Jim Hylind BWL + drillers waiting
12:00	Start TBS
3:15	Finished grouting FB-9
3:25	Set up on guard posts for Recharge pit BWL off site
4:00	Finish setting guard posts for Recharge Pit
5:00	Finished steaming TKO, JH + drillers off site.



Drilling	34 ft
Spoons	1
Decon	1.0 hr

4/20/93 TB-5

(61) Downgradient of Purifier

9/20/93

Depth	Blows	Rec	PID	Head	Time
0-2	7	0.8	0.0		12:10
	5-4				
2-4	3-3	1.1	0.0		12:17
	6-6				
4-6	6-9	2.0	0.0		12:19
	13-12				
6-8	16-17	1.5	0.0		12:23
	18-20				
8-10	6-10	2.0	0.0		12:27
	15-17				

(62)

Desc

0-0.2 Blacktop driveway

0.2-2.0 Brown f-c SAND f-m + GRAVEL some silt, trace clay some coal pieces, slight coal odor, damp, loose

Red-Brown fine SAND + SILT trace f gravel, trace clay lenses of f-m gravel sized coal pieces, ~~stiff~~ stiff, damp

4-4.5 SAA, moist

4.5-6 Brown fine SAND + SILT, very stiff, damp

SAA dry to damp

8-9 SAA Grey mottled

9-10 Brown SILT, little clay, dry to damp.

7628

63 TB-4 9/20/93

Depth	Blows	Rec	PID	Head	Time	Desc
10-12	11-13 15-21	2.0	0.0		12.35	Brown fine SAND + SILT, little clay, stiff, moist to damp
12-14	24-27 27-19	2.0	0.0		12.37	12-12.5 SAA 12.5-14 Dark Brown f-c SAND, little silt, little f-m gravel, stiff, moist to damp
14-16	10-14 13-13	0.2	0.0	2.2	12.48	Brown f-c SAND, some silt trace f gravel size coal, little clay moist, soft
16-18	16-16 30-35	0.3	0.0		12.52	Dk gray f SAND + SILT, Trace fine gravel, soft moist
18-20	4-13 19-22	0.8	0.0		13.06	Dk gray f-c SAND, some silt, little clay, moist-wet, soft slightly plastic
20-22	14-15 16-17	NR	NR		13.11	NR wet

64

(65)

9/20/93

TB-9

Depth	Blows	Rec	P.I.D.	Head	Time	Desc
22-24	17-19 19-24	1.0	0.0		13:18	Dk grey f SAND, some silt little clay, little f-m gravel, moist to wet, soft
24-26	13-12 17-20	2.0	0.0			Dark Grey-Brown f SAND some silt trace f gravel, damp, med st. ff
26-28	19-50/4	0.9	0.0		13:36	grades to little f gravel, st. ff
28-30	19-19 20-20	1.1	0.0		13:50	Dark Grey Brown f-c SAND, some silt little f-m shale gravel, damp st. ff
30-32	19-29 24-50	0.8	0.0			Grey-Brown f-c SAND, some silt, trace f-m shale gravel damp, st. ff
32-34	43-30 26-30	0.6	0.0		14:03	Dk grey f-m shale gravel, some f-m sand, med st. ff, moist
34-36	47-35 50/4	1.2	0.0			Dk grey f-m SAND, some silt, little f-m shale gravel, damp, very st. ff

Terminated hole as per Tim Hyland

(66)

No sample taken

(67) 9/21/93

7:00	TKO on site
	PW getting ready to set up on MW1D
7:50	Set up on MW1D and ready to start.
11:30	Finished drilling MW1D
13:30	Took Sample on Spoon & from MW1D
	GSVXB-730/C-DRUM
15:45	Finished grouting MW1D
17:00	PW TKO + JH off site

Drilling	37 Ft
Spoons	1
Decon	1.5 hr

(68)

(69) 9/21/93 MW-10 (

Upgradient deep

Depth	Blows	Rec	PID	Head	Time
0-2	9-11 8-7	1.8	0.0	1.4	8:10
2-4	2-4 5-5	1.6	0.0		8:14
4-6	4-5 8-5	1.6	0.0		8:18
6-8	15-20 25-37	NR		BZ 0.0	8:27
8-10	6-11 18-18	2.0	0.0	0.0	8:35
10-12	7-12 15-17	1.8	0.0		8:50
12-14	17-22 25-25	1.6	0.0		8:55

(70)

Desc

Blacktop driveway 0-0.2

0.2-0.3 Black stained slag

0.3-2 Brown f-c SAND and silt, little f gravel, trace clay, damp, med stiff.

2-4 SAA grades to little clay, trace f gravel

4-5.8 SAA

5.8-6 Grey f-c SAND + SILT little clay moist to damp, med stiff

Brown-Grey f SAND and SILT, damp, stiff

SAA

12-13.5 SAA

13.5-14.0 Grades to Dk grey

MW-1D

9/21/93

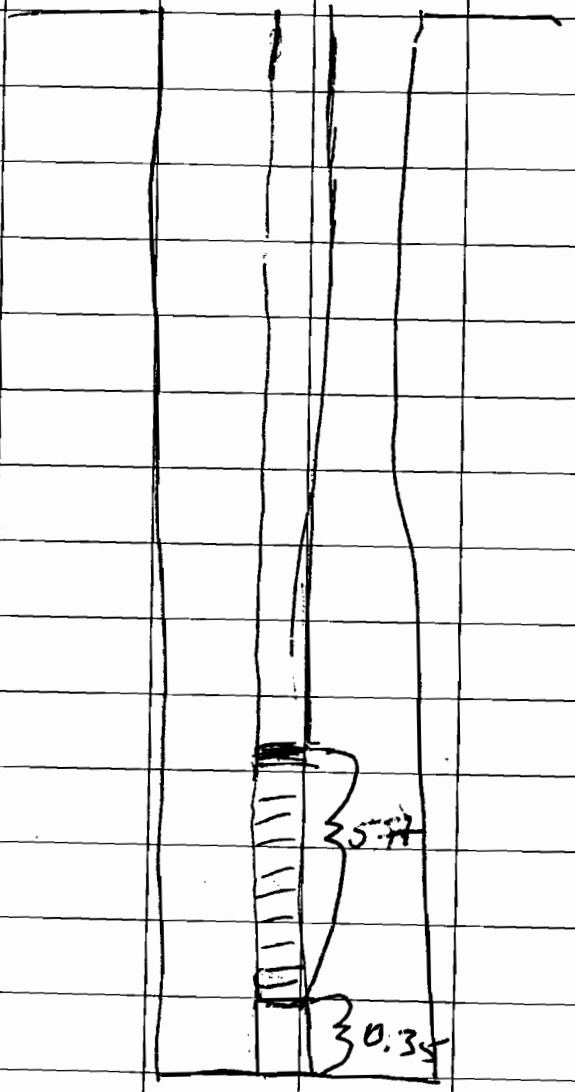
Depth	Blows	Rec	PID	Head
14-16	5-9 14-20	1.6	0.0	
16-18	33-15 15-50/3	1.0	0.0	
18-20	40-50/2	NR		
20.2	39-22 22-23	1.1	0.0	
22-24	23-20 21-20	1.0	0.0	
24-26	8-9 15-16	1.5	0.0	
26-28	14-20 21-23	1.8	0.0	

9/21/93

Time	Desc
9:06	Dk grey f-c SAND, some silt, little f-m shale gravel, trace clay, moist, med stiff
9:33	Dk grey f-c SAND little silt little f-c shale gravel, moist to wet med stiff
9:42	NR
	Dk Grey f SAND + SILT, some f-m shale gravel, damp, stiff
9:58	SAA
10:19	24-25.5 SAA grades to trace f-c gravel
	25.5-26 Dk grey f SAND + SILT, moist to wet, med stiff
10:25	Dk grey f SAND + SILT, damp to moist, med stiff 26-27.2
	27.2-28 @ grades with trace fine to med shale gravel

(73) 8/21/93 MW-1D (74)

Depth	Blows	Rec	PID	Hand	Time	Desc
28-30	12-19 22-20	1.2	0.0		10:38	SAA grades to little F-M shale gravel
30-32	9-13 14-10	NR			10:54	Spoon wet large gravel piece on end of spoon
32-34	15-12 12-17	1.0	0.0		11:00	Dk grey F-C SAND, some F-C shale gravel, moist to damp med ~~SAND~~ dense
34-36	19-26 32-62/.3	1.0	0.0		11:15	34-35.8 SAA 35.8-36 grades to very ST. FF and with little silt, damp.
36-38	50/.3	0.1	0.0		11:28	SAA



9/21/93

BOB - 37.61

Stem 37.1 - 37.6

Screen 37.05 - 32.05

Riser 32.05 - 0.0

Sand 37.6 - 30.5

Silica 30.5 - 30.0

Bentonite Grout Seal 30.0 - 27.0

Cement/Bentonite Grout 27.0 - 3

Screen- 10slot x 5 ft x 2 in

Stainless Steel

9/22/83

7:00	TRO arrives at site. ~~JH~~
	PW arrives to set up on MW 1S
7:15	JH arrives at site
~~7:30~~	PW set up on MW 1S
9:00	Finished drilling MW 1S
	Started setting well
9:45	Film crew from NYSEG
	arrived at site
10:15	Started filming operation
11:15	Finished grouting MW 1S
12:18	Steamed + ready to start MW 3D
16:00	Finished drill MW 3D (Jim Hyland off site)
	Started setting well
18:00	Well set. Started steaming
19:00	PW + TRO off site

