NYSEG

New York State Electric & Gas Corporation

Mechanicville Central Avenue
Former Manufactured Gas Plant
Mechanicville, New York

SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT TEXT, TABLES, AND FIGURES SEPTEMBER 2004

VOL. I OF V



Prepared For:
New York State Electric & Gas Corporation
Kirkwood Industrial Park
Binghamton, New York

URS

URS Corporation - New York
28 Corporate Drive, Suite 200
Clifton Park, New York 12065

URS

TABLE OF CONTENTS

EXECUTIVE SUMMARY E-1

TECHNICAL SUMMARY T-1

1.0 INTRODUCTION 1-1

2.0 CONCEPTUAL SITE MODEL 2-1

3.0 BACKGROUND 3-1

3.1 SITE DESCRIPTION 3-1
3.2 SITE HISTORY 3-2
3.2.1 History of Gas Production 3-3
3.2.2 Waste Handling 3-5
3.2.3 Recent Site Use 3-7
3.2.4 Surrounding Land Use 3-10
3.3 PREVIOUS INVESTIGATIONS 3-11
3.3.1 Spill Response Actions 3-12
3.3.1.1 1986 Spills 3-12
3.3.1.2 1988 Central Avenue Bridge Repairs 3-13
3.3.2 Previous Investigations, Feasibility Study, and Risk Assessment 3-13
3.3.3 1999 and 2000 IRM 3-16
3.3.4 Soil Quality 3-20
3.3.4.1 Surface Soils 3-20
3.3.4.2 Subsurface Soils 3-21
3.3.5 Non-Aqueous Phase Liquids 3-22
3.3.6 Groundwater Quality 3-23
3.3.6.1 Overburden and Weathered Bedrock Groundwater 3-24
3.3.6.2 Deep Bedrock Groundwater 3-26
3.3.6.3 Dissolved Organic Concentration Trends 3-27
3.3.7 Sediment, Surface Water, and Seeps 3-29
3.3.7.1 Sediment 3-29
3.3.7.2 Surface Water 3-30
3.3.7.3 Seeps 3-32
3.3.8 Previous Site Data Summary 3-32

4.0 OBJECTIVES 4-1

5.0 SCOPE OF WORK 5-1

5.1 PREPARE SUPPORTING DOCUMENTS FOR SRI WORK PLAN FOR SUBMITTAL TO THE NYSDEC 5-1
5.2 CONDUCT RECONNAISSANCE AND PRIVATE WELL SEARCH 5-2
5.3 INSTALL ADDITIONAL SOIL BORINGS AND MONITORING WELLS 5-2
5.3.1 Rationale for Additional Soil Borings and Monitoring Wells 5-3
5.3.1.1 Soil Borings West of the Former MGP Site 5-4
5.3.1.2 Soil Borings Within the Former MGP Site 5-4

5.3.1.3 Soil Borings Along the West Side of North Central Avenue 5-6
5.3.1.4 Soil Borings East of the Site 5-6
5.3.1.5 Monitoring Well Installation.....5-8
5.3.1.5.1 On-Site Monitoring Wells.....5-10
5.3.1.5.2 South of the Site 5-18
5.3.1.5.3 North of the Site 5-22
5.3.1.5.4 East of the Site 5-25
5.3.1.6 Well Development 5-27
5.3.1.7 Location Surveying 5-28
5.4 COLLECT SURFACE SOIL SAMPLES 5-28
5.5 FURTHER DELINEATE AND CHARACTERIZE NAPLs 5-29
5.6 FURTHER EVALUATE GROUNDWATER QUALITY 5-30
5.7 FURTHER EVALUATE THE ANTHONY KILL 5-32
5.7.1 Anthony Kill Reconnaissance 5-32
5.7.2 Anthony Kill Sediment Sampling 5-34
5.7.3 Hudson River Reconnaissance.....5-35
5.7.4 Hudson River Sediment Sampling 5-36
5.8 ANALYZE DATA AND PREPARE SRI REPORT 5-37

6.0 GEOLOGY AND HYDROLOGY 6-1

6.1 GEOLOGY 6-1
6.1.1 Overburden.....6-1
6.1.2 Bedrock 6-2
6.2 HYDROGEOLOGY 6-6
6.3 LOCAL SOURCES OF DRINKING WATER 6-8

7.0 NATURE AND EXTENT.....7-1

7.1 SOIL QUALITY.....7-1
7.1.1 Surface Soil Quality.....7-1
7.1.1.1 Soil Screening Results 7-2
7.1.1.2 Volatile Organic Compounds 7-2
7.1.1.3 Semivolatile Organic Compounds 7-3
7.1.1.4 Polychlorinated Biphenyls 7-5
7.1.1.5 Metals.....7-5
7.1.1.6 Total Phenols 7-6
7.1.1.7 Cyanide 7-6
7.1.1.8 Heat Value.....7-7
7.1.1.9 Summary.....7-7
7.1.2 Subsurface Soil Quality 7-7
7.1.2.1 Soil Screening Results 7-8
7.1.2.2 Volatile Organic Compounds 7-9
7.1.2.3 Semivolatile Organic Compounds 7-10
7.1.2.4 Metals.....7-12
7.1.2.5 Phenols 7-13
7.1.2.6 Cyanide 7-13
7.1.2.7 Heat Value 7-14
7.1.2.8 Summary.....7-14

7.2 GROUNDWATER QUALITY 7-14
7.2.1 Overburden Groundwater Quality 7-15
7.2.1.1 Volatile Organic Compounds 7-15
7.2.1.2 Semivolatile Organic Compounds 7-16
7.2.1.3 Total Phenols 7-17
7.2.1.4 Cyanide 7-17
7.2.1.5 Metals 7-17
7.2.1.6 Summary 7-19
7.2.2 Bedrock Groundwater Quality 7-19
7.2.2.1 Volatile Organic Compounds 7-20
7.2.2.2 Semivolatile Organic Compounds 7-22
7.2.2.3 Total Phenols 7-23
7.2.2.4 Cyanide 7-24
7.2.2.5 Metals 7-24
7.2.2.6 Summary 7-26
7.3 NAPL DISCUSSION 7-26
7.3.1 NAPL Observations and Recovery 7-27
7.3.2 Source Characterization 7-30
7.4 SEDIMENT QUALITY 7-31
7.4.1 Anthony Kill Sediment Analytical Results 7-31
7.4.1.1 Polychlorinated Biphenyls 7-32
7.4.1.2 Volatile Organic Compounds 7-32
7.4.1.3 Polycyclic Aromatic Hydrocarbons 7-33
7.4.1.4 Total Phenols 7-33
7.4.1.5 Cyanide 7-34
7.4.1.6 Metals 7-34
7.4.1.7 Acid Volatile Sulfide/Simultaneously Extracted Metals 7-34
7.4.2 Hudson River Sediment Sample Analytical Results 7-35
7.4.2.1 Semivolatile Organic Compounds 7-35
7.4.2.2 Cyanide 7-36
7.5 FISH AND WILDLIFE IMPACT ANALYSIS 7-36
7.5.1 Ecological Communities 7-37
7.5.2 Pathway Analysis 7-38
7.5.3 Toxic Effects Analysis 7-40
7.5.4 FWIA Summary 7-40
7.6 HUMAN HEALTH EXPOSURE PATHWAYS 7-40

8.0 CONCLUSIONS AND RECOMMENDATIONS 8-1

9.0 REFERENCES 9-1

LIST OF TABLES

Table 5-1	Summary of Soil Boring Details
Table 5-2	Existing and Newly Installed Well Construction Details
Table 5-3	Summary of Well Development Observations
Table 5-4	Summary of Soil Samples and Analyses
Table 5-5	Summary of Packer Testing Details
Table 5-6	Summary of NAPL Observations
Table 5-7	Summary of Well Purging Data
Table 5-8	Summary of Groundwater Samples and Analyses
Table 5-9	Anthony Kill Sediment Survey
Table 5-10	Sediment Probing Reconnaissance
Table 5-11	Summary of Sediment Samples and Analyses
Table 6-1	Summary of Fracture Intensity and Pencil Cleavage in Bedrock Core
Table 6-2	Summary of Groundwater Elevations
Table 7-1	Summary of Soil Analytical Results – Volatile Organic Compounds
Table 7-2	Summary of Soil Analytical Results – Semivolatile Organic Compounds
Table 7-3	Summary of Soil Analytical Results – Polychlorinated Biphenyls
Table 7-4	Summary of Soil Analytical Results – Metals
Table 7-5	Summary of Soil Analytical Results – Total Phenols
Table 7-6	Summary of Soil Analytical Results – Cyanide
Table 7-7	Summary of Soil Analytical Results – Total Petroleum Hydrocarbons and Petroleum Identification
Table 7-8	Summary of Soil Analytical Results – Heat Value
Table 7-9	Summary of Soil Analytical Results – Toxicity Characteristic Leachate Procedure
Table 7-10	Summary of Groundwater Analytical Results – Volatile Organic Compounds
Table 7-11	Summary of Groundwater Analytical Results – Semivolatile Organic Compounds
Table 7-12	Summary of Groundwater Analytical Results – Total Phenols
Table 7-13	Summary of Groundwater Analytical Results - Cyanide
Table 7-14	Summary of Groundwater Analytical Results - Metals
Table 7-15	Extent of NAPL in Overburden and Pencil Cleavage Zones
Table 7-16	Summary of Analytical Results - Anthony Kill Sediment Samples
Table 7-17	Summary of AVS/SEM Results - Anthony Kill Sediment Samples
Table 7-18	Summary of Analytical Results - Hudson River Sediment Samples

LIST OF FIGURES

Figure 1-1 Site Location Map
Figure 2-1 Conceptual Site Model
Figure 3-1 Former Site Layout
Figure 3-2 Current Site Map
Figure 3-3 1999 and 2000 Interim Remedial Measure
Figure 3-4 1986 Through 1993 Surface Soil Investigation
Figure 3-5 1986 Through 1993 Subsurface Soil Investigation
Figure 3-6 Groundwater Contaminant Distribution Map – Overburden and Shallow Bedrock Monitoring Wells – 1992 Through 1999
Figure 3-7 Groundwater Contaminant Distribution Map – Deep Bedrock Monitoring Wells – 1992 Through 1999
Figure 3-8 Sediment/Seepage/Surface Water Analytical Results – 1988 Through 1993
Figure 5-1 Surface Soil Sample and Soil Boring Location Map
Figure 5-2 Monitoring Well Location Map
Figure 5-3 Sediment Reconnaissance and Sampling Locations
Figure 5-4 Anthony Kill Sediment Sampling Locations Adjacent to Site
Figure 6-1 Lineaments Map
Figure 6-2 Top of Bedrock Map
Figure 6-3 Lines of Section
Figure 6-4 Geologic Cross-Section A-A'
Figure 6-5 Geologic Cross-Section B-B'
Figure 6-6 Geologic Cross-Section C-C'
Figure 6-7 Geologic Cross-Section D-D'
Figure 6-8 Geologic Cross-Section E-E'
Figure 6-9 Water Table Elevation Map
Figure 6-10 Saturated Thickness of Overburden
Figure 6-11 Potentiometric Surface Elevation Map
Figure 7-1 Total BTEX in Surface Soil
Figure 7-2 Total PAHs in Surface Soil
Figure 7-3 Total cPAHs in Surface Soil
Figure 7-4 Total Phenols in Surface Soil
Figure 7-5 Total BTEX in Subsurface Soil
Figure 7-6 Total PAHs in Subsurface Soil
Figure 7-7 Total cPAHs in Subsurface Soil
Figure 7-8 Total Phenols in Subsurface Soil
Figure 7-9 Total BTEX and PAHs in Overburden Groundwater
Figure 7-10 Total Volatile Organic Compounds in Bedrock Groundwater
Figure 7-11 Total PAHs in Bedrock Groundwater
Figure 7-12 Extent of NAPL in Overburden
Figure 7-13 Extent of NAPL in Upper Pencil Cleavage Zone
Figure 7-14 Extent of NAPL in Less Intense Pencil Cleavage Zone
Figure 7-15 Extent of NAPL in Lower Pencil Cleavage Zone
Figure 7-16 Summary of Product Recovery – MW-26S

LIST OF FIGURES, Continued

Figure 7-17 Summary of Product Recovery – RH-1S
Figure 7-18 Summary of Product Recovery – MW-10D
Figure 7-19 Summary of Product Recovery – MW-42D

LIST OF APPENDICES

Appendix A Site Photographs
Appendix B Previous Investigation Reports and Analytical Results
Appendix C BTEX and PAHs in Groundwater Concentration Trends
Appendix D Field Methods
Appendix E Boring Logs, Monitoring Well Construction Logs, and Bedrock Core Logs
Appendix F Laboratory Analytical Data
Appendix G Summary of Water Level Changes During Drilling
Appendix H Groundwater Sampling Data Sheets
Appendix I Data Validation
Appendix J Fish and Wildlife Impact Analysis
Appendix K Community Air Monitoring Plan

EXECUTIVE SUMMARY

On behalf of NYSEG (New York State Electric & Gas Corporation), URS Corporation – New York (URS) is pleased to present the New York State Department of Environmental Conservation (NYSDEC) with this *Supplemental Remedial Investigation (SRI) Report* for NYSEG's former Manufactured Gas Plant (MGP) on Central Avenue in Mechanicville, New York. The NYSDEC's identification number for the site is 5-46-033. On February 5, 1993, NYSEG entered into an Order on Consent (Order) Index Number A5-0276-91-10 to investigate and remediate the Mechanicville site. This *SRI Report* is being submitted in accordance with the NYSDEC-approved *SRI Work Plan*, dated February 19, 2001.

BACKGROUND

The former NYSEG MGP site is in the City of Mechanicville, Saratoga County, New York. The 1.8-acre site is currently unoccupied. The site is bordered on the east by North Central Avenue (formerly the Champlain Canal), on the south by Ferris Lane and on the west by a fuel distributor. The site is bordered on the north by the southern bank of the Anthony Kill, which is a small stream that discharges into the Hudson River less than ½-mile east of the site.

Site History

From approximately 1901 through 1955, NYSEG (or predecessor companies) used the former MGP site on Central Avenue in Mechanicville to manufacture gas from coal. In 1901, the Halfmoon Light, Heat, & Power, Co., which was founded in 1900, began distributing gas to nearby residences and businesses. In 1924, Halfmoon Light, Heat, & Power Co. was acquired by the Associated Gas and Electric System, which became part of NYSEG in 1928. Coal gas production continued at the plant until 1955. NYSEG operated the site as a natural gas and electric service center from 1955 until 1990 when the operations were relocated to a new service center in the Town of Halfmoon.

Previous Investigations and Remedial Activities

In the late 1980s and early 1990s, NYSEG conducted a series of remedial investigations and a feasibility study for the Mechanicville site. The results of the previous investigations indicate that the soils, groundwater, and sediments near the site have been impacted by MGP-related contaminants. In general, the contaminants that are commonly associated with MGP sites include polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), phenols, and cyanide. Coal tar has also been observed as free product in the soil and groundwater beneath the site. Coal tar, typically, is a dense non-aqueous phase liquid (DNAPL) that is denser than water and will tend to migrate downward through the underlying subsurface materials. However, the density of the coal tar is temperature dependent and coal tar has also been observed as a floating product or light non-aqueous phase liquid (LNAPL) on the groundwater surface.

During the period from October 18, 1999 through September 27, 2000, NYSEG completed an Interim Remedial Measure (IRM) at the site in accordance with a NYSDEC approved work plan entitled *Interim Remedial Measures Work Plan*, dated October 1999, and *Modification to Work Plan to Address Purifier Waste Cleanup and Bank Restoration*, dated August 28, 2000. The goal of this IRM was to excavate contaminated soil and remnants of former MGP structures, including the former gas relief holder, and remove any preferential migration pathways for site contaminants to reach the Anthony Kill. In addition, a NAPL collection system was constructed along the bank of the Anthony Kill. Since its installation, NAPL has not been recovered by the collection system. There were still relatively high concentrations of benzene and PAHs in the post-excavation soil samples.

SCOPE OF SRI

The extent of MGP-related residuals in the bedrock and soil beyond the limits of the IRM were investigated during the *SRI*. The *SRI* activities were conducted between 2001 and 2003. A total of 123 soil borings were advanced at the site between April 2001 and January 2003. Forty-eight of the 123 soil borings were completed as monitoring wells. The existing monitoring well network is comprised of 14 overburden monitoring wells, 21 shallow bedrock monitoring wells, and 25 deep bedrock monitoring wells. A total of 18 surface soil samples, 56 subsurface soil samples, two samples of NAPL, seven sediment samples from the Anthony Kill, five sediment samples from the Hudson River near the confluence with the Anthony Kill, and 92 groundwater samples were collected for laboratory analysis. During the *SRI*, the current conditions in the Anthony Kill upstream, along the site and downstream to the confluence with the Hudson River and the impacts, if any, to the local fish and wildlife communities were evaluated. Between October 2001 and July 18, 2003, approximately 513 liters of NAPL has been recovered from the site.

The data gathered during the *SRI* was used to further evaluate the nature and extent of contamination, gain a better understanding of the contaminant migration pathways through the subsurface, and present the current site conditions.

CONCLUSIONS

Geology and Hydrogeology

The overburden material at the site is primarily fill material and is between four and 27 feet thick. The overburden material consists of sand and gravel, with lesser amounts of silt, clay, and pebbles. MGP-related wastes, including purifier chips, were observed in the overburden at the former MGP site, west of the former MGP portion of the site, and beneath North Central Avenue.

The bedrock beneath the site is the Snake Hill Formation and is composed of dark gray shale. The shale bedrock surface beneath the site was disturbed by excavation during the installation of the former MGP structures, such as the former gas relief holder. The

foundation of the former gas relief holder was at least five feet below the top of the bedrock (i.e. approximately 12 feet bgs). Two nearly parallel tear faults that dip steeply to the south and thrust faults are evident in the bedrock. The Anthony Kill is the surficial expression of the northern tear fault. The southern tear fault is aligned with the southern boundary of NYSEG's property. The shale bedrock exhibits "pencil"-shaped breaks in the bedrock. Pencil cleavage within the bedrock was produced by stresses associated with the movement of bedrock blocks along the tear faults and ramping of bedrock blocks to the west along thrust faults. The intensity of the pencil cleavage varies within the bedrock and the zones of intense pencil cleavage are more fractured than zones of less intense pencil cleavage.

Shallow groundwater flow and groundwater flow within the deep bedrock at the site is generally from the southwest to the northeast toward the Anthony Kill. The depth to groundwater is approximately five feet below the ground surface.

CONCEPTUAL SITE MODEL

The results of the *SRI*, the IRM, and other previous investigations at the site were used to develop a conceptual site model that describes the contaminant migration pathways underlying the site. LNAPL migrated from the former gas relief holder, and to a lesser extent the other former MGP structures, with the slope of the water table surface toward the Anthony Kill. The migration of bedrock groundwater and the migration of DNAPL from the source area are influenced by the topography of the bedrock surface, tear and thrust faults, and small-scale fractures within the bedrock. Most of the DNAPL observed during the *SRI* was present in the top of bedrock and along the thrust faults and the two steeply dipping tear faults. DNAPL is also migrating downwards through the zones of intense pencil cleavage in the bedrock. The southern extent of DNAPL in the bedrock is limited due to the preferential migration of DNAPL along the steeply dipping southern tear fault and the northeast-dipping thrust faults. Similarly, the northern extent of the DNAPL is limited by the northern tear fault. DNAPL has not migrated west of the source area due to the slope of the bedrock to the east.

NAPL OBSERVATIONS

The former gas relief holder is believed to be the primary source of coal tar at the site. Overburden material, which was saturated with NAPL, and NAPL-producing fractures in the underlying bedrock, were observed near the north end of the former gas relief holder during the 1999 and 2000 IRM and *SRI*. Observations of NAPL in the overburden are limited to the former MGP portion of the site and along the west side of North Central Avenue.

The majority of the DNAPL during the SRI was present in the top of the bedrock and along major fractures. The migration of DNAPL from the source area is influenced by the topography of the bedrock surface, tear and thrust faults, and the density of the small-scale fractures within the bedrock. DNAPL has migrated preferentially east of the site along the top of bedrock and along tear and thrust fault planes. The presence of DNAPL

in bedrock monitoring wells north of the site is likely due to migration of DNAPL through the thrust faults and northern tear fault into thrust faults north of the Anthony Kill. DNAPL has not migrated west of the source area because the bedrock slopes to the east. DNAPL has not migrated south of the site due to the preferential migration of DNAPL along the southern tear fault and northeast dip of the thrust fault planes.

The interconnection between the overburden and bedrock fracture system beneath the site and Anthony Kill was evident by the observation of bubbling, rock flour and NAPL seeps in the kill when drilling activities were conducted at the site. NAPL discharges into the kill were also observed at times when drilling activities were not occurring at the site. Sediment exhibiting NAPL sheens and odors are present in the Anthony Kill.

Soil Quality

A fence restricts access to the site, therefore, direct contact with the site soils is considered to be limited.

The soil analytical results from the SRI were compared to the Recommended Soil Cleanup Objectives (RSCOs) from the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM 4046). The surface soil sample results indicate there are elevated concentrations of PAHs that exceed RSCOs at the site north of the former mechanics and repair shop and along the downgradient margin of the former MGP portion of the site. PAHs were also detected in the surface soil at the neighboring properties south of the former MGP site at concentrations that are much lower than the levels detected in the onsite soil samples. The highest concentrations of metals detected in the surface soil are within one order of magnitude of their respective RSCOs. Higher concentrations of total phenols were detected in surface soil west of the former MGP portion of the site and south of the site than within the former MGP portion of the site.

The distribution of benzene, toluene, ethylbenzene, and xylene (BTEX) in the subsurface soils is similar to that of PAHs. BTEX and PAHs are found in the subsurface soil near the former gas relief holder and along the bank of the Anthony Kill. The source of the BTEX and PAHs in the subsurface soils appears to be the former gas relief holder. Cyanide was detected in two subsurface soil samples.

Gasoline impacted soil was encountered at two borings east of the site. The source of the gasoline is believed to be historical leaks from gasoline tanks at the Getty Station that is east of the site.

Groundwater Quality

The residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. The closest known domestic wells to the site are approximately a mile southwest (upgradient) of the site.

The groundwater analytical results collected during the SRI were compared to NYSDEC groundwater standards and guidance values. Overburden groundwater at and near the site have been impacted by BTEX, chloroform, PAHs, including acenaphthene, and naphthalene, and total phenols. Two metals (iron and manganese) were detected in the filtered overburden groundwater samples at a concentration within two orders of magnitude of their respective NYSDEC groundwater standards.

BTEX, chloroform, and chlorobenzene were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards. Several PAHs and total phenols were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards. Antimony, arsenic, barium, iron, manganese, and nickel were detected in filtered groundwater samples at concentrations that exceed their respective groundwater standards.

Total cyanide was not detected in the overburden or bedrock groundwater samples at concentrations that exceeded the NYSDEC groundwater standard (200 µg/L).

Anthony Kill

The results of the hydrocarbon fingerprinting and extended PAH profiles indicate that the PAHs detected in the sediments and in the onsite soil are similar to those found at other MGPs.

The sediment analytical results were compared to the NYSDEC sediment screening criteria that were calculated using total organic carbon data. PCBs, VOCs, and cyanides were not detected in any of the sediment samples collected from the Anthony Kill. PAHs were detected in two of the seven sediment samples from the Anthony Kill. Benzo(a)anthracene, fluorene, 2-methylnaphthalene, naphthalene, and phenanthrene were detected at concentrations within one order of magnitude of the site-specific sediment screening criteria. Total phenols were detected in one of the seven sediment samples from the Anthony Kill at a concentration that exceeds the site-specific sediment screening criteria. Manganese was the only metal that was detected at concentrations that exceed the screening criteria in three sediment samples from the Anthony Kill. The acid volatile sulfide/simultaneously extracted metal (AVS/SEM) analyses conducted on two sediment samples collected from near the North Central Avenue bridge and the NAPL seep area indicate that some metals may be bioavailable to organisms in the sediment.

Hudson River Sediment Quality

More individual PAHs were detected in the Hudson River sediment samples than in the sediment samples from the Anthony Kill. The concentrations of the PAHs detected in the Hudson River sediment samples were greater than the concentrations detected in the Anthony Kill samples. The impact, if any, of the former MGP site to the sediments in Hudson River appears to be negligible. Cyanides were not detected in the sediment samples collected from the Hudson River.

Fish and Wildlife Impact Analysis

Because of the developed nature of the site, the diversity of vegetation and terrestrial wildlife habitat is low. However, there are a variety of habitats for wildlife within a two-mile radius of the site. Wind and water transport of site-related contaminants present in the onsite surface soil was considered to be a complete pathway of exposure to wildlife communities. The potential of exposure of wildlife to the subsurface soil was considered to be low. Some portions of the Anthony Kill were characterized as a poor macroinvertebrates habitat regardless of contamination levels. However, where present, resident macroinvertebrates in the Anthony Kill may be exposed to the PAHs in the sediment. Groundwater discharges from the site are believed to be the primary transport mechanism that may potentially affect surface water and sediment quality in the Anthony Kill.

Human Health Exposure Pathways

Recreational users of the Anthony Kill could be exposed to the site-related impacts in the kill due to the hydraulic connection between the overburden and bedrock underlying the site and the Anthony Kill. The routes of exposure are dermal contact with contaminated surface water and sediment in the Anthony Kill and ingestion of contaminated surface water in the Anthony Kill

Potential exposure pathways identified include the ingestion of and dermal contact with contaminated surface soil and dermal contact with contaminated subsurface soil or groundwater.

Although, no one uses groundwater for drinking or other uses at the site, dermal contact with or ingestion of contaminated groundwater are potential exposure pathways if groundwater is used in the future. However, currently the residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. Overburden groundwater flow is to the north toward the Anthony Kill and the nearest residents to the site are south (upgradient) of the site.

Excavation of subsurface soil could occur in the future, and exposures could occur from contaminated subsurface soil.

The site is unpaved and exposure routes of concern include incidental ingestion of soil, dermal contact with soil, and inhalation of particulate matter derived from soil. Clean imported fill was brought on site and used to restore the site grade at the conclusion of the 1999 and 2000 IRM. NYSEG employees do not work at the site on a daily basis and when onsite their visits are very brief.

RECOMMENDATION

Based on these conclusions and the conceptual site model, URS recommends that a Feasibility Study (FS) should be prepared to evaluate remedial alternatives for those portions of the site where contaminants are present at concentrations greater than standards or guidance values. The primary focus of the FS should be mitigation of further migration of DNAPL to the Anthony Kill.

TECHNICAL SUMMARY

On behalf of NYSEG (New York State Electric & Gas Corporation), URS Corporation – New York (URS) is pleased to present the New York State Department of Environmental Conservation (NYSDEC) with this *Supplemental Remedial Investigation (SRI) Report* for NYSEG's former Manufactured Gas Plant (MGP) on Central Avenue in Mechanicville, New York. The NYSDEC's identification number for the site is 5-46-033. On February 5, 1993, NYSEG entered into an Order on Consent (Order) Index Number A5-0276-91-10 for the Mechanicville site. On March 25, 1994, NYSEG entered into another Order on Consent with the NYSDEC to investigate and remediate 33 of their former MGP sites. This Order on Consent's Index Number is D0-0002-9309. According to NYSEG, the Mechanicville site is covered by the February 5, 1993 Order only through the completion of the Feasibility Study. After that, the 1994 Order applies. This *SRI Report* is being submitted in accordance with the NYSDEC-approved *SRI Work Plan*, dated February 19, 2001.

BACKGROUND

The former NYSEG MGP site is in the City of Mechanicville, Saratoga County, New York. The 1.8-acre site is currently unoccupied. The site is bordered on the east by North Central Avenue (formerly the Champlain Canal), on the south by Ferris Lane and on the west by a fuel distributor. The site is bordered on the north by the southern bank of the Anthony Kill, a small tributary that flows eastward into the Hudson River.

Site History

From approximately 1901 through 1955, NYSEG (or predecessor companies) used the former MGP site on Central Avenue in Mechanicville to manufacture gas, which was used by the local residents and businesses near the site. In 1901, the Halfmoon Light, Heat, & Power, Co., which was founded in 1900, began distributing gas, which was manufactured from coal, to the citizens of Mechanicville. In 1924, Halfmoon Light,

Heat, & Power Co. was acquired by the Associated Gas and Electric System, and in 1928 it became part of NYSEG. Coal gas production continued at the plant until 1955. NYSEG operated the site as a natural gas and electric service center from 1955 until 1990 when the operation was relocated to a new service center in the town of Halfmoon.

The former MGP site structures that were associated with coal gasification were concentrated on the eastern part of the site. The only structures that currently remain within the former MGP portion of the property are the storage and tool house building (former office) and the gas regulator building. NYSEG did not own the western part of the site during most of the operations of the MGP, which closed in 1955. By-products of the coal gasification process included coal ash, condensate material from the gas house, wood chips from the purifier house, coal tar, and oil sludge. No information was found concerning the methods employed to handle these materials in the early days of gas production at Mechanicville. However, it was common practice to dispose ashes and spent oxide material on site. Also, the tars produced in gas plants were an important raw material for the flourishing tar distillation industry in the early 1900s. During the latter days of gas production at the site, the ash and clinkers were reportedly picked up by anyone who had a use for them. In addition, spent wood chips were reportedly incinerated by the City of Mechanicville from 1951 to 1955, piled along the road until someone came and hauled them away; or spread on the lot just west of the active plant.

Currently, NYSEG leases the area west of the former MGP site, which includes the mechanics shop and repair building, to G.A. Bove and Sons, a fuel distributor. The neighborhood around the former gas plant is a mixed commercial/residential section of Mechanicville.

Previous Investigations and Remedial Activities

In the late 1980s and early 1990s, NYSEG conducted a series of remedial investigations and a feasibility study for the Mechanicville site. The results of the previous investigations indicate that the soils, groundwater, and sediments near the site have been

impacted by MGP-related contaminants. In general, the contaminants that are commonly associated with MGP sites include polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), phenols, and cyanide.

During the period from October 18, 1999 through September 27, 2000, NYSEG completed an Interim Remedial Measure (IRM) at the site in accordance with a NYSDEC approved work plan entitled *Interim Remedial Measures Work Plan*, dated October 1999, and *Modification to Work Plan to Address Purifier Waste Cleanup and Bank Restoration*, dated August 28, 2000. The overall goal of this IRM was to excavate contaminated soil and remnants of underground former MGP structures at the Mechanicville site and remove any preferential migration pathways for site contaminants to reach the Anthony Kill. The contents of the former gas relief holder foundation, the former filter bed, and any associated piping encountered during excavation were removed. In addition, a nonaqueous phase liquid (NAPL) collection system was constructed on the top of the bedrock along the bank of the Anthony Kill. Since its installation, NAPL has not been recovered by the collection system. The results of the post-excavation samples indicate that there were still relatively high concentrations of benzene and PAHs in the soil. Further evaluation of the MGP-related residuals in the bedrock and soil beyond the limits of the IRM are a subject of this *SRI.*

CONCEPTUAL SITE MODEL

The conceptual model for the site is based on the results of the SRI, the IRM, and other previous investigations at the site. The migration of bedrock groundwater and the migration of coal tar from the source area are influenced by both small-scale and large-scale structures in the shale bedrock beneath the site. The large-scale structures in the bedrock are tear and thrust faults along which vertical and lateral movement of bedrock blocks occurred. The small-scale structures are zones within the bedrock that are more fractured than other portions of the bedrock. These zones of higher fracture densities, which are known as “pencil cleavage zones,” were produced by stresses associated with

the movement of bedrock blocks along the tear and thrust faults. The tops of the zones of less intense pencil cleavage represent the base of the bedrock blocks thrusting to the west.

The former gas relief holder is believed to be the primary source of coal tar at the site. Coal tar, which is observed at the site as both light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL), is believed to have been present in the former gas relief holder. LNAPL migrated from the former gas relief holder, and to a lesser extent the other former MGP structures, with the slope of the water table toward the Anthony Kill. DNAPL generally migrated eastward along the slope of the bedrock surface to a bedrock trough that underlies North Central Avenue. DNAPL in the bedrock trough has migrated downward through the pencil cleavage zone, and has also migrated preferentially into a tear fault that is south of the source area. This southern tear fault dips steeply to the south.

Where DNAPL migrating along the path of the southern tear fault intersects the thrust faults, which dip gently to the northeast, the DNAPL is transported to the north and east. Some DNAPL that is migrating along the thrust faults reaches the northern tear fault. The surficial expression of the northern tear fault is the Anthony Kill. Similar to the southern tear fault, the northern tear fault dips steeply to the south. The tear faults are generally parallel to each other.

Most of the DNAPL observed during the *SRI* was present in the top of bedrock and along the tear and thrust faults. DNAPL has also migrated downwards through smaller fractures in the pencil cleavage zones. The southern extent of DNAPL in the bedrock is limited due to the preferential migration of DNAPL along the steeply dipping southern tear fault and the northeast-dipping thrust faults. Similarly, the northern extent of the DNAPL is limited by the northern tear fault. DNAPL has not migrated west of the source area due to the slope of the bedrock to the east.

The delineation of the lateral and vertical extent of DNAPL in the deep bedrock is a primary focus of this *SRI*. During the *SRI*, NAPLs were observed to be discharging

directly to Anthony Kill during some of the drilling activities at the site. NAPL discharges into the kill were also observed at times when drilling activities were not occurring at the site.

SCOPE OF SRI

The *SRI* activities were conducted between 2001 and 2003. This *SRI Report* uses the information gathered from the previous investigations, including the recent IRM, to present the current site conditions.

A total of 123 soil borings were advanced at the site between April 2001 and January 2003. Forty-eight of the 123 soil borings were completed as monitoring wells. The existing monitoring well network is comprised of 14 overburden monitoring wells, 21 shallow bedrock monitoring wells, and 25 deep bedrock monitoring wells. A total of 18 surface soil samples, 56 subsurface soil samples, seven sediment samples from the Anthony Kill, five sediment samples from the Hudson River near the confluence with the Anthony Kill, and 92 groundwater samples from 35 wells were collected during the September and October 2001, February 2003, and May 2003 sampling events. During the *SRI*, the current conditions in the Anthony Kill upstream, along the site and downstream to the confluence with the Hudson River were evaluated.

Since October 2001, a periodic NAPL recovery program was initiated to check the wells for NAPL and recover NAPL that accumulates in the wells. Approximately 513 liters of NAPL have been recovered from the site through July 18, 2003. Currently, recoverable quantities of NAPL are consistently present at four well locations. LNAPL is periodically removed from well MW-26S, and DNAPL is periodically removed from wells RH-1S, MW-10D, and MW-42D. Two wells that occasionally contain recoverable quantities of NAPL are shallow bedrock wells MW-1I and MW-35I.

URS retained the services of EcoLogic LLC (Ecologic) of Cazenovia, New York to conduct a Fish and Wildlife Impact Analysis (FWIA) for the site. Steps I through IIC of

the FWIA were performed in accordance with the protocol outlined in the NYSDEC, Division of Fish and Wildlife's *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (1994)*.

CONCLUSIONS AND RECOMMENDATIONS

Based on the data collected during this investigation, URS concludes:

Geology and Hydrogeology

- Overburden material at the site is primarily fill material and is between four and 27 feet thick. The overburden material consists of sand and gravel, with lesser amounts of silt, clay, and pebbles.

- MGP-related wastes, including purifier chips, were observed in the overburden at the former MGP site, west of the former MGP portion of the site, and beneath North Central Avenue. Some exposed purifier chips near the west side of North Central Avenue were covered with crushed stone in November 2001.

- Shallow groundwater flow within the overburden and shallow bedrock is generally from southwest to northeast toward the Anthony Kill.

- The saturated thickness of the overburden beneath the former gas relief holder location and the northeast striking trough beneath North Central Avenue is 12 feet. The saturated thickness of the overburden beneath the former gas relief holder location is primarily due to the man-made excavation into the bedrock. The saturated thickness of the overburden west of the former gas relief holder is four feet or less.

- The bedrock beneath the site is the Snake Hill Formation and is composed of dark gray shale.

- The shale bedrock surface beneath the site was disturbed by excavation during the installation of the former distribution holder and former gas relief holder.

- Bedrock outcrops are present along the banks of the Anthony Kill. The streambed of the Anthony Kill is exposed bedrock.

- Groundwater flow within the deep bedrock at the site is generally from the southwest to the northeast toward the Anthony Kill.

- There is a north-northeast striking bedrock trough that generally parallels the axis of the Taconic thrusts and is coincidental with North Central Avenue. West-northwest striking bedrock troughs are present along the Anthony Kill and southeast of the site, south of the DiSiena Furniture store.

- Two nearly parallel tear faults that dip steeply to the south are evident in the bedrock. The Anthony Kill is the surficial expression of the northern tear fault. The southern tear fault is aligned with the southern boundary of NYSEG's property.

- The bedrock exhibits zones of intense pencil cleavage separated by zones of less intense pencil cleavage. The zones of less intense pencil cleavage show ramping from east to west across the site.

Soil Quality

- NAPL sheens and product were observed in the overburden materials near and downgradient (north and east) of the former gas relief holder.

- Gasoline impacted soil was encountered at borings SB-44 through SB-46, which are east of the site in the DiSiena Furniture store's parking lot. The source of the gasoline is believed to be historical leaks from gasoline tanks at the Getty Station.

- Elevated concentrations of PAHs were found north of the former mechanics and repair shop and along the downgradient margin of the former MGP portion of the site.

- The levels of PAHs in the surface soil at the neighboring properties south of the former MGP site are much lower than levels detected on-site.

- The highest concentrations of metals detected in the surface soil are within one of magnitude of their respective NYSDEC RSCOs.

- Higher concentrations of total phenols were detected in surface soil west of the former MGP portion of the site and south of the site than within the former MGP portion of the site.

- The distributions of benzene, toluene, ethylbenzene, and xylene (BTEX) in the subsurface soils are similar to that of PAHs. BTEX and PAHs are found in the subsurface soil near the former gas relief holder and along the bank of the Anthony Kill. The source of the BTEX and PAHs in the subsurface soils appears to be the former gas relief holder.

- Cyanide was detected in two subsurface soil samples. There is no established NYSDEC RSCO for cyanide.

- A fence restricts access to the site, therefore, direct contact with the site soils is considered to be limited.

Groundwater Quality

- The residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. The closest known domestic wells to the site are approximately a mile southwest (upgradient) of the site.

- The VOCs and PAHs in the overburden groundwater that exceed NYSDEC groundwater standards include BTEX, chloroform, acenaphthene, and naphthalene.

- BTEX, chloroform, and chlorobenzene were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards.

- Several PAHs and total phenols were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards.

- Two metals (iron and manganese) were detected in the filtered overburden groundwater samples at concentrations within two orders of magnitude of their respective NYSDEC groundwater standards.

- Antimony, arsenic, barium, iron, manganese, and nickel were detected in filtered groundwater samples at concentrations that exceed their respective NYSDEC groundwater standards.

- Where detected, total phenols in the overburden groundwater exceed the NYSDEC groundwater standard.

- Total cyanide was not detected in the bedrock groundwater at concentrations that exceed the NYSDEC groundwater standards (200 µg/L).

NAPL

- The primary NAPL source area is the former gas relief holder. The foundation of the former gas relief holder was at least five feet below the top of the bedrock (i.e. approximately 12 feet bgs).

- During the 1999 and 2001 IRM, the gas relief holder foundation and its contents were removed and disposed at a permitted off-site facility. During excavation of the gas relief holder, fractured shale bedrock was exposed and LNAPL was observed on the groundwater in the excavation.

- Overburden material, which was saturated with NAPL and NAPL-producing fractures in the underlying bedrock, was observed near the north end of the former gas relief holder during the installation of wells RH-1S and RH-1D.

- The distribution of NAPL in the overburden is defined.

- The majority of the DNAPL observed during the *SRI* was present in the top of the bedrock and along major fractures. DNAPL is also sorbed to the overburden and bedrock matrix and dissolved into the groundwater plume as evidenced by minor soil and groundwater contamination.

- DNAPL has migrated preferentially east of the site along the top of bedrock and along tear and thrust fault planes.

- The presence of DNAPL in monitoring wells MW-34D and MW-35I north of the site is likely due to migration of DNAPL through the thrust faults and northern tear fault into thrust faults north of the Anthony Kill.

- DNAPL has not migrated west of the source area because the bedrock slopes to the east.

- DNAPL has not migrated south of the site due to the preferential migration of DNAPL along the southern tear fault and northeast dip of the thrust fault planes.

- The portions of the Anthony Kill adjacent to the site and between the site and the Hudson River are considered a Class D surface water body. Class D waters are designated for secondary contact recreation.

- PCBs, VOCs, and cyanides were not detected in any of the sediment samples collected from the Anthony Kill.

- PAHs were detected in two of the seven sediment samples from the Anthony Kill. Benzo(a)anthracene, fluorene, 2-methylnaphthalene, naphthalene, and phenanthrene were detected at concentrations within one order of magnitude of the calculated sediment screening criteria.

- Total phenols were detected in one of the seven sediment samples from the Anthony Kill at a concentration that exceeds the calculated sediment screening criteria.

- Manganese was the only metal that was detected at concentrations that exceed the Lowest Effect Level of 460 mg/kg in three sediment samples from the Anthony Kill.

- The acid volatile sulfide/simultaneously extracted metal (AVS/SEM) ratios for samples AK-5 and AK-7, which were collected from near the North Central Avenue bridge and the NAPL seep area, were less than 1.0, which indicates that metals in the sediment may be bioavailable.

- The interconnection between the overburden and bedrock fracture system beneath the site and Anthony Kill was evident by the observation of bubbling, rock flour and NAPL seeps in the kill when drilling activities were conducted at the site. NAPL discharges into the kill were also observed at times when drilling activities were not occurring at the site. Sediment exhibiting NAPL sheens and odors were present in the Anthony Kill.

- The results of the hydrocarbon fingerprinting and extended PAH profiles indicate that the PAHs detected in the sediments and in the onsite soil are similar to other MGPs.

Hudson River Sediment Quality

- More individual PAHs were detected in the Hudson River sediment samples than in the sediment samples from the Anthony Kill. The concentrations of the PAHs detected in the Hudson River sediment samples were greater than the concentrations detected in the Anthony Kill samples. The impact, if any, of the former MGP to the sediments in the Hudson River appears to be negligible.

- Cyanides were not detected in the sediment samples collected from the Hudson River.

Fish and Wildlife Impact Analysis

- Because of the developed nature of the site, the diversity of vegetation and terrestrial wildlife habitat is low. However, there are a variety of habitats for wildlife within a two-mile radius of the site.

- Wind and water transport of site-related contaminants present in the onsite surface soil was considered to be a complete pathway of exposure to wildlife communities.

- The potential of exposure of wildlife to the subsurface soil was considered to be low.

- Some portions of the Anthony Kill were characterized as a poor macroinvertebrates habitat regardless of contamination levels. However, where present, resident macroinvertebrates in the Anthony Kill may be exposed to the PAHs in the sediment.

- Groundwater discharges from the site are believed to be the primary transport mechanism that may potentially affect surface water and sediment quality in the Anthony Kill.

Human Health Exposure Pathways

- Recreational users of the Anthony Kill could be exposed to the site-related impacts in the kill due to the hydraulic connection between the overburden and bedrock underlying the site and the Anthony Kill. The routes of exposure are dermal contact with contaminated surface water and sediment in the Anthony Kill and ingestion of contaminated surface water in the Anthony Kill.

- Potential exposure pathways identified include the ingestion of and dermal contact with contaminated surface soil and dermal contact with contaminated subsurface soil or groundwater.

- Although no one uses groundwater for drinking or other uses at the site, dermal contact with or ingestion of contaminated groundwater are potential exposure pathways if groundwater is used in the future. However, currently the residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. Overburden groundwater flow is to the north toward the Anthony Kill and the nearest residents to the site are south (upgradient) of the site.

- Excavation of subsurface soil could occur in the future, and exposures could occur from contaminated subsurface soil.

- The site is unpaved and exposure routes of concern include incidental ingestion of soil, dermal contact with soil, and inhalation of particulate matter derived from soil. Clean imported fill was brought on site and used to restore the site grade at the conclusion of the 1999 and 2000 IRM. NYSEG employees do not work at the site on a daily basis and when onsite, their visits are very brief.

Based on these conclusions, URS recommends that:

- A Feasibility Study (FS) should be prepared to evaluate remedial alternatives for those portions of the site where contaminants are present at concentrations greater than standards or guidance values. The primary focus of the FS should be mitigation of further migration of DNAPL to the Anthony Kill.

1.0 INTRODUCTION

On behalf of NYSEG (New York State Electric & Gas Corporation), URS Corporation – New York (URS) is pleased to present the New York State Department of Environmental Conservation (NYSDEC) with this *Supplemental Remedial Investigation (SRI) Report* for NYSEG's former Manufactured Gas Plant (MGP) on Central Avenue in Mechanicville, New York. The location of the plant is shown in Figure 1-1. The NYSDEC's identification number for the site is 5-46-033. This document is being submitted in accordance with the NYSDEC-approved *SRI Work Plan*, dated February 19, 2001.

From approximately 1901 through 1955, NYSEG (or predecessor companies) used the former MGP site on Central Avenue in Mechanicville to manufacture gas from coal. The local residents and businesses near the site used the gas. By-products of the coal gasification process included coal ash, condensate material from the gas house, wood chips from the purifier house, coal tar, and oil sludge.

In the late 1980s and early 1990s, NYSEG conducted a series of remedial investigations and a feasibility study for the Mechanicville site. On February 5, 1993, NYSEG entered into an Order on Consent (Order) Index Number A5-0276-91-10 for the Mechanicville site. On March 25, 1994, NYSEG entered into another Order on Consent with the NYSDEC to investigate and remediate 33 of their former MGP sites. This Order on Consent's Index Number is D0-0002-9309. According to NYSEG, the Mechanicville site is covered by the February 5, 1993 Order only through the completion of the Feasibility Study. After that, the 1994 Order applies.

During the period from October 18, 1999 through September 27, 2000, NYSEG completed an Interim Remedial Measure (IRM) at the site in accordance with a NYSDEC approved work plan. The overall goal of this IRM was to eliminate potential sources of NAPL that were accessible by normal excavation techniques and remove preferential pathways for site contaminants to the Anthony Kill, which borders the north side of the site. The SRI activities were conducted between 2001 and 2003. This *SRI Report* uses

the information gathered from the previous investigations, including the recent IRM, to present the current site conditions.

This report contains nine sections. Section 2.0 presents the conceptual site model. Background information is provided in Section 3.0. Section 4.0 outlines the objectives of the SRI. The scope of work completed during the SRI is summarized in Section 5.0. Section 6.0 discusses the geological and hydrogeological conditions at and near the site. Section 7.0 discusses the nature and extent of contamination at the site. Section 8.0 summarizes our conclusions and recommendations. Section 9.0 is a list of references that were used to prepare this report.

2.0 CONCEPTUAL SITE MODEL

URS has developed a conceptual model for the site based on the results of the SRI, the IRM, and other previous investigations at the site. The migration of bedrock groundwater and the migration of coal tar from the source area is influenced by both small-scale and large-scale structures in the shale bedrock beneath the site. The large-scale structures in the bedrock are tear and thrust faults along which vertical and lateral movement of bedrock blocks occurred. The small-scale structures are zones within the bedrock that are more fractured than other portions of the bedrock. These zones of higher fracture densities, which are known as "pencil cleavage zones," were produced by stresses associated with the movement of bedrock blocks along the tear and thrust faults.

Coal tar, which typically has a specific gravity greater than water, will "sink" and migrate downwards within either the small-scale or large-scale breaks in the bedrock regardless of groundwater flow direction. The coal tar will continue to sink until it reaches the surface of a less fractured bedrock block and then migrate laterally with the slope of the less permeable surface. At this site, coal tar has also been observed as floating product.

As shown in Figure 2-1, the significant components of the site model include the former gas relief holder, which is believed to be the primary source at the site, two near-vertical tear faults that roughly parallel the northern and southern property boundaries, thrust faults that strike approximately north-south and dip to the northeast, and zones of bedrock that exhibits less pencil cleavage than other portions of the bedrock.

Both light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL) were believed to have been present in the former gas relief holder. LNAPL migrated from the former relief holder, and to a lesser extent the other former MGP structures, with the slope of the water table toward the Anthony Kill. DNAPL migrated generally eastward along the slope of the bedrock surface to a bedrock trough that underlies North Central Avenue. DNAPL in the bedrock trough has migrated downward

through the pencil cleavage zone, and has also migrated preferentially into a tear fault that is south of the source area. This southern tear fault dips to the south.

Where DNAPL migrating along the path of the southern tear fault intersects the thrust faults that dip to the northeast, the DNAPL is transported to the north and east. Some DNAPL that is migrating along the thrust faults reaches the northern tear fault. The surficial expression of the northern tear fault is the Anthony Kill. Similar to the southern tear fault, the northern tear fault dips to the south. The tear faults are generally parallel to each other.

Most of the DNAPL observed during the SRI was present in the top of bedrock and along the tear and thrust faults. DNAPL is also migrating downwards through smaller fractures in the pencil cleavage zones. The southern extent of DNAPL in the bedrock is limited due to the preferential migration of DNAPL along the steeply dipping southern tear fault and the northeast-dipping thrust faults. Similarly, the northern extent of the DNAPL is limited by the northern tear fault. DNAPL has not migrated west of the source area due to the slope of the bedrock to the east.

3.0 BACKGROUND

This section provides a site description, a brief history of MGP operations at the site, and a summary of previous investigations.

3.1 SITE DESCRIPTION

The site is located in the City of Mechanicville, Saratoga County, New York (Figure 1-1). The approximately 1.8-acre parcel is currently unoccupied. The site is bordered on the north by the southern bank of the Anthony Kill. The site is bordered on the east by North Central Avenue (formerly the Champlain Canal), on the south by Ferris Lane and on the west by abandoned railroad property.

As shown in Figure 3-1, the structures that were associated with coal gasification were concentrated on the eastern part of the site. This eastern part of the site has been annotated in Figure 3-1 as "Former MGP Site." The western part of the site is annotated as "Remaining NYSEG Property." The northern portion of the land annotated as "Remaining NYSEG Property" was acquired by NYSEG in 1952, and the southern portion (south of the former railroad spur) was acquired in 1987. NYSEG did not own the "Remaining NYSEG Property" portion of the site during most of the operations of the MGP, which closed in 1955.

The nearest surface water body, the Anthony Kill, is a small tributary that flows eastward into the Hudson River. The site is approximately 1/4-mile upstream from the Hudson River. The site lies in a glacial outwash plain, and is approximately 95 feet above mean sea level (msl). The topography of the area is characterized by the Hudson River and its tributaries, which lie in pre- and post-glacial valleys carved into the bedrock. The elevation of topographic terraces to the north and south of Mechanicville is over 300 feet above msl.

The Champlain Canal once bordered the site to the east along what is now North Central Avenue (Figure 3-1). Completed in 1823, this former canal connected the Hudson River at Waterford (south of Mechanicville) to Lake Champlain. Like the present roadway, the canal was elevated and the water surface was approximately ten feet above the gas plant. The canal was approximately 12 feet deep and 30 feet wide. The canal was abandoned in 1916 when the Barge Canal opened. The Champlain Canal became a receptacle for garbage, debris, and junk before it was completely filled with soil by the City of Mechanicville in 1917. Later, the canal was demolished, the trash and debris were removed, and the roadbed for Central Avenue was prepared by New York State.

3.2 SITE HISTORY

This section summarizes the previous activities at the site. The previous activities were derived from the following documents:

- *Investigation of the Former Coal Gasification Site – Task 1 Report Preliminary Site Evaluation* (*Task 1 Report*) by E.C. Jordan Co., dated August 1986;
- *Investigation of the Former Coal Gasification Site – Task 2 Report Initial Investigation Field Program* (*Task 1 Report*) by E.C. Jordan Co., dated December 1987;
- *Investigation of the Former Coal Gasification Site -Task 3 Expanded Problem Definition Program* (*Task 3 Report*), by E.C. Jordan Co., dated September 1989;
- *Investigation of the Former Coal Gasification Site at Mechanicville, New York* by ABB Environmental Services, Inc., dated June 1992; and
- *Phase IIA Supplemental Remedial Investigation and Feasibility Report* by ABB Environmental Services, Inc., dated December 1993.

Copies of these five reports are provided in Appendix B. The reader is referred to these reports in Appendix B for specific references.

The site housed a coal gasification plant near the intersection of North Central Avenue and Ferris Lane. The plant was operated by NYSEG and its predecessor companies from 1901 until 1955, at which time coal gas production ended because of the availability of natural gas. Most of the plant's aboveground structures were demolished and removed at the time of closure, including the coal storage shed, gas house, purifier and oxide houses, gas holders, oil tanks, and tar dehydrator. The former site layout is shown in Figure 3-1.

The only structures that currently remain within the former MGP portion of the property are the storage and tool house building (former office) and the gas regulator building. Currently, NYSEG leases the area west of the former MGP site, which includes the mechanics shop and repair building, to G.A. Bove and Sons, a fuel distributor.

3.2.1 History of Gas Production

As presented in the *Task 3 Report* (Appendix B), the history of coal gas production at the Mechanicville site dates from 1901. In that year, the Halfmoon Light, Heat, & Power, Co., which was founded in 1900, began distributing gas to the citizens of Mechanicville. The plant was expanded in approximately 1911 when a 3.5-foot water gas set was added to the original 5-foot set. Each water gas set consisted of a gas generator and associated apparatus. The 3.5-foot or 5-foot dimensions refer to the inside diameter of the generator. A distribution gas holder was also added during the expansion. The new gas holder had a 100,000 cubic foot capacity, while the original gas relief holder held 40,000 cubic feet of gas. The distribution gas holder was constructed above grade and contained cooled gas. Therefore, significant residual tar condensation was not likely to be associated with cooled gas storage in the distribution gas holder. In 1910, the company served approximately 325 gas customers.

In 1924, Halfmoon Light, Heat, & Power Co. was acquired by the Associated Gas and Electric System, and in 1928 it became part of NYSEG. Coal gas production continued at the plant until 1955. NYSEG operated the site as a natural gas and electric service

center from 1955 until 1990 when the operation was relocated to a new service center in the town of Halfmoon.

During the years of coal gas production, Pennsylvania coal was delivered to the site by rail along the rail spur on the western portion of the site. The location of the former rail spur is shown in Figure 3-1. Anthracite coal that was used to make the gas was stored outside next to the gas house. Soft bituminous coal fed to the boilers was stored in the coal shed, just west of the boiler room (Figure 3-1). The carburetted water gas process was used to manufacture gas at the site. Reportedly, NYSEG employees who worked at the gas plant in the 1950s described using the carburetted water gas process to produce a gas with 850 British thermal units (Btus) per cubic foot.

It is likely that the blue gas process, which produced a gas with a heating value of just below 300 Btus per cubic foot, was used in the earlier years of operation. Blue gas was produced by passing steam over incandescent coke to aid in the recovery of hydrogen and other gases by reacting with the carbon. Because the steam lowered the temperature of the fuel bed, air blasts were periodically needed to restore the temperature. Thus, the process involved alternating cycles of steam injection and air blasts. The carburetted water gas process was developed to raise the Btu content of blue gas. The carburetted water gas process was done by passing blue gas through a carburetor where a spray of oil was added to the steam gas mixture and then, thermally cracking the oil in a superheater.

At the Mechanicville plant, the gas reportedly flowed from the gas house to the purifier house to the relief holder, and from there, to the larger distribution holder. All piping was reportedly underground. This flow path differs from the typical water gas plant where the gas was stored in the relief holder prior to being purified. The oxide house was apparently used to store fresh or spent oxide material that was used to purify the gas.

Gas production at the Mechanicville plant ended in 1955 when natural gas became available. Most of the aboveground structures, including the coal storage shed, gas house, purifier and oxide house, gas holders, oil tanks, and tar dehydrator, were

demolished. The boiler house, indoor substation, and old office building were left standing. The purifier house was reportedly cleaned after the plant closed, but accumulated tar was left in the base of the gas relief holder. Gravel was used to fill in the below grade portions of both gas holders. The filter beds, which are further described in Section 3.2.3, were covered with soil, leaving the coke in place.

Oil used in the carburetted water gas process was stored in three aboveground oil tanks underneath a platform that supported the oxide house. A fourth aboveground oil tank (10,000-gallon) was between the two gas holders. The locations of these former storage tanks are shown in Figure 3-1.

3.2.2 Waste Handling

The following by-products were generated at the Mechanicville gas plant:

- Ash and condensate from the gas house;
- Wood chips from the purifier house; and
- Coal tar and oily sludge.

No information was found concerning the methods employed to handle these materials in the early days of gas production at Mechanicville. However, it was common practice to dispose ashes and spent oxide material on site. Also, the tars produced in gas plants were an important raw material for the flourishing tar distillation industry in the early 1900s.

Ashes and Condensate

The ashes and clinkers (chunks of non-combusted material) were reportedly shoveled from the generator at night and spread in the area between the gas relief holder and Ferris Lane. The ash and clinkers were reportedly picked up by anyone who had a use for them.

The condensate from the water gas process was treated in the tar dehydrator (tar separator), located west of the gas house. The tar dehydrator consisted of a 1,000-gallon tank used to separate the oil in the condensate from the water. The oil was subsequently used for fuel. The water was piped through three filter beds, in series, behind the coal storage building in the northern part of the site. A site photograph that shows the tar dehydrator is in Appendix A.

The filter beds were made of wood and were approximately ten feet long, four feet wide, and four feet deep. These wooden troughs were set into the ground and filled with coke. Baffles directed the flow of water through the coke, which filtered out residual oil. After passing through the filter beds, the water was discharged to the Anthony Kill. The oily coke in the beds was periodically collected and burned in the gas house.

Wood Chips

Wood chips, which were treated with iron oxide, were used to remove hydrogen sulfide from the gas in the purifier house. As the iron oxide absorbed the sulfur from the hydrogen sulfide gas and formed iron sulfides, the wood chips became inactive and required regeneration. This was accomplished by exposing the spent wood chips to air. The oxygen in the air converted the sulfide to free sulfur and restored the iron to active iron oxide. The iron also reacted with cyanide to produce ferrocyanides (iron cyanides), which could not be regenerated and did not react with hydrogen sulfide.

Eventually, as free sulfur accumulated to about 50 percent of the mass and much of the iron was tied up in the ferrocyanides, the spent wood chips were replaced by fresh ones. According to ABB Environmental Services, Inc.'s report entitled *Phase II A Supplemental Remedial Investigation* and *Feasibility Report* (*Phase II A Report*), the spent wood chips at the Mechanicville plant were reportedly:

- Incinerated by the City of Mechanicville from 1951 to 1955;
- Piled along the road until someone came and hauled them away; or

- Spread on the lot just west of the active plant.

Several truckloads of spent wood chips were reportedly dumped at a NYSEG substation on Route 67 near Coons Crossing in the mid-1950s. Furthermore, some chips were apparently spread on the northeastern part of the property near the road embankment along North Central Avenue. Some spent wood chips that were found to be eroding from the embankment were removed as part of the IRM.

Coal Tar

Coal tar would settle out of the purified gas in the relief holder and mix with the water in the bottom of the holder. This coal tar and water mixture was reportedly periodically pumped into a truck and hauled off site. Although, no specific disposition method was documented in the prior reports, there is anecdotal evidence that the tar was considered a commodity and was widely reused. According to plant employees (*Task 1 Report*), notable amounts of coal tar did not accumulate in the base of the larger distribution gas holder. This is consistent with other MGP sites since the distribution holder stored purified and cooled gas.

Based on information gathered during the recent IRM completed at the site, the bedrock was partially exposed at the bottom of the gas relief holder. Some of the coal tar, which settled out of the tar/water mixture, appears to have entered the bedrock through the bottom of the gas relief holder.

3.2.3 Recent Site Use

The Mechanicville site and the neighboring properties as it appears today is shown in Figure 3-2. After the closure of the Mechanicville gas plant in 1955, NYSEG converted the site to a natural gas and electric service center. A natural gas regulator house was constructed over a portion of the former distribution gas holder foundation. The former

boiler room/substation building was converted to offices, a garage, and a supply storage/maintenance shop, and subsequently razed in the early 1990s.

There was an underground storage tank that contained unleaded gasoline near the southeast corner of the former office. The approximate location of this former tank is in Figure 3-2. The 3,000-gallon tank was installed around 1974, and replaced an older tank that was reportedly taking in water. No gasoline leaks were reported in the older tank. The newer tank was reportedly removed in July 1991 in accordance with NYS underground storage tank regulations under supervision of the NYSDEC. According to NYSEG's *UST Closure and Removal* record sheet, there was no evidence of a release of product into the excavation.

A second tank, which was installed in 1982 on the "Remaining NYSEG Property" west of the former MGP site, was also decommissioned. The approximate location of this former tank is in Figure 3-2. This tank also had a 3,000-gallon capacity and was used to store diesel fuel. In March 1991, the contents of the tank were removed and the tank was subsequently filled with sand. The tank closure was completed under the supervision of the NYSDEC. According to NYSEG's *UST Closure and Removal* record sheet, based on a test trench dug along the east side of the tank, there was no evidence of release of product from the tank.

In 1922, NYSEG purchased a 0.25-acre lot on the southwest corner of Ferris Lane and North Central Avenue. This property was vacant while the coal gas plant was operating. In the 1950s, NYSEG built the electrical substation that now stands on the lot.

NYSEG now also owns property west of the former MGP site. This area is annotated as "Remaining NYSEG Property" on Figures 3-1 and 3-2. The portion of this land between the former railroad tracks spur and Anthony Kill was purchased by NYSEG in 1952 for use as a wood pole storage yard. The portion of the "Remaining NYSEG Property" between the railroad tracks spur and Ferris Lane was acquired in October 1987 for the use by NYSEG's Utility Construction and Maintenance (UC&M) Department.

Numerous businesses and structures occupied the "Remaining NYSEG Property" during the time when MGP was active. Thus, it is not likely that MPG-related wastes were disposed at that property.

As described in the *Task 1 Report*, various portions of the site have been used for pole storage, vehicle parking and electrical equipment storage. The electrical equipment included new and used transformers, regulators, capacitors, and other electrical equipment (which may have contained polychlorinated biphenyls [PCBs]). Prior to the late 1970s, electrical equipment was stored on two wooden platforms. After the removal of these platforms in the late 1970s, the electrical equipment was stored near the banks of the Anthony Kill. Approximately eight to 12 inches of oil-stained soil beneath this transformer storage area was removed by NYSEG in August 1984. The soil was not tested for contamination prior to disposal, but was assumed to contain PCBs. Twelve drums of excavated soil were transported to an approved disposal facility in Ohio. The excavated area was backfilled with gravel.

In the early 1980s, there was a designated area in the north-central portion of the property where transformers where stored prior to being sent off-site for repair (Figure 3-1). As a result of a routine inspection of this storage area, which identified several locations with minor oil stains, on October 28, 1991, an area approximately 12 feet by 24 feet proximate to where transformers were stored was excavated to a depth of about two feet to remove potentially oil-contaminated soil. The 29 tons of excavated soil was disposed of (with the assumption that it contained PCBs) at a secure landfill in Utah. Following excavation, five soil samples were collected from the bottom of the excavated area. One soil sample in the center of the excavation contained 1.0 mg/kg PCBs (Aroclor 1248). The NYSDEC's Recommended Soil Cleanup Objective for PCBs in surface soil is 1 mg/kg, and for subsurface soils is 10 mg/kg (NYSDEC, 1994). The other four samples did not contain detectable levels of PCBs. Site restoration was performed by placing plastic sheeting in the excavation and filling the excavation with clean soil to the original grade level.

3.2.4 Surrounding Land Use

In the early 1900s, the land surrounding the Mechanicville gas plant was closely linked with two water bodies:

- The Anthony Kill, also known as Tenandeho Creek, and
- The Champlain Canal.

The Anthony Kill flows from Round Lake to the Hudson River. A head difference of 34 feet between Round Lake and the Hudson River fostered heavy industrialization along the banks of the Anthony Kill in the late 1800s and early 1900s. Numerous industries were previously located near the site, including a brewery, a nickel-plating works, a lumber yard, a foundry, a bedding company, and numerous mills (e.g., knitting, hosiery, planing, flax, grist, saw, and cotton). A map dating from 1911 shows that there was a residential neighborhood south of the plant site, between Ferris Lane and Burke Avenue.

The heavy industrialization along the Anthony Kill ended as electricity replaced the waterwheel. The land use in the area gradually changed from industrial, in the early gas plant years, to commercial, in the later years. For example, the Mechanicville Fiber Co., located just west of the site, became a radiator shop and distributor of bottled liquid propane gas.

Completed in 1823, the Champlain Canal connected the Hudson River at Waterford (approximately five miles south of Mechanicville) with Lake Champlain to the north. The canal passed through Mechanicville along what is now Central Avenue. Like the present roadway, the canal was elevated and the water surface was approximately ten feet above the gas plant site. The typical land uses along the canal were shops, inns, manufacturers, mills, and saloons. As indicated in Section 3.1, the canal was abandoned in 1916 when the Barge Canal was opened.

Today, the neighborhood around the former gas plant is a mixed commercial/residential section of Mechanicville. Figure 3-2 shows the neighboring properties and their current uses. The former nickel plating mill, located across the Anthony Kill north of the site, is used by a plumbing and heating store and automotive repair shop. A furniture store (DiSiena) and gas station (Getty) occupy the property on North Central Avenue across from the site. There are private residences along Ferris Lane, south of Ferris Lane, and northeast of the site. Except for the automotive repair shop, the area north of the Anthony Kill is undeveloped. Further west, approximately ½-mile from the site along the south bank of the Anthony Kill, there is a large railway yard (Figure 1-1).

3.3 PREVIOUS INVESTIGATIONS

This section presents a summary of the previous investigations performed to date at the Mechanicville site. The information summarized here represents URS' current understanding of the previous site investigations. The information was obtained from the material provided by NYSEG, and from subsequent communications between NYSEG and URS.

This section briefly describes various site activities that occurred before this supplemental remedial investigation. These activities include spill response actions, the recent IRM, and remedial investigations, a feasibility study, and a risk assessment that were conducted during the period of 1981 through 1993.

The results of the previous investigations indicate that the soils, groundwater, and sediments near the site have been impacted by MGP-related contaminants. In general, the contaminants that are commonly associated with MGP sites include PAHs, VOCs, phenols, and cyanide. Sections 3.3.4 through 3.3.8 discuss the soil, NAPL, groundwater, sediment, surface water and seep data collected from and near the Mechanicville site between 1989 and 1993. Appendix B provides summary tables of the analytical data collected prior to April 2001 and copies of the previous investigation reports for the site.

3.3.1 Spill Response Actions

Since 1986, there have been four spills potentially associated with the former site activities. The clean up actions that were conducted to address these events are described below.

3.3.1.1 1986 Spills

On August 15, 1986, an oily discharge was reported to the NYSDEC in the Anthony Kill near the Central Avenue Bridge. The NYSDEC claimed that the discharge was associated with nearby construction that disturbed sediments in the Anthony Kill. The disturbance of the sediments resulted in an oily sheen. The NYSDEC responded to the sheen by installing absorbent pads and an oil boom. The NYSDEC requested that NYSEG reimburse the NYSDEC for the spill response cost associated with the spill (#86-3241). The NYSDEC's sampling during the response action found fuel oil in the sediments on the northern bank of the Anthony Kill across from the former manufactured gas plant and low levels (10 ppm) of polycyclic aromatic hydrocarbons (PAHs) on the southern bank of the kill, adjacent to the NYSEG site.

On September 9, 1986, NYSEG's environmental consultant, E.C. Jordan, conducted another sampling event after an oily sheen was reportedly observed on the Anthony Kill. E.C. Jordan followed the sheen upstream for approximately 200 feet and sampled the surface water. The surface water sample contained 11 mg/L of oil. Although the specific laboratory analysis used was not documented in the previous reports, a typical method used for oil and grease analysis during the same time period was EPA Method 430. A NYSDEC contractor installed an oil boom along the northern bank of the Anthony Kill, across from NYSEG's manufactured gas plant site, where NYSDEC had sampled in August. The location of the boom was not consistent with the origin of the sheen, which was reportedly further upstream.

A similar spill event occurred in December 1986. Although, no samples were taken, the NYSDEC claimed the spill was associated with NYSEG's site. NYSEG disagreed with the NYSDEC's claims that the September and December spills were associated with the NYSEG site. The NYSDEC agreed that there are multiple upgradient sources in the area.

3.3.1.2 1988 Central Avenue Bridge Repairs

In September 1988, D.A. Collins Construction Company of Willow Glen, New York began structural repairs on the Central Avenue Bridge, which is immediately northeast of the site. This work involved the construction of four new footings for the double archway and the installation of two new steel archways under the existing stone archway. During the repairs, the contractor built a temporary dam to divert water. When the northern archway was dewatered, an organic sheen was observed on the sediments. The NYSDEC informed NYSEG about the material, and NYSEG installed an oil boom and absorbent pads to control the sheen. After reconstruction of the northern archway, debris and sediments were stockpiled on plastic on the property to the north of the Anthony Kill. This material was then sampled and analyzed to evaluate whether it contained material associated with the former manufactured gas plant operations. The initial testing identified some low levels of organics that could have been associated with NYSEG's former operations. The debris was then transported to NYSEG's property.

On June 28, 1989, 20,000 kilograms (kg), which is equivalent to approximately 22 tons of coal tar-contaminated material (USEPA hazardous waste number D003), was disposed under manifest number NYA5836293. On August 9, 1989, NYSEG disposed an additional 20,000 kg of coal tar-contaminated material under manifest number NYA8370243.

3.3.2 Previous Investigations, Feasibility Study, and Risk Assessment

In November 1981, NYSEG collected soil samples from the filter beds area and the gas relief holder foundation. Petroleum odors and tar residues were encountered at depths of

three to five feet below ground surface (bgs) at both locations. The samples did not exhibit the characteristics of hazardous waste, with the exception of the sample from the filter beds, which had a high level of sulfides (1,300 milligrams per kilogram [mg/kg]) and failed the reactivity test. A soil sample from the gas relief holder that was analyzed for total phenols using EP Toxicity analytical methods contained 40 milligrams per liter (mg/L) of total phenols.