Drilling 23 + 36

Spoons 2

Decon 2 hrs

Depth	Blows	Rec	PID	Head	Time	Desc
5-7	4-6 9-11	1.0	0.0		7:30	Brown f-c SAND and SILT, little clay damp, stiff, grey mottled
10-12	~~4-4~~ 6-12 16-18	1.8	0.0		7:57	Brown f SAND + SILT, trace clay, damp, very stiff, some grey layers throughout
15-17	10-14 12-16	1.8	0.0		8:24	Brown f-c SAND, some silt, trace f gravel, trace clay, med stiff moist to damp 15-15.8
						15.8-16 Brown f SAND + SILT, moist med stiff / 16.0-17.0 Dk grey f-c SAND, little silt + clay, trace f-m shale gravel, med stiff, damp
20-22	50/.45	0.4	0.0		8:44	Dark Gray f-m GRAVEL + f-c SAND, some silt, little clay, moist to wet, soft

(81) MW 1S 9/22/93

Depth	Blows	Red	PID	Head	Time
22-24	15 15	1.6	0.0		8:59
	15 17				

(82)

Desc

~~22-23.8~~ OK grey f-c SAND and f-m shale gravel, some silt little clay, moist, med stiff,

23.2 - 23.6 f SAND + SILT, moist soft to med stiff (loose)

BoB 23.0 ft

Sump ~~0-5~~ 23.0' - 22.65'

Screen 22.65' - 12.65'

Riser 12.65' - 0.0

#0 Silica Sand 23.0 - 11.5

#00 Silica Sand 11.5 - 11.0

Bentonite Seal 11.0 - 8.0

Cement/Bentonite grout 8.0 - 0.0

MW-3D 4/22/93

Downgradient of Tar Pit + Gas Holder =

Depth	Blows	Rec	PID	Head	Time	Desc
0-2	5-13 14-8	N/R	0.0	0.0	12:46	N/R Dark Brown f-c SAND +
2-4	8-6 5-8	N/R	0.0	0.0	12:49	f-c Gravel, some coal pieces loose, damp, some black staining Described from auger cuttings
4-6	6-8 6-9	1.6	0.0	0.0	13:04	4-4.8 SAA 4.8-6 Brown f-c sand + SILT, trace f gravel, damp, med st. ff
6-8	8-6 7-8	1.5	0.0	0.0	13:08	SAA
8-10	10-10 13-15	1.8	0.0	0.0	13:14	SAA ~~grades to~~ st. ff, Brown SILT, some f SAND
10-12	13-18 24-21	1.8	0.0	0.0		SAA, strong, damp SAA
12-14	10-30 50/0.2	1.8	0.0	0.0	13:29	SAA 12-13.5 13.5 f-c SAND, little f gravel, damp med st. ff
14-16	9-9 21-15	1.8	0.0	0.0	13:45	14-15.8 SAA 15.8-16 Dk grey f-c SAND, some f-m Shell gravel, little silt + and Clay moist to damp

MW-3D

9/22/93

Depth	Blows	Rec	PID	Head	Time	Desc
16-18	9-12 16-20	1.4	0.0	0.0	13:54	SAA
18-20	4-5 13-9	1.0	0.0	0.0	14:12	Dk gray f-c SAND and f-m shale gravel wet, med dense trace silt
20-22	10-10 7-9	1.0	0.0	0.0	14:15	20-21.5 SAA 21.5-22 Dk grey f-c SAND, little f gravel, trace clay, moist to damp med stiff
22-24	10-13 13-12	0.8	0.0	0.0	14:27	SAA
24-26	6-15 15-21	1.1	0.0	0.0	14:40	SAA grades to some f-m shale gravel moist
26-28	9-20 13-17	1.0	0.0	0.0	14:49	SAA grades with little f-m shale gravel, trace silt
28-30	5-7 11-14	0.5	0.0	0.0	15:03	Dk grey f-c sand + f-m gravel, wet loose.

Depth	Blows	Rec	PID	Head	Time	Desc.
30-32	7-16 13-10	1.0	0.0	0.0	15:11	Dk grey f-c SAND and f-m Shale gravel, loose, wet
32-34	19-20 23-22	1.1	0.0	0.0	15:18	32-33.5 Dk grey f-c SAND and f-m shale gravel, loose, wet 33.5-34.0 Dk grey f-c SAND, some silt, trace clay, moist, dense
34-36	21-30 50/0.3	1.2	0.0	0.0	15:39	SAA gravels & very dense
36-38		1.1	0.0	0.0	15:57	Dk grey f-c SAND, some f-m shale gravel, little silt, trace clay, damp, stiff

BOB 36ft

Sump 36.5 - 36.15
Screen 36.15 - 31.15
Riser 31.5 - 2.5
#0 Silica Sand 36.5 - 30.5
#00 Silica Sand 30.5 - 30.0
Bentonite Seal 30.0 - 27.0
Grout 27.0 - 0.

7/03/93

6:50 TKO to site

7:00 PW circ. drilling

10:30 Finished MW 20

Started setting screen

12:30 Finished setting MW-20

13:00 Finish Deco

13:30 Started MW-25

14:30 Finished drilling MW 25

Started setting well.

15:30 Finished setting well

16:00 Finished grouting ready to set pads for well completed

17:30 TKO + JH off site

Drilling 36.4 + 22

Spoons 0

Deco 1.5 hrs

9V | 9/23/53 | MW-2D

Depth	Blows	Rec	PID	Head	Time	Desc
0-2	3-5 5-4	1.0	0.0	0.0	7:36	0-1 Brown f-c SAND + f-m gravel little silt, some C Sand size coal pieces, some black staining damp loose 1-2 Brown f-c SAND and f gravel some silt, trace clay, damp, loose
2-4	3-2 2-2	1.0	0.0	0.0	7:41	Brown f-c SAND + f-m GRAVEL trace red brick, some f-m gravel sized pieces coal
4-6	3-4 3-3	1.7	0.0	0.0	7:51	4-5.0 SAA 50:50:2 Red f-c Sand 5.2-6 f-m Coal gravel, little f-c sand, damp, loose
6-8	7-7 10-8	1.5	0.0	0.0	7:56	Brown f-c SAND + f-m gravel some f-c SAND size coal pieces, damp, loose, some black staining
8-10	4-6 8-8	2.0	0.0	0.0	8:02	8-8.8 DK Brown f-c SAND and f gravel, little f gravel size Coal, trace clay 8.8-10 - Brown f-c Sand and SILT, little f gravel damp, med stiff.

MW-2D

9/23/93

Depth	Blows	Rec	PID	Head	Time	Desc
10-12	5-6 6-6	1.6	0.0	0.0	8:07	Brown f-c SAND + SILT, little f to med gravel, med stiff, damp to moist
12-14	6-8 8-8	1.5	0.0	0.0		Grey, green, brown f-c SAND + f gravel some silt + clay, plastic, moist, soft
						14-14.5 SAA
14-16	15-21 24-22	1.5	0.0	0.0		Dk grey f-c SAND + SILT, some f-m shale gravel, moist, stiff 14.5-16
						16-17.5
16-18	15-21 28-28	1.5	0.0	0.0	8:28	Dk grey f-c SAND and silt little clay, moist, med stiff
						17.5-18 grades with f-m shale gravel less silt, moist to wet
18-20	8-14 20-15	0.8	0.0	0.0	8:36	SAA 20-20.5 SAA
20-22	35-19 14-15	1.0	0.0	0.0	8:45	20.5-21.5 Dk grey f-c SAND and silt, wet to moist, med stiff
						21.5-22 Dk Grey f-c SAND, some silt wet to moist, med stiff

MW-20

9/23/53

Depth	Blows	Rec	PID	Head	Time	Desc.
22-24	19-19 27-50/0.3	1.0	0.0	0.0	8:49	DK grey f-c sand, some f-m shale gravel, little silt, soft, wet,
24-26	50/0.3	N/R			9:11	
26-28	19-21 27-30	0.8	0.0	0.0	9:28	Dk grey f-c SAND, some f-m shale gravel, little silt, damp, med stiff
28-30	37-38 41-26	0.8	0.0	0.0	9:37	Dk grey f-c SAND + f-m shale gravel, damp + moist, med stiff
30-32		0.4	0.0	0.0	9:52	SAA
32-34		0.5	0.0	0.0	9:58	SAA
34-36	60/.5	0.5	0.0	0.0	10:18	Dk grey f-c SAND + f-m Gravel, some silt, damp, stiff

BOB 36.4

Bump 36.4 - 36
Screen 36 - 31
Riser 31 - 0.0
#0 Silica Sand 36.4 - 29.5
#00 Silica Sand 29.5 - 29.0
Bentonite seal 29.0 - 26.0
Cement/Bentonite grout 26.0 - 0.0

(97)

MW-25

9/23/53

Depth	Blows	Rec	PID	Hload	Time	Desc
5-7	6-4 3-2	1.1	0.0	0.0	13:45	5-6.5 Brown f-c SAND and f-m GRAVEL some silt trace Red brick dump 6.5-7 Black f-m. gravel size coal pieces loose some f-c SAND., damp, loose
10-12	6-8 9-10	1.8	0.0	0.0	14:00	10-10.5 SAA 10.5-12 Brown f. SAND + SILT some Red staining throughout, damp medstiff
15-17	8-12 15-17	1.8	0.0	0.0	14:17	15-15.8 SAA 15.8-16.8 Dk grey f-SAND + SILT trace fine Shale gravel, moist, med dense 16.8-17.0 f SAND + SILT, wet med dense
20-22	22-24 14-17	1.5	0.0	0.0	14:28	Dk grey f-c SAND + SILT, little f gravel, med dense, damp. BOB = 22.0

(98)

MW-25

9/23/93

Sump	22 - 21.6
Screen	21.6 - 11.6
Riser	11.6 - 0.0
#0 Silica Sand	22 - 10.0
#00 Silica Sand	10.0 - 9.5
Bentonite seal	9.5 - 6.5
Cement/Bentonite grout	6.5 - 0.0

9/24/53

7:00 TRO + JH to site

9:30 Started drilling MW 28

8:30 Finished drilling MW 28

12:00 Finished grouting, setting pads and bollards. Finish decon 7 guards pipe used total. + 4 barrells from PW