From 1986 through 1993, there have been three investigative phases and one risk assessment phase completed at the site, which covered Task 1 through Task 4 in NYSEG's investigative program. The remainder of this section summarizes the scope of these four tasks. The results of these previous investigations are discussed in Sections 3.3.4 through 3.3.8. Appendix B contains copies of the previous investigation reports for the site.

Task 1 - Preliminary Site Evaluation

A *Preliminary Site Evaluation* (Task 1 Report) was conducted by E.C. Jordan in 1986 to develop an understanding of the site's history, environmental setting, and current conditions. This evaluation included a detailed site reconnaissance, interviews, file searches, and a geophysical survey. This report is included in Appendix B.

A one-acre geophysical survey was conducted within the two parking lots of the NYSEG facility on North Central Avenue. The goal of the survey was to aid in contouring the top of the bedrock. The geophysical survey included ground-penetrating radar (GPR), terrain conductivity profiling, and seismic refraction surveys.

Task 2 - Initial Field Investigation Program

The *Initial Field Investigation Program* (Task 2) was conducted during 1986 and 1987. The findings of the Task 2 program were presented by E.C. Jordan's report, entitled

Investigation of the Former Coal Gasification Site at Mechanicville, New York - Task 2 Report, dated December 1987.

The purpose of the Task 2 program was to investigate the presence of MGP-related residues at the Mechanicville site. The primary objectives of Task 2 were problem identification, a preliminary assessment of potential health and environmental risks, and preliminary in-house engineering evaluations of remedial alternatives.

The field work included five test pits, eight soil borings, the installation of six monitoring wells and one piezometer; sampling of air, soils, groundwater, surface water, and sediments; laboratory analyses; water level measurements; permeability testing; and the completion of a preliminary land use investigation.

The detailed scope of work and analytical results for Task 2 were described in E.C. Jordan's Task 2 Report for the Mechanicville site, which was submitted to the NYSDEC in April 1986. This report is included in Appendix B.

Task 3 - Expanded Problem Definition Program

The *Expanded Problem Definition Program* (Task 3) was conducted between 1987 through 1989. The results of the Task 3 Program were reported by E.C. Jordan in a report, entitled *Investigation of the Former Coal Gasification Site at Mechanicville, New York – Task 3 Report – Expanded Problem Definition Program*, dated September 1989. Task 3 was designed to:

- Confirm the analytical results of the Task 2 investigation;
- Obtain further data on chemical distribution in the soil and shallow bedrock at the site;
- Further investigate the potential for chemical migration in the groundwater;
- Assess the air quality within the buildings on the site; and
- Identify potential chemical receptors and potential sensitive land users.

A detailed discussion of the scope of work and analytical results were presented in ABB Environmental Service's (ABBES's) report, entitled *Phase II Remedial Investigation Report*, dated June 1992. This report is included in Appendix B.

Task 4 - Risk Assessment

The scope of the Task 4 Risk Assessment was developed by E.C. Jordan based on the information obtained during Tasks 1 through 3. The specific scope was outlined in the *Phase II Remedial Investigation Report* (ABBES, 1992). The Risk Assessment was designed to:

- Identify and assess the potential risk associated with exposure to the chemicals present onsite; and
- Evaluate the need for and develop, if necessary, the scope for Conceptual Design of the remedial program.

The Baseline Risk Assessment was submitted as part of ABBES's *Phase IIA Supplemental Remedial Investigation and Feasibility Report*, which was submitted to the NYSDEC in December 1993. This report is included in Appendix B.

3.3.3 1999 and 2000 IRM

Between October 18, 1999 and September 27, 2000, NYSEG completed an IRM to excavate contaminated soil and remnants of underground former MGP structures at the Mechanicville site. As discussed in NYSEG's *Final Engineering Report*, dated October 2000, this IRM was conducted in accordance with Section III of Order on Consent Index DO-0002-9309 and the NYSDEC-approved work plan entitled *Interim Remedial Measures Work Plan*, dated October 1999, and *Modification to Work Plan to Address Purifier Waste Cleanup and Bank Restoration*, dated August 28, 2000.

The overall goal of the IRM was to eliminate any source of NAPL that was accessible by excavation and remove any preferential migration pathways for site contaminants to reach the Anthony Kill. The contents of the former gas relief holder foundation, the former filter bed, and any associated piping encountered during excavation were removed. The IRM activities generated approximately 2,625 tons of non-hazardous wastes and 3,920 tons of hazardous waste. This material was thermally treated, chemically treated as cold batch asphalt or placed in a landfill. The wastes had been classified based on pre-remediation in-situ sampling events that were conducted in September and October 1999.

The thermally treated non-hazardous materials were subsequently returned to the site and used as backfill in the excavations in and around the gas relief holder foundation. Imported clean gravel was then used to fill the remaining excavations to bring site back to grade. The cold batch asphalt was returned and temporarily stored at the site. Shortly after the cold batch asphalt was returned to the site, the treatment contractor filed for Chapter 11 bankruptcy. The material remained stockpiled at the site for over a year while the contractor re-organized according to its bankruptcy filing. NYSEG had made the decision that this contractor was the one with the most experience working with contaminated soil cold batch asphalt and elected not to have another contractor install the material at the site. Because of the long delay in installing the material, it became un-workable and was finally disposed at Seneca Meadows Landfill as non-hazardous waste. The RCRA hazardous wastes were thermally treated or placed in a landfill (Safety-Kleen Ltd., Ontario Canada and Horizon Environmental, Inc in Grandes-Piles, Quebec, Canada). The thermally treated RCRA soil was subsequently transported to the Cumberland County Solid Waste Complex in Millville, New Jersey as non-hazardous waste and was placed in a landfill.

Approximately 68,000 gallons of water removed from the gas relief holder foundation and wastewater from equipment decontamination was transported offsite for treatment or fuel blending. In addition, a NAPL collection system was constructed on the top of the

bedrock along the bank of the Anthony Kill. During the IRM, previously installed monitoring wells MW-3, MW-4, MW-5, MW-6, and MW-15 were destroyed.

Excavation activities were completed in five areas of the former MGP portion of the site. The targeted excavation areas included the former gas relief holder foundation (Areas 1 and 2), the tar dehydrator (Area 3), an area where purifier waste was observed along Central Avenue (Area 4), and the former filter bed area (Area 5). These areas are shown in Figure 3-3.

The former gas relief holder foundation and surrounding area comprised Areas 1 and 2. During the IRM, soil and debris, which contained adsorbed tar, were excavated within and around the gas relief holder foundation. The gas relief holder foundation had circular concrete walls and appeared to have a bedrock and concrete bottom that was shaped like an inverted cone. The gas relief holder foundation was approximately 12 to 15 feet deep and 60 feet in diameter. Approximately seven feet of the circular gas relief holder foundation wall below the ground surface was removed during the IRM. Groundwater was encountered at about 8.5 feet below the ground surface. Groundwater filling the gas relief holder foundation prevented full observation of the bottom of the gas relief holder foundation. Initially, NYSEG attempted to dewater the gas relief holder foundation and removed 9,100 gallons of water. However, the water level within the gas relief holder foundation recovered to the same elevation as water level outside of the gas relief holder foundation. Subsequently, NYSDEC and NYSEG agreed that the groundwater recharging the gas relief holder foundation did not have to be removed provided it was not be allowed to spill outside of the gas relief holder foundation during backfilling of the gas relief holder foundation.

The removed portion of the concrete wall was cleaned using a power washer and then the cleaned concrete was placed back inside the southern portion of the excavation. Two 15-inch diameter standpipes were placed within the gas relief holder foundation for future borings that were to be installed during implementation of the SRI. The remainder of the gas relief holder foundation was filled with 4 to 6-inch cobblestones.

NYSEG also excavated an area (Area 2) approximately 10 feet wide around the gas relief holder foundation during the IRM. The fractured shale bedrock was exposed in this excavation and LNAPL was observed on the groundwater in the excavation. Following excavation, this area was filled with gravel.

Area 3 was in the area of the former tar dehydrator, which was thought to be an underground structure. NYSEG made two attempts to locate and remove this former MGP structure, however, the tar dehydrator was not found. Subsequently, NYSEG found a photo dated April 1951, which shows that the tar dehydrator was an aboveground structure. This photo is included in Appendix A.

At Area 4 along the road embankment along North Central Avenue, purifier wastes were removed as part of the IRM. The filter bed (a wooden structure), soil, and debris were excavated in and around the former filter bed area (Area 5).

A test trench was excavated parallel to the Anthony Kill in an attempt to locate and remove piping that could be a preferential pathway for contaminants into the Anthony Kill. This excavation was dug to the top of bedrock and all piping and structures encountered during excavation were removed. This piping formerly interconnected the gas relief holder, the gas distribution holder, and the plant buildings, drain piping, and catch basins. A NAPL collection system was installed in the test trench prior to backfilling. First the north side and bottom of the trench was lined with geofabric. The collection system consists of 6-inch diameter perforated PVC pipe connected to two 15-inch diameter vertical PVC pipes. The trench was then backfilled with No. 1 stone and twelve inches of clay soil. Since its installation, NAPL has not been recovered by the collection system.

NYSEG also constructed a stone riprap spillway for runoff at the northeast corner of the site. In addition, geofabric and stone riprap was placed on the embankment along North Central Avenue. The entire former MGP site was also graded to promote rainwater runoff.

Twenty-six post-excavation soil samples (PE-1 through PE-26) were collected and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and PAHs. As shown in Figure 3-3, the results of the post-excavation samples indicate that there were still relatively high concentrations of total benzene and PAHs in the soil. Further evaluation of the MGP-related residuals in the bedrock and soil beyond the limits of the IRM are a subject of this *SRI*.

3.3.4 Soil Quality

This section summarizes the previous analytical data for soils.

3.3.4.1 Surface Soils

In 1989, 13 surficial soil samples (including four duplicate samples) were collected from nine locations (SS-1 through SS-9) at the site. The sampling locations are shown in Figure 3-4. Five soil samples (SS-1 through SS-5) were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and cyanides. The remaining soil samples (SS-6 through SS-9) were analyzed for PCBs only. VOCs and PCBs were not detected in any of the surface soil samples collected in 1989. In soil samples SS-1 through SS-4, the concentrations of SVOCs (PAHs) ranged from 9.1 to 71 mg/kg. Cyanides were detected in only two soil samples (SS-1 and SS-3), at concentrations of 1.8 and 1.9 mg/kg, respectively.

In 1993, 20 surficial soil samples (including two duplicate samples) were collected from 18 locations in six former transformer storage areas at the Mechanicville site (SS-25, SS-29 through SS-41, and SS-45 through SS-48, Figure 3-4). The 21 surficial soil samples were analyzed for the presence of PCBs. The purpose of these surficial soil samples was to evaluate whether the soils at the site were impacted by transformer storage activities at the site. As shown in Appendix B, PCBs were detected at concentrations greater than 1.0 mg/kg in only five of the 21 soil samples. The locations where the concentrations of

PCBs exceeded 1 mg/kg were immediately south of filter beds and beneath the former transformer storage areas west of the former filter beds. The former filter beds were excavated during the recent IRM, and the former transformer storage area was also removed in the 1990s. Therefore, the areas where concentrations of PCBs previously exceeded 1 mg/kg have already been addressed.

In 1993, six surface soil samples, including one duplicate sample, were collected from five locations (SS-21 through SS-25), and analyzed for reactive cyanide and reactive sulfide. Neither of these analytes were detected in the six surface soil samples.

3.3.4.2 Subsurface Soils

Prior to 1999, a total of 23 subsurface soil samples, including three duplicate samples, were collected from five test pits and 25 soil borings at the site. Nineteen of the 23 soil samples were analyzed for VOCs. All 23 subsurface soil samples were analyzed for SVOCs. Twenty-one of the 23 subsurface soil samples were analyzed for metals and cyanide (both total and amenable). Eighteen of the 23 soil samples were analyzed for total phenols. The results of the subsurface soil samples are summarized on Figure 3-5.

In general, the highest concentrations of MGP-related contaminants within the soils were found near the former filter beds and near the former gas relief holder. The majority of these soils were removed during the recent IRM.

Volatile Organic Compounds

As shown in Figure 3-5, volatile organic compounds (VOCs) were detected at total concentrations ranging from 0.85 mg/kg at TP-4 to 3,800 mg/kg at B-8 near the former gas relief holder. With the exception of methylene chloride, a common laboratory contaminant, the VOCs detected in subsurface soils were BTEX. The maximum detected total VOC concentration near the former filter beds was 24.4 mg/kg at TP-5. Some of the soils near the former filter beds were removed during the recent IRM.

Semivolatile Organic Compounds

Phenolic compounds were detected in only four of the 18 subsurface soil samples (B-5 and B-15 at 2.6 mg/kg near the former filter beds, B-9 at 6.74 mg/kg south of the boiler room, and B-3 at 3.6 mg/kg north of the oxide house). SVOCs were detected in 20 of the 23 subsurface soil samples collected at the site prior to 1999. Where detected, total concentrations of SVOCs ranged from 0.23 mg/kg at B-16, which is in the southwest portion of the site, to 9,310 mg/kg at B-3, which is north of the former gas relief holder. The SVOCs detected at the site generally consisted of PAHs. Other SVOCs (bis(2-ethylhexyl)phthalate, diethylphthalate, and pentachlorophenol) were detected at estimated values only. The concentrations of PAHs in the post-IRM samples ranged from less than 1 mg/kg (southeast of the former gas relief holder) to 29,930 mg/kg (southwest of the former gas relief holder).

Inorganics

Cyanides, both amenable and non-amenable (iron-cyanides), were detected in subsurface soils at the site. Amenable cyanides were detected in three of the 23 samples collected prior to 1999 at a maximum concentration of 3.2 mg/kg at B-3.

Most of the soil samples that were analyzed for metals were analyzed for iron and zinc only. Iron was detected between 14.6 and 35,000 mg/kg. Zinc concentrations ranged from 0.028 to 1,600 mg/kg.

3.3.5 Non-Aqueous Phase Liquids

Commonly, both LNAPLs and DNAPLs are found at MGP sites. While LNAPL will tend to accumulate at the water table, DNAPL tends to sink. The migration pattern of DNAPLs is dependent on the hydrogeology of the site. At the Mechanicville site, it is believed that the DNAPLs originated within the former gas plant area. The DNAPL

appears to have migrated vertically, primarily under the influence of gravity, through the overburden and weathered bedrock, and DNAPL appears to have entered the bedrock at the bottom of the gas relief holder. Once in the bedrock, the nature and orientation of fractures primarily control DNAPL migration.

Prior to 2001, indications of DNAPL have been detected in three (MW-6, MW-13, and MW-14) of the five previously installed deep bedrock wells near the site, and LNAPL has been detected in well MW-3. Furthermore, NAPL was observed leaking into the former gas relief holder excavation from the weathered bedrock during the recent IRM work. The delineation of the lateral and vertical extent of DNAPL in the deep bedrock is a primary focus of this *SRI*. During the *SRI*, discharges of NAPLs directly to Anthony Kill have been documented.

3.3.6 Groundwater Quality

Prior to this investigation, 15 monitoring wells were installed at the site. The approximate locations of these 15 monitoring wells are shown in Figure 3-5. Five of the monitoring wells (MW-3, MW-4, MW-5, MW-6, and MW-15) were destroyed during recent IRM activities at the site.

Appendix B summarizes the available previous groundwater analytical data collected at the site. The data summarized in this appendix include the results of the sampling events conducted during previous investigations, as well as the results of periodic monitoring of selected wells at the site conducted by NYSEG between 1993 and 1999. As shown in Appendix B, the primary constituents that have been detected in the groundwater are PAHs, BTEX, and cyanide.

The remainder of this section briefly discusses the previous data. The overburden and weathered bedrock groundwater have been grouped together and are discussed separately from the deep bedrock groundwater. The dissolved organic concentration trends are also discussed below.

3.3.6.1 Overburden and Weathered Bedrock Groundwater

Figure 3-6 shows the distribution of VOCs and SVOCs in overburden and weathered bedrock groundwater and is based on October 1992, July 1993, October 1993, May 1994, May 1995, February 1996, February 1997, February 1998, and February 1999 groundwater analytical data. The groundwater analytical data for VOCs and SVOCs from prior to 1993 (where available) are discussed in Section 3.3.6.3. The wells that were routinely sampled by NYSEG since 1993 are MW-1, MW-2, MW-4, MW-11, MW-12, MW-16, and MW-17.

In July 1993, five overburden and shallow bedrock wells (MW-3, MW-4, MW-5, MW-10, and MW-12) were not sampled because of the presence of NAPL. Earlier groundwater analytical results for these five wells indicate the presence of high levels of MGP-related contaminants. After July 1993, monitoring wells MW-4 and MW-12 no longer indicated the presence of NAPL, and groundwater samples were collected from these wells in subsequent sampling events through 1999, with one exception. Monitoring well MW-4 was not sampled in February 1997.

Volatile Organic Compounds

As shown in Figure 3-6, VOCs, mainly BTEX, were consistently detected in wells MW-4 and MW-12, which are north and east of the former gas relief holder. VOCs associated with the site were not detected in off-site monitoring well MW-17. In 1993, with the exception of methylene chloride, no VOCs were detected in monitoring wells MW-1, MW-2, MW-11, and MW-16. In 1994, 1997, and 1998, only traces of VOCs were found at monitoring well MW-1. Only traces of VOCs were found at monitoring well MW-2 in 1994 and 1998.

While no chlorinated VOCs were detected in several sampling events (October 1993, May 1994, May 1995, February 1997, February 1998, and February 1999), chlorinated

VOCs have previously been detected in the overburden groundwater. A trace of 1,2-dichloroethane was detected at MW-17 in July 1993. This same compound was detected at MW-4 in 1996. Traces of chlorobenzene (MW-1 and MW-2) and 1,1,1-trichloroethane (MW-11) have been previously detected in the overburden and weathered bedrock groundwater. The source of the chlorinated VOCs is unknown. With the exception of methylene chloride, a common laboratory contaminant, chlorinated VOCs have not been detected in the soils at the site, and it is believed that the source of the chlorinated VOCs is probably not related to site activities.

Semivolatile Organic Compounds

As shown on Figure 3-6, the greatest concentration of SVOCs in the overburden and weathered bedrock groundwater was detected at MW-4 (10,193 µg/L in 1998). Monitoring well MW-4 is north of the former gas relief holder. The SVOCs detected in the 1998 groundwater sample from monitoring well MW-4 were all PAHs. Other SVOCs that have been detected in groundwater samples from well MW-4 include phenolic compounds and bis (2-ethylhexyl phthalate). The only SVOC detected in wells MW-2, MW-11, MW-12, MW-16, and MW-17 was bis (2-ethyl hexyl phthalate).

Cyanide and Phenols

Cyanide (both amenable and iron-cyanides) and phenols were detected in the groundwater at the site. In general, concentrations of cyanides and phenols were greatest downgradient of the former purifier house and former gas relief holder. Cyanide was not detected at wells MW-11 and MW-16 on the western portion of the site. The analytical data shows that cyanide has been consistently detected at wells MW-4, MW-12, and MW-17. The maximum concentration of cyanides was detected at monitoring well MW-12 (406,000 µg/L) in 1997. Purifier wastes are known to be present within the subsurface near well MW-12. During the 1999/2000 IRM, some of the purifier wastes were excavated. In 2001, exposed purifier wastes observed near well MW-12 along the fence adjacent to North Central Avenue were covered with crushed stone.

Phenols have consistently been detected at wells MW-3, MW-4, MW-5, MW-11, and MW-12. The maximum detected concentration of phenols at the site was detected at monitoring well MW-3 (17,000 µg/L) in 1997. During the 1999/2000 IRM, monitoring well MW-3 was destroyed and the area around well MW-3 was excavated. The detections of phenols at wells MW-1 and MW-2 have been sporadic and phenols have not been detected in the groundwater at wells MW-16 and MW-17.

3.3.6.2 Deep Bedrock Groundwater

Figure 3-7 shows the distribution of VOCs and SVOCs in the deep bedrock groundwater based on October 1992, July 1993, October 1993, May 1994, February 1995, February 1996, February 1997, February 1998, and February 1999 groundwater analytical data, where applicable. The data prior to 1993 (where available) are discussed in Section 3.3.6.3.

As discussed in Section 3.3.5, DNAPL has been reported at one time in the bedrock at monitoring wells MW-6, MW-13, and MW-14. During drilling, DNAPL was observed in a bedrock fracture at monitoring well MW-13 at a depth of 55 feet bgs. Deep bedrock well MW-6 was not sampled in 1993 because of the presence of DNAPL. Earlier groundwater analytical results from monitoring well MW-6 indicated the presence of high levels of MGP-related contaminants. A sheen has been observed at well MW-14. In general, the concentrations of contaminants in groundwater are greater in the deep bedrock wells than in the overburden and weathered bedrock wells.

Volatile Organic Compounds

As shown in Figure 3-7, the greatest concentrations of VOCs in deep bedrock groundwater were detected at monitoring well MW-13 (13,200 µg/L in 1993), northeast of the former gas relief holder. Elevated concentrations of VOCs were also detected at

monitoring well MW-14 (7,250 µg/L in 1993), which is near the northeast corner of the site.

With the exception of methylene chloride, which is a common laboratory contaminant, and low levels of 1,1,1-trichloroethane and 1,1-dichloroethane at monitoring well MW-15, the VOCs detected in the deep bedrock groundwater are generally BTEX. As discussed in Section 3.4.3.1, the source of the chlorinated VOCs is not known and is not believed to be related to the former MGP activities at the site.

Semivolatile Organic Compounds

As shown on Figure 3-7, the greatest concentrations of SVOCs in deep bedrock groundwater were detected at monitoring wells MW-13 (8,489 µg/L in 1998) and MW-14 (4,226 µg/L in 1992). The detected SVOCs were mostly PAHs.

3.3.6.3 Dissolved Organic Concentration Trends

URS graphed concentrations of dissolved organic contaminants in selected monitoring wells versus time to evaluate trends. These graphs are shown in Appendix C. The graphs include all available data for the wells collected from 1986 through 2003.

Between 1992 and 1999, groundwater samples were collected generally once per year from the on-site monitoring wells. The wells for which data are available include six overburden and shallow bedrock monitoring wells: MW-1, MW-2, MW-4, MW-12, MW-16, and MW-17 and four deep bedrock wells: MW-13, MW-14, MW-15, and MW-18. Dissolved concentration trends for total BTEX and total PAHs were developed for each well for which data was available. Where available, data prior to 1992 was included. Two graphs were developed for wells MW-1, MW-4, and MW-12 because significantly higher concentrations of VOCs and SVOCs were detected, which distorted the interpretation of the more recent data. These significantly higher concentrations during the early years of the monitoring program are likely attributable to the presence of

soil particles with adsorbed organics within the wells. With well purging completed during each sampling event, the wells likely became better developed over time, and the analytical results became more representative of the dissolved rather than adsorbed phase of contamination. Graphs for wells MW-16 and MW-17 were not developed because there have been no detections of BTEX and PAHs at these wells.

In September 1986, the concentration of PAHs in MW-1 was 1,980 µg/L, and decreased to 252 µg/L in December 1992. Since 1992, only low levels (less than 10 µg/L) of BTEX and PAHs were sporadically detected in monitoring well MW-1. As discussed above, the early concentrations of PAHs reported were likely associated with adsorbed rather than dissolved phase PAHs. Although MW-1 is upgradient of the former gas relief holder, this location is only approximately 50 feet away from the former holder and adjacent to Ferris Lane, and soils in this area may contain some PAHs.

During two sampling events in 1987, total PAHs at well MW-2 were detected at concentrations of 9,694 µg/L and 1,575 µg/L. After 1987, only low levels of PAHs were sporadically detected in monitoring well MW-2, which suggests that no significant amounts of MGP residues appear to be associated with the former distribution holder.

In September 1986, the concentration of PAHs at well MW-4 was reported at 64,680 µg/L. Since 1992, the concentrations of BTEX and PAHs at well MW-4 fluctuated, but remained generally within the same order of magnitude. The exception was 1998 sampling results for PAHs at monitoring well MW-4, where the highest former concentrations of total PAHs were detected at this location (10,193 µg/L).

Along the eastern perimeter of the former MGP site (overburden well MW-12), concentrations of BTEX and PAHs in the overburden groundwater decreased by an order of magnitude between 1993 and 1995. After 1995, the concentrations of BTEX and PAHs at monitoring well MW-12 fluctuated, but generally remained within the same order of magnitude.

The dissolved concentration graphs for the three bedrock monitoring wells along the eastern perimeter (MW-13 and MW-14) and the northern perimeter (MW-15) of the former MGP site show that the contaminant levels have not fluctuated significantly. Between 1993 and 1999, the concentrations of BTEX at these three locations fluctuated, but generally remained within the same order of magnitude. Between 1992 and 1998, the concentrations of PAHs at these three locations also fluctuated, but generally remained within the same order of magnitude.

For monitoring well MW-18, BTEX was not detected in the groundwater samples collected prior to 2001. The only detection of PAHs in groundwater at well MW-18 prior to 2001 was in 1996 at a concentration of 5 µg/L.

3.3.7 Sediment, Surface Water, and Seeps

Prior to this investigation, 31 sediment samples, 24 surface water samples, and three seepage samples were collected from the Anthony Kill near the site.

3.3.7.1 Sediment

A total of 31 sediment samples including seven duplicate samples have been collected from ten locations (SD-1 through SD-6 and SED-1 through SED-4) in the Anthony Kill over seven sampling events. These ten locations are shown in Figure 3-8. Several sediment samples were collected from locations SED-1 through SED-4 between 1986 and 1988. The most recent analytical results for locations SED-1 through SED-4 are shown in Figure 3-8. All 31 sediment samples were analyzed for VOCs and SVOCs. Most of the sediment samples were also analyzed for selected inorganics and phenols. The former sediment analytical results are summarized in Appendix B.

Volatile Organic Compounds

As shown in Appendix B, VOCs (primarily BTEX) have been detected in the sediments at trace concentrations. With the exception of acetone and methylene chloride, all VOCs were detected at concentrations less than 0.1 mg/kg.

Semivolatile Organic Compounds

As shown in Appendix B, SVOCs (primarily PAHs) have been detected in the sediments. Phenolic compounds have also been detected in the sediments. Furthermore, sheens have been reported by NYSEG to have been observed along the south bank of the Anthony Kill, along the northern perimeter of the former MGP site, during the September 1998 site walk.

Although, the sheens observed in 1998 suggest the origin of some of the SVOCs in the sediments are from the former MGP site, the previous data with respect to the distribution of SVOCs in these sediments suggests that the source of the PAHs and phenolics may also be, in part, from an upstream source. As shown in Figure 3-8, PAHs (up to 8.6 mg/kg; September 1986) and phenols (up to 3.1 mg/kg; June 1987) have been detected near the western portion of the site at sample location SED-1. As discussed previously, the land adjacent to the Anthony Kill, both upgradient and downgradient of the site, has been developed for industrial and commercial purposes for more than 100 years. Therefore, the extent of impacts to sediments specifically due to operations at MGP is uncertain.

3.3.7.2 Surface Water

A total of 24 surface water samples including six duplicate samples have been collected near the site over six sampling events from four locations in the Anthony Kill conducted between 1986 and 1989. Surface water sampling locations SW-1 through SW-4 are shown in Figure 3-8. Only the most recent surface water sampling results from March

1988 are presented in this figure. In March 1998, SW-3 was not sampled. In general, these surface water samples were analyzed for VOCs, SVOCs, selected inorganics, and phenols.

Volatile Organic Compounds

As shown in Appendix B, with the exception of methylene chloride and acetone, which are both common laboratory contaminants, no VOCs were detected in the 22 surface water samples near the site.

Semivolatile Organic Compounds

Suspected MGP-related SVOCs (mostly PAHs) were detected at only one of the 22 surface water samples from sampling location SW-02, which is adjacent to the site, at a total concentration of 0.105 µg/L (June 1987).

With the exception of bis(2-ethylhexyl)phthalate, a common sampling artifact and laboratory contaminant, no SVOCs were detected in the surface water in the Anthony Kill. Based on this data provided, the surface water in the Anthony Kill does not appear to be significantly impacted by MGP-related contaminants.

Inorganics and Phenols

Iron was detected at all four surface water sampling locations at levels ranging from 0.037 to 1.8 µg/L. The highest concentration was found adjacent to the site. Zinc was detected at concentrations ranging from 0.01 to 0.03 µg/L in at least one sample from three locations. Phenolics were detected in at least one sample from all locations with the exception of the upstream and adjacent locations sampled during Task 3 in 1987 and 1988. Cyanide was not detected in any of the Task 3 samples collected in 1987 and 1988. Cyanide was detected in at least one sample from each Task 2 location in 1986 and 1987 at a maximum concentration of 10 µg/L.

3.3.7.3 Seeps

Groundwater seepage samples were collected in July 1993 from three locations (SP-1, SP-2, and SP-3) along the Anthony Kill near the site. The three seepage sample locations are shown in Figure 3-8. The three samples were analyzed for VOCs. Two of the samples were also analyzed for Base/Neutral Acid Extractable (BNA) SVOCs.

Volatile Organic Compounds

With the exception of methylene chloride, no VOCs were detected in the three seepage samples.

Semivolatile Organic Compounds

Phenols and bis-(2-ethylhexyl)phthalate were detected in the two seepage samples analyzed for BNA SVOCs. No PAHs were detected in the seeps. Therefore, the PAHs found in the sediments near the seeps do not appear to be impacting the water quality in the seeps. Because phenols have been detected in both the on-site groundwater and in sediments near and upgradient of the site, the source of phenols in the seeps may be related to both on-site and off-site sources.

3.3.8 Previous Site Data Summary

The previous data set indicates that the on-site soils have been impacted by MGP-related contaminants. PAHs, VOCs, phenols, and cyanides have been detected near the former MGP area. Although PCBs have been detected in surficial soils near the former transformer storage areas and filter beds, these areas have been addressed during the previous IRM activities.

NAPLs (both LNAPL and DNAPL) have been detected in both the overburden and bedrock beneath the site.

Groundwater at and downgradient of the site has been impacted by MGP-related contaminants. The previous groundwater quality data suggest that the dissolved BTEX and PAH plume appears stable. The concentrations of BTEX and PAHs in wells along the eastern and northern perimeter of the former MGP site either decreased or fluctuated, but remained within the same order of magnitude. These data suggest that natural attenuation of some of the dissolved organics in groundwater may be occurring.

Sediments in the Anthony Kill have been impacted by MGP-related contaminants, but the extent of impacts is uncertain due to other industrial and commercial activities in the area. Surface water quality does not appear to be significantly impacted by MGP-related contaminants. Therefore, further evaluation of the surface water quality during the SRI was not conducted during this phase of investigation.

4.0 OBJECTIVES

During 2001 through 2003, additional data was collected to further characterize the site as part of the Supplemental Remedial Investigation (SRI). The section includes a description of the objectives and the main issues of concern for the SRI. The overall objective of the supplemental investigation is to gather additional data of sufficient quality and quantity to completely characterize the site such that remedial options for the site can be evaluated using a sound technical basis. As specified in the Order, NYSEG is required to develop and implement Supplemental Remedial Investigation and Feasibility Study that address health and environmental hazards and potential hazards attributable to the site for which NYSEG is a responsible party under the New York State law.

The specific objectives for the *SRI* were to:

- Review and compile contaminant distribution and other relevant background data from all pertinent documents for the site, including the documentation on the IRMs and the previous environmental investigations completed by NYSEG.

- Further understand the potential contaminant migration pathways beneath and near the site, including both LNAPL and DNAPL migration pathways.

- Further understand the site's geology and hydrogeology, including the relationship between the surface water and the groundwater.

- Further delineate and characterize residual contamination and NAPLs beneath and near the site, both in the overburden and in the bedrock.

- Evaluate whether the portion of the former Champlain Canal, which was originally constructed above the natural ground surface level and is located beneath the current North Central Avenue adjacent to the site, may be a preferential pathway for contaminant migration.

- Further document the upgradient groundwater quality.

- Further evaluate the groundwater quality and the extent of groundwater contamination beneath and downgradient of the site, focusing on MGP-related contaminants.

- Evaluate whether the subsurface chemistry promotes the natural attenuation of organic compounds, particularly at the downgradient margin of the dissolved plume.

- Further evaluate the sediment quality in the Anthony Kill, including area of discharge of Anthony Kill to the Hudson River, focusing on potential MGP-related contaminants.

- Further evaluate whether shallow groundwater seeps, if any, may be affecting either the sediment or surface water quality in the Anthony Kill.

- Qualitatively evaluate site-related risks to either human health or ecological habitats near the site.

The four main issues of concern for the SRI are:

- The nature and extent of NAPLs and MGP residues in the overburden and bedrock beneath and near the site, which are potentially long-term sources of dissolved contamination and potential contaminant releases to Anthony Kill;

- The potential presence of MGP residues in surface soils at residential properties immediately south of the former MGP site;

- The extent of the dissolved contaminants and the possibility that the fringes of the dissolved plume may be undergoing natural attenuation; and

- The nature and extent of MGP-related contaminants in the Anthony Kill, including the area of discharge of Anthony Kill to the Hudson River, in the context of the potential risk to either human health or the environment.

5.0 SCOPE OF WORK

The Supplemental Remedial Investigation scope of work included these eight tasks:

Task 1 – Prepare Supporting Documents for *SRI Work Plan* for Submittal to the NYSDEC

Task 2 – Conduct Reconnaissance and Private Well Search

Task 3 – Install Additional Soil Borings and Monitoring Wells

Task 4 – Collect Surface Soil Samples

Task 5 – Further Delineate and Characterize NAPLs

Task 6 – Further Evaluate Groundwater Quality

Task 7 – Further Evaluate the Anthony Kill

Task 8 – Analyze Data and Prepare *SRI Report*

Task 2 through Task 7 contains multiple sub-tasks that are designed to achieve the specific objectives of the project, as outlined in Section 4.0. The remainder of this section describes these eight tasks and the associated subtasks. Appendix D describes the field methods used during the implementation of the SRI field tasks.

5.1 PREPARE SUPPORTING DOCUMENTS FOR SRI WORK PLAN FOR SUBMITTAL TO THE NYSDEC

The final work plan, dated February 19, 2001, and supporting documents including a *Quality Assurance Project Plan,* a *Field Sampling Plan,* and a *Health and Safety Plan* were prepared and submitted to the NYSDEC. NYSDEC approved these plans on April 2, 2001.

5.2 CONDUCT RECONNAISSANCE AND PRIVATE WELL SEARCH

In 2001, URS conducted a reconnaissance of the bedrock outcrops along the banks of the Anthony Kill and conducted visual observations of the properties upstream and downstream of the site.

In October 2001, URS contacted the Mechanicville Public Works Department and were told that there are no private wells within the city. All properties within the city are serviced by the municipal water supply.

URS also reviewed a copy of an unpublished Master's thesis (Plesch, 1994) of a surficial geology study for the site area to supplement our understanding of the bedrock geology near the site.

5.3 INSTALL ADDITIONAL SOIL BORINGS AND MONITORING WELLS

A total of 123 additional soil borings were advanced at the site between April 2001 and January 2003. Forty-eight of the 123 soil borings were completed as monitoring wells. The drilling program of the *SRI* was completed in an iterative fashion. This allowed adjustments to the placement of the subsequent investigative locations, if appropriate, based on the observations from the preceding locations. The soil boring locations are shown in Figure 5-1. Table 5-1 provides a summary of the grade elevations in feet msl, the total depths, and depth to bedrock, and survey coordinates for each boring that was not completed as a monitoring well.

The existing monitoring well network is comprised of 14 overburden monitoring wells, 21 shallow bedrock monitoring wells, and 25 deep bedrock monitoring wells. The well locations are shown in Figure 5-2. The well depths and well construction details are summarized in Table 5-2. Well development observations are listed in Table 5-3. Drilling and sampling methods are described in Appendix D. Boring logs and monitoring

well construction details are provided in Appendix E. Copies of laboratory analytical reports are in Appendix F.

5.3.1 Rationale for Additional Soil Borings and Monitoring Wells

The primary intent for additional soil borings and monitoring wells was to further evaluate the extent of NAPLs in the subsurface beneath and near the Mechanicville site. The monitoring results from the new wells were used to further evaluate the distribution of dissolved contaminants to complete the delineation of the dissolved plume.

In general, continuous soil samples were collected from each soil boring using four-foot long Macrocore open samplers that were advanced using a van-mounted Geoprobe. Each soil sample was described in the field and field screened for the presence of VOC vapors using a photo-ionization detector (PID) by a URS geologist. The field procedures are more fully described in Appendix D.

Soil samples were collected for laboratory analysis based on the field observations during drilling through the overburden materials at a typical frequency of one sample per boring. The soil samples were selected based on visual evidence of free-phase NAPLs and other observations of impacts, including staining and field screening. If no impacts were observed, a soil sample from near the water table was selected for laboratory analysis. At locations where impacts were observed, soil samples were collected from the fringes of (above or below) the contaminated zone.

As shown in Table 5-4, a total of 19 surface soil samples and 56 subsurface soil samples, including two duplicate samples, were collected from the 123 borings for laboratory analysis by Adirondack Environmental Services (AES) of Albany, New York. Most of the soil samples were analyzed for SVOCs (PAHs and phenols) VOCs, and cyanide. Selected samples were also analyzed for metals. One soil sample (SB-17 [2 to 4 feet]) was also submitted to the analytical laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analyses for VOCs, SVOCs, and metals. Six soil samples were

analyzed for heating value. Five soil samples were also submitted to Meta Environmental Services, Inc. of Watertown, Massachusetts for further analyses. These five soil samples were analyzed for hydrocarbon fingerprints by EPA Method 8100 and extended PAH profiles by modified EPA Method 8270 to evaluate whether some of the PAHs in the soil originated from sources other than the former MGP site. Copies of the laboratory analytical reports are presented in Appendix F.

The remainder of this section presents the rationale for the soil borings and monitoring wells installed during the SRI.

5.3.1.1 Soil Borings West of the Former MGP Site

NYSEG reportedly purchased the property west of the former MGP site and north of the former rail spur in 1952. The MGP ceased operations in 1955. Although there is no documentation suggesting waste disposal on this property, in 2001, ten soil borings on a 40-foot grid were advanced to evaluate whether there may be MGP residues, primarily purifier waste, in this area. Two additional soil borings SB-26 and SB-27 were advanced south of the former railroad spur. The locations of these 12 borings SB-1 through SB-4, SB-4A, and SB-5 through SB-9, SB-26 and SB-27 are shown in Figure 5-1. These borings were advanced using a Geoprobe and continuous soil samples were collected using Macrocore samplers. Boring logs are provided in Appendix E.

As shown in Table 5-1, these 12 soil borings west of the former MGP site were advanced to the refusal at the top of bedrock, which was encountered between 5 to 12 feet bgs. As shown in Table 5-4, selected soil samples from each of these borings were analyzed for VOCs, SVOCs (PAHs), phenols, and cyanide.

5.3.1.2 Soil Borings Within the Former MGP Site

In 2001, 26 soil borings were advanced to the top of bedrock within the former plant site to further define the nature and extent of NAPL in the overburden. The locations of these

26 borings (SB-10 through SB-23, SB-23A, SB-24, SB-24A, SB-25, and SB-28 through SB-35) are shown in Figure 5-1. These borings were advanced using a Geoprobe, and continuous soil samples were collected using Macrocore samplers. The boring logs in Appendix E and Table 5-1 show that top of bedrock was encountered between 4.3 and 24.8 feet bgs at these 26 borings.

As shown in Table 5-4, a total of 25 soil samples from 20 of the 26 soil borings were collected for laboratory analysis. These 25 soil samples include one duplicate soil sample from soil boring SB-21, five soil samples from soil boring SB-16, and two soil samples from soil boring SB-18. Most of the soil samples collected from within the former MGP area were analyzed for SVOCs (PAHs and phenols), VOCs and cyanide. As shown in Table 5-4, eight soil samples (SB-10 [8 to 10 feet], SB-11 [6 to 7 feet], SB-12 [2 to 4 feet], SB-15 [4 to 6 feet], SB-17 [2 to 4 feet], SB-22 [4 to 6 feet], SB-24 [4 to 6 feet], and SB-25 [4 to 6 feet]) were also analyzed for metals.

Strong odors and sheens were observed (between 8 to 14 feet bgs) at soil boring SB-16 and there was evidence of free-phase NAPL at soil boring SB-18 (between 11 and 16 feet bgs). Therefore, additional soil samples were selected and submitted for laboratory analysis from these borings. Soil sample SB-16 (8 to 12 feet) and soil sample SB-18 (12 to 16 feet bgs) were analyzed for heating value. Three soil samples from SB-16 and one soil sample from SB-18 were also submitted to Meta Environmental Services for hydrocarbon fingerprint and extended PAH profiles.

Soil boring SB-17 was advanced to refusal at 11 feet bgs. Black-stained sand and wood chips exhibiting a strong purifier (naphthalene-like) odor was encountered within four feet of the ground surface. Below four feet, the subsurface materials at boring SB-17 contained free-phase NAPL. Soil sample SB-17 (2 to 4 feet) was also analyzed for TCLP analyses for VOCs, SVOCs, and metals.

5.3.1.3 Soil Borings Along the West Side of North Central Avenue

In 2001, 15 soil borings were advanced along the west side of North Central Avenue adjacent to the site and south of the site. The locations of these 15 soil borings (SB-56 through SB-70) are shown in Figure 5-1.

Purifier wastes (wood chips) were observed at the ground surface between the row of planter boxes and the fence along North Central Avenue. Five borings (SB-56 through SB-60) were advanced using a hand auger between the planter boxes and the fence to attempt to evaluate the vertical extent of the purifier wastes. These five borings could not be advanced beyond 2 to 2.5 feet bgs with the hand auger. Six soil borings (SB-65 through SB-70) were advanced to eight feet within the planter boxes using a Geoprobe and continuous soil samples were collected using Macrocore samplers. Soil samples were not collected for laboratory analysis from these 11 soil borings. In November 2001, crushed stone was spread over the purifier wastes between the fence and the planter boxes.

In addition, four soil borings (SB-61 through SB-64) were advanced using the Geoprobe to the top of rock or refusal (interpreted as possibly canal remnants) along the west side of North Central Avenue south of the site. NAPL was not observed in the overburden materials at these locations. No soil samples were submitted for laboratory analysis from these locations.

5.3.1.4 Soil Borings East of the Site

In 2001, three soil borings were advanced within North Central Avenue and 19 soil borings were advanced in the asphalt paved parking area of DiSiena Furniture store and along North Central Avenue west and south of the Getty Station. The locations of these 22 soil borings (SB-C1, SB-C2, and SB-C3 and SB-36 through SB-55) are shown in Figure 5-1. The boring logs are presented in Appendix E.

The Champlain Canal was originally constructed above the natural ground surface level and the water was believed to be approximately ten feet above the gas plant site. The canal was then abandoned and filled with debris. The canal walls are believed to be still present beneath the roadway. Three soil borings (SB-C1, SB-C2, and SB-C3) were advanced along the axis of the canal, which is presumed to coincide with North Central Avenue. Various MGP-type materials including slag, ash, and clinkers were encountered at these three borings. However, NAPL was only observed at soil boring SB-C2 at 16 feet bgs. Soil samples SB-C1 (4 to 8 feet), SB-C2 (12 to 14 feet), and SB-C3 (6-8 feet) were analyzed for SVOCs (PAHs and phenols), VOCs and cyanide.

The 19 soil borings (SB-36 through SB-55) at the DiSiena property and locations along the east side of North Central Avenue were advanced using a Geoprobe. Continuous soil samples were collected at the borings until refusal or bedrock was encountered. There were no signs of NAPL or MGP odors observed in the subsurface materials at these 19 soil borings. The main objective for advancing soil borings SB-36 through SB-55 was to map the bedrock surface east of the North Central Avenue. The Geoprobe was unable to advance borings beyond three feet at soil boring locations SB-50 and SB-51 in front of the John H. Ahern Rescue Squad, which is south of the Getty Station.

At soil borings SB-44 through SB-46 downgradient of the Getty Station's underground storage tanks, strong petroleum odors (gasoline) and suspected product were observed at the water table, which was encountered at approximately 15.5 feet bgs. Based on these observations, NYSDEC requested that a soil sample from this area be collected for VOCs (BTEX, and methyl tert-butyl ether [MTBE]), total petroleum hydrocarbons, and petroleum identification. Therefore, the Geoprobe returned to the location of boring SB-45 and soil sample SB-45 (14 to 18 feet) was collected and submitted for the requested analyses.

5.3.1.5 Monitoring Well Installation

To date, the existing monitoring well network is comprised of 14 overburden monitoring wells, 21 shallow bedrock monitoring wells, and 23 deep bedrock monitoring wells. The well locations are shown in Figure 5-2. The monitoring wells installed during the SRI were completed in three phases. The initial phase of drilling took place between April 2001 and November 2001, during which 31 monitoring wells were installed within the site boundaries and 4 monitoring wells were installed offsite. During the two subsequent phases of drilling in 2002 and 2003, 13 new monitoring wells were installed south, east, and north of NYSEG's property.

The well depths and well construction details for all existing wells are summarized in Table 5-2. Boring logs and well construction logs are provided in Appendix E. At locations where a well was clustered with one or two other new wells, continuous soil sampling was only conducted at one of the monitoring well locations. Similarly, continuous coring of the bedrock to the total depth of the deepest well in a well cluster was only conducted at one of the wells in each well cluster. Bedrock core logs are provided in Appendix E.

As shown in Table 5-2, the overburden wells were constructed with either two-inch or four-inch diameter well screens. In addition, the overburden wells that were suspected to contain NAPLs based on observations of the overburden materials were constructed with sumps, which range from 0.5-foot long up to 2-foot long, installed below the wells screens to collect potential NAPL.

As shown in the well construction logs in Appendix E, the bedrock wells were completed using well screens or open holes in the bedrock. Similar to the overburden wells, sumps were installed below well screens at two shallow bedrock wells suspected to contain NAPLs based on observations of the bedrock. Depending upon the total depth and subsurface conditions encountered in the bedrock, casings of decreasing diameters were used to seal off the upper bedrock above the screen or open hole intervals of the bedrock

wells. Most of the new bedrock wells are single-cased or double-cased monitoring wells. Some triple-cased monitoring wells were also installed. As shown in Appendix E, monitoring well RH-1D was completed using four well casings.

In order to gather information regarding water yield and hydraulic properties for specific intervals of the bedrock and the presence or absence of NAPL along with dissolved phase concentrations of indicator compounds, packer testing was conducted during coring of the bedrock at deep bedrock wells MW-1D, MW-36D, MW-37D, MW-38D, MW-39D, MW-40D, MW-41D, and MW-42D, which were installed in 2002. Groundwater samples from each packer interval were collected and analyzed for BTEX compounds, unless NAPL was observed in the drilling water or on the rock core. If NAPL entered the borehole during packer testing, packer testing was terminated and no sample was collected for laboratory analysis. The laboratory analytical reports are provided in Appendix F.

During the installation of some of the deep wells in 2002, water levels were monitored at adjacent wells using pressure transducers and data loggers and to monitor for cross-borehole influence. Graphs showing the available information water level changes, if any, during the drilling of some of the deep bedrock wells are provided in Appendix G. Unfortunately, equipment malfunctioning prevented URS from downloading data from the data loggers installed in nearby wells during well installations in late 2002 and early 2003.

Each new well was developed following installation. Table 5-3 presents a summary of the observations noted during well development. The drilling methods, well installation, and well development methods used during the SRI are more fully described in Appendix D.

The remainder of this section discusses the rationale for the newly installed well, their construction, selection of soil samples, and observations made during installation.

5.3.1.5.1 On-Site Monitoring Wells

In 2001, the following 18 monitoring wells were installed at the site: RH-1S, RH-1D, MW-2I, MW-12S, MW-14S, MW-15S, MW-15I, MW-15D, MW-21S, MW-21D, MW-22I, MW-23S, MW-23D, MW-25I, MW-25S, MW-26S, MW-28I, and MW-29I. Well construction details for these 18 wells are summarized in Table 5-2. Boring logs and well construction logs are presented in Appendix E. Of these 18 monitoring wells, eight are overburden monitoring wells, six are shallow bedrock monitoring wells, and four are deep bedrock monitoring wells. The locations of these monitoring wells are shown in Figure 5-2.

Relief Holder Area Wells

During the IRM, it was discovered that the bottom of the former gas relief holder was installed into bedrock and LNAPL was observed flowing into the excavation. Two monitoring wells (RH-1S and RH-1D) were installed in the overburden and the deep bedrock, respectively, near the north end of the former gas relief holder to evaluate the groundwater quality beneath the holder and to evaluate the vertical extent of NAPL near the presumed source area. During drilling, NAPL was found within the overburden materials and in the bedrock near the former gas relief holder. The drilling activities at well RH-1D mobilized the NAPL within the subsurface and NAPL sheens were observed in the Anthony Kill.

During the installation of well RH-1S, brown sand saturated with NAPL was encountered between 10 and 16.3 feet bgs. In order to evaluate the soil quality immediately above the saturated NAPL interval, soil sample RH-1S (8 to 10 feet) was collected for SVOCs (PAHs and phenols), VOCs and cyanide laboratory analyses. A soil sample from the bottom of the boring was also submitted to Meta Environmental Services for hydrocarbon fingerprint and extended PAH profiles analyses. As presented in Table 2, overburden monitoring well RH-1S was completed as a four-inch diameter well with a 15-foot long, 0.040-inch screen, and 0.5-foot long sump. Recoverable DNAPL has been present at this

location since well installation was completed. DNAPL is recovered from well RH-1S as part of Task 5 (Section 5.5).

During bedrock coring between 43 and 65 feet at well RH-1D, NAPL and odors were observed at seeps (Seep-1 through Seep-6) in the kill. NAPL, odors, and sheens were also observed at seeps during drilling at wells MW-291, MW-35I, and MW-23D. The seep locations are shown in Figure 5-2. A four-inch casing was installed in RH-1D at 66 feet bgs to seal off the NAPL-producing fractures. However, immediately beneath the four-inch casing, a NAPL-producing fracture was encountered in RH-1D at approximately 69 feet. Fractures were also noted at 78 and 82 feet bgs. However, it was not clear whether the fractures at 78 and 82 feet were NAPL-producing fractures. As agreed with NYSDEC, a two-inch casing was set to approximately 86.5 feet at well RH-1D. Bedrock coring to 107.5 feet below the 2-inch casing was done using a AX core bit (1.9-inch diameter). During coring, there were no signs of NAPL, and the bedrock was competent. The open hole interval at well RH-1D is between approximately 86.5 and 107.5 feet bgs.

Shallow bedrock monitoring well MW-2I was installed near existing shallow bedrock well MW-2 to evaluate the potential presence of NAPLs and groundwater quality beneath the former distribution holder. During drilling, slight MGP odors were noted between 5 and 9 feet bgs within the overburden. Soil sample MW-2I (7 to 9 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. In addition, sample MW-2I (7 to 9 feet) was analyzed for heating value to evaluate moderately impacted materials for the future Feasibility Study (FS). The open hole interval at well MW-2I extends from approximately 11.3 to 32.2 feet bgs. There were no signs of NAPL during drilling of the open hole interval.

Northern Boundary of Site

As shown in Figure 5-2, eleven monitoring wells (MW-15S, MW-15I, MW-15D, MW-21S, MW-21D, MW-22I, MW-23S, MW-23D, MW-28I, MW-29I, and MW-34D)

were installed along the Anthony Kill. These eleven monitoring wells were installed to further evaluate the geology, contaminant migration pathways, and the extent of NAPL, with particular emphasis on the downgradient perimeters of the former MGP site.

NAPL was reportedly detected in the past at monitoring wells MW-5 and MW-15 that were destroyed during the recent IRM. Therefore, in order to evaluate the current conditions in this area near the Anthony Kill, a three-well cluster comprised of overburden monitoring well MW-15S, shallow bedrock well MW-15I, and deep bedrock monitoring well MW-15D, was installed. There were observations of NAPL in the overburden and the bedrock during the installation of this well cluster. Slight MGP odors were noted starting at approximately 5 feet bgs and stained sand and beads of NAPL were observed between 8 and 10 feet bgs within the overburden. Soil sample MW-15S (6 to 8 feet) was collected for SVOCs (PAHs and phenols), VOCs, and cyanide analyses to evaluate the soil quality immediately above the NAPL impacted interval. Monitoring well MW-15S was completed using two-inch diameter PVC well materials. This well was completed with a 0.020-inch slot screen between 5 and 10 feet bgs and two-foot sump below the screen to enhance NAPL recovery. Due to presence of NAPL observed in the overburden and observation of NAPL near the bedrock surface, shallow bedrock monitoring well MW-15I was completed approximately 10 feet into bedrock. This well was completed with a two-inch diameter, ten-foot long, 0.040-slot screen and a 2.5-foot sump. The well screen for MW-15I extends from 12.5 to 22.5 feet bgs. Bedrock coring was completed to 105.8 feet bgs at deep bedrock monitoring well MW-15D. NAPL was observed at approximately 78 feet bgs. A four-inch steel casing was grouted to the borehole approximately 20 feet below the last observation of NAPL at 96 feet bgs. There were no signs of NAPL during coring of the open hole interval (96 and 105.8 feet bgs) at well MW-15D.

Monitoring wells MW-21S and MW-21D were installed west of the MW-15S/MW-15S/MW-15D well cluster near the location of soil boring SB-10. There were trace amounts of NAPL observed at approximately 10 feet bgs in boring SB-10. Therefore, overburden monitoring well MW-21S was completed using two-inch diameter PVC well

materials to a total depth of 12 feet bgs, including a two-foot sump to enhance NAPL recovery. This well was completed with a 0.010-inch slot screen between 5 and 10 feet bgs and two-foot sump below the screen.

The bedrock core between 25 and 29 feet bgs exhibited stains and NAPL sheens during coring at well MW-21D. Although there were no observations of NAPL on the core or signs of sheens in the drilling water during drilling below 35 feet at well MW-21D, seeps of rock flour and NAPL were observed in the kill immediately northeast of MW-21D. These seeps were east of the NAPL producing seeps (Seeps 1 through 6) that were observed during drilling at wells RH-1D, MW-29I, MW-35I, and MW-23D. A four-inch casing was set at approximately 49 feet at MW-21D and the well was completed with an open hole interval from 48.7 to 59.4 feet bgs.

Due to observations of NAPL in the bedrock at well MW-21D, monitoring well MW-32D was installed to evaluate whether there were MGP residues west of the MW-21S/MW-21D well cluster. There were no signs of NAPL or MGP odors within the overburden at MW-32D. The bedrock at well MW-32D was cored to approximately 111 feet bgs. The upper bedrock was very fractured, however there were no signs of NAPL. Six-inch steel casing was installed to approximately 91 feet bgs and the well was completed with an open hole interval that extends from approximately 91 to 111.5 feet bgs.

Shallow bedrock wells MW-22I and MW-28I were installed east of the MW-15S/MW-15I/MW-15D well cluster. Both wells were completed using two-inch PVC with 0.040-inch slot size screens. There were no signs of NAPL or MGP odors in either the overburden or bedrock during the installation of well MW-28I. Well MW-28I was completed with the screen between 15 and 25 feet bgs. Soil sample MW-28I (10 to 12 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Based on observations of NAPL in the bedrock, the screen for monitoring well MW-22I was installed between 17 and 32 feet bgs and a 4-foot sump was installed below the screen. There were no signs of NAPL or MGP odors in overburden, and soil sample

MW-22I (2 to 4 feet) was collected analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide.

As shown in Figure 5-2, well cluster MW-29I/MW-29D was installed east of MW-28I. The overburden materials at approximately four feet bgs exhibited a slight MGP odor at well MW-29I. Soil sample MW-29I (4 to 6 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, cyanide, and heating value. Soil sample MW-29I (0 to 2 feet) was analyzed for heating value only. Monitoring well MW-29I was cored to a total depth of 26 feet bgs. NAPL and strong MGP odors were observed on the bedrock core starting at 16 feet bgs at MW-29I. NAPL was observed at seeps in the Anthony Kill during the bedrock coring activities. The NAPL seep locations are shown in Figure 5-2. The open hole interval for MW-29I is from 11.5 to 26 feet bgs.

The NAPL seeping into the kill (estimated volume of less than one gallon) immediately sank and collected into a pool that began to break up into individual beads and migrate slowly downstream. On May 9, 2001, Marcor of Albany, New York mobilized to the site with a Guzzler liquid-vacuum truck and booms. Marcor placed booms across the width of the kill near the bridge and used a three-inch diameter vacuum hose with a one-inch diameter stinger to collect the DNAPL. Marcor removed approximately 500 gallons of water, DNAPL, and sediment from the kill. The fluid and sediment mixture from the vacuum truck was pumped into one of the polyethylene tanks at the site. The NYSDEC Spill Hotline was contacted and this spill was assigned No. 0101566. Sandbags were placed in the kill along the downgradient margins of the bedrock seep area. The intended purpose of the sandbags was to impede the downstream migration of DNAPL by acting as a barrier. The DNAPL that would encounter the sandbags would pool and subsequently sink to the bottom of the kill behind the sandbags.

During the installation of MW-29D, as the bedrock was reamed to approximately 26 feet bgs, “bubbling” was noted on the upgradient side of the sandbags in the Anthony Kill. The bedrock at well MW-29D was cored from approximately 26 to 111 feet bgs. After coring to approximately 45 to 50 feet bgs at well MW-29D, the bedrock seeps in the

Anthony Kill stopped seeping rock flour and NAPL and the bedrock core was noted to be very competent. A six-inch casing was installed to approximately 91 feet bgs to seal off the upper bedrock and well MW-29D was completed with an open hole interval that extends from approximately 90 to 110 feet bgs.

Monitoring well cluster MW-23S/MW-23D was installed at the northeast corner of the site adjacent to the Anthony Kill. The overburden materials near the water table encountered at approximately nine feet bgs were noted to be black stained sand with a petroleum-like odor. An MGP odor and sheen were noted at the top of bedrock at 12 feet bgs. Soil sample MW-23S (8 to 10 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Well MW-23S was completed with two-inch diameter PVC well materials including a 0.020-inch slot screen between 7.5 and 12.5 feet bgs and a two-foot sump. The bedrock at well MW-23D was cored between 17.1 and 80 feet bgs, and some seep activity was observed in the kill. A four-inch casing was grouted to the borehole to approximately 56 feet to seal off the upper bedrock. During coring of the open hole interval between approximately 56 and 80 feet bgs, no signs of NAPL were observed in well MW-23D.

Eastern Boundary Of The Site

As shown in Figure 5-2, there are 12 monitoring wells along North Central Avenue. As shown in Figure 5-2, well clusters MW-26S/MW-26I and MW-30S/MW-30D were installed southeast of well cluster RH-1S/RH-1D. Overburden monitoring well MW-12S forms a well cluster with existing wells MW-12 and MW-13. Well cluster MW-25S/MW-25I is north of well MW-12S. Further north is a three-well cluster comprised of existing well MW-14 and new wells MW-14S and MW-14D.

Well cluster MW-26S/MW-26I was installed near soil boring SB-18 to further evaluate the extent of NAPL in the overburden and shallow bedrock, because overburden materials with free-phase NAPL were encountered at approximately 11 to 16 feet bgs at boring SB-18 near the entrance to the site. During the installation of overburden

monitoring well MW-26S, stained sands exhibiting a slight MGP odor were observed. The top of bedrock was encountered at approximately 23 feet bgs. Soil sample MW-26S (22 to 23 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the quality of the overburden immediately above the bedrock. Monitoring well MW-26S was completed with a four-inch diameter 0.020-inch slot size screen that extends 7.5 to 22.5 feet bgs and a two-foot sump to facilitate NAPL recovery. LNAPL is recovered from this well using a peristaltic pump as part of Task 5 (Section 5.5). For shallow bedrock well MW-26I, a six-inch steel overburden casing was grouted in the borehole to 24.5 feet bgs. Well MW-26I was completed with an open hole interval that extends from approximately 24.5 to 45.5 feet bgs. There were no signs of NAPL in the bedrock during drilling of the open hole interval.

The top of bedrock was encountered at approximately 24.3 feet bgs at well cluster MW-30S/MW-30D along North Central Avenue. The overburden materials encountered between 13 and 24 feet bgs contained NAPL. Soil sample MW-30D (10 to 12 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality immediately above the NAPL zone. Overburden well MW-30S was installed to a total depth of 27 feet bgs. The well was constructed with a four-inch diameter 0.020-inch slot size screen that extends from 10 to 25 feet bgs and a two-foot sump from 25 to 27 feet bgs. The bedrock at deep bedrock well MW-30D was cored to 121 feet bgs. There was evidence of NAPL at approximately 70.5 feet bgs. A six-inch casing was set to approximately 90 feet bgs to seal off the upper bedrock. The open hole interval for well MW-30D extends from approximately 90 to 121feet bgs. There were no signs of NAPL during drilling of the open hole interval.

Overburden well MW-12S was installed adjacent to existing overburden well MW-12 and existing shallow bedrock well MW-13. At well MW-12S, NAPL and MGP odors were found within the overburden materials starting at 14 feet bgs to the top of bedrock, which was encountered at approximately 26 feet bgs. Soil sample MW-12S (24 to 26 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Monitoring well MW-12S was completed with a 15-foot long well screen and a two-foot

sump to facilitate NAPL recovery at this location. As shown in Table 5-2, the four-inch diameter 0.020-inch slot size screen extends from 11 to 26 feet bgs at MW-12S.

Well cluster MW-25S/MW-25I was installed north of well MW-12S. The overburden materials were continuously sampled and there were signs of NAPL and MGP odors between 15 and 26 feet bgs. Therefore, well MW-25S was completed as a two-inch diameter well with a 0.020-inch slot screen between 11 and 26 feet bgs and a two-foot sump. The bedrock at well MW-25I was continuously cored from 27 to 47 feet bgs, which corresponds to the well's open hole interval. There were no signs of NAPL during drilling of the bedrock.

Overburden well MW-14S and deep bedrock well MW-14D were installed adjacent to existing shallow bedrock well MW-14 near the northeast corner of the site to evaluate whether there is a potential NAPL migration pathway to the northeast. There was only a slight MGP odor noted at approximately 20 feet bgs within the overburden at boring MW-14S. The top of bedrock was encountered at approximately 25 feet bgs at well MW-14S. Soil sample MW-14S (24 to 25 feet) was analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Monitoring well MW-14S was completed as a two-inch well with a total depth of 25 feet bgs. The 0.010-inch slot size screen extends from 10 to 25 feet bgs. A high angle fracture with NAPL was present at approximately 71 feet bgs at deep monitoring well MW-14D. Above 71 feet bgs, there were no signs of NAPL in the bedrock, however sheens were observed in the Anthony Kill as the bedrock was cored between 51 and 61 feet bgs. A four-inch casing extending to 91 feet bgs, which corresponds to approximately 20 feet below the NAPL-producing fracture at 71 feet bgs, was grouted to the borehole. The open hole interval for well MW-14D extends from approximately 91 to 121.7 feet bgs. There were no signs of NAPL during drilling of the open hole interval. At approximately 121 feet bgs there was a highly calcified fracture, and below this fracture there was an abrupt change to high angle bedding.

5.3.1.5.2 South of the Site

As shown in Figure 5-2, there are currently 11 monitoring wells south of the site along Ferris Lane and as far south as Burke Avenue. Shallow monitoring well MW-19I is southwest of the former MGP portion of the site. There are two well clusters (MW-1/MW-1I/MW-1D and MW-10/MW-10I/MW-10D) that are along the south side of Ferris Lane. Deep bedrock monitoring well MW-40D is southeast of well cluster MW-10/MW-10I/MW-10D. South of the NYSEG substation is well pair MW-31S/MW-31D, and well MW-43D is on the north side of Burke Avenue.

Shallow bedrock monitoring well MW-19I was installed to investigate the groundwater quality in the shallow bedrock upgradient of the site. As shown in Figure 24, well MW-19I is southwest of the former MGP portion of the site on the south side of Ferris Lane. Two soil samples were collected for laboratory analysis from the MW-19I boring. Because there were no signs of MGP impacts (visible staining or odors) or low levels of VOCs during field screening with a PID at this upgradient location, soil sample MW-19I (0 to 2 feet) was analyzed for heating value. In addition, soil sample MW-19I (4 to 6 feet) was analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. There were no signs of NAPL during drilling of the open hole interval. The open hole interval is from approximately 18 to 38.5 feet bgs.

Well cluster MW-10/MW-10I/MW-10D is southeast of the former gas relief holder. Existing overburden well MW-10 reportedly contained NAPLs in the past, and it contained slight sheen during the March 7, 2000 well monitoring event. Shallow bedrock well MW-10I and deep bedrock well MW-10D were installed adjacent to well MW-10 to evaluate the potential NAPL migration pathway towards the southeast from the former gas relief holder. There was evidence of MGP-like odors and sheens within the overburden at and below the water table, which was encountered at approximately 13 feet bgs at well MW-10I. Soil sample MW-10I (14 to 16 feet) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Shallow bedrock monitoring well MW-10I was completed with an open hole interval that extends from approximately 22 to

43 feet bgs. There were no signs of NAPL during drilling of the bedrock at well MW-10I.

During bedrock coring and installation of a six-inch casing to approximately 60 feet bgs at deep bedrock monitoring well MW-10D, there were no signs of NAPL or odors in the bedrock. However, water loss was noted at approximately 46 feet bgs and "bubbling" was observed at some of the bedrock seeps in the kill. Water level measurements collected at shallow bedrock well MW-29I were noted to be rising slightly. NAPL was observed at approximately 67 feet bgs at well MW-10D. The bedrock core was noted to be highly fractured, and the presence of NAPL provides evidence that the southern tear fault was intercepted at well MW-10D at approximately 67 feet bgs. The open hole interval below the four-inch casing is between approximately 82 and 114 feet bgs.

Monitoring well MW-40D was installed approximately 20 feet southeast of well MW-10D to intercept the southern tear fault and define the vertical extent of DNAPL near well MW-10D. At well MW-40D, there were no signs of MGP indicators noted in the upper 50 feet of bedrock (80 feet bgs). Below 80 feet bgs, the bedrock was continuously cored to 115 feet bgs. As shown in Table 5-5, packer testing was conducted between 20 and 80 feet and 80 to 100 feet. During packer testing between 80 and 100 feet, approximately 2 liters of NAPL was recovered at well MW-40D. In order to continue to recover NAPL at this location, well MW-40D was temporarily completed with an open hole interval between 80 and 115 feet, which generally corresponds to the open hole interval for well MW-10D. During well development activities at MW-40D, approximately 19 liters of NAPL was recovered. However, within three months of well development, the average weekly NAPL recovery volume was less than 0.25 liters. Because the vertical extent of NAPL was not defined in this area of the site, well MW-40D was subsequently deepened to 170 feet bgs, completed with two-inch PVC screen (0.040-inch slot size) between 140 and 170 feet bgs, and redeveloped. During bedrock coring and packer testing between 115 and 170 feet bgs and well development, there were no signs of NAPL or MGP odors at MW-40D.

Existing shallow bedrock monitoring well MW-1 was installed with an open hole interval between 11.60 and 16.85 feet bgs. During the installation of well MW-1 there were no indications of MGP impacts, and groundwater analytical results do not indicate the presence of VOCs, PAHs, phenols, or cyanide above method detection limits. To date, NAPL has not been observed at this well. The overburden materials were continuously sampled during installation of the wells MW-1I and MW-1D and there was no evidence of MGP odors or sheen within the overburden. Soil sample MW-1D (8 to 10 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide.

During bedrock coring and packer testing at deep bedrock well MW-1D, there were observations of MGP impacts at approximately 50 feet bgs, between 60 and 80 feet bgs, and at 95 feet bgs. Packer testing was conducted at six 20-foot intervals at well MW-1D between 21 and 140 feet bgs. The depth intervals and observations during packer testing are summarized in Table 5-5. Approximately two liters of NAPL was recovered from well MW-1D during drilling. The indications that the southern tear fault was encountered at well MW-1D includes the observation of NAPL recharging the boring after being pumped dry during packer testing between 60 to 80 feet bgs and a volcanic ash layer (marker bed) at approximately 85 feet bgs. Monitoring well MW-1D was completed with an open hole interval between 121 and 155.2 feet bgs.

Based on the bedrock core observations at well MW-1D, monitoring well MW-1I was completed with an open hole interval between 45 and 75 feet bgs. Approximately two liters of NAPL has been recovered from well MW-1I during well development. Since well development only traces of NAPL have been observed at well MW-1I.

Based on the observations of MGP impacts during drilling at wells MW-1I and MW-1D, monitoring well MW-43D was installed on Burke Street south of well cluster MW-1/MW-1I/MW-1D to further delineate the potential MGP impacts further south of the site. Monitoring well MW-43D was drilled to 150 feet bgs, and there were no signs of NAPL or MGP odors during drilling. A slight iridescent sheen was observed in the circulation water at approximately 19.5 feet bgs (approximately five feet below the

bedrock surface), but this sheen did not exhibit MGP odors. The placement of the 30-foot open hole interval for well MW-43D was selected based on the results of passive bag sampling for BTEX. Passive bag samplers were installed at depths of 43 feet bgs, 73 feet bgs, 103 feet bgs, and 133 feet bgs in well MW-43D. After a period of two weeks to allow for the BTEX, if any, in the groundwater to diffuse into the deionized water inside of the passive bags, the passive bags were removed from the well. The water was transferred to new 40-milliliter vials and submitted to the laboratory for BTEX analysis. BTEX compounds were not detected above method detection limits in the four groundwater samples and the bottom 30 feet of the boring was selected to be screened. Monitoring well MW-43D was completed with a 30-foot long, four-inch diameter PVC (0.040-inch slot size) screen between 120 and 150 feet bgs.

Due to a pending sale of the residential property at 61 North Central Avenue during the SRI in 2001, NYSEG installed two monitoring wells (MW-31S and MW-31D) to evaluate the subsurface conditions south of the substation. There were no signs of NAPL or MGP odors observed during the installation of overburden well MW-31S south of the NYSEG substation. Although, there were no signs of NAPL at well MW-31S, this well was completed with 20-slot screen and a two-foot sump to facilitate NAPL recovery at this location. Soil sample MW-31S (0 to 2 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs and cyanide. The total depth of well MW-31S is 20 feet bgs.