12:30 TRO + BWL off site

Drilling 22.5 ft

Decon 1.5 hrs

(103) MW-35

7/24/93

Depth	Blows	Rec	PID	Head	Time	Dose
5-7	6-7 8-9	2.0	0.0		7:41	5-6 DK Brown f-c sand, loose, moist, Creosote odor 6-7 Brown f SAND and SILT trace clay, mod st. ff, damp.
10-12	9-14 17-20	1.7	0.0		7:57	Brown f SAND + SILT, trace clay, some grey mottling, mod st. ff damp
15-17	12-50/0.2	0.3	0.0		8:12	Brown f-c SAND, little silt, med dense, damp (Possibly on a boulder)
20-22	29-17 9-15	1.0	0.0		8:29	DK gray f-c SAND & f-m shale gravel, trace silt, moist to wet, med dense

BOB = 22.5

(104)

MW-35

Sump 22.5 – 22.1

Screen 22.1 – 12.1

Riser 12.1 – 2.5

#0 Silica Sand 22.5 – 10.5

#00 Silica Sand 10.5 – 10.0

Bentonite seal 10.0 – 7.0

Cement/Bentonite grout 7.0 – 0.0

9/27/53

11:00 TKO to site Tracy B

writing

11:15 PW to site

11:30 Started TB-10

1:00 Finished TB-10

2:30 Measured Tem drip

0.65 ft deep x 1.3 feet

diameter

3:20 Sampled Water pit inside

Bldg. Sample #G55IB5511B

pH = 8.55

SpecCond 973 u℧/cm

Drilling 20 ft

Spuns 2

Staging

9/27/93 TB-10

Depth	Blows	Rec	PID	Head	Time
0-2	7-14 25-21	1.2	0.0	125.9	11:37
2-4	6-5 5-10	0.2	0.0	42.7	11:43
4-6	9-6 5-5	2.0	10.4	160.0	11:46
6-8	6-5 4-4	1.5	276.0	NA	11:53

Desc

0-0.5 Brown f-c SAND + f-m GRAVEL damp, loose

0.5-1.0 Brown f-c SAND + SILT med stiff, damp.

1.0-2.0 Black f-c SAND, + f-m gravel sized coal, little clay, stiff, damp, slight creosote odor

SAA

4-4.8 SAA

4.8-5.5 Black f-c SAND, some f gravel, little silt, loose, damp

5.5-6.0 Granules to dk grey, and trace clay, trace brick pieces slight odor

6-7.2 Brown f-c SAND + silt, little clay damp med stiff

7.2-8.0 Dk grey f-c SAND + Silt some clay, Moist to damp soft

9/7/93 TB 10

Depth	Blows	Rec	PID	Head	Time	Desc
8-10	6-7 9-10	0.8	172.6	NA	12:00	Dk grey f SAND + SILT
GSVIB-93	10-12	Possible sample				little clay, damp, med st. ff
10-12	6-6 9-13	1.0	161.1	585	12:05	SAA, trace wood pieces
12-14	22-31 28-34	2.0	46.1	30.5	12:12	Grey-brown f-c SAND, some silt damp, med stiff, Lense of f-c sand size coal 12.3-12.4 13.5-14 grey f SAND + SILT, little clay moist med st. ff
14-16	3-5 8-10	1.1	11.1	66.2	12:21	SAA, grades to moist to wet
16-18	12-16 13-13	1.3	5.1	20.5	12:25	SAA, grades to wet
18-20	6-9 9-13	1.5	6.6	2.2	12:35	SAA grades to damp, with little f-m Sand gravel
20-22		2.0	0.0	17.8	12:46	Dk grey f-c SAND + f-m gravel, trace silt + clay moist, med st. ff
22-24		1.5	10.4	2.2	12:50	SAA 22-23.5 23.5-24. Dk grey f-c SAND + f-m gravel, trace silt, damp, med stiff

9/27/93

Development

MW 1S

pH	Spec Cond.	Temp
8.36	1575	16.4
8.07	1518	15.1
8.94	1510	13.8
8.0	1518	14.0

Done

MW-3D

	pH	Spec Cond	Temp
Start	7.5	958	14.8
2 vol	7.4	1206	13.7
4 vol	7.5	1193	13.5
6 vol	7.5	1186	13.2
7 vol	7.44	1187	12.7
8 vol	7.34	1194	13.4
10 vol	7.48	1234	12.4

Done

9/28/93

Start

5 Vol

7 vol

9 vol

Well depths		pH	Cl	Vol
MW 1S	23.01	7.32	15.69	2.6
MW-1D	36.75	11.14	25.61	4.2
MW 2S	21.75	5.03	16.72	2.7
MW 2D	35.55	7.30	28.65	4.7
MW 3S	24.51	10.20	14.31	2.3
MW-3D	36.74	10.41	26.33	4.3

9/28/93

MW-2S

Development

	pH	Spec Cond	Temp
Start	7.91	1062	14.8
3 vol	7.38	1181	14.6
5 vol	7.29	1176	14.4
	Done		

MW-3S

	pH	Spec Cond	Temp
Start	7.47	1975	14.4
3 vol	7.58	1913	13.3
5 vol	7.32	1868	14.0
7 vol	7.30	1884	13.9
	Done		

9/28/93

MW-1D

	pH	Spec Cond	Temp
Start	9.5	1781	13.2
3 vol	8.45	681	13.3
5 vol	8.17	665	13.8
8 vol	8.19	667	13.2
	Done		