The top of bedrock at MW-31D was encountered at approximately 26 feet bgs. Well MW-31D was drilled using a roller-bit to 150 feet bgs. There were no signs of NAPL or odors in the return drilling water at any time during drilling. For approximately 1 ½ years, well MW-31D had an open hole interval between 28 and 150 feet bgs and was subsequently retrofitted with 2-inch PVC well materials. Similar to well MW-43D, the final well construction of well MW-31D was selected based on the results of passive bag samplers that were installed in the well. The passive bags samplers were installed at depths of 45 feet bgs, 75 feet bgs, 105 feet bgs, and 135 feet bgs. Following a two-week period, the passive bag samplers were retrieved from the well and the water was

transferred to new 40-milliliter vials and submitted to the laboratory for BTEX analysis. BTEX compounds were not detected in any of the four samples. Monitoring well MW-31D was retrofitted by constructing a 2-inch PVC well within the existing borehole and was completed with a 30-foot long (0.040-inch slot size) screen between 120 and 150 feet bgs.

5.3.1.5.3 North of the Site

In order to evaluate the subsurface conditions north of the Anthony Kill, eight monitoring wells were installed north and northeast of the site. During previous investigations of the former MGP site, no monitoring wells had been installed north of the kill. Deep bedrock monitoring well MW-20D was installed northwest of the site. Shallow bedrock monitoring well MW-35I was installed opposite onsite wells MW-22I and MW-28I to evaluate whether NAPLs have migrated from the site and beneath the kill. Deep bedrock monitoring well MW-34D is north of well cluster MW-14/MW-14S/MW-14D. Because there were signs of NAPL at wells MW-35I and MW-34D, well cluster MW-36I/MW-36D was installed near the south side of William Street and well cluster MW-37I/MW-37D was installed to evaluate the northern and vertical extent of NAPL north and northeast of the site. Deep bedrock well MW-41D was installed on Williams Street, east of the North Central Avenue and William Street intersection to evaluate whether NAPLs have migrated beneath the kill toward the northeast.

Monitoring well MW-20D was installed northwest of the former MGP portion of the site. The top of the bedrock at well MW-20D was encountered at approximately 20.4 feet bgs. There were no signs of MGP indicators within the overburden and soil sample MW-20D (14 to 16 feet) was collected for laboratory analysis to evaluate the soil quality at the water table, which was encountered at 15 feet bgs. The soil sample was analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide. Bedrock coring at well MW-20D was conducted between 23.5 feet bgs to 110 feet bgs. The bedrock was very fractured and there was significant water loss during coring at approximately 45 feet bgs and an intermediate 6-inch casing was installed to approximately 51.4 feet bgs to seal off the

bedrock fractures and limit water loss. Well MW-20D was completed with an open hole interval between 90 and 110.1 feet bgs. There were no signs of NAPL or MGP odors noted in the bedrock at well MW-20D.

Monitoring well MW-35I was initially completed with an open hole interval between 12.5 to 34 feet bgs. During bedrock coring of the open hole interval at well MW-35I, NAPL was observed on the core and sheens were observed in the re-circulation water and in seeps in the Anthony Kill. Since installation, NAPL checks at well MW-35I have suggested the presence of recoverable quantities of NAPL. However, the presence of between three and four feet of soft materials (residual bentonite-cement grout and bedrock cuttings) at the bottom of the well impeded the ability to recover NAPL from this location. Well MW-35I was subsequently deepened to 38 feet bgs and then the well was flushed clear of the drilling debris. Well MW-35I was redeveloped and NAPL was observed in the evacuated water. Currently, the screened interval of this well extends from 12.5 to 38 feet bgs.

The overburden materials at well MW-34D exhibited no signs of NAPL or MGP odors. Soil sample MW-34D (12 to 14 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality at the water table, which was encountered at 13 feet bgs. The bedrock at well MW-34D was cored to 120 feet bgs. Due to signs of NAPL in the wash water and bedrock core at 35 and 38 feet bgs, a six-inch casing was set to 70 feet bgs to seal off the upper bedrock. A four-inch casing was set to 100 feet bgs at well MW-34D and the open hole interval from 100 to 120.5 feet bgs was cored. There were no signs of NAPL or MGP odors in the bedrock below 38 feet bgs at well MW-34D.

The two shallow bedrock and deep bedrock well pairs MW-36I/MW-36D and MW-37I/MW-37D were installed to further evaluate the northern and vertical extent of NAPL, north and northeast of monitoring wells MW-35I and MW-34D. The overburden and the bedrock were continuously sampled during the installation of these two well clusters. Weathered shale bedrock was encountered at well pair MW-36I/MW-36D at

approximately 5.5 feet bgs. Soil sample MW-36D (4 to 6 feet bgs) and duplicate sample MW-36D (4 to 6 feet bgs) were collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality immediately above the bedrock. There were no signs of NAPL or MGP odors within the overburden at wells MW-361/MW-36D and MW-37I/MW-37D. However, petroleum-like odors were noted at and below the water table (12.5 feet bgs) at well MW-37D. Soil sample MW-37D (14 to 16 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols).

During bedrock coring and packer testing to 160 feet bgs at well MW-36D and to 186 feet bgs at well MW-37D, there were no signs of NAPL or MGP odors. The packer testing depth intervals and summary of observations are provided in Table 5-5. As shown in Table 5-5, several of the packer testing intervals were dry. The total depths of the shallow bedrock wells were based on the bedrock coring observations at the corresponding deep bedrock wells. Shallow bedrock well MW-36I was completed with an open hole interval from 20 to 45 feet bgs, and deep bedrock well MW-36D was completed with an open hole interval from 140 to 161 feet bgs. Shallow bedrock well MW-37I was completed with an open hole interval from 30 to 50 feet bgs, and deep bedrock well MW-37D was completed with an open hole interval from 155 to 185 feet bgs. There have been no signs of NAPL sheens or MGP odors at these two well pairs since they were installed.

Deep bedrock well MW-41D was installed northeast of the site on the south side of William Street. The overburden and bedrock were continuously sampled to its total depth of the 140 feet bgs. As shown in Table 5-5, packer testing was also conducted at this well location. Monitoring well MW-41D was completed with an open hole interval between 120 and 140 feet bgs. During overburden sampling, bedrock coring, and packer testing, there were no observations of odors or sheens at well MW-41D. Soil sample MW-41D (4 to 6 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality immediately above the bedrock. Since installation there have been no signs of NAPL sheens or MGP odors at well MW-41D.

5.3.1.5.4 East of the Site

Prior to the SRI, there were two existing monitoring wells (MW-17 and MW-18) east of the site in the DiSiena Furniture store's parking lot. Well MW-17 screens the overburden and well MW-18 screens the shallow bedrock. During the SRI, seven bedrock wells (MW-17I, MW-17D, MW-33D, MW-38I, MW-38D, MW-39D, and MW-42D) were installed east of the site. As shown in Figure 5-2, shallow bedrock well MW-17I and deep bedrock well MW-17D were installed near the south bank of the Anthony Kill. The intent of the well cluster MW-17I/MW-17D is to evaluate the downgradient portion of the suspected dissolved contamination east of the site. Well cluster MW-38I/MW-38D was installed near the loading dock at the east end of the DiSiena Furniture store. Deep bedrock well MW-33D was installed approximately 75 feet south of wells MW-17 and MW-18. Deep bedrock well MW-39D was installed southeast of well MW-33D, and deep bedrock well MW-42D was installed south of well MW-33D.

The overburden materials at well MW-17I were continuously sampled and no signs of NAPL or MGP odors were observed. Soil sample MW-17I (20 to 21 feet bgs) was collected for laboratory analysis to evaluate the soil quality immediately above the bedrock, which was encountered at 21.3 feet bgs. The soil sample was analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide.

The bedrock from 23 to 142.5 feet bgs was continuously cored at well MW-17D. MGP odors were noted at approximately 55 feet bgs and NAPL was encountered during bedrock coring at a depth of approximately 96 feet bgs at well MW-17D. An MGP-like odor and traces of NAPL observed on the bedrock core between 96 and 121 feet bgs are attributed to the fracture at 96 feet bgs. A 6-inch casing was installed to approximately 121 feet bgs to seal off the upper bedrock at well MW-17D. The open hole interval for well MW-17D extends from 121 to 142.5 feet bgs. There were no signs of NAPL or MGP odors during drilling of the open hole interval. Because the bedrock at well MW-17D was continuously cored, the bedrock was not cored at well MW-17I. Shallow

bedrock well MW-17I was installed with an open hole interval that extends from 23 to 45 feet bgs.

Well MW-33D was installed in the southern portion of the DiSiena Furniture store's parking lot. There were no signs of NAPL or MGP odors observed during installation of the eight-inch overburden casing that was set to a depth of 26 feet bgs. The bedrock was cored from approximately 26.4 to 141 feet bgs at well MW-33D. The bedrock was noted to be very fractured to approximately 30 feet bgs and was competent between 30 to 56 feet bgs. At approximately 95.5 to 96 feet bgs, MGP odors and NAPL were encountered at well MW-33D. A six-inch casing was installed to approximately 120 feet bgs to seal off the upper bedrock at MW-33D. The bedrock was cored to approximately 141 feet. There were no signs of NAPL or MGP odors during drilling of the open hole interval, which extends from 119.7 to 140.5 feet bgs.

Monitoring well pair MW-38I/MW-38D is on the northeast side of the DiSiena property adjacent to the Anthony Kill. Soil sample MW-38D (6 to 8 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality at the water table. The water table at MW-38D was encountered at seven feet bgs during drilling. There was no evidence of MGP odors or NAPL within the overburden at wells MW-38I and MW-38D. During drilling of the rock socket for the overburden casing for well MW-38D, a hydraulic connection between the shallow bedrock and the Anthony Kill was noted. There were traces of NAPL observed at approximately 98 feet bgs, and a sheen was observed during bedrock coring and packer testing between 100 and 120 feet bgs at well MW-38D. The packer testing intervals and observations are presented in Table 5-5. Monitoring well MW-38D was completed with an open hole interval between 150 and 170.1 feet bgs. Based on the observations of NAPL during the installation of MW-38D, monitoring well MW-38I was completed with an open hole interval between 90 and 120 feet bgs. Although, NAPL was observed at 102 feet bgs at well MW-38I during installation, only MGP odors have been noted during well development and sporadically during bimonthly NAPL checks. Since installation, no odors or sheens have been observed at well MW-38D.

Monitoring well MW-39D was installed near the Getty station. The overburden materials were continuously sampled to the top of bedrock (33 feet bgs) at well MW-39D. Soil sample MW-39D (16 to 18 feet bgs) was collected and analyzed for SVOCs (PAHs and phenols), VOCs, and cyanide to evaluate the soil quality at the water table. The water table at MW-39D was encountered at 16 feet bgs during drilling. There were no signs of MGP odors or sheens within the overburden at this well location. The open hole interval for well MW-39D is between 130.4 and 150.4 feet bgs. There were no indications of MGP impacts in the bedrock during coring and packer testing at well MW-39D. Overall, the MW-39D bedrock core was very competent (>90% RQD) and there were no indications that the southern tear fault was intercepted, which indicates that the southern tear fault is south of this well location. To date, there have been no indications of odors or sheens at well MW-39D.

Monitoring well MW-42D was installed east of monitoring well MW-40D and west of monitoring well MW-39D to evaluate whether the southern tear fault is present east of North Central Avenue. Monitoring well MW-42D was drilled to 175 feet bgs and NAPL was observed in the re-circulation water during coring at approximately 148 feet bgs. Well MW-42D was completed with an open hole interval between 140 and 175 feet bgs. During well development, the evacuated water showed signs of NAPL. Between February 3 and June 20, 2003, URS has recovered approximately 101 liters of DNAPL from monitoring well MW-42D at the Getty property.

5.3.1.6 Well Development

Each new monitoring well was developed following installation. The wells were developed by surging and pumping methods to remove fine-grained sediments from the sand pack at the wells completed with screens and bedrock fines from the open hole wells. During development, water was evacuated from each well until the evacuated water was visually free of sediments or bedrock fines. Table 5-3 presents a summary of the volumes of water removed and observations noted during development from each well. As shown in Table 5-3, monitoring wells MW-35I, MW-31D, and MW-40D were

developed on two separate occasions. These three wells were redeveloped following well construction modifications described earlier in this report. All development water was containerized in onsite storage tanks (500-gallon to 1,550-gallon capacities) prior to offsite disposal.

5.3.1.7 Location Surveying

The locations and elevations of the wells were surveyed by a New York State licensed surveyor using a United States Geodetic Survey benchmark as a datum. The elevation of the reference mark at the top of the inner well casing on all monitoring wells were surveyed to the nearest 0.01 foot. In addition, the ground elevations at the base of the protective outer well casings were surveyed to an accuracy of 0.01 foot. The geographic location or horizontal survey measurement were surveyed to an accuracy of one foot. The survey data for the soil borings is summarized in Table 5-1. The survey data for the monitoring wells is summarized in Table 5-2.

Three staff gauges were installed in the Anthony Kill to evaluate the relationship between groundwater and surface water in the kill. Staff gauge SG-1 was installed upstream of the site and staff gauge SG-2 was installed along former MGP site. Staff gauge SG-3, the downstream most gauge, was installed on the west side of the Central Avenue Bridge. The locations of each three staff gauges are shown in Figure 5-2. The gauges were surveyed by a New York State certified surveyor provided by NYSEG. Measuring of water levels in the kill has been included in each gauging event at the site.

5.4 COLLECT SURFACE SOIL SAMPLES

Five surface soil samples (SS-01 through SS-05) were collected from the zero to two-inch interval beneath the vegetative cover at private residential properties south of the site along Ferris Lane. The locations of these five samples are shown in Figure 5-1 and were selected based on NYSEG's consultation with the NYSDEC and the New York State Department of Health (NYSDOH). As shown in Table 5-4, these five surface soil

samples were analyzed for SVOCs and cyanide. Immediately after removal of the vegetative cover, soils were screened using a PID. Because there were no elevated PID readings detected above background, analysis for VOCs was not warranted for these surface soil samples.

In addition, three surface soil samples (SS-06, SS-07, and SS-08) were collected from the area west of the former MGP site and north of former rail spur. The locations of these three surface soil samples are shown in Figure 5-1. Surface soil samples SS-06, SS-07, and SS-08 were collected from beneath the recent fill. As shown in Table 5-4, these three soil samples were submitted to the laboratory for SVOCs, metals, cyanides, and PCBs analyses. All eight surface soil samples were analyzed by AES of Albany, New York.

5.5 FURTHER DELINEATE AND CHARACTERIZE NAPLS

Since October 2001, a periodic NAPL recovery program was initiated to check the wells for NAPL and recover NAPL that accumulates in the wells. As part of the NAPL recovery program, synoptic rounds of water levels were also collected. Based on NYSEG's prior experience, disposable weighted cords (i.e. polypropylene cord with stainless steel nut or washer) are reliable and have been used to monitor the wells at the site for NAPL. Separate weighted cords are dedicated to each well location. The dedicated cords are disposed of after use, eliminating the potential for cross-contamination. The presence of LNAPL was checked by lowering the cord to the top of the water table and recording whether there was an odor, sheen, or evidence of LNAPL on the cord upon retrieval. The presence of DNAPL was checked by lowering the cord to the bottom of the well and recording whether there was an odor, sheen, or evidence of DNAPL on the cord upon retrieval.

As shown in Table 5-6, there are several wells in which the weighted cords have indicated the presence of either LNAPL or DNAPL. When the presence of NAPL is indicated, bailers have been lowered into the wells to remove the NAPL. However, only trace quantities of NAPL have been recovered to date from some of these wells.

As discussed below, some recoverable NAPL is consistently present in some wells at the site. Recoverable quantities of NAPL are removed by using a hydrolift pump (Waterra), dedicated bailers or peristaltic pumps. Approximately 513 liters of NAPL has been recovered from the site through July 18, 2003. This total volume includes estimates of NAPL recovery volumes when NAPL was encountered during well installation and development. The recovered NAPL is temporarily stored in 55-gallon drums at the site prior to being transported offsite for disposal.

Currently, recoverable quantities of NAPL are found to be consistently present at four well locations. LNAPL is removed from well MW-26S, and DNAPL is present in wells RH-1S, MW-10D, and MW-42D. Monitoring wells MW-26S, RH-1S, and MW-10D are near the former gas relief holder. Well MW-42D is east of the site. In August 2001, samples of NAPL from wells MW-26S and MW-10D were collected and submitted to AES of Albany, New York. These two product samples were analyzed for viscosity, specific gravity, wettability, reactivity, corrosivity, ignitability, and TCLP benzene.

Two wells that occasionally contain recoverable quantities of NAPL are shallow bedrock wells MW-1I and MW-35I. Well MW-1I is southeast of the former gas relief holder. Shallow bedrock well MW-35I is north of the Anthony Kill.

5.6 FURTHER EVALUATE GROUNDWATER QUALITY

As agreed with the NYSDEC, only the NAPL-free monitoring wells were purged and sampled during two groundwater sampling rounds. The first round of sampling was completed in September and October 2001 and the second round was conducted in February 2003. During the February 2003 sampling event, monitoring wells MW-31S and RH-1D were not sampled due to low recharge.

In addition, groundwater samples were collected from selected wells to evaluate conditions identified during the investigation. Overburden monitoring well MW-31S was sampled in June 2001 due to a pending sale of the residential property. In May 2003, two

monitoring wells (MW-35I and MW-33D) were purged and sampled for VOCs plus MTBE to evaluate whether the automotive repair shop and Getty Station have impacted the groundwater. Wells MW-35I and MW-33D have had traces of NAPL and therefore were not originally included in either of the two groundwater sampling rounds.

Prior to the September and October 2001 and February 2003 sampling events, all existing and accessible wells were gauged. Field parameters, which include temperature, pH, conductivity, and turbidity of the samples, were recorded on field sheets during the purging process. The purge water was handled in a manner similar to the development water, as previously described. A summary of groundwater purging data is provided in Table 5-7. Groundwater sampling field sheets are provided in Appendix H. Once the field parameters stabilized (within 10 percent), water samples were collected directly from the screened interval using disposable weighted polyethylene bailers or VOC sampling kits compatible with the hydrolift pump that was used to purge some of the wells.

Groundwater samples were collected from each well within 24 hours after purging was completed. Samples for VOCs were collected immediately after purging. To minimize the collection of turbid samples at the locations wells where turbidity stabilized above 50 nephelometric turbidity units (NTUs), the samples for SVOCs and metals (both filtered and unfiltered) were collected after these wells "sat" for up to 24 hours.

As shown in Table 5-8, the groundwater samples collected during the September and October 2001 and February 2003 sampling events were analyzed for PAHs, VOCs, phenols, cyanide, and metals. The May 2003 groundwater samples were analyzed for VOCs plus MTBE. If during well purging, turbidity measurements stabilized above 50 NTUs, the groundwater samples for metals included unfiltered and field-filtered samples using 0.45-micron filters.

During the February 2003 groundwater sampling event, additional groundwater aliquots from monitoring wells MW-28I and MW-37I were submitted to the laboratory for matrix

spike/matrix spike duplicate (MS/MSD) analyses for quality assurance purposes. In addition, duplicate groundwater samples were obtained from monitoring well MW-11 (in 2001 and 2003) and MW-29D. The laboratory provided ASP Category B deliverables for the February 2003 groundwater samples. The laboratory packages for the 2001 and 2003 groundwater samples are provided in Appendix F. The February 2003 groundwater analytical data was reviewed for data validation purposes. The data validation review is provided in Appendix I.

5.7 FURTHER EVALUATE THE ANTHONY KILL

This section summarizes the scope of work completed to further evaluate the conditions of the Anthony Kill. As described in Section 2.0, during the previous phases of the investigation, the data collected from the Anthony Kill indicated that, although the surface water did not appear impacted, several VOCs, SVOCs, and metals have been detected in the sediments near the site. During the *SRI*, a reconnaissance of the Anthony Kill upstream, along the site and downstream to the confluence with the Hudson River to evaluate the current conditions in the Anthony Kill was completed.

5.7.1 Anthony Kill Reconnaissance

In July 2002 and August 2002, URS performed a sediment probing program in the Anthony Kill. The sediment probing program was performed to obtain data regarding sediment thickness, vertical profiles with respect to sediment composition and olfactory or visual evidence of impacts, if any, at transects upstream and adjacent to the site, and by a walk-through downstream of the former MGP site.

The transects were performed by walking across the kill on a line perpendicular to the stream flow while probing the bottom using a four-foot long fiberglass tile probe with a steel point. In general, the bottom of the Anthony Kill is shale bedrock. Table 5-9 summarizes the findings of the Anthony Kill reconnaissance. The approximate locations of the transects are shown in Figure 5-3.

Transects UT-1 through UT-6 began at the upstream side of the abandoned railroad bridge at the western end of the former MGP site. The transects were spaced approximately 20 feet apart up to 100 feet upstream of the site. In general, the sediment thickness varied from 0 to 1.5 feet of sediment. Shale bedrock outcrops were noted on the south side of the kill at transects UT-3 and UT-4. No signs of MGP indicators were observed at any of the upstream transects. Two seeps were observed approximately 10 feet west of transect UT-1. The seeps exhibited iron staining and sheens. Also, several pieces of debris, a small gasoline engine, a lawn mower, and bicycles, were observed in the Anthony Kill during the reconnaissance.

After completion of the upstream transects, the transects adjacent to the site were performed. Transects AS-1 through AS-29 were performed at approximately 10 to 15-foot intervals from the abandoned railroad bridge at the western property boundary to the Central Avenue Bridge at the eastern property boundary. The sediment thickness ranged from 0 to 2.5 feet of sediment. MGP indicators (sheens) were first observed at transect AS-16 (near the location of the MW-21 cluster). The frequency and general magnitude of the impacts increased moving eastward from transect AS-16. Free product (coal tar) was observed in the area of transects AS-19, 24, 25, 27 and 29. The tar was most concentrated in the areas of transects AS-25 through AS-27, which correspond to the area of tar seepage observed previously at Seeps 1 through 6, which has been isolated with a horseshoe of sandbags. Tar in this area was found in the form of approximately 2-inch diameter "blobs" on the bottom of the kill.

The sediment profiling in the Anthony Kill between the site and the Hudson River was performed by walking upstream from the Hudson River to the Central Avenue Bridge. Table 5-10 summarizes the downstream Anthony Kill sediment profiling observations. The sediment profiling locations DS-1 through DS-7 in the kill are shown on Figure 5-3. The sediment thickness in the kill varied from zero to two feet. The thickest sediment layers were found along the banks of the kill. Upstream of the northern bridge on North Main Street, toward the site, MGP indicators were occasionally encountered in the form

of coal tar odors, sheens, and trace amounts of coal tar. The impacts were observed by overturning large cobbles and small boulders along the banks of the kill. The impacts were observed randomly at increasing intervals closer to the site. Because there was little sediment found, sediment profiling was not conducted between the site and transect DS-7.

A slight sheen and PCB odor were noted in sediment on the bank of the Hudson River south of the Anthony Kill confluence at location DS-1. As shown on Figure 5-3, a storm sewer pipe, approximately 1-foot in diameter, was observed on the bottom of the Anthony Kill from the southern bridge on North Main Street east to the Hudson River. This pipe is embedded in the bottom of the kill and empties into the river approximately 30 feet south of the mouth of the kill.

A number of sandbags were found in the Anthony Kill downstream of the Central Avenue Bridge. The sandbags were found near the confluence with the Hudson River and west of the southern bridge on North Main Street. While removing the sandbags, sheens and solvent odors were observed in the sediment at the southwest corner of the bridge. A total of 15 sandbags were recovered from the Anthony Kill. These sandbags were returned to the site for proper off-site disposal.

5.7.2 Anthony Kill Sediment Sampling

In August 2002 URS collected seven sediment samples from the Anthony Kill. As shown on Figure 5-4, three sediment samples (AK-1 through AK-3) were collected upstream of the former MGP site, three samples (AK-4 through AK-6) were collected from locations adjacent to the former MGP site, and one sample (AK-7) was collected immediately east of the Central Avenue Bridge.

The sediment samples were collected using a clean stainless steel spoon that was decontaminated between sampling locations. The sediment was scooped from the bottom of the kill and placed in a Ziploc plastic bag. After all of the samples were collected, the

samples were described and transferred to clean glass sample jars. Seven sediment samples were submitted to AES for analysis of total organic carbon (TOC), PCBs, VOCs, SVOCs, total phenols, cyanide, and metals. Three of these seven sediment samples (AK-3, AK-5, and AK-7) were also analyzed for acid volatile sulfide (AVS) and selected simultaneously extracted metals (SEM). The simultaneously extracted metals are cadmium, copper, lead, mercury, nickel, and zinc. In addition, one duplicate sample was collected from AK-7 for quality assurance/quality control (QA/QC) and submitted to AES for analysis of PCBs, VOCs, and metals. The Anthony Kill sediment samples and their analyses are summarized in Table 5-11.

Additional aliquots of sediment from AK-1, AK-5, and AK-7 were also sent to Meta Environmental Services, Inc. of Watertown, Massachusetts. These three sediment samples were analyzed for hydrocarbon fingerprint by EPA Method 8100 and extended PAH profiles by modified EPA Method 8270 to evaluate whether some of the PAHs in the sediment originated from sources upgradient of the former MGP site. Laboratory analytical reports are provided in Appendix F.

In general, the sediment samples were composed of sand and fine gravel with some organic material. Sediment samples AK-4 and AK-6 exhibited MGP (coal tar) odors. Free product coal tar was observed on sediment samples AK-5 and AK-7. Sample AK-5 was collected near the NAPL-producing seeps in the kill that were observed during drilling at wells MW-29I, MW-35I, MW-23D, and RH-1D. Sample AK-7 was collected on the east side of the Central Avenue bridge between the two culvert pipes. Tar "blobs" were observed on the bottom of the kill in this area.

5.7.3 Hudson River Reconnaissance

In August 2002, URS and their subcontractor Seaway Divers met with NYSDEC to perform a reconnaissance of the conditions at and near the confluence of the Hudson River and the Anthony Kill. The crew accessed the river via an outboard motor boat equipped with front and rear anchors. The sediment was probed using sections of six-

foot long by 2 inch diameter threaded rods that were coupled together as needed. The sediment in the river was probed along the west bank of the Hudson River at the mouth of the Anthony Kill, downstream of the Anthony Kill, and 100 yards upstream of the Anthony Kill. Table 5-10 summarizes the Hudson River sediment profiling. Figure 5-3 shows the probing locations. At most of the probing locations, more than one attempt was made to advance the threaded rods in order to observe for sheens or locate thicker areas of sediment.

At location DS-8 at the mouth of the Anthony Kill, coarse gravel and cobbles with a trace amount of coarse sand were encountered between one and 10 feet below the water surface. Less than one foot of the coarse gravel and cobbles could be penetrated by the threaded rod and a slight sheen was observed at this location. No other MGP indicators were observed at DS-8. The water depth increased from one foot to over 10 feet in an easterly direction from the mouth of the kill. Coarse gravel and cobbles, which did not exhibit any indications of MGP odors or sheens, were encountered at DS-9, DS-10, and DS-14.

Further downstream of the Anthony Kill at locations DS-11 through DS-13, sediment was encountered and could be easily penetrated two to six feet. The sediment in this area is composed of medium sand with a trace amount of silt. Traces of silvery sheens and PCB odors were observed on sediments at DS-11, which was also noted to be in an area where aquatic vegetation was present.

5.7.4 Hudson River Sediment Sampling

In August 2002, URS and their subcontractor Ocean Surveys collected sediment samples from the Hudson River near the confluence with the Anthony Kill. The sediment sampling locations were agreed upon between NYSDEC and URS following the reconnaissance. A total of five sediment samples were collected in the Hudson River. One sediment sample HR-1 was collected upstream of the Anthony Kill as a background sample. Sediment samples HR-2 and HR-3 were collected near the mouth of the

Anthony Kill and sediment samples HR-4 and HR-5 were collected downstream of the mouth of the Anthony Kill. A duplicate sediment sample was also collected from HR-5 and submitted for laboratory analysis. Figure 5-3 shows the sampling locations.

The crew accessed the river via an outboard motor boat equipped with front and rear anchors and vibratory sampling equipment. The sediment was sampled using a ten-foot long by three-inch diameter aluminum pipe equipped with Lexan liners. The sampling apparatus was driven into the sediment with a pneumatic vibrator that was attached to the aluminum pipe. After the sampler was driven to the desired depth, the sampler was removed and the liner was cut open. URS personnel described the sediment and placed a portion of the sample into sample jars for laboratory analyses. The remaining sediment and other waste was returned to the site and contained for off-site disposal. Table 5-11 summarizes the Hudson River sediment samples and their analyses. Laboratory analytical reports are provided in Appendix F.

In general, the sediment collected from the Hudson River was composed of sand and gravel. None of the samples exhibited any definite MGP related indicators. Samples HR-4 and HR-5 exhibited sheens and odors of undeterminable origin, possibly petroleum or PCBs.

5.8 ANALYZE DATA AND PREPARE SRI REPORT

URS has reviewed and evaluated the field data and the laboratory analytical results as they relate to project objectives and our technical approach. Our understanding of the current site conditions is presented in this report.

URS evaluated all data available at the conclusion of the *SRI* in order to complete a qualitative analysis of the potential risk of adverse effects on human health and the environment resulting from the presence of chemicals in environmental media on and in the vicinity of the Mechanicville former MGP site.

URS retained the services of EcoLogic, LLC (EcoLogic) of Cazenovia, New York to conduct the Fish and Wildlife Impact Analysis (FWIA) Step I through Step II C for the site. The FWIA was conducted in accordance with the protocol outlined in the NYSDEC Division of Fish and Wildlife's *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites* (1994). A copy of EcoLogic's report is provided in Appendix J.

6.0 GEOLOGY AND HYDROLOGY

This section describes the geologic and hydrogeologic characteristics of the site. The data is compiled from observations by URS personnel at the site, information provided by NYSEG, and from published geologic data.

6.1 GEOLOGY

This section describes the geologic characteristics of the site.

6.1.1 Overburden

The site is in the Anthony Kill valley. The Anthony Kill valley is a post-glacial tributary valley of the Hudson River, which formed following the drainage of glacial Lake Albany that covered much of the Hudson River Valley following the most recent glacial period. The Anthony Kill valley contains little or no glacial till or post-glacial lacustrine deposits (Waller, 1983).

Overburden material at the site is four to twenty-seven feet thick. The overburden consists primarily of fill, probably placed to develop the property. The fill material is underlain by a discontinuous layer of native material, which is probably alluvial in nature.

The fill material consists primarily of sand and gravel, with lesser amounts of silt, clay, and pebbles. Materials related to the former MGP site observed at the site include concrete foundations and fragments, coal, brick fragments, ash-like material, clinkers, slag, and wood chips (purifier waste). MGP-related wastes were observed in the overburden materials west of the former MGP and within the former canal beneath North Central Avenue. Other materials encountered include asphalt, organics, roots, loam, and shale fragments.

Odors detected in the overburden at the site include MGP-related odors (described specifically as MGP, musty, mothball, naphthalene, and purifier odors), petroleum-based odors (described specifically as hydrocarbon, gasoline, kerosene, and diesel odors), and organic odors. NAPL sheen and product was also observed in the overburden at the site.

6.1.2 Bedrock

The bedrock beneath the site consists of the Late Middle Ordivician-aged Snake Hill Formation composed of dark gray shale interbedded with calcite. The Snake Hill Formation is part of the Taconic Foreland sequence, which is a series of flysch units that were deposited during the Taconic Orogeny. One or more volcanic island arcs collided with the North American craton to form north-northeast striking thrust faults, transporting rocks from east to west. The collision resulted in the formation of a high mountain range along the eastern North American continental margin. In the northeastern New York region, these mountains are known as the Taconic Mountains.

The Hudson River Valley is located between the Smith Basin Fault to the east and Ruedemann's Line to the west. The Smith Basin Fault, which is approximately six miles east of the site, represents the eastern boundary of the Taconic Foreland sequence. Ruedemann's Line, which is approximately seven miles west of the site, represents the western most extent of deformation of the Taconic Foreland sequence.

Low-angle thrust faults and narrow shear zones are commonly encountered within the Taconic Foreland sequence. Two major thrusts are present within the sequence – one extending to Reudemann’s Line west of the site, and the other separating the Normanskill Shale from the Snake Hill Formation. Deformation increases from east to west.

As shown in Figure 6-1, there are three sets of lineaments identified in the area of the site that are associated with previous geologic activities. North-northeast striking lineaments follow the general direction of the Hudson River and represent the axis of Taconic thrusts. West-northwest striking lineaments follow the trend of the Anthony Kill and

represent tear faults that separate segments of the Taconic thrusts. North-northwest striking lineaments are the representation of some later tectonic event that caused minor offset across some west-northwest trending tear faults.

Regional geology is represented at the site in bedrock outcrops along the south bank of the Anthony Kill as anticlinal, synclinal, and recumbent folds, and faults. Plesch (1994) describes the strata in this zone as deformed bedded shale. The transitional boundaries of this zone are 100 meters wide to the east and 10 meters wide to the west. The orientation of lithostructural belts parallel to regional strike suggests that zone boundaries are separated by major faults. The site is located along one of these lithostructural contacts. Based on information contained in E.C. Jordan's reports and examination of cores obtained from borings at the site, the bedding beneath and near the site generally dips west to east at an angle of approximately 10^{o} to 30^{o}.

The top of the bedrock map is shown in Figure 6-2. The bedrock surface was disturbed by excavation of the former distribution holder and the former gas relief holder. As shown in Figure 6-2, a north-northeast striking trough that generally parallels the axis of the Taconic thrusts is coincidental with North Central Avenue. There are also west-northwest striking troughs present along the Anthony Kill and southeast of the site south of the DiSiena Furniture store. Two nearly parallel tear faults that dip to the south are also shown in Figure 6-2. The Anthony Kill is the surficial expression of the northern tear fault. The southern tear fault is aligned with the southern boundary of NYSEG's property. An ash layer in the bedrock core was observed in wells MW-1D and MW-40D and appears to be associated with the southern tear fault. The north-northeast striking trough and the two tear faults are believed to be preferential migration pathways for DNAPL.

Core logs for wells installed during this investigation are provided in Appendix E. Table 6-1 summarizes the fracture intensity and pencil cleavage that was observed in bedrock core. Based on the core logs for wells drilled at the site, indications of moderate deformation were encountered including:

- Near vertical fractures oriented up to approximately 80^{o} to horizontal;
- Calcified fracture zones; and
- Breciatted zones.

The bedrock core exhibits steeply dipping bedding, vertical bedding at depth, and thrust faults. High- and low-angle open and closed fractures are present in the bedrock. The fractures are filled with calcite and pyrite in some cases. Some fractures show evidence of slickensides or brecciation. There was evidence of an ash layer at wells MW-1D, MW-37D, MW-40D, and MW-41D.

The shale bedrock exhibits "pencil"-shaped breaks in the bedrock. Pencil cleavage in bedrock forms as a result of the intersection of bedding planes and cleavage. Pencil cleavage occurs throughout most of the bedrock of an average strike of approximately 23°, which is roughly parallel to the axis of Taconic thrusts. Pencil cleavage is also present in an outcrop approximately two miles north of the site (Plesch 1994). Based on the bedrock core collected at the site, there are zones of intense pencil cleavage beneath the site separated by zones of less intense cleavage. These zones show ramping to the west across the site, suggesting a relationship to thrust structures and/or stratigraphy. The depth intervals of the zones of high fracture intensity and pencil cleavage zones are summarized in Table 6-1.

Figure 6-3 shows the locations of five geologic cross-sections near the site. Cross sections A-A' through E-E' are shown in Figures 6-4 through 6-9. These five cross-sections show the zones of pencil cleavage and depths at which NAPL were observed.

Three of the monitoring wells (MW-20D, MW-35I, and MW-34D) that are north of the Anthony Kill are shown on Cross Section A-A' in Figure 6-4. The upper 50 feet of bedrock at wells MW-20D and MW-34D exhibits intense pencil cleavage. The tops of the zones of less intense pencil cleavage represent the base of bedrock blocks thrusting to the west.

Cross Section B-B' in Figure 6-5 extends along the southern boundary of the Anthony Kill from the westernmost onsite well MW-32D to well MW-17D on the DiSiena property east of the site. The zones of less intense pencil cleavage between zones of intense pencil cleavage show ramping bedrock thrusts. The main thrust fault at and near the site is depicted as the bedrock trough beneath North Central Avenue on Figure 6-2. The topographic high of the bedrock beneath well MW-22I is probably an expression of a thrust. The uppermost pencil cleavage zone is up to 100 feet thick in the area of the MW-29 cluster.

Cross Section C-C' is shown in Figure 6-6. Cross Section C-C' extends along Ferris Lane from monitoring well MW-16 to MW-39D east of the Getty Station. This cross section is oriented approximately parallel to the southern tear fault. Monitoring wells MW-42D and MW-39D are south of the southern tear fault. The core from the MW-1 and MW-10 monitoring well clusters shows evidence that the southern tear fault and the main thrust fault intersect at approximately 20-25 feet msl.

Cross Section D-D', shown in Figure 6-7, is oriented from south to north through the former gas relief holder. As shown in this cross-section, the northern and southern tear faults dip to the south beneath the site, and the thrust faults dip to the north along zones of less intense pencil cleavage, which are specific to each thrust block as a result of strain variations across and between thrust blocks. Figure 6-7 also shows that there are multiple zones of intense pencil cleavage alternating with less intense cleavage zones in the bedrock. The Anthony Kill is the surficial expression of the northern tear fault. The core from well MW-29D shows evidence of the northern tear fault at approximately –8 feet msl. The core shows evidence that the southern tear fault parallels the Anthony Kill and intersects monitoring well MW-1D at approximately 20 feet msl. The east-west trend of the bedrock trough south of the DiSiena Furniture Store shown on Figure 6-2 appears to follow the trend of the southern tear fault. As shown Figure 6-7, the southern tear fault is near the south end of the former relief holder.

Cross Section E-E' is shown in Figure 6-8. Cross Section E-E' is oriented south to north along North Central Avenue, and shows both the northern and southern tear faults. The core shows evidence that the southern tear fault intersects MW-10D at approximately 25 feet msl and MW-40D at approximately –10 feet msl. Figure 6-8 shows that the upper bedrock near the substation at well cluster MW-10/MW-10I/MW-10D does not exhibit intense pencil cleavage whereas intense pencil cleavage in the upper bedrock is present beneath the site.

6.2 HYDROGEOLOGY

Based on the boring logs shown in Appendix E and water elevations provided in Table 6-2, the water table is one to 18 feet below the ground surface at the site. The water table for May 9, 2003 is shown in Figure 6-9. The water table is generally in the fill material beneath the site. As shown in Figure 6-9, shallow groundwater flow at the site within the overburden material and upper portion of the bedrock is generally from southwest to northeast across the site towards the Anthony Kill. According to previous investigations, localized groundwater mounding may be occurring at the locations of the former gas holders.

Figure 6-10 shows the saturated thickness of the overburden. The saturated thickness of the overburden beneath the site ranges from zero to 12 feet. The saturated thickness of the overburden west of the former MGP is four feet or less. Beneath the former gas relief holder location and within the north-northeast striking trough beneath North Central Avenue, the saturated thickness of the overburden is up to 12 feet. The saturated thickness of the overburden beneath the former gas relief holder is primarily due to the man-made excavation into the bedrock.

As shown in Figure 6-11, groundwater flow within the deep bedrock at the site is generally from southwest to northeast toward the Anthony Kill. Groundwater flow in the bedrock north of the Anthony Kill flows south towards the kill. Regional groundwater flows from west to east towards the Hudson River. Figure 6-6 shows that groundwater

flow near the southern boundary of the site is toward the east. As shown in Figure 6-7, groundwater beneath the site and north of the site flows toward the Anthony Kill.

Cross-borehole influence was monitored at some monitoring wells during drilling at adjacent wells using pressure transducers and data loggers. Water level fluctuations at the monitored wells are a result of water being pumped into the well as part of the drilling procedure, causing an increased hydraulic gradient across the overburden and bedrock fracture system. The graphs showing the water level changes are provided in Appendix G.

Between April 12 and May 1, 2002, the transducers with continuous recording data loggers were used to monitor water level fluctuations at wells MW-10I, MW-31D, MW-33D, and RH-1D. During this time period, bedrock drilling with packer testing was conducted at wells MW-1D, MW-10D, MW-38D, MW-39D, and MW-40D. The water level fluctuations at wells MW-10I and MW-33D during bedrock coring and packer testing at wells MW-1D, MW-38D, and MW-40D distinctly show hydraulic communication between these wells, which are near the southern tear fault. The water level fluctuations at MW-31D were not as large, but were similar to those at MW-10I and MW-33D. It appears that the water levels measured at RH-1D were affected more by physical vibrations within the subsurface caused by the drilling rather than actual water level fluctuations.

Between May 2 and June 28, 2002, the transducers monitoring water levels at wells MW-17D, MW-29D, and RH-1D during drilling at offsite wells MW-36D, MW-38D, and MW-39D. A fourth transducer with a data logger was used to record water level fluctuations at well MW-34D between May 18, 2002 and June 28, 2002. As shown in the graphs in Appendix G, the water levels measured between May 2 and June 28, 2002 do show some cross-bore hole influence between wells but the responses were not as strong as those observed in late April 2002. The water levels in well MW-34D appear to be more strongly influenced by rainfall events than by drilling activities.

The portion of the Anthony Kill between the Mechanicville city line to the Hudson River is classified as a Class D stream by the NYSDEC. Class D waters are designated for secondary contact recreation, but not for higher uses because of intermittent flow or water conditions that are not conducive to the propagation of game fish. Further upstream, between Coons Crossing and Mechanicville, the Anthony Kill is designated Class C (t). Class C waters are suitable for fishing and all other uses except as a source of water supply for drinking, culinary, or food processing purposes and primary contact recreation. The "(t)" denotes that this section of the Anthony Kill is a trout stream.

The NYSDEC has conducted water quality testing in the Anthony Kill downstream of Mechanicville at the Hudson River, and two miles upstream of the site at Plumb and Baker Brooks. Water quality testing of several locations along the Hudson River in Saratoga County in 1981 cited water quality impairment from coliform bacteria, heavy metals, and PCBs. The water quality in Plumb Brook and Baker Brook is Class A, suitable for use as a water supply.

There is a hydraulic connection between the bedrock at the site and the Anthony Kill. This connection was confirmed by the observation of NAPL seeps in the kill during drilling at wells MW-29I, MW-35I, MW-21D, MW-23D, and RH-1D and "bubbles" seen in the kill during drilling at MW-10D and MW-38D.

6.3 LOCAL SOURCES OF DRINKING WATER

URS' understanding of the sources of potable water used by the residents and businesses of Mechanicville is based on information obtained in the Phase II report (ABBES, 1992) and from the City of Mechanicville. The City of Mechanicville has formerly used surface water as a source of drinking water.

Surface water from two reservoirs is used to supply drinking water to the residents of the City of Mechanicville. The primary surface water reservoir, known as the Mechanicville Reservoir, and the water treatment plant are two miles northwest of Mechanicville, north of Willow Glen. The primary reservoir has a 65 million gallon storage capacity and is at an elevation of 263 feet msl. The secondary reservoir, which is approximately one mile downstream of the Mechanicville Reservoir, is known as the Terminal Reservoir.

Approximately 720,000 gallons per day (gpd) of water are pumped from the reservoir to 8,000 users in Mechanicville and some areas in Stillwater, Schaghticoke, and Halfmoon. Some residents may use private wells (groundwater) or the Anthony Kill (surface water) for other purposes such as lawn watering or washing cars.

A few residences outside the city limits use groundwater for drinking water. The closest known domestic wells to the site are approximately one mile southwest in the Town of Halfmoon. Based on information contained in the *Phase II Report*, there are no active industrial wells in the Mechanicville area. According to the City of Mechanicville, there are no private wells in the city of Mechanicville. There are two abandoned industrial wells: the West Virginia Pulp and Paper Co. well (2,157 feet deep), and a well drilled into the shale that was used by the former Mintzer Petroleum Co. (29 feet deep). Mintzer's well is approximately 1.5 miles south of the site. The former yields of these two wells were not reported.

7.0 NATURE AND EXTENT

This section describes the current understanding of the nature and vertical and horizontal extent of contamination at the site. This discussion of the contaminant distribution relies on data collected during the SRI and on data obtained during previous investigations.

7.1 SOIL QUALITY

This section discusses the analytical results for the soil samples. The soil samples and their analyses collected during the SRI are summarized in Table 5-4. The soil analytical results for the 74 soil samples collected during the SRI are summarized in Tables 7-1 through 7-9. Table 7-1 presents a summary of the soil analytical results for VOCs. Table 7-2 presents a summary of the soil analytical results for SVOCs. Table 7-3 presents a summary of the soil analytical results for PCBs. Table 7-4 presents a summary of the soil analytical results for metals. Table 7-5 presents a summary of the soil analytical results for total phenols. Table 7-6 presents a summary of the soil analytical results for cyanide. The NYSDEC's recommended soil cleanup objectives from *Technical and Administrative Guidance Memorandum 4046* (TAGM 4046) are included in Tables 7-1 through 7-6 for comparison. Table 7-7 presents a summary of the soil analytical results for total petroleum hydrocarbons and petroleum identification for soil sample SB-45 (14 to 18 feet). Table 7-8 presents a summary of the soil analytical results for heat value. Table 7-9 summarizes the TCLP results for soil sample SB-17 (2 to 4 feet).

The remainder of this section describes first, the quality of the surface soil and then describes the quality of the subsurface soil.

7.1.1 Surface Soil Quality

A total of 18 surface soil samples were collected during the SRI. The surface soil samples and analyses are shown in Table 5-4. Eight of the 18 surface soil samples were collected from borings advanced at the site and were analyzed for VOCs, SVOCs,

phenols, and cyanide. Two of the surface soil samples MW-19I (0 to 2 feet) and MW-29I (0 to 2 feet) were analyzed for heat value only. Surface soil samples SS-01 through SS-05 were collected from private residential properties along Ferris Lane at locations agreed upon between NYSDOH and NYSDEC. As shown in Table 5-4, these five surface soil samples were analyzed for SVOCs and cyanide. Surface soil samples SS-06 through SS-08 were collected from the property west of the former MGP site and north of former rail spur at locations agreed upon between NYSDOH and NYSDEC. Soil samples SS-06 through SS-08 were analyzed for VOCs, SVOCs, PCBs, metals, cyanides, and total phenols. Surface soil samples SS-01 through SS-08 were collected from zero to two inches beneath the grass surface, while the remaining surface soil samples were collected from the ground surface to two feet bgs.

The soil analytical results for the 18 surface soil samples collected during the SRI are summarized in Tables 7-1 through 7-6 and Table 7-8. The NYSDEC's recommended soil cleanup objectives (RSCO) (TAGM 4046) are included in Tables 7-1 through 7-6 for comparison. The distribution of BTEX, PAHs, carcinogenic PAHs (cPAHs), and phenols in the 18 surface soil samples are shown in Figures 7-1 through 7-4.

7.1.1.1 Soil Screening Results

All 18 surface soil samples were field screened for the presence of VOC vapors using a PID. The greatest PID reading of 4.5 parts per million (ppm) was detected in sample SB-29 (0 to 2 feet).

7.1.1.2 Volatile Organic Compounds

Eleven of the 18 surface soil samples collected during the SRI were analyzed for VOCs. As shown in Table 7-1, VOCs were not detected in 8 of the 11 surface soil samples analyzed for VOCs. Toluene and xylenes were the only two VOCs detected in the remaining three surface soil samples (SB-6, SB-13, and SB-39). The detected concentrations of toluene and xylenes were less than their respective RSCOs.

Figure 7-1 presents the distribution of BTEX concentrations in surface soil samples collected prior to the SRI (pre-2001) and during the SRI. As shown, BTEX was not detected in any of the pre-2001 surface soil samples.

7.1.1.3 Semivolatile Organic Compounds

Sixteen of the 18 surface soil samples collected during the SRI were analyzed for the SVOCs (PAHs only). As shown in Table 7-2, at least one PAH was detected in each surface soil sample. The detected concentrations of total PAHs range from 0.103 mg/kg at SS-04 to 320 mg/kg at SB-29. Soil boring SB-29 was advanced near the southeast corner of the site near the MW-10 well cluster. The maximum concentration of total PAHs detected prior to 2001 was 191 mg/kg at surface soil sample PE-24, which was a post excavation sample from the area where purifier wastes had been excavated during the 1999 and 2000 IRM. According to TAGM 4046, the RSCO for total SVOCs is 500 mg/kg.

Many of the PAHs were detected at concentrations that exceed their respective NYSDEC RSCO. The following table presents a condensed summary of the PAHs that were detected in the surface soil samples collected during this investigation. For each detected PAH, the table indicates the total number of samples at which the specific PAH was detected ("hits") and how many of those samples exceeded the RSCO. The maximum detected concentrations for each specific compound and the corresponding boring location is also shown.

Parameter	Recommended Soil Cleanup Objective (mg/kg)	Number of Hits (out of 16 samples)	Number of Exceedances (out of 16 samples)	Maximum Detected Concentration (mg/kg)	Location of Maximum Concentration
Acenaphthene	50*	3	0	16	SB-9
Acenaphthylene	41*	4	0	5.3	SB-9
Anthracene	50*	8	0	14	SB-9
Benzo(a)anthracene	0.224	14	7	33	SB-29
Benzo(a)pyrene	0.061	14	11	18	SB-29
Benzo(b)fluoranthene	0.224	13	7	53	SB-29
Benzo(g,h,i) perylene	50*	13	0	27	SB-29

Parameter	Recommended Soil Cleanup Objective (mg/kg)	Number of Hits (out of 16 samples)	Number of Exceedances (out of 16 samples)	Maximum Detected Concentration (mg/kg)	Location of Maximum Concentration
Benzo(k)fluoranthene	0.224	5	1	0.73	SB-13
Chrysene	0.4	14	5	41	SB-29
Dibenzo(a,h)anthracene	0.014	8	8	13	SB-29
Dibenzofuran	6.2	5	1	19	SB-9
Fluoranthene	50*	15	0	27	SB-9 and SB-29
Fluorene	50*	3	0	25	SB-9
Indeno(1,2,3-cd)pyrene	3.2	14	1	19	SB-29
2-Methylnaphthalene	36.4	7	0	16	SB-9
Naphthalene	13	7	1	19	SB-9
Phenanthrene	50*	13	1	51	SB-9
Pyrene	50*	16	1	73	SB-29

Note: * Indicates as per TAGM 4046, individual SVOCs <50 mg/kg.
Italicized parameters are carcinogenic PAHs (cPAHs).

As shown above, most of the maximum exceedances were detected at borings SB-9 and SB-29.

The distribution of total PAHs in surface soils are shown in Figure 7-2. Figure 7-2 includes the results from surface soil samples collected prior to the SRI (pre-2001) and during the SRI. The highest concentration of total PAHs for the surface soil samples collected from the residential properties along Ferris Lane and south of the NYSEG substation was less than 3.0 mg/kg.

Table 7-2 also shows the total cPAH values for each sample collected during the SRI. The cPAHs, which include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were detected in several samples at concentrations that exceed their respective RSCO. The concentrations of total cPAHs range from not detected at SS-04 and SS-05 to 177 mg/kg at SB-29. The distribution of total cPAHs in surface soils is shown in Figure 7-3, which includes the results from surface soil samples collected prior to the SRI (pre-2001) and during the SRI. The concentrations of total cPAHs for the surface soil samples collected from the properties along Ferris Lane and south of the NYSEG substation were either not detected or less than 1.0 mg/kg.

7.1.1.4 Polychlorinated Biphenyls

Three surface soil samples, SS-06 (0 to 0.5 feet), SS-07 (0 to 0.5 feet), and SS-08 (0 to 0.5 feet), were analyzed for PCBs. As shown in Table 7-3, PCBs were not detected in these three samples.

7.1.1.5 Metals

During the SRI, three surface soil samples, SS-06 (0 to 0.5 feet), SS-07 (0 to 0.5 feet), and SS-08 (0 to 0.5 feet), were analyzed for metals. Table 7-4 presents a summary of the soil analytical results for metals. As shown in Table 7-4, several metals were detected in these three soil samples at concentrations that exceed their respective RSCO. The table below presents a condensed summary of the metals that were detected in the surface soil samples collected during this investigation. For each detected metal, the table indicates the total number of samples at which the specific metal was detected ("hits") and how many of those samples exceeded the RSCO. The maximum detected concentrations for each specific compound and the corresponding boring location is also shown.

Parameter	Recommended Soil Cleanup Objective (mg/kg)	Number of Hits (out of 3 samples)	Number of Exceedances (out of 3 samples)	Maximum Detected Concentration (mg/kg)	Location of Maximum Concentration
Arsenic	7.5 or SB	3	0	5.7	SS-07
Barium	300 or SB	3	0	28	SS-06
Cadmium	1	2	0	0.98	SS-07
Chromium	10	3	1	11.5	SS-06
Copper	25 or SB	3	1	27	SS-06
Iron	2,000 or SB	3	3	7,100	SS-06
Lead	SB	3	0	21	SS-07
Manganese	SB	3	0	308	SS-06
Mercury	0.1	3	0	0.05	SS-06
Nickel	13 or SB	3	1	14	SS-06
Vanadium	150 or SB	3	1	237	SS-07
Zinc	20 or SB	3	3	63.5	SS-08

Notes: SB indicates background concentration

As shown above, chromium, copper, iron, nickel, vanadium, and zinc were detected at concentrations that exceed their respective RSCOs. The maximum detected concentrations for chromium, copper, and nickel are slightly above their RSCOs. The maximum detected concentrations of iron, vanadium, and zinc are within one order of magnitude of the RSCOs.

7.1.1.6 Total Phenols

As shown in Table 5-4, 11 of the 18 surface soil samples collected during the SRI were analyzed for phenols. Table 7-5 presents a summary of the soil analytical results for phenols. The RSCO for total phenols is 0.03 mg/kg. It is noted that the detection limit for many of the soil samples analyzed for total phenols results was greater than the RSCO. As shown in Table 7-5, total phenols concentrations ranged from not detected in six surface samples to 0.6 mg/kg in samples SB-2 and SS-08.

Figure 7-4 shows the distribution of total phenols in surface soil samples collected from the SRI. As shown in Figure 7-4, total phenols were detected at three locations west of the former MGP portion of the site (SB-2, SB-6, and SS-08) and at boring SB-13 within the former MGP portion of the site. Total phenols were detected in surface soil sample MW-31S south of the site.

7.1.1.7 Cyanide

As shown in Table 5-4, 16 of the 18 surface soil samples collected during the SRI were analyzed for cyanide. Table 7-6 summarizes the cyanide results for the soil samples. There is no established RSCO for cyanide. Table 7-6 shows that cyanide was not detected in the 16 surface soil samples.

7.1.1.8 Heat Value

Surface soil samples MW-19I (0 to 2 feet) and MW-29I (0 to 2 feet) were analyzed for heat value to aid in evaluation of potential remedial alternatives. As shown in Table 7-8, heat value was not detected above 1,000 BTUs per pound in either sample.

7.1.1.9 Summary

The soil analytical data indicates that there are VOCs, PAHs, metals, and total phenols in the surface soils at and near the site. The VOCs detected in the surface soils were less than their respective RSCOs. The PAHs in the surface soils, including cPAHs and elevated concentrations of PAHs, were found north of the former mechanics and repair shop (at SB-9) and along the downgradient margin of the former MGP portion of the site. The highest concentration of metals detected in the surface soils are within one order of magnitude of their RSCOs. The maximum detected concentrations of total phenols were found west of the former MGP portion of the site.

7.1.2 Subsurface Soil Quality

A total of 56 subsurface soil samples, including two duplicate samples, were collected during the SRI. The subsurface soil samples and analyses are shown in Table 5-4. Fifty-three of the 56 subsurface soil samples were collected from borings advanced during the SRI and were analyzed for VOCs, SVOCs, phenols, and cyanide. Two of these 53 subsurface soil samples, MW-2I (7 to 9 feet) and MW-29I (4 to 6 feet), were also analyzed for heat value and one of these 53 subsurface soil sample SB-17 (2 to 4 feet), was also analyzed for TCLP VOCs, TCLP SVOCs, and TCLP metals. The remaining three samples include soil sample SB-45 (14 to 16 feet) that was analyzed for BTEX, MTBE, petroleum identification, and total petroleum hydrocarbons (TPH), and soil samples SB-16 (8 to 12 feet) and SB-18 (12 to 16 feet) that were analyzed for heat value only.

The soil analytical results for the 56 subsurface soil samples collected during the SRI are summarized in Tables 7-1 and 7-2 and Tables 7-4 through 7-9. The NYSDEC's RSCOs (TAGM 4046) are included in these tables for comparison. The distribution of BTEX, PAHs, cPAHs, and phenols in the subsurface soil samples are shown in Figures 7-5 through 7-8.

7.1.2.1 Soil Screening Results

As shown in the boring logs in Appendix D, PID readings were equal to the background level (0 ppm) within the soil above the bedrock at a few onsite borings and at several offsite borings. However, for most of the onsite borings, PID readings were measured above background and were commonly associated with the presence of NAPL odors or sheens. Notable elevated PID readings (over 90 ppm above background) were detected in the subsurface soil at borings SB-17, SB-31, SB-32, RH-1S, MW-12S, and MW-30D, which are near or immediately downgradient of the former relief holder. A PID reading of 256 ppm was detected at well RH-1S in soil immediately above the top of bedrock.

At six locations (SB-11, SB-44, SB-45, SB-46, MW-23S, and MW-37D), elevated PID readings measured in the subsurface soil were associated with petroleum or diesel fuel odors. At borings SB-44 and SB-45 the PID readings were over 1,000 ppm due to the presence of gasoline.

As described in Section 5.3.1.3 of this report, 11 soil borings (SB-56 through SB-60 and SB-65 through SB-70) were advanced east of the site between the row of planter boxes and the fence along North Central Avenue to evaluate the extent of purifier wastes observed in this area. Black stained sand and wood chips were encountered at borings SB-59 and SB-60. Purifier odors (naphthalene-like) were noted between two and six feet bgs, and the purifier waste appeared to thin in a southerly direction. Purifier wastes were also observed at soil boring SB-17. In November 2001, crushed stone was spread between the planter boxes and the fence.

7.1.2.2 Volatile Organic Compounds

Fifty-four of the 56 subsurface soil samples collected during the SRI were analyzed for VOCs. Table 7-1 presents a summary of the soil analytical results for VOCs. As shown, the detected VOCs in soil are mostly BTEX. The total BTEX concentrations for each soil sample is also shown in Table 7-1. Total BTEX concentrations in the subsurface soil samples ranged from not detected at 31 samples to 437 mg/kg at SB-45 (14 to 18 feet). Subsurface soil sample SB-45 (14 to 18 feet) was collected from an area where there was visual and olfactory evidence of gasoline impacts observed during drilling. The source of the gasoline-impacted soil near boring SB-45 is believed to be from former leaks from gasoline tanks at the Getty Station. Boring SB-45 is downgradient of the Getty Station gasoline tanks.

The maximum total VOC concentration (BTEX) detected on the NYSEG site was 67.5 mg/kg at soil sample SB-17 (2 to 4 feet). Soil boring SB-17 is northeast of the former relief holder. Previously, the maximum detected BTEX concentration was 2,640 mg/kg at sample B-8 (13.5 to 15.5 feet) which was collected near the former gas relief holder. During the 1999 and 2000 IRM, this soil was removed. Figure 7-5 shows the distribution of total BTEX in subsurface soil that still remains on the site. Figure 7-5 includes the results from the SRI and the data from prior to 2001. Figure 7-5 uses a color-coding scheme to show subsurface soil locations at which BTEX was not detected, BTEX concentrations detected less than 1 mg/kg, BTEX concentrations between 1 and 10 mg/kg, BTEX concentrations between 10 and 100 mg/kg, and BTEX concentrations greater than 100 mg/kg. As shown, soil samples with BTEX detections are generally concentrated within the former MGP portion of the site.

Other VOCs detected in the subsurface soil samples include acetone (MW-20D), methylene chloride (MW-10I and MW-23S), and tetrachloroethene (SB-4A) at low concentrations generally below their respective RSCOs. The exception was the detected concentration of methylene chloride of 0.94 mg/kg in soil sample MW-10I (14 to 16 feet), which exceeds the RSCO of 0.1 mg/kg. Styrene was also detected in three soil

samples from borings SB-4 (0.1 mg/kg), SB-4A (0.1 mg/kg), and SB-21 (0.089 mg/kg). There is no established RSCO for styrene.

7.1.2.3 Semivolatile Organic Compounds

During the SRI, a total of 53 subsurface soil samples were analyzed for SVOCs (PAHs only). Table 7-2 presents a summary of the soil analytical results for SVOCs. As shown in Table 7-2, the total PAH concentrations for subsurface soil samples ranged from not detected in 15 soil samples to 7,502 mg/kg (see Figure 7-6) at soil sample SB-4A (2-4 feet). The majority of the soil samples had total PAHs of less than 100 mg/kg. Soil borings SB-4 (870 mg/kg PAHs) and SB-4A (7,500 mg/kg PAHs) are in the "remaining NYSEG property." Figure 7-6 shows the distribution of total PAHs in subsurface soil that still remains on the site and includes the results from the SRI and the data from prior to 2001. Figure 7-6 uses a color-coding scheme to show subsurface soil locations at which PAHs was not detected, total PAH concentrations detected less than 100 mg/kg, total PAH concentrations between 100 and 500 mg/kg, total PAH concentrations between 500 and 1,000 mg/kg, and total PAH concentrations greater than 1,000 mg/kg. As shown in Figure 7-6, elevated levels of total PAHs were found near the former gas relief holder and along the bank of the Anthony Kill. The maximum detected total PAH concentration was found at PE-5 (4 feet) at 29,930 mg/kg near the former gas relief holder foundation following its excavation during the 1999 and 2000 IRM.

The following table presents a condensed summary of the PAHs that were detected in the subsurface soil samples collected during this investigation. For each PAH, the table indicates the total number of samples in which the specific PAH was detected ("hits") and how many of those samples exceeded the RSCO. The maximum detected concentrations for each specific compound and the corresponding boring location is also shown.

Parameter	Recommended Soil Cleanup Objective (mg/kg)	Number of Hits (out of 53 samples)	Number of Exceedances (out of 53 samples)	Maximum Detected Concentration (mg/kg)	Location of Maximum Concentration
Acenaphthene	50*	22	1	56	SB-22
Acenaphthalene	41	26	0	8	SB-17
Anthracene	50*	27	2	97	SB-17
Benzo(a)anthracene	0.224	33	24	430	SB-4A
Benzo(a)pyrene	0.061	25	29	290	SB-4A
Benzo(b)fluoranthene	0.224	32	21	1,600	SB-4A
Benzo(g,h,i)perylene	50*	30	7	900	SB-4A
Benzo(k)fluoranthene	0.224	19	12	33	SB-17
Chrysene	0.4	33	18	670	SB-4A
Dibenzo(a,h)anthracene	0.014	18	18	470	SB-4A
Dibenzofuran	6.2	19	1	10	SB-17
Fluoranthene	50*	35	6	270	SB-4A
Fluorene	50*	25	1	100	SB-17
Indeno(1,2,3-cd)pyrene	3.2	29	5	670	SB-4A
2-Methylnaphthalene	36.4	32	4	970	SB-4A
Naphthalene	13	33	3	540	SB-17
Phenanthrene	50*	35	3	330	SB-17
Pyrene	50*	36	3	930	SB-4A

Note: * Indicates as per TAGM 4046, individual SVOCs <50 mg/kg.
Italicized parameters are carcinogenic PAHs (cPAHs)

As shown in the table above, the maximum concentrations of the individual PAHs were found at soil boring SB-4A, SB-17, and SB-22. Soil boring SB-4A is within the western portion of the site. Soil boring SB-17 and SB-22 are north of the former gas relief holder near the former gas house and oxide house.

Table 7-2 shows the total concentrations of carcinogenic PAHs. The cPAHs, which include benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, chrysene, and dibenzo(a,h)anthracene, were detected in several samples at concentrations that exceed their respective RSCOs. The concentrations of total cPAHs ranged from not detected at 19 samples to 4,130 mg/kg at SB-4A. The distribution of total cPAHs in subsurface soils is shown in Figure 7-7.

7.1.2.4 Metals

As shown on Table 5-4, 13 subsurface soil samples were analyzed for metals. Table 7-4 presents a summary of the soil analytical results for metals and includes RSCOs and Eastern USA Background concentrations for comparison. As shown in Table 7-4, lead, nickel, and zinc concentrations in a few of the 13 soil samples were detected above Eastern USA background ranges. The table below presents a condensed summary of the metals that were detected in the surface soil samples collected during this investigation. For each detected metal, the table indicates the total number of samples at which the specific metal was detected ("hits") and how many of those samples exceeded the RSCO. The maximum detected concentrations for each specific compound and the corresponding boring location is also shown.

Parameter	Recommended Soil Cleanup Objective (mg/kg)	Number of Hits (out of 13 samples)	Number of Exceedances (out of 13 samples)	Maximum Detected Concentration (mg/kg)	Location of Maximum Concentration
Barium	300 or SB	13	0	103	SB-11
Chromium	10	13	12	30.8	SB-17
Copper	25 or SB	13	9	49.2	SB-17
Iron	2,000 or SB	13	13	33,200	SB-10
Lead	SB	13	0	2,680	SB-17
Manganese	SB	13	0	608	SB-11
Mercury	0.1	12	2	0.16	MW-2I
Nickel	13 or SB	10	8	46	SB-11
Vanadium	150 or SB	13	0	20.1	SB-17
Zinc	20 or SB	13	13	96	SB-11

Notes: SB indicates background concentration

As shown above, chromium, copper, iron, mercury, nickel, and zinc were detected in subsurface soil samples at concentrations that exceed their respective RSCOs. The maximum detected concentrations of chromium, copper, mercury, nickel, and zinc are within one order of magnitude of the RSCOs. The maximum detected concentration of iron is within two orders of magnitude of the RSCO. Most of the locations at which the

maximum detected concentration for individual metals were detected were soil borings SB-11 and SB-17. Soil boring SB-11 is east of the former shop and repair building and SB-17 is near the former oxide house.

7.1.2.5 Phenols

The soil analytical results for total phenols are summarized in Table 7-6. As shown in Table 7-6, total phenols were detected in eight of the 53 subsurface soil samples analyzed for total phenols. The RSCO for total phenols is 0.03 mg/kg. It is noted that the detection limit for many of the soil samples analyzed for total phenols results was greater than the RSCO. Where detected, concentrations of total phenols ranged from 0.03 mg/kg at SB-21 duplicate (8 to 11 feet) to 3.5 mg/kg at SB-17 (2 to 4 feet). SB-17 is northeast of the former gas relief holder and adjacent to the former oxide house.

Figure 7-8 shows the distribution of total phenols in subsurface soil using data collected prior to and during the SRI. Phenols were detected in the subsurface soil near the former gas house and oxide house and near the former coal storage area.

7.1.2.6 Cyanide

Table 7-6 summarizes the cyanide results for the soil samples. There is no established RSCO for cyanide. Table 7-6 shows that cyanide was not detected in 51 of the 53 subsurface soil samples analyzed for cyanide. Cyanide was detected at a concentration of 21.2 mg/kg in soil sample SB-17 (2-4 feet) and 11.7 mg/kg at SB-4 (4-6). Soil boring SB-17 was advanced northeast of the former gas relief holder. Soil boring SB-4 was advanced in the western portion of the site. The maximum concentration of cyanide detected before 2001 was 3.2 mg/kg at boring B-3, which was north of the former oxide house.

7.1.2.7 Heat Value

Four subsurface soil samples were analyzed for heat value for the future FS. As shown in Table 7-8, heat value was not detected above 1,000 BTUs per pound in these four samples.

7.1.2.8 Summary

The soil analytical data indicates that there are VOCs (mostly BTEX), PAHs, metals, and total phenols in subsurface soils at and near the site. As discussed in Section 3.3.3, the post excavation samples collected at the end of the 1999 and 2000 IRM contained elevated concentrations of total benzene and PAHs.

The impacted soil (elevated PAHs and cyanide) at boring SB-4 is limited. Naphthalene-like (mothball) odors were detected in the upper 2.5 feet of boring SB-1 and SB-4. The elevated concentrations of PAHs and cyanide in the soil at soil boring SB-4 and naphthalene odors in the soil near borings SB-1 and SB-4 indicated that there may have been a storage area for purifier wastes (wood chips) in the northwestern portion of NYSEG's property that is leased to G. A. Bove.

7.2 GROUNDWATER QUALITY

The groundwater samples and their analyses are summarized in Table 5-8. The analytical results for the 92 groundwater samples, including three duplicate samples collected during the SRI, are summarized in Tables 7-10 through 7-14. The NYSDEC's Class GA groundwater standards and guidance values (TOGS 1.1.1) are included in the tables for comparison.

Table 7-10 presents a summary of the groundwater analytical results for VOCs. Table 7-11 presents a summary of the groundwater analytical results for SVOCs (PAHs only). The groundwater analytical results for total phenols are summarized in Table 7-

12. Table 7-13 presents the groundwater analytical results for total cyanide and free cyanide (weak and dissociable). The unfiltered and filtered metals results are summarized in Table 7-14.

The remainder of this section discusses the groundwater results from the overburden and bedrock groundwater samples collected during the SRI.

7.2.1 Overburden Groundwater Quality

Most of the overburden monitoring wells have exhibited traces of NAPL or recoverable quantities of NAPL (wells RH-1S and MW-26S). Therefore, during the SRI, groundwater samples were collected from only five of the 14 overburden wells. A total of eight groundwater samples were collected from five overburden monitoring wells (MW-14S, MW-16, MW-17, MW-21S, and MW-31S) during the SRI. The overburden groundwater samples and analyses are shown in Table 5-8. All eight overburden groundwater samples were analyzed for VOCs and PAHs. Six of the eight samples were analyzed for metals and seven of the eight samples were analyzed for total phenols and cyanide.

The groundwater analytical results for the eight overburden groundwater samples collected during the SRI are summarized in Tables 7-10 through 7-14. The NYSDEC's groundwater standards are included in Tables 7-10 through 7-14 for comparison. The distribution of BTEX and PAHs in the eight overburden groundwater samples is shown in Figure 7-9.

7.2.1.1 Volatile Organic Compounds

All eight overburden groundwater samples were analyzed for VOCs. As shown in Table 7-10, VOCs were not detected in four of the eight overburden groundwater samples. Some VOCs were detected at concentrations that exceed their respective NYSDEC groundwater standards. The following table presents a condensed summary of the VOCs that were detected in overburden groundwater samples during the SRI. For

each detected VOC, the table indicates the total number of samples at which the specific VOC was detected ("hits") and how many of those samples exceeded the NYSDEC groundwater standard. The maximum detected concentrations for each specific compound and the corresponding monitoring well location is also shown.

Parameter	NYSDEC Groundwater Standard (µg/L)	Number of Hits (out of 8 samples)	Number of Exceedances (out of 8 samples)	Maximum Detected Concentration (µg/L)	Location of Maximum Concentration
Benzene	1	3	3	220	MW-14S
Chloroform	7	1	1	11	MW-21S
Ethylbenzene	5*	3	1	17	MW-14S
Methylene Chloride	5*	1	0	5	MW-16
Styrene	5*	1	0	2J	MW-21S
Toluene	5*	3	1	5	MW-21S
Xylene, total	5*	2	2	18	MW-21S

*: Indicates that the principal organic contaminant for groundwater of 5 µg/L applies to this substance.

As shown above, most of the maximum concentrations were detected at monitoring wells MW-14S and MW-21S. The detected VOCs include BTEX and other VOCs associated with solvents (chloroform and methylene chloride). Styrene was only detected at well MW-21S, which is downgradient of leased portion of the site. The highest concentrations of BTEX were detected in overburden groundwater sample MW-14S (255 µg/L in October 2001), which is near the northeast corner of the site. Because traces of DNAPL have been found at well MW-14S, this well was not sampled during the 2003 groundwater monitoring event.

7.2.1.2 Semivolatile Organic Compounds

All eight overburden groundwater samples were analyzed for SVOCs (PAHs only). As shown in Table 7-11, PAHs were not detected in five of the eight overburden groundwater samples. The detected concentrations of PAHs range from 120.2 µg/L at MW-14S to 267 µg/L at MW-21S. Acenaphthene and naphthalene were detected at concentrations exceeding their respective NYSDEC groundwater standards at MW-14S.

Naphthalene was detected at concentrations exceeding the NYSDEC groundwater standard at MW-21S for both sampling rounds. No other PAHs were detected at concentrations that exceed their respective groundwater standard. Table 7-11 also shows the carcinogenic PAHs (cPAHs) were not detected in any of the eight overburden groundwater samples collected during the SRI.

7.2.1.3 Total Phenols

Seven of the eight overburden groundwater samples were analyzed for total phenols. The locations of these overburden groundwater samples are shown on Figure 5-2. As shown on Table 7-12, phenols were not detected in two of the seven overburden groundwater samples. The detected concentrations of total phenols exceed the NYSDEC groundwater standard for total phenols of 1 µg/L and range from 2 µg/L at MW-17 to 24 µg/L at MW-21S.

7.2.1.4 Cyanide

Seven of the eight overburden groundwater samples were analyzed for cyanide. The locations of these overburden groundwater samples are shown on Figure 5-2. As shown on Table 7-13, free cyanide was not detected in any of the seven overburden groundwater samples. Total cyanide was not detected in four of the seven overburden groundwater samples. Detected concentrations of total cyanide range from 60 µg/L at MW-17 to 170 µg/L at MW-14S. The NYSDEC groundwater standard for cyanide is 200 µg/L.

7.2.1.5 Metals

Seven of the eight overburden groundwater samples were analyzed for unfiltered metals. Four of these seven overburden groundwater samples were analyzed for filtered metals. The locations of these overburden groundwater samples are shown on Figure 5-2. As shown on Table 7-14, several filtered and unfiltered metals were detected in these seven overburden groundwater samples which exceed their respective NYSDEC groundwater

standard. Most filtered concentrations were less than unfiltered concentrations for each compound.

The table below presents a condensed summary of the metals that were detected in the overburden groundwater samples collected during this investigation. For each detected metal, the table indicates the total number of samples at which the specific metal was detected ("hits") and how many of those samples exceeded the NYSDEC groundwater standard. The maximum detected concentrations for each specific compound and the corresponding monitoring well is also shown.

Parameter	Number of Samples	NYSDEC Groundwater Standard (µg/L)	Number of Hits	Number of Exceedances	Maximum Detected Concentration (µg/L)	Location of Maximum Concentration
Aluminum	7	-	6	0	14,000	MW-14S
Antimony	7	3	1	1	4.3B	MW-17
Arsenic	7	25	1	0	4.7B	MW-17
Arsenic-Filtered	4	25	1	0	2.5B	MW-21S
Barium	7	1,000	7	1	2,020	MW-14S
Barium-Filtered	4	1,000	4	0	726	MW-21S
Cadmium	7	5	1	0	5	MW-14S
Chromium	7	50	4	2	517	MW-17
Copper	7	200	3	0	48.5	MW-21S
Copper-Filtered	4	200	1	0	5.2B	MW-21S
Iron	7	300	7	5	70,000	MW-14S
Iron-Filtered	4	300	4	1	4,930	MW-14S
Lead	7	25	2	1	41	MW-17
Manganese	7	300	7	5	14,000	MW-14S
Manganese-Filtered	4	300	4	3	4,520	MW-14S
Nickel	7	100	3	0	49.8	MW-17
Nickel-Filtered	4	100	1	0	7.9B	MW-21S
Vanadium	7	-	2	0	60	MW-14S
Zinc	7	[2,000]	5	0	623	MW-21S
Zinc-Filtered	4	[2,000]	1	0	189	MW-21S

[ ]: Indicates a Guidance Value.
B – Indicates result between detection limit and contract required detection limit.

As shown above, antimony, barium, cadmium, chromium, iron, lead, and manganese were detected in unfiltered samples at concentrations that exceed their respective NYSDEC groundwater standards. The maximum detected concentrations for antimony, cadmium, and lead are slightly above their respective groundwater standards. The maximum detected concentration of barium is within one order of magnitude of the groundwater standard. The maximum concentrations of chromium and manganese are within two orders of magnitude of their respective groundwater standards, and the maximum concentration of iron is within three orders of magnitude of the groundwater standard.

The above table shows that iron and manganese were detected at concentrations that exceed their respective NYSDEC groundwater standards in filtered samples. The maximum detected concentrations for filtered iron and manganese are within two orders of magnitude of the NYSDEC groundwater standard.

7.2.1.6 Summary

The VOCs and PAHs in the overburden groundwater include BTEX, chloroform, methylene chloride, acenaphthene, and naphthalene. Where detected, total phenols exceed the NYSDEC groundwater standard. Two metals (iron and manganese) were detected in the filtered samples at a concentration within two orders of magnitude of their respective standards.

7.2.2 Bedrock Groundwater Quality

A total of 52 groundwater samples including three duplicate samples were collected from 30 bedrock monitoring wells during the September and October 2001, February 2003, and May 2003 sampling events. The bedrock groundwater samples and analyses are shown in Table 5-8. The bedrock monitoring wells are shown in Figure 5-2.

The groundwater analytical results for these 52 bedrock groundwater samples collected during the SRI are summarized in Tables 7-10 through 7-14. The NYSDEC's groundwater standards are included in Tables 7-10 through 7-14 for comparison. Table 7-10 also includes the results for the 24 packer testing samples and eight passive bag samples that were collected and analyzed for BTEX during the SRI. As shown in Table 7-10, BTEX was only detected in the packer testing sample collected from well MW-1D at a depth of 100 to 120 feet bgs.

The distribution of VOCs and PAHs in the bedrock groundwater samples collected during the September and October 2001, February 2003, and May 2003 sampling events are shown in Figures 7-10 and 7-11. The packer testing and passive bag sample results are not included in Figure 7-10. The remainder of this section discusses the results of the bedrock groundwater samples collected during the September and October 2001, February 2003, and May 2003 sampling events.

7.2.2.1 Volatile Organic Compounds

Fifty-one of the 52 bedrock groundwater samples, including two duplicate samples, were analyzed for VOCs. As shown in Table 7-10, VOCs were not detected in 29 of the 51 bedrock groundwater samples. Several VOCs were detected at concentrations that exceed their respective NYSDEC groundwater standards.

The following table presents a condensed summary of the VOCs that were detected in bedrock groundwater samples during the SRI. For each detected VOC, the table indicates the total number of samples at which the specific VOC was detected ("hits") and how many of those samples exceeded the NYSDEC groundwater standard. The maximum detected concentrations for each specific compound and the corresponding monitoring well location is also shown.

Parameter	NYSDEC Groundwater Standard (mg/L)	Number of Hits (out of 51 samples)	Number of Exceedances (out of 51 samples)	Maximum Detected Concentration (mg/L)	Location of Maximum Concentration
Acetone	[50]	4	0	21	MW-32D
Benzene	1	10	7	1,100	MW-33D
2-Butanone	[50]	2	0	46	MW-32D
Carbon Disulfide	-	1	0	2J	MW-43D
Chlorobenzene	5*	2	1	15	MW-21D
Chloroform	7	5	2	15	MW-32D
Ethylbenzene	5*	4	3	900	MW-35I
Methylene Chloride	5*	3	0	5	MW-15D/ MW-34D
4-Methyl-2-Pentanone	-	2	0	2J	MW-23D
1,1,2,2-Tetrachloroethane	5*	2	0	2J	MW-17I
Toluene	5*	7	3	550	MW-35I
Xylene, total	5*	5	3	900	MW-35I

*: Indicates that the principal organic contaminant for groundwater of 5 µg/L applies to this substance.
[ ]: Indicates a Guidance Value.

As shown above, BTEX and other VOCs that are associated with solvents were detected in the groundwater samples. The maximum exceedances were typically detected at monitoring well MW-35I. The highest concentrations of BTEX were detected at wells MW-35I and MW-33D, which are near the autobody service shop and the Getty Station east of North Central Avenue. Since installation, both of these wells have had occurrences of DNAPL. The concentrations of BTEX at well MW-21D decreased form 89 µg/L in September 2001 to 11 µg/L in February 2003. The highest concentration of solvent VOCs were detected in MW-32D. The concentration of solvent VOCs at well MW-32D decreased from 82 µg/L in October 2001 to not detected in February 2003.

Figure 7-10 shows the distribution of VOCs in bedrock groundwater. BTEX was detected at bedrock wells MW-10I, MW-15D, MW-21D, MW-28I, and MW-32D, which are downgradient of the former MGP structures and at wells MW-20D, MW-34D, MW-35I, and MW-37I north of the Anthony Kill. Potential contributing sources of the

elevated BTEX detection at well MW-35I are previous spills to the ground surface or floor drain discharges at the automotive shop north of the Anthony Kill. It is also likely that the leaking gasoline USTs at the Getty Station are a contributing source for the BTEX detected in well MW-33D.

In general, where solvent VOCs were detected, the concentrations decreased between the 2001 and 2003 sampling events. The solvent VOCs in groundwater were detected at wells MW-19I and MW-43D, which are south of the site and upgradient, wells MW-17I, MW-17D, MW-39D east of the site, wells MW-15D, MW-21D, MW-32D, MW-23D at the site, and wells MW-36I and MW-34D north of the Anthony Kill. Solvent VOCs were also detected at overburden wells MW-16 and MW-21S.

7.2.2.2 Semivolatile Organic Compounds

Forty-nine of the 52 bedrock groundwater samples, including three duplicate samples, were analyzed for PAHs. As shown in Table 7-11, PAHs were not detected in 43 of the 49 bedrock groundwater samples.

The following table presents a condensed summary of the PAHs that were detected in bedrock groundwater samples during the SRI. For each detected PAH, the table indicates the total number of samples at which the specific PAH was detected ("hits") and how many of those samples exceeded the NYSDEC groundwater standard. The maximum detected concentrations for each specific compound and the corresponding monitoring well location is also shown.

Parameter	NYSDEC Groundwater Standard (µg/L)	Number of Hits (out of 49 samples)	Number of Exceedances (out of 49 samples)	Maximum Detected Concentration (µg/L)	Location of Maximum Concentration
Acenaphthene	[20]	3	0	3J	MW-21D
Benzo(a)pyrene	[0.002]	1	1	0.6J	MW-18
Benzo(b)fluoranthene	[0.002]	1	1	0.8J	MW-18
Benzo(k)fluoranthene	[0.002]	1	1	0.8J	MW-18

Parameter	NYSDEC Groundwater Standard (mg/L)	Number of Hits (out of 49 samples)	Number of Exceedances (out of 49 samples)	Maximum Detected Concentration (mg/L)	Location of Maximum Concentration
Carbazole	-	1	1	0.9J	MW-18
Chrysene	[0.002]	1	1	0.9J	MW-18
Fluoranthene	[50]	1	0	2J	MW-18
Indeno(1,2,3-cd)pyrene	[0.002]	1	1	0.6J	MW-18
2-Methylnaphthalene	-	3	0	5	MW-21D
Naphthalene	[10]	4	2	23	MW-21D
Phenanthrene	[50]	2	0	1J	MW-18
Pyrene	[50]	1	0	1J	MW-18

Notes: [ ]: Indicates a Guidance Value.
Italicized parameters are carcinogenic PAHs (cPAHs).

The table above shows that most of the maximum exceedances were detected at monitoring well MW-18, which is east of the site. Table 7-11 shows that the highest concentrations of total PAHs were detected in MW-21D, which is west of the former gas relief holder. Table 7-11 also shows that cPAHs were not detected in any of the 49 bedrock groundwater samples collected during the SRI. The distribution of total PAHs in bedrock groundwater is shown in Figure 7-11.

7.2.2.3 Total Phenols

Forty-nine of the 52 bedrock groundwater samples, including three duplicate samples, were analyzed for total phenols. As shown on Table 7-12, phenols were not detected in 34 of the 49 bedrock groundwater samples. Detected concentrations of total phenols range from 2 µg/L at MW-17I, MW-19I, MW-34D, and MW-39D to 31 µg/L at MW-23D. The NYSDEC groundwater standard for total phenols is 1 µg/L. Total phenol concentrations at wells sampled during both events generally decreased between the 2001 and 2003 groundwater sampling events.

7.2.2.4 Cyanide

Forty-nine of the 52 bedrock groundwater samples, including three duplicate samples, were analyzed for cyanide. As shown on Table 7-13, free cyanide was not detected in any of the 49 bedrock groundwater samples. Total cyanide was not detected in 43 of the 49 bedrock groundwater samples. Total cyanide was detected in six groundwater samples collected from four shallow bedrock wells MW-2I, MW-10I, MW-18, and MW-19I. The detected concentrations of total cyanide range from 12 µg/L at MW-19I to 130 µg/L at MW-10I. The NYSDEC groundwater standard for cyanide is 200 µg/L. The total cyanide concentrations either increased or remained the same at wells sampled in 2001 and 2003.

7.2.2.5 Metals

Forty-nine bedrock groundwater samples, including two duplicate samples, were analyzed for unfiltered metals. Thirty-eight groundwater samples were also analyzed for filtered metals. As shown on Table 7-14, several filtered and unfiltered metals were detected in the bedrock groundwater samples at concentrations that exceed their respective NYSDEC groundwater standard. Most filtered concentrations were less than unfiltered concentrations for each compound.

The table below presents a condensed summary of the metals that were detected in the bedrock groundwater samples collected during this investigation. For each detected metal, the table indicates the total number of samples at which the specific metal was detected ("hits") and how many of those samples exceeded the NYSDEC groundwater standard. The maximum detected concentrations for each specific compound and the corresponding monitoring well is also shown.

Parameter	Number of Samples	NYSDEC Groundwater Standard (µg/L)	Number of Hits	Number of Exceedances	Maximum Detected Concentration (µg/L)	Location of Maximum Concentration
Aluminum	49	-	43	0	520,000	MW-17D

Parameter	Number of Samples	NYSDEC Groundwater Standard (µg/L)	Number of Hits	Number of Exceedances	Maximum Detected Concentration (µg/L)	Location of Maximum Concentration
Aluminum-Filtered	38	-	10	0	3,800	MW-17D
Antimony	49	3	5	5	3,370	MW-1
Antimony-Filtered	38	3	4	3	8.4B	MW-32D
Arsenic	49	25	1	0	21	MW-17D
Arsenic-Filtered	38	25	20	1	31	MW-17D
Barium	49	1,000	49	21	8,280	MW-17D
Barium-Filtered	38	1,000	37	8	2,090	MW-37I
Cadmium	49	5	1	1	9	MW-18
Chromium	49	50	29	12	201,000J	MW-1
Chromium-Filtered	38	50	14	0	19	MW-1
Copper	49	200	31	4	3,040	MW-1
Copper-Filtered	38	200	10	0	37.1	MW-37I
Iron	49	300	49	49	1,940,000J	MW-29D
Iron-Filtered	38	300	31	12	9,590J	MW-37I
Lead	49	25	11	2	165J	MW-29D
Manganese	49	300	49	28	161,000	MW-1
Manganese-Filtered	38	300	33	12	6,020	MW-11
Mercury	49	0.7	6	1	0.94	MW-17D
Mercury-Filtered	38	0.7	0	0	0.31	MW-40D
Nickel	49	100	13	5	880	MW-1
Nickel-Filtered	38	100	19	3	223	MW-1
Selenium-Filtered	38	10	2	0	6J	MW-2I
Vanadium	49	-	16	0	501	MW-10I and MW-17D
Vanadium-Filtered	38	-	3	0	110	MW-17D
Zinc	49	[2,000]	36	3	4,300J	MW-11
Zinc-Filtered	38	[2,000]	27	0	234J	MW-11

Note: [ ]: Indicates a Guidance Value.

As shown above, antimony, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel and zinc were detected in unfiltered samples at concentrations that exceed their respective NYSDEC groundwater standards. The table above also shows that antimony, arsenic, barium, iron, manganese and nickel were detected in filtered

samples at concentrations that exceed their respective NYSDEC groundwater standards. The maximum detected concentrations for filtered antimony and arsenic are slightly above their respective NYSDEC groundwater standards. The maximum detected concentrations for filtered barium and nickel are within one order of magnitude of the NYSDEC groundwater standard. The maximum detected concentrations for filtered iron and manganese are within two orders of magnitude of the NYSDEC groundwater standard.

7.2.2.6 Summary

BTEX, chloroform, and chlorobenzene were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards. The primary source for the elevated BTEX concentrations at wells MW-35I and MW-33D is believed to be the former MGP site based on the DNAPL migration pathways within the bedrock although other sources are also likely. Several PAHs and total phenols, which are associated with coal tar sites (among other sources), were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards. Antimony, arsenic, barium, iron, manganese, and nickel were detected in filtered groundwater samples at concentrations that exceed their respective groundwater standards. None of the detected concentrations of total cyanide exceeded the NYSDEC groundwater standard.

7.3 NAPL DISCUSSION

Observations regarding the presence or absence of NAPL in the overburden and bedrock beneath and near the site and evaluating the migration pathways of the NAPL within the subsurface away from the source areas has been the main focus of the scope of the SRI. The primary NAPL source area is the former gas relief holder. The other former MGP structures are also considered to be NAPL sources. This section discusses occurrences of NAPL in the subsurface, and the results of the NAPL source characterization work that was completed during the SRI. NAPL recovery at selected wells is an ongoing task.

7.3.1 NAPL Observations and Recovery

The observations of NAPL in the overburden and within the three pencil cleavage zones identified in the bedrock at each soil boring and well are summarized in Table 7-15. For the monitoring wells, these observations include sheens or product noted during drilling, observations during packer testing prior to well construction, and periodic NAPL observations conducted at the wells. The depths at which NAPL has been observed in some of the monitoring wells are shown in the cross sections presented in Figures 6-4 through 6-8. Figures 7-12 through 7-15 show the extent of NAPL within the overburden, upper pencil cleavage zone, less intense pencil cleavage zone, and lower pencil cleavage zone in plan view.

Figure 7-12 shows the extent of NAPL observations within the overburden. LNAPL has migrated laterally north and east through the overburden with the slope of the water table. There have been no observations of NAPL in the overburden at NYSEG's property west of the former MGP portion of the site, east of North Central Avenue, north of Anthony Kill, or south of the substation. Observations of NAPL product or sheens noted during drilling in the overburden are limited to the former MGP portion of NYSEG's property and along the west side of North Central Avenue. As shown in Figure 6-2, a large bedrock depression is along North Central Avenue, where several soil borings and monitoring wells along the west side of North Central Avenue showed signs of NAPL in the overburden. The NAPL observed in the overburden in soil borings SB-10 and SB-14 and well cluster MW-15/MW-15I/MW-15D coincides with the limited area in Figure 6-10 where the groundwater saturated thickness of the overburden is four feet thick along the Anthony Kill.

Figure 7-13 shows the extent of NAPL observations in the upper intense pencil cleavage zone. The distribution of NAPL in the upper pencil cleavage zone is similar to the distribution of NAPL in the overburden. DNAPL followed the path of the southern tear fault to the intersection with the main thrust fault and deeper thrust faults. DNAPL has also migrated into the ash layer observed in the southern tear fault in the core at well

MW-1D (6 feet msl) and MW-40D (0 feet msl). The thrust faults, which dip to the northeast, are believed to be the migration pathways for the DNAPL encountered north and east of the site. Figures 6-4 and 7-13 show that DNAPL has migrated north of the Anthony Kill to wells MW-35I and MW-34D. As shown on Figures 6-5 and 7-13, DNAPL is present in the upper pencil cleavage zone east of the site at wells MW-17D and MW-33D. Figure 7-13 includes the locations of the six seeps in the Anthony Kill that periodically seeped NAPL and rock flour during drilling at the site. DNAPL migration along the top of bedrock into the west-northwest striking bedrock trough near well MW-39D is prevented by a bedrock ridge that is west of the Getty Station.

DNAPL continued to migrate downward through the less intense pencil cleavage zones along thrust fault planes, which are near the top of the less intense pencil cleavage zones. Figure 7-14 shows the extent of NAPL observations in the less intense pencil cleavage zone. As shown in Figure 7-14, NAPL was observed in the less intense pencil cleavage zones in monitoring wells MW-26I, MW-30D, and RH-1D near the source area, where entry pressure of the NAPL is highest. NAPL observed in the less intense cleavage zone at well MW-42D is probably the result of NAPL migration along the southern tear fault at depth, and NAPL observed at well MW-14D as a result of NAPL migration along the main thrust fault.

Nine monitoring wells penetrated the lower pencil cleavage zone. As shown in Figure 7-15, the only wells that contain recoverable NAPL and screen the lower pencil cleavage zone are wells MW-10D and MW-40D. The presence of NAPL in these wells is likely the result of their proximity to the source area and the presence of the southern tear fault and the major thrust fault.

Monitoring wells MW-38I and MW-38D penetrated a separate intense pencil cleavage zone that is below the lower pencil cleavage zone and NAPL was observed in this zone. These two wells are near the northern tear fault. The migration of DNAPL downward along the major thrust fault and possibly a minor tear fault that coincides with the bedrock trough that is south of the DiSiena Furniture building.

Some of the bedrock wells (MW-1D, MW-15D, MW-17D, and MW-29D) that intersect the tear faults do not encounter the same sequence of the pencil cleavage zones that was observed at other areas of the site. At well MW-1D, the cleavage zones are reversed, that is, there is an upper zone and lower zone of less intense pencil cleavage separated by thick pencil cleavage zone. MGP odors were observed during drilling through the lower zone of less intense pencil cleavage at well MW-1D. Monitoring well MW-29D intersects the northern tear fault. As shown in Figure 6-7, above the tear fault the bedrock at MW-29D exhibits intense pencil cleavage and the bedrock below the tear fault is within the deeper of the two zones of less intense pencil cleavage that are present north of the site. The open hole interval of well MW-29D is almost fully within this zone of less intense pencil cleavage, and there have been no signs of MGP indicators at this well since installation.

Monitoring wells MW-15D and MW-17D also intersect the northern tear fault. Similar to MW-29D, wells MW-15D and MW-17D were also completed within the deeper zone of two zones of less intense pencil cleavage. NAPL was observed in this zone of less intense pencil cleavage during drilling at both of these wells.

NAPL Recovery

As of July 18, 2003, approximately 513 liters of NAPL has been recovered from the site. Table 5-6 summarizes the volume of NAPL recovered from each of the wells at the site. NAPL recovery activities are routinely conducted at wells MW-26S, RH-1S, MW-10D, and MW-42D. Graphs showing daily and cumulative product recovery for wells MW-26S, RH-1S, MW-10D, and MW-42D are shown in Figures 7-16 through 7-19.

As shown in Table 5-6, overburden monitoring well MW-26S has produced 20.2 liters of LNAPL through July 18, 2003. The average recharge rate of LNAPL into well MW-26S is less than 0.01 liters per day.

Overburden monitoring well RH-1S has produced 32.6 liters of DNAPL through July 18, 2003. Approximately 0.05 liters of DNAPL recharges well RH-1S on a daily basis.

As shown in Table 5-6 the maximum volume of NAPL recovered through July 18, 2003 at a single well at the site is the 316 liters recovered from well MW-10D. Well MW-42D has yielded 112 liters of DNAPL through July 18, 2003. The estimated DNAPL recharge rate for well MW-10D and MW-42D is 0.6 liters per day for both wells. The open hole intervals for wells MW-10D and MW-42D intercept the southern tear fault.

As shown in Table 5-6, approximately 24 liters of NAPL have been recovered from well MW-40D. Most of this 24 liters was recovered prior to deepening well MW-40D when the well had an open hole interval between 80 and 115 feet bgs that intersected the southern tear fault. The open hole interval for well MW-40D is now below the southern tear fault and this well is free of NAPL.

7.3.2 Source Characterization

In 2002, five soil samples and three sediment samples were analyzed for hydrocarbon fingerprinting and extended PAH profiles by Meta Environmental Services, Inc. of Watertown, Massachusetts. The purpose of these environmental forensic parameter analyses were to evaluate whether there are sources other than the former MGP site for the PAHs found in soil at and near the site and in the sediment in the Anthony Kill. The sediment samples were analyzed for selected environmental forensic parameters to separate hydrocarbon impacts from a former MGP operation from similar chemicals from other sources and background. The soil samples from the site were analyzed as reference samples. The ratios of the PAHs from the sediment and soil samples were compared to the ratios of the PAHs from various tar samples from Meta's in-house source library, that include coke oven tar, coal carbonization tar, and carburetted water gas tar. The results of the analyses indicated that the PAHs in the soil and sediment share a common source. Six of the eight samples were observed to be saturated with NAPL. The NAPL in these six samples were recognized to be MGP tar from carburetted water gas process based on

the ratios of the PAHs. The other two samples contained relatively low concentrations of a few PAHs and did not exhibit any recognizable hydrocarbon patterns.

Samples of NAPL from wells MW-26S and MW-10D were analyzed for specific gravity, viscosity, hazardous waste characteristics, cyanide, and sulfide. The results are summarized below.

Sample	Specific Gravity	Viscosity, Kinematic	Reactivity	Corrosivity	Ignitability	TCLP Benzene	Cyanide	Sulfide
MW-26S	0.995 g/ml	< 10 cSt @ 23°C	Non-Reactive	Non-Corrosive	>200 °F	6,700 µg/L	< 1 µg/g	256 µg/g
MW-10D	0.989 g/ml	13.06 cSt @ 25°C	Non-Reactive	Non-Corrosive	138 °F	3,300,000 µg/L	< 1 µg/g	256 µg/g

As shown in the table above, the characteristics of the NAPL from both wells are very similar. Although the NAPL from well MW-10D was reported to have specific gravity of less than 1.0 grams per milliliter (g/ml), the product is recovered from the bottom of the well using a bailer. The physical properties of NAPL, including specific gravity and viscosity, are temperature dependent. The specific gravity of coal tar is typically 1.01 to 1.05, slightly denser than water.

7.4 SEDIMENT QUALITY

Sediment samples were collected from the Anthony Kill and Hudson River as part of the SRI. A total of seven samples were collected from the Anthony Kill at locations upstream, adjacent, and downstream of the site. Five sediment samples were collected from the Hudson River at locations upstream and downstream of the confluence of the Anthony Kill and the Hudson River.

7.4.1 Anthony Kill Sediment Analytical Results

The analytical results for sediment samples collected from the Anthony Kill are summarized in Tables 7-16 and 7-17. Table 7-16 also includes sediment screening

criteria based on the NYSDEC Division of Fish, Wildlife and Marine Resources guidance document, entitled *Technical Guidance for Screening Contaminated Sediments*, which was published in January 1999. Because many common industrial compounds bind to organic matter in sediments, the sediment screening criteria for organic compounds are reported in milligrams per gram of organic carbon (mg/g_{oc}).

To arrive at a site-specific screening criteria in units comparable to the units for analytical results reported by the laboratory (mg/kg), the screening criteria must be calculated. The site-specific screening criteria (mg/kg) are calculated by multiplying the concentration of total organic carbon in the sediment, which is expressed in grams of organic carbon per kilogram of sediment (g_{oc}/kg), by the reported screening criteria (mg/g_{oc}). An average TOC value of 6,420 mg $_{oc}$/kg for the Anthony Kill sediment samples was used to calculate the NYSDEC sediment site-specific screening criteria expressed in mg/kg.

7.4.1.1 Polychlorinated Biphenyls

As shown in Table 7-16, PCBs were not detected above the reporting limit of 1 mg/kg in any of the sediment samples collected from the Anthony Kill in August 2002. The NYSDEC sediment screening criteria protective of wildlife bioaccumulation for PCBs is 1.4 µg/goc. Based on an average TOC value of 6,420 mg $_{oc}$/kg for the Anthony Kill sediment samples, the calculated NYSDEC sediment screening criteria for PCBs is 0.009 mg/kg. It should be noted that the reporting limit of 1 mg/kg is greater than the calculated sediment site-specific screening criteria for PCBs of 0.009 mg/kg.

7.4.1.2 Volatile Organic Compounds

VOCs were not detected in any of the sediment samples collected from the Anthony Kill in August 2002. The NYSDEC sediment screening criteria are reported in units of $\mu g/g_{oc}$. An average TOC value of 6,420 mg $_{oc}$/kg for the Anthony Kill sediment samples was used to calculate the NYSDEC sediment screening criteria in units of mg/kg. The

reporting limits for all individual VOCs were below their respective calculated NYSDEC sediment site-specific screening criteria.

7.4.1.3 Polycyclic Aromatic Hydrocarbons

PAHs were not detected in five of the seven sediment samples collected from the Anthony Kill in August 2002. The total PAH concentration at AK-5 (0 to 1 foot bgs) was 3.54 mg/kg and the total PAH concentration at AK-7 (0 to 1 foot bgs) was 10.2 mg/kg.

The NYSDEC sediment screening criteria are reported in units of $\mu g/g_{oc}$. An average TOC value of 6,420 mg_{oc}/kg for the Anthony Kill sediment samples was used to calculate the NYSDEC sediment screening criteria in units of mg/kg. As shown below, five PAHs exceed their calculated NYSDEC sediment site-specific screening criteria.

Parameter	Number of Samples Analyzed	Number of Detects	Sediment Screening Criteria (mg/kg)	Number of Exceedences	Maximum Detected Concentration (mg/kg) and Location
Benzo(a)anthracene	7	1	0.077	1	0.5 @ AK-7 (0-1 ft bgs)
Fluorene	7	1	0.051	1	0.42 @ AK-7 (0-1 ft bgs)
2-Methylnaphthalene	7	2	0.218	2	0.87 @ AK-7 (0-1 ft bgs)
Naphthalene	7	2	0.193	2	1.3 @ AK-7 (0-1 ft bgs)
Phenanthrene	7	2	0.770	1	2 @ AK-7 (0-1 ft bgs)

Note: Italicized parameter is a carcinogenic PAH (cPAH).

It should be noted that the calculated NYSDEC sediment screening criteria for four of the compounds (benzo(a)anthracene, fluorene, 2-methylnaphthalene, and naphthalene) are less than the reporting limit of 0.33 mg/kg for the individual SVOCs.

7.4.1.4 Total Phenols

Total phenols were not detected in six of the seven sediment samples collected from the Anthony Kill in August 2002. Total phenols were detected at a concentration of 1.3 mg/kg at AK-6 (0 to 1 foot bgs). Based on an average TOC value of 6,420 mg/kg for the

Anthony Kill sediment samples, the calculated NYSDEC sediment screening criteria for total phenols is 0.007 mg/kg. The detected concentration of 1.3 mg/kg at AK-6 (0 to 1 foot bgs) exceeds the calculated NYSDEC sediment screening criteria. It should be noted that the reporting limit for total phenols (0.2 mg/kg) is greater than the calculated NYSDEC sediment screening criteria.

7.4.1.5 Cyanide

Free cyanide (weak and dissociated) and total cyanide were not detected in any of the seven sediment samples collected from the Anthony Kill in August 2002.

7.4.1.6 Metals

Metals were detected in all sediment samples collected from the Anthony Kill in August 2002. The metals concentrations were compared to the NYSDEC Lowest Effect Level (LEL) and Severe Effect Level (SEL) for metals. None of the sediment had manganese concentrations that exceed the NYSDEC SEL. Only one metal, manganese, was detected at concentrations that exceeded its NYSDEC LEL of 460 mg/kg. Sample AK-5 (0 to 1 foot bgs) contained 538 mg/kg of manganese. Sample AK-7 (0 to 1 foot bgs) contained 554 mg/kg of manganese. The duplicate sample collected from AK-7 (0 to 1 foot bgs) also contained manganese at a concentration of 532 mg/kg. Manganese is not associated with the former MGP site operations.

7.4.1.7 Acid Volatile Sulfide/Simultaneously Extracted Metals

The analytical results for AVS/SEM were reported on a dry weight basis in units of mg/kg. In order to calculate the ratio of AVS to SEM, the reported results were converted to units of µmole/g. The calculated ratio of AVS to SEM is an indicator of the bioavailability of the sediment-associated metals to benthic organisms. The SEM that were analyzed for form strong, highly insoluble precipitates in the presence of sulfide. Sulfide is a common, but spatially and temporally variable, component of sediment. If

the acid volatile sulfide present in the sediment is greater than the molar sum of the SEM metals (i.e. the AVS to SEM ratio is greater than one), the metals will be almost exclusively bound to sulfide. Their bioavailability will be extremely low and toxicity is unlikely. The AVS/SEM analytical results are summarized in Table 7-17.

Sediment sample AK-3 (0 to 2 feet bgs) had a calculated AVS/SEM ratio of 1.09. This suggests that the metals in the sediment at AK-3 are not readily bioavailable to benthic organisms. Sediment sample AK-5 (0 to 1 foot bgs) had a calculated AVS/SEM ratio of 0.090. Sediment sample AK-7 (0 to 1 foot bgs) had a calculated AVS/SEM ratio of 0.065. This implies that there is not enough sulfide in the sediment at AK-5 and AK-7 to react with the metals to form insoluble precipitates.

7.4.2 Hudson River Sediment Sample Analytical Results

The analytical results for sediment samples collected from the Hudson River near the confluence with the Anthony Kill are presented in Table 7-18. Site-specific screening criteria were calculated in the same manner as described for the Anthony Kill sediment samples using an average TOC value of 63,300 mg_{oc}/kg for the Hudson River sediment samples. The site-specific screening criteria are included in Table 7-18.

7.4.2.1 Semivolatile Organic Compounds

SVOCs were not detected in two of the five sediment samples collected from the Hudson River near the confluence with the Anthony Kill. Where detected, the total SVOC concentration ranged from 7.69 mg/kg at HR-1 (0 to 2 feet bgs) to 41.6 mg/kg at HR-4 (0 to 5 feet bgs). SVOCs were detected in the duplicate sample collected from HR-5 at slightly lower concentrations than the sediment sample HR-5.

As shown below, two SVOCs (PAHs) exceed their calculated NYSDEC sediment site-specific screening criteria. For each detected PAH, the table indicates the total number of samples at which the specific PAH was detected ("hits") and how many of those samples

exceeded the Sediment Screening Criteria. The maximum detected concentrations for each specific compound and the corresponding location is also shown.

Parameter	Number of Samples Analyzed	Number of Detects	Sediment Screening Criteria (mg/kg)	Number of Exceedences	Maximum Detected Concentration (mg/kg) and Location
Benzo(a)anthracene	5	3	0.759	2	2.9 @HR-4 (0-5 ft bgs)
Fluorene	5	1	0.506	1	0.93 @HR-5 (1-7 ft bgs)

Note: Italicized parameter is a carcinogenic PAH (cPAH).

7.4.2.2 Cyanide

Free cyanide (weak and dissociated) and total cyanide were not detected in any of the five sediment samples or the duplicate sample collected from the Hudson River.

7.5 FISH AND WILDLIFE IMPACT ANALYSIS

URS retained the services of EcoLogic LLC (Ecologic) of Cazenovia, New York to conduct a FWIA for the site. The FWIA was performed in accordance with the protocol outlined in the NYSDEC, Division of Fish and Wildlife's *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (1994)*. Steps I through IIC of the protocol were completed and included:

- Description of the site;
- Identification of fish and wildlife resources and values at and near the site;
- Identification of applicable regulations;
- Identification of contaminants of concern;
- Analysis of contaminant pathways and receptors; and
- Review of the effects of site-related contaminants on potentially exposed individuals, population, and community.

In addition, EcoLogic reviewed published maps and reports, obtained information from state and federal regulatory agencies, conducted a field investigation of the site and surroundings in September of 2002, and reviewed data generated during the SRI. A copy of EcoLogic's report is provided in Appendix J.

7.5.1 Ecological Communities

EcoLogic identified the dominant ecological communities within a 0.5 and 2-mile radius of the site. The diversity of vegetation was relatively low due to the developed nature of the area. There was no evidence of stressed vegetation on or adjacent to the site.

Within a 0.5-mile radius of the site, there is a riparian corridor present on both sides of the Anthony Kill that extends between 10 and 20 feet, and the site is a successional old field. The vegetation in the riparian corridor includes deciduous tall shrubs, wild grape vines, and mature specimens of cottonwood and maple. A mixture of grasses and low growing (shrub) vegetation occupy the eastern two-thirds of the site, and taller shrubs and trees border the Anthony Kill and the western one-third of the site.

There are wetland habitats and emergent marshes within a two-mile radius of the site. The wetland habitats are situated to the south of the site, along the railroad tracks, and near the Hudson River. The wetland habitats are classified as Class 2 and 3 wetlands and occupy 66.6 and 22.8 acres, respectively. The emergent marshes offer a variety of habitats for wildlife, including amphibians and birds.

Because of the developed nature and industrial commercial use of the site, there is little valuable terrestrial wildlife habitat on-site. However, the surrounding areas provide a variety of habitat for wildlife species. The agricultural lands, pasture lands, and forested areas within a two-mile radius of the site provide food, cover, water, and dispersal space to a large variety of wildlife. Potential wildlife species that are likely to use the area at some time of year include 58 species of birds, ten species of mammals, eight species of herptiles, and 21 species of fish. During the field activities at the site, birds (Gray

Catbird, Black Capped Chickadee, and Rock Dove) and mammals (woodchuck) were observed. According to the NYSDEC Natural Heritage Program (NHP), no rare, threatened, endangered, or species of special concern are known to be on or within two miles of the site.

The segment of the Anthony Kill that borders the site is classified by the NYSDEC as a Class D surface water body, and its best use is for fishing. A Class D surface water body is suitable for secondary contact recreation. There is no regulatory indication that the water quality or habitat conditions threaten or preclude attainment of the designated best use.

7.5.2 Pathway Analysis

The pathway and receptor analysis examined which media are contaminated, which chemicals are involved, the spatial extent and concentrations of chemicals measured at the site, and which fish and wildlife (receptors) might be exposed to the chemicals.

Surface Soil

Site-related contaminants found in the surface soil include benzo(a)pyrene, total phenols, and metals. Wildlife communities can be exposed to site-related contaminants present in the surface soil by several mechanisms including: wind and water transport (erosion) of contaminated soil to nearby surface water; direct ingestion, inhalation, or dermal absorption of contaminants present in the soil by resident or transient wildlife; vegetative uptake of contaminants from soil and related food web effects; and food web effects of ingesting soil organisms containing elevated body burden of contaminants. Wind and water transport is the only pathway of exposure determined to be complete and potentially important at the site. The other pathways were determined to be potentially complete but unlikely to be important because wildlife habitat at the site is limited.

Subsurface Soil

Several PAHs, total phenols, and metals were detected in the subsurface soil at the site at concentrations that exceed screening criteria. It is unlikely that wildlife could be exposed to subsurface soils at depths greater than four feet bgs. Therefore, this pathway was determined to unlikely be complete and unlikely to be of ecological importance because the potential exposure to subsurface soil is low.

Sediment

Total phenols and manganese were found in the sediment from the Anthony Kill at levels that exceed sediment screening criteria. Wildlife may be exposed to contaminants in the sediment through various mechanisms including: ingestion and absorption by resident macroinvertebrates; partitioning to overlying water; and food web effects on higher organisms. The ingestion and absorption by resident macroinvertebrates pathway was determined to be complete and important based on the elevated concentrations of certain contaminants in the sediment and the sessile nature of these organisms. The other two exposure pathways were determined to be complete but unlikely to be important due to the limited extent of contamination.

Surface Waters

Because only trace levels of contamination were detected, mostly below detection limits, in the surface water of the Anthony Kill, it was determined that this pathway is potentially complete but unlikely to be important. Some portions of the Anthony Kill was characterized as a poor macroinvertebrate habitat, regardless of contamination levels.

Groundwater

VOCs, PAHs, total phenols, and some metals have been detected in site groundwater at levels exceeding groundwater standards. Groundwater is viewed as the primary transport

mechanism for site contaminants that may potentially affect the surface water and sediment quality of the Anthony Kill and the Hudson River. Groundwater seepage into the sediments of the Anthony Kill is a complete and potentially important pathway.

7.5.3 Toxic Effects Analysis

EcoLogic reviewed the toxic effects of site-related contaminants, including hydrocarbons, PAHs, phenols, and manganese, and determined that the contaminants of concern in the various site media would cause limited toxic effects to potential receptors.

7.5.4 FWIA Summary

According to EcoLogic, there are complete exposure pathways from the onsite surface soil, groundwater, and sediments to potential receptors. These pathways include wind and water transport of contaminated soil particles to the Anthony Kill, ingestion and absorption of sediment in the Anthony Kill by resident macroinvertebrates, and discharge of site groundwater to the Anthony Kill. Given the contaminants of concern detected in the site media, it is expected that there is a limited effect of contamination on aquatic organisms in the kill or terrestrial organisms at the site. The region of the kill where the NAPL seeps were observed and which appears to be the most affected by the site is characterized as a poor macroinvertebrate habitat, which therefore, lessens the mass of contaminant potentially transferred to other organisms through the food web.

7.6 HUMAN HEALTH EXPOSURE PATHWAYS

A qualitative human health risk assessment was completed to evaluate potential risks to human health associated with potential exposure to site media. The assessment was completed in accordance with the NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2002).

The human health risk assessment includes an evaluation of the site conditions, identifying exposure pathways, and evaluating contaminant fate and transport. The following criteria must be met for a complete exposure pathway to exist:

- A contaminant source where contaminants were released to the environment (any waste disposal area or point of discharge)
- Contaminant release and transport mechanisms that carry contaminants from the source to the environment where people may be exposed
- An exposure point where actual or potential human contact with a contaminated medium may occur
- A route of exposure in which a contaminant actually enters or contacts the body (i.e., ingestion, inhalation, dermal contact)
- A receptor population who are or may be exposed to contaminants at a point of exposure.

If one of these criteria is not met under past, current, or future conditions, then the exposure pathway is not complete. An exposure pathway is considered a potential pathway when one or more of the elements is not documented to have existed in the past, currently does not exist, and will not exist in the future.

Section 2.0 of this report presents the conceptual site model for the site. The primary source of impact at the site was former discharges of coal tar from the former gas relief holder and other former MGP structures. Both LNAPL and DNAPL were believed to be present in the former gas relief holder. As presented in the conceptual site model for the site, LNAPL migrated from the former gas relief holder with the slope of the water table toward the Anthony Kill. DNAPL migrated generally eastward along the slope of the bedrock surface to a bedrock trough. DNAPL in the bedrock trough has migrated downward through the bedrock and migrated preferentially into the southern tear fault transporting DNAPL to the south. Some DNAPL migrating along the southern tear fault also has potential to migrate to the north and east where the southern tear fault intersects thrust faults that dip to the northeast. A portion of the DNAPL that is migrating along the

tear faults reaches the Anthony Kill or northern tear fault, which also dips to the south. There have been direct observations of NAPL discharges to the Anthony Kill, and some sediment in the kill exhibit sheens and odors.

In addition to releases of coal tar directly into the bedrock, the migration of chemicals occurred via infiltration and downward migration through the overburden soil. A fraction of the chemicals adsorbed onto soil particles and trapped within the pore spaces were most likely dissolved into the groundwater. Similarly, a fraction of the NAPL in the bedrock fractures has dissolved into the bedrock groundwater too.
Complete exposure pathways are:

- Dermal contact with contaminated surface water and sediment in the Anthony Kill
- Ingestion of contaminated surface water in the Anthony Kill

Recreational users of the Anthony Kill could be exposed to the surface water and sediment in the kill.

Potential exposure pathways are:

- Ingestion of and dermal contact with contaminated surface soil
- Dermal contact with contaminated subsurface soil or groundwater

Although, no one uses groundwater for drinking or other uses at the site, dermal contact with or ingestion of contaminated groundwater are potential exposure pathways if groundwater is used in the future. However, currently the residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. Overburden groundwater flow is to the north toward the Anthony Kill and the nearest residents to the site are south (upgradient) of the site.

Excavation of subsurface soil could occur in the future, and exposures could occur from contaminated subsurface soil.

The site is unpaved and exposure routes of concern include incidental ingestion of soil, dermal contact with soil, and inhalation of particulate matter derived from soil. Clean imported fill was brought on site and used to restore the site grade at the conclusion of the 1999 and 2000 IRM. NYSEG employees do not work at the site on a daily basis and when onsite their visits are very brief.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the data collected during this investigation, URS concludes:

Geology and Hydrogeology

- Overburden material at the site is primarily fill material and is between four and 27 feet thick. The overburden material consists of sand and gravel, with lesser amounts of silt, clay, and pebbles.

- MGP-related wastes, including purifier chips, were observed in the overburden at the former MGP site, west of the former MGP portion of the site, and beneath North Central Avenue. Some exposed purifier chips near the west side of North Central Avenue were covered with crushed stone in November 2001.

- Shallow groundwater flow within the overburden and shallow bedrock is generally from southwest to northeast toward the Anthony Kill.

- The saturated thickness of the overburden beneath the former gas relief holder location and the northeast striking trough beneath North Central Avenue is 12 feet. The saturated thickness of the overburden beneath the former gas relief holder location is primarily due to the man-made excavation of the bedrock during construction of the holder. The saturated thickness of the overburden west of the former gas relief holder is four feet or less.

- The bedrock beneath the site is the Snake Hill Formation, and is composed of dark gray shale.

- The shale bedrock surface beneath the site was disturbed by excavation during the installation of the former distribution holder and former gas relief holder.

- Bedrock outcrops are present along the banks of the Anthony Kill. The stream bed of the Anthony Kill is exposed bedrock.

- Groundwater flow within the deep bedrock at the site is generally from the southwest to the northeast toward the Anthony Kill.

- There is a north-northeast striking bedrock trough that generally parallels the axis of the Taconic thrusts and is coincidental with North Central Avenue. West-northwest striking bedrock troughs are present along the Anthony Kill and southeast of the site, south of the DiSiena Furniture store.

- Two nearly parallel tear faults that dip steeply to the south are evident in the bedrock. The Anthony Kill is the surficial expression of the northern tear fault. The southern tear fault is aligned with the southern boundary of NYSEG's property.

- The bedrock exhibits zones of intense pencil cleavage separated by zones of less intense pencil cleavage. The zones of less intense pencil cleavage show ramping from east to west across the site.

Conceptual Site Model

- The main components of the conceptual site model are the former gas relief holder (the primary source of the coal tar), the slope of the top of bedrock, the northern and southern tear faults, and the zones of bedrock that exhibit less intense pencil cleavage.

- LNAPL migrated from the former gas relief holder with the slope of the water table to the Anthony Kill.

- DNAPL migrated from the former gas relief holder with the slope of the top of bedrock to a bedrock trough east of the former MGP.

- DNAPL in the bedrock trough migrated vertically downward along cleavage planes and fractures and migrated preferentially into the southern tear fault that dips to the south.

- The southern tear fault intersects thrust faults that dip to the northeast, resulting in migration of DNAPL to the northeast along thrust fault planes.

- The tops of the zones of less intense pencil cleavage represent the base of the bedrock blocks thrusting to the west. DNAPL is transported along the thrusts to the north and east to the northern tear fault that dips to the south.

Soil Quality

- NAPL sheens and product were observed in the overburden materials near and downgradient (north and east) of the former gas relief holder.

- Gasoline impacted soil was encountered at borings SB-44 through SB-46 which are east of the site in the DiSiena Furniture store parking lot. The source of the gasoline is believed to be formeral leaks from gasoline tanks at the Getty Station.

- Elevated concentrations of PAHs were found north of the former mechanics and repair shop and along the downgradient margin of the former MGP portion of the site.

- The levels of PAHs in the surface soil at the neighboring properties south of the former MGP site are much lower than levels detected on-site.

- The highest concentrations of metals detected in the surface soil are within one order of magnitude of their respective NYSDEC RSCOs.

- Higher concentrations of total phenols were detected in surface soil west of the former MGP portion of the site and south of the site than within the former MGP portion of the site.

- The distributions of BTEX in the subsurface soils are similar to that of PAHs. BTEX and PAHs are found in the subsurface soil near the former gas relief holder and along the bank of the Anthony Kill. The source of the BTEX and PAHs in the subsurface soils appears to be the former gas relief holder.

- Cyanide was detected in two subsurface soil samples. There is no established NYSDEC RSCO for cyanide.

- A fence restricts access to the site, therefore, direct contact with the site soils is considered to be limited.

Groundwater Quality

- The residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. The closest known domestic wells to the site are approximately a mile southwest upgradient of the site.

- The VOCs and PAHs in the overburden groundwater that exceed NYSDEC groundwater standards include BTEX, chloroform, acenaphthene, and naphthalene.

- BTEX, chloroform and chlorobenzene, were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards.

- Several PAHs and total phenols were detected in the bedrock groundwater samples at concentrations that exceed NYSDEC groundwater standards.

- Two metals (iron and manganese) were detected in the filtered overburden groundwater samples at concentrations within two orders of magnitude of their respective NYSDEC groundwater standards.

- Antimony, arsenic, barium, iron, manganese, and nickel were detected in filtered groundwater samples at concentrations that exceed their respective NYSDEC groundwater standards.

- Where detected, total phenols in the overburden groundwater exceed the NYSDEC groundwater standard.

- Total cyanide was not detected in the bedrock groundwater at concentrations that exceed the NYSDEC groundwater standard (200 µg/L).

NAPL

- The primary NAPL source area is the former gas relief holder. The foundation of the former gas relief holder was at least five feet below the top of the bedrock (i.e. approximately 12 feet bgs).

- During the 1999 and 2001 IRM, the gas relief holder foundation and its contents were removed and disposed at a permitted off-site facility. During excavation of the gas relief holder, fractured shale bedrock was exposed and LNAPL was observed on the groundwater in the excavation.

- Overburden material which was saturated with NAPL, and NAPL-producing fractures in the underlying bedrock were observed near the north end of the former gas relief holder during the installation of wells RH-1S and RH-1D.

- The distribution of NAPL in the overburden is defined.

- The majority of the DNAPL observed during the SRI was present in the top of the bedrock and along major fractures. DNAPL is also sorbed to the overburden and bedrock matrix and dissolved into the groundwater plume as evidenced by minor soil and groundwater contamination.

- DNAPL has migrated preferentially east of the site along the top of bedrock and along tear and thrust fault planes.

- The presence of DNAPL in monitoring wells MW-34D and MW-35I north of the site is likely due to migration of DNAPL through the thrust faults and northern tear fault into thrust faults north of the Anthony Kill.

- DNAPL has not migrated west of the source area because the bedrock slopes to the east.

- DNAPL has not migrated south of the site due to the preferential migration of DNAPL along the southern tear fault and northeast dip of the thrust fault plan

Anthony Kill

- The portions of the Anthony Kill, adjacent to the site and between the site and the Hudson River are considered a Class D surface water body. Class D waters are designated for secondary contact recreation.

- PCBs, VOCs, and cyanides were not detected in any of the sediment samples collected from the Anthony Kill.

- PAHs were detected in two of the seven sediment samples from the Anthony Kill. Benzo(a)anthracene, fluorene, 2-methylnaphthalene, naphthalene, and phenanthrene were detected at concentrations within one order of magnitude of the calculated sediment screening criteria.

- Total phenols were detected in one of the seven sediment samples from the Anthony Kill at a concentration that exceeds the calculated sediment screening criteria.

- Manganese was the only metal that was detected at concentrations that exceed the Lowest Effect Level of 460 mg/kg in three sediment samples from the Anthony Kill.

- The AVS/SEM ratios for samples AK-5 and AK-7, which were collected from near the North Central Avenue bridge and the NAPL seep area, were less than 1.0, which indicates that metals in the sediment may be bioavailable.

- The interconnection between the overburden and bedrock fracture system beneath the site and Anthony Kill was evident by the observation of bubbling, rock flour and NAPL seeps in the kill when drilling activities were conducted at the site. NAPL discharges to the kill were also observed at times when drilling activities were not occurring at the site. Sediment exhibiting NAPL sheens and odors were present in the Anthony Kill.

- The results of the hydrocarbon fingerprinting and extended PAH profiles indicate that the detected PAHs in the sediments and in the onsite soil are similar to those at other MGPs.

Hudson River Sediment Quality

- More individual PAHs were detected in the Hudson River sediment samples than in the sediment samples from the Anthony Kill. The concentrations of the PAHs detected in the Hudson River sediment samples were greater than the concentrations detected in the Anthony Kill samples. The impact, if any, of the former MGP to the sediments in the Hudson River appears to be negligible.

- Cyanides were not detected in the sediment samples collected from the Hudson River.

- Because of the developed nature of the site, the diversity of vegetation and terrestrial wildlife habitat is low. However, there are a variety of habitats for wildlife within a two-mile radius of the site.

- Wind and water transport of site-related contaminants present in the onsite surface soil was considered to be a complete pathway of exposure to wildlife communities.

- The potential of exposure of wildlife to the subsurface soil was considered to be low.

- Some portions of the Anthony Kill were characterized as a poor macroinvertebrates habitat regardless of contamination levels. However, where present, resident macroinvertebrates in the Anthony Kill may be exposed to the PAHs in the sediment.

- Groundwater discharges from the site are believed to be the primary transport mechanism that may potentially affect surface water and sediment quality in the Anthony Kill.

Human Health Exposure Pathways

- Recreational users of the Anthony Kill could be exposed to the site-related impacts in the kill due to the hydraulic connection between the overburden and bedrock underlying the site and the Anthony Kill. The routes of exposure are dermal contact with contaminated surface water and sediment in the Anthony Kill and ingestion of contaminated surface water in the Anthony Kill

- Potential exposure pathways identified include the ingestion of and dermal contact with contaminated surface soil and dermal contact with contaminated subsurface soil or groundwater.

- Although no one uses groundwater for drinking or other uses at the site, dermal contact with or ingestion of contaminated groundwater are potential exposure pathways if groundwater is used in the future. However, currently the residences and businesses in the City of Mechanicville do not rely on groundwater for drinking water. Overburden groundwater flow is to the north toward the Anthony Kill and the nearest residents to the site are south (upgradient) of the site.

- Excavation of subsurface soil could occur in the future, and exposures could occur from contaminated subsurface soil.

- The site is unpaved and exposure routes of concern include incidental ingestion of soil, dermal contact with soil, and inhalation of particulate matter derived from soil. Clean imported fill was brought on site and used to restore the site grade at the conclusion of the 1999 and 2000 IRM. NYSEG employees do not work at the site on a daily basis and when onsite their visits are very brief.

Based on these conclusions, URS recommends that:

- A Feasibility Study should be prepared to evaluate remedial alternatives for those portions of the site where contaminants are present at concentrations greater than standards or guidance values. The primary focus of the Feasibility Study should be mitigation of further migration of DNAPL to the Anthony Kill.

9.0 REFERENCES

ABB Environmental Services, December 1993, *Phase IIA Remedial Investigation And Feasibility Study Report*

ABB Environmental Services, June 1992, *Investigation Of The Former Coal Gasification Site At Mechanicville, New York; Phase II Remedial Investigation Report And Work Plan For Phase IIA Supplemental Remedial Investigation And Feasibility Study*

ASTM. 1995. *Standard Guide For Risk-Based Corrective Action Applied At Petroleum Release Sites*. E 1739-95.

Dineen R.J. And E.L. Hanson, 1983, *Bedrock Topography And Glacial Deposits Of The Colonie Channel Between Saratoga Lake And Coeymans*, New York, New York State Museum MAP And Chart Series Number 37

EcoLogic, LLC, October 2002. *Fish and Wildlife Impact Analysis, Former Manufactured Gas Plant Site, Mechanicville, New York.*

Edison Electric Institute, April 1993, *Manufactured Gas Plant Site Remediation Strategy*, NYSDOH/USGS Open File Report 82-553, *Atlas Of Eleven Selected Aquifers In New York*

Electric Power Research Institute, EPRI Journal, July/August 1989, Managing The Gas Light Legacy

Electric Power Research Institute, June 8, 1994, *Remediation Strategies For Source Materials And Contaminated Media At Manufactured Gas Plant (MGP) Sites*

Gas Research Institute, October 1987, *Management Of Manufactured Gas Plant Sites*, Volume II, Site Investigation

Heath, R.C., F.K. Mack, And J.A. Tannenbaum, 1963, *Groundwater Studies In Saratoga County, New York*, US Geological Survey Bulletin GW-49

E.C. Jordan Co., August 1986, *Investigation Of The Former Coal Gasification Site At Mechanicville, New York; Task 1 Report, Preliminary Site Evaluation*

E.C. Jordan Co., December 1987, *Investigation Of The Former Coal Gasification Site At Mechanicville, New York; Task 2 Report, Initial Field Investigation Program*

E.C. Jordan Co., September 1989, *Investigation Of The Former Coal Gasification Site At Mechanicville, New York; Task 3 Expanded Problem Definition Program*

Meta Environmental, Inc., November 6, 2002. *Environmental Forensic Report, Mechanicville, SDG: UR010417, UR021003*

New York State Department of Environmental Conservation, January 24, 1994, *Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels* (HWR-94-4046)

New York State Department of Environmental Conservation, *1999 Technical Guidance for Screening of Contaminated Sediments*

New York State Department of Environmental Conservation, December 25, 2002. *Draft DER-10 Technical Guidance for Site Investigation and Remediation.*

New York State Electric & Gas Corporation, March 12, 1997, *Remedial Investigation/ Feasibility Study Request For Proposal No. 00-047, And One Addendum*

New York State Electric & Gas Corporation, March 27, 1991, *NYSEG UST Closure and Removal, 3,000-Gallon Diesel Tank*

New York State Electric & Gas Corporation, July 26, 1991, *NYSEG UST Closure and Removal, 3,000-Gallon Gasoline Tank*

New York State Electric & Gas Corporation, October 2000. *Interim Remedial Measures Final Engineering Report for Activities at Mechanicville Central Avenue Former Manufactured Gas Plant (MGP) Site, City of Mechanicville, Saratoga County, New York*

Plesch, Andreas, 1994, *Structure and Tectonic Significance of Deformed Medial Ordovician Flysch and Melange between Albany and Saratoga Lake and in Central Hudson Valley, New York*. MS Thesis, The University of Albany, State University of New York, Department of Geological Sciences.

State of New York, Department of Environmental Conservation, February 5, 1993, *Order on Consent, Index # A5-0276-91-10*

United States Environmental Protection Agency, 1998, *Framework For Ecological Risk Assessment.* EPA/630/R-92/001. United States Environmental Protection Agency.1998.

United States Environmental Protection Agency. 1997. *Exposure To Factors Handbook.* Office Of Health And Environmental Assessment, Exposure Assessment Group, Washington, D.C. EPA/600/P-95/002Fc.

United States Environmental Protection Agency, 1995, *Guidelines For Ecological Risk Assessment.* EPA/630/R-95/002F.

United States Environmental Protection Agency (Region III). 1993. *Selecting Exposure Routes and Contaminants Of Concern By Risk-Based Screening.* EPA/903/R-93-001.

United States Environmental Protection Agency, 1992a, *Fish And Wildlife Impact Analysis For Inactive Hazardous Waste Sites. (FWIA) (NYSDEC 1994)* United States Environmental Protection Agency. 1992a.

United States Environmental Protection Agency. 1992. *Guidance For Data Usability In Risk Assessment.* Office of Solid Waste And Emergency Response. PB92-963356.

United States Environmental Protection Agency. 1989. *Risk Assessment Guidance For Superfund. Volume I, Human Health Evaluation Manual (Part A).* Interim Final. Office Of Emergency And Remedial Response, Washington, D.C. EPA/540/1-89/002.