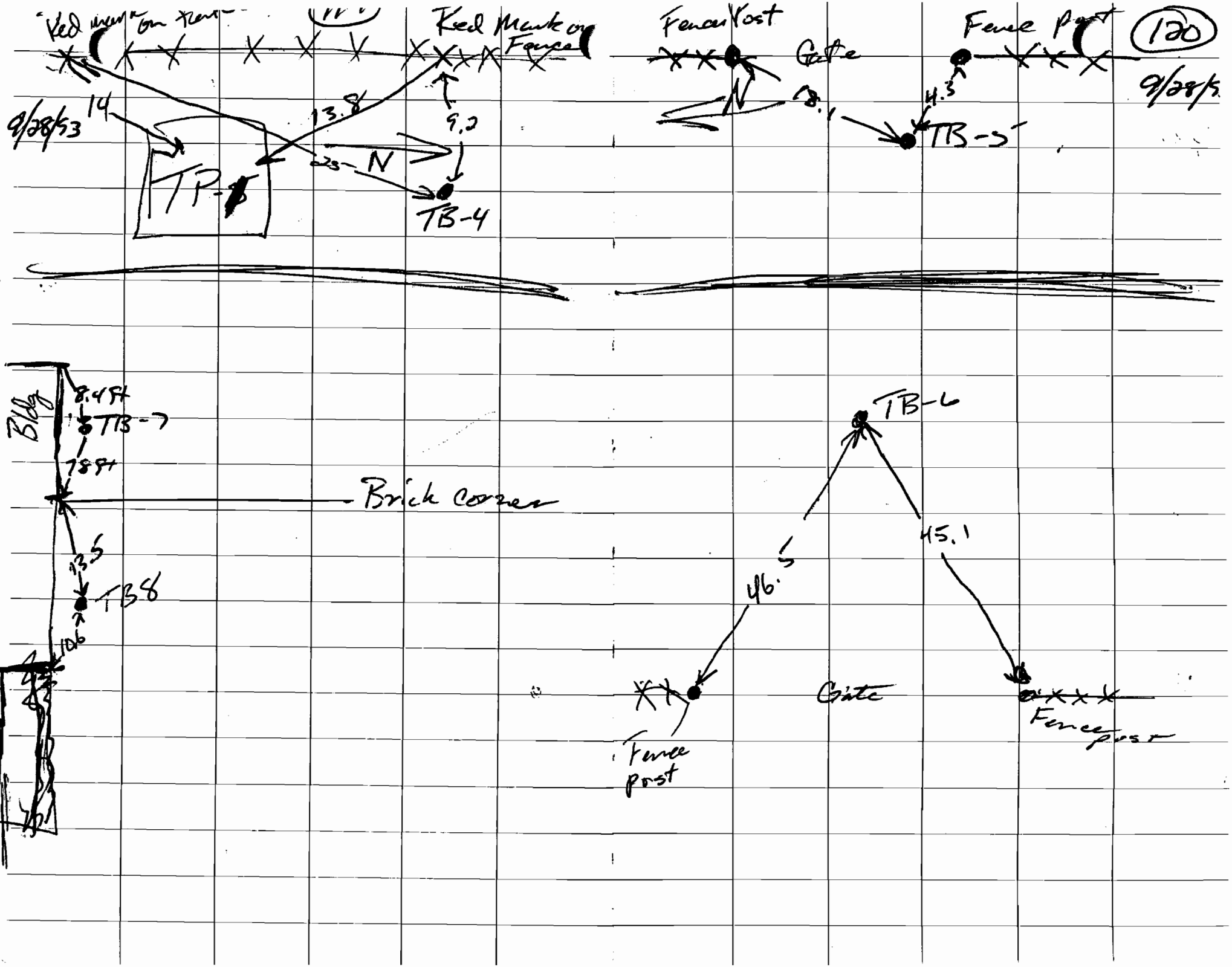
MW-2D

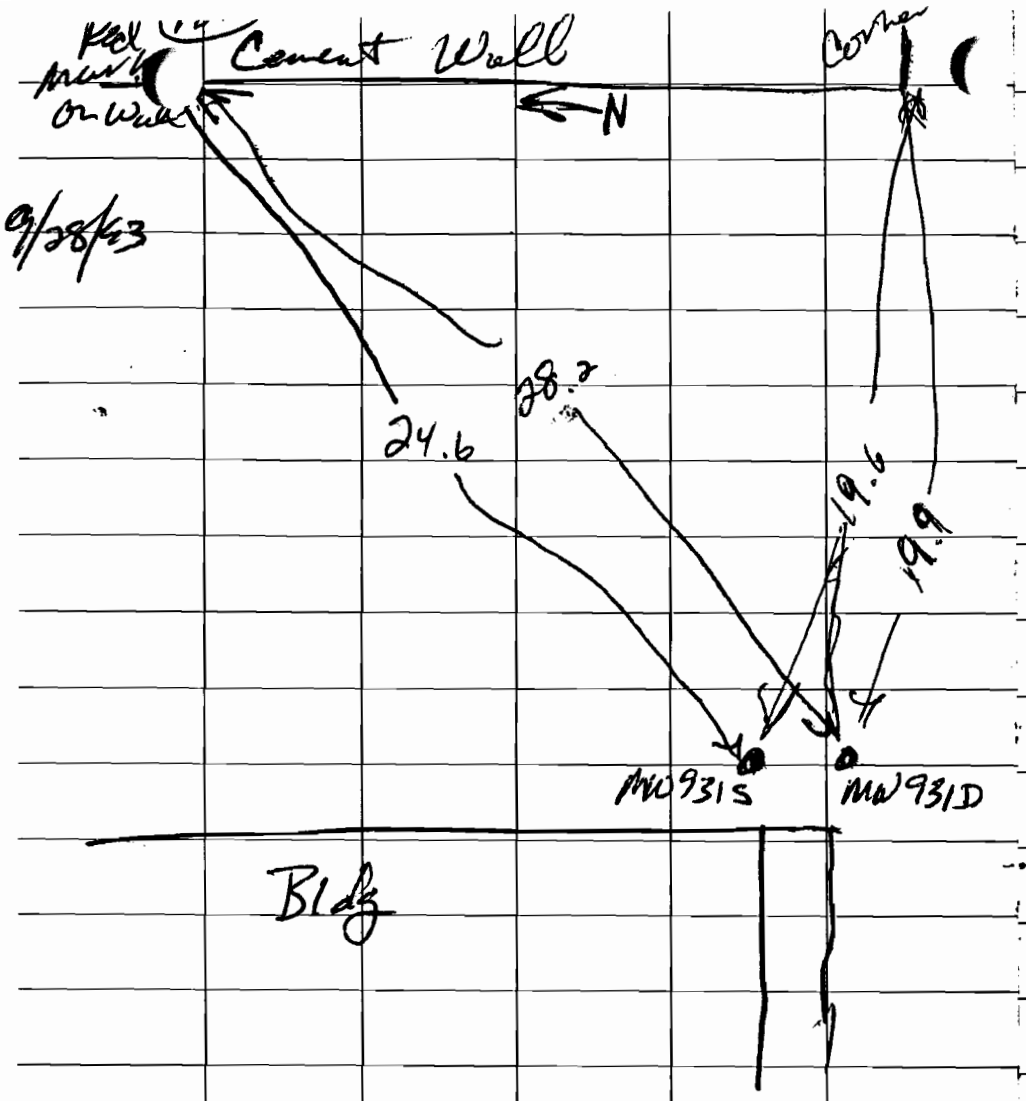
	pH	Spec Cond	Temp
Start	7.32	1070	14.1
3 vol	7.37	1310	13.7
6 vol	7.35	1212	14.6
11 Vol	7.41	1226	12.6
13 Vol	7.43	1205	12.8
	Done		

9/28/13 (117)

6[50] TKO and PW on site
PW start stringing barrels
TKO start developing MW 1D
and MW 1S
0[00] BWL to site
13[30] Finished developing all wells
loaded supplies from the trailer
into Van
15[30] Measured all test borings and
wells. to located.
16[30] TKO + BWL off site

(118)


Red mark on fence
Red Mark on Fence
Fence Post
Gate
Fence Post
9/28/53
14
13.8
9.2
25° N
TP-1
TB-4
8.1
4.3
TB-5
9/28/53
Bldg
8.4 ft
TB-7
78 ft
Brick corner
13.5
TB-8
10.6
TB-6
45.1
46'
Gate
Fence post
Fence post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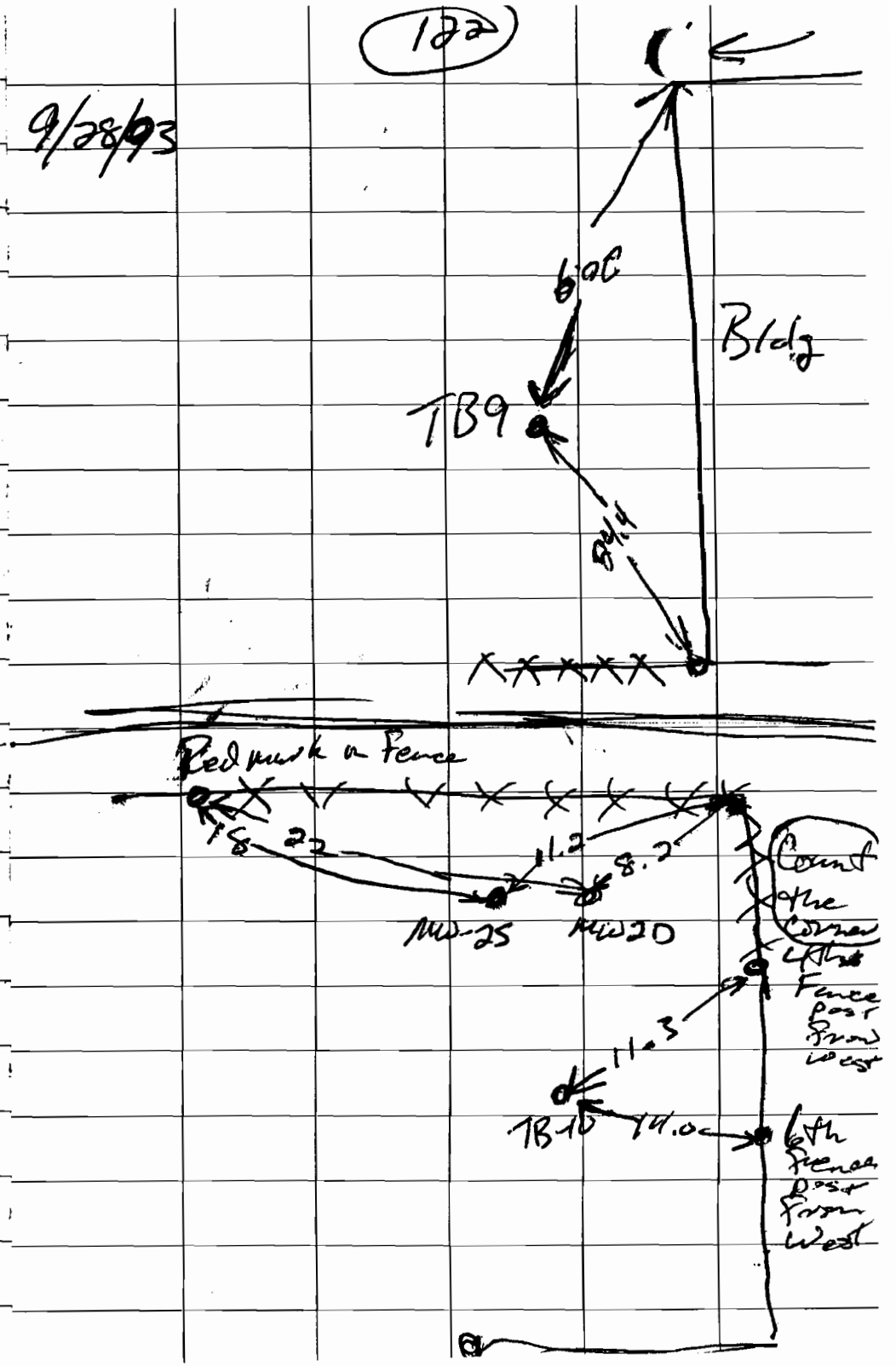
Corner
N
9/28/93
24.6
28.7
19.6
19.9
MW931S
MW931D
Bldg


9/28/93
bOC
Bldg
TB9
Red mark on Fence
TB 22
11.2
8.2
MW-25
MW20
Count to the Corner Left of Fence Post from West
11.3
TB-10
14.0
6th Fence Post from West

Tuesday January 25, 1994

Weather: Cloudy + Cool 35°F

BW Lovgren on site to sample six(6) wells for the 2nd round @ 0800

0815 Round of water levels taken and:

MW#	DTW	DTB	Time
1S	9.30	23.01	0850
1D	15.12	36.75	0855
2S	10.10	21.75	0900
2D	13.11	35.95	0903
3S	11.43	24.51	0910
3D	14.21	36.74	0912