United States Geological Survey, 1954, Photorevised 1980. *7.5 Minutes Series Mechanicville, New York Quadrangle.*

Utility Solid Waste Activities Group Superfund Committee/ERT and Koppers Company, Inc. September 1984, Handbook on Manufactured Gas Plant Sites, Ishwar P. Murarka, EPRI, Journal, September 1990, Manufactured Gas Plant Site Investigation

TABLE 5-1

SUMMARY OF SOIL BORING DETAILS

NYSEG
MECHANICVILLE, NEW YORK

Soil Boring	Grade (feet msl)	Total Depth (feet bgs)	Depth to Top of Rock (feet bgs)	Top of Rock (feet msl)	Northing	Easting
SB-1	89.89	12.0	12.0	77.89	1484977.30	709272.81
SB-2	90.49	8.0	8.0	82.49	1484936.17	709266.91
SB-3	90.78	8.0	8.0	82.78	1484912.44	709264.75
SB-4	88.82	10.0	10.0	78.82	1484965.92	709319.96
SB-4A	88.57	5.0	5.0	83.57	1484956.85	709343.72
SB-5	89.45	8.0	8.0	81.45	1484924.27	709310.61
SB-6	88.17	8.0	8.0	80.17	1484947.36	709367.73
SB-7	89.53	8.0	8.0	81.53	1484905.05	709353.77
SB-8	87.50	7.0	7.0	80.50	1484953.40	709414.79
SB-9	88.19	8.0	8.0	80.19	1484919.12	709406.05
SB-10	86.50	10.0	9.0	77.50	1484949.79	709457.36
SB-11	90.32	7.0	7.0	83.32	1484860.80	709422.92
SB-12	90.63	9.0	8.0	82.63	1484824.73	709411.15
SB-13	87.67	10.0	10.0	77.67	1484854.69	709488.08
SB-14	85.87	9.3	8.0	77.87	1484916.43	709520.52
SB-15	87.12	8.0	8.0	79.12	1484872.26	709508.06
SB-16	85.04	14.0	13.0	72.04	1484884.61	709629.94
SB-17	85.72	11.0	11.0	74.72	1484845.66	709622.11
SB-18	91.49	16.0	16.0	75.49	1484743.12	709630.60
SB-19	88.31	9.0	4.6	83.71	1484790.67	709518.16
SB-20	90.24	10.0	9.6	80.64	1484791.69	709468.63
SB-21	86.45	11.0	10.0	76.45	1484835.35	709566.59
SB-22	85.65	8.0	8.0	77.65	1484855.48	709580.59
SB-23	84.85	9.0	9.0	75.85	1484895.99	709595.83
SB-23A	85.04	9.0	4.3	80.79	1484896.92	709597.10
SB-24	85.34	7.0	7.0	78.34	1484903.62	709562.05
SB-24A	85.34	6.8	6.8	78.54	1484906.51	709562.69
SB-25	86.93	7.1	7.1	79.83	1484910.18	709472.18
SB-26	90.36	8.0	8.0	82.36	1484864.39	709342.38
SB-27	90.95	10.0	9.0	81.95	1484896.11	709266.95
SB-28	88.70	12.0	11.6	77.10	1484774.89	709552.97
SB-29	91.55	15.0	15.0	76.55	1484726.94	709624.78
SB-30	92.28	24.8	24.8	67.48	1484739.89	709643.02
SB-31	91.23	20.2	20.2	71.03	1484747.36	709618.25
SB-32	92.14	24.8	24.8	67.34	1484751.16	709637.58
SB-33	91.39	15.0	15.0	76.39	1484723.35	709611.74
SB-34	92.48	11.9	11.9	80.58	1484712.87	709637.12
SB-35	89.81	15.0	15.0	74.81	1484766.82	709595.20
SB-36	93.73	21.2	20.15	73.58	1484850.52	709756.94
SB-37	93.71	21.0	20.0	73.71	1484829.37	709749.69
SB-38	93.97	23.0	22.6	71.37	1484774.75	709741.43
SB-39	93.93	22.8	22.8	71.13	1484750.64	709736.61

TABLE 5-1

SUMMARY OF SOIL BORING DETAILS

NYSEG
MECHANICVILLE, NEW YORK

Soil Boring	Grade (feet msl)	Total Depth (feet bgs)	Depth to Top of Rock (feet bgs)	Top of Rock (feet msl)	Northing	Easting
SB-40	94.18	23.9	23.9	70.28	1484722.85	709730.36
SB-41	94.16	17.8	17.8	76.36	1484699.15	709705.76
SB-42	94.00	10.2	10.2	83.80	1484664.40	709706.93
SB-43	94.32	18.2	18.2	76.12	1484712.10	709753.85
SB-44	94.14	22.5	22.5	71.64	1484744.31	709760.40
SB-45	94.70	23.8	23.8	70.90	1484704.25	709776.80
SB-46	94.62	23.0	23.0	71.62	1484738.35	709784.58
SB-47	94.80	15.8	15.8	79.00	1484688.86	709821.20
SB-48	94.00	19.0	19.0	75.00	1484797.35	709767.71
SB-49	93.88	21.3	20.5	73.38	1484842.04	709778.55
SB-50	93.18	4.0	4.0	89.18	1484536.39	709714.92
SB-51	93.10	0.0	NE	NE	1484493.56	709720.18
SB-52	93.67	0.0	NE	NE	1484623.01	709707.67
SB-53	94.49	17.3	17.3	77.19	1484677.14	709853.72
SB-54	94.77	29.5	29.5	65.27	1484698.89	709866.87
SB-55	94.67	26.3	26.3	68.37	1484680.61	709909.16
SB-56	92.13	2.7	NE	NE	1484836.90	709644.82
SB-57	93.02	2.0	NE	NE	1484831.11	709643.60
SB-58	93.04	2.6	NE	NE	1484823.27	709642.88
SB-59	92.44	3.5	NE	NE	1484849.91	709646.48
SB-60	92.45	2.5	NE	NE	1484864.00	709647.97
SB-61	93.49	10.0	10.0	83.49	1484543.37	709667.14
SB-62	93.70	7.5	7.5	86.20	1484588.46	709662.34
SB-63	94.43	23.0	23.0	71.43	1484645.25	709662.82
SB-64	94.32	23.1	23.1	71.22	1484688.33	709660.00
SB-65	93.99	8.0	NE	NE	1484821.76	709646.62
SB-66	93.99	8.0	NE	NE	1484833.09	709647.92
SB-67	93.87	8.0	NE	NE	1484837.96	709648.19
SB-68	93.95	8.0	NE	NE	1484849.55	709650.81
SB-69	93.94	8.0	NE	NE	1484854.13	709650.47
SB-70	93.92	8.0	NE	NE	1484862.52	709652.46
SB-C1	94.11	27.5	27.5	66.61	1484668.46	709678.65
SB-C2	94.62	29.5	29.5	65.12	1484806.78	709682.95
SB-C3	94.74	23.8	23.8	70.94	1484888.58	709687.47

Notes:
NE: Not Encountered
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 5-2

EXISTING AND NEWLY INSTALLED
WELL CONSTRUCTION DETAILS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Measuring Point Elevation (feet msl)	Total Depth (feet bgs)	Northing	Easting	Screen or Open Hole	Screen or Open Hole Diameter (inches)	Slot Size	Depth to Top of Screen or Open Hole (feet bgs)	Depth to Bottom of Screen or Open Hole (feet bgs)	Top of Screen or Open Hole (feet msl)	Bottom of Screen or Open Hole (feet msl)	Depth to Top of Sump (feet bgs)	Depth to Bottom of Sump (feet bgs)	Top of Sump (feet msl)	Bottom of Sump (feet msl)
Overburden Wells																
MW-10	92.18	91.68	19.7	1484717.11	709632.67	Screen	2	0.01	8.7	19.5	83.48	72.68	NA	NA	NA	NA
MW-12	93.89	93.68	25.5	1484799.03	709649.53	Screen	2	0.01	14.5	25.5	79.39	68.39	NA	NA	NA	NA
MW-12S	93.88	93.67	28.0	1484813.9	709651.04	Screen	4	0.02	11	26	82.88	67.88	26	28	67.88	65.88
MW-14S	94.09	94.45	25.3	1484891.37	709665.25	Screen	2	0.01	10	25	84.09	69.09	NA	NA	NA	NA
MW-15S	85.51	88.53	12.0	1484942.83	709516.39	Screen	2	0.02	5	10	80.51	75.51	10	12	75.51	73.51
MW-16	90.38	89.80	16.0	1484881.03	709280.49	Screen	2	0.01	6	16	84.38	74.38	NA	NA	NA	NA
MW-17	93.87	93.60	22.5	1484804.94	709744.63	Screen	2	0.01	13	23	80.87	70.87	NA	NA	NA	NA
MW-21S	86.44	89.05	12.0	1484947.53	709456.93	Screen	2	0.01	5	10	81.44	76.44	10	12	76.44	74.44
MW-23S	84.97	87.52	14.5	1484895.7	709631.76	Screen	2	0.02	7.5	12.5	77.47	72.47	12.5	14.5	72.47	70.47
MW-25S	93.76	93.35	28.0	1484852.78	709654.82	Screen	2	0.02	11	26	82.76	67.76	26	28	67.76	65.76
MW-26S	91.50	91.33	24.5	1484743.2	709630.63	Screen	4	0.02	7.5	22.5	84.00	69.00	22.5	24.5	69	67
MW-30S	93.22	92.99	27.0	1484772.19	709646.89	Screen	4	0.02	10	25	83.22	68.22	25	27	68.22	66.22
MW-31S	98.61	98.39	20.0	1484547.55	709634.47	Screen	2	0.02	8	18	90.61	80.61	18	20	80.61	78.61
RH-1S	87.56	87.04	17.8	1484825.12	709583.65	Screen	4	0.04	1.8	17.3	85.76	70.26	17.3	17.8	70.26	69.76
Shallow Bedrock Wells																
MW-1	91.57	90.88	20.2	1484739.1	709551.61	Screen	2	0.01	11.6	16.85	79.97	74.72	NA	NA	NA	NA
MW-1I	90.83	90.45	75.0	1484745.85	709550.55	Open Hole	4	NA	45	75	45.83	15.83	NA	NA	NA	NA
MW-2	88.24	87.97	16.2	1484847.32	709496.01	Screen	2	0.01	11.2	14.35	77.04	73.89	NA	NA	NA	NA
MW-2I	88.6	88.32	32.2	1484842.59	709495.48	Open Hole	6	NA	11.28	32.2	77.32	56.4	NA	NA	NA	NA
MW-10I	92.58	92.22	43.0	1484714.44	709638.88	Open Hole	6	NA	22	43	70.58	49.58	NA	NA	NA	NA
MW-11	86.69	85.68	18.0	1484911.33	709430.5	Screen	2	0.01	9.5	15	77.19	71.69	NA	NA	NA	NA
MW-13	94.14	93.8	55.5	1484808.22	709650.81	Screen	2	0.01	44.7	55.5	49.44	38.64	NA	NA	NA	NA
MW-14	94.76	94.33	55.0	1484896.38	709666.11	Screen	2	0.01	30	41	64.76	53.76	NA	NA	NA	NA
MW-15I	85.26	87.94	25.0	1484943.34	709511.08	Screen	2	0.04	12.5	22.5	72.76	62.76	22.5	25	62.76	60.26
MW-17I	93.55	93.29	45.0	1484870.22	709772.76	Open Hole	6	NA	23	45	70.55	48.55	NA	NA	NA	NA
MW-18	93.93	93.53	38.0	1484799.51	709743.98	Screen	2	0.01	28	38	65.93	55.93	NA	NA	NA	NA
MW-19I	99.20	98.92	38.5	1484796.37	709342.44	Open Hole	6	NA	18	38.5	81.20	60.70	NA	NA	NA	NA
MW-22I	85.29	87.94	36.1	1484927.19	709557.67	Screen	2	0.04	17	32	68.29	53.29	32	36	53.29	49.29
MW-25I	94.17	93.8	47.0	1484852.76	709663.32	Open Hole	6	NA	27	47	67.17	47.17	NA	NA	NA	NA
MW-26I	91.88	91.47	45.5	1484741.39	709636.66	Open Hole	6	NA	24.5	45.5	67.38	46.38	NA	NA	NA	NA
MW-28I	85.35	88.70	25.0	1484935.33	709536.77	Screen	2	0.04	15	25	70.35	60.35	NA	NA	NA	NA
MW-29I	84.89	87.10	26.0	1484913.4	709592.17	Open Hole	6	NA	11.5	26	73.39	58.89	NA	NA	NA	NA
MW-35I	80.94	80.60	38.0	1485007.51	709589.22	Open Hole	8	NA	12.5	38.00	68.44	46.44	NA	NA	NA	NA
MW-36I	94.61	94.20	45.0	1485190.59	709627.29	Open Hole	4	NA	20	45	74.61	49.61	NA	NA	NA	NA
MW-37I	98.54	98.18	50.0	1485194.56	709857.99	Open Hole	4	NA	30	50	68.54	48.54	NA	NA	NA	NA
MW-38I	78.90	78.66	120.0	1484669.89	710053.64	Open Hole	4	NA	90	120	-11.10	-41.10	NA	NA	NA	NA

TABLE 5-2

EXISTING AND NEWLY INSTALLED
WELL CONSTRUCTION DETAILS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Measuring Point Elevation (feet msl)	Total Depth (feet bgs)	Northing	Easting	Screen or Open Hole	Screen or Open Hole Diameter (inches)	Slot Size	Depth to Top of Screen or Open Hole (feet bgs)	Depth to Bottom of Screen or Open Hole (feet bgs)	Top of Screen or Open Hole (feet msl)	Bottom of Screen or Open Hole (feet msl)	Depth to Top of Sump (feet bgs)	Depth to Bottom of Sump (feet bgs)	Top of Sump (feet msl)	Bottom of Sump (feet msl)
Deep Bedrock Wells																
MW-1D	90.99	90.65	155.2	1484740.96	709557.53	Open Hole	4	NA	121	155.2	-30.01	-64.21	NA	NA	NA	NA
MW-10D	92.88	92.67	114.0	1484711.69	709645.07	Open Hole	4	NA	82	114	10.88	-21.12	NA	NA	NA	NA
MW-14D	94.46	94.07	121.7	1484886.74	709667.26	Open Hole	4	NA	91	121.7	3.46	-27.24	NA	NA	NA	NA
MW-15D	86.34	87.33	105.8	1484941.71	709521.01	Open Hole	4	NA	96	105.8	-9.66	-19.46	NA	NA	NA	NA
MW-17D	93.55	93.60	142.5	1484872.01	709765.43	Open Hole	6	NA	121	142.5	-27.45	-48.95	NA	NA	NA	NA
MW-20D	94.87	96.37	110.1	1485096.99	709437.96	Open Hole	4	NA	90	110.1	4.87	-15.23	NA	NA	NA	NA
MW-21D	86.45	89.17	59.4	1484946.13	709462.59	Open Hole	4	NA	48.7	59.4	37.75	27.05	NA	NA	NA	NA
MW-23D	84.46	87.08	80.0	1484897.55	709622.38	Open Hole	4	NA	56	80	28.46	4.46	NA	NA	NA	NA
MW-29D	84.27	86.97	111.0	1484912.05	709600.88	Open Hole	6	NA	90	110	-5.73	-25.73	NA	NA	NA	NA
MW-30D	93.19	92.87	121.0	1484778.1	709647.49	Open Hole	6	NA	90	121	3.19	-27.81	NA	NA	NA	NA
MW-31D	98.90	98.31	150.0	1484531.45	709631.21	Screen	2	0.04	120	150	-21.10	-51.10	NA	NA	NA	NA
MW-32D	87.23	89.77	111.5	1484963.72	709401.77	Open Hole	6	NA	91	111.5	-3.77	-24.27	NA	NA	NA	NA
MW-33D	94.34	93.80	141.0	1484713.06	709752.83	Open Hole	6	NA	119.7	140.5	-25.36	-46.16	NA	NA	NA	NA
MW-34D	94.26	93.66	120.5	1484996.88	709676.53	Open Hole	4	NA	100	120.5	-5.74	-26.24	NA	NA	NA	NA
MW-36D	94.58	94.22	161.0	1485184.72	709628.59	Open Hole	6	NA	140	161	-45.42	-66.42	NA	NA	NA	NA
MW-37D	98.59	98.20	185.0	1485190.06	709859.34	Open Hole	6	NA	155	185	-56.41	-86.41	NA	NA	NA	NA
MW-38D	78.96	78.64	170.1	1484677.57	710050.18	Open Hole	4	NA	150	170.1	-71.04	-91.14	NA	NA	NA	NA
MW-39D	92.22	91.90	150.4	1484572	709896.41	Open Hole	6	NA	130.4	150.4	-38.18	-58.18	NA	NA	NA	NA
MW-40D	94.18	93.92	170.0	1484689.48	709662.89	Screen	2	0.04	140	170	-45.82	-75.82	NA	NA	NA	NA
MW-41D	93.56	93.13	140.0	1484971.33	709968.22	Open Hole	6	NA	120	140	-26.44	-46.44	NA	NA	NA	NA
MW-42D	93.72	93.46	175.0	1484627.59	709733.68	Open Hole	6	NA	140	175	-46.28	-81.28	NA	NA	NA	NA
MW-43D	101.05	100.67	150.0	1484562.16	709426.31	Screen	4	0.04	120	150	-18.95	-48.95	NA	NA	NA	NA
RH-1D	87.44	86.84	107.5	1484821.93	709587.47	Open Hole	2	NA	86.5	107.5	0.94	-20.06	NA	NA	NA	NA

Notes:
NA: Not Applicable
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 5-3

SUMMARY OF WELL DEVELOPMENT OBSERVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Development Date	Gallons Removed	Pumped Dry	Odor	Sheen	Product	Comments
MW-1I	06/19/02	425		X	X	X	Recovered approximately 2 L of NAPL
MW-1D	06/18/02	150	X				Water was crystal clear, bottom of well is hard, DTB:155.15 feet BTOC
MW-2I	08/29/01	105	X				Musty/sulfur odor. Light grey and cloudy.
MW-10I	07/11/01	110					Sulfur odor. Clear at ~45 gallons.
MW-10D	07/10/01	55		X	X	X	Cloudy grey, sheen, MGP odor, bailer coated with NAPL
MW-12S	04/19/01	105		X			MGP (NAPL) odor up to ~30 gallons. Non-MGP odor up to 105 gallons. Clear at 105 gallons.
MW-14S	04/17/01	85					Light grey in color after surging. No odor. Clear before surging at ~85 gallons. Slightly cloudy after surge.
MW-14D	09/10/01	80	X				Clear, no odor. Pumped dry after ~80 gallons.
MW-15S	04/19/01	40	X				Slight odor up to ~ 20 gallons. No odor up to 40 gallons. Clear after ~ 30 gallons.
MW-15I	05/14/01	50	X	X	X		Slight sheen, NAPL odor, semi-clear after ~35 gallons.
MW-15D	08/31/01	60	X				Cloudy, no odor. Pumped dry.
MW-17I	08/31/01	85	X				Light grey and cloudy. No odor.
MW-17D	09/05/01	150					Clear, no odor throughout 150 gallons.
MW-19I	07/31/01	150					No odor. No sheen. Water clear at end.
MW-20D	09/12/01	65					Cloudy, no odor.
MW-21S	04/18/01	10	X				Clear, No Odor.
MW-21D	09/05/01	165					Sulfur odor throughout. Clear after ~70 gallons.
MW-22I	05/14/01	105		X			Grey in color. Clear after 95 gallons.
MW-23S	04/18/01	75	X	X			MGP odor throughout 75 gallons of pumping. Dark brown-Dark grey in color. Cleared up at ~75 gallons.
MW-23D	09/07/01	46	X				Cloudy, slight sulfur odor after ~20 gallons. Pumped dry after 45 gallons.

TABLE 5-3

SUMMARY OF WELL DEVELOPMENT OBSERVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Development Date	Gallons Removed	Pumped Dry	Odor	Sheen	Product	Comments
MW-25S	04/17/01	55		X			NAPL odor throughout 55 gallons of pumping. Dark brown to Dark grey. Cleared up at ~55 gallons.
MW-25I	07/27/01	265		X			MGP/sulfur odor. Slightly cloudy to clear.
MW-26S	04/20/01	145		X			MGP odor, NAPL on surging tools at ~50 gallons, semi-clear after 105 gallons.
MW-26I	07/26/01	155		X	X		Definite MGP odor after ~40 gallons. Slight sheen at ~110 gallons. Clear/yellowish after ~145 gallons.
MW-29I	09/11/01	75	X	X	X		Purged dry after ~45 gallons. Slight sheen. Strong MGP odor. Clear after ~45 gallons.
MW-29D	08/24/01	130	X				Cloudy. No odor.
MW-30D	06/17/01	200					Slight sulfur odor after ~70 gallons removed. Grey and cloudy still after ~200 gallons removed.
MW-31S	06/08/01	5	X				Brown, some sand, PVC shavings.
MW-31D	11/14/02	<100	X				Slightly cloudy grey
MW-31D	01/17/03	40	X				Well purged dry. Slightly cloudy.
MW-32D	08/31/01	120	X				Cloudy, no odor. Pumped dry after 120 gallons.
MW-33D	09/06/01	155	X				Pumped dry after ~145 gallons. No odor. Semi-clear after 155 gallons.
MW-34D	09/13/01	80					Cloudy, no odor. Water began to clear after ~75 gallons.
MW-35I	10/21/01	170	X	X	X	X	Significant product after ~75 gallons, trace NAPL after ~170 gallons, cloudy, grey/brown

TABLE 5-3

SUMMARY OF WELL DEVELOPMENT OBSERVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Development Date	Gallons Removed	Pumped Dry	Odor	Sheen	Product	Comments
MW-35I	11/22/02	35		X	X	X	Tandem whale pumps, after 35 gal pumps stop working due to amount of oil in well.
MW-36I	06/18/02	25	X				Hard bottom
MW-36D	06/18/02	150	X				Slightly clear, hard bottom
MW-37I	06/18/02	20	X				DTB: 49.85 feet BTOC, cloudy grey
MW-37D	06/18/02	150	X				Sulfur odor, DTB: 185.25 feet BTOC, cloudy
MW-38I	06/19/02	400		X			Sulfur and slight tar odor, slightly cloudy grey, hard bottom
MW-38D	06/05/02	800		X			Pumped as fast as pump would go (~5 gpm), water table steady at 15 ft bgs, slightly clear
MW-39D	06/06/02	400					Slightly cloudy, grey to clear, hard bottom
MW-40D	06/18/02	250	X	X	X	X	Recovered approximately 5 gal tar
MW-40D	2/03	25	X				After deepened to 170' bgs, cloudy white/grey, no odor
MW-41D	06/18/02	130	X				Slightly cloudy, DTB: 138.65 ft BTOC
MW-42D	11/22/02	150	X	X	X	X	After 20 gallons, NAPL entered well. Pump lowered to bottom, would not pump due to the amount of oil in well.
MW-43D	11/14/02	425	X				Went dry several times. Cloudy grey, sulfur odor, no MGP indicators
MW-43D	01/17/03	75					Clear, slight sulfur odor. No MGP indicators.
RH-1S	08/30/01	110				X	Grey, cloudy. Clearing after ~30 gallons. Thick NAPL soaked sludge found on bottom of pump. Bottom never cleared up.
RH-1D	09/07/01	9	X				Cloudy, grey, no odor. Pumped dry after 9 gallons.

Notes:
L - liter
DTB - depth to bottom
BTOC - below top of casing

TABLE 5-4

SUMMARY OF SOIL SAMPLES
AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Analyses											
			VOCs	SVOCs	PCBs	Metals	Total Phenols	Cyanides	Pet ID and TPH	Hydrocarbon Fingerprint	Heat Value	TCLP VOCs	TCLP SVOCs	TCLP Metals
Surface Soil Samples														
MW-19I	(0-2)	4/24/2001									X			
MW-29I	(0-2)	4/16/2001									X			
MW-31S	(0-2)	5/30/2001	X	X			X	X						
SB-2	(0-2)	4/2/2001	X	X			X	X						
SB-3	(0-2)	4/2/2001	X	X			X	X						
SB-5	(0-2)	4/2/2001	X	X			X	X						
SB-6	(0-2)	4/2/2001	X	X			X	X						
SB-9	(0-2)	4/2/2001	X	X			X	X						
SB-13	(0-2)	4/4/2001	X	X			X	X						
SB-16	(2)	4/3/2001		X[b]						X				
SB-29	(0-2)	4/5/2001	X	X			X	X						
SS-01	(0-0.5)	5/18/2001		X				X						
SS-02	(0-0.5)	5/18/2001		X				X						
SS-03	(0-0.5)	5/18/2001		X				X						
SS-04	(0-0.5)	5/18/2001		X				X						
SS-05	(0-0.5)	5/18/2001		X				X						
SS-06	(0-0.5)	5/18/2001	X	X	X	X	X	X						
SS-07	(0-0.5)	5/18/2001	X	X	X	X	X	X						
SS-08	(0-0.5)	5/18/2001	X	X	X	X	X	X						

TABLE 5-4

SUMMARY OF SOIL SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Analyses											
			VOCs	SVOCs	PCBs	Metals	Total Phenols	Cyanides	Pet ID and TPH	Hydrocarbon Fingerprint	Heat Value	TCLP VOCs	TCLP SVOCs	TCLP Metals
Subsurface Soil Samples														
MW-1D	(8-10)	5/15/2002	X	X			X	X						
MW-2I	(7-9)	4/17/2001	X	X		X	X	X			X			
MW-10I	(14-16)	4/12/2001	X	X			X	X						
MW-12S	(24-26)	4/10/2001	X	X			X	X						
MW-14S	(24-25)	4/9/2001	X	X			X	X						
MW-15S	(6-8)	4/12/2001	X	X		X	X	X						
MW-17I	(20-21)	4/23/2001	X	X			X	X						
MW-19I	(4-6)	4/24/2001	X	X			X	X						
MW-20D	(14-16)	7/25/2001	X	X			X	X						
MW-22I	(2-4)	4/13/2001	X	X		X	X	X						
MW-23S	(8-10)	4/12/2001	X	X			X	X						
MW-26S	(22-23)	4/11/2001	X	X		X	X	X						
MW-28I	(10-12)	4/20/2001	X	X			X	X						
MW-29I	(4-6)	4/16/2001	X	X			X	X			X			
MW-30D	(10-12)	6/4/2001	X	X		X	X	X						
MW-32D	(6-8)	6/4/2001	X	X			X	X						
MW-34D	(12-14)	8/20/2001	X	X			X	X						
MW-36D	(4-6)	6/3/2002	X	X			X	X						
MW-36D Duplicate	(4-6)	6/3/2002	X	X			X	X						
MW-37D	(14-16)	6/7/2002	X	X			X	X						
MW-38D	(6-8)	5/23/2002	X	X			X	X						
MW-39D	(16-18)	5/30/2002	X	X			X	X						
MW-41D	(4-6)	6/4/2002	X	X			X	X						
RH-1S	(8-10)	4/13/2001	X	X			X	X						
RH-1S	(16)	4/13/2001		X[b]						X				
SB-1	(2-4)	4/2/2001	X	X			X	X						

TABLE 5-4

SUMMARY OF SOIL SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Analyses											
			VOCs	SVOCs	PCBs	Metals	Total Phenols	Cyanides	Pet ID and TPH	Hydrocarbon Fingerprint	Heat Value	TCLP VOCs	TCLP SVOCs	TCLP Metals
SB-4	(4-6)	4/2/2001	X	X			X	X						
SB-4A	(2-4)	4/2/2001	X	X			X	X						
SB-7	(2-4)	4/2/2001	X	X			X	X						
SB-8	(4-7)	4/2/2001	X	X			X	X						
SB-10	(8-10)	4/4/2001	X	X		X	X	X						
SB-11	(6-7)	4/5/2001	X	X		X	X	X						
SB-12	(2-4)	4/5/2001	X	X		X	X	X						
SB-14	(2-4)	4/3/2001	X	X			X	X						
SB-15	(4-6)	4/3/2001	X	X		X	X	X						
SB-16	(4-6)	4/3/2001	X	X			X	X						
SB-16	(8-12)	4/3/2001									X			
SB-16	(12)	4/3/2001		X[b]						X				
SB-16	(14)	4/3/2001		X[b]						X				
SB-17	(2-4)	4/4/2001	X	X		X	X	X				X	X	X
SB-18	(8-10)	4/4/2001	X	X			X	X						
SB-18	(12-16)	4/4/2001									X			
SB-18	(16)	4/4/2001		X[b]						X				
SB-19	(6-8)	4/4/2001	X	X			X	X						
SB-20	(8-10)	4/5/2001	X	X			X	X						
SB-21	(8-11)	4/4/2001	X	X			X	X						
SB-21 Duplicate	(8-11)	4/4/2001	X	X			X	X						
SB-22	(4-6)	4/4/2001	X	X		X	X	X						
SB-23	(4-6)	4/3/2001	X	X			X	X						
SB-24	(4-6)	4/3/2001	X	X		X	X	X						
SB-25	(4-6)	4/3/2001	X	X		X	X	X						
SB-26	(4-6)	4/2/2001	X	X			X	X						

TABLE 5-4

SUMMARY OF SOIL SAMPLES
AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Analyses											
			VOCs	SVOCs	PCBs	Metals	Total Phenols	Cyanides	Pet ID and TPH	Hydrocarbon Fingerprint	Heat Value	TCLP VOCs	TCLP SVOCs	TCLP Metals
SB-27	(2-4)	4/2/2001	X	X			X	X						
SB-28	(2-4)	4/5/2001	X	X			X	X						
SB-30	(8-12)	4/5/2001	X	X			X	X						
SB-31	(6-8)	4/5/2001	X	X			X	X						
SB-45	(14-18)	6/20/2001	X[a]						X					
SB-C1	(4-8)	4/6/2001	X	X			X	X						
SB-C2	(12-14)	4/6/2001	X	X			X	X						
SB-C3	(6-8)	4/6/2001	X	X			X	X						

Notes:

feet bgs: Feet Below Ground Surface.
TCL VOCs EPA 8260
SVOCs (PAHs only) EPA 8270
PCBs EPA 8082
Metals EPA 6010
Total Phenols EPA 9065/420.1
Cyanide (total, amenable) EPA 9012/335.3
Cyanide (weak & dissociable) SM4500I
Petroleum Identification NYS DOH 310.14
Total Petroleum Hydrocarbons EPA 1664
Hydrocarbon Fingerprint EPA 8100
Heat Value ASTM D240
TCLP VOCs EPA 1311/8260
TCLP SVOCs EPA 1311/8270
TCLP Metals EPA 1311/6010,7471
a - Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and methy tert-butyl ether (MTBE) only EPA 8021
b - Extended PAH profiles Modified 8270

All analyses performed by Adirondack Environmental Services of Albany, New York, with the exception of hydrocarbon fingerprinting and extended PAH profiles.
Hydrocarbon fingerprinting and extended PAH profile anlayses performed by Meta Environmental, Inc., of Watertown, Massachusetts.

TABLE 5-5

SUMMARY OF PACKER TESTING DETAILS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Packer Testing Depth Interval (feet bgs)	Comments
MW-1D	4/17/2002	21-42	Dry
	4/17/2002	42-60	TAR at 51'
	4/18/2002	60-80	Interval recharged with NAPL
	4/18/2002	80-100	Interval recharged with NAPL
	4/19/2002	100-120	Sample collected
	4/26/2002	120-140	Dry
MW-36D	5/7/2002	20-40	Sample collected
	5/8/2002	40-60	Sample collected
	5/8/2002	60-80	Sample collected
	5/9/2002	80-100	Dry
	5/14/2002	100-120	Dry
	5/14/2002	120-140	Dry
	5/15/2002	136-160	Sample collected
MW-37D	6/10/2002	25-45	Sample collected
	6/10/2002	45-65	Sample collected
	6/10/2002	65-85	Sample collected
	6/11/2002	85-105	Dry
	6/11/2002	105-125	Dry
	6/11/2002	125-145	Dry
	6/11/2002	145-165	Dry
	6/12/2002	165-185	Sample collected
MW-38D	4/30/2002	23-40	Sample collected
	4/30/2002	40-60	Sample collected
	4/30/2002	60-80	Dry
	4/30/2002	80-100	Tar at 98'
	5/1/2002	104-124	Trace NAPL in purge water
	5/1/2002	124-145	Dry
	5/1/2002	150-170	Sample collected
MW-39D	4/24/2002	35-50	Sample collected
	4/24/2002	50-70	Dry
	4/24/2002	70-90	Sample collected
	4/24/2002	90-110	Sample collected
	4/25/2002	110-130	Sample collected
	4/25/2002	130-150	Sample collected
MW-40D	4/15/2002	20-80	Sample collected
	4/16/2002	80-100	Interval recharged with NAPL
MW-41D	5/21/2002	20-40	Sample collected
	5/22/2002	40-60	Sample collected
	5/22/2002	60-80	Sample collected
	5/22/2002	80-100	Sample collected
	5/23/2002	100-120	Sample collected
	5/23/2002	120-140	Sample collected
MW-42D*	11/19/2002	85-104.5	0.1 gallon/minute recharge rate
	11/19/2002	104.5-124.5	0.05 gallon/minute recharge rate
	11/20/2002	124.5-144.5	Dry

Notes:
feet bgs: Feet Below Ground Surface.
* - no samples obtained for laboratory analysis

TABLE 5-6
SUMMARY OF NAPL OBSERVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Type of Screen	Total NAPL Recovered in Liters Through July 18, 2003
MW-10	8.7 to 19.5	Screen	Trace NAPL
MW-12	14.5 to 25.5	Screen	Trace NAPL
MW-12S	11 to 26	Screen	Trace NAPL
MW-14S	10 to 25	Screen	Trace NAPL
MW-15S	5 to 10	Screen	Trace NAPL
MW-16	6 to 16	Screen	NAPL Not Present
MW-17	13 to 23	Screen	NAPL Not Present
MW-21S	5 to 10	Screen	NAPL Not Present
MW-23S	7.5 to 12.5	Screen	Trace NAPL
MW-25S	11 to 26	Screen	Trace NAPL
MW-26S	7.5 to 22.5	Screen	20.2
MW-30S	10 to 25	Screen	Trace NAPL
MW-31S	8 to 18	Screen	NAPL Not Present
RH-1S	1.8 to 17.3	Screen	32.6
MW-1	11.6 to 16.85	Screen	NAPL Not Present
MW-10I	22 to 43	Open Hole	NAPL Not Present
MW-11	9.5 to 15	Screen	NAPL Not Present
MW-13	44.7 to 55.5	Screen	Trace NAPL
MW-14	30 to 41	Screen	Trace NAPL
MW-15I	12.5 to 22.5	Screen	Trace NAPL
MW-17I	23 to 45	Open Hole	NAPL Not Present
MW-18	28 to 38	Screen	NAPL Not Present
MW-19I	18 to 38.5	Open Hole	NAPL Not Present
MW-1I	45 to 75	Open Hole	2.3
MW-2	11.2 to 14.35	Screen	NAPL Not Present
MW-22I	17 to 32	Screen	Trace NAPL
MW-25I	27 to 47	Open Hole	Trace NAPL
MW-26I	24.5 to 45.5	Open Hole	Trace NAPL
MW-28I	15 to 25	Screen	NAPL Not Present
MW-29I	11.5 to 26	Open Hole	Trace NAPL
MW-2I	11.28 to 32.2	Open Hole	NAPL Not Present
MW-35I	12.5 to 38	Open Hole	3.51
MW-36I	20 to 45	Open Hole	NAPL Not Present
MW-37I	30 to 50	Open Hole	NAPL Not Present
MW-38I	90 to 120	Open Hole	Trace NAPL
MW-10D	82 to 114	Open Hole	316
MW-14D	91 to 121.7	Open Hole	NAPL Not Present
MW-15D	96 to 105.8	Open Hole	NAPL Not Present
MW-17D	121 to 142.5	Open Hole	NAPL Not Present
MW-1D	121 to 155.2	Open Hole	2
MW-20D	90 to 110.1	Open Hole	NAPL Not Present
MW-21D	48.7 to 59.4	Open Hole	NAPL Not Present
MW-23D	56 to 80	Open Hole	NAPL Not Present
MW-29D	90 to 110	Open Hole	NAPL Not Present
MW-30D	90 to 121	Open Hole	Trace NAPL
MW-31D	120 to 150	Screen	NAPL Not Present
MW-32D	91 to 111.5	Open Hole	NAPL Not Present
MW-33D	119.7 to 140.5	Open Hole	Trace NAPL
MW-34D	100 to 120.5	Open Hole	NAPL Not Present
MW-36D	140 to 161	Open Hole	NAPL Not Present
MW-37D	155 to 185	Open Hole	NAPL Not Present
MW-38D	150 to 170.1	Open Hole	Trace NAPL
MW-39D	130.4 to 150.4	Open Hole	NAPL Not Present
MW-40D	140 to 170	Screen	23.8
MW-41D	120 to 140	Open Hole	NAPL Not Present
MW-42D	140 to 175	Open Hole	112
MW-43D	120 to 150	Screen	NAPL Not Present
RH-1D	86.5 to 107.5	Open Hole	NAPL Not Present

TABLE 5-7

SUMMARY OF WELL PURGING DATA

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Purge Method	Total Gallons Purged	Well Diameter (inches)	Purged Dry	Field Parameters					
						pH (SU)	Temperature (°C)	Specific Conductivity (umhos/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
Overburden Wells											
MW-14S	10/15/01	Waterra	5	2		6.57	14.4	1,420	2.97	9.90	498
MW-16	10/04/01	Waterra	8	2		7.30	17.7	724	1.32	-239	94.7
MW-16	02/24/03	Submersible Pump	6.3	2		7.18	8.44	602	0.31	-64.6	10.6
MW-17	09/27/01	Waterra	5.5	2		6.56	16.5	1,620	1.80	118	72.9
MW-17	02/27/03	Peristaltic Pump	4.3	2		6.65	12.1	939	0.38	45.0	168
MW-21S	09/24/01	Waterra	3.5	2		18.6	6.44	8.39	7.66	NM	3.02
MW-21S	02/19/03	Submersible Pump	2.8	2	X	6.64	8.99	340	1.39	70.1	51.2
MW-25S	09/26/01	Waterra	2	2		Not sampled due to NAPL sheens during purging.					
MW-31S	02/20/03	Submersible Pump	0.4	2	X	Purged dry and not sampled.					
MW-31S	06/11/01	Waterra	0.33	2	X	7.07	14.0	1,130	NM	NM	29.2
Shallow Bedrock Wells											
MW-1	09/19/01	Waterra	6.5	2		7.15	15.9	956	NM	NM	100
MW-1	02/19/03	Submersible Pump	13.5	2		6.68	10.5	601	1.14	260	356
MW-2	09/17/01	Waterra	9.5	2		7.23	18.8	573	NM	NM	24.1
MW-2	02/12/03	Peristaltic Pump	6.3	2		6.70	7.71	446	0.26	61.1	159
MW-2I	09/17/01	Waterra	45	6	X	6.01	18.5	890	NM	NM	1.47
MW-2I	02/05/03	Grundfos Pump	42	6	X	7.63	12.2	567	-0.05	-110	257
MW-10I	09/26/01	Waterra	135	6		6.77	12.9	1,087	-0.39	-241	2.86
MW-10I	02/18/03	Submersible Pump	150	6		7.05	12.8	542	-0.23	-215	242
MW-11	09/19/01	Waterra	8	2		7.61	20.0	619	NM	NM	21.4
MW-11	02/20/03	Submersible Pump	7.2	2		6.39	9.74	697	0.25	9.73	40.0
MW-17I	09/27/01	Waterra	41.5	6	X	6.52	14.7	2,450	NM	-17.3	12.7
MW-17I	02/13/03	Submersible Pump	45	6		6.84	13.3	1,100	1.26	-92.0	109

TABLE 5-7

SUMMARY OF WELL PURGING DATA

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Purge Method	Total Gallons Purged	Well Diameter (inches)	Purged Dry	Field Parameters					
						pH (SU)	Temperature (°C)	Specific Conductivity (umhos/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
MW-18	09/27/01	Waterra	12.5	2		6.60	14.0	1,570	-3.38	38.5	34.8
MW-18	02/06/03	Grundfos Pump	5.4	2	X	8.19	14.5	339	3.72	74.4	235
MW-19I	09/18/01	Waterra	117	6		6.75	13.3	1.19	NM	NM	1.89
MW-19I	02/26/03	Submersible Pump	120	6		6.73	12.6	1,180	2.25	131	402
MW-28I	02/19/03	Submersible Pump	7	2	X	6.80	12.4	548	1.58	-20.0	41.0
MW-28I	10/02/01	Waterra	5.5	2	X	6.95	14.6	853	1.71	-179	26.6
MW-35I	05/30/03	Peristaltic Pump	11	8		7.30	13.3	650	NM	NM	0.82
MW-36I	02/11/03	Submersible Pump	25	4	X	7.97	53.8	294	0.89	13.8	141
MW-37I	02/06/03	Submersible Pump	22	4	X	6.01	13.6	351	0.08	80.0	130
Deep Bedrock Wells											
MW-14D	09/25/01	Waterra	19	4	X	7.80	13.5	2,140	-0.24	94.7	NM
MW-14D	02/17/03	Submersible Pump	83	4	X	9.56	12.0	909	0.47	-275	98.0
MW-15D	10/03/01	Waterra	21.5	4	X	9.40	13.2	1,170	0.46	-232	68.7
MW-15D	02/19/03	Submersible Pump	62	4		8.97	12.3	802	0.01	-200	88.5
MW-17D	10/01/01	Waterra	118	6	X	11.6	13.1	1,560	0.24	-218	200
MW-17D	02/11/03	Submersible Pump	193	6		8.06	12.8	841	0.48	-20.8	210
MW-20D	10/09/01	Waterra	62.5	4	X	9.40	11.9	831	0.49	-166	147
MW-20D	02/26/03	Submersible Pump	55	4	X	10.9	11.7	423	0.14	33.9	78.6
MW-21D	09/24/01	Waterra	105	4		7.55	13.0	1,190	NM	NM	10.3
MW-21D	02/19/03	Submersible Pump	110	4		6.47	11.9	800	-0.30	-20.3	126
MW-23D	09/24/01	Waterra	2	4	X	9.03	14.1	1,890	4.42	155	300
MW-23D	02/17/03	Submersible Pump	21	4	X	8.29	12.2	1,250	0.75	96.7	262

TABLE 5-7

SUMMARY OF WELL PURGING DATA

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Purge Method	Total Gallons Purged	Well Diameter (inches)	Purged Dry	Field Parameters					
						pH (SU)	Temperature (°C)	Specific Conductivity (umhos/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
MW-29D	02/17/03	Submersible Pump	179	6		8.97	12.1	585	0.23	-250	62.2
MW-29D	09/20/01	Waterra	160	6	X	8.71	15.1	770	NM	NM	34.4
MW-31D	02/20/03	Submersible Pump	56	2	X	8.18	12.8	591	0.96	64.1	219
MW-32D	02/20/03	Submersible Pump	40	6	X	11.2	12.0	2,090	0.04	-48.0	148
MW-32D	09/19/01	Waterra	37	6	X	12.2	17.4	5.59	NM	NM	9.74
MW-33D	05/29/03	Grundfos Pump	23	6		9.13	15.0	686	NM	NM	17.9
MW-34D	02/28/03	Submersible Pump	79	4	X	8.85	12.9	195	0.06	-350	72.2
MW-34D	10/03/01	Waterra	85	4	X	9.10	13.3	1,110	0.44	-270	44.6
MW-36D	02/10/03	Submersible Pump	118	4	X	7.38	12.9	474	0.08	-77.2	114
MW-37D	02/06/03	Grundfos Pump	150	4	X	9.00	13.0	1,050	0.38	-212	159
MW-38D	02/14/03	Submersible Pump	330	4		6.51	12.2	3,180	-0.22	38.8	2.41
MW-39D	02/10/03	Submersible Pump	146	4		6.75	14.0	647	0.60	-38.2	421
MW-40D	02/26/03	Submersible Pump	30	2		7.12	12.7	1,790	1.99	64.0	359
MW-41D	02/05/03	Grundfos Pump	106	4	X	7.67	12.8	1,370	0.00	-49.3	480
MW-43D	02/13/03	Submersible Pump	265	4		7.13	12.3	481	0.05	-220	121

Notes:
NM: indicates not measured

TABLE 5-8

SUMMARY OF GROUNDWATER SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Sample Depth (feet bgs)	Date	VOCs	SVOCs	Total Phenols	Cyanide	Metals	Filtered Metals
Packer Testing Samples								
MW-1D	(100-120)	4/19/2002	X[a]					
MW-36D	(18.9 - 40.6)	5/7/2002	X[a]					
MW-36D	(40 - 60)	5/8/2002	X[a]					
MW-36D	(60 - 80)	5/8/2002	X[a]					
MW-36D	(140 - 160)	5/15/2002	X[a]					
MW-37D	(25 - 45)	6/10/2002	X[a]					
MW-37D	(45 - 65)	6/10/2002	X[a]					
MW-37D	(65 - 85)	6/10/2002	X[a]					
MW-37D	(145 - 185)	6/12/2002	X[a]					
MW-38D	(20 - 40)	4/30/2002	X[a]					
MW-38D	(40 - 60)	4/30/2002	X[a]					
MW-38D	(150 - 170)	5/6/2002	X[a]					
MW-39D	(35 - 50)	4/24/2002	X[a]					
MW-39D	(70 - 90)	4/24/2002	X[a]					
MW-39D	(90 - 110)	4/24/2002	X[a]					
MW-39D	(110 - 130)	4/25/2002	X[a]					
MW-39D	(130 - 150)	4/25/2002	X[a]					
MW-40D	(80)	4/15/2002	X[a]					
MW-41D	(20 - 40)	5/21/2002	X[a]					
MW-41D	(40 - 60)	5/22/2002	X[a]					
MW-41D	(60 - 80)	5/22/2002	X[a]					
MW-41D	(80 - 100)	5/22/2002	X[a]					
MW-41D	(100 - 120)	5/23/2002	X[a]					
MW-41D	(120 - 140)	5/23/2002	X[a]					

TABLE 5-8

SUMMARY OF GROUNDWATER SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Sample Depth (feet bgs)	Date	VOCs	SVOCs	Total Phenols	Cyanide	Metals	Filtered Metals
Passive Bag Samples								
MW-31D	(45)	12/19/2002	X[a]					
MW-31D	(75)	12/19/2002	X[a]					
MW-31D	(105)	12/19/2002	X[a]					
MW-31D	(135)	12/19/2002	X[a]					
MW-43D	(43)	12/19/2002	X[a]					
MW-43D	(73)	12/19/2002	X[a]					
MW-43D	(103)	12/19/2002	X[a]					
MW-43D	(133)	12/19/2002	X[a]					
2001 and 2003 Groundwater Sampling Events								
MW-1	-	2/19/2003	X	X	X	X	X	X
MW-1	-	9/19/2001	X	X	X	X	X	X
MW-2	-	2/12/2003	X	X	X	X	X	X
MW-2	-	9/17/2001	X	X	X	X	X	
MW-2I	-	2/6/2003	X	X	X	X	X	X
MW-2I	-	9/18/2001	X	X	X	X	X	
MW-10I	-	2/18/2003	X	X	X	X	X	X
MW-10I	-	9/27/2001	X	X	X	X	X	X
MW-11	-	2/20/2003	X	X	X	X	X	X
MW-11 (Duplicate)	-	2/20/2003	X	X	X	X	X	X
MW-11	-	9/19/2001	X	X	X	X	X	
MW-11 (Duplicate)	-	9/19/2001	X	X	X	X	X	
MW-14S	-	10/15/2001	X	X	X	X	X	X
MW-14D	-	2/18/2003	X	X	X	X	X	X
MW-14D	-	9/26/2001	X	X	X	X	X	X
MW-15D	-	2/20/2003	X	X	X	X	X	X
MW-15D	-	10/4/2001	X	X	X	X	X	X

TABLE 5-8

SUMMARY OF GROUNDWATER SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Sample Depth (feet bgs)	Date	VOCs	SVOCs	Total Phenols	Cyanide	Metals	Filtered Metals
MW-16	-	2/24/2003	X	X	X	X	X	
MW-16	-	10/4/2001	X	X	X	X	X	X
MW-17	-	2/27/2003	X	X	X	X	X	
MW-17	-	9/27/2001	X	X	X	X	X	X
MW-17I	-	2/14/2003	X	X	X	X	X	X
MW-17I	-	9/28/2001	X	X	X	X	X	X
MW-17D	-	2/12/2003	X	X	X	X	X	X
MW-17D	-	10/3/2001	X	X	X	X	X	X
MW-18	-	2/7/2003	X	X	X	X	X	
MW-18	-	9/27/2001	X	X	X	X	X	X
MW-19I	-	2/26/2003	X	X	X	X	X	X
MW-19I	-	9/19/2001	X	X	X	X	X	
MW-20D	-	2/27/2003	X	X	X	X	X	X
MW-20D	-	10/10/2001	X	X	X	X	X	X
MW-21S	-	2/19/2003	X	X	X	X	X	X
MW-21S	-	9/25/2001	X	X	X	X	X	
MW-21D	-	2/19/2003	X	X	X	X	X	X
MW-21D	-	9/25/2001	X	X	X	X	X	
MW-23D	-	2/19/2003	X	X	X	X	X	X
MW-23D	-	10/5/2001		X				X
MW-23D	-	9/27/2001	X		X	X	X	
MW-28I	-	2/20/2003	X	X	X	X	X	
MW-28I	-	10/3/2001	X	X	X	X	X	
MW-29D	-	2/18/2003	X	X	X	X	X	X
MW-29D (Duplicate)	-	2/18/2003	X	X	X	X	X	X
MW-29D	-	9/21/2001	X	X	X	X	X	
MW-31S	-	6/12-13/2001	X	X	X	X		

TABLE 5-8

SUMMARY OF GROUNDWATER SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Sample Depth (feet bgs)	Date	VOCs	SVOCs	Total Phenols	Cyanide	Metals	Filtered Metals
MW-31D	-	2/21/2003	X	X	X	X	X	X
MW-32D	-	2/28/2003	X	X	X	X	X	X
MW-32D	-	9/24/2001	X	X	X	X	X	X
MW-33D	-	5/29/2003	X					
MW-34D	-	2/28/2003	X	X	X	X	X	X
MW-34D	-	10/4/2001	X	X	X	X	X	X
MW-35I	-	5/30/2003	X					
MW-36I	-	2/12/2003	X	X	X	X	X	X
MW-36D	-	2/11/2003	X	X	X	X	X	X
MW-37I	-	2/25/2003	X	X	X	X	X	X
MW-37D	-	2/7/2003	X	X	X	X	X	X
MW-38D	-	2/14/2003	X	X	X	X	X	
MW-39D	-	2/11/2003	X	X	X	X	X	X
MW-40D	-	2/27/2003	X	X	X	X	X	X
MW-41D	-	2/6/2003	X	X	X	X	X	X
MW-43D	-	2/13/2003	X	X	X	X	X	X

Notes:
feet bgs: Feet Below Ground Surface.
TCL VOCs 8260/624
SVOCs 8270/625
Total Phenols EPA 9065/420.1
Cyanide (total, amenable) EPA 9012/335.3/120.1
Cyanide (weak & dissociable) SM4500I
Metals 6010/200.7/245.1/7470/7471
a - Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) only EPA 602

TABLE 5-9

ANTHONY KILL
SEDIMENT SURVEY

NYSEG
MECHANICVILLE, NEW YORK

Transect	Sediment Thickness Observations	MGP Observations			Comments
		Odor	Sheen	NAPL	
Transects Upstream of Abandoned Railroad Bridge					
UT-1	1.0' on north shore; 0.25' in stream channel.	NO	NO	NO	Iron staining and sheen observed on south shore.
UT-2	1.0' on north shore; 0.5' in stream channel; 0.1' on south shore.	NO	NO	NO	Abandoned push lawn mower and separate motor observed in stream.
UT-3	0.5' to 0.1' in stream channel; thins toward the south shore.	NO	NO	NO	Shale outcrop at south shore.
UT-4	1.5' on north shore; 0.5' in stream channel.	NO	NO	NO	Shale outcrop at south shore.
UT-5	0.5' to 0.25' in stream channel.	NO	NO	NO	None
UT-6	0.6' to 0.25' in stream channel.	NO	NO	NO	None
Transects Downstream of Abandoned Railroad Bridge					
AS-1	2.5' on north shore; up to 0.5' in stream channel.	NO	NO	NO	Transect coincides with staff gauge SG-3 on bridge.
AS-2	0.5' to 0' in stream channel; thins to the west.	NO	NO	NO	
AS-3	Trace amounts.	NO	NO	NO	
AS-4	0.5' on north shore; trace amounts observed in stream channel.	NO	NO	NO	
AS-5	Trace amounts.	NO	NO	NO	Small fault observed on south shore 8' east of AS-5.
AS-6	0.5' on south shore; trace amounts in stream channel.	NO	NO	NO	
AS-7	0.4' on south shore; trace amounts in stream channel.	NO	NO	NO	
AS-8	0.5' on south shore; 0.5 to 0.25' in stream channel.	NO	NO	NO	No measurable sediment on north shore.
AS-9	0.7' on south shore; and in middle of stream channel.	NO	NO	NO	No measurable sediment on north shore.
AS-10	1.25' on south shore; trace amounts in stream channel.	NO	NO	NO	
AS-11	1.0' on south shore; 0.5' to 0.1' in stream channel.	NO	NO	NO	
AS-12	1.25' on north shore; trace amounts in stream channel.	NO	NO	NO	
AS-13	1.25' on north shore; trace amounts in stream channel; 0.5' on south shore.	NO	NO	NO	
AS-14	1.25' on north shore; no measurable amount in stream channel.	NO	NO	NO	
AS-15	0.25' to 0.1' in stream channel.	NO	NO	NO	Coincides with Staff Gauge SG-2.

TABLE 5-9

ANTHONY KILL
SEDIMENT SURVEY

NYSEG
MECHANICVILLE, NEW YORK

Transect	Sediment Thickness Observations	MGP Observations			Comments
		Odor	Sheen	NAPL	
AS-16	1.25' on north shore thins to 0.5'; no measurable amount in center of stream.	YES	YES	NO	Odor and sheen where sediment thickness thinned to 0.5', adjacent to MW-21 cluster.
AS-17	Trace amounts.	YES	YES	NO	Odor and sheen limited to one location along transect.
AS-18	None observed.	YES	YES	YES	Product observed in the center of stream channel.
AS-19	Trace amounts.	YES	YES	YES	Product observed in railroad tie lying across kill, odor and sheen observed in stream channel.
AS-20	0.2' on north shore and thins to the south.	YES	YES	NO	
AS-21	0.2' to 0.3' in stream channel.	YES	YES	NO	
AS-22	0.9' on north shore; trace or absent in stream channel and south shore.	NO	NO	NO	
AS-23	0.3' to trace in stream channel.	YES	YES	NO	Upstream of seep area (sandbags) in kill.
AS-24	0.3' to trace in stream channel.	YES	YES	NO	Product observed in stream channel west of transect.
AS-25	0.6' on north shore; 0.5' to 0.2' in stream channel.	YES	YES	YES	Product observed at north shore, and east of transects.
AS-26	0.2' to trace in stream channel.	YES	YES	NO	
AS-27	0.5' on north shore; absent in center of stream channel; 0.2' on south shore.	NO	NO	NO	
AS-28	0.9' on north shore; absent to 0.4' in center of stream channel; 0.9' on south shore.	YES	NO	NO	Odor noted near north shore only.
AS-29	0.5' at north shore; up to 2.5' in center of stream channel; 1.6' on south shore.	YES	YES	YES	Product noted only at north shore, no odors where sediment is thickest and toward south shore, immediately west of Central Avenue bridge.

TABLE 5-10

SEDIMENT PROBING RECONNAISSANCE

NYSEG
MECHANICVILLE, NY

Location	Location Description	Observations	Comments
Anthony Kill Sediment Probing Locations			
DS-1	South of Anthony Kill, Hudson Confluence.	>1' thick sediment	Small Sheen Appeared While Probing Along Shore.
DS-2	In Anthony Kill Stream Channel Slightly West of Confluence.	1.0' to 2.0' thick sediment	Sand Deposits on South Shore.
DS-3	Beginning of Retaining Wall on North Shore of Anthony Kill.	no sediment	Four sand bags observed, iron seep with iron sheens on north shore.
DS-4	Intersection of North Main Street and Anthony Kill.	no sediment	Seven sand bags, sheens and solvent odors observed.
DS-5	West of North Main Street Intersection, on the South Shore of Anthony Kill.	1.0' thick sediment	Sand deposits in stream channel.
DS-6	15' West of DS-5.	no sediment	H2S Odor Observed on Bedrock.
DS-7	100' West of North Main Street Intersection.	1.0' to 2.0' thick sediment	Sand deposits observed on north shore.
Hudson River Sediment Probing Locations			
DS-8	Mouth of the Anthony Kill.	>1' gravel and cobbles 1' to 10' water depth	Slight sheen observed.
DS-9	20' downstream of Anthony Kill, 20 off west bank.	1.5' gravel and cobbles 13' water depth	
DS-10	50' downstream of Anthony Kill, 50' off west bank.	1.5' gravel and cobbles 15' water depth	
DS-11	125' downstream of Anthony Kill, 15' off west bank.	2' to 5' medium sand and silt 2' to 4' water depth	Vegetation on bottom.
DS-12	200' downstream of Anthony Kill, 15' off west bank.	6' medium sand and silt 2' to 4' water depth	Light silver sheen, PCB odor.
DS-13	300' downstream of Anthony Kill, 15' off west bank.	6' medium sand and silt 2' to 4' water depth	
DS-14	300' upstream of Anthony Kill, 15' off west bank.	>1' gravel and cobbles 14' water depth	

TABLE 5-11

SUMMARY OF SEDIMENT SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Sample ID	Location	Depth (feet bgs)	Description	Analyses								
				VOCs	SVOCs	Total Phenols	Cyanides	Metals	PCBs	Hydrocarbon Fingerprint	TOC	AVS/SEM
Anthony Kill Sediment Samples												
AK-1	Upstream of former MGP	1.0	Light brown fine SAND, some coarse sand, trace organics.	X	X[a]	X	X	X	X	X	X	
AK-2	Upstream of former MGP site	1.0	Light brwon fine SAND, some organics, trace fine gravel.	X	X	X	X	X	X		X	
AK-3	Upstream of former MGP site	2.0	Dark brown fine SAND, some organics.	X	X	X	X	X	X		X	X
AK-4	Adjacent to former MGP site	1.0	Brown medium SAND, some fine angular gravel, slight tar odor.	X	X	X	X	X	X		X	
AK-5	Adjacent to former MGP site	1.0	Brown medium SAND, some fine gravel, trace organics, free product tar.	X	X[a]	X	X	X	X	X	X	X
AK-6	Adjacent to former MGP site	1.0	Brown fine SAND, trace silt, MGP (tar) odor, sheen.	X	X	X	X	X	X		X	
AK-7	Immediately east of the Central Avenue bridge	1.0	Brown fine SAND, some organics, heavy sheen, free product tar.	X	X[a]	X	X	X	X	X	X	X
Duplicate AK-7	Immediately east of the Central Avenue bridge	1.0	Brown fine SAND, some organics, heavy sheen, free product tar.	X		X			X			
Hudson River Sediment Samples												
HR-1	Upstream of Anthony Kill, Background Sample	2.0	Dark grey to black coarse SAND, some coarse gravel, trace brick fragments, slight PCB-like odor.		X		X				X	
HR-2	Near mouth of Anthony Kill	3.0	Dark brown coarse SAND, some coarse gravel.		X		X				X	

TABLE 5-11

SUMMARY OF SEDIMENT SAMPLES AND ANALYSES

NYSEG
MECHANICVILLE, NEW YORK

Sample ID	Location	Depth (feet bgs)	Description	Analyses								
				VOCs	SVOCs	Total Phenols	Cyanides	Metals	PCBs	Hydrocarbon Fingerprint	TOC	AVS/SEM
Hudson River Sediment Samples Continued												
HR-3	Approximately 50 feet offshore of sewer outfall pipe	2.1	Dark brown coarse SAND and Gravel, trace glass, trace silt, no odor.		X		X				X	
HR-4	Downstream of Anthony Kill, in aquatic vegetation area	5.3	Dark grey to olive green fine SAND, some silt, trace gravel, strong PCB-like odor, heavy sheen.		X		X				X	
HR-5	Downstream of Anthony Kill, further south of aquatic vegetation area	7.0	0-4.7' Dark grey to olive green fine SAND, some silt, strong PCB-like odor. 4.7-7.0' Dark grey to black medium to coarse SAND, some white particles, one large gravel piece, PCB-like odor.		X		X				X	
Duplicate HR-5	Downstream of Anthony Kill, further south of aquatic vegetation area	7.0	0-4.7' Dark grey to olive green fine SAND, some silt, strong PCB-like odor. 4.7-7.0' Dark grey to black medium to coarse SAND, some white particles, one large gravel piece, PCB-like odor.		X		X				X	

Notes:
feet bgs: Feet Below Ground Surface.
TCL VOCs EPA 8260
SVOCs (PAHs only) EPA 8270
Total Phenols EPA 9065/420.1
Cyanide (total, amenable) EPA 9012/335.3
Cyanide (weak & dissociable) SM4500I
Metals 6010/7471
PCBs 8082
Hydrocarbon Fingerprint EPA 8100
Total Organic Carbon (TOC) EPA 9060
Acid Volatile Sulfide and Simultaneously Extracted Metals
a - indicates SVOCs (PAHs only) EPA 8270 and extended PAH profiles Modified EPA 8270

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-1D	90.99	24.9	25.2	**66.09**	**65.79**	LI	17.5	134.0	**73.49**	**-43.01**	
		42.1	42.5	**48.89**	**48.49**		134.0	154.0	**-43.01**	**-63.01**	MINOR
		47.1	47.2	**43.89**	**43.79**						
		49.1	50.0	**41.89**	**40.99**						
		50.8		**40.19**							
		53.6	53.8	**37.39**	**37.19**	SI					
		61.0	62.1	**29.99**	**28.89**	SI					
		64.8	65.1	**26.19**	**25.89**						
		72.1	73.0	**18.89**	**17.99**	LI					
		79.5	80.2	**11.49**	**10.79**						
		83.8	84.2	**7.19**	**6.79**						
		85.3	86.2	**5.69**	**4.79**						
		99.6	100.2	**-8.61**	**-9.21**						
		103.9	104.3	**-12.91**	**-13.31**						
		119.5	119.7	**-28.51**	**-28.71**						
		133.2	135.2	**-42.21**	**-44.21**						
		138.8	139.2	**-47.81**	**-48.21**	LI					
		140.0	141.2	**-49.01**	**-50.21**	LI					
		145.2	146.0	**-54.21**	**-55.01**	V					
MW-2I	88.60	13.6	16.0	**75.00**	**72.60**		12.2	26.2	**76.40**	**62.40**	
		17.7	18.6	**70.90**	**70.00**		26.2	32.2	**62.40**	**56.40**	MINOR
		24.3	24.6	**64.30**	**64.00**						
		25.5	26.2	**63.10**	**62.40**						
MW-10D	92.88	24.9	25.6	**67.98**	**67.28**	SI	23.1	64.4	**69.78**	**28.48**	V. MINOR
		28.8	30.0	**64.08**	**62.88**		64.4	69.2	**28.48**	**23.68**	
		30.0	38.1	**62.88**	**54.78**	SI	69.2	83.7	**23.68**	**9.18**	MINOR
		43.2	45.2	**49.68**	**47.68**	SI	83.7	115.0	**9.18**	**-22.12**	
		46.2	50.7	**46.68**	**42.18**						
		52.3	54.0	**40.58**	**38.88**						
		58.7	64.4	**34.18**	**28.48**						
		64.4	66.0	**28.48**	**26.88**	SI					
		66.0		**26.88**							
		69.1	69.2	**23.78**	**23.68**						
		86.4	86.8	**6.48**	**6.08**	SI					
		99.0	99.5	**-6.12**	**-6.62**						
MW-14D	94.46	30.1	38.1	**64.36**	**56.36**		27.0	65.0	**67.46**	**29.46**	
		38.2	40.1	**56.26**	**54.36**		65.0	91.5	**29.46**	**2.96**	V. MINOR
		69.2	71.0	**25.26**	**23.46**		91.5	121.5	**2.96**	**-27.04**	MINOR
		74.3	75.8	**20.16**	**18.66**						
		77.1	78.1	**17.36**	**16.36**						
		78.8	79.0	**15.66**	**15.46**						
		83.0	83.5	**11.46**	**10.96**						
		99.5	100.0	**-5.04**	**-5.54**						

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-15D	86.34	12.3	13.6	**74.04**	**72.74**		12.3	77.8	**74.04**	**8.54**	
		14.6	15.0	**71.74**	**71.34**		77.8	97.5	**8.54**	**-11.16**	MINOR
		17.9	20.0	**68.44**	**66.34**		97.5	105.8	**-11.16**	**-19.46**	
		24.1	24.2	**62.24**	**62.14**						
		25.0	25.7	**61.34**	**60.64**						
		37.9	38.1	**48.44**	**48.24**						
		38.7	39.8	**47.64**	**46.54**						
		41.9	42.4	**44.44**	**43.94**						
		51.2	52.0	**35.14**	**34.34**	SI					
		53.1	53.4	**33.24**	**32.94**						
		59.4	60.6	**26.94**	**25.74**						
		62.4	63.4	**23.94**	**22.94**						
		64.2	65.0	**22.14**	**21.34**						
		76.7	85.2	**9.64**	**1.14**						
		85.2	97.6	**1.14**	**-11.26**	LI					
		97.6	98.4	**-11.26**	**-12.06**	SI					
MW-15I	85.26	12.7	17.0	**72.56**	**68.26**	SI	12.7	25.3	**72.56**	**59.96**	
		18.7	20.5	**66.56**	**64.76**	SI					
		22.0	22.7	**63.26**	**62.56**						
		23.4	24.0	**61.86**	**61.26**	SI					
MW-17D	93.55	25.1	32.0	**68.45**	**61.55**		25.1	102.5	**68.45**	**-8.95**	
		35.3	36.4	**58.25**	**57.15**		102.5	142.2	**-8.95**	**-48.65**	MINOR
		70.0	71.0	**23.55**	**22.55**						
		123.8	125.6	**-30.25**	**-32.05**						
MW-19I	99.20	18.5	27.8	**80.70**	**71.40**	SI	18.5	35.0	**80.70**	**64.20**	
		27.8	35.0	**71.40**	**64.20**	SI	35.0	38.5	**64.20**	**60.70**	MINOR
		35.0	38.5	**64.20**	**60.70**	SI					
MW-20D	94.87	23.5	60.7	**71.37**	**34.17**		23.5	60.7	**71.37**	**34.17**	
		60.7	110.1	**34.17**	**-15.23**	LI	60.7	110.1	**34.17**	**-15.23**	MINOR
MW-21D	86.45	12.5	12.9	**73.95**	**73.55**		11.6	59.4	**74.85**	**27.05**	
		14.0	14.2	**72.45**	**72.25**						
		23.2	23.4	**63.25**	**63.05**						
		24.5	24.8	**61.95**	**61.65**						
		25.6	26.0	**60.85**	**60.45**						
		31.4	31.5	**55.05**	**54.95**						
		33.6	34.2	**52.85**	**52.25**						
		37.3	37.4	**49.15**	**49.05**						
		41.1	41.6	**45.35**	**44.85**						
		46.7	48.7	**39.75**	**37.75**						
		52.6	53.5	**33.85**	**32.95**						
		54.4	55.0	**32.05**	**31.45**						
		56.0	56.2	**30.45**	**30.25**						
		57.1	58.0	**29.35**	**28.45**						

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-22I	85.29	8.0	11.7	**77.29**	**73.59**		8.0	36.1	**77.29**	**49.19**	
		12.5	13.1	**72.79**	**72.19**	VERTICAL					
		15.3	21.0	**69.99**	**64.29**	VERTICAL					
		23.6	25.5	**61.69**	**59.79**	VERTICAL					
		28.5	29.9	**56.79**	**55.39**	VERTICAL					
		31.0	35.6	**54.29**	**49.69**	VERTICAL					
MW-23D	84.46	17.1	25.1	**67.36**	**59.36**	SI	17.1	60.0	**67.36**	**24.46**	
		33.6	35.4	**50.86**	**49.06**	SI	60.0	75.3	**24.46**	**9.16**	MINOR
		35.5	36.0	**48.96**	**48.46**		75.3	79.3	**9.16**	**5.16**	
		40.0	40.2	**44.46**	**44.26**						
		41.0	48.2	**43.46**	**36.26**	VERTICAL					
		54.8	55.2	**29.66**	**29.26**						
		62.8	63.0	**21.66**	**21.46**						
		74.1	74.3	**10.36**	**10.16**						
MW-25I	94.17	35.4	36.2	**58.77**	**57.97**	SI	27.0	47.0	**67.17**	**47.17**	
		38.8	40.8	**55.37**	**53.37**	SI					
		43.4	43.7	**50.77**	**50.47**						
MW-26I	91.88	25.5	27.5	**66.38**	**64.38**		25.5	39.4	**66.38**	**52.48**	
		28.8	30.0	**63.08**	**61.88**		39.4	45.5	**52.48**	**46.38**	MINOR
		33.9	34.0	**57.98**	**57.88**						
		35.0	37.0	**56.88**	**54.88**						
		38.3	38.5	**53.58**	**53.38**						
		39.4	39.5	**52.48**	**52.38**						
		42.7	43.7	**49.18**	**48.18**						
		43.7	45.0	**48.18**	**46.88**	SI					
MW-28I	85.35	14.0	25.0	**71.35**	**60.35**	VERTICAL	14.0	25.0	**71.35**	**60.35**	
MW-29I	84.89	13.4	13.8	**71.49**	**71.09**		12.0	26.0	**72.89**	**58.89**	
		23.7	26.0	**61.19**	**58.89**						
MW-29D	84.27	32.0	32.7	**52.27**	**51.57**		25.9	97.0	**58.37**	**-12.73**	
		34.5	35.0	**49.77**	**49.27**		97.0	109.6	**-12.73**	**-25.33**	MINOR
		75.9	76.7	**8.37**	**7.57**						
		90.0	94.4	**-5.73**	**-10.13**	SI					
		96.3	99.7	**-12.03**	**-15.43**	SI					
MW-30D	93.19	29.4	29.9	**63.79**	**63.29**		28.5	70.0	**64.69**	**23.19**	
		31.0	31.3	**62.19**	**61.89**		70.0	117.7	**23.19**	**-24.51**	MINOR
		36.0	38.0	**57.19**	**55.19**						
		49.3	51.0	**43.89**	**42.19**						
		52.8	53.0	**40.39**	**40.19**						
		61.9	62.3	**31.29**	**30.89**						
		63.0	63.4	**30.19**	**29.79**						
		65.4	66.5	**27.79**	**26.69**						
		68.2	69.0	**24.99**	**24.19**						
		69.0	70.5	**24.19**	**22.69**	SI					
		76.7	77.6	**16.49**	**15.59**	SI					
		78.8	79.1	**14.39**	**14.09**						
		87.4	88.1	**5.79**	**5.09**						
		98.1	99.0	**-4.91**	**-5.81**						

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-32D	87.23	19.0	19.9	**68.23**	**67.33**		12.0	26.0	**75.28**	**61.23**	
		21.1	38.2	**66.13**	**49.03**		26.0	56.2	**61.23**	**31.03**	MINOR
		44.2	44.4	**43.03**	**42.83**		56.2	111.1	**31.03**	**-23.82**	
		45.0	45.5	**42.23**	**41.73**						
		47.5	50.0	**39.73**	**37.23**						
		51.0	52.5	**36.23**	**34.73**						
		52.5	55.7	**34.73**	**31.53**	SI					
		59.7	59.9	**27.53**	**27.33**						
		76.2	76.4	**11.03**	**10.83**						
		94.4	100.0	**-7.17**	**-12.77**	SI					
		103.6	105.4	**-16.37**	**-18.17**	SI					
MW-33D	94.34	26.4	29.2	**67.94**	**65.14**		26.4	140.1	**67.94**	**-45.76**	
		34.8	36.0	**59.54**	**58.34**						
		57.2	57.6	**37.14**	**36.74**						
		64.5	65.5	**29.84**	**28.84**						
		93.4	94.3	**0.94**	**0.04**						
		89.0	99.0	**5.34**	**-4.66**						
		116.0	120.0	**-21.66**	**-25.66**	SI					
		120.0	130.4	**-25.66**	**-36.06**						
		130.4	137.5	**-36.06**	**-43.16**	SI					
MW-34D	94.26	30.5	31.1	**63.76**	**63.16**		27.0	71.0	**67.26**	**23.26**	
		32.0	32.3	**62.26**	**61.96**		71.0	109.0	**23.26**	**-14.74**	MINOR
		33.5	33.7	**60.76**	**60.56**		109.0	120.5	**-14.74**	**-26.24**	
		34.8	35.1	**59.46**	**59.16**						
		35.8	36.0	**58.46**	**58.26**						
		37.7	38.3	**56.56**	**55.96**						
		39.4	41.8	**54.86**	**52.46**						
		43.4	46.0	**50.86**	**48.26**	SI					
		50.3	50.6	**43.96**	**43.66**						
		51.7	52.5	**42.56**	**41.76**	SI					
		54.7	55.9	**39.56**	**38.36**						
		58.4	59.0	**35.86**	**35.26**						
		60.8	60.9	**33.46**	**33.36**						
		63.5	63.7	**30.76**	**30.56**						
		64.6	64.7	**29.66**	**29.56**						
		72.2	72.3	**22.06**	**21.96**						
		109.7	110.2	**-15.44**	**-15.94**						
MW-35I	80.94	16.7	17.4	**64.24**	**63.54**		13.3	34.5	**67.64**	**46.44**	

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-36D	94.58	19.0	19.5	**75.58**	**75.08**	SI	18.9	73.9	**75.68**	**20.68**	
		31.7	31.9	**62.88**	**62.68**	LI	73.9	145.0	**20.68**	**-50.42**	MINOR
		38.1	38.7	**56.48**	**55.88**	LI	145.0	154.0	**-50.42**	**-59.42**	
		59.2	60.0	**35.38**	**34.58**		154.0	160.9	**-59.42**	**-66.32**	MINOR
		79.0	79.5	**15.58**	**15.08**	SI					
		89.3		**5.28**							
		100.5		**-5.92**							
		145.9	147.6	**-51.32**	**-53.02**						
		153.5	154.1	**-58.92**	**-59.52**	VERTICAL					
		155.0	156.0	**-60.42**	**-61.42**						
		157.5	158.0	**-62.92**	**-63.42**	LI					
MW-37D	98.59	21.2	23.0	**77.39**	**75.59**	SI	62.9	156.0	**35.69**	**-57.41**	
		24.0	26.0	**74.59**	**72.59**		156.0	184.9	**-57.41**	**-86.31**	MINOR
		27.2	28.2	**71.39**	**70.39**	LI					
		31.9	32.4	**66.69**	**66.19**	LI					
		34.6	35.2	**63.99**	**63.39**	SI					
		40.4	41.4	**58.19**	**57.19**						
		41.4	42.3	**57.19**	**56.29**	LI					
		42.3	43.0	**56.29**	**55.59**						
		43.0	44.1	**55.59**	**54.49**	LI					
		44.1	45.2	**54.49**	**53.39**						
		45.2	47.2	**53.39**	**51.39**	LI					
		47.2	47.8	**51.39**	**50.79**						
		47.8	48.7	**50.79**	**49.89**	VERTICAL					
		48.7	50.1	**49.89**	**48.49**						
		50.1	51.9	**48.49**	**46.69**	LI					
		56.2	57.3	**42.39**	**41.29**	SI					
		59.9	61.1	**38.69**	**37.49**	LI					
		62.0	62.2	**36.59**	**36.39**	LI					
		64.6	67.3	**33.99**	**31.29**	LI					
		67.3	69.7	**31.29**	**28.89**						
		69.7	71.2	**28.89**	**27.39**	LI					
		71.1		**27.49**		VERTICAL					
		71.7	72.4	**26.89**	**26.19**	LI					
		73.5	74.5	**25.09**	**24.09**	LI					
		76.5	76.9	**22.09**	**21.69**	LI					
		77.6	78.0	**20.99**	**20.59**						
		78.0	79.0	**20.59**	**19.59**	LI					
		81.9	82.4	**16.69**	**16.19**	LI					
		89.2	90.1	**9.39**	**8.49**	LI					
		98.1	99.0	**0.49**	**-0.41**	LI					
		100.7	101.3	**-2.11**	**-2.71**	SI					
		104.2	104.7	**-5.61**	**-6.11**	LI					
		109.0	110.7	**-10.41**	**-12.11**	LI					
		122.6	123.1	**-24.01**	**-24.51**	LI					
		124.2	125.9	**-25.61**	**-27.31**	LI					
		129.9	130.1	**-31.31**	**-31.51**						

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-37D cont.	99.59	134.9		**-36.31**							
		142.2	143.0	**-43.61**	**-44.41**						
		144.1	145.5	**-45.51**	**-46.91**	LI					
		147.3	148.8	**-48.71**	**-50.21**						
		152.5	152.9	**-53.91**	**-54.31**	LI					
		154.0	155.2	**-55.41**	**-56.61**						
		160.8	161.6	**-62.21**	**-63.01**						
		170.5	171.9	**-71.91**	**-73.31**						
MW-38D	78.96	20.3	26.6	**58.66**	**52.36**		18.6	54.0	**60.36**	**24.96**	
		30.1	30.2	**48.86**	**48.76**		54.0	64.0	**24.96**	**14.96**	MINOR
		35.5	36.1	**43.46**	**42.86**	LI	64.0	68.0	**14.96**	**10.96**	
		39.9	41.8	**39.06**	**37.16**		68.0	137.0	**10.96**	**-58.04**	MINOR
		42.5	43.5	**36.46**	**35.46**	VERTICAL	137.0	168.1	**-58.04**	**-89.14**	
		43.5	46.4	**35.46**	**32.56**	LI					
		52.1	52.5	**26.86**	**26.46**	LI					
		55.8	56.4	**23.16**	**22.56**	SI					
		56.4	65.0	**22.56**	**13.96**						
		74.6	75.3	**4.36**	**3.66**						
		75.3	76.2	**3.66**	**2.76**	VERTICAL					
		76.2	77.0	**2.76**	**1.96**	LI					
		80.3	80.5	**-1.34**	**-1.54**						
		87.5	89.3	**-8.54**	**-10.34**						
		90.6	91.2	**-11.64**	**-12.24**						
		91.7	92.0	**-12.74**	**-13.04**	LI					
		94.0	101.0	**-15.04**	**-22.04**						
		118.7	119.5	**-39.74**	**-40.54**	LI					
		121.8	123.0	**-42.84**	**-44.04**	LI					
		129.0	129.4	**-50.04**	**-50.44**	LI					
		136.4	137.1	**-57.44**	**-58.14**						
		155.5	155.9	**-76.54**	**-76.94**						
		159.0	160.1	**-80.04**	**-81.14**						
		161.7	165.1	**-82.74**	**-86.14**						
		167.3	168.1	**-88.34**	**-89.14**						
MW-39D	92.22	37.6	39.4	**54.62**	**52.82**		37.6	39.0	**54.62**	**53.22**	
		54.5	55.0	**37.72**	**37.22**		50.0	60.1	**42.22**	**32.12**	
		58.8	59.0	**33.42**	**33.22**		76.0	109.0	**16.22**	**-16.78**	MINOR
		60.7	64.0	**31.52**	**28.22**						
MW-40D	94.18	80.0	81.5	**14.18**	**12.68**		80.0	116.0	**14.18**	**-21.82**	
		83.0	89.0	**11.18**	**5.18**	LI	116.0	170.0	**-21.82**	**-75.82**	V. MINOR
		89.0	90.3	**5.18**	**3.88**						
		91.2	93.8	**2.98**	**0.38**						
		107.9	108.5	**-13.72**	**-14.32**						
		122.6		**-28.42**							
		134.1	135.2	**-39.92**	**-41.02**	VERTICAL					
		154.5	158.5	**-60.32**	**-64.32**						