0915 MW-1S - Start Purging

Water Column = 13.71 · 0.1632 = Vol in gal

One Volume = 2.34 gal

Three Volumes = 6.71 gal

Water Volume removed = 7 gallons

0950 Time Sampled

Characteristics: Turbid - Grey in color

Temp = 12.2°C

Spec Cond = 155 ohms/cm

pH = 5.92

1010 MW-1D Start Purging

Water Column = 21.63 · 0.1632 = Vol in G

One volume = 3.53 gal

Three Volumes = 10.6 gal

Water Removed = 11 gal

1030 Time Sampled

characteristics: Turb. grey in color

Temp = 12.4°C

Spec Cond = 63 ohms/cm

pH = 5.45

1105 MW-25 Start Purging

Water Column = 11.65 · 0.1632 = Vol in Col

One Volume = 1.90 gal

Three Volumes = 5.70 gal

Water Volume Removed = 6 gal

1215 Time Sampled

Characteristics: Turbid - grey in color

Temp = 11.4°C

Spec Cond = 108 ohms/cm

pH = 6.05

1220 MW-2D

Water Column = 22.84 · 0.1632 = one Volume

One Volume = 3.73 gallons

Three Volumes = 11.18 gallons

Water Removed = 12.0 gallons

1300 Time Sampled

Characteristics: Turbid - grey in color

Temp = 11.4°C

Spec Cond = 111 ohms/cm

pH = 5.10

1310 MW-3S Start Purging

Water Column = 13.09 · 0.1632 = One Volume

One volume = 2.13 gallons

Three Volumes = 6.40 gallons

Water Removed = 7.0 gallons Complete Evac

1345 Time Sampled - *MS, MSD Collected

Characteristics: Turbid Brownish Grey

Temp = 11.6°C

Spec Cond = 173

pH = 5.10

* MS & MSD collected Also

1410 MW-3D Start Purging

Water Column = 22.53 · 0.1632 = One Volume

One well volume = 3.68 gallons

Three well volumes = 11.03 gallons

Amount removed = 11.5 gallons

1445 Time Sampled - *Duplicate collected here

Characteristics: Turbid - Brown Grey in color

Temp = 11.4°c

Spc Cond = 112 ohms/cm

pH = 5.05

* Duplicate collected here

1515 B. Lovgren offsite

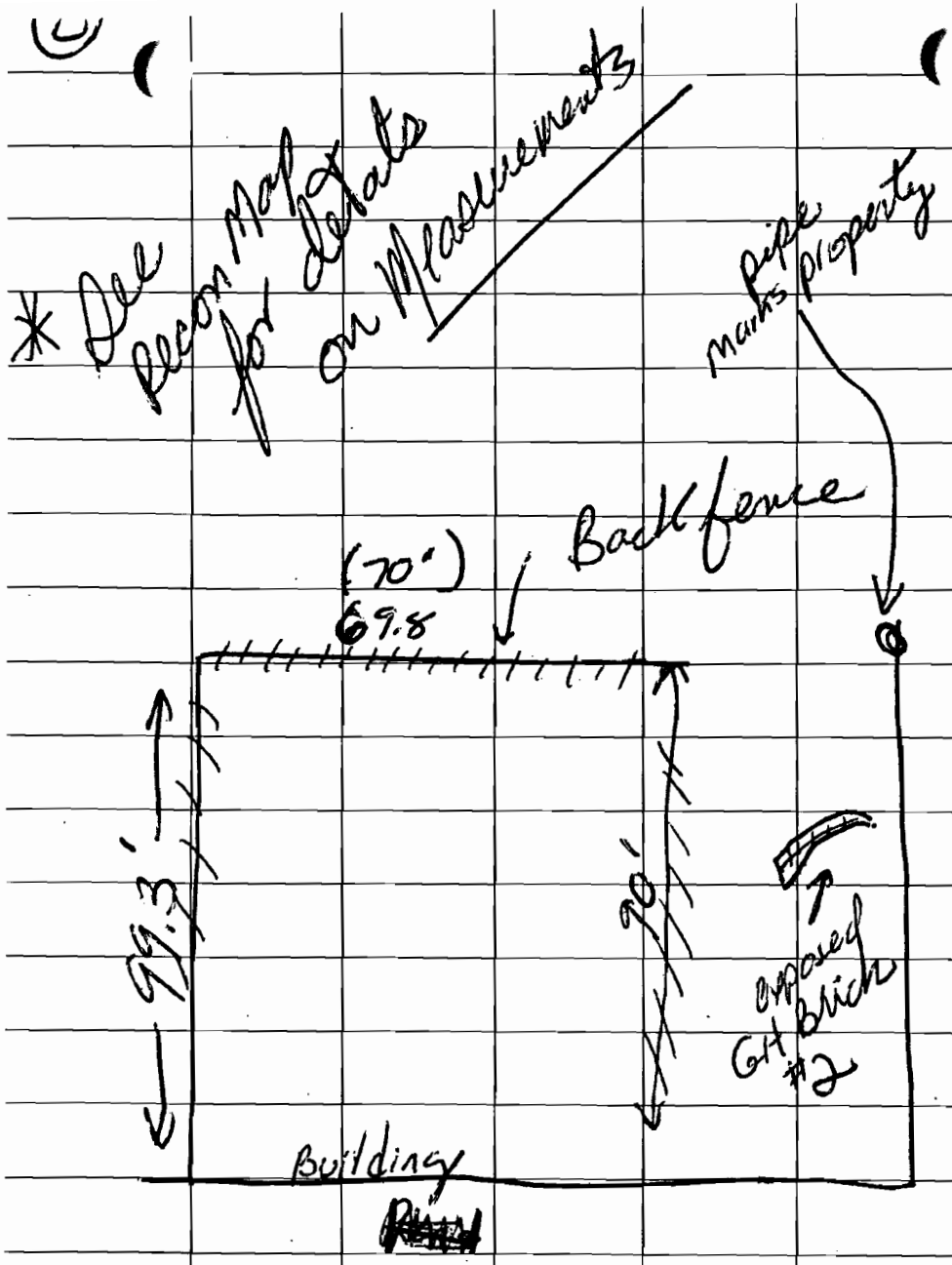
9/9/93

Goshen

Site Recon. VAD, TRD, TB

8ve onsite meet w/ Toni Darazio

- T.D. gave us 2 Survey maps he had in file - one has a 1969 Date
- Marking location / make measurements
- The NYSEG property boundary Size and site Map Size are consistant However, the representation of the fence + back p. Boundary are not accurately represented on site and NYSeg Survey Map But, we do have p.B. stakes to avoid going off our property line -



- NYSEG May want B&B Survey team to pick up the fence + property line
- Site is very tight
  - NYSEG trucks - piping
  -
- MANY NYSEG trucks park in the fence area

- Visit to Historical Society
- 1875 map Orange County Beers atlas
  Site owned by J.A. Wallace
  open area
- 1894 Sanborn Map
- 1922 Aero View map -
  (shows artist rendition of Gas works, 2 Gas Holders)
- 1903 Atlas plate 35
- 1985 Real Estate Records

(4)

- historical society Maps interesting, provide no pertinent new information

- 1975 aerial photo 1" – 1000
1980 aerial photo 1" = 1000
shows a building structure north of the Main building, along the River bank –
What building is this?
Lime kiln?
or
Stream runs thru a Section of trees –

- 1945 aerial photo (Small Scale)
- 1963
- 1955 Scale
- 1971 1" = 14500

(5)

- Tax assessors office

Tax Map Orange C / village of Goshen
Revised 3-1-93
~~[illegible]~~
parcel 16 Section No. 111
Size: photo No 29-160, 161
125'
119.5
→ Survey Map Says 129.5'

~~Tax Map~~ ~~block~~ No 10
Deed Book 1874 PG 00621

neighbors
17 → HL & FH Realty Corp
287 West Main St
Goshen NY 10924
15 → Evin Reality Corp
152 Boulevard
Passaic NJ 07055

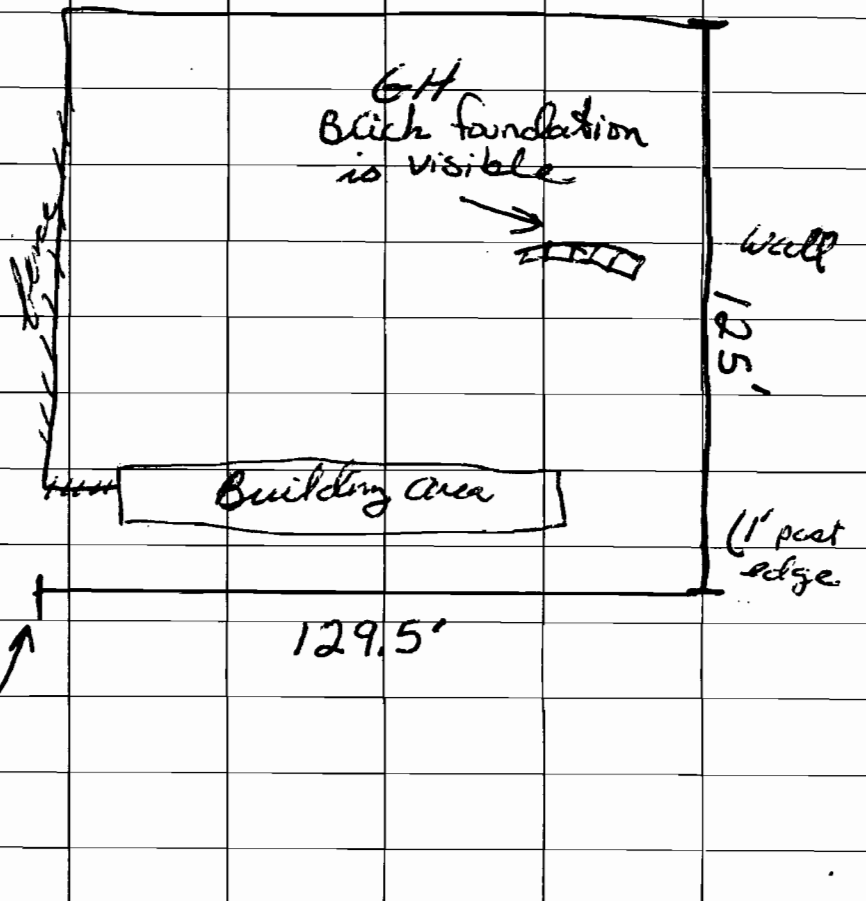
1897 PG 00313
3704 PG 347

- County Building Deeds

book 727 pg 426 3/19/1932

- Size 150' x 125' lot described in a deed dated feb 8, 1878
O.C.R. of deeds Book 283 pg 549
John H. Murray reference to William M. Sayer
-Sayer Lumber Co to John H. Findlay April 11, 1913
Book 541 pg 20
also Sayp 100' x 125'

-100 at site to continue measurements



Need to keep all locations in the fence line to be safe

(8) 9/9

3rd Talk w/ Toni Dorazio

- Need to keep within fence
- x a Sewer owned by NYSEG runs from the Bldg - to the NW Corner of site - Can't Mark it out exactly - Says if we hit it - then no big deal - NYSEG will fix it No Way to Mark it out
- 10" gas Main runs Parallel to the R. Wall
- gas line from Bldg, then parking area outside of fence to the NE River Between the two Gas Holders

- Toni did not mark out any of these lines He did look at Spots we marked and okayed them.
- The real trouble Spot is the NW corner where pipe is stored, this area will be needed to put the MW Cluster
- Upgradient Well needs to be close to Side Walk go with stick-up

end

9/9 (9)

(10) "Monday 13th" Mob. day

Daily Log

10^40 – Arrive on site
TRO, VAD, TB, MarkEaves (PW)
Setup Equipment, PID Calib –
Mark to get wood for Decon Pad
Nysag Truck Parked over Decon area
have to wait to have it Moved
12^30 Moved truck begin decon pad Setup
1^20 Move onto TP1
PID is not operable
Called RL, Send one tomorrow
3^00 – Closing up TP-01
3^10 – Steam Cleaning
3^20 Start TP02
5^20 TP02 + TP02A Backfilled
Decon
5^45 Set up on TP03

(11)

Daily Log cont.

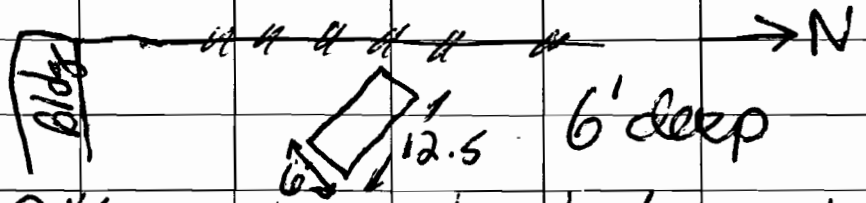
7^00 Covered TP03
Leave Site

Drilling Summary

Backhoe – 10hrs
Decon – .5 hrs

SOURCE

TP-1 Furnace Area



P#1 → before dig - looking North

0-2' Brown f-c Sand, trace gravel

2' Red brick fragments
Black stained Soil ("more like coal staining not tar)
concrete "chunks" Pieces

P#2 facing NW Side of TP
Brick foundation
E-W may be a wall - stacked Brick
Black staining in thru Brick
5' SAA
NO ODORS NOTED
6' concrete foundation under Brick wall

2' SE side of TP - metal sheets w/ tar adhered, slight odor
5.5' - 2 wood 2x6
Bricks continue
Some of the bricks are tan fire bricks - Soil Black Stained
6' H_2O at bottom of Excavation
slight C.T. odor, water entering from sides
(Floor? at 2') West wall - 3' metal pipe 1"
Area uniformly Bricks (Red + fire)
Trace wood + sheet metal.
odor at V primarily
oil sheen on V, slow H_2O seepage
Dräger benzene = slight positive

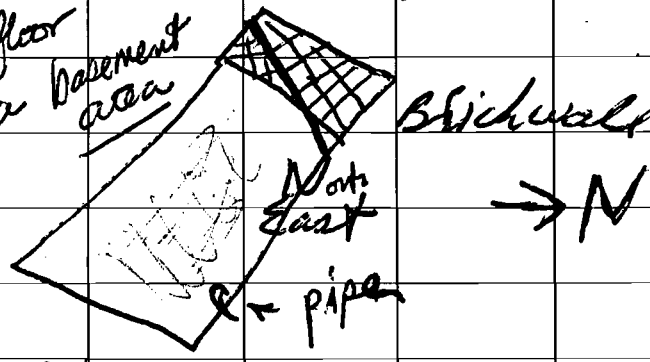
Sample 6' - GSVI TP9301G6

P#3 North facing

(14)

TP-1 Cont'd

Concrete slab at 6' with H_2O entering excavation from sides, may not be ▽ Only perched on concrete (?) Water has oil sheen, Slight odor,



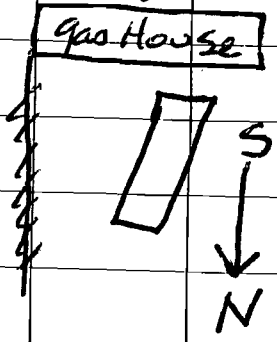
at 2' on North East wall appears layered 1" thick concrete slabs (like bricks) that may have been a floor

- Soil throat was black stained, no odors, More like Coal Staining not Coal tar residue

TP 2 Gas Holder

(15)

P4 - Before Excavation



1.5' Black staining, some brick

2' turns to brick fragments, some slag + wood fragments, Black stained, NO ODOR

4.5' Wet at Bottom of hole Slight odor, no observable sheen odor dissipates quickly Sheen developed on water after a few minutes

- last bucket had scraped →

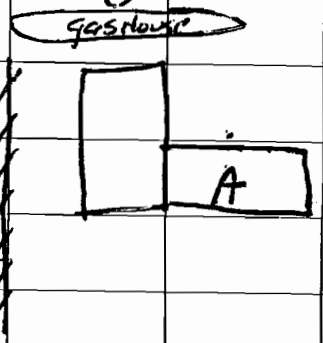
TP02 contd

pieces of clay (4.5 feet)
Clay was grey with
little fine angular C-sand/
f-gravel
Dug to 5+' into clay
? Is the clay in place/native
Water entering hole fast from
side walls
Soil is black stained above
clay - Some staining in clay

Sample:
GSVITP9302G4.5
duplicate
GSVITP9302G

Sampled Stained Soil above

Expanding TP02 TP02A



looking for Edge of GH #1

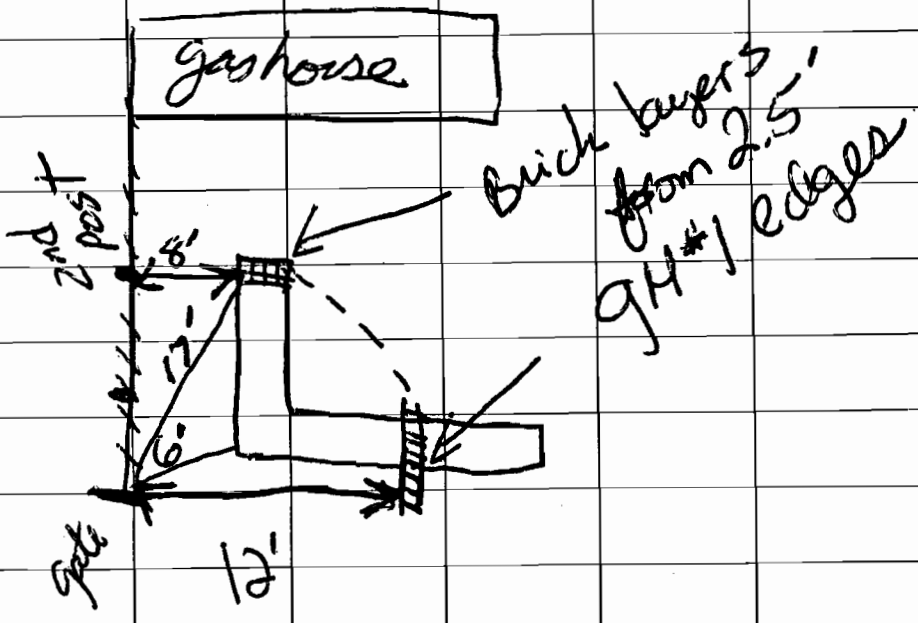
A' - upper feet gravel fill and Brick
Can see the edge of GH wall on both ends of the test pits

The Side of the TP West of Wall in A is grey clay/silt material much different than inside TP (GH #1) area

No observable staining or other debri Material

TP02 cont'd

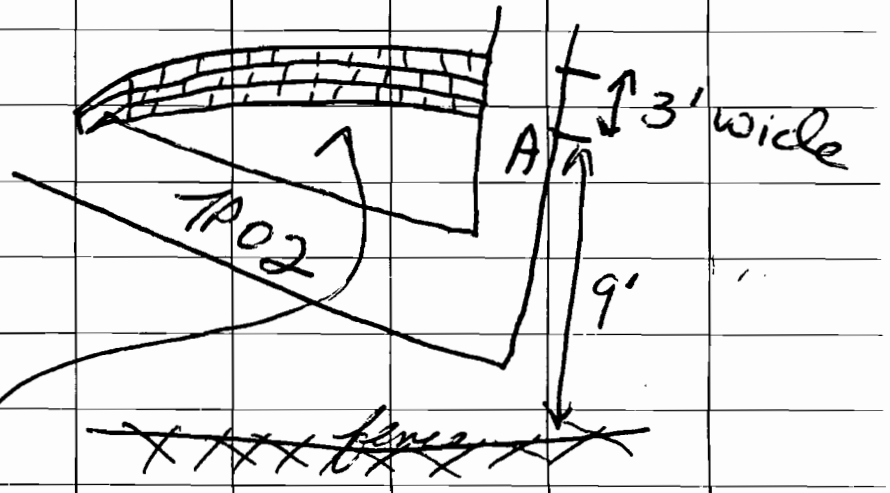
Wall, as measured on Westside is 4.5' dep
TP02A went to 5.5 on West End & side
the GH#1 Wall