TABLE 6-1

SUMMARY OF FRACTURE INTENSITY AND PENCIL CLEAVAGE IN BEDROCK CORE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Grade (feet msl)	Fracture Intensity					Pencil Cleavage				
		feet bgs		feet msl		Notes	feet bgs		feet msl		Notes
		Start	End	Start	End		Start	End	Start	End	
MW-41D	93.56	19.2	27.0	**74.36**	**66.56**		19.2	59.5	**74.36**	**34.06**	MINOR
		27.3	28.1	**66.26**	**65.46**	LI	59.5	63.5	**34.06**	**30.06**	V.MINOR
		32.9	33.5	**60.66**	**60.06**	LI	63.5	139.5	**30.06**	**-45.94**	MINOR
		36.1	36.6	**57.46**	**56.96**	LI					
		37.5	38.1	**56.06**	**55.46**	LI					
		38.1	40.0	**55.46**	**53.56**						
		41.5	41.8	**52.06**	**51.76**	LI					
		47.5	48.5	**46.06**	**45.06**						
		50.5		**43.06**							
		53.0	60.9	**40.56**	**32.66**	LI					
		60.9	61.7	**32.66**	**31.86**						
		73.5	74.6	**20.06**	**18.96**						
		75.3	75.9	**18.26**	**17.66**	SI					
		85.5	87.5	**8.06**	**6.06**						
		108.7		**-15.14**							
		109.6	109.9	**-16.04**	**-16.34**						
		117.7	119.6	**-24.14**	**-26.04**						
		123.0	124.6	**-29.44**	**-31.04**						
		125.3		**-31.74**							
		128.2	129.0	**-34.64**	**-35.44**						
		132.5	133.5	**-38.94**	**-39.94**						
		134.6	139.6	**-41.04**	**-46.04**						
MW-42D	93.72	82.2	82.6	**11.52**	**11.12**		82.2	174.3	**11.52**	**-80.58**	MINOR
		102.9	104.5	**-9.18**	**-10.78**						
		114.0	114.2	**-20.28**	**-20.48**	LI					
		115.1	115.5	**-21.38**	**-21.78**						
		134.5	135.3	**-40.78**	**-41.58**	LI					
		137.0		**-43.28**							
		139.5	145.5	**-45.78**	**-51.78**						
		146.1	146.7	**-52.38**	**-52.98**	LI					
		151.5	151.8	**-57.78**	**-58.08**						
		154.2	155.7	**-60.48**	**-61.98**	VERTICAL					
		161.5		**-67.78**							
		166.1	174.3	**-72.38**	**-80.58**	LI					
RH-1D	87.44	21.0	29.7	**66.44**	**57.74**		19.0	67.0	**68.44**	**20.44**	
		38.0	43.0	**49.44**	**44.44**	VERTICAL	67.0	107.5	**20.44**	**-20.06**	MINOR
		44.5	47.7	**42.94**	**39.74**	SI					
		62.0	62.7	**25.44**	**24.74**						
		92.0	93.5	**-4.56**	**-6.06**						

Notes:
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
LI: Less Intense
SI: Semi-Intense

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/10/2001		10/31/2001		12/4/2001		1/7-8/02	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-10	(8.7 - 19.5)	91.68	19.30	72.38	10.98	80.70	11.10	80.58	10.89	80.79	10.98	80.70
MW-12	(14.5 - 25.5)	93.68	25.50	68.18	13.58	80.10	13.69	79.99	13.80	79.88	13.81	79.87
MW-12S	(11 - 26)	93.67	26.00	67.67	15.07	78.60	15.15	78.52	15.08	78.59	15.20	78.47
MW-14S	(10 - 25)	94.45	25.30	69.15	16.15	78.30	16.27	78.18	16.15	78.30	16.33	78.12
MW-15S	(5 - 10)	88.53	12.00	76.53	9.33	79.20	8.99	79.54	8.81	79.72	8.83	79.70
MW-16	(6 - 16)	89.80	8.00	81.80	4.02	85.78	3.98	85.82	3.70	86.10	3.85	85.95
MW-17	(13 - 23)	93.60	22.50	71.10	14.59	79.01	14.87	78.73	14.92	78.68	14.59	79.01
MW-21S	(5 - 10)	89.05	9.00	80.05	8.86	80.19	8.73	80.32	8.15	80.90	8.46	80.59
MW-23S	(7.5 - 12.5)	87.52	14.50	73.02	10.14	77.38	10.27	77.25	10.08	77.44	10.37	77.15
MW-25S	(11 - 26)	93.35	27.00	66.35	14.66	78.69	14.73	78.62	14.56	78.79	14.79	78.56
MW-26S	(7.5 - 22.5)	91.33	23.10	68.23	11.53	79.80	11.68	79.65	11.52	79.81	11.65	79.68
MW-30S	(10 - 25)	92.99	25.50	67.49	13.71	79.28	13.97	79.02	13.86	79.13	13.98	79.01
MW-31S	(8 - 18)	98.39	26.40	71.99	17.58	80.81	17.65	80.74	17.72	80.67	17.69	80.70
RH-1S	(1.8 - 17.3)	87.04	17.50	69.54	4.95	82.09	4.98	82.06	5.26	81.78	4.80	82.24
MW-1	(11.6 - 16.85)	90.88	11.00	79.88	8.53	82.35	8.54	82.34	8.28	82.60	8.31	82.57
MW-10I	(22 - 43)	92.22	20.25	71.97	12.87	79.35	13.00	79.22	12.87	79.35	12.93	79.29
MW-11	(9.5 - 15)	85.68	6.00	79.68	4.62	81.06	4.48	81.20	4.01	81.67	4.03	81.65
MW-13	(44.7 - 55.5)	93.80	25.50	68.30	15.24	78.56	15.31	78.49	15.25	78.55	15.26	78.54
MW-14	(30 - 41)	94.33	23.50	70.83	16.09	78.24	16.17	78.16	16.11	78.22	16.24	78.09
MW-15I	(12.5 - 22.5)	87.94	12.00	75.94	9.72	78.22	9.71	78.23	9.45	78.49	9.59	78.35
MW-17I	(23 - 45)	93.29	21.30	71.99	15.08	78.21	15.17	78.12	15.10	78.19	14.82	78.47
MW-18	(28 - 38)	93.53	22.50	71.03	14.84	78.69	14.99	78.54	14.89	78.64	14.86	78.67
MW-19I	(18 - 38.5)	98.92	15.50	83.42	12.31	86.61	12.18	86.74	11.77	87.15	11.95	86.97
MW-1I	(45 - 75)	90.45	9.50	80.95	NI	NI	NI	NI	NI	NI	NI	NI
MW-2	(11.2 - 14.35)	87.97	9.40	78.57	4.62	83.35	4.58	83.39	4.05	83.92	4.39	83.58
MW-22I	(17 - 32)	87.94	5.75	82.19	12.97	74.97	12.95	74.99	12.79	75.15	13.05	74.89

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/10/2001		10/31/2001		12/4/2001		1/7-8/02	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-25I	(27 - 47)	93.80	27.00	66.80	15.34	78.46	15.43	78.37	15.37	78.43	15.49	78.31
MW-26I	(24.5 - 45.5)	91.47	23.10	68.37	11.98	79.49	12.09	79.38	11.97	79.50	12.09	79.38
MW-28I	(15 - 25)	88.70	11.80	76.90	14.85	73.85	14.60	74.10	14.55	74.15	14.71	73.99
MW-29I	(11.5 - 26)	87.10	9.50	77.60	12.04	75.06	12.08	75.02	12.01	75.09	12.11	74.99
MW-2I	(11.28 - 32.2)	88.32	9.00	79.32	4.98	83.34	4.95	83.37	4.37	83.95	4.75	83.57
MW-35I	(12.5 - 38)	80.60	10.50	70.10	NI	NI	6.38	74.22	5.82	74.78	6.33	74.27
MW-36I	(20 - 45)	94.20	5.50	88.70	NI	NI	NI	NI	NI	NI	NI	NI
MW-37I	(30 - 50)	98.18	16.20	81.98	NI	NI	NI	NI	NI	NI	NI	NI
MW-38I	(90 - 120)	78.66	11.90	66.76	NI	NI	NI	NI	NI	NI	NI	NI
MW-10D	(82 - 114)	92.67	20.25	72.42	NM	NM	NM	NM	NM	NM	NM	NM
MW-14D	(91 - 121.7)	94.07	25.30	68.77	96.53	-2.46	71.28	22.79	47.05	47.02	32.11	61.96
MW-15D	(96 - 105.8)	87.33	12.00	75.33	91.11	-3.78	68.93	18.40	43.11	44.22	27.37	59.96
MW-17D	(121 - 142.5)	93.60	20.70	72.90	106.68	-13.08	57.95	35.65	19.89	73.71	14.81	78.79
MW-1D	(121 - 155.2)	90.65	11.00	79.65	NI	NI	NI	NI	NI	NI	NI	NI
MW-20D	(90 - 110.1)	96.37	20.40	75.97	NM	NM	17.34	79.03	17.01	79.36	16.65	79.72
MW-21D	(48.7 - 59.4)	89.17	9.00	80.17	12.54	76.63	12.48	76.69	12.24	76.93	12.23	76.94
MW-23D	(56 - 80)	87.08	14.50	72.58	81.45	5.63	79.53	7.55	76.48	10.60	73.35	13.73
MW-29D	(90 - 110)	86.97	9.50	77.47	6.72	80.25	6.54	80.43	6.17	80.80	5.85	81.12
MW-30D	(90 - 121)	92.87	25.50	67.37	70.15	22.72	66.29	26.58	61.41	31.46	55.97	36.90
MW-31D	(120 - 150)	98.31**	26.40	71.91	17.89	80.51	17.98	80.42	17.79	80.61	17.82	80.58
MW-32D	(91 - 111.5)	89.77	9.75	80.02	108.79	-19.02	105.55	-15.78	101.83	-12.06	98.89	-9.12
MW-33D	(119.7 - 140.5)	93.80	18.00	75.80	59.55	34.25	42.62	51.18	26.37	67.43	19.18	74.62
MW-34D	(100 - 120.5)	93.66	23.50	70.16	12.61	81.05	12.47	81.19	12.10	81.56	11.80	81.86
MW-36D	(140 - 161)	94.22	9.00	85.22	NI	NI	NI	NI	NI	NI	NI	NI
MW-37D	(155 - 185)	98.20	16.20	82.00	NI	NI	NI	NI	NI	NI	NI	NI
MW-38D	(150 - 170.1)	78.64	12.50	66.14	NI	NI	NI	NI	NI	NI	NI	NI

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/10/2001		10/31/2001		12/4/2001		1/7-8/02	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-39D	(130.4 - 150.4)	91.90	32.00	59.90	NI	NI	NI	NI	NI	NI	NI	NI
MW-40D	(140 - 170)	93.92	26.00	67.92	NI	NI	NI	NI	NI	NI	NI	NI
MW-41D	(120 - 140)	93.13	14.00	79.13	NI	NI	NI	NI	NI	NI	NI	NI
MW-42D	(140 - 175)	93.46	28.00	65.46	NI	NI	NI	NI	NI	NI	NI	NI
MW-43D	(120 - 150)	100.67	14.80	85.87	NI	NI	NI	NI	NI	NI	NI	NI
RH-1D	(86.5 - 107.5)	86.84	17.50	69.34	107.49	-20.65	106.00	-19.16	105.67	-18.83	108.15	-21.31
SG-1	NA	74.82	NA	NA	2.50	72.32	2.42	72.40	NM	NM	2.17	72.65
SG-2	NA	76.72	NA	NA	3.52	73.20	3.45	73.27	3.28	73.44	3.20	73.52
SG-3	NA	77.07	NA	NA	2.85	74.22	2.79	74.28	2.70	74.37	2.50	74.57

Notes:
NA: Not Available
NM - Not Measured
NI - Not Installed
* - Possible field measurement error
** - mpe was 98.4 feet msl thru January 9&10, 2003 synoptic event
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	2/6/2002		3/6/2002		4/3/2002		5/1/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-10	(8.7 - 19.5)	91.68	19.30	72.38	10.64	81.04	10.61	81.07	10.15	81.53	10.33	81.35
MW-12	(14.5 - 25.5)	93.68	25.50	68.18	13.54	80.14	13.51	80.17	13.19	80.49	13.17	80.51
MW-12S	(11 - 26)	93.67	26.00	67.67	14.88	78.79	14.84	78.83	14.61	79.06	14.19	79.48
MW-14S	(10 - 25)	94.45	25.30	69.15	16.01	78.44	16.00	78.45	15.75	78.70	15.50	78.95
MW-15S	(5 - 10)	88.53	12.00	76.53	8.67	79.86	8.82	79.71	8.53	80.00	8.47	80.06
MW-16	(6 - 16)	89.80	8.00	81.80	3.60	86.20	3.64	86.16	3.33	86.47	3.44	86.36
MW-17	(13 - 23)	93.60	22.50	71.10	14.31	79.29	14.21	79.39	13.87	79.73	13.96	79.64
MW-21S	(5 - 10)	89.05	9.00	80.05	8.25	80.80	8.21	80.84	7.77	81.28	7.08	81.97
MW-23S	(7.5 - 12.5)	87.52	14.50	73.02	10.01	77.51	9.97	77.55	9.64	77.88	9.42	78.10
MW-25S	(11 - 26)	93.35	27.00	66.35	13.96	79.39	13.95	79.40	13.10	80.25	13.00	80.35
MW-26S	(7.5 - 22.5)	91.33	23.10	68.23	11.26	80.07	11.22	80.11	10.82	80.51	10.36	80.97
MW-30S	(10 - 25)	92.99	25.50	67.49	13.61	79.38	13.55	79.44	13.26	79.73	12.79	80.20
MW-31S	(8 - 18)	98.39	26.40	71.99	17.67	80.72	17.45	80.94	17.27	81.12	17.44	80.95
RH-1S	(1.8 - 17.3)	87.04	17.50	69.54	4.48	82.56	4.43	82.61	4.17	82.87	4.35	82.69
MW-1	(11.6 - 16.85)	90.88	11.00	79.88	8.12	82.76	8.08	82.80	7.93	82.95	7.99	82.89
MW-10I	(22 - 43)	92.22	20.25	71.97	12.63	79.59	12.55	79.67	12.29	79.93	11.88	80.34
MW-11	(9.5 - 15)	85.68	6.00	79.68	3.74	81.94	3.81	81.87	3.46	82.22	3.56	82.12
MW-13	(44.7 - 55.5)	93.80	25.50	68.30	15.04	78.76	14.98	78.82	14.77	79.03	14.33	79.47
MW-14	(30 - 41)	94.33	23.50	70.83	15.91	78.42	15.88	78.45	15.63	78.70	15.26	79.07
MW-15I	(12.5 - 22.5)	87.94	12.00	75.94	9.40	78.54	9.34	78.60	9.19	78.75	9.09	78.85
MW-17I	(23 - 45)	93.29	21.30	71.99	14.51	78.78	14.44	78.85	14.07	79.22	14.11	79.18
MW-18	(28 - 38)	93.53	22.50	71.03	14.61	78.92	14.52	79.01	14.26	79.27	13.89	79.64
MW-19I	(18 - 38.5)	98.92	15.50	83.42	11.62	87.30	11.62	87.30	11.31	87.61	11.57	87.35
MW-1I	(45 - 75)	90.45	9.50	80.95	NI	NI	NI	NI	NI	NI	NI	NI
MW-2	(11.2 - 14.35)	87.97	9.40	78.57	3.87	84.10	3.75	84.22	3.39	84.58	3.43	84.54
MW-22I	(17 - 32)	87.94	5.75	82.19	12.70	75.24	12.63	75.31	12.05	75.89	12.13	75.81

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	2/6/2002		3/6/2002		4/3/2002		5/1/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-25I	(27 - 47)	93.80	27.00	66.80	15.16	78.64	15.11	78.69	14.87	78.93	14.50	79.30
MW-26I	(24.5 - 45.5)	91.47	23.10	68.37	11.75	79.72	11.68	79.79	11.44	80.03	10.63	80.84
MW-28I	(15 - 25)	88.70	11.80	76.90	14.45	74.25	14.27	74.43	13.78	74.92	13.85	74.85
MW-29I	(11.5 - 26)	87.10	9.50	77.60	11.89	75.21	11.88	75.22	11.34	75.76	11.23	75.87
MW-2I	(11.28 - 32.2)	88.32	9.00	79.32	4.18	84.14	4.11	84.21	3.62	84.70	3.82	84.50
MW-35I	(12.5 - 38)	80.60	10.50	70.10	5.62	74.98	5.60	75.00	5.04	75.56	5.04	75.56
MW-36I	(20 - 45)	94.20	5.50	88.70	NI	NI	NI	NI	NI	NI	NI	NI
MW-37I	(30 - 50)	98.18	16.20	81.98	NI	NI	NI	NI	NI	NI	NI	NI
MW-38I	(90 - 120)	78.66	11.90	66.76	NI	NI	NI	NI	NI	NI	NI	NI
MW-10D	(82 - 114)	92.67	20.25	72.42	NM	NM	NM	NM	NM	NM	NM	NM
MW-14D	(91 - 121.7)	94.07	25.30	68.77	26.38	67.69	21.93	72.14	18.54	75.53	16.11	77.96
MW-15D	(96 - 105.8)	87.33	12.00	75.33	20.06	67.27	16.09	71.24	13.82	73.51	12.65	74.68
MW-17D	(121 - 142.5)	93.60	20.70	72.90	14.42	79.18	14.13	79.47	13.81	79.79	14.04	79.56
MW-1D	(121 - 155.2)	90.65	11.00	79.65	NI	NI	NI	NI	NI	NI	NI	NI
MW-20D	(90 - 110.1)	96.37	20.40	75.97	16.37	80.00	16.03	80.34	15.18	81.19	15.93	80.44
MW-21D	(48.7 - 59.4)	89.17	9.00	80.17	12.00	77.17	11.71	77.46	11.19	77.98	11.28	77.89
MW-23D	(56 - 80)	87.08	14.50	72.58	70.72	16.36	68.31	18.77	66.31	20.77	64.48	22.60
MW-29D	(90 - 110)	86.97	9.50	77.47	5.69	81.28	5.51	81.46	4.84	82.13	5.30	81.67
MW-30D	(90 - 121)	92.87	25.50	67.37	51.58	41.29	47.55	45.32	43.34	49.53	40.03	52.84
MW-31D	(120 - 150)	98.31**	26.40	71.91	17.57	80.83	17.54	80.86	17.29	81.11	17.63	80.77
MW-32D	(91 - 111.5)	89.77	9.75	80.02	96.62	-6.85	94.57	-4.80	93.05	-3.28	91.90	-2.13
MW-33D	(119.7 - 140.5)	93.80	18.00	75.80	16.71	77.09	15.45	78.35	14.80	79.00	13.56	80.24
MW-34D	(100 - 120.5)	93.66	23.50	70.16	11.70	81.96	11.51	82.15	10.78	82.88	11.27	82.39
MW-36D	(140 - 161)	94.22	9.00	85.22	NI	NI	NI	NI	NI	NI	NI	NI
MW-37D	(155 - 185)	98.20	16.20	82.00	NI	NI	NI	NI	NI	NI	NI	NI
MW-38D	(150 - 170.1)	78.64	12.50	66.14	NI	NI	NI	NI	NI	NI	NI	NI

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	2/6/2002		3/6/2002		4/3/2002		5/1/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-39D	(130.4 - 150.4)	91.90	32.00	59.90	NI	NI	NI	NI	NI	NI	NI	NI
MW-40D	(140 - 170)	93.92	26.00	67.92	NI	NI	NI	NI	NI	NI	NI	NI
MW-41D	(120 - 140)	93.13	14.00	79.13	NI	NI	NI	NI	NI	NI	NI	NI
MW-42D	(140 - 175)	93.46	28.00	65.46	NI	NI	NI	NI	NI	NI	NI	NI
MW-43D	(120 - 150)	100.67	14.80	85.87	NI	NI	NI	NI	NI	NI	NI	NI
RH-1D	(86.5 - 107.5)	86.84	17.50	69.34	107.82	-20.98	107.52	-20.68	107.21	-20.37	106.77	-19.93
SG-1	NA	74.82	NA	NA	1.67	73.15	1.50	73.32	0.84	73.98	1.00	73.82
SG-2	NA	76.72	NA	NA	2.85	73.87	2.75	73.97	2.20	74.52	2.35	74.37
SG-3	NA	77.07	NA	NA	2.40	74.67	2.30	74.77	1.85	75.22	2.00	75.07

Notes:
NA: Not Available
NM - Not Measured
NI - Not Installed
* - Possible field measurement error
** - mpe was 98.4 feet msl thru January 9&10, 2003 synoptic event
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	6/12/2002		7/2/2002		8/5/2002		9/6/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-10	(8.7 - 19.5)	91.68	19.30	72.38	10.57	81.11	10.72	80.96	11.55	80.13	11.12	80.56
MW-12	(14.5 - 25.5)	93.68	25.50	68.18	14.20	79.48	13.31	80.37	13.55	80.13	13.41	80.27
MW-12S	(11 - 26)	93.67	26.00	67.67	13.97	79.70	14.02	79.65	14.48	79.19	14.31	79.36
MW-14S	(10 - 25)	94.45	25.30	69.15	15.40	79.05	15.40	79.05	15.75	78.70	15.64	78.81
MW-15S	(5 - 10)	88.53	12.00	76.53	8.54	79.99	8.54	79.99	8.77	79.76	8.69	79.84
MW-16	(6 - 16)	89.80	8.00	81.80	3.39	86.41	3.57	86.23	3.82	85.98	3.46	86.34
MW-17	(13 - 23)	93.60	22.50	71.10	13.93	79.67	14.00	79.60	14.37	79.23	14.21	79.39
MW-21S	(5 - 10)	89.05	9.00	80.05	8.10	80.95	8.11	80.94	8.35	80.70	5.21	83.84
MW-23S	(7.5 - 12.5)	87.52	14.50	73.02	9.46	78.06	9.45	78.07	9.75	77.77	10.15	77.37
MW-25S	(11 - 26)	93.35	27.00	66.35	13.05	80.30	13.16	80.19	17.75	75.60	13.32	80.03
MW-26S	(7.5 - 22.5)	91.33	23.10	68.23	10.40	80.93	10.50	80.83	11.11	80.22	10.94	80.39
MW-30S	(10 - 25)	92.99	25.50	67.49	12.71	80.28	12.81	80.18	13.29	79.70	13.06	79.93
MW-31S	(8 - 18)	98.39	26.40	71.99	17.29	81.10	17.31	81.08	17.42	80.97	17.31	81.08
RH-1S	(1.8 - 17.3)	87.04	17.50	69.54	4.44	82.60	4.55	82.49	5.22	81.82	5.05	81.99
MW-1	(11.6 - 16.85)	90.88	11.00	79.88	8.10	82.78	8.21	82.67	8.65	82.23	8.47	82.41
MW-10I	(22 - 43)	92.22	20.25	71.97	11.75	80.47	11.82	80.40	12.29	79.93	12.11	80.11
MW-11	(9.5 - 15)	85.68	6.00	79.68	3.78	81.90	3.93	81.75	4.20	81.48	4.30	81.38
MW-13	(44.7 - 55.5)	93.80	25.50	68.30	13.17	80.63	14.31	79.49	14.68	79.12	14.43	79.37
MW-14	(30 - 41)	94.33	23.50	70.83	15.10	79.23	15.18	79.15	15.59	78.74	15.44	78.89
MW-15I	(12.5 - 22.5)	87.94	12.00	75.94	9.03	78.91	9.09	78.85	9.35	78.59	9.10	78.84
MW-17I	(23 - 45)	93.29	21.30	71.99	14.06	79.23	14.14	79.15	14.55	78.74	14.43	78.86
MW-18	(28 - 38)	93.53	22.50	71.03	13.81	79.72	13.86	79.67	14.30	79.23	14.09	79.44
MW-19I	(18 - 38.5)	98.92	15.50	83.42	11.54	87.38	NM	NM	NM	NM	11.69	87.23
MW-1I	(45 - 75)	90.45	9.50	80.95	8.39	82.06	9.28	81.17	9.89	80.56	9.67	80.78
MW-2	(11.2 - 14.35)	87.97	9.40	78.57	3.63	84.34	3.74	84.23	4.38	83.59	3.94	84.03
MW-22I	(17 - 32)	87.94	5.75	82.19	11.29	76.65	11.49	76.45	12.13	75.81	12.68	75.26

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	6/12/2002		7/2/2002		8/5/2002		9/6/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-25I	(27 - 47)	93.80	27.00	66.80	14.33	79.47	14.40	79.40	14.80	79.00	14.62	79.18
MW-26I	(24.5 - 45.5)	91.47	23.10	68.37	10.73	80.74	10.80	80.67	11.38	80.09	11.09	80.38
MW-28I	(15 - 25)	88.70	11.80	76.90	13.77	74.93	14.21	74.49	14.68	74.02	14.46	74.24
MW-29I	(11.5 - 26)	87.10	9.50	77.60	11.08	76.02	11.28	75.82	11.72	75.38	11.61	75.49
MW-2I	(11.28 - 32.2)	88.32	9.00	79.32	3.78	84.54	4.07	84.25	4.86	83.46	4.12	84.20
MW-35I	(12.5 - 38)	80.60	10.50	70.10	5.03	75.57	5.18	75.42	5.92	74.68	5.81	74.79
MW-36I	(20 - 45)	94.20	5.50	88.70	5.57	88.63	18.50	75.70	12.57	81.63	12.40	81.80
MW-37I	(30 - 50)	98.18	16.20	81.98	NI	NI	20.65	77.53	15.95	82.23	15.68	82.50
MW-38I	(90 - 120)	78.66	11.90	66.76	5.27	73.39	5.59	73.07	6.40	72.26	6.82	71.84
MW-10D	(82 - 114)	92.67	20.25	72.42	NM	NM	NM	NM	NM	NM	NM	NM
MW-14D	(91 - 121.7)	94.07	25.30	68.77	13.92	80.15	13.31	80.76	12.75	81.32	12.51	81.56
MW-15D	(96 - 105.8)	87.33	12.00	75.33	11.51	75.82	11.22	76.11	11.04	76.29	11.01	76.32
MW-17D	(121 - 142.5)	93.60	20.70	72.90	13.38	80.22	13.27	80.33	13.55	80.05	13.51	80.09
MW-1D	(121 - 155.2)	90.65	11.00	79.65	71.32	19.33	150.28	-59.63	149.98	-59.33	149.81	-59.16
MW-20D	(90 - 110.1)	96.37	20.40	75.97	15.53	80.84	15.98	80.39	16.85	79.52	16.74	79.63
MW-21D	(48.7 - 59.4)	89.17	9.00	80.17	11.08	78.09	11.47	77.70	12.19	76.98	12.21	76.96
MW-23D	(56 - 80)	87.08	14.50	72.58	61.75	25.33	60.47	26.61	58.62	28.46	57.09	29.99
MW-29D	(90 - 110)	86.97	9.50	77.47	5.12	81.85	5.54	81.43	6.12	80.85	5.81	81.16
MW-30D	(90 - 121)	92.87	25.50	67.37	34.58	58.29	32.16	60.71	28.91	63.96	26.01	66.86
MW-31D	(120 - 150)	98.31**	26.40	71.91	17.63	80.77	17.53	80.87	17.85	80.55	17.62	80.78
MW-32D	(91 - 111.5)	89.77	9.75	80.02	89.62	0.15	88.53	1.24	86.79	2.98	85.41	4.36
MW-33D	(119.7 - 140.5)	93.80	18.00	75.80	13.24	80.56	13.25	80.55	13.81	79.99	13.64	80.16
MW-34D	(100 - 120.5)	93.66	23.50	70.16	10.94	82.72	11.38	82.28	11.94	81.72	11.40	82.26
MW-36D	(140 - 161)	94.22	9.00	85.22	11.59	82.63	11.72	82.50	12.05	82.17	12.01	82.21
MW-37D	(155 - 185)	98.20	16.20	82.00	NI	NI	9.33	88.87	9.95	88.25	10.60	87.60
MW-38D	(150 - 170.1)	78.64	12.50	66.14	5.06	73.58	5.79	72.85	6.12	72.52	6.55	72.09

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	6/12/2002		7/2/2002		8/5/2002		9/6/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-39D	(130.4 - 150.4)	91.90	32.00	59.90	16.40	75.50	16.48	75.42	16.62	75.28	16.48	75.42
MW-40D	(140 - 170)	93.92	26.00	67.92	13.36	80.56	13.35	80.57	13.89	80.03	13.72	80.20
MW-41D	(120 - 140)	93.13	14.00	79.13	11.74	81.39	14.88	78.25	16.13	77.00	15.30	77.83
MW-42D	(140 - 175)	93.46	28.00	65.46	NI	NI	NI	NI	NI	NI	NI	NI
MW-43D	(120 - 150)	100.67	14.80	85.87	NI	NI	NI	NI	NI	NI	NI	NI
RH-1D	(86.5 - 107.5)	86.84	17.50	69.34	106.31	-19.47	106.06	-19.22	105.68	-18.84	105.34	-18.50
SG-1	NA	74.82	NA	NA	1.00	73.82	-0.60	75.42*	2.58	72.24	2.63	72.19
SG-2	NA	76.72	NA	NA	2.35	74.37	2.97	73.75	3.53	73.19	3.59	73.13
SG-3	NA	77.07	NA	NA	1.96	75.11	1.39	75.68	2.82	74.25	2.90	74.17

Notes:
NA: Not Available
NM - Not Measured
NI - Not Installed
* - Possible field measurement error
** - mpe was 98.4 feet msl thru January 9&10, 2003 synoptic event
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	10/3/2002		11/7/2002		12/2/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-10	(8.7 - 19.5)	91.68	19.30	72.38	10.78	80.90	10.75	80.93	10.75	80.93
MW-12	(14.5 - 25.5)	93.68	25.50	68.18	13.12	80.56	13.02	80.66	12.97	80.71
MW-12S	(11 - 26)	93.67	26.00	67.67	14.05	79.62	13.90	79.77	13.86	79.81
MW-14S	(10 - 25)	94.45	25.30	69.15	15.46	78.99	15.35	79.10	15.38	79.07
MW-15S	(5 - 10)	88.53	12.00	76.53	8.61	79.92	8.49	80.04	8.46	80.07
MW-16	(6 - 16)	89.80	8.00	81.80	3.28	86.52	3.28	86.52	3.20	86.60
MW-17	(13 - 23)	93.60	22.50	71.10	13.92	79.68	13.88	79.72	13.79	79.81
MW-21S	(5 - 10)	89.05	9.00	80.05	8.12	80.93	7.23	81.82	7.96	81.09
MW-23S	(7.5 - 12.5)	87.52	14.50	73.02	9.45	78.07	9.36	78.16	9.48	78.04
MW-25S	(11 - 26)	93.35	27.00	66.35	13.03	80.32	12.89	80.46	12.91	80.44
MW-26S	(7.5 - 22.5)	91.33	23.10	68.23	10.51	80.82	10.28	81.05	10.22	81.11
MW-30S	(10 - 25)	92.99	25.50	67.49	12.74	80.25	12.67	80.32	12.63	80.36
MW-31S	(8 - 18)	98.39	26.40	71.99	17.31	81.08	17.34	81.05	17.26	81.13
RH-1S	(1.8 - 17.3)	87.04	17.50	69.54	4.58	82.46	4.47	82.57	4.47	82.57
MW-1	(11.6 - 16.85)	90.88	11.00	79.88	8.30	82.58	8.10	82.78	8.14	82.74
MW-10I	(22 - 43)	92.22	20.25	71.97	11.85	80.37	11.73	80.49	11.78	80.44
MW-11	(9.5 - 15)	85.68	6.00	79.68	3.52	82.16	3.32	82.36	3.46	82.22
MW-13	(44.7 - 55.5)	93.80	25.50	68.30	14.28	79.52	14.15	79.65	14.07	79.73
MW-14	(30 - 41)	94.33	23.50	70.83	15.22	79.11	15.05	79.28	15.00	79.33
MW-15I	(12.5 - 22.5)	87.94	12.00	75.94	9.03	78.91	8.85	79.09	8.89	79.05
MW-17I	(23 - 45)	93.29	21.30	71.99	12.76	80.53	14.07	79.22	13.98	79.31
MW-18	(28 - 38)	93.53	22.50	71.03	13.84	79.69	13.76	79.77	13.68	79.85
MW-19I	(18 - 38.5)	98.92	15.50	83.42	11.45	87.47	11.51	87.41	11.45	87.47
MW-1I	(45 - 75)	90.45	9.50	80.95	10.49	79.96	9.33	81.12	9.22	81.23
MW-2	(11.2 - 14.35)	87.97	9.40	78.57	3.77	84.20	3.47	84.50	3.59	84.38
MW-22I	(17 - 32)	87.94	5.75	82.19	11.71	76.23	11.41	76.53	11.33	76.61

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	10/3/2002		11/7/2002		12/2/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-25I	(27 - 47)	93.80	27.00	66.80	14.41	79.39	14.28	79.52	14.25	79.55
MW-26I	(24.5 - 45.5)	91.47	23.10	68.37	10.80	80.67	10.70	80.77	10.77	80.70
MW-28I	(15 - 25)	88.70	11.80	76.90	14.31	74.39	13.97	74.73	13.87	74.83
MW-29I	(11.5 - 26)	87.10	9.50	77.60	11.51	75.59	11.23	75.87	11.26	75.84
MW-2I	(11.28 - 32.2)	88.32	9.00	79.32	3.84	84.48	3.88	84.44	3.62	84.70
MW-35I	(12.5 - 38)	80.60	10.50	70.10	5.40	75.20	5.18	75.42	4.95	75.65
MW-36I	(20 - 45)	94.20	5.50	88.70	12.04	82.16	11.65	82.55	11.49	82.71
MW-37I	(30 - 50)	98.18	16.20	81.98	15.54	82.64	15.15	83.03	15.18	83.00
MW-38I	(90 - 120)	78.66	11.90	66.76	6.62	72.04	5.94	72.72	5.84	72.82
MW-10D	(82 - 114)	92.67	20.25	72.42	110.74	-18.07	NM	NM	NM	NM
MW-14D	(91 - 121.7)	94.07	25.30	68.77	12.28	81.79	11.97	82.10	11.61	82.46
MW-15D	(96 - 105.8)	87.33	12.00	75.33	10.83	76.50	10.46	76.87	9.75	77.58
MW-17D	(121 - 142.5)	93.60	20.70	72.90	14.11	79.49	12.98	80.62	12.76	80.84
MW-1D	(121 - 155.2)	90.65	11.00	79.65	149.46	-58.81	149.21	-58.56	149.03	-58.38
MW-20D	(90 - 110.1)	96.37	20.40	75.97	16.19	80.18	15.86	80.51	15.24	81.13
MW-21D	(48.7 - 59.4)	89.17	9.00	80.17	11.26	77.91	11.10	78.07	10.97	78.20
MW-23D	(56 - 80)	87.08	14.50	72.58	55.98	31.10	54.60	32.48	53.60	33.48
MW-29D	(90 - 110)	86.97	9.50	77.47	5.38	81.59	5.00	81.97	4.51	82.46
MW-30D	(90 - 121)	92.87	25.50	67.37	23.90	68.97	21.48	71.39	20.00	72.87
MW-31D	(120 - 150)	98.31**	26.40	71.91	17.41	80.99	17.53	80.87	17.72	80.68
MW-32D	(91 - 111.5)	89.77	9.75	80.02	84.26	5.51	83.01	6.76	82.18	7.59
MW-33D	(119.7 - 140.5)	93.80	18.00	75.80	13.35	80.45	13.27	80.53	13.13	80.67
MW-34D	(100 - 120.5)	93.66	23.50	70.16	10.66	83.00	10.65	83.01	10.11	83.55
MW-36D	(140 - 161)	94.22	9.00	85.22	11.77	82.45	11.44	82.78	11.28	82.94
MW-37D	(155 - 185)	98.20	16.20	82.00	9.60	88.60	9.58	88.62	9.65	88.55
MW-38D	(150 - 170.1)	78.64	12.50	66.14	6.27	72.37	5.72	72.92	5.60	73.04

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	10/3/2002		11/7/2002		12/2/2002	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-39D	(130.4 - 150.4)	91.90	32.00	59.90	15.93	75.97	16.22	75.68	16.05	75.85
MW-40D	(140 - 170)	93.92	26.00	67.92	13.55	80.37	13.32	80.60	12.91	81.01
MW-41D	(120 - 140)	93.13	14.00	79.13	15.05	78.08	14.70	78.43	14.40	78.73
MW-42D	(140 - 175)	93.46	28.00	65.46	NI	NI	NI	NI	124.34	-30.88
MW-43D	(120 - 150)	100.67	14.80	85.87	NI	NI	NI	NI	13.47	87.20
RH-1D	(86.5 - 107.5)	86.84	17.50	69.34	105.06	-18.22	104.63	-17.79	104.35	-17.51
SG-1	NA	74.82	NA	NA	NM	NM	1.45	73.37	1.39	73.43
SG-2	NA	76.72	NA	NA	NM	NM	NM	NM	NM	NM
SG-3	NA	77.07	NA	NA	NM	NM	2.25	74.82	2.19	74.88

Notes:
NA: Not Available
NM - Not Measured
NI - Not Installed
* - Possible field measurement error
** - mpe was 98.4 feet msl thru January 9&10, 2003 synoptic event
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/9-10/03		1/30/2003		4/3/2003		5/9/2003	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-10	(8.7 - 19.5)	91.68	19.30	72.38	NM	NM	11.43	80.25	10.40	81.28	10.95	80.73
MW-12	(14.5 - 25.5)	93.68	25.50	68.18	13.29	80.39	13.58	80.10	12.79	80.89	13.15	80.53
MW-12S	(11 - 26)	93.67	26.00	67.67	14.15	79.52	14.44	79.23	13.60	80.07	13.95	79.72
MW-14S	(10 - 25)	94.45	25.30	69.15	15.60	78.85	15.94	78.51	15.18	79.27	15.49	78.96
MW-15S	(5 - 10)	88.53	12.00	76.53	8.43	80.10	8.53	80.00	8.22	80.31	8.35	80.18
MW-16	(6 - 16)	89.80	8.00	81.80	NM	NM	NM	NM	3.21	86.59	3.51	86.29
MW-17	(13 - 23)	93.60	22.50	71.10	14.01	79.59	14.40	79.20	13.69	79.91	13.87	79.73
MW-21S	(5 - 10)	89.05	9.00	80.05	11.29	77.76	8.39	80.66	6.92	82.13	8.21	80.84
MW-23S	(7.5 - 12.5)	87.52	14.50	73.02	9.62	77.90	10.09	77.43	9.17	78.35	9.56	77.96
MW-25S	(11 - 26)	93.35	27.00	66.35	13.17	80.18	13.84	79.51	12.54	80.81	13.02	80.33
MW-26S	(7.5 - 22.5)	91.33	23.10	68.23	NM	NM	10.88	80.45	9.83	81.50	10.29	81.04
MW-30S	(10 - 25)	92.99	25.50	67.49	12.86	80.13	13.21	79.78	12.21	80.78	12.62	80.37
MW-31S	(8 - 18)	98.39	26.40	71.99	17.33	81.06	17.38	81.01	17.21	81.18	16.96	81.43
RH-1S	(1.8 - 17.3)	87.04	17.50	69.54	4.55	82.49	4.87	82.17	NM	NM	4.45	82.59
MW-1	(11.6 - 16.85)	90.88	11.00	79.88	8.23	82.65	8.55	82.33	7.90	82.98	8.18	82.7
MW-10I	(22 - 43)	92.22	20.25	71.97	12.02	80.20	12.36	79.86	11.52	80.70	11.85	80.37
MW-11	(9.5 - 15)	85.68	6.00	79.68	NM	NM	NM	NM	3.80	81.88	3.85	81.83
MW-13	(44.7 - 55.5)	93.80	25.50	68.30	14.26	79.54	14.17	79.63	13.90	79.90	14.17	79.63
MW-14	(30 - 41)	94.33	23.50	70.83	15.27	79.06	15.58	78.75	14.78	79.55	15.15	79.18
MW-15I	(12.5 - 22.5)	87.94	12.00	75.94	9.05	78.89	10.32	77.62	5.98	81.96	8.96	78.98
MW-17I	(23 - 45)	93.29	21.30	71.99	14.12	79.17	14.59	78.70	11.35	81.94	13.96	79.33
MW-18	(28 - 38)	93.53	22.50	71.03	13.92	79.61	14.31	79.22	16.89	76.64	13.77	79.76
MW-19I	(18 - 38.5)	98.92	15.50	83.42	NM	NM	NM	NM	13.71	85.21	11.75	87.17
MW-1I	(45 - 75)	90.45	9.50	80.95	9.43	81.02	NM	NM	8.85	81.60	9.36	81.09
MW-2	(11.2 - 14.35)	87.97	9.40	78.57	3.62	84.35	4.51	83.46	2.96	85.01	3.67	84.3
MW-22I	(17 - 32)	87.94	5.75	82.19	11.68	76.26	12.19	75.75	11.09	76.85	11.61	76.33

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/9-10/03		1/30/2003		4/3/2003		5/9/2003	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-25I	(27 - 47)	93.80	27.00	66.80	14.48	79.32	NM	NM	14.02	79.78	14.39	79.41
MW-26I	(24.5 - 45.5)	91.47	23.10	68.37	11.02	80.45	11.32	80.15	10.50	80.97	10.92	80.55
MW-28I	(15 - 25)	88.70	11.80	76.90	13.81	74.89	14.22	74.48	13.41	75.29	13.93	74.77
MW-29I	(11.5 - 26)	87.10	9.50	77.60	11.41	75.69	11.81	75.29	10.91	76.19	11.36	75.74
MW-2I	(11.28 - 32.2)	88.32	9.00	79.32	3.99	84.33	4.18	84.14	3.31	85.01	3.85	84.47
MW-35I	(12.5 - 38)	80.60	10.50	70.10	4.55	76.05	5.41	75.19	4.85	75.75	5.33	75.27
MW-36I	(20 - 45)	94.20	5.50	88.70	11.50	82.70	11.82	82.38	10.09	84.11	7.97	86.23
MW-37I	(30 - 50)	98.18	16.20	81.98	15.51	82.67	NM	NM	15.22	82.96	15.88	82.30
MW-38I	(90 - 120)	78.66	11.90	66.76	6.02	72.64	NM	NM	5.43	73.23	5.84	72.82
MW-10D	(82 - 114)	92.67	20.25	72.42	NM	NM	109.82	-17.15	NM	NM	NM	NM
MW-14D	(91 - 121.7)	94.07	25.30	68.77	11.51	82.56	11.57	82.50	32.91	61.16	16.46	77.61
MW-15D	(96 - 105.8)	87.33	12.00	75.33	10.02	77.31	10.32	77.01	55.02	32.31	35.82	51.51
MW-17D	(121 - 142.5)	93.60	20.70	72.90	12.75	80.85	13.04	80.56	11.32	82.28	13.26	80.34
MW-1D	(121 - 155.2)	90.65	11.00	79.65	NM	NM	9.76	80.89	NM	NM	141.51	-50.86
MW-20D	(90 - 110.1)	96.37	20.40	75.97	15.55	80.82	16.00	80.37	14.93	81.44	15.68	80.69
MW-21D	(48.7 - 59.4)	89.17	9.00	80.17	8.07	81.10	11.68	77.49	10.31	78.86	11.22	77.95
MW-23D	(56 - 80)	87.08	14.50	72.58	52.12	34.96	51.39	35.69	78.35	8.73	75.84	11.24
MW-29D	(90 - 110)	86.97	9.50	77.47	4.63	82.34	5.31	81.66	4.69	82.28	5.00	81.97
MW-30D	(90 - 121)	92.87	25.50	67.37	18.41	74.46	17.70	75.17	12.11	80.76	12.43	80.44
MW-31D	(120 - 150)	98.31**	26.40	71.91	17.63	80.77	30.62	67.69	17.32	80.99	17.57	80.74
MW-32D	(91 - 111.5)	89.77	9.75	80.02	NM	NM	80.75	9.02	NM	NM	110.71	-20.94
MW-33D	(119.7 - 140.5)	93.80	18.00	75.80	13.24	80.56	NM	NM	12.99	80.81	13.26	80.54
MW-34D	(100 - 120.5)	93.66	23.50	70.16	NM	NM	NM	NM	10.62	83.04	10.88	82.78
MW-36D	(140 - 161)	94.22	9.00	85.22	11.45	82.77	11.20	83.02	10.81	83.41	11.20	83.02
MW-37D	(155 - 185)	98.20	16.20	82.00	9.89	88.31	10.12	88.08	9.01	89.19	9.51	88.69
MW-38D	(150 - 170.1)	78.64	12.50	66.14	5.82	72.82	5.13	73.51	5.23	73.41	5.60	73.04

TABLE 6-2

SUMMARY OF GROUNDWATER ELEVATIONS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Screen Interval (feet bgs)	Measuring Point Elevation (feet msl)	Depth to Bedrock (feet bgs)	Bedrock Elevation (feet msl)	1/9-10/03		1/30/2003		4/3/2003		5/9/2003	
					DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)	DTW (feet bgs)	Water Elevation (feet msl)
MW-39D	(130.4 - 150.4)	91.90	32.00	59.90	16.21	75.69	15.31	76.59	15.95	75.95	16.20	75.70
MW-40D	(140 - 170)	93.92	26.00	67.92	13.01	80.91	NM	NM	14.78	79.14	12.87	81.05
MW-41D	(120 - 140)	93.13	14.00	79.13	15.13	78.00	15.31	77.82	14.84	78.29	15.10	78.03
MW-42D	(140 - 175)	93.46	28.00	65.46	42.65	50.81	30.72	62.74	NM	NM	22.42	71.04
MW-43D	(120 - 150)	100.67	14.80	85.87	14.60	86.07	14.13	86.54	13.31	87.36	13.88	86.79
RH-1D	(86.5 - 107.5)	86.84	17.50	69.34	103.88	-17.04	103.62	-16.78	NM	NM	102.78	-15.94
SG-1	NA	74.82	NA	NA	NM	NM	NM	NM	0.59	74.23	2.05	72.77
SG-2	NA	76.72	NA	NA	NM	NM	NM	NM	1.85	74.87	2.40	74.32
SG-3	NA	77.07	NA	NA	NM	NM	NM	NM	1.50	75.57	1.44	75.63

Notes:
NA: Not Available
NM - Not Measured
NI - Not Installed
* - Possible field measurement error
** - mpe was 98.4 feet msl thru January 9&10, 2003 synoptic event
feet bgs: Feet Below Ground Surface.
feet msl: Feet above Mean Sea Level (NAVD88).
NAVD88: North American Vertical Datum of 1988.

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Surface Soil Samples					
		MW-31S (0-2) 5/30/2001	SB-2 (0-2) 4/2/2001	SB-3 (0-2) 4/2/2001	SB-5 (0-2) 4/2/2001	SB-6 (0-2) 4/2/2001	SB-9 (0-2) 4/2/2001
Acetone	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	0.06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	5.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	1.5	<0.005	<0.005	<0.005	<0.005	**0.0011J**	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene, total	1.2	<0.005	<0.005	<0.005	<0.005	**0.0032J**	<0.005
Total VOCs	10	**ND**	**ND**	**ND**	**ND**	**0.00430**	**ND**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**0.00430**	**ND**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Surface Soil Samples				
		SB-13 (0-2) 4/4/2001	SB-29 (0-2) 4/5/2001	SS-06 (0-0.5) 5/18/2001	SS-07 (0-0.5) 5/18/2001	SS-08 (0-0.5) 5/18/2001
Acetone	0.2	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	0.06	<0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	0.3	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	5.5	<0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	1.5	**0.0013J**	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene, total	1.2	**0.0019J**	**0.0015J**	<0.005	<0.005	<0.005
Total VOCs	10	**0.00320**	**0.00150**	**ND**	**ND**	**ND**
Total BTEX	NS	**0.00320**	**0.00150**	**ND**	**ND**	**ND**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		MW-1D (8-10) 5/15/2002	MW-2I (7-9) 4/17/2001	MW-10I (14-16) 4/12/2001	MW-12S (24-26) 4/10/2001	MW-14S (24-25) 4/9/2001	MW-15S (6-8) 4/12/2001
Acetone	0.2	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Benzene	0.06	<0.005	<0.005	**0.03J**	**0.031J**	**0.17**	<0.005
Bromodichloromethane	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Bromoform	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Bromomethane	NS	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
2-Butanone	0.3	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Chlorobenzene	1.7	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Chloroethane	1.9	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Chloroform	0.3	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Chloromethane	NS	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Ethylbenzene	5.5	<0.005	<0.005	**0.035J**	**0.4**	**0.08**	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Methylene Chloride	0.1	<0.005	<0.005	**0.94**	<0.05	<0.05	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Toluene	1.5	<0.005	<0.005	**0.07**	**0.015J**	**0.015J**	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Trichloroethene	0.7	<0.005	<0.005	<0.05	<0.05	<0.05	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	<0.1	<0.1	<0.1	<0.01
Xylene, total	1.2	<0.005	<0.005	**0.073**	**0.13**	**0.041J**	<0.005
Total VOCs	10	**ND**	**ND**	**1.15**	**0.576**	**0.306**	**ND**
Total BTEX	NS	**ND**	**ND**	**0.208**	**0.576**	**0.306**	**ND**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		MW-17I (20-21) 4/23/2001	MW-19I (4-6) 4/24/2001	MW-20D (14-16) 7/25/2001	MW-22I (2-4) 4/13/2001	MW-23S (8-10) 4/12/2001	MW-26S (22-23) 4/11/2001
Acetone	0.2	<0.01	<0.01	**0.019**	<0.01	<0.01	<0.01
Benzene	0.06	<0.005	<0.005	<0.005	<0.005	**0.0018J**	**0.006**
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	5.5	<0.005	<0.005	<0.005	<0.005	**0.013**	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.005	**0.009**	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	1.5	<0.005	<0.005	<0.005	**0.0019J**	**0.0005J**	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene, total	1.2	<0.005	<0.005	<0.005	<0.005	**0.0026J**	**0.0011J**
Total VOCs	10	**ND**	**ND**	**0.0190**	**0.00190**	**0.0269**	**0.00710**
Total BTEX	NS	**ND**	**ND**	**ND**	**0.00190**	**0.0179**	**0.00710**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		MW-28I (10-12) 4/20/2001	MW-29I (4-6) 4/16/2001	MW-30D (10-12) 6/4/2001	MW-32D (6-8) 6/4/2001	MW-34D (12-14) 8/20/2001	MW-36D (4-6) 6/3/2002
Acetone	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	0.06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	0.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	5.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	1.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene, total	1.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total VOCs	10	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		MW-36D Duplicate (4-6) 6/3/2002	MW-37D (14-16) 6/7/2002	MW-38D (6-8) 5/23/2002	MW-39D (16-18) 5/30/2002	MW-41D (4-6) 6/4/2002	RH-1S (8-10) 4/13/2001
Acetone	0.2	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Benzene	0.06	<0.005	<0.2	<0.005	<0.005	<0.005	**0.0018J**
Bromodichloromethane	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Bromoform	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Bromomethane	NS	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
2-Butanone	0.3	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Carbon Disulfide	2.7	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Carbon Tetrachloride	0.6	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Chlorobenzene	1.7	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Chloroethane	1.9	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
2-Chloroethylvinylether	NS	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Chloroform	0.3	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Chloromethane	NS	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Dibromochloromethane	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,1-Dichloroethane	0.2	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,2-Dichloroethane	0.1	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,1-Dichloroethene	0.4	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,2-Dichloroethene, total	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,2-Dichloropropane	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
cis-1,3-Dichloropropene	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
trans-1,3-Dichloropropene	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Ethylbenzene	5.5	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
2-Hexanone	NS	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Methylene Chloride	0.1	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
4-Methyl-2-pentanone	1.0	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Tetrachloroethene	1.4	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Toluene	1.5	<0.005	<0.2	<0.005	<0.005	<0.005	**0.0008J**
1,1,1-Trichloroethane	0.8	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
1,1,2-Trichloroethane	NS	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Trichloroethene	0.7	<0.005	<0.2	<0.005	<0.005	<0.005	<0.05
Vinyl Acetate	NS	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Vinyl Chloride	0.2	<0.01	<0.4	<0.01	<0.01	<0.01	<0.1
Xylene, total	1.2	<0.005	<0.2	<0.005	<0.005	<0.005	**0.0043J**
Total VOCs	10	**ND**	**ND**	**ND**	**ND**	**ND**	**0.00690**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**0.00690**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		SB-1 (2-4) 4/2/2001	SB-4 (4-6) 4/2/2001	SB-4A (2-4) 4/2/2001	SB-7 (2-4) 4/2/2001	SB-8 (4-7) 4/2/2001	SB-10 (8-10) 4/4/2001
Acetone	0.2	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Benzene	0.06	<0.005	**0.05**	<0.05	<0.005	<0.005	<0.05
Bromodichloromethane	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Bromoform	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Bromomethane	NS	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
2-Butanone	0.3	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Carbon Disulfide	2.7	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Carbon Tetrachloride	0.6	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Chlorobenzene	1.7	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Chloroethane	1.9	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
2-Chloroethylvinylether	NS	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Chloroform	0.3	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Chloromethane	NS	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Dibromochloromethane	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,1-Dichloroethane	0.2	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,2-Dichloroethane	0.1	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,1-Dichloroethene	0.4	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,2-Dichloroethene, total	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,2-Dichloropropane	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
cis-1,3-Dichloropropene	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
trans-1,3-Dichloropropene	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Ethylbenzene	5.5	<0.005	**0.08**	**0.058**	<0.005	<0.005	**0.09**
2-Hexanone	NS	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Methylene Chloride	0.1	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
4-Methyl-2-pentanone	1.0	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	**0.1**	**0.1**	<0.005	<0.005	<0.05
Tetrachloroethene	1.4	<0.005	<0.05	**0.084**	<0.005	<0.005	<0.05
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Toluene	1.5	<0.005	**0.14**	**0.16**	<0.005	<0.005	<0.05
1,1,1-Trichloroethane	0.8	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
1,1,2-Trichloroethane	NS	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Trichloroethene	0.7	<0.005	<0.05	<0.05	<0.005	<0.005	<0.05
Vinyl Acetate	NS	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Vinyl Chloride	0.2	<0.01	<0.1	<0.1	<0.01	<0.01	<0.1
Xylene, total	1.2	<0.005	**0.62**	**0.4**	<0.005	<0.005	**0.09**
Total VOCs	10	**ND**	**0.990**	**0.802**	**ND**	**ND**	**0.180**
Total BTEX	NS	**ND**	**0.890**	**0.618**	**ND**	**ND**	**0.180**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		SB-11 (6-7) 4/5/2001	SB-12 (2-4) 4/5/2001	SB-14 (2-4) 4/3/2001	SB-15 (4-6) 4/3/2001	SB-16 (4-6) 4/3/2001	SB-17 (2-4) 4/4/2001
Acetone	0.2	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Benzene	0.06	<0.05	<0.005	<0.005	<0.005	<0.005	**8.1**
Bromodichloromethane	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Bromoform	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Bromomethane	NS	<0.1	<0.01	<0.01	<0.01	<0.01	<1
2-Butanone	0.3	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Carbon Disulfide	2.7	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Carbon Tetrachloride	0.6	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Chlorobenzene	1.7	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Chloroethane	1.9	<0.1	<0.01	<0.01	<0.01	<0.01	<1
2-Chloroethylvinylether	NS	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Chloroform	0.3	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Chloromethane	NS	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Dibromochloromethane	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,1-Dichloroethane	0.2	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,2-Dichloroethane	0.1	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,1-Dichloroethene	0.4	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,2-Dichloroethene, total	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,2-Dichloropropane	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
cis-1,3-Dichloropropene	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
trans-1,3-Dichloropropene	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Ethylbenzene	5.5	<0.05	<0.005	<0.005	**0.0019J**	<0.005	**22**
2-Hexanone	NS	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Methylene Chloride	0.1	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
4-Methyl-2-pentanone	1.0	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Tetrachloroethene	1.4	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,1,2,2-Tetrachloroethane	0.6	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Toluene	1.5	<0.05	<0.005	**0.0016J**	**0.001J**	<0.005	**1.4**
1,1,1-Trichloroethane	0.8	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
1,1,2-Trichloroethane	NS	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Trichloroethene	0.7	<0.05	<0.005	<0.005	<0.005	<0.005	<0.5
Vinyl Acetate	NS	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Vinyl Chloride	0.2	<0.1	<0.01	<0.01	<0.01	<0.01	<1
Xylene, total	1.2	<0.05	<0.005	<0.005	**0.005J**	**0.0028J**	**36**
Total VOCs	10	**ND**	**ND**	**0.00160**	**0.00790**	**0.00280**	**67.5**
Total BTEX	NS	**ND**	**ND**	**0.00160**	**0.00790**	**0.00280**	**67.5**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		SB-18 (8-10) 4/4/2001	SB-19 (6-8) 4/4/2001	SB-20 (8-10) 4/5/2001	SB-21 (8-11) 4/4/2001	SB-21 Duplicate (8-11) 4/4/2001	SB-22 (4-6) 4/4/2001
Acetone	0.2	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Benzene	0.06	<0.005	<0.005	<0.005	**0.022J**	**0.43**	**0.044J**
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Bromoform	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Bromomethane	NS	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Chloroform	0.3	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Chloromethane	NS	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Ethylbenzene	5.5	<0.005	<0.005	<0.005	**0.83**	**1.4**	**7.3**
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.05	**0.089**	<0.05
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Toluene	1.5	<0.005	<0.005	<0.005	**0.03J**	**0.21**	**0.12**
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Xylene, total	1.2	<0.005	<0.005	<0.005	**0.72**	**0.25**	**6.2**
Total VOCs	10	**ND**	**ND**	**ND**	**1.60**	**2.38**	**13.7**
Total BTEX	NS	**ND**	**ND**	**ND**	**1.60**	**2.29**	**13.7**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		SB-23 (4-6) 4/3/2001	SB-24 (4-6) 4/3/2001	SB-25 (4-6) 4/3/2001	SB-26 (4-6) 4/2/2001	SB-27 (2-4) 4/2/2001	SB-28 (2-4) 4/5/2001
Acetone	0.2	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Benzene	0.06	**0.0019J**	<0.005	<0.005	<0.05	<0.005	**0.7**
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Bromoform	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Bromomethane	NS	<0.01	<0.01	<0.01	<0.1	<0.01	<1
2-Butanone	0.3	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Carbon Disulfide	2.7	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Carbon Tetrachloride	0.6	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Chlorobenzene	1.7	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Chloroethane	1.9	<0.01	<0.01	<0.01	<0.1	<0.01	<1
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Chloroform	0.3	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Chloromethane	NS	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,1-Dichloroethane	0.2	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,2-Dichloroethane	0.1	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,1-Dichloroethene	0.4	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Ethylbenzene	5.5	**0.014**	<0.005	<0.005	<0.05	<0.005	**11**
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Methylene Chloride	0.1	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
4-Methyl-2-pentanone	1.0	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Methyl-t-Butyl Ether	NS	NA	NA	NA	NA	NA	NA
Styrene	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Tetrachloroethene	1.4	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Toluene	1.5	**0.003J**	<0.005	<0.005	**0.03J**	**0.006**	**1.7**
1,1,1-Trichloroethane	0.8	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Trichloroethene	0.7	<0.005	<0.005	<0.005	<0.05	<0.005	<0.5
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Vinyl Chloride	0.2	<0.01	<0.01	<0.01	<0.1	<0.01	<1
Xylene, total	1.2	**0.009**	<0.005	<0.005	**0.016J**	**0.004J**	**21**
Total VOCs	10	**0.0279**	**ND**	**ND**	**0.0460**	**0.0100**	**34.4**
Total BTEX	NS	**0.0279**	**ND**	**ND**	**0.0460**	**0.0100**	**34.4**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples					
		SB-30 (8-12) 4/5/2001	SB-31 (6-8) 4/5/2001	SB-45 (14-18) 6/20/2001	SB-C1 (4-8) 4/6/2001	SB-C2 (12-14) 4/6/2001	SB-C3 (6-8) 4/6/2001
Acetone	0.2	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Benzene	0.06	<0.005	<0.005	**2.9**	<0.005	<0.005	<0.005
Bromodichloromethane	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	NA	<0.01	<0.01	<0.01
2-Butanone	0.3	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Carbon Disulfide	2.7	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Carbon Tetrachloride	0.6	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Chlorobenzene	1.7	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Chloroethane	1.9	<0.01	<0.01	NA	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Chloroform	0.3	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.2	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.1	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.4	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Ethylbenzene	5.5	<0.005	**0.0011J**	**65**	<0.005	<0.005	<0.005
2-Hexanone	NS	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Methylene Chloride	0.1	<0.005	<0.005	NA	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	1.0	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Methyl-t-Butyl Ether	NS	NA	NA	<2	NA	NA	NA
Styrene	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Tetrachloroethene	1.4	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.6	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Toluene	1.5	<0.005	<0.005	**19**	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	0.8	<0.005	<0.005	NA	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Trichloroethene	0.7	<0.005	<0.005	NA	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Vinyl Chloride	0.2	<0.01	<0.01	NA	<0.01	<0.01	<0.01
Xylene, total	1.2	<0.005	**0.0014J**	**350**	<0.005	<0.005	<0.005
Total VOCs	10	**ND**	**0.00250**	**437**	**ND**	**ND**	**ND**
Total BTEX	NS	**ND**	**0.00250**	**437**	**ND**	**ND**	**ND**