P#6 - GH#1 west side of wall
P#7 GH#1
N P#8-10 wall

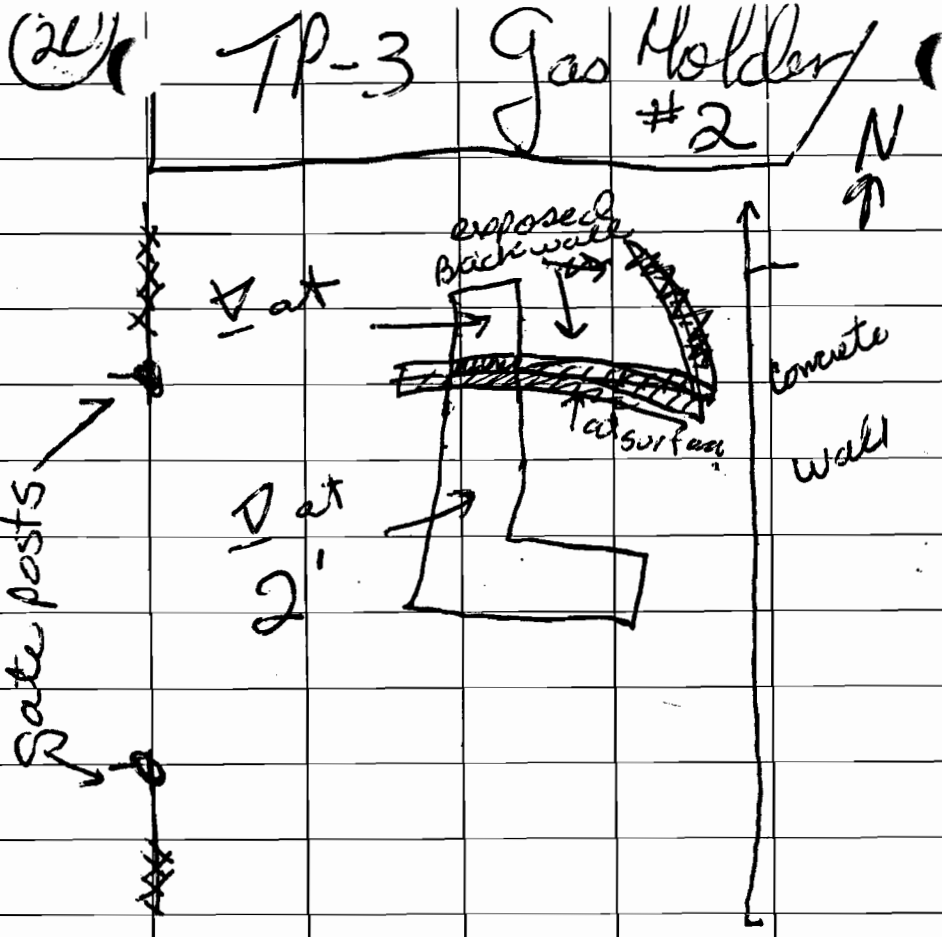
TP02 cont'd

* Uncovered west Sidewall showing inside of wall w/ Circular arch



This soil material slid away from wall to expose it intact

TP-3 Gas Holder #2



(obviously not to Scale)

P# 11+12
Gas Holder Wall, perched Water
13, 14, 15
North to South
Wall + Sampling

9/-

- 0-1' Gravel fill Cover
- 1'-2' Black Stained Some Brick fragments
- 2' Water entering hole Slight odor, Sheen Continue Black Stained Soil, brick, inside holder GH #2 walls

Outside N wall -
grey brown f Sand + Silt, some Clay hard, compact - dry to damp no odor, no signs of C.T.

TP on N outside of GH 2 extends to 7 feet - the Brick wall extends to 7 feet
Brick Wall extends out at 7' like it is the foundation

9/13 TP03 Cont'd

- No evidence of C.T. or other Contamination on outside of GH2

V entering Outside N end of TP02 at 7 feet
slight odor at 7 feet

Sample inside GH2 at 7'
Black Stained fill, brick frag

GSVITP9303G2 ←
MS/MSD
GSVIMS9303G

Send for full Waste Characterization
TCLP, TPH, RCRA, etc....

Material outside GH2 is fine Sand + Silt, some Clay grades to Silt + Clay at ~4.5'
Water Seeps slowly into hole - Most prevalent from GH2 wall side — No observable sheen

END 9/13

7/14/93 Tuesday

Daily Log

7:30 Arrive on site
Picked up ICE
Will Start w/ ~~Tank Uncovering~~ last finished
need to move some pipe with backhoe to access area.
Will wait until PID arrives to do the Tank Uncovering.
TP04 had to be moved from target area due to piping + Misc Storage Equipment piles

8:00 Start TP04

8:30 Closing up TP04

9:10 Start TP05
photographer arrives
Set up block in driveway to do the tank next

9:55 Start TP06 Tank

12:30 Closed TP06

1:10 Drill Rig arrives, unload
Doug Richmond + Butch Stevens

2:15 Digging ~~Decon~~ Recharge Pit located in GH#1, near fence

4:10 leave site to drop fedex off at Middletown office

Drilling Summary

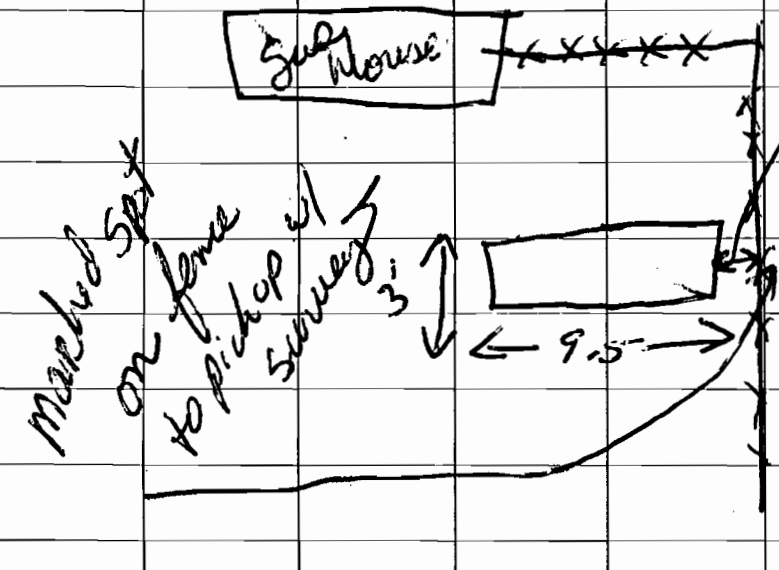
Decon .5 hrs

(26) 7/14

TP04

furnace / shed area

P#16 → area



2' on S wall - 1.5" steel pipe E-W

Soil on S wall is black, some Coal f-c Sand + f-m Gravel, l-Silt, ↑ Silt + Clay at 3+'

P#18 westyard

TP-04

(27)

0 - gravel cover fill

0-1 Dk brown/black Stain f-c Sand + f-m gravel + slags Some brick, some Coal Pieces

1.5' Brick layed wall on N side of TP wall - Trends E-W Could be furnace room/shed partition

- Moved bucket over to South Side So as not to break wall + to go deeper w/ TP-

- South wall E-W pipe Back Wall on North Side only

P#17 N Side walls goes to 3.5 at least

3.5' Water in hole

V. Slight Sheen, No odors noticed

Bottom of hole - NO Sample

(28) 9/14 TP05 coal storage

TP05 (29)

0- gravel cover fill
1' Concrete slab at ~~to~~ side
edge

- Brick thru concrete in middle - underlain by Red brick layers,
Soil dark brown, some black staining, fill (1st gravel)

(30) 11/17 TP06
Tank

0- Pavement
.6' Tank top
Valve broken open 2"

Inside - used Boiler
water - clear w/ some
orange Rust color,
Very slight odor, very slight film
- under water is f-gravel
to bottom - 5.2'
no evidence of leaks in the
soil surrounding the tank
Water outside tank at 4.5'
no sheen, V. Slight odor

.5' to water
2.7' to gravel → 5.2'
thickness = 3/8" steel
12' long

TP06 (31)

Soil profile
1' - gravel fill + Black top
1'-2' Brown Silt + Clay
trace black staining + brick
2'-4.5' brown silt + Clay
moist to damp
▽ at 4.5 no sheen -

P# 19+20 21 Tank

Sample H_2O for Everything to fully characterize it for potential future disposal.

Sealed up 2" hole with black epoxy tape + tapecoat

P#2 Shows Seal

9/14 Recharge pit located in GH#1 near fence.

V at 5', 1 Sheen slight odor

Profile:

Black stained Soil; Covered brick fragments, Coal pieces

P#23 - prior to gravel being added

END 9/14

Wednesday 9/15

Daily Yost

7^00 arrive on site Set up on TB04, Furnace Room

2^00 Set up on TB06, GH#2

5^30 grouting GH#2

(34) 9/15/93 (35)

Galson Labs Linda Mott
Questions

- C.O.C.
  TCLP VOA obtained on 9/14
  other Sample on 9/13
- H_2O Samples
  TCLP on H_2O not applicable
  Not enough Sample of H_2O to
  do Any RCRA Characterization
  + it is not applicable
- VOA jars Say PCB
  they were for SF
  no PCB needed on Subsurface
- Pickup 3 sets of H_2O Containers
  on friday + cooler

Monday October 18, 1993

Goshen MGP

B. Lovgren on site @ 1130

1200 Opened wells and the following water depths observed: 2" = 0.1666 gal/ft

Time	MW#	DTW Feet	DTB Feet	WC Feet	3X Vol Gallons
1205	MW93 1S	7.23	22.95	15.72	8 gallons
1207	MW93 1D	11.40	37.25	25.85	13 gallons
1215	MW93 2S	8.49	21.15	13.46	7 gallons
1217	MW93 2D	11.97	36.33	24.36	13 gallons
1221	MW93 3S	9.46	24.55	15.09	8 gallons
1225	MW93 3D	12.03	38.70	26.67	14 gallons

1240 MW93 1S Start Purging

1305 Finished Purging 8 gallons

1310 Collected Sample

1330 Finished collecting sample

MW #	Temp	pH	SpecCond
MW93 1S	15.4°C	6.68	1600

Characteristics = Turbid grey in Color

No odor

1335 MW93 1D Start Purging

1415 Finished Purging 13 gallons

1420 Collect Sample

MW#	Temp	pH	SpecCond
MW93 1D	14.0°C	6.57	703

Characteristics = Turbid - grey in color

No odor

1430 MW93 2S Start Purging

1455 Finished Purging 8 gallons

1500 Collect Sample

MW#	Temp	pH	Spec Cond.
MW93 2S	13.4°C	6.24	1207

Characteristics: Turbid and Grey in Color No Odor.

1510 Done collecting Sample

1520 MW932D Start Purging

1600 Finished Purging 13 gallons

1605 Collected Sample

MW#	Temp	pH	Spec Cond
MW932D	13.3°C	6.40	1238

Characteristics: Slightly Turbid - Grey in color

1600 Tim Osier on site and started to purge MW-933D 14 gallons

1645 Done Purging

Characteristics: Grey Slightly Turbid

MW#	Temp	pH	SpecCond
MW933D	13.2°C	6.38	1205

* Duplicate Taken Here MW-9D

1620 Start to purge MW-933S

1640 Done purging 8 gallons

1700 Collected sample

MW#	Temp	pH	SpecCond
MW933S	13.0	6.19	1939

Turbid - Grey in Color

1739 Done sampling

* Matrix Spike + MSD taken at this well.

1800 B. Lovgren + T. Osier off Site

Tuesday October 19, 1993

0745 T. Osier on site

0800 B. Lovgren on site

0833 Took a water measurment on MW93 IS for the slug test. The well is stabilizing.

0840 Collected soil sample SF-01 in front of the one story brick building.

0850 Collected soil sample SF-02 in the dirt area located on the south side of the storage trucks at the Gas Holder #2 area

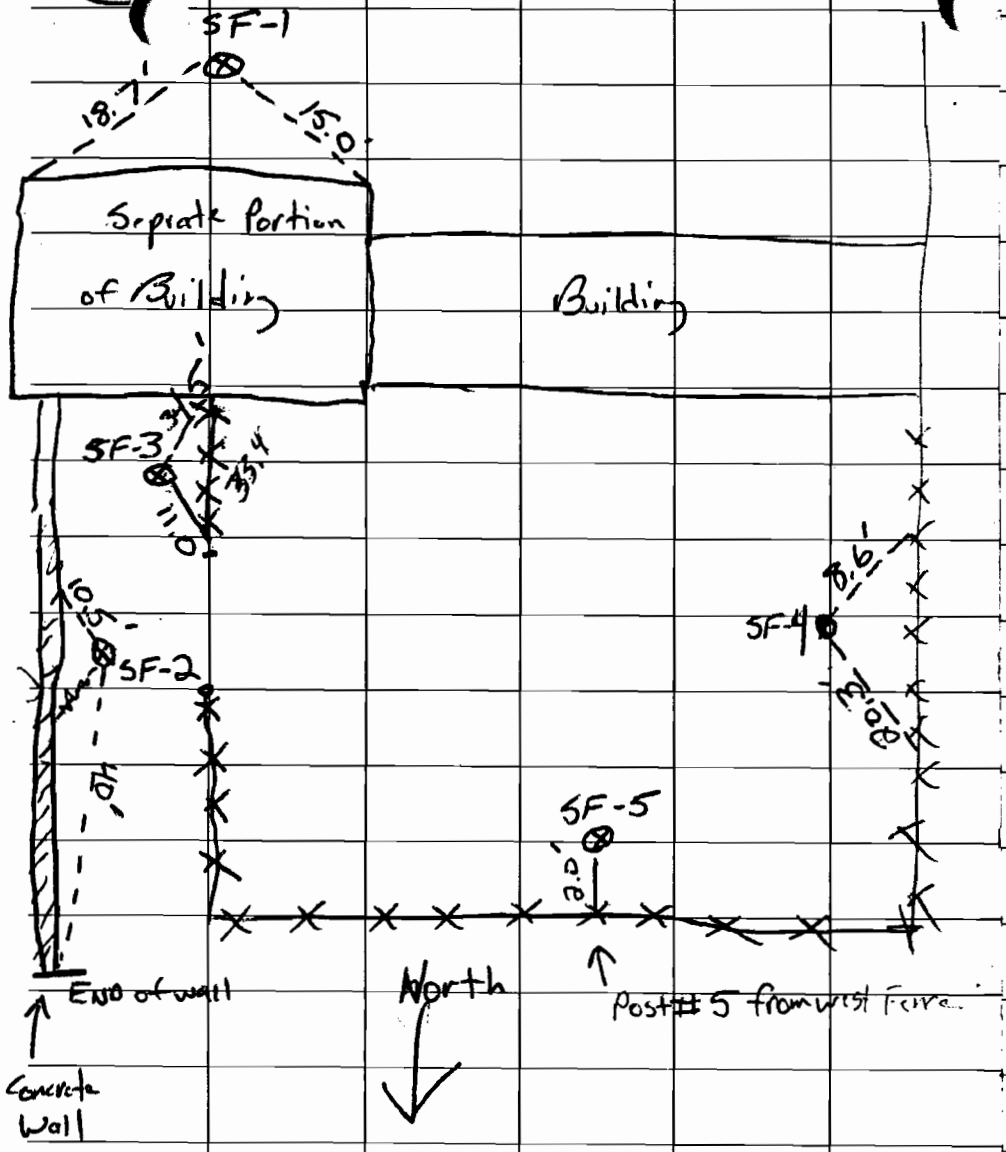
0900 It was determined that the depth to water level indicator (Slope Indicator Company SN 15936) is

not working properly. It was decided that the Slug test will be taken on Thursday 10-21-93.

1010 Collected soil sample SF-03 adjacent to the fence for the storage yard on the east side near the parking area for cars. Matrix Spike and Matrix Spike Duplicate taken here.

1025 Collected soil sample SF-04 adjacent to the west site fence. Collected the Duplicate sample designated SF-14.

1040 Collected soil Sample SF-05 adjacent to the north fence within the storage yard.



Schematic

10/21 Thursday -

1000 Blossman Energy onsite

	WL (Depth below measuring point)*	Time
mw-1S	7.14	1010
mw-1D	10.04	1012
mw-2S	8.24	1018
mw-2D	5.86	1020
mw-3S	10.04* Took time for well to equilibrate	1040
mw-3D	7.75	1030

* WLs are for use in determining GW flow directions

Slug Tests:

MW-15
1050

Static WL = 7.14
WL at 0 mins into test = ~~6.32~~ 6.32
15 = 8.54
30 = 8.46
45 = 8.39
1 min = 8.34
1.25 = 8.28
1.5 = 8.24
1.75 = 8.20
2.0 = 8.17
2.25 = 8.13
2.50 = 8.09
2.75 = 8.07
3.0 = 8.02
3.25 = 8.00
3.75 = 7.95
4.25 = 7.90
4.75 = 7.85
5.25 = 7.81
5.75 = 7.77
6 min = 7.75
7 min = 7.66
8 min = 7.59
9 min = 7.52
10 min = 7.49
11 min = 7.43
12 min = 7.39
13 min = 7.34
14.25 = 7.30
15 = 7.27

test complete

MW-1D		10.04	static
1110	0 mins	9.66	just before test
	~~0~~ 15	12.40	
	~~20~~ 30	12.20	
	~~30~~ 45	11.87	
	~~45~~ 60	11.62	
	~~55~~ 1.25	11.42	
	60 (1.5 min)	11.21	
	~~1.25~~ 1.75	11.09	
	2	10.97	
	2.25	10.85	
	2.5	10.74	
	2.75	10.65	
	3	10.57	
	3.5	10.43	
	4	10.30	
	4.5	10.21	
	5	10.15	
	6	10.04	
	end of test		

MW-2S	static	8.24		7. min	8.71
1125	0 mins	7.60		8 min	8.62
	15	~~8.~~ 9.87		9 min	8.54
	30	9.85		10.	8.48
	45	9.75		11	8.41
	1 min	9.68		12	8.35
	1.25	9.62		13	8.31
	1.5	9.54			
	1.75	9.49			
	2	9.44			
	2.25	9.38			
	2.5	9.32			
	2.75	9.27			
	3.00	9.22			
	3.5	9.15			
	4.0	9.08			
	4.5	9.01			
	5.0	8.94			
	6.0	8.81			

MW-20		5.86	Static
1150	0 min	5.71	
	15 sec	8.22 7.73	End of Test
	30	~~8.73~~	
	45	7.40	
	1	7.13	
	1.25	6.91	
	1.5	6.70	
	1.75	6.57	
	2	6.45	
	2.25	6.32	
	2.5	6.25	
	2.75	6.17	
	3	6.11	
	~~3.25~~ 3.50	6.02	
	4	5.96	
	4.5	5.90	
	5.0	5.86	
	6.0	5.82	
	7.0	5.79	

MW-35	Static	10.04	
1325 hrs	0 mins	8.72	
	15	10.95	
	30	10.80	
	45	10.74	
	60 (1)	10.69	
	1.25	10.63	
	1.5	10.58	
	1.75	10.53	
	2	10.48	
	2.25	10.44	
	2.5	10.40	
	2.75	10.37	
	3	10.33	
	3.5	10.26	
	4.0	10.19	
	4.5	10.13	
	5	10.09	
	5.5	10.04	

~~5.75~~ 6.0	9.99
6.5	9.95
7.0	9.90
7.5	9.87
8	9.83
8.5	9.80
9	9.77
9.5	9.72
10	9.68
11	9.65
12	9.60
13	9.56
14	9.51
15	9.45
17.5	9.38
20	9.33
25	9.22
30	9.15

End of Test

MW-30		7.75	Static	
1400	0 mins	7.60		
	15 sec	9.11		
	30 sec	8.69		
	45	8.37		
	60(1)	8.17		
	1.25	8.02		
	1.5	7.95		
	1.75	7.87		
	2.0	7.83		
	2.25	7.80		
	2.5	7.78		
	2.75	7.76		
	3	7.74		
	3.5	7.72		
	4	7.70		
	~~4~~5	7.68		
	6	7.68		
		end of test		

1440 B. Lovgren and Ellen Metzger off site

MW-30		7.75	Static	
1400	0 mins	7.60		
	15 sec	9.11		
	30 sec	8.69		
	45	8.37		
	60 (1)	8.17		
	1.25	8.02		
	1.5	7.95		
	1.75	7.87		
	2.0	7.83		
	2.25	7.80		
	2.5	7.78		
	2.75	7.76		
	3	7.74		
	3.5	7.72		
	4	7.70		
	5	7.68		
	6	7.68		
		end of test		

1440 B. Lovgren and Ellen Metzger off site