TABLE 7-1

SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Notes:
TCL VOCs Method 8260.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC TAGM 4046)
<: Indicates that the parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
ND: Indicates that the parameter was not detected.
NA: Indicates that the parameter was not analyzed for.
NS: RSCO not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Surface Soil Samples									
		MW-31S (0-2) 5/30/2001	SB-2 (0-2) 4/2/2001	SB-3 (0-2) 4/2/2001	SB-5 (0-2) 4/2/2001	SB-6 (0-2) 4/2/2001	SB-9 (0-2) 4/2/2001	SB-13 (0-2) 4/4/2001	SB-29 (0-2) 4/5/2001	SS-01 (0-0.5) 5/18/2001	SS-02 (0-0.5) 5/18/2001
Acenaphthene	50*	<0.33	**0.063J**	<0.33	<0.33	**0.053J**	**16**	<0.33	<3.3	<0.33	<0.33
Acenaphthylene	41	<0.33	<0.33	<0.33	<0.33	**0.11J**	**5.3**	**0.073J**	**2.5J**	<0.33	<0.33
Anthracene	50*	**0.047J**	**0.18J**	**0.047J**	**0.11J**	**0.33**	**14**	<0.33	**1.7J**	**0.057J**	<0.33
Benzo(a)anthracene	0.224	**0.17J**	**0.76**	**0.3J**	**0.5**	**1**	**9.7**	**0.33**	**33**	**0.11J**	**0.11J**
Benzo(a)pyrene	0.061	**0.18J**	**0.57**	**0.23J**	**0.25J**	**1**	**5**	**0.47**	**18**	**0.097J**	**0.093J**
Benzo(b)fluoranthene	0.224	**0.37**	**1.7**	**0.93**	**1.1**	**2**	**9.7**	<0.33	**53**	**0.18J**	**0.17J**
Benzo(g,h,i)perylene	50*	**0.093J**	**0.73**	**0.33**	**0.37**	**0.97**	**2.3J**	**0.67**	**27**	**0.086J**	**0.097J**
Benzo(k)fluoranthene	0.224	<0.33	<0.33	<0.33	<0.33	<0.33	<3.3	**0.73**	<2.2	**0.067J**	**0.053J**
Chrysene	0.4	**0.17J**	**0.8**	**0.4**	**0.6**	**1.1**	**8**	**0.33**	**41**	**0.14J**	**0.12J**
Dibenzo(a,h)anthracene	0.014	**0.067J**	**0.24J**	**0.14J**	**0.12J**	**0.11J**	**1.2J**	**0.17J**	**13**	<0.33	<0.33
Dibenzofuran	6.2	<0.33	**0.16J**	**0.06J**	**0.09J**	**0.047J**	**19**	<0.33	<3.3	<0.33	<0.33
Fluoranthene	50*	**0.47**	**1**	**0.3J**	**0.6**	**1.4**	**27**	**0.28J**	**27**	**0.29J**	**0.12J**
Fluorene	50*	<0.33	**0.047J**	<0.33	<0.33	**0.13J**	**25**	<0.33	<3.3	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	3.2	**0.083J**	**0.63**	**0.31J**	**0.31J**	**1.1**	**2.3J**	**0.47**	**19**	**0.11J**	**0.097J**
2-Methylnaphthalene	36.4	<0.33	**0.6**	**0.93**	**0.47**	**0.13J**	**16**	**0.053J**	**1.4J**	<0.33	<0.33
Naphthalene	13	<0.33	**1.1**	**1.2**	**0.93**	**0.13J**	**19**	**0.093J**	**2.2J**	<0.33	<0.33
Phenanthrene	50*	**0.26J**	**1.1**	**0.29J**	**0.52**	**2**	**51**	**0.06J**	**8.6**	**0.18J**	**0.083J**
Pyrene	50*	**0.47**	**1.8**	**0.67**	**1.3**	**4.2**	**22**	**0.63**	**73**	**0.24J**	**0.18J**
Total SVOCs (PAHs)	500	**2.38**	**11.5**	**6.14**	**7.27**	**15.8**	**253**	**4.36**	**320**	**1.56**	**1.12**
Total CPAHs	NS	**1.04**	**4.70**	**2.31**	**2.88**	**6.31**	**35.9**	**2.50**	**177**	**0.704**	**0.643**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Surface Soil Samples						Subsurface Soil Samples			
Parameter (mg/kg)	**NYSDEC RSCO[1] (mg/kg)**	**SS-03 (0-0.5) 5/18/2001**	**SS-04 (0-0.5) 5/18/2001**	**SS-05 (0-0.5) 5/18/2001**	**SS-06 (0-0.5) 5/18/2001**	**SS-07 (0-0.5) 5/18/2001**	**SS-08 (0-0.5) 5/18/2001**	**MW-1D (8-10) 5/15/2002**	**MW-2I (7-9) 4/17/2001**	**MW-10I (14-16) 4/12/2001**	**MW-12S (24-26) 4/10/2001**
Acenaphthene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.5**	**2.7**
Acenaphthylene	41	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.27J**	**0.29J**
Anthracene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**1.6**	**0.7**
Benzo(a)anthracene	0.224	**0.11J**	<0.33	<0.33	**0.063J**	**0.05**	**0.04**	<0.33	<0.33	**2.8**	**0.26J**
Benzo(a)pyrene	0.061	**0.1J**	<0.33	<0.33	**0.06J**	**0.05**	**0.033**	<0.33	<0.33	**1.1**	**0.24J**
Benzo(b)fluoranthene	0.224	**0.17J**	<0.33	<0.33	**0.1J**	**0.073J**	**0.053**	<0.33	<0.33	**3**	**0.17J**
Benzo(g,h,i)perylene	50*	**0.083J**	<0.33	<0.33	**0.043J**	**0.033**	<0.33	<0.33	<0.33	**1.5**	**0.09J**
Benzo(k)fluoranthene	0.224	**0.057J**	<0.33	<0.33	**0.057J**	<0.33	<0.33	<0.33	<0.33	**1.1**	**0.1J**
Chrysene	0.4	**0.11J**	<0.33	<0.33	**0.077J**	**0.05J**	**0.043**	<0.33	<0.33	**3.1**	**0.22J**
Dibenzo(a,h)anthracene	0.014	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.3J**	<0.33
Dibenzofuran	6.2	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.1J**	**0.17J**
Fluoranthene	50*	**0.15J**	**0.05J**	<0.33	**0.077J**	**0.06J**	**0.047**	<0.33	<0.33	**3.9**	**0.6**
Fluorene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.6**	**1.3**
Indeno(1,2,3-cd)pyrene	3.2	**0.11J**	<0.33	<0.33	**0.04J**	**0.053**	**0.043**	<0.33	<0.33	**1.6**	**0.11J**
2-Methylnaphthalene	36.4	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.57**	**0.28J**
Naphthalene	13	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.86**	**1.6**
Phenanthrene	50*	**0.076J**	<0.33	<0.33	**0.037J**	**0.04J**	<0.33	<0.33	**0.053J**	**4.4**	**3.3**
Pyrene	50*	**0.19J**	**0.053J**	**0.037J**	**0.086J**	**0.077J**	**0.067**	<0.33	**0.033J**	**9**	**0.97**
Total SVOCs (PAHs)	500	**1.16**	**0.103**	**0.0370**	**0.640**	**0.486**	**0.326**	**ND**	**0.0860**	**36.3**	**13.1**
Total CPAHs	NS	**0.657**	**ND**	**ND**	**0.397**	**0.276**	**0.212**	**ND**	**ND**	**13**	**1.10**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Subsurface Soil Samples									
Parameter (mg/kg)	**NYSDEC RSCO[1] (mg/kg)**	**MW-14S (24-25) 4/9/2001**	**MW-15S (6-8) 4/12/2001**	**MW-17I (20-21) 4/23/2001**	**MW-19I (4-6) 4/24/2001**	**MW-20D (14-16) 7/25/2001**	**MW-22I (2-4) 4/13/2001**	**MW-23S (8-10) 4/12/2001**	**MW-26S (22-23) 4/11/2001**	**MW-28I (10-12) 4/20/2001**	**MW-29I (4-6) 4/16/2001**
Acenaphthene	50*	**2**	**0.16J**	<0.33	<0.33	<0.33	<0.33	**1.2**	**0.11J**	**0.12J**	**0.053J**
Acenaphthylene	41	**0.47**	**0.08J**	<0.33	<0.33	<0.33	**0.11J**	**0.93**	<0.33	**0.4**	**0.24J**
Anthracene	50*	<0.33	**0.14J**	<0.33	**0.11J**	<0.33	**0.063J**	**0.3J**	<0.33	**0.09J**	**0.28J**
Benzo(a)anthracene	0.224	<0.33	**0.13J**	<0.33	**0.11J**	<0.33	**0.57**	**0.82**	<0.33	**0.47**	**0.24J**
Benzo(a)pyrene	0.061	<0.33	**0.13J**	<0.33	<0.33	<0.33	**0.7**	**2**	<0.33	**0.33**	**0.2J**
Benzo(b)fluoranthene	0.224	<0.33	**0.32J**	<0.33	**0.18J**	**0.37**	**1.3**	**1.6**	<0.33	**1**	**0.15J**
Benzo(g,h,i)perylene	50*	<0.33	**0.17J**	<0.33	**0.11J**	<0.33	**0.77**	**2.1**	<0.33	**1.5**	**0.11J**
Benzo(k)fluoranthene	0.224	<0.33	<0.33	<0.33	**0.07J**	<0.33	<0.33	**0.83**	<0.33	**0.5**	**0.07J**
Chrysene	0.4	<0.33	**0.17J**	<0.33	**0.19J**	<0.33	**0.5**	**1.1**	<0.33	**0.47**	**0.18J**
Dibenzo(a,h)anthracene	0.014	<0.33	<0.33	<0.33	<0.33	<0.33	**0.19J**	<0.33	<0.33	**0.18J**	<0.33
Dibenzofuran	6.2	<0.33	<0.33	<0.33	**0.053J**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	50*	<0.33	**0.27J**	<0.33	**0.15J**	**0.47**	**0.67**	**1.4**	**0.047J**	**0.43**	**0.5**
Fluorene	50*	**0.086J**	**0.08J**	<0.33	<0.33	<0.33	<0.33	**0.93**	**0.037J**	**0.093J**	**0.25J**
Indeno(1,2,3-cd)pyrene	3.2	<0.33	**0.13J**	<0.33	**0.093J**	<0.33	**0.53**	**1.5**	<0.33	**1.3**	**0.09J**
2-Methylnaphthalene	36.4	**0.27J**	**0.47**	<0.33	**0.18J**	<0.33	**0.067J**	**0.31J**	**0.14J**	**0.09J**	**0.07J**
Naphthalene	13	**0.33**	**0.5**	<0.33	**0.13J**	<0.33	**0.13J**	**0.23J**	**0.4**	**0.33J**	**0.06J**
Phenanthrene	50*	<0.33	**0.43**	<0.33	**0.28J**	<0.33	**0.33**	**0.6**	**0.16J**	**0.2J**	**1.3**
Pyrene	50*	<0.33	**0.47**	<0.33	**0.16J**	**0.43**	**1.7**	**2.8**	**0.093J**	**0.83**	**0.77**
Total SVOCs (PAHs)	500	**3.16**	**3.65**	**ND**	**1.82**	**1.27**	**7.63**	**18.7**	**0.987**	**8.33**	**4.56**
Total CPAHs	NS	**ND**	**0.880**	**ND**	**0.643**	**0.37**	**3.79**	**7.85**	**ND**	**4.25**	**0.930**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples									
		MW-30D (10-12) 6/4/2001	MW-32D (6-8) 6/4/2001	MW-34D (12-14) 8/20/2001	MW-36D (4-6) 6/3/2002	MW-36D Duplicate (4-6) 6/3/2002	MW-37D (14-16) 6/7/2002	MW-38D (6-8) 5/23/2002	MW-39D (16-18) 5/30/2002	MW-41D (4-6) 6/4/2002	RH-1S (8-10) 4/13/2001
Acenaphthene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.16J**
Acenaphthylene	41	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.17J**
Anthracene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.25J**
Benzo(a)anthracene	0.224	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.13J**
Benzo(a)pyrene	0.061	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.17J**
Benzo(b)fluoranthene	0.224	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.17J**
Benzo(g,h,i)perylene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.224	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chrysene	0.4	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.1J**
Dibenzo(a,h)anthracene	0.014	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	6.2	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.037J**
Fluoranthene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.32J**
Fluorene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.15J**
Indeno(1,2,3-cd)pyrene	3.2	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Methylnaphthalene	36.4	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.31J**
Naphthalene	13	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.33**
Phenanthrene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.8**
Pyrene	50*	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.6**
Total SVOCs (PAHs)	500	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**3.70**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.570**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Subsurface Soil Samples									
Parameter (mg/kg)	**NYSDEC RSCO[1] (mg/kg)**	**SB-1 (2-4) 4/2/2001**	**SB-4 (4-6) 4/2/2001**	**SB-4A (2-4) 4/2/2001**	**SB-7 (2-4) 4/2/2001**	**SB-8 (4-7) 4/2/2001**	**SB-10 (8-10) 4/4/2001**	**SB-11 (6-7) 4/5/2001**	**SB-12 (2-4) 4/5/2001**	**SB-14 (2-4) 4/3/2001**	**SB-15 (4-6) 4/3/2001**
Acenaphthene	50*	**0.1J**	**6J**	<330	<0.33	<0.33	**2.7**	<0.33	<0.33	**1.9**	**0.6**
Acenaphthylene	41	**0.033J**	<33	**0.067J**	<0.33	<0.33	**0.19J**	<0.33	<0.33	**1.5**	**0.43**
Anthracene	50*	**0.25J**	<33	**50J**	**0.047J**	<0.33	**0.1**	<0.33	<0.33	**1.1**	**0.4**
Benzo(a)anthracene	0.224	**1.4**	**5.3J**	**430**	**0.25J**	<0.33	**0.37**	<0.33	<0.33	**1.6**	**0.3J**
Benzo(a)pyrene	0.061	**0.73**	<33	**290J**	**0.23J**	<0.33	**0.27J**	<0.33	<0.33	**5.3**	**0.4**
Benzo(b)fluoranthene	0.224	**2.5**	**5.3J**	**1600**	**0.73**	<0.33	<0.33	<0.33	<0.33	**4.2**	**0.33**
Benzo(g,h,i)perylene	50*	**0.8**	<33	**900**	**0.24J**	<0.33	**0.1J**	<0.33	<0.33	**7.1**	**1.1**
Benzo(k)fluoranthene	0.224	<0.33	<33	<330	<0.33	<0.33	**0.22J**	<0.33	<0.33	**1.3**	**0.11J**
Chrysene	0.4	**1.6**	**5.3J**	**670**	**0.4**	<0.33	**0.28J**	<0.33	<0.33	**2.1**	**0.3J**
Dibenzo(a,h)anthracene	0.014	**0.12J**	<33	**470**	<0.33	<0.33	<0.33	<0.33	<0.33	**0.93**	**0.06J**
Dibenzofuran	6.2	**0.43**	<33	<330	<0.33	<0.33	**0.4**	<0.33	<0.33	**0.4J**	**0.063J**
Fluoranthene	50*	**1.7**	**13J**	**270J**	**0.33**	<0.33	**0.93**	<0.33	<0.33	**2.1**	**0.6**
Fluorene	50*	**0.076J**	**11J**	<330	<0.33	<0.33	**0.11**	<0.33	<0.33	**1.9**	**0.5**
Indeno(1,2,3-cd)pyrene	3.2	**0.73**	<33	**670**	**0.2J**	<0.33	**0.086J**	<0.33	<0.33	**7.1**	**0.57**
2-Methylnaphthalene	36.4	**1.5**	**300**	**970**	**0.12J**	<0.33	**3.9**	<0.33	<0.33	**1.4**	**1.8**
Naphthalene	13	**2.4**	**460**	**2.2**	**0.083J**	<0.33	**1.9**	<0.33	<0.33	**3.7**	**1**
Phenanthrene	50*	**1.9**	**40**	**250J**	**0.4**	<0.33	**0.32**	<0.33	<0.33	**3.3**	**1.5**
Pyrene	50*	**3.8**	**24J**	**930**	**0.97**	<0.33	**1.4**	<0.33	<0.33	**3.9**	**1.1**
Total SVOCs (PAHs)	500	**20.1**	**870**	**7500**	**4.00**	**ND**	**13.3**	**ND**	**ND**	**50.8**	**11.2**
Total CPAHs	NS	**7.08**	**15.9**	**4,130**	**1.81**	**ND**	**1.23**	**ND**	**ND**	**22.5**	**2.07**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples									
		SB-16 (4-6) 4/3/2001	SB-17 (2-4) 4/4/2001	SB-18 (8-10) 4/4/2001	SB-19 (6-8) 4/4/2001	SB-20 (8-10) 4/5/2001	SB-21 (8-11) 4/4/2001	SB-21 Duplicate (8-11) 4/4/2001	SB-22 (4-6) 4/4/2001	SB-23 (4-6) 4/3/2001	SB-24 (4-6) 4/3/2001
Acenaphthene	50*	<0.33	**26J**	<0.33	<0.33	<0.33	**1.9**	**4.4**	**56**	**1.8**	**0.53**
Acenaphthylene	41	<0.33	**8J**	**0.4**	<0.33	<0.33	**0.16J**	**0.26J**	**4.3**	**0.9**	**0.086J**
Anthracene	50*	<0.33	**97**	**0.14J**	<0.33	<0.33	**1.5**	**2.9**	**26**	**0.37**	**0.28J**
Benzo(a)anthracene	0.224	**0.08J**	**40**	**2.1**	<0.33	**0.067J**	**0.87**	**1.9**	**19**	**0.5**	**0.2J**
Benzo(a)pyrene	0.061	**0.12J**	**40**	**2.5**	<0.33	<0.33	**0.67**	**1.6**	**18**	**1.3**	**0.19J**
Benzo(b)fluoranthene	0.224	**0.14J**	<33	<0.33	<0.33	**0.04J**	<0.33	<0.66	<3.3	**0.73**	**0.15J**
Benzo(g,h,i)perylene	50*	**0.16J**	**15J**	**5**	<0.33	<0.33	**0.29J**	**0.43J**	**6.3**	**3.8**	**0.19J**
Benzo(k)fluoranthene	0.224	**0.037J**	**33**	**2.8**	<0.33	**0.053J**	**0.67**	**1**	**12**	**0.67**	**0.066J**
Chrysene	0.4	**0.093J**	**60**	**1.3**	<0.33	**0.067J**	**0.77**	**2.1**	**16**	**0.73**	**0.19J**
Dibenzo(a,h)anthracene	0.014	<0.33	<33	**1.2**	<0.33	<0.33	**0.06J**	**0.21J**	**2.3J**	**0.26J**	<0.33
Dibenzofuran	6.2	<0.33	**10J**	<0.33	**0.063J**	<0.33	**0.13J**	**0.25J**	**4**	**0.093J**	**0.086J**
Fluoranthene	50*	**0.093J**	**120**	**1.2**	<0.33	**0.17J**	**1.9**	**4.1**	**38**	**0.63**	**0.4**
Fluorene	50*	<0.33	**100**	**0.11J**	<0.33	<0.33	**1.3**	**2.8**	**27**	**0.63**	**0.12J**
Indeno(1,2,3-cd)pyrene	3.2	**0.13J**	**24J**	**3.2**	<0.33	<0.33	**0.22J**	**0.61J**	**5.3**	**1.6**	**0.13J**
2-Methylnaphthalene	36.4	**0.05J**	**290**	**0.23J**	**0.063J**	<0.33	**2.9**	**6.1**	**48**	**0.1J**	**0.37**
Naphthalene	13	**0.12J**	**540**	**0.19J**	**0.23J**	<0.33	**3.5**	**7.9**	**110**	**4.1**	**1.2**
Phenanthrene	50*	**0.057J**	**330**	**0.8**	**0.047J**	**0.097J**	**4.4**	**10**	**91**	**0.77**	**1.1**
Pyrene	50*	**0.13J**	**210**	**2.9**	<0.33	**0.12J**	**2.5**	**6.3**	**55**	**1.4**	**0.5**
Total SVOCs (PAHs)	500	**1.21**	**1940**	**24.1**	**0.403**	**0.614**	**23.7**	**52.9**	**538**	**20.4**	**5.79**
Total CPAHs	NS	**0.600**	**197**	**13.1**	**ND**	**0.227**	**3.26**	**7.42**	**72.6**	**5.79**	**0.926**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-2

SUMMARY OF SOIL ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Subsurface Soil Samples								
		SB-25 (4-6) 4/3/2001	SB-26 (4-6) 4/2/2001	SB-27 (2-4) 4/2/2001	SB-28 (2-4) 4/5/2001	SB-30 (8-12) 4/5/2001	SB-31 (6-8) 4/5/2001	SB-C1 (4-8) 4/6/2001	SB-C2 (12-14) 4/6/2001	SB-C3 (6-8) 4/6/2001
Acenaphthene	50*	**4.7**	<0.33	<0.33	**6.8**	<0.33	<0.33	<0.33	<0.33	<1.3
Acenaphthylene	41	**0.5J**	**0.043J**	<0.33	**0.8**	**0.24J**	<0.33	**0.1J**	<0.33	<1.3
Anthracene	50*	**7.8**	**0.13J**	**0.04J**	**3.5**	<0.33	<0.33	<0.33	<0.33	**4.3**
Benzo(a)anthracene	0.224	**2.7**	**1**	**0.18J**	**3.1**	**0.22J**	**0.053J**	**0.29J**	<0.33	**8**
Benzo(a)pyrene	0.061	**2.2**	**1**	**0.17J**	**3.1**	**1.8**	<0.33	**0.17J**	<0.33	**7.7**
Benzo(b)fluoranthene	0.224	**1.4J**	**2**	**0.37**	**2.8**	**1.4**	**0.073J**	**0.47**	<0.33	**9.5**
Benzo(g,h,i)perylene	50*	**0.9J**	**0.93**	**0.12J**	**1.7**	**2.7**	<0.33	**0.25J**	<0.33	**4.4**
Benzo(k)fluoranthene	0.224	**0.47J**	<0.33	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33	**3.6**
Chrysene	0.4	**2.2**	**1.3**	**0.23J**	**2.8**	**0.32J**	**0.06J**	**0.4**	<0.33	**8.9**
Dibenzo(a,h)anthracene	0.014	**0.18J**	**0.29J**	<0.33	**0.46J**	**0.31J**	<0.33	**0.093J**	<0.33	**0.86J**
Dibenzofuran	6.2	**1.2J**	**0.083J**	<0.33	**0.45J**	<0.33	<0.33	<0.33	<0.33	**0.16J**
Fluoranthene	50*	**5.7**	**1.7**	**0.37**	**5.7**	**0.1J**	**0.096J**	**0.73**	<0.33	**14**
Fluorene	50*	**4.3**	**0.09J**	<0.33	**3.5**	<0.33	<0.33	<0.33	<0.33	**0.55J**
Indeno(1,2,3-cd)pyrene	3.2	**1.1J**	**0.77**	**0.1J**	**1.2**	**1.7**	<0.33	**0.22J**	<0.33	**4.8**
2-Methylnaphthalene	36.4	**1J**	**0.31J**	<0.33	**5.5**	<0.33	**0.037J**	**0.16J**	<0.33	<1.3
Naphthalene	13	<1.6	**0.26J**	**0.037J**	**7.7**	<0.33	**0.086J**	**0.12J**	<0.33	**0.15J**
Phenanthrene	50*	**23**	**1.1**	**0.24J**	**12**	<0.33	**0.15J**	**1**	<0.33	**11**
Pyrene	50*	**11**	**2.5**	**0.43**	**8.4**	**0.31J**	**0.096J**	**0.6**	<0.33	**12**
Total SVOCs (PAHs)	500	**70.4**	**13.5**	**2.29**	**69.5**	**9.10**	**0.651**	**4.60**	**ND**	**89.9**
Total CPAHs	NS	**10.25**	**6.36**	**1.05**	**13.5**	**5.75**	**0.186**	**1.64**	**ND**	**43.4**

Notes:
SVOCs (PAHs only) Method 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
J: Indicates an estimated concentration.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
NS: RSCO not established.
*: As per TAGM 4046, Individual SVOCs <50 mg/kg.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-3

SUMMARY OF SOIL ANALYTICAL RESULTS
POLYCHLORINATED BIPHENYLS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC RSCO[1] (mg/kg)	Surface Soil Samples		
		SS-06 (0-0.5) 5/18/2001	SS-07 (0-0.5) 5/18/2001	SS-08 (0-0.5) 5/18/2001
Aroclor 1232	NS	<1	<1	<1
Aroclor 1242	NS	<1	<1	<1
Aroclor 1248	NS	<1	<1	<1
Aroclor 1254	NS	<1	<1	<1
Aroclor 1260	NS	<1	<1	<1
Total PCBs	1.0	**ND**	**ND**	**ND**

Notes:
PCBs EPA 8082.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
Surface Soil: 1 ppm, Subsurface Soil: 10 ppm. RSCO refers to the sum of these substances.
NS: RSCO not established.

TABLE 7-4

SUMMARY OF SOIL ANALYTICAL RESULTS
METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	RSCO[1] (mg/kg)	Eastern USA Background Concentration (mg/kg)	Surface Soil Samples			Subsurface Soil Samples				
			SS-06 (0-0.5) 5/18/2001	SS-07 (0-0.5) 5/18/2001	SS-08 (0-0.5) 5/18/2001	MW-2I (7-9) 4/17/2001	MW-15S (6-8) 4/12/2001	MW-22I (2-4) 4/13/2001	MW-26S (22-23) 4/11/2001	MW-30D (10-12) 6/4/2001
Arsenic	7.5 or SB	3-12	**0.75**	**5.7**	**4.57**	<0.25	<0.25	<0.25	<0.25	<0.25
Barium	300 or SB	15-600	**28**	**20.2**	**15.9**	**78**	**28**	**79**	**27**	**32**
Cadmium	1	0.1-1.0	<0.25	**0.98**	**0.76**	<0.25	<0.25	<0.25	<0.25	<0.25
Chromium	10	1.5-40	**11.5**	**6.7**	**3.96**	**15.1**	**7.44**	**15.3**	**16.6**	**14.5**
Copper	25 or SB	1-50	**27**	**18.5**	**13.2**	**29.6**	**15**	**21**	**35**	**18**
Iron	2,000 or SB	2,000-550,000	**7100**	**4760**	**3530**	**22600**	**5815**	**9885**	**23430**	**9150**
Lead	SB	200-500	**15.5**	**21**	**10.8**	**9.5**	**17.7**	**14.5**	**12.3**	**6.48**
Manganese	SB	50-5,000	**308**	**231**	**166**	**270**	**205**	**512**	**365**	**205**
Mercury	0.1	0.001-0.2	**0.05**	**0.03**	**0.02**	**0.16**	<0.02	**0.11**	**0.03**	**0.031**
Nickel	13 or SB	0.5-25	**14**	**7.15**	**4.52**	**16.6**	**7.6**	**19**	**20**	**9.2**
Selenium	2 or SB	0.1-3.9	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Silver	SB	NB	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	150 or SB	1-300	**9.5**	**237**	**4.25**	**12.6**	**4**	**8.8**	**6.3**	**9.8**
Zinc	20 or SB	9-50	**50**	**61.5**	**63.5**	**39.4**	**29**	**70**	**81**	**39**

Notes:
Metals 6010.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
SB: Background Concentration.
NB: Background Concentration not available.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-4

SUMMARY OF SOIL ANALYTICAL RESULTS
METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	RSCO[1] (mg/kg)	Eastern USA Background Concentration (mg/kg)	Subsurface Soil Samples							
			SB-10 (8-10) 4/4/2001	SB-11 (6-7) 4/5/2001	SB-12 (2-4) 4/5/2001	SB-15 (4-6) 4/3/2001	SB-17 (2-4) 4/4/2001	SB-22 (4-6) 4/4/2001	SB-24 (4-6) 4/3/2001	SB-25 (4-6) 4/3/2001
Arsenic	7.5 or SB	3-12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Barium	300 or SB	15-600	**42**	**103**	**39**	**39**	**53**	**27.8**	**45**	**71**
Cadmium	1	0.1-1.0	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Chromium	10	1.5-40	**20.8**	**25.3**	**16.3**	**17**	**30.8**	**20.1**	**30**	**21**
Copper	25 or SB	1-50	**38**	**46**	**26**	**23**	**49.2**	**41.7**	**38**	**37**
Iron	2,000 or SB	2,000-550,000	**33200**	**30880**	**14075**	**17820**	**21000**	**21800**	**31925**	**17340**
Lead	SB	200-500	**14.5**	**17.9**	**13.8**	**11**	**2680**	**18.5**	**11**	**46**
Manganese	SB	50-5,000	**343**	**608**	**384**	**258**	**233**	**294**	**543**	**280**
Mercury	0.1	0.001-0.2	**0.04**	**0.03**	**0.02**	**0.04**	**0.04**	**0.04**	**0.03**	**0.04**
Nickel	13 or SB	0.5-25	**28.7**	**46**	**19**	<2.5	**16.1**	**23.8**	<2.5	<2.5
Selenium	2 or SB	0.1-3.9	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Silver	SB	NB	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	150 or SB	1-300	**14**	**15**	**11**	**7.6**	**20.1**	**14**	**11**	**9.4**
Zinc	20 or SB	9-50	**55.8**	**96**	**52**	**49**	**86.5**	**60**	**82**	**82**

Notes:
Metals 6010.
<: Indicates that the parameter was not detected at the quantitation limit shown.
ND: Indicates that the parameter was not detected.
1. RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
SB: Background Concentration.
NB: Background Concentration not available.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-5

SUMMARY OF SOIL ANALYTICAL RESULTS
TOTAL PHENOLS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Total Phenols (mg/kg)
NYSDEC RSCO			**0.03**
Surface Soil Samples			
MW-31S	(0-2)	5/30/2001	**0.3**
SB-2	(0-2)	4/2/2001	**0.6**
SB-3	(0-2)	4/2/2001	<0.2
SB-5	(0-2)	4/2/2001	<0.2
SB-6	(0-2)	4/2/2001	**0.4**
SB-9	(0-2)	4/2/2001	<0.2
SB-13	(0-2)	4/4/2001	**0.2**
SB-29	(0-2)	4/5/2001	<0.2
SS-06	(0-0.5)	5/18/2001	<0.7
SS-07	(0-0.5)	5/18/2001	<0.2
SS-08	(0-0.5)	5/18/2001	**0.6**
Subsurface Soil Samples			
MW-1D	(8-10)	5/15/2002	<0.1
MW-2I	(7-9)	4/17/2001	<0.2
MW-10I	(14-16)	4/12/2001	**0.5**
MW-12S	(24-26)	4/10/2001	<0.2
MW-14S	(24-25)	4/9/2001	<0.2
MW-15S	(6-8)	4/12/2001	<0.2
MW-17I	(20-21)	4/23/2001	<2
MW-19I	(4-6)	4/24/2001	<2
MW-20D	(14-16)	7/25/2001	<0.1
MW-22I	(2-4)	4/13/2001	<0.02
MW-23S	(8-10)	4/12/2001	**0.3**
MW-26S	(22-23)	4/11/2001	<0.2
MW-28I	(10-12)	4/20/2001	<2
MW-29I	(4-6)	4/16/2001	<0.2
MW-30D	(10-12)	6/4/2001	<0.2
MW-32D	(6-8)	6/4/2001	<0.2
MW-34D	(12-14)	8/20/2001	<0.02
MW-36D	(4-6)	6/3/2002	<0.1
MW-36D Duplicate	(4-6)	6/3/2002	<0.1
MW-37D	(14-16)	6/7/2002	<0.1
MW-38D	(6-8)	5/23/2002	<0.1
MW-39D	(16-18)	5/30/2002	<0.1
MW-41D	(4-6)	6/4/2002	<0.1
RH-1S	(8-10)	4/13/2001	<0.02
SB-1	(2-4)	4/2/2001	**0.5**

TABLE 7-5

SUMMARY OF SOIL ANALYTICAL RESULTS
TOTAL PHENOLS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Total Phenols (mg/kg)
NYSDEC RSCO			**0.03**
SB-4	(4-6)	4/2/2001	**1.9**
SB-4A	(2-4)	4/2/2001	<0.2
SB-7	(2-4)	4/2/2001	<0.2
SB-8	(4-7)	4/2/2001	<0.2
SB-10	(8-10)	4/4/2001	<0.2
SB-11	(6-7)	4/5/2001	<0.2
SB-12	(2-4)	4/5/2001	<0.2
SB-14	(2-4)	4/3/2001	<0.2
SB-15	(4-6)	4/3/2001	<0.2
SB-16	(4-6)	4/3/2001	<0.2
SB-17	(2-4)	4/4/2001	**3.5**
SB-18	(8-10)	4/4/2001	<0.2
SB-19	(6-8)	4/4/2001	<0.2
SB-20	(8-10)	4/5/2001	<0.2
SB-21	(8-11)	4/4/2001	<0.2
SB-21 Duplicate	(8-11)	4/4/2001	**0.03**
SB-22	(4-6)	4/4/2001	**0.4**
SB-23	(4-6)	4/3/2001	<0.2
SB-24	(4-6)	4/3/2001	<0.2
SB-25	(4-6)	4/3/2001	<0.2
SB-26	(4-6)	4/2/2001	<0.2
SB-27	(2-4)	4/2/2001	<0.2
SB-28	(2-4)	4/5/2001	**1.72**
SB-30	(8-12)	4/5/2001	<0.2
SB-31	(6-8)	4/5/2001	<0.2
SB-C1	(4-8)	4/6/2001	<0.2
SB-C2	(12-14)	4/6/2001	<0.2
SB-C3	(6-8)	4/6/2001	<0.2

Notes:
Total Phenols EPA 9065/420.1
<: Indicates that the parameter was not detected at the quantitation limit shown.
feet bgs: Feet Below Ground Surface.
RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC RSCO.

TABLE 7-6

SUMMARY OF SOIL ANALYTICAL RESULTS
CYANIDE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Cyanide, Total (mg/kg)	Cyanide, Free (weak & dissociated) (mg/kg)
Surface Soil Samples				
MW-31S	(0-2)	5/30/2001	<1	<1
SB-2	(0-2)	4/2/2001	<1	<1
SB-3	(0-2)	4/2/2001	<1	<1
SB-5	(0-2)	4/2/2001	<1	<1
SB-6	(0-2)	4/2/2001	<1	<1
SB-9	(0-2)	4/2/2001	<1	<1
SB-13	(0-2)	4/4/2001	<1	<1
SB-29	(0-2)	4/5/2001	<1	<1
SS-01	(0-0.5)	5/18/2001	<1	<1
SS-02	(0-0.5)	5/18/2001	<1	<1
SS-03	(0-0.5)	5/18/2001	<1	<1
SS-04	(0-0.5)	5/18/2001	<1	<1
SS-05	(0-0.5)	5/18/2001	<1	<1
SS-06	(0-0.5)	5/18/2001	<1	<1
SS-07	(0-0.5)	5/18/2001	<1	<1
SS-08	(0-0.5)	5/18/2001	<1	<1
Subsurface Soil Samples				
MW-1D	(8-10)	5/15/2002	<1	<1
MW-2I	(7-9)	4/17/2001	<1	<1
MW-10I	(14-16)	4/12/2001	<1	<1
MW-12S	(24-26)	4/10/2001	<1	<1
MW-14S	(24-25)	4/9/2001	<1	<1
MW-15S	(6-8)	4/12/2001	<1	<1
MW-17I	(20-21)	4/23/2001	<1	<1
MW-19I	(4-6)	4/24/2001	<1	<1
MW-20D	(14-16)	7/25/2001	<1	<1
MW-22I	(2-4)	4/13/2001	<1	<1
MW-23S	(8-10)	4/12/2001	<1	<1
MW-26S	(22-23)	4/11/2001	<1	<1
MW-28I	(10-12)	4/20/2001	<1	<1
MW-29I	(4-6)	4/16/2001	<1	<1
MW-30D	(10-12)	6/4/2001	<1	<1
MW-32D	(6-8)	6/4/2001	<1	<1
MW-34D	(12-14)	8/20/2001	<1	<1
MW-36D	(4-6)	6/3/2002	<1	<1
MW-36D Duplicate	(4-6)	6/3/2002	<1	<1
MW-37D	(14-16)	6/7/2002	<1	<1
MW-38D	(6-8)	5/23/2002	<1	<1
MW-39D	(16-18)	5/30/2002	<1	<1
MW-41D	(4-6)	6/4/2002	<1	<1

TABLE 7-6

SUMMARY OF SOIL ANALYTICAL RESULTS
CYANIDE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Depth (feet bgs)	Date	Cyanide, Total (mg/kg)	Cyanide, Free (weak & dissociated) (mg/kg)
RH-1S	(8-10)	4/13/2001	<1	<1
SB-1	(2-4)	4/2/2001	<1	<1
SB-4	(4-6)	4/2/2001	**9.5**	**2.2**
SB-4A	(2-4)	4/2/2001	<1	<1
SB-7	(2-4)	4/2/2001	<1	<1
SB-8	(4-7)	4/2/2001	<1	<1
SB-10	(8-10)	4/4/2001	<1	<1
SB-11	(6-7)	4/5/2001	<1	<1
SB-12	(2-4)	4/5/2001	<1	<1
SB-14	(2-4)	4/3/2001	<1	<1
SB-15	(4-6)	4/3/2001	<1	<1
SB-16	(4-6)	4/3/2001	<1	<1
SB-17	(2-4)	4/4/2001	**19**	**2.2**
SB-18	(8-10)	4/4/2001	<1	<1
SB-19	(6-8)	4/4/2001	<1	<1
SB-20	(8-10)	4/5/2001	<1	<1
SB-21	(8-11)	4/4/2001	<1	<1
SB-21 Duplicate	(8-11)	4/4/2001	<1	<1
SB-22	(4-6)	4/4/2001	<1	<1
SB-23	(4-6)	4/3/2001	<1	<1
SB-24	(4-6)	4/3/2001	<1	<1
SB-25	(4-6)	4/3/2001	<1	<1
SB-26	(4-6)	4/2/2001	<1	<1
SB-27	(2-4)	4/2/2001	<1	<1
SB-28	(2-4)	4/5/2001	<1	<1
SB-30	(8-12)	4/5/2001	<1	<1
SB-31	(6-8)	4/5/2001	<1	<1
SB-C1	(4-8)	4/6/2001	<1	<1
SB-C2	(12-14)	4/6/2001	<1	<1
SB-C3	(6-8)	4/6/2001	<1	<1

Notes:
Cyanide (total, amenable) EPA 9012/335.3
Cyanide (weak & dissociable) SM4500I
<: Indicates that the parameter was not detected at the quantitation limit shown.
feet bgs: Feet Below Ground Surface.
The NYSDEC RSCO for total cyanide is not established.
RSCO: Recommended Soil Cleanup Objective (NYSDEC, TAGM 4046, April 1995)
BOLD concentrations indicate values detected above the reporting limit.

TABLE 7-7

SUMMARY OF SOIL ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS
AND PETROLEUM IDENTIFICATION

NYSEG
MECHANICVILLE, NEW YORK

Parameter	SB-45 (14-18) 6/20/2001
Total Petroleum Hydrocarbons (mg/kg)	<10
Gasoline	TRUE

Notes:
TPH 8015.
Petroleum Identification 311.10.
<: Indicates that the parameter was not detected
at the quantitation limit shown.

TABLE 7-8

SUMMARY OF SOIL ANALYTICAL RESULTS
HEAT VALUE

NYSEG
MECHANICVILLE, NEW YORK

Parameter (BTU/lb)	MW-2I (7-9) 4/17/2001	MW-19I (0-2) 4/24/2001	MW-29I (0-2) 4/16/2001	MW-29I (4-6) 4/16/2001	SB-16 (8-12) 4/3/2001	SB-18 (12-16) 4/4/2001
Heat Value	<1000	<1000	<1000	<1000	<1000	<1000

Notes:
BTU ASTM D240.
<: Indicates that the parameter was not detected at the quantitation limit shown.

TABLE 7-9

SUMMARY OF SOIL ANALYTICAL RESULTS
TOXICITY CHARACTERISTIC LEACHATE PROCEDURE

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	EPA Toxicity Characteristic Level[1] (µg/L)	SB-17 (2-4) 4/4/2001
Volatile Organic Compounds		
Benzene - TCLP	500	**320**
Carbon Tetrachloride-TCLP	500	<85
Chlorobenzene-TCLP	100,000	<85
Chloroform-TCLP	6,000	<85
1,2-Dichloroethane-TCLP	500	<85
1,1-Dichloroethene-TCLP	700	<85
Methyl Ethyl Ketone-TCLP	200,000	<170
Tetrachloroethene-TCLP	700	<85
Trichloroethene-TCLP	500	<85
Vinyl Chloride-TCLP	200	<170
Semivolatile Organic Compounds		
Cresols (Total) TCLP	200,000	<100
1,4-Dichlorobenzene-TCLP	7,500	<100
2,4-Dinitrotoluene-TCLP	130	<100
Hexachlorobenzene-TCLP	100	<100
Hexachlorobutadiene-TCLP	500	<100
Hexachloroethane-TCLP	3,000	<100
Nitrobenzene-TCLP	2,000	<100
Pentachlorophenol-TCLP	100,000	<500
Pyridine-TCLP	5,000	<100
2,4,5-Trichlorophenol-TCLP	400,000	<100
2,4,6-Trichlorophenol-TCLP	2,000	<100
Metals		
Arsenic-TCLP	5,000	<500
Barium-TCLP	100,000	**620**
Cadmium-TCLP	1,000	<10
Chromium-TCLP	5,000	<50
Lead-TCLP	5,000	<500
Mercury-TCLP	200	<20
Selenium-TCLP	1,000	<100
Silver-TCLP	5,000	<20

Notes:
TCLP VOCs EPA 1311/8260.
TCLP SVOCs EPA 1311/8270.
TCLP Metals EPA 1311/6010,7471.
<: Indicates that the parameter was not detected
at the quantitation limit shown.
1. EPA Toxicity Characteristic Level as defined in 40 CFR Part 261.24.
BOLD concentrations indicate values detected above the reporting limit.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-1D (100-120) 4/19/2002	MW-36D (18.9-40.6) 5/7/2002	MW-36D (40-60) 5/8/2002	MW-36D (60-80) 5/8/2002	MW-36D (140-160) 5/15/2002	MW-37D (25-45) 6/10/2002	MW-37D (45-65) 6/10/2002	MW-37D (65-85) 6/10/2002
Acetone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	**8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethylvinylether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	NS	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.6	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5*	**20**	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NS	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-1D (100-120) 4/19/2002	MW-36D (18.9-40.6) 5/7/2002	MW-36D (40-60) 5/8/2002	MW-36D (60-80) 5/8/2002	MW-36D (140-160) 5/15/2002	MW-37D (25-45) 6/10/2002	MW-37D (45-65) 6/10/2002	MW-37D (65-85) 6/10/2002
Tetrachloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5*	**3**	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	1	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Xylene, total	5*	**19**	<1	<1	<1	<1	<1	<1	<1
Total VOCs	NS	**50.0**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total BTEX	NS	**50.0**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-37D (145-185) 6/12/2002	MW-38D (20-40) 4/30/2002	MW-38D (40-60) 4/30/2002	MW-38D (150-170) 5/6/2002	MW-39D (35-50) 4/24/2002	MW-39D (70-90) 4/24/2002	MW-39D (90-110) 4/24/2002	MW-39D (110-130) 4/25/2002
Acetone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethylvinylether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	NS	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.6	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5*	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NS	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-37D (145-185) 6/12/2002	MW-38D (20-40) 4/30/2002	MW-38D (40-60) 4/30/2002	MW-38D (150-170) 5/6/2002	MW-39D (35-50) 4/24/2002	MW-39D (70-90) 4/24/2002	MW-39D (90-110) 4/24/2002	MW-39D (110-130) 4/25/2002
Tetrachloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5*	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	1	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Xylene, total	5*	<1	<1	<1	<1	<1	<1	<1	<1
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-39D (130-150) 4/25/2002	MW-40D (80) 4/15/2002	MW-41D (20-40) 5/21/2002	MW-41D (40-60) 5/22/2002	MW-41D (60-80) 5/22/2002	MW-41D (80-100) 5/22/2002	MW-41D (100-120) 5/23/2002	MW-41D (120-140) 5/23/2002
Acetone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethylvinylether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	NS	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.6	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5*	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NS	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Packer Testing Samples							
		MW-39D (130-150) 4/25/2002	MW-40D (80) 4/15/2002	MW-41D (20-40) 5/21/2002	MW-41D (40-60) 5/22/2002	MW-41D (60-80) 5/22/2002	MW-41D (80-100) 5/22/2002	MW-41D (100-120) 5/23/2002	MW-41D (120-140) 5/23/2002
Tetrachloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5*	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	1	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Xylene, total	5*	<1	<1	<1	<1	<1	<1	<1	<1
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Passive Bag Samples							
		MW-31D (45) 12/19/2002	MW-31D (75) 12/19/2002	MW-31D (105) 12/19/2002	MW-31D (135) 12/19/2002	MW-43D (43) 12/19/2002	MW-43D (73) 12/19/2002	MW-43D (103) 12/19/2002	MW-43D (133) 12/19/2002
Acetone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloroethylvinylether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	NS	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.6	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	0.4**	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5*	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	[50]	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NS	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Passive Bag Samples							
		MW-31D (45) 12/19/2002	MW-31D (75) 12/19/2002	MW-31D (105) 12/19/2002	MW-31D (135) 12/19/2002	MW-43D (43) 12/19/2002	MW-43D (73) 12/19/2002	MW-43D (103) 12/19/2002	MW-43D (133) 12/19/2002
Tetrachloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5*	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	1	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA
Xylene, total	5*	<1	<1	<1	<1	<1	<1	<1	<1
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Overburden Monitoring Wells							
		MW-14S 10/15/2001	MW-16 2/24/2003	MW-16 10/4/2001	MW-17 2/27/2003	MW-17 9/27/2001	MW-21S 2/19/2003	MW-21S 9/25/2001	MW-31S 6/12/2001
Acetone	[50]	<10	<10UJ	<10	<10	<10	<10UJ	<10	<10
Benzene	1	**220**	<5	<5	<5	<5	**2J**	**4J**	<5
Bromodichloromethane	[50]	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	[50]	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	NS	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	5*	<10	<10	<10	<10	<10	<10	<10	<10
2-Chloroethylvinylether	NS	<10	NA	<10	NA	<10	NA	<10	<10
Chloroform	7	<5	<5	<5	<5	<5	<5	**11**	<5
Chloromethane	NS	<10	<10	<10	<10	<10	<10	<10	<10
Dibromochloromethane	[50]	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	0.6	<5	<5	<5	<5UJ	<5	<5	<5	<5
1,1-Dichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	5*	NA	<5	NA	<5	NA	<5	NA	NA
trans-1,2-Dichloroethene	5*	NA	<5	NA	<5	NA	<5	NA	NA
1,2-Dichloroethene, total	5*	<5	NA	<5	NA	<5	NA	<5	<5
1,2-Dichloropropane	1	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	5*	**17**	<5	<5	<5	<5	**3J**	**3J**	<5
2-Hexanone	[50]	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert-butyl ether	NS	NA	NA	NA	ND*	NA	NA	NA	NA
Methylene Chloride	5*	<5	<5	**5**	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	NS	<10	<10	<10	<10UJ	<10	<10	<10	<10
Styrene	5*	<5	<5	<5	<5	<5	<5	**2J**	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Overburden Monitoring Wells							
		MW-14S 10/15/2001	MW-16 2/24/2003	MW-16 10/4/2001	MW-17 2/27/2003	MW-17 9/27/2001	MW-21S 2/19/2003	MW-21S 9/25/2001	MW-31S 6/12/2001
Tetrachloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	5*	**2J**	<5	<5	<5	<5	**3J**	**5**	<5
1,1,1-Trichloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	NS	<10	NA	<10	NA	<10	NA	<10	<10
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	NA	<5	NA	<5	NA	**7**	NA	NA
o-Xylene	5*	NA	<5	NA	<5	NA	**22**	NA	NA
Xylene, total	5*	**16**	NA	<5	NA	<5	NA	**18**	<5
Total VOCs	NS	**255**	**ND**	**5.00**	**ND**	**ND**	**37.0**	**43.0**	**ND**
Total BTEX	NS	**255**	**ND**	**ND**	**ND**	**ND**	**37.0**	**30.0**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Shallow Bedrock Wells							
		MW-1 2/19/2003	MW-1 9/19/2001	MW-2 2/12/2003	MW-2 9/17/2001	MW-2I 2/6/2003	MW-2I 9/18/2001	MW-10I 2/18/2003	MW-10I 9/27/2001
Acetone	[50]	<10	<10	<10UJ	<10	<10UJ	<10	<10	<10
Benzene	1	<5	<5	<5	<5	<5	<5	**1J**	**2J**
Bromodichloromethane	[50]	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
Bromoform	[50]	<5UJ	<5	<5UJ	<5	<5UJ	<5	<5UJ	<5
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	NS	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	5*	<10	<10	<10UJ	<10	<10UJ	<10	<10	<10
2-Chloroethylvinylether	NS	NA	<10	NA	<10	NA	<10	NA	<10
Chloroform	7	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	NS	<10	<10	<10UJ	<10	<10UJ	<10	<10	<10
Dibromochloromethane	[50]	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
1,1-Dichloroethane	5*	<5UJ	<5	<5	<5	<5	<5	<5UJ	<5
1,2-Dichloroethane	0.6	<5UJ	<5	<5	<5	<5	<5	<5UJ	<5
1,1-Dichloroethene	5*	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
cis-1,2-Dichloroethene	5*	<5UJ	NA	<5	NA	<5	NA	<5UJ	NA
trans-1,2-Dichloroethene	5*	<5	NA	<5	NA	<5	NA	<5	NA
1,2-Dichloroethene, total	5*	NA	<5	NA	<5	NA	<5	NA	<5
1,2-Dichloropropane	1	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
cis-1,3-Dichloropropene	0.4**	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
trans-1,3-Dichloropropene	0.4**	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
Ethylbenzene	5*	<5	<5	<5	<5	<5	<5	<5	**2J**
2-Hexanone	[50]	<10UJ	<10	<10	<10	<10	<10	<10UJ	<10
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
4-Methyl-2-pentanone	NS	<10UJ	<10	<10	<10	<10	<10	<10UJ	<10
Styrene	5*	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Shallow Bedrock Wells							
		MW-1 2/19/2003	MW-1 9/19/2001	MW-2 2/12/2003	MW-2 9/17/2001	MW-2I 2/6/2003	MW-2I 9/18/2001	MW-10I 2/18/2003	MW-10I 9/27/2001
Tetrachloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5UJ	<5	<5UJ	<5	<5UJ	<5	<5UJ	<5
Toluene	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5	<5	<5UJ	<5	<5UJ	<5	<5	<5
Trichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	NS	NA	<10	NA	<10	NA	<10	NA	<10
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	<5	NA	<5	NA	<5	NA	<5	NA
o-Xylene	5*	<5	NA	<5	NA	<5	NA	<5	NA
Xylene, total	5*	NA	<5	NA	<5	NA	<5	NA	**3J**
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1.00**	**7.00**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1.00**	**7.00**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Shallow Bedrock Wells								
		MW-11 2/20/2003	MW-11 Duplicate 2/20/2003	MW-11 9/19/2001	MW-11 Duplicate 9/19/2001	MW-17I 2/14/2003	MW-17I 9/28/2001	MW-18 2/7/2003	MW-18 9/27/2001	MW-19I 2/26/2003
Acetone	[50]	<10UJ	<10UJ	<10	<10	<10	**19**	<10UJ	<10	<10
Benzene	1	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	[50]	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
Bromoform	[50]	<5	<5	<5	<5	<5UJ	<5	<5UJ	<5	<5
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	NS	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	5*	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10
2-Chloroethylvinylether	NS	NA	NA	<10	<10	NA	<10	NA	<10	NA
Chloroform	7	<5	<5	<5	<5	<5	**1J**	<5	<5	**4J**
Chloromethane	NS	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10
Dibromochloromethane	[50]	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
1,1-Dichloroethane	5*	<5	<5	<5	<5	<5UJ	<5	<5	<5	<5UJ
1,2-Dichloroethane	0.6	<5	<5	<5	<5	<5UJ	<5	<5	<5	<5
1,1-Dichloroethene	5*	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
cis-1,2-Dichloroethene	5*	<5	<5	NA	NA	<5UJ	NA	<5	NA	<5
trans-1,2-Dichloroethene	5*	<5	<5	NA	NA	<5	NA	<5	NA	<5
1,2-Dichloroethene, total	5*	NA	NA	<5	<5	NA	<5	NA	<5	NA
1,2-Dichloropropane	1	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
cis-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
trans-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
Ethylbenzene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone	[50]	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10
Methyl tert-butyl ether	NS	NA	NA	NA	NA	ND*	NA	ND*	NA	NA
Methylene Chloride	5*	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
4-Methyl-2-pentanone	NS	<10	<10	<10	<10	<10UJ	**1J**	<10	<10	<10UJ
Styrene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Shallow Bedrock Wells								
		MW-11 2/20/2003	MW-11 Duplicate 2/20/2003	MW-11 9/19/2001	MW-11 Duplicate 9/19/2001	MW-17I 2/14/2003	MW-17I 9/28/2001	MW-18 2/7/2003	MW-18 9/27/2001	MW-19I 2/26/2003
Tetrachloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5	<5	<5	<5	<5UJ	**2J**	<5UJ	<5	<5
Toluene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5	<5	<5	<5	<5	<5	<5UJ	<5	<5
Trichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	NS	NA	NA	<10	<10	NA	<10	NA	<10	NA
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	<5	<5	NA	NA	<5	NA	<5	NA	<5
o-Xylene	5*	<5	<5	NA	NA	<5	NA	<5	NA	<5
Xylene, total	5*	NA	NA	<5	<5	NA	<5	NA	<5	NA
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**23.0**	**ND**	**ND**	**4.00**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Shallow Bedrock Wells						Deep Bedrock Wells			
Parameter (µg/L)	**NYSDEC Groundwater Standard[1] (µg/L)**	**MW-19I 9/19/2001**	**MW-28I 2/20/2003**	**MW-28I 10/3/2001**	**MW-35I 5/30/2003**	**MW-36I 2/12/2003**	**MW-37I 2/25/2003**	**MW-14D 2/18/2003**	**MW-14D 9/26/2001**	**MW-15D 2/20/2003**	**MW-15D 10/4/2001**
Acetone	[50]	<10	<10	<10	<50	<10UJ	<10	<10	<10	<10UJ	**15**
Benzene	1	<5	**1J**	**3J**	**280**	<5	<5	<5	<5	<5	**1J**
Bromodichloromethane	[50]	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
Bromoform	[50]	<5	<5UJ	<5	<25	<5UJ	<5	<5UJ	<5	<5	<5
Bromomethane	5*	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10
Carbon Disulfide	NS	<5	<5	<5	<50	<5UJ	<5	<5	<5	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
Chloroethane	5*	<10	<10	<10	<50	<10UJ	<10	<10	<10	<10	<10
2-Chloroethylvinylether	NS	<10	NA	<10	NA	NA	NA	NA	<10	NA	<10
Chloroform	7	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
Chloromethane	NS	<10	<10	<10	<50	<10UJ	<10	<10	<10	<10	<10
Dibromochloromethane	[50]	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
1,1-Dichloroethane	5*	<5	<5UJ	<5	<25	<5	<5	<5UJ	<5	<5	<5
1,2-Dichloroethane	0.6	<5	<5UJ	<5	<25	<5	<5UJ	<5UJ	<5	<5	<5
1,1-Dichloroethene	5*	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	5*	NA	<5UJ	NA	<25	<5	<5	<5UJ	NA	<5	NA
trans-1,2-Dichloroethene	5*	NA	<5	NA	<25	<5	<5	<5	NA	<5	NA
1,2-Dichloroethene, total	5*	<5	NA	<5	NA	NA	NA	NA	<5	NA	<5
1,2-Dichloropropane	1	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	0.4**	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	0.4**	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
Ethylbenzene	5*	<5	<5	<5	**900**	<5	<5	<5	<5	<5	<5
2-Hexanone	[50]	<10	<10UJ	<10	<50	<10	<10	<10UJ	<10	<10	<10
Methyl tert-butyl ether	NS	NA	NA	NA	<25	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<5	<5	<5	<25	**3J**	<5	<5	<5	<5	**5**
4-Methyl-2-pentanone	NS	<10	<10UJ	<10	<50	<10	<10UJ	<10UJ	<10	<10	<10
Styrene	5*	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Shallow Bedrock Wells						Deep Bedrock Wells			
Parameter (µg/L)	**NYSDEC Groundwater Standard[1] (µg/L)**	**MW-19I 9/19/2001**	**MW-28I 2/20/2003**	**MW-28I 10/3/2001**	**MW-35I 5/30/2003**	**MW-36I 2/12/2003**	**MW-37I 2/25/2003**	**MW-14D 2/18/2003**	**MW-14D 9/26/2001**	**MW-15D 2/20/2003**	**MW-15D 10/4/2001**
Tetrachloroethene	5*	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5	<5UJ	<5	<25	<5UJ	<5	<5UJ	<5	<5	<5
Toluene	5*	<5	<5	<5	**550**	<5	**1J**	<5	<5	<5	**2J**
1,1,1-Trichloroethane	5*	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5	<5	<5	<25	<5UJ	<5	<5	<5	<5	<5
Trichloroethene	5*	<5	<5	<5	<25	<5	<5	<5	<5	<5	<5
Vinyl Acetate	NS	<10	NA	<10	NA	NA	NA	NA	<10	NA	<10
Vinyl Chloride	2	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	NA	<5	NA	**560**	<5	<5	<5	NA	<5	NA
o-Xylene	5*	NA	<5	NA	**340**	<5	<5	<5	NA	<5	NA
Xylene, total	5*	<5	NA	**1J**	NA	NA	NA	NA	<5	NA	<5
Total VOCs	NS	**ND**	**1.00**	**4.00**	**2,630**	**3.00**	**1.00**	**ND**	**ND**	**ND**	**23.0**
Total BTEX	NS	**ND**	**1.00**	**4.00**	**2,630**	**ND**	**1.00**	**ND**	**ND**	**ND**	**3.00**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

Notes:
TCL VOCs 82
<: Indicates p
J: Indicates an
UJ: Indicates t
NA: Indicates
ND: Indicates
ND*: Indicates
Compou
NS: NYSDEC
1. New York S
Technical a
*: Indicates th
of 5 mg/L a
**: Indicates t
[ ]: Indicates a
BOLD concen
Shaded values

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Deep Bedrock Wells						
		MW-17D 2/12/2003	MW-17D 10/3/2001	MW-20D 2/27/2003	MW-20D 10/10/2001	MW-21D 2/19/2003	MW-21D 9/25/2001	MW-23D 2/19/2003
Acetone	[50]	<10UJ	<10	<10	<10	<10	<10	<10UJ
Benzene	1	<5	<5	<5	<5	**11**	**67**	<5
Bromodichloromethane	[50]	<5UJ	<5	<5	<5	<5	<5	<5
Bromoform	[50]	<5UJ	<5	<5	<5	<5UJ	<5	<5
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	NS	<5UJ	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5	<5	<5	**4J**	**15**	<5
Chloroethane	5*	<10UJ	<10	<10	<10	<10	<10	<10
2-Chloroethylvinylether	NS	NA	<10	NA	<10	NA	<10	NA
Chloroform	7	<5	**7**	<5	<5	<5	<5	<5
Chloromethane	NS	<10UJ	<10	<10	<10	<10	<10	<10
Dibromochloromethane	[50]	<5UJ	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	5*	<5	<5	<5	<5	<5UJ	<5	<5
1,2-Dichloroethane	0.6	<5	<5	<5UJ	<5	<5UJ	<5	<5
1,1-Dichloroethene	5*	<5UJ	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethene	5*	<5	NA	<5	NA	<5UJ	NA	<5
trans-1,2-Dichloroethene	5*	<5	NA	<5	NA	<5	NA	<5
1,2-Dichloroethene, total	5*	NA	<5	NA	<5	NA	<5	NA
1,2-Dichloropropane	1	<5UJ	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	0.4**	<5UJ	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	0.4**	<5UJ	<5	<5	<5	<5	<5	<5
Ethylbenzene	5*	<5	<5	<5	<5	<5	**14**	<5
2-Hexanone	[50]	<10	<10	<10	<10	<10UJ	<10	<10
Methyl tert-butyl ether	NS	ND*	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<5UJ	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	NS	<10	<10	<10UJ	<10	<10UJ	<10	<10
Styrene	5*	<5	<5	<5	<5	<5	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Deep Bedrock Wells						
		MW-17D 2/12/2003	MW-17D 10/3/2001	MW-20D 2/27/2003	MW-20D 10/10/2001	MW-21D 2/19/2003	MW-21D 9/25/2001	MW-23D 2/19/2003
Tetrachloroethene	5*	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5UJ	<5	<5	<5	<5UJ	<5	<5
Toluene	5*	<5	<5	**1J**	<5	<5	<5	<5
1,1,1-Trichloroethane	5*	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5UJ	<5	<5	<5	<5	<5	<5
Trichloroethene	5*	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	NS	NA	<10	NA	<10	NA	<10	NA
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	<5	NA	<5	NA	<5	NA	<5
o-Xylene	5*	<5	NA	<5	NA	<5	NA	<5
Xylene, total	5*	NA	<5	NA	<5	NA	**8**	NA
Total VOCs	NS	**ND**	**7.00**	**1.00**	**ND**	**15.0**	**104**	**ND**
Total BTEX	NS	**ND**	**ND**	**1.00**	**ND**	**11.0**	**89.0**	**ND**

:60/624.
arameter was not detected at the quantitation limit shown
estimated concentration
hat the analyte was not detected, but the quantitation limit is estimated
that the parameter was not analyzed for
parameter was not detected
s parameter was not detected based on Tentatively Identifie
ınd search by analytical laboratory.
GW Standard not established.
State Groundwater Quality Standard from Division of Water
nd Operational Guidance Series (NYSDEC, TOGS 1.1.1)
at the principal organic contaminant for groundwate
ıpplies to this substance.
hat the standard applies to the sum of these substances
Guidance Value.
trations indicate values detected above the reporting limit
indicate concentrations detected above the NYSDEC GW Standard

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

		Deep Bedrock Wells									
Parameter (µg/L)	**NYSDEC Groundwater Standard[1] (µg/L)**	**MW-23D 9/27/2001**	**MW-29D 2/18/2003**	**MW-29D Duplicate 2/18/2003**	**MW-29D 9/21/2001**	**MW-31D 2/21/2003**	**MW-32D 2/28/2003**	**MW-32D 9/24/2001**	**MW-33D 5/29/2003**	**MW-34D 2/28/2003**	**MW-34D 10/4/2001**
Acetone	[50]	**16**	<10	<10	<10	<10UJ	<10UJ	**21**	<100	<10	<10
Benzene	1	<5	<5	<5	<5	<5	**4J**	<5	**1,100**	<5	<5
Bromodichloromethane	[50]	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Bromoform	[50]	<5	<5UJ	<5UJ	<5	<5	<5	<5	<50	<5	<5
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10
2-Butanone	[50]	<10	<10	<10	<10	<10	<10	**46**	<100	<10	<10
Carbon Disulfide	NS	<5	<5	<5	<5	<5	<5	<5	<100	<5	<5
Carbon Tetrachloride	5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Chlorobenzene	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Chloroethane	5*	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10
2-Chloroethylvinylether	NS	<10	NA	NA	<10	NA	NA	<10	NA	NA	<10
Chloroform	7	**9**	<5	<5	10	<5	<5	**15**	<50	<5	<5
Chloromethane	NS	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10
Dibromochloromethane	[50]	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
1,1-Dichloroethane	5*	<5	<5UJ	<5UJ	<5	<5	<5	<5	<50	<5	<5
1,2-Dichloroethane	0.6	<5	<5UJ	<5UJ	<5	<5	<5	<5	<50	<5UJ	<5
1,1-Dichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
cis-1,2-Dichloroethene	5*	NA	<5UJ	<5UJ	NA	<5	<5	NA	<50	<5	NA
trans-1,2-Dichloroethene	5*	NA	<5	<5	NA	<5	<5	NA	<50	<5	NA
1,2-Dichloroethene, total	5*	<5	NA	NA	<5	NA	NA	<5	NA	NA	<5
1,2-Dichloropropane	1	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
cis-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
trans-1,3-Dichloropropene	0.4**	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Ethylbenzene	5*	<5	<5	<5	<5	<5	<5	<5	**290**	<5	<5
2-Hexanone	[50]	<10	<10UJ	<10UJ	<10	<10	<10	<10	<100	<10	<10
Methyl tert-butyl ether	NS	NA	NA	NA	NA	NA	NA	NA	<50	ND*	NA
Methylene Chloride	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	**5**
4-Methyl-2-pentanone	NS	**2J**	<10UJ	<10UJ	<10	<10	<10	<10	<100	<10UJ	<10
Styrene	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Deep Bedrock Wells									
		MW-23D 9/27/2001	MW-29D 2/18/2003	MW-29D Duplicate 2/18/2003	MW-29D 9/21/2001	MW-31D 2/21/2003	MW-32D 2/28/2003	MW-32D 9/24/2001	MW-33D 5/29/2003	MW-34D 2/28/2003	MW-34D 10/4/2001
Tetrachloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
1,1,2,2-Tetrachloroethane	5*	**1J**	<5UJ	<5UJ	<5	<5	<5	<5	<50	<5	<5
Toluene	5*	<5	<5	<5	<5	<5	<5	<5	**110**	**4J**	**13**
1,1,1-Trichloroethane	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
1,1,2-Trichloroethane	1	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Trichloroethene	5*	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5
Vinyl Acetate	NS	<10	NA	NA	<10	NA	NA	<10	NA	NA	<10
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10
m&p-Xylene	5*	NA	<5	<5	NA	<5	<5	NA	**130**	<5	NA
o-Xylene	5*	NA	<5	<5	NA	<5	<5	NA	**80**	<5	NA
Xylene, total	5*	<5	NA	NA	<5	NA	NA	<5	NA	NA	<5
Total VOCs	NS	**28.0**	**ND**	**ND**	**ND**	**ND**	**4.00**	**82.0**	**1,710**	**4.00**	**18.0**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**4.00**	**ND**	**1,710**	**4.00**	**13.0**

Notes:
TCL VOCs 8260/624.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
NA: Indicates that the parameter was not analyzed for.
ND: Indicates parameter was not detected.
ND*: Indicates parameter was not detected based on Tentatively Identified Compound search by analytical laboratory.
NS: NYSDEC GW Standard not established.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
*: Indicates that the principal organic contaminant for groundwater of 5 mg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC GW Standard.

Notes:
TCL VOCs 82
<: Indicates p
J: Indicates an
UJ: Indicates t
NA: Indicates
ND: Indicates
ND*: Indicates
Compou
NS: NYSDEC
1. New York S
Technical a
*: Indicates th
of 5 mg/L a
**: Indicates t
[ ]: Indicates a
BOLD concen
Shaded values

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Deep Bedrock Wells						
		MW-36D 2/11/2003	MW-37D 2/7/2003	MW-38D 2/14/2003	MW-39D 2/11/2003	MW-40D 2/27/2003	MW-41D 2/6/2003	MW-43D 2/13/2003
Acetone	[50]	<10UJ	<10UJ	<10	<10UJ	<10	<10UJ	<10
Benzene	1	<5	<5UJ	<5	<5	<5	<5	<5
Bromodichloromethane	[50]	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
Bromoform	[50]	<5UJ	<5UJ	<5UJ	<5UJ	<5	<5UJ	<5UJ
Bromomethane	5*	<10	<10	<10	<10	<10	<10	<10
2-Butanone	[50]	<10	<10	<10	**43**	<10	<10	<10
Carbon Disulfide	NS	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	**2J**
Carbon Tetrachloride	5	<5	<5UJ	<5	<5	<5	<5	<5
Chlorobenzene	5*	<5	<5UJ	<5	<5	<5	<5	<5
Chloroethane	5*	<10UJ	<10UJ	<10	<10UJ	<10	<10UJ	<10
2-Chloroethylvinylether	NS	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	<5	<5	<5	<5	<5	<5	<5
Chloromethane	NS	<10UJ	<10UJ	<10	<10UJ	<10	<10UJ	<10
Dibromochloromethane	[50]	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
1,1-Dichloroethane	5*	<5	<5	<5UJ	<5	<5	<5	<5UJ
1,2-Dichloroethane	0.6	<5	<5	<5UJ	<5	<5UJ	<5	<5UJ
1,1-Dichloroethene	5*	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
cis-1,2-Dichloroethene	5*	<5	<5	<5UJ	<5	<5	<5	<5UJ
trans-1,2-Dichloroethene	5*	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
cis-1,3-Dichloropropene	0.4**	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
trans-1,3-Dichloropropene	0.4**	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
Ethylbenzene	5*	<5	<5UJ	<5	<5	<5	<5	<5
2-Hexanone	[50]	<10	<10UJ	<10UJ	<10	<10	<10	<10UJ
Methyl tert-butyl ether	NS	NA	NA	NA	ND*	NA	NA	NA
Methylene Chloride	5*	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
4-Methyl-2-pentanone	NS	<10	<10UJ	<10UJ	<10	<10UJ	<10	<10UJ
Styrene	5*	<5	<5UJ	<5	<5	<5	<5	<5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	Deep Bedrock Wells						
		MW-36D 2/11/2003	MW-37D 2/7/2003	MW-38D 2/14/2003	MW-39D 2/11/2003	MW-40D 2/27/2003	MW-41D 2/6/2003	MW-43D 2/13/2003
Tetrachloroethene	5*	<5	<5UJ	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	5*	<5UJ	<5UJ	<5UJ	<5UJ	<5	<5UJ	<5UJ
Toluene	5*	<5	<5UJ	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	5*	<5	<5UJ	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	1	<5UJ	<5UJ	<5	<5UJ	<5	<5UJ	<5
Trichloroethene	5*	<5	<5UJ	<5	<5	<5	<5	<5
Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	<10	<10	<10	<10	<10	<10	<10
m&p-Xylene	5*	<5	<5UJ	<5	<5	<5	<5	<5
o-Xylene	5*	<5	<5UJ	<5	<5	<5	<5	<5
Xylene, total	5*	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NS	**ND**	**ND**	**ND**	**43.0**	**ND**	**ND**	**2.00**
Total BTEX	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

:60/624.
arameter was not detected at the quantitation limit shown
estimated concentration
hat the analyte was not detected, but the quantitation limit is estimated
that the parameter was not analyzed for
parameter was not detected
s parameter was not detected based on Tentatively Identifie
ınd search by analytical laboratory.
GW Standard not established.
State Groundwater Quality Standard from Division of Water
nd Operational Guidance Series (NYSDEC, TOGS 1.1.1)
at the principal organic contaminant for groundwate
ıpplies to this substance.
hat the standard applies to the sum of these substances
Guidance Value.
trations indicate values detected above the reporting limit
indicate concentrations detected above the NYSDEC GW Standard

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Overburden Wells*							
		MW-14S 10/15/2001	**MW-16 2/24/2003**	**MW-16 10/4/2001**	**MW-17 2/27/2003**	**MW-17 9/27/2001**	**MW-21S 2/19/2003**	**MW-21S 9/25/2001**	**MW-31S 6/13/2001**
Acenaphthene	[20]	**41**	<5	<10	<5	<10	**4J**	**12**	<10
Acenaphthylene	NS	**17**	<5	<10	<5	<10	<20	**2J**	<10
Anthracene	[50]	<10	<5	<10	<5	<10	<20	<10	<10
Benzo(a)anthracene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
Benzo(a)pyrene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
Benzo(b)fluoranthene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
Benzo(g,h,i)perylene	NS	<10	<5UJ	<10	<5	<10	<20	<10	<10
Benzo(k)fluoranthene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
Carbazole	NS	NA	<5	NA	<5	NA	<20	NA	NA
Chrysene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
Dibenzo(a,h)anthracene	NS	<10	<5UJ	<10	<5	<10	<20	<10	<10
Dibenzofuran	NS	**1J**	<5	<10	<5	<10	<20	**1.2J**	<10
Fluoranthene	[50]	<10	<5	<10	<5	<10	<20	<10	<10
Fluorene	[50]	**7.2J**	<5	<10	<5	<10	<20	**1.7J**	<10
Indeno(1,2,3-cd)pyrene	[0.002]	<10	<5	<10	<5	<10	<20	<10	<10
2-Methylnaphthalene	NS	**24**	<5	<10	<5	<10	**20**	**50**	<10
Naphthalene	[10]	**30J**	<5	<10	<5	<10	**180**	**200**	<10
Phenanthrene	[50]	<10	<5	<10	<5	<10	<20	<10	<10
Pyrene	[50]	<10	<5	<10	<5	<10	<20UJ	<10	<10
Total SVOCs (PAHs)	NS	**120.2**	**ND**	**ND**	**ND**	**ND**	**204**	**266.9**	**ND**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; *CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon*
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*									
		MW-1 2/19/2003	**MW-1 9/19/2001**	**MW-2 2/12/2003**	**MW-2 9/17/2001**	**MW-2I 2/6/2003**	**MW-2I 9/18/2001**	**MW-10I 2/18/2003**	**MW-10I 9/27/2001**	**MW-11 2/20/2003**	**MW-11 (Duplicate) 2/20/2003**
Acenaphthene	[20]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Acenaphthylene	NS	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Anthracene	[50]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Benzo(a)anthracene	[0.002]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Benzo(a)pyrene	[0.002]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Benzo(b)fluoranthene	[0.002]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Benzo(g,h,i)perylene	NS	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Benzo(k)fluoranthene	[0.002]	<6	<10	<5	<10	<6UJ	<10	<5	<10	<6	<6
Carbazole	NS	<6	NA	<5	NA	<6	NA	<5	NA	<6	<6
Chrysene	[0.002]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Dibenzo(a,h)anthracene	NS	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Dibenzofuran	NS	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Fluoranthene	[50]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Fluorene	[50]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Indeno(1,2,3-cd)pyrene	[0.002]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
2-Methylnaphthalene	NS	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Naphthalene	[10]	<6	<10	<5	<10	<6	<10	**3J**	<10	<6	<6
Phenanthrene	[50]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Pyrene	[50]	<6	<10	<5	<10	<6	<10	<5	<10	<6	<6
Total SVOCs (PAHs)	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**3**	**ND**	**ND**	**ND**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*										
		MW-11 9/19/2001	MW-11 (Duplicate) 9/19/2001	MW-17I 2/14/2003	MW-17I 9/28/2001	MW-18 2/7/2003	MW-18 9/27/2001	MW-19I 2/26/2003	MW-19I 9/19/2001	MW-28I 2/20/2003	MW-28I 10/3/2001	MW-36I 2/12/2003
Acenaphthene	[20]	<10	<10	<5	<10	<5	<10	<5	<10	<5	**1.3J**	<6
Acenaphthylene	NS	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Anthracene	[50]	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Benzo(a)anthracene	[0.002]	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Benzo(a)pyrene	[0.002]	<10	<10	<5	<10	**0.6J**	<10	<5	<10	<5	<10	<6
Benzo(b)fluoranthene	[0.002]	<10	<10	<5	<10	**0.8J**	<10	<5	<10	<5	<10	<6
Benzo(g,h,i)perylene	NS	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Benzo(k)fluoranthene	[0.002]	<10	<10	<5	<10	**0.8J**	<10	<5	<10	<5	<10	<6
Carbazole	NS	NA	NA	<5	NA	**0.9J**	NA	<5	NA	<5	NA	<6
Chrysene	[0.002]	<10	<10	<5	<10	**0.9J**	<10	<5	<10	<5	<10	<6
Dibenzo(a,h)anthracene	NS	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Dibenzofuran	NS	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Fluoranthene	[50]	<10	<10	<5	<10	**2J**	<10	<5	<10	<5	<10	<6
Fluorene	[50]	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Indeno(1,2,3-cd)pyrene	[0.002]	<10	<10	<5	<10	**0.6J**	<10	<5	<10	<5	<10	<6
2-Methylnaphthalene	NS	<10	<10	<5UJ	<10	<5	<10	<5	<10	<5	<10	<6UJ
Naphthalene	[10]	<10	<10	<5	<10	<5	<10	<5	<10	<5	<10	<6
Phenanthrene	[50]	<10	<10	<5	<10	**1J**	<10	<5	<10	<5	<10	<6
Pyrene	[50]	<10	<10	<5	<10	**1J**	<10	<5	<10	<5	<10	<6
Total SVOCs (PAHs)	NS	**ND**	**ND**	**ND**	**ND**	**7.7**	**ND**	**ND**	**ND**	**ND**	**1.3**	**ND**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**3.7**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*									
		MW-37I 2/25/2003	MW-14D 2/18/2003	MW-14D 9/26/2001	MW-15D 2/20/2003	MW-15D 10/4/2001	MW-17D 2/12/2003	MW-17D 10/3/2001	MW-20D 2/27/2003	MW-20D 10/10/2001	MW-21D 2/19/2003
Acenaphthene	[20]	<5	<5	<10	<6	<10	<6	<10	<6	<10	**3J**
Acenaphthylene	NS	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Anthracene	[50]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Benzo(a)anthracene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Benzo(a)pyrene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Benzo(b)fluoranthene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Benzo(g,h,i)perylene	NS	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Benzo(k)fluoranthene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Carbazole	NS	<5	<5	NA	<6	NA	<6	NA	<6	NA	<5
Chrysene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Dibenzo(a,h)anthracene	NS	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Dibenzofuran	NS	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Fluoranthene	[50]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Fluorene	[50]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Indeno(1,2,3-cd)pyrene	[0.002]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
2-Methylnaphthalene	NS	<5	<5	<10	<6	<10	<6UJ	<10	<6	<10	**5**
Naphthalene	[10]	<5	<5	<10	<6	<10	<6	<10	<6	<10	**23**
Phenanthrene	[50]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Pyrene	[50]	<5	<5	<10	<6	<10	<6	<10	<6	<10	<5
Total SVOCs (PAHs)	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**31**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-21D 9/25/2001	**MW-23D 2/19/2003**	**MW-23D 10/5/2001**	**MW-29D 2/18/2003**	**MW-29D (Duplicate) 2/18/2003**	**MW-29D 9/21/2001**	**MW-31D 2/21/2003**	**MW-32D 2/28/2003**	**MW-32D 9/24/2001**
Acenaphthene	[20]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Acenaphthylene	NS	<10	<5	<10	<5	<5	<10	<5	<6	<10
Anthracene	[50]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Benzo(a)anthracene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Benzo(a)pyrene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Benzo(b)fluoranthene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Benzo(g,h,i)perylene	NS	<10	<5	<10	<5	<5	<10	<5	<6	<10
Benzo(k)fluoranthene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6UJ	<10
Carbazole	NS	NA	<5	NA	<5	<5	NA	<5	<6	NA
Chrysene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Dibenzo(a,h)anthracene	NS	<10	<5	<10	<5	<5	<10	<5	<6	<10
Dibenzofuran	NS	<10	<5	<10	<5	<5	<10	<5	<6	<10
Fluoranthene	[50]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Fluorene	[50]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Indeno(1,2,3-cd)pyrene	[0.002]	<10	<5	<10	<5	<5	<10	<5	<6	<10
2-Methylnaphthalene	NS	**1J**	<5	<10	<5	<5	<10	<5	<6	<10
Naphthalene	[10]	**12**	<5	<10	<5	<5	<10	<5	<6	<10
Phenanthrene	[50]	<10	<5	<10	<5	<5	<10	<5	<6	<10
Pyrene	[50]	<10	<5	<10	<5	<5	<10	<5	<6UJ	<10
Total SVOCs (PAHs)	NS	**13**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SEMIVOLATILE ORGANIC COMPOUNDS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-34D 2/28/2003	**MW-34D 10/4/2001**	**MW-36D 2/11/2003**	**MW-37D 2/7/2003**	**MW-38D 2/14/2003**	**MW-39D 2/11/2003**	**MW-40D 2/27/2003**	**MW-41D 2/6/2003**	**MW-43D 2/13/2003**
Acenaphthene	[20]	<5	<10	<5	<5	**2J**	<5	<5	<6	<6
Acenaphthylene	NS	<5	<10	<5	<5	<6	<5	<5	<6	<6
Anthracene	[50]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Benzo(a)anthracene	[0.002]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Benzo(a)pyrene	[0.002]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Benzo(b)fluoranthene	[0.002]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Benzo(g,h,i)perylene	NS	<5	<10	<5	<5	<6	<5	<5	<6	<6
Benzo(k)fluoranthene	[0.002]	<5UJ	<10	<5	<5	<6	<5	<5	<6UJ	<6
Carbazole	NS	<5	NA	<5	<5	<6	<5	<5	<6	<6
Chrysene	[0.002]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Dibenzo(a,h)anthracene	NS	<5	<10	<5	<5	<6	<5	<5UJ	<6	<6
Dibenzofuran	NS	<5	<10	<5	<5	<6	<5	<5	<6	<6
Fluoranthene	[50]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Fluorene	[50]	<5	<10	<5	<5	<6	<5	<5	<6	<6
Indeno(1,2,3-cd)pyrene	[0.002]	<5	<10	<5	<5	<6	<5	<5	<6	<6
2-Methylnaphthalene	NS	<5	<10	<5	<5	**3J**	<5	<5	<6	<6UJ
Naphthalene	[10]	<5	<10	<5	<5	**6**	<5	<5	<6	<6
Phenanthrene	[50]	<5	<10	<5	<5	**0.7J**	<5	<5	<6	<6
Pyrene	[50]	<5UJ	<10	<5	<5	<6	<5	<5	<6	<6
Total SVOCs (PAHs)	NS	**ND**	**ND**	**ND**	**ND**	**11.7**	**ND**	**ND**	**ND**	**ND**
Total CPAHs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes:
SVOCs 8270.
PAH: Polycyclic Aromatic Hydrocarbon; CPAH: Carcinogenic Polycyclic Aromatic Hydrocarbon
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-12

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

TOTAL PHENOLS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Total Phenols (ug/L)
NYSDEC Groundwater Standard		**1**
Overburden Wells		
MW-14S	10/15/2001	**5**
MW-16	10/4/2001	<2
MW-16	2/24/2003	<2
MW-17	2/27/2003	**2**
MW-17	9/27/2001	<2
MW-21S	2/19/2003	**5**
MW-21S	9/25/2001	**24**
MW-31S	6/12/2001	**3**
Shallow Bedrock Wells		
MW-1	2/19/2003	<2
MW-1	9/19/2001	<2
MW-2	2/12/2003	<2
MW-2	9/17/2001	<2
MW-2I	2/6/2003	<2
MW-2I	9/18/2001	<2
MW-10I	2/18/2003	<2
MW-10I	9/27/2001	<2
MW-11	2/20/2003	<2
MW-11 (Duplicate)	2/20/2003	<2
MW-11	9/19/2001	<2
MW-11 (Duplicate)	9/19/2001	<2
MW-17I	2/14/2003	**2**
MW-17I	9/28/2001	**3**
MW-18	2/7/2003	<2
MW-18	9/27/2001	<2
MW-19I	2/26/2003	<2
MW-19I	9/19/2001	**2**
MW-28I	2/20/2003	**4**
MW-28I	10/3/2001	**3**
MW-36I	2/12/2003	<2
MW-37I	2/25/2003	<2
Deep Bedrock Wells		
MW-14D	2/18/2003	<2
MW-14D	9/26/2001	**4**
MW-15D	2/20/2003	<2
MW-15D	10/4/2001	<2
MW-17D	2/12/2003	<2
MW-17D	10/3/2001	**8**
MW-20D	2/27/2003	<2
MW-20D	10/10/2001	<2

TABLE 7-12

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

TOTAL PHENOLS

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Total Phenols (ug/L)
NYSDEC Groundwater Standard		**1**
MW-21D	2/19/2003	<2
MW-21D	9/25/2001	**5**
MW-23D	2/19/2003	<2
MW-23D	9/27/2001	**31**
MW-29D	2/18/2003	<2
MW-29D (Duplicate)	2/18/2003	<2
MW-29D	9/21/2001	**6**
MW-31D	2/21/2003	<2
MW-32D	2/28/2003	**3**
MW-32D	9/24/2001	**16**
MW-34D	2/28/2003	<2
MW-34D	10/4/2001	**2**
MW-36D	2/11/2003	<2
MW-37D	2/7/2003	<2
MW-38D	2/14/2003	<2
MW-39D	2/11/2003	**2**
MW-40D	2/27/2003	<2
MW-41D	2/6/2003	<2
MW-43D	2/13/2003	**3**

Notes:
Total Phenols EPA 9065/420.1
<: Indicates parameter was not detected at the quantitaion limit.
BOLD concentrations indicate values detected above the reporting limit.
NYSDEC Groundwater Standard for Total Phenols from New York State Groundwater Quality Standard from Divisions of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-13

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

CYANIDE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Cyanide, Total (µg/kg)	Cyanide, Free (weak & dissociated) (µg/kg)
Overburden Wells			
MW-14S	10/15/2001	**170**	<10
MW-16	10/4/2001	<10	<10
MW-16	2/24/2003	<10	<10
MW-17	2/27/2003	**80J**	<10UJ
MW-17	9/27/2001	**60**	<10
MW-21S	2/19/2003	<10UJ	<10UJ
MW-21S	9/25/2001	<10	<10
MW-31S	6/13/2001	<10	<10
Shallow Bedrock Wells			
MW-1	2/19/2003	<10UJ	<10UJ
MW-1	9/19/2001	<10	<10
MW-2	2/12/2003	**19**	<10
MW-2	9/17/2001	**20**	<10
MW-2I	2/6/2003	<10	<10
MW-2I	9/18/2001	<50	<10
MW-10I	2/18/2003	**88J**	<10UJ
MW-10I	9/27/2001	**130**	<10
MW-11	2/20/2003	<10UJ	<10UJ
MW-11 (Duplicate)	2/20/2003	<10	<10
MW-11	9/19/2001	<10	<10
MW-11 (Duplicate)	9/19/2001	<10	<10
MW-17I	2/14/2003	<10	<10
MW-17I	9/28/2001	<10	<10
MW-18	2/7/2003	**48**	<10
MW-18	9/27/2001	<10	<10
MW-19I	2/26/2003	**12J**	<10UJ
MW-19I	9/19/2001	<10	<10
MW-28I	2/20/2003	<10UJ	<10UJ
MW-28I	10/3/2001	<10	<10
MW-36I	2/12/2003	<10	<10
MW-37I	2/25/2003	<10UJ	<10UJ
Deep Bedrock Wells			
MW-14D	2/18/2003	<10	<10
MW-14D	9/29/2001	<10	<10
MW-15D	2/20/2003	<10UJ	<10UJ
MW-15D	10/4/2001	<10	<10
MW-17D	2/12/2003	<10	<10
MW-17D	10/3/2001	<10	<10
MW-20D	2/27/2003	<10UJ	<10UJ
MW-20D	10/10/2001	<10	<10
MW-21D	2/19/2003	<10UJ	<10UJ
MW-21D	9/25/2001	<10	<10
MW-23D	2/19/2003	<10UJ	<10UJ

TABLE 7-13

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

CYANIDE

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Date	Cyanide, Total (µg/kg)	Cyanide, Free (weak & dissociated) (µg/kg)
MW-23D	9/27/2001	<10	<10
MW-29D	2/18/2003	<10	<10
MW-29D (Duplicate)	2/18/2003	<10	<10
MW-29D	9/21/2001	<10	<10
MW-31D	2/21/2003	<10	<10
MW-32D	2/28/2003	<10UJ	<10UJ
MW-32D	9/24/2001	<10	<10
MW-34D	2/28/2003	<10UJ	<10UJ
MW-34D	10/4/2001	<10	<10
MW-36D	2/11/2003	<10	<10
MW-37D	2/7/2003	<10	<10
MW-38D	2/14/2003	<10	<10
MW-39D	2/11/2003	<10UJ	<10UJ
MW-40D	2/27/2003	<10UJ	<10UJ
MW-41D	2/6/2003	<10	<10
MW-43D	2/13/2003	<10	<10

Notes:
Cyanide (total, amenable) EPA 9012/335.3
Cyanide (weak & dissociated) SM4500I
<: Indicates parameter was not detected at the quantitation limit.
J: Indicates an estimated concentration.
UJ: Indicates that the analyte was not detected, but the quantitation limit is estimated.
BOLD concentrations indicate values detected above the reporting limit.
The NYSDEC GW Standard for Cyanide is 200 µg/L. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Overburden Wells*						
		MW-14S 10/15/2001	**MW-16 2/24/2003**	**MW-16 10/4/2001**	**MW-17 2/27/2003**	**MW-17 9/27/2001**	**MW-21S 2/19/2003**	**MW-21S 9/25/2001**
Aluminum	NS	**14000**	**26.1B**	<100	76.7BR	**1400**	**4450**	**400**
Aluminum-Filtered	NS	<100	NA	<100	NA	<100	<12.8	NA
Antimony	3	<60	<2.5R	<60	**4.3B**	<60	<2.5R	<60
Antimony-Filtered	3	<60	NA	<60	NA	<60	<2.5	NA
Arsenic	25	<5	<2.2R	<5	4.7BR	<5	<2.2R	<5
Arsenic-Filtered	25	<5	NA	<5	NA	<5	**2.5BJ**	NA
Barium	1000	**2020**	**441**	**410**	**69.5B**	**160**	**216**	**90**
Barium-Filtered	1000	**230**	NA	**390**	NA	**90**	**726**	NA
Cadmium	5	**5**	NA	<5	NA	<5	NA	<5
Cadmium-Filtered	5	<5	NA	<5	NA	<5	NA	NA
Chromium	50	<5	<3.6	<5	**37.2**	**517**	**101J**	**6**
Chromium-Filtered	50	<5	NA	<5	NA	<5	<3.6	NA
Copper	200	<50	**2.7B**	<50	**2.3B**	<50	**48.5**	<50
Copper-Filtered	200	<50	NA	<50	NA	<50	**5.2B**	NA
Iron	300	**70000**	**719J**	**60**	**714**	**8550**	**6320J**	**220**
Iron-Filtered	300	**4930**	NA	**60**	NA	**130**	**28.9B**	NA
Lead	25	<5	<1.3UJ	<5	<1.3UJ	**41**	**10.7J**	<5
Lead-Filtered	25	<5	NA	<5	NA	<5	<1.3UJ	NA
Manganese	300	**14000**	**909**	**820**	**71.6**	**280**	**3150**	**850**
Manganese-Filtered	300	**4520**	NA	**800**	NA	**80**	**2850**	NA
Mercury	0.7	<0.4	<0.13UJ	<0.4	<0.13UJ	<0.4	<0.13UJ	<0.4
Mercury-Filtered	0.7	<0.4	NA	<0.4	NA	<0.4	<0.13UJ	NA
Nickel	100	<50	<1R	<50	**49.8J**	**70**	41.5R	<50
Nickel-Filtered	100	<50	NA	<50	NA	<80	**7.9B**	NA

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Overburden Wells*						
		MW-14S 10/15/2001	**MW-16 2/24/2003**	**MW-16 10/4/2001**	**MW-17 2/27/2003**	**MW-17 9/27/2001**	**MW-21S 2/19/2003**	**MW-21S 9/25/2001**
Selenium	10	<5	<2.5R	<5	<2.5UJ	<5	<2.5R	<5
Selenium-Filtered	10	<5	NA	<5	NA	<5	<2.5UJ	NA
Silver	50	<20	<1.8R	<20	<1.8	<20	<1.8R	<20
Silver-Filtered	50	<20	NA	<20	NA	<20	<1.8UJ	NA
Vanadium	NS	**60**	<3.1	<50	<3.1	<50	**6.9B**	<50
Vanadium-Filtered	NS	<50	NA	<50	NA	<50	<3.1	NA
Zinc	[2000]	**210**	<0.5	<10	**9.1B**	**40**	**623J**	**70**
Zinc-Filtered	[2000]	<10	NA	<10	NA	**10**	**189**	NA

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*							
		MW-1 2/19/2003	MW-1 9/19/2001	MW-2 2/12/2003	MW-2 9/17/2001	MW-2I 2/6/2003	MW-2I 9/18/2001	MW-10I 2/18/2003	MW-10I 9/27/2001
Aluminum	NS	**30800**	**100**	**503**	**400**	**1650J**	**200**	**322000**	<100
Aluminum-Filtered	NS	<12.8	<100	<12.8	NA	**13.3BJ**	NA	**19.7B**	<100
Antimony	3	3370R	<60	<2.5	<60	**3.1B**	<60	15.4BR	<60
Antimony-Filtered	3	<2.5	<60	<2.5	NA	<2.5	NA	<2.5	<60
Arsenic	25	<2.2R	<5	<2.2	<5	<2.2	<5	<2.2R	<5
Arsenic-Filtered	25	**2.6BJ**	<5	**5B**	NA	**3B**	NA	<2.2UJ	<5
Barium	1000	**2610**	**310**	**97B**	**170**	**458**	**160**	**6530**	**170**
Barium-Filtered	1000	**687**	**40**	**87.8B**	NA	**294**	NA	**286**	**180**
Cadmium	5	NA	<5	NA	<50	NA	<5	NA	<5
Cadmium-Filtered	5	NA	<5	NA	NA	NA	NA	NA	<5
Chromium	50	**201000J**	**4830**	**31.3J**	**16**	<3.6	<5	**782J**	<5
Chromium-Filtered	50	<3.6	**19**	<3.6	NA	<3.6	NA	<3.6	<5
Copper	200	**3040**	**180**	**3.5B**	<50	<1.4	<50	**1010**	<50
Copper-Filtered	200	**1.5B**	<50	<1.4	NA	**3.2B**	NA	**1.8B**	<50
Iron	300	**927000J**	**38000**	**1080**	**1130**	**56100**	**430**	**941000J**	**7790**
Iron-Filtered	300	**11.6B**	<50	**25.2B**	NA	**12.1B**	NA	**811**	**2630**
Lead	25	<1.3UJ	<5	**1.7BJ**	<5	<1.3	<5	**44.3J**	<5
Lead-Filtered	25	<1.3UJ	<5	<1.3	NA	<1.3	NA	<1.3UJ	<5
Manganese	300	**161000**	**2880**	**2430**	**4310**	**847**	**400**	**11500**	**300**
Manganese-Filtered	300	**811**	**80**	**1920**	NA	**614**	NA	**398**	**360**
Mercury	0.7	**0.46J**	<0.4	<0.13	<0.4	<0.13	<0.4	**0.5J**	<0.4
Mercury-Filtered	0.7	<0.13UJ	<0.4	<0.13	NA	<0.13	NA	<0.13UJ	<0.4
Nickel	100	21500R	**880**	**11.5B**	**170**	<1	<50	<1R	<50
Nickel-Filtered	100	**223**	**70**	**2.8B**	NA	**4.7B**	NA	<1	<50

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*							
		MW-1 2/19/2003	**MW-1 9/19/2001**	**MW-2 2/12/2003**	**MW-2 9/17/2001**	**MW-2I 2/6/2003**	**MW-2I 9/18/2001**	**MW-10I 2/18/2003**	**MW-10I 9/27/2001**
Selenium	10	<2.5R	<5	<2.5UJ	<5	<2.5	<5	<2.5R	<5
Selenium-Filtered	10	<2.5UJ	<5	<2.5UJ	NA	**6J**	NA	<2.5UJ	<5
Silver	50	<1.8R	<20	<1.8	<20	<1.8	<20	<1.8R	<20
Silver-Filtered	50	<1.8UJ	<20	<1.8	NA	<1.8	NA	<1.8UJ	<20
Vanadium	NS	**101**	<50	<3.1	<50	<3.1	<50	**501**	<50
Vanadium-Filtered	NS	<3.1	<50	<3.1	NA	<3.1	NA	<3.1	<50
Zinc	[2000]	**786J**	**40**	<0.5	**50**	**56.7**	<10	**2460J**	<10
Zinc-Filtered	[2000]	**212**	**10**	<0.5	NA	**6.2B**	NA	<0.5	<10

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*						
		MW-11 2/20/2003	MW-11 (Duplicate) 2/20/2003	MW-11 9/19/2001	MW-11 (Duplicate) 9/19/2001	MW-17I 2/14/2003	MW-17I 9/28/2001	MW-18 2/7/2003
Aluminum	NS	**986**	**1160**	**300**	**400**	**25900**	**300**	**730J**
Aluminum-Filtered	NS	<12.8	<12.8	NA	NA	<12.8	<100	NA
Antimony	3	11.5BR	10.5BR	<60	<60	8BR	<60	<2.5
Antimony-Filtered	3	<2.5	<2.5	NA	NA	<2.5	<60	NA
Arsenic	25	<2.2R	<2.2R	<5	<5	<2.2R	<5	<2.2
Arsenic-Filtered	25	**2.4BJ**	<2.2UJ	NA	NA	<2.2UJ	<5	NA
Barium	1000	**749**	**1030**	**350**	**420**	**3480**	**350**	**431**
Barium-Filtered	1000	**779J**	**409J**	NA	NA	**936**	**410**	NA
Cadmium	5	NA	NA	<5	<5	NA	<5	NA
Cadmium-Filtered	5	NA	NA	NA	NA	NA	<5	NA
Chromium	50	**893J**	**873J**	**92**	**92**	**65.3J**	<5	**9.6B**
Chromium-Filtered	50	<3.6	<3.6	NA	NA	**4.4B**	<5	NA
Copper	200	**112**	**173**	<50	<50	**69.1**	<50	**8.6B**
Copper-Filtered	200	<1.4	3.8B	NA	NA	<1.4	<50	NA
Iron	300	**8800J**	**7760J**	**430**	**430**	**406000J**	**5480**	**1310**
Iron-Filtered	300	**76.2B**	**70.7B**	NA	NA	**676**	**2050**	NA
Lead	25	<1.3UJ	**3.1J**	<5	<5	<1.3UJ	<5	<1.3
Lead-Filtered	25	<1.3UJ	<1.3UJ	NA	NA	<1.3UJ	<5	NA
Manganese	300	**32600**	**53600**	**4850**	**5190**	**7610**	**5660**	**177**
Manganese-Filtered	300	**5900**	**6020**	NA	NA	**3010**	**5380**	NA
Mercury	0.7	<0.13UJ	<0.13UJ	<0.4	<0.4	**0.13BJ**	<0.4	<0.13
Mercury-Filtered	0.7	<0.13UJ	<0.13UJ	NA	NA	<0.13UJ	<0.4	NA
Nickel	100	1550R	2550R	**250**	**350**	58.5R	<50	<1
Nickel-Filtered	100	**127**	**129**	NA	NA	**8.7B**	<50	NA

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*						
		MW-11 2/20/2003	**MW-11 (Duplicate) 2/20/2003**	**MW-11 9/19/2001**	**MW-11 (Duplicate) 9/19/2001**	**MW-17I 2/14/2003**	**MW-17I 9/28/2001**	**MW-18 2/7/2003**
Selenium	10	6.4R	18.5R	<5	<5	<2.5R	<5	<2.5
Selenium-Filtered	10	<2.5UJ	<2.5UJ	NA	NA	<2.5UJ	<5	NA
Silver	50	<1.8R	<1.8R	<20	<20	<1.8R	<20	<1.8
Silver-Filtered	50	<1.8UJ	<1.8UJ	NA	NA	<1.8UJ	<20	NA
Vanadium	NS	**11.1BJ**	**18.8BJ**	<50	<50	**33.1B**	<50	<3.1
Vanadium-Filtered	NS	<3.1	<3.1	NA	NA	<3.1	<50	NA
Zinc	[2000]	**2950J**	**4300J**	**1060**	**1500**	**268J**	<10	**86.8**
Zinc-Filtered	[2000]	**234J**	**98.7J**	NA	NA	**167**	**20**	NA

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*						
		MW-18 9/27/2001	**MW-19I 2/26/2003**	**MW-19I 9/19/2001**	**MW-28I 2/20/2003**	**MW-28I 10/3/2001**	**MW-36I 2/12/2003**	**MW-37I 2/25/2003**
Aluminum	NS	**3500**	409R	**100**	**5730**	**200**	**21300**	4150R
Aluminum-Filtered	NS	<100	15.5BR	NA	NA	NA	<12.8	3260R
Antimony	3	<60	<2.5	<60	<2.5R	<60	**7.9B**	**6.8B**
Antimony-Filtered	3	<60	<2.5	NA	NA	NA	**4.1B**	**2.5B**
Arsenic	25	<5	<2.2	<5	<2.2R	<5	<2.2	<2.2
Arsenic-Filtered	25	<5	**9BJ**	NA	NA	NA	**7.9B**	<2.2
Barium	1000	**400**	**436**	**30**	**2060**	**1430**	**1080**	**2760**
Barium-Filtered	1000	**270**	**685**	NA	NA	NA	**592**	**2090**
Cadmium	5	**9**	NA	<5	NA	<5	NA	NA
Cadmium-Filtered	5	<5	NA	NA	NA	NA	NA	NA
Chromium	50	**18**	<3.6	<5	**19.6**	<5	**56.6J**	**7.9B**
Chromium-Filtered	50	<5	**5B**	NA	NA	NA	**5.7BJ**	**6.6B**
Copper	200	<50	**4.2**	<50	**20.6B**	<50	**55.1**	**35.2**
Copper-Filtered	200	<50	5BR	NA	NA	NA	<1.4	**37.1**
Iron	300	**4800**	**69900**	**1780**	**12900J**	**480**	**30800**	**11400**
Iron-Filtered	300	**160**	**44.1B**	NA	NA	NA	**14.2B**	**9590J**
Lead	25	**18**	<1.3UJ	<5	<1.3UJ	<5	<1.3	**14.3J**
Lead-Filtered	25	<5	5R	NA	NA	NA	<1.3	9.2R
Manganese	300	**760**	**1950**	**50**	**327**	**170**	**441**	**1120**
Manganese-Filtered	300	**450**	**118J**	NA	NA	NA	**25.1**	**1080J**
Mercury	0.7	<0.4	<0.13UJ	<0.4	<0.13UJ	<0.4	<0.13	<0.13UJ
Mercury-Filtered	0.7	<0.4	<0.13R	NA	NA	NA	<0.13	<0.13R
Nickel	100	<50	<1	<50	<1R	<50	**43**	**2.9BJ**
Nickel-Filtered	100	<50	**3.2BJ**	NA	NA	NA	**2.5B**	**14.9BJ**

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Shallow Bedrock Wells*						
		MW-18 9/27/2001	**MW-19I 2/26/2003**	**MW-19I 9/19/2001**	**MW-28I 2/20/2003**	**MW-28I 10/3/2001**	**MW-36I 2/12/2003**	**MW-37I 2/25/2003**
Selenium	10	<5	<2.5UJ	<5	<2.5R	<5	<2.5UJ	<2.5UJ
Selenium-Filtered	10	<5	2.6BR	NA	NA	NA	<2.5UJ	<2.5R
Silver	50	<20	<1.8	<20	<1.8R	<20	<1.8	<1.8
Silver-Filtered	50	<20	<1.8	NA	NA	NA	<1.8	<1.8
Vanadium	NS	<50	**4.8BJ**	<50	**8.8B**	<50	**24.1B**	**5.2BJ**
Vanadium-Filtered	NS	<50	<3.1	NA	NA	NA	<3.1	**8BJ**
Zinc	[2000]	**110**	32.3R	<50	**321J**	**30**	**84.2**	**85.2J**
Zinc-Filtered	[2000]	<10	223R	NA	NA	NA	**1.7B**	**174J**

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-14D 2/18/2003	**MW-14D 9/26/2001**	**MW-15D 2/20/2003**	**MW-15D 10/4/2001**	**MW-17D 2/12/2003**	**MW-17D 10/3/2001**	**MW-20D 2/27/2003**	**MW-20D 10/10/2001**	**MW-21D 2/19/2003**
Aluminum	NS	**5960**	**2300**	**138B**	**200**	**520000**	**8100**	550R	**800**	**1920**
Aluminum-Filtered	NS	<12.8	<100	<12.8	<100	**112B**	**3800**	151BR	<100	<12.8
Antimony	3	<2.5R	<60	<2.5R	<60	**21B**	<60	**3.6B**	<60	<2.5R
Antimony-Filtered	3	<2.5	<60	<2.5	<60	<2.5	<60	<2.5	<60	<2.5
Arsenic	25	<2.2R	<5	<2.2R	<5	<2.2	**21**	<2.2	<5	<2.2R
Arsenic-Filtered	25	<2.2UJ	<5	**2.3BJ**	<5	**4.1B**	**31**	**5.8BJ**	<5	**3.5BJ**
Barium	1000	**786**	**1150**	**443J**	**630**	**8280**	**160**	**400**	**500**	**1530**
Barium-Filtered	1000	**2.3B**	**700**	**700J**	**760**	**466**	**10**	**784**	**310**	**1390**
Cadmium	5	NA	<5	NA	<5	NA	<5	NA	<5	NA
Cadmium-Filtered	5	NA	<5	NA	<5	NA	<5	NA	<5	NA
Chromium	50	<3.6	<5	**4.9B**	<5	**1530**	**12**	<3.6	<5	**4.4B**
Chromium-Filtered	50	**5.4B**	<5	**4.6B**	<5	**4.6BJ**	<5	**5.9B**	<5	<3.6
Copper	200	**18.8B**	**80**	**6.8B**	<50	**1630**	<50	**15.8B**	<50	**17B**
Copper-Filtered	200	<1.4	<50	<1.4	<50	<1.4	<50	**2B**	<50	<1.4
Iron	300	**184000J**	**11600**	**32700J**	**5480**	**1670000J**	**11000**	**2550**	**15000**	**13600J**
Iron-Filtered	300	**4.3B**	<50	**75.8B**	<50	**315**	**50**	**425J**	<50	**401**
Lead	25	<1.3UJ	**22**	<1.3UJ	<5	**2.2BJ**	<5	<1.3	<5	<1.3UJ
Lead-Filtered	25	<1.3UJ	<5	<1.3UJ	<5	<1.3	<5	3.7R	<5	<1.3UJ
Manganese	300	**677**	**260**	**234**	**70**	**21900**	**560**	**60.8**	**240**	**505**
Manganese-Filtered	300	<0.3	**30**	**3.5B**	**40**	**9.3B**	<10	**35.2J**	<20	**463**
Mercury	0.7	<0.13UJ	<0.4	<0.13UJ	<0.4	**0.94**	<0.4	<0.13UJ	<0.4	<0.13UJ
Mercury-Filtered	0.7	<0.13UJ	<0.4	<0.13UJ	<0.4	<0.13	<0.4	<0.13R	<0.4	<0.13UJ
Nickel	100	<1R	<50	<1R	<50	**637**	<50	<1	<50	<1R
Nickel-Filtered	100	<1	<50	<1	<50	**2.1B**	<50	<1	<50	<1

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-14D 2/18/2003	**MW-14D 9/26/2001**	**MW-15D 2/20/2003**	**MW-15D 10/4/2001**	**MW-17D 2/12/2003**	**MW-17D 10/3/2001**	**MW-20D 2/27/2003**	**MW-20D 10/10/2001**	**MW-21D 2/19/2003**
Selenium	10	<2.5R	<5	<2.5R	<5	<2.5UJ	<5	<2.5UJ	<5	<2.5R
Selenium-Filtered	10	<2.5UJ	<5	<2.5UJ	<5	<2.5UJ	<5	2.9BR	<5	<2.5UJ
Silver	50	<1.8R	<20	<1.8R	<20	<1.8	<20	<1.8	<20	<1.8R
Silver-Filtered	50	<1.8UJ	<20	<1.8UJ	<20	<1.8	<20	<1.8	<20	<1.8UJ
Vanadium	NS	**9.5B**	<50	<3.1	<50	**501**	**120**	<3.1	<50	<3.1
Vanadium-Filtered	NS	<3.1	<50	<3.1	<50	<3.1	**110**	<3.1	<50	<3.1
Zinc	[2000]	**237J**	**50**	**8.5B**	<10	**1990**	**30**	**8.1B**	<10	<0.5
Zinc-Filtered	[2000]	<0.5	**10**	**10.8B**	**10**	<0.5	<10	**36.6J**	<10	**106**

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-21D 9/25/2001	MW-23D 2/19/2003	MW-23D 10/5/2001	MW-23D 9/27/2001	MW-29D 2/18/2003	MW-29D (Duplicate) 2/18/2003	MW-29D 9/21/2001	MW-31D 2/21/2003	MW-32D 2/28/2003
Aluminum	NS	**100**	**3140**	NA	**1500**	**113000J**	**8100J**	**300**	**558**	**356**
Aluminum-Filtered	NS	NA	**1060**	<100	NA	**69.6BJ**	**128BJ**	NA	**151B**	2100R
Antimony	3	<60	<2.5R	NA	<60	34BR	<2.5R	<60	<2.5R	<2.5R
Antimony-Filtered	3	NA	<2.5	<60	NA	<2.5	<2.5	NA	<2.5	**8.4B**
Arsenic	25	<5	<2.2R	NA	<5	<2.2R	<2.2R	<5	<2.2R	<2.2R
Arsenic-Filtered	25	NA	<2.2UJ	**8**	NA	<2.2UJ	<2.2UJ	NA	<2.2UJ	**8.8BJ**
Barium	1000	**270**	**1130**	NA	**5590**	**6290J**	**894J**	**260**	**1480**	**939**
Barium-Filtered	1000	NA	**968**	**490**	NA	**841**	**960**	NA	**1610**	**521**
Cadmium	5	<5	NA	NA	<5	NA	NA	<5	NA	NA
Cadmium-Filtered	5	NA	NA	<5	NA	NA	NA	NA	NA	NA
Chromium	50	<5	**9.1B**	NA	<5	**800J**	<3.6	<5	<3.6	<3.6
Chromium-Filtered	50	NA	<3.6	<5	NA	<3.6	<3.6	NA	<3.6	**4.8B**
Copper	200	<50	**59**	NA	<50	**1740J**	**34.6J**	<50	**5.9B**	**7.7B**
Copper-Filtered	200	NA	**28.8**	<50	NA	<1.4	<1.4	NA	**1.9B**	**7.3B**
Iron	300	**9610**	**21400J**	NA	**51200**	**1940000J**	**244000J**	**11000**	**3440J**	**2420J**
Iron-Filtered	300	NA	**1990**	<50	NA	**317J**	**1280J**	NA	**161**	**49.4B**
Lead	25	<5	<1.3UJ	NA	<5	**165J**	<1.3UJ	<5	**7.7J**	<1.3UJ
Lead-Filtered	25	NA	<1.3UJ	<5	NA	<1.3UJ	<1.3UJ	NA	<1.3UJ	<1.3UJ
Manganese	300	**150**	**226**	NA	**6110**	**9590J**	**780J**	**90**	**178**	**27.4**
Manganese-Filtered	300	NA	**32.9**	<20	NA	**19.5**	**26.3**	NA	**85.6**	**1.1BJ**
Mercury	0.7	<0.4	<0.13UJ	NA	<0.4	**0.3J**	<0.13UJ	<0.2	<0.13UJ	<0.13UJ
Mercury-Filtered	0.7	NA	<0.13UJ	<0.4	NA	<0.13UJ	<0.13UJ	NA	<0.13UJ	<0.13R
Nickel	100	<50	<1R	NA	**60**	157R	<1R	<50	<1R	<1R
Nickel-Filtered	100	NA	<1	<50	NA	**1.7B**	**1.5B**	NA	**1.2B**	**4.6BJ**

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*								
		MW-21D 9/25/2001	**MW-23D 2/19/2003**	**MW-23D 10/5/2001**	**MW-23D 9/27/2001**	**MW-29D 2/18/2003**	**MW-29D (Duplicate) 2/18/2003**	**MW-29D 9/21/2001**	**MW-31D 2/21/2003**	**MW-32D 2/28/2003**
Selenium	10	<5	<2.5R	NA	<5	<2.5R	<2.5R	<5	<2.5R	<2.5R
Selenium-Filtered	10	NA	<2.5UJ	<5	NA	<2.5UJ	<2.5UJ	NA	<2.5UJ	6.7R
Silver	50	<20	<1.8R	NA	<20	<1.8R	<1.8R	<20	<1.8R	<1.8R
Silver-Filtered	50	NA	<1.8UJ	<20	NA	<1.8UJ	<1.8UJ	NA	<1.8UJ	<1.8
Vanadium	NS	<50	<3.1	NA	<50	**166J**	**14.1BJ**	<50	<3.1	<3.1
Vanadium-Filtered	NS	NA	<3.1	<50	NA	<3.1	<3.1	NA	<3.1	**4.1BJ**
Zinc	[2000]	<10	**18.4B**	NA	**60**	**1770J**	**343J**	**50**	**59J**	<0.5
Zinc-Filtered	[2000]	NA	**52.1**	**10**	NA	**136**	**139**	NA	**63.7**	**58.1J**

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*									
		MW-32D 9/24/2001	MW-34D 2/28/2003	MW-34D 10/4/2001	MW-36D 2/11/2003	MW-37D 2/7/2003	MW-38D 2/14/2003	MW-39D 2/11/2003	MW-40D 2/27/2003	MW-41D 2/6/2003	MW-43D 2/13/2003
Aluminum	NS	**3200**	569R	**600**	**560**	**8610J**	**583**	**47000**	283R	**3660J**	**12800**
Aluminum-Filtered	NS	**1200**	155BR	<100	<12.8	**27.3BJ**	NA	<12.8	151BR	<12.8	<12.8
Antimony	3	<60	**2.9B**	<60	<2.5	<2.5	<2.5R	<2.5	<2.5	<2.5	<2.5R
Antimony-Filtered	3	<60	**4.4B**	<60	<2.5	<2.5	NA	<2.5	<2.5	<2.5	<2.5
Arsenic	25	<5	<2.2	<5	<2.2	<2.2	<2.2R	<2.2	7.3BR	<2.2	<2.2R
Arsenic-Filtered	25	<0.5	**2.5BJ**	<5	**4.3B**	**4.5B**	NA	**5.6B**	**9.1BJ**	**2.5B**	**4.3BJ**
Barium	1000	**1810**	**239**	**320**	**1740**	**627**	**163B**	**1790**	**1500**	**1890**	**1610**
Barium-Filtered	1000	**1270**	**626**	**150**	**1750**	**436**	NA	**434**	**1960**	**1750**	**1690**
Cadmium	5	<5	NA	<5	NA	NA	NA	NA	NA	NA	NA
Cadmium-Filtered	5	<5	NA	<5	NA	NA	NA	NA	NA	NA	NA
Chromium	50	**8**	<3.6	**7**	<3.6	**12.3**	**6.7B**	**67.9**	**7B**	**6.4B**	**11.2**
Chromium-Filtered	50	<5	**4.2B**	<5	**8.7BJ**	<3.6	NA	<3.6	**8B**	<3.6	**4.2B**
Copper	200	**70**	**5.5B**	<50	<1.4	**8.6B**	**4.2B**	**68.3**	**6B**	**2.5B**	**22.8B**
Copper-Filtered	200	<50	<1.4	<50	<1.4	**3.1B**	NA	<1.4	<1.4	**2.5B**	<1.4
Iron	300	**14400**	**14700**	**15000**	**1110**	**16800**	**2350J**	**63300**	**447**	**6340**	**20500J**
Iron-Filtered	300	<50	**318J**	<50	**46.9B**	**13.7B**	NA	**13.3B**	**57.4B**	**5B**	**35B**
Lead	25	<5	<1.3UJ	<5	<1.3	<1.3	<1.3UJ	<1.3	**3.2J**	<1.3	**3.2J**
Lead-Filtered	25	<5	2BR	<5	<1.3	<1.3	NA	<1.3	5.1R	<1.3	<1.3UJ
Manganese	300	**440**	**248**	**210**	**166**	**172**	**31.4**	**732**	**78.1**	**79.9**	**607**
Manganese-Filtered	300	<20	**38.2J**	**40**	**155**	**12.8B**	NA	**29**	**44.8J**	**38.8**	**208**
Mercury	0.7	<0.4	<0.13UJ	<0.4	<0.13	<0.13	<0.13UJ	<0.13	**0.41J**	<0.13	<0.13UJ
Mercury-Filtered	0.7	<0.4	0.19BR	<0.4	<0.13	<0.13	NA	<0.13	0.31R	<0.13	<0.13UJ
Nickel	100	<50	**1.5BJ**	<50	**1.9B**	<1	3.2BR	**61.4**	**1.3BJ**	<1	14.4BR
Nickel-Filtered	100	<50	**4.8BJ**	<50	**2.1B**	<1	NA	**1.3B**	**1.2BJ**	<1	<1

TABLE 7-14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

METALS

NYSEG
MECHANICVILLE, NEW YORK

Parameter (µg/L)	NYSDEC GW Standard[1] (µg/L)	*Deep Bedrock Wells*									
		MW-32D 9/24/2001	**MW-34D 2/28/2003**	**MW-34D 10/4/2001**	**MW-36D 2/11/2003**	**MW-37D 2/7/2003**	**MW-38D 2/14/2003**	**MW-39D 2/11/2003**	**MW-40D 2/27/2003**	**MW-41D 2/6/2003**	**MW-43D 2/13/2003**
Selenium	10	<5	<2.5UJ	<5	<2.5UJ	<2.5	<2.5R	<2.5UJ	<2.5UJ	<2.5	<2.5R
Selenium-Filtered	10	<5	<2.5R	<5	<2.5UJ	<2.5	NA	<2.5UJ	<2.5R	**2.9BJ**	<2.5UJ
Silver	50	<20	<1.8	<20	<1.8	<1.8	<1.8R	<1.8	<1.8	<1.8	<1.8R
Silver-Filtered	50	<20	<1.8	<20	<1.8	<1.8	NA	<18	<1.8	<1.8	<1.8UJ
Vanadium	NS	<50	<3.1	<50	<3.1	**14.6B**	<3.1	**65.8**	<3.1	<3.1	**11.4B**
Vanadium-Filtered	NS	<50	<3.1	<50	<3.1	<3.1	NA	<3.1	<3.1	<3.1	<3.1
Zinc	[2000]	**30**	**45.9**	<10	<0.5	**46.2**	**16.5B**	**126**	**315J**	**14.4B**	**57.8J**
Zinc-Filtered	[2000]	**40**	**50.3J**	**10**	<0.5	**0.58B**	NA	<0.5	**416J**	**6.2B**	**50.5**

Notes:
Metals 6010.
NA: Indicates parameter was not analyzed for.
<: Indicates parameter was not detected at the quantitation limit shown.
B: Indicates result between IDL and contract required detection limit (CRDL).
R: Indicates analytical result was rejected based on data validation (see Appendix I).
J: Indicates an estimated concentration.
UJ: Indicates the analyte was not detected, but the quantitation limit is estimated.
[ ]: Indicates a Guidance Value.
NS: NYSDEC GW Standard not established.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC groundwater standard.
1. New York State Groundwater Quality Standard from Division of
Water Technical and Operational Guidance Series
(NYSDEC, TOGS 1.1.1)

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
SB-1	77.89	Y (Odor)	77.89	NR	NR	NR	NR	NR	NR	
SB-2	82.49	N	82.49	NR	NR	NR	NR	NR	NR	
SB-3	82.78	N	82.78	NR	NR	NR	NR	NR	NR	
SB-4	78.82	Y (Odor)	78.82	NR	NR	NR	NR	NR	NR	
SB-4A	83.57	Y (Odor)	83.57	NR	NR	NR	NR	NR	NR	
SB-5	81.45	N	81.45	NR	NR	NR	NR	NR	NR	
SB-6	80.17	N	80.17	NR	NR	NR	NR	NR	NR	
SB-7	81.53	N	81.53	NR	NR	NR	NR	NR	NR	
SB-8	80.50	N	80.50	NR	NR	NR	NR	NR	NR	
SB-9	80.19	N	80.19	NR	NR	NR	NR	NR	NR	
SB-10	76.50	Y	77.50	NR	NR	NR	NR	NR	NR	
SB-11	83.32	N	83.32	NR	NR	NR	NR	NR	NR	
SB-12	81.63	N	82.63	NR	NR	NR	NR	NR	NR	
SB-13	77.67	N	78.17	NR	NR	NR	NR	NR	NR	
SB-14	76.57	Y	77.87	NR	NR	NR	NR	NR	NR	
SB-15	79.12	N	79.12	NR	NR	NR	NR	NR	NR	
SB-16	71.04	Y	72.04	NR	NR	NR	NR	NR	NR	
SB-17	74.72	Y	74.72	NR	NR	NR	NR	NR	NR	
SB-18	75.49	Y	NR	NR	NR	NR	NR	NR	NR	
SB-19	79.31	N	83.71	NR	NR	NR	NR	NR	NR	
SB-20	80.24	N	80.64	NR	NR	NR	NR	NR	NR	
SB-21	75.45	Y (Odor)	76.45	NR	NR	NR	NR	NR	NR	
SB-22	77.65	Y	77.65	NR	NR	NR	NR	NR	NR	
SB-23	75.85	Y (Odor)	80.60	NR	NR	NR	NR	NR	NR	
SB-23A	76.04	Y	80.79	NR	NR	NR	NR	NR	NR	
SB-24	78.34	N	78.34	NR	NR	NR	NR	NR	NR	

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
SB-24A	78.54	Y (Odor)	78.54	NR	NR	NR	NR	NR	NR	
SB-25	79.83	N	79.83	NR	NR	NR	NR	NR	NR	
SB-26	82.36	N	82.36	NR	NR	NR	NR	NR	NR	
SB-27	80.95	N	81.95	NR	NR	NR	NR	NR	NR	
SB-28	76.70	Y	77.10	NR	NR	NR	NR	NR	NR	
SB-29	76.55	Y	76.55	NR	NR	NR	NR	NR	NR	
SB-30	67.48	Y	67.48	NR	NR	NR	NR	NR	NR	
SB-31	71.03	Y	71.03	NR	NR	NR	NR	NR	NR	
SB-32	67.34	Y	67.34	NR	NR	NR	NR	NR	NR	
SB-33	76.39	N	76.39	NR	NR	NR	NR	NR	NR	
SB-34	80.58	N	80.58	NR	NR	NR	NR	NR	NR	
SB-35	74.81	Y	74.81	NR	NR	NR	NR	NR	NR	
SB-36	72.53	N	73.58	NR	NR	NR	NR	NR	NR	
SB-37	72.71	Y (Odor)	73.71	NR	NR	NR	NR	NR	NR	
SB-38	70.97	N	71.37	NR	NR	NR	NR	NR	NR	
SB-39	71.13	N	71.13	NR	NR	NR	NR	NR	NR	
SB-40	70.28	N	70.28	NR	NR	NR	NR	NR	NR	
SB-41	76.36	N	76.36	NR	NR	NR	NR	NR	NR	
SB-42	83.80	N	83.80	NR	NR	NR	NR	NR	NR	
SB-43	76.12	N	76.12	NR	NR	NR	NR	NR	NR	
SB-44	71.64	N	71.64	NR	NR	NR	NR	NR	NR	
SB-45	70.90	N	70.90	NR	NR	NR	NR	NR	NR	
SB-46	71.62	N	71.62	NR	NR	NR	NR	NR	NR	
SB-47	79.00	N	79.00	NR	NR	NR	NR	NR	NR	
SB-48	75.00	N	75.00	NR	NR	NR	NR	NR	NR	
SB-49	72.58	N	73.38	NR	NR	NR	NR	NR	NR	

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
SB-50	89.18	N	89.18	NR	NR	NR	NR	NR	NR	
SB-51	93.10	N	NR	NR	NR	NR	NR	NR	NR	
SB-52	93.67	N	NR	NR	NR	NR	NR	NR	NR	
SB-53	77.19	N	77.19	NR	NR	NR	NR	NR	NR	
SB-54	65.27	N	65.27	NR	NR	NR	NR	NR	NR	
SB-55	68.37	N	68.37	NR	NR	NR	NR	NR	NR	
SB-56	89.43	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-57	91.02	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-58	90.44	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-59	88.94	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-60	89.95	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-61	83.49	N	83.49	NR	NR	NR	NR	NR	NR	
SB-62	86.20	Y (Odor)	86.20	NR	NR	NR	NR	NR	NR	
SB-63	71.43	N	71.43	NR	NR	NR	NR	NR	NR	
SB-64	71.22	N	71.22	NR	NR	NR	NR	NR	NR	
SB-65	85.99	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-66	85.99	N	NR	NR	NR	NR	NR	NR	NR	
SB-67	85.87	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-68	85.95	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-69	85.94	Y (Odor)	NR	NR	NR	NR	NR	NR	NR	
SB-70	85.92	N	NR	NR	NR	NR	NR	NR	NR	
SB-C1	66.61	N	66.61	NR	NR	NR	NR	NR	NR	
SB-C2	65.12	Y	65.12	NR	NR	NR	NR	NR	NR	
SB-C3	70.94	N	70.94	NR	NR	NR	NR	NR	NR	
MW-1	71.37	N	80.57	~80.57	N	NR	NR	NR	NR	
MW-1I	15.83	N	81.33	~73.49	Y	NR	NR	NR	NR	

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
MW-1D	-64.21	N	79.99	73.49	Y	NE	NE	NE	NE	
MW-2	72.04	N	78.84	~78.84	N	NR	NR	NR	NR	
MW-2I	56.40	Y (Odor)	79.60	76.4	N	62.4	N	NR	NR	
MW-10	72.48	Y	72.88	NR	NR	NR	NR	NR	NR	
MW-10I	49.58	Y	72.33	NR	NR	NR	NR	NR	NR	Odors above Upper Pencil Cleavage Zone
MW-10D	-21.12	Y	72.63	28.48	Y	23.68	N	9.18	Y	
MW-11	68.69	N	80.69	~80.69	N	NR	NR	NR	NR	
MW-12	68.39	Y	68.39	NR	NR	NR	NR	NR	NR	
MW-12S	65.88	Y	67.88	~67.88	N	NR	NR	NR	NR	
MW-13	38.64	Y	68.64	~68.64	Y	NR	NR	NR	NR	
MW-14	39.76	N	71.26	~71.26	Y	NR	NR	NR	NR	
MW-14S	68.79	Y (Odor)	68.79	NR	NR	NR	NR	NR	NR	
MW-14D	-27.24	Y (Odor)	69.16	67.46	N	29.46	Y	NR	NR	
MW-15S	73.51	Y	73.51	NR	NR	NR	NR	NR	NR	
MW-15I	60.26	Y (Odor)	73.26	72.56	Y	NR	NR	NR	NR	
MW-15D	-19.46	Y	74.34	74.04	Y	NE	NE	NE	NE	NAPL in low intensity pencil cleavage zone at ~8 feet msl.
MW-16	74.38	N	82.38	~82.38	N	NR	NR	NR	NR	
MW-17	71.37	N	71.37	NR	NR	NR	NR	NR	NR	
MW-17I	48.55	N	72.25	~72.25	N	NR	NR	NR	NR	
MW-17D	-48.95	N	72.85	68.45	Y	NE	NE	NE	NE	NAPL in low intensity pencil cleavage zone at -13.35 feet msl.
MW-18	55.93	N	71.43	~71.43	N	NR	NR	NR	NR	
MW-19I	60.70	N	83.70	80.7	N	64.2	N	NR	NR	
MW-20D	-15.23	N	74.47	71.37	N	34.17	N	NR	NR	
MW-21S	74.44	Y	77.44	~74.85	Y	NR	NR	NR	NR	

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
MW-21D	27.05	Y	77.45	74.85	Y	NR	NR	NR	NR	
MW-22I	49.19	N	79.54	77.29	Y	NR	NR	NR	NR	
MW-23S	70.47	Y	70.47	NR	NR	NR	NR	NR	NR	
MW-23D	4.45	Y	69.96	67.36	Y	24.46	N	9.16	N	
MW-25S	65.76	Y	66.76	NR	NR	NR	NR	NR	NR	
MW-25I	47.17	Y	67.17	67.17	Y	NR	NR	NR	NR	
MW-26S	67.00	Y	68.40	NR	NR	NR	NR	NR	NR	
MW-26I	46.38	Y	68.78	66.38	Y	52.48	Y	NR	NR	
MW-28I	60.35	Y (Odor)	73.55	71.35	N	NR	NR	NR	NR	
MW-29I	58.89	Y (Odor)	75.39	72.89	Y	NR	NR	NR	NR	
MW-29D	-26.73	Y (Odor)	74.77	58.37	Y	NE	NE	NE	NE	No NAPL in low intensity pencil cleavage zone below -12.73 feet msl.
MW-30S	66.22	Y	67.72	NR	NR	NR	NR	NR	NR	
MW-30D	-27.81	Y	67.69	64.69	Y	23.19	Y	NR	NR	
MW-31S	78.61	N	72.21	NR	NR	NR	NR	NR	NR	
MW-31D	-51.10	N	72.50	NC	NC	NC	NC	NC	NC	
MW-32D	-24.27	N	77.48	75.28	N	61.23	N	31.03	N	
MW-33D	-46.66	N	76.34	67.94	Y	NR	NR	NR	NR	
MW-34D	-26.24	N	70.76	67.29	Y	23.26	N	-14.74	N	
MW-35I	46.44	Y (Odor)	70.44	67.74	Y	NR	NR	NR	NR	
MW-36I	49.61	N	89.11	~75.68	N	NR	NR	NR	NR	
MW-36D	-66.42	N	85.58	75.68	N	20.68	N	-50.42	N	No NAPL below Lower Pencil Cleavage Zone
MW-37I	48.54	Y (Odor)	82.34	~35.69	N	NR	NR	NR	NR	
MW-37D	-86.41	N	82.39	35.69	N	-57.41	N	NR	NR	
MW-38I	-41.10	N	67.00	~60.36	N	~24.96	N	~14.96	N	NAPL below Lower Pencil Cleavage Zone
MW-38D	-91.14	N	66.46	60.36	N	24.96	N	14.96	N	NAPL below Lower Pencil Cleavage Zone

TABLE 7-15
EXTENT OF NAPL IN OVERBURDEN AND PENCIL CLEAVAGE ZONES

NYSEG
MECHANICVILLE, NEW YORK

Well Number	Total Depth (Feet MSL)	NAPL in Overburden	Top of Bedrock (Feet MSL)	Upper Pencil Cleavage Zone		Less Intense Pencil Cleavage Zone		Lower Pencil Cleavage Zone		COMMENTS
				Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	Elevation of Top (Feet MSL)	NAPL	
MW-39D	-58.18	N	60.22	54.62	N	53.22	N	42.22	N	
MW-40D	-75.82	N	68.18	NE	NE	NE	NE	14.18	Y	
MW-41D	-46.44	N	79.56	NE	NE	79.56	N	NE	NE	
MW-42D	-81.28	N	65.72	NE	NE	65.72	Y	NE	NE	
MW-43D	-48.95	N	86.25	NC	NC	NC	NC	NC	NC	
RH-1S	69.76	Y	70.06	NR	NR	NR	NR	NR	NR	
RH-1D	-20.06	Y	69.94	68.44	Y	20.44	Y	NR	NR	

Notes:
Y: NAPL Present
Y (Odors): No visible NAPL present, only odors.
N: NAPL or odors not present.
NA: Not Available.
NC: No Core Recovered.
NE: Not Encountered.
NR: Not Reached.
~: Indicates elevation is approximate.
NAPL extent is based on information from boring logs, packer tests, and NAPL checks through June 20, 2003.

TABLE 7-16

SUMMARY OF ANALYTICAL RESULTS
ANTHONY KILL SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC Sediment Screening Criteria[1]	AK-1 (0-1') 8/28/2002	AK-2 (0-1') 8/28/2002	AK-3 (0-2') 8/28/2002	AK-4 (0-1') 8/28/2002	AK-5 (0-1') 8/28/2002	AK-6 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002 DUPLICATE
Total Organic Carbon									
TOC	NS	**2,240**	**5,420**	**2,530**	**1,900**	**3,150**	**6,180**	**23,500**	NA
Polychlorinated Biphenyls									
Aroclor-1016	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1221	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1232	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1242	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1248	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1254	NS	<1	<1	<1	<1	<1	<1	<1	<1
Aroclor-1260	NS	<1	<1	<1	<1	<1	<1	<1	<1
Total PCBs	0.009	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Volatile Organic Compounds									
Acetone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	0.180	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Butanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Disulfide	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	0.022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibromochloromethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene, total	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.154	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Hexanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

TABLE 7-16

SUMMARY OF ANALYTICAL RESULTS
ANTHONY KILL SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC Sediment Screening Criteria[1]	AK-1 (0-1') 8/28/2002	AK-2 (0-1') 8/28/2002	AK-3 (0-2') 8/28/2002	AK-4 (0-1') 8/28/2002	AK-5 (0-1') 8/28/2002	AK-6 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002 DUPLICATE
Styrene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	0.314	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene, total	0.590	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total VOCs	NS	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds									
Acenaphthene	0.898	<0.33	<0.33	<0.33	<0.33	**0.53**	<0.33	**0.6**	NA
Acenaphthylene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Anthracene	0.687	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.53**	NA
Benzo(a)anthracene	0.077	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.5**	NA
Benzo(a)pyrene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.47**	NA
Benzo(b)fluoranthene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Benzo(g,h,i)perylene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Benzo(k)fluoranthene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Chrysene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.48**	NA
Dibenzo(a,h)anthracene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Dibenzofuran	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NA
Fluoranthene	6.55	<0.33	<0.33	<0.33	<0.33	**0.33**	<0.33	**1.1**	NA
Fluorene	0.051	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.42**	NA
Indeno(1,2,3-cd)pyrene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.35**	NA
2-Methylnaphthalene	0.218	<0.33	<0.33	<0.33	<0.33	**0.38**	<0.33	**0.87**	NA
Naphthalene	0.193	<0.33	<0.33	<0.33	<0.33	**1.3**	<0.33	**0.83**	NA
Phenanthrene	0.770	<0.33	<0.33	<0.33	<0.33	**0.62**	<0.33	**2**	NA
Pyrene	6.17	<0.33	<0.33	<0.33	<0.33	**0.38**	<0.33	**2**	NA
Total SVOCs	NS	**ND**	**ND**	**ND**	**ND**	**3.54**	**ND**	**10.2**	**NA**
Total Phenols									
Phenols, total	0.007	<0.2	<0.2	<0.2	<0.2	<0.2	**1.3**	<0.2	<0.2
Cyanide									
Cyanide, Free (weak & dissoc.)	NS	<1.2	<1.4	<1.2	<1.2	<1.2	<1.2	<1.8	NA
Cyanide, total	NS	<1.2	<1.4	<1.2	<1.2	<1.2	<1.2	<1.8	NA

TABLE 7-16

SUMMARY OF ANALYTICAL RESULTS
ANTHONY KILL SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC Sediment Screening Criteria[1]	AK-1 (0-1') 8/28/2002	AK-2 (0-1') 8/28/2002	AK-3 (0-2') 8/28/2002	AK-4 (0-1') 8/28/2002	AK-5 (0-1') 8/28/2002	AK-6 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002	AK-7 (0-1') 8/28/2002 DUPLICATE
Metals									
Aluminum	NS	**3,440**	**4,400**	**3,810**	**4,340**	**4,540**	**3,300**	**5,470**	**5,520**
Antimony	2-25	<3.68	<4	<3.64	<3.5	<3.75	<3.72	<5.26	<5
Arsenic	6-33	<0.31	<0.34	<0.3	<0.3	<0.31	<0.31	<0.44	<0.42
Barium	NS	**18.9**	**24.6**	**18.3**	**22.7**	**27.7**	**19.2**	**39.3**	**38.7**
Cadmium	0.6-9	<0.31	<0.34	<0.3	<0.3	<0.31	<0.31	<0.44	<0.42
Chromium	26-110	**2.58**	**3.16**	**2.24**	**3.71**	**3.06**	**1.92**	**3.02**	**2.83**
Copper	16-110	**3.67**	**8.82**	**3.94**	**10.5**	**5**	**4.09**	**10.6**	**8.75**
Iron	NS	**6,570**	**8,040**	**7,700**	**8,410**	**875**	**6,630**	**8,440**	**8,450**
Lead	31-110	**0.98**	**5.06**	**6.61**	**0.35**	**9.19**	**1.88**	**15.1**	**4.94**
Manganese	460-1,100	**179**	**207**	**293**	**315**	**538**	**253**	**554**	**532**
Mercury	0.15-1.3	<0.024	<0.027	<0.024	<0.024	<0.025	<0.025	<0.035	<0.033
Nickel	16-50	**4.97**	**6.8**	**5.39**	**6.47**	**7.06**	**4.81**	**6.4**	**6.3**
Selenium	NS	<0.31	<0.34	<0.3	<0.3	<0.31	<0.31	<0.44	<0.42
Silver	1-2.2	<1.23	<1.34	<1.21	<1.18	<1.25	<1.24	<1.75	<1.77
Vanadium	NS	**4.94**	**6.39**	**5.64**	**6.7**	**6.44**	**4.8**	**7.54**	**7.47**
Zinc	120-270	**29.8**	**37.4**	**30.2**	**25.6**	**29.7**	**23.8**	**52.1**	**42**

Notes:

1. Technical Guidance for Screening Contaminated Sediments, NYSDEC, January 1999. For SVOCs and VOCs, the more stringent of the Benthic Aquatic Life Criteria or the Wildlife Accumulation Criteria was used. For organic contaminants, the published criteria are reported in ug/g of organic carbon. These values were multiplied by an average TOC value of 6,420 mg/kg for the Anthony Kill sediment samples and converted to units of mg/kg for comparison to the analytical results. For inorganic contaminants (metals), the Lowest Effect Level (LEL) and Severe Effect Level (SEL) are given for comparison.

NS: NYSDEC Sediment Screening Criteria is not available.
Italicized parameters are carcinogenic polycyclic aromatic hydrocarbons (CPAHs)
<: Indicates that the parameter was not detected at the reporting limit shown.
ND: Indicates that the parameter was not detected.
NA: Indicates that the parameter was not analyzed for.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC Sediment Screening Criteria.

TABLE 7-17

SUMMARY OF AVS/SEM RESULTS
ANTHONY KILL SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Parameter	AK-3 (0-2') 8/28/2002		AK-5 (0-1') 8/28/2002		AK-7 (0-1') 8/28/2002	
AVS/SEM	**(mg/kg)**	**(µmole/g)**	**(mg/kg)**	**(µmole/g)**	**(mg/kg)**	**(µmole/g)**
Acid Volatile Sulfide	9	0.281	<3	0.047	<3	0.047
Cadmium	<0.152	0.001	<0.16	0.001	<0.22	0.001
Copper	2.32	0.037	3.4	0.054	7.09	0.112
Lead	2.93	0.014	4.96	0.024	11.2	0.054
Mercury	<0.024	0.000	<0.025	0.000	<0.035	0.000
Nickel	1.28	0.022	5.38	0.092	2.71	0.046
Zinc	12.1	0.185	22.9	0.350	33.3	0.509
Total SEM	-	0.258	-	0.520	-	0.722
AVS/SEM Ratio	-	**1.087**	-	**0.090**	-	**0.065**

Notes:
<: Indicates that the parameter was not detected at the reporting limit shown.
AVS: Acid Volatile Sulfide
SEM: Simultaneously Extracted Metals
AVS/SEM Ratio greater than 1 indicates lower bioavailabilty of the metals to benthic organisms.

TABLE 7-18

SUMMARY OF ANALYTICAL RESULTS
HUDSON RIVER SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Parameter (mg/kg)	NYSDEC Sediment Screening Criteria	HR-1 (0-2') 8/27/2002	HR-2 (0-3') 8/27/2002	HR-3 (0-2') 8/27/2002	HR-4 (0-5') 8/27/2002	HR-5 (1'-7') 8/27/2002	HR-5 (1'-7') 8/27/2002 DUPLICATE
Total Organic Carbon							
TOC	NS	**55,400**	**18,000**	**9,680**	**112,000**	**160,000**	**24,500**
Semivolatile Organic Compounds							
Acenaphthene	8.86	<0.33	<0.33	<0.33	**1**	**1.5**	**1.1**
Acenaphthylene	NS	<0.33	<0.33	<0.33	**0.62**	**0.4**	<0.33
Anthracene	6.77	**0.42**	<0.33	<0.33	**1.5**	**1.1**	**0.47**
Benzo(a)anthracene	0.759	**0.63**	<0.33	<0.33	**2.9**	**2.3**	**0.82**
Benzo(a)pyrene	NS	**0.55**	<0.33	<0.33	**2.6**	**2.3**	**0.85**
Benzo(b)fluoranthene	NS	**0.48**	<0.33	<0.33	**2**	**1.7**	**0.6**
Benzo(g,h,i)perylene	NS	**0.33**	<0.33	<0.33	**1.7**	**1.5**	**0.58**
Benzo(k)fluoranthene	NS	**0.38**	<0.33	<0.33	**1.9**	**1.3**	**0.43**
Chrysene	NS	**0.68**	<0.33	<0.33	**2.7**	**2.4**	**0.78**
Dibenzo(a,h)anthracene	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	NS	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	64.5	**1.2**	<0.33	<0.33	**4.9**	**2.2**	**0.95**
Fluorene	0.506	<0.33	<0.33	<0.33	**0.88**	**0.93**	**0.8**
Indeno(1,2,3-cd)pyrene	NS	**0.42**	<0.33	<0.33	**1.5**	**1.3**	**0.47**
2-Methylnaphthalene	2.15	<0.33	<0.33	<0.33	**0.43**	**0.9**	<0.33
Naphthalene	1.90	<0.33	<0.33	<0.33	**0.55**	**0.9**	<0.33
Phenanthrene	7.59	**1.1**	<0.33	<0.33	**6.6**	**3.7**	**2.3**
Pyrene	60.8	**1.5**	<0.33	<0.33	**9.8**	**5.9**	**2.4**
Total SVOCs	NS	**7.69**	**ND**	**ND**	**41.6**	**30.3**	**12.6**
Cyanide							
Cyanide, Free (weak & dissoc.)	NS	<1.3	<1.1	<1.1	<1.4	<2.2	<1.4
Cyanide, total	NS	<1.3	<1.1	<1.1	<1.4	<2.2	<1.4

TABLE 7-18

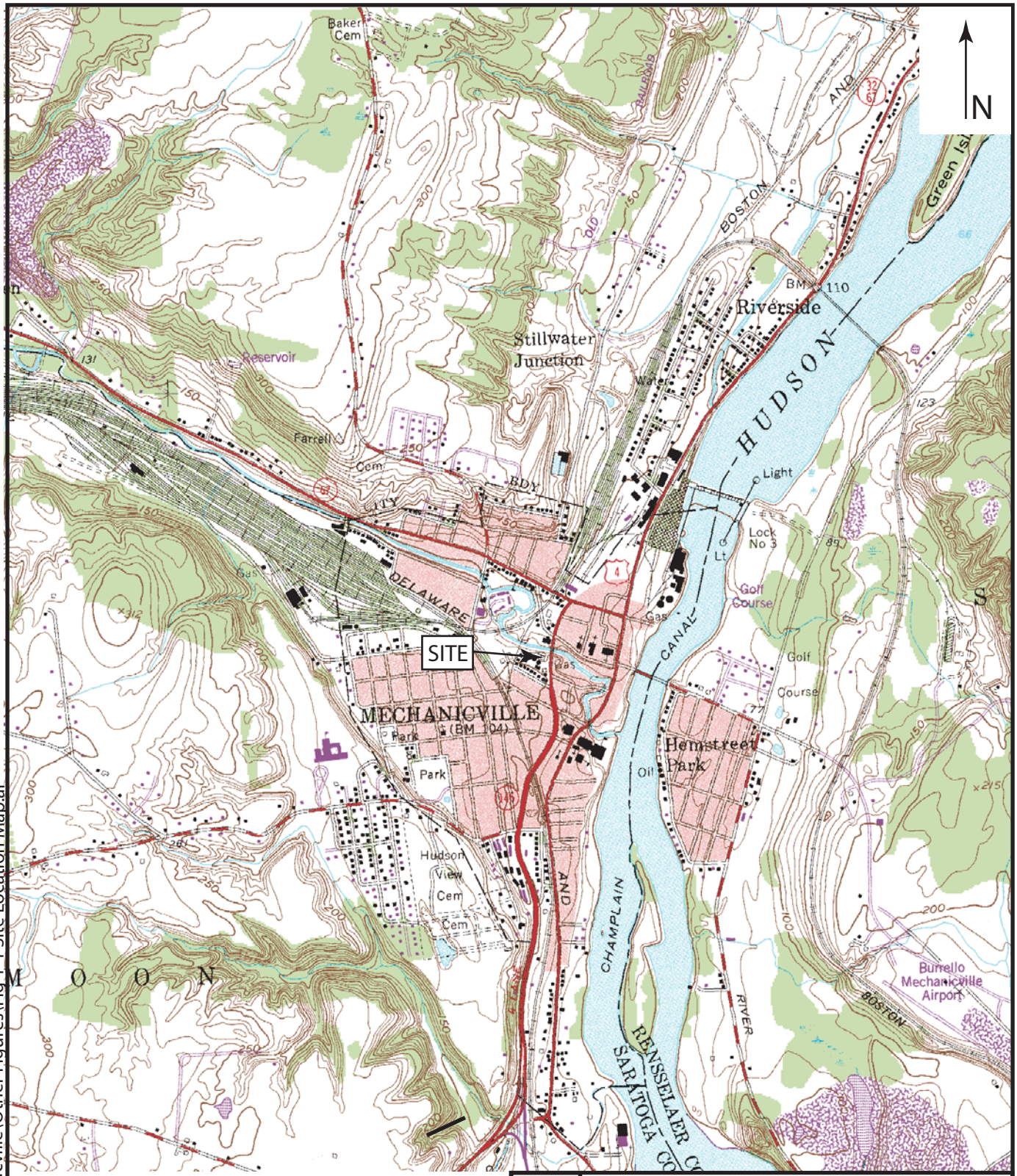
SUMMARY OF ANALYTICAL RESULTS
HUDSON RIVER SEDIMENT SAMPLES

NYSEG
MECHANICVILLE, NEW YORK

Notes:

1. Technical Guidance for Screening Contaminated Sediments, NYSDEC, January 1999. For SVOCs and VOCs, the more stringent of the Benthic Aquatic Life Criteria or the Wildlife Accumulation Criteria was used. For organic contaminants, the published criteria are reported in ug/g of organic carbon. These values were multiplied by an average TOC value of 63,300 mg/kg for the Hudson River sediment samples and converted to units of mg/kg for comparison to the analytical results. For inorganic contaminants (metals), the Lowest Effect Level (LEL) and Severe Effect Level (SEL) are given for comparison.

NS: NYSDEC Sediment Screening Criteria is not available.
Italicized parameters are carcinogenic polycyclic aromatic hydrocarbons (CPAHs)
<: Indicates that the parameter was not detected at the reporting limit shown.
ND: Indicates that the parameter was not detected.
NA: Indicates that the parameter was not analyzed for.
BOLD concentrations indicate values detected above the reporting limit.
Shaded values indicate concentrations detected above the NYSDEC Sediment Screening Criteria.



Source: USGS Mechanicville 7.5' Quadrangle, 1954 (Photorevised 1980).

FIGURE 1-1

SITE LOCATION MAP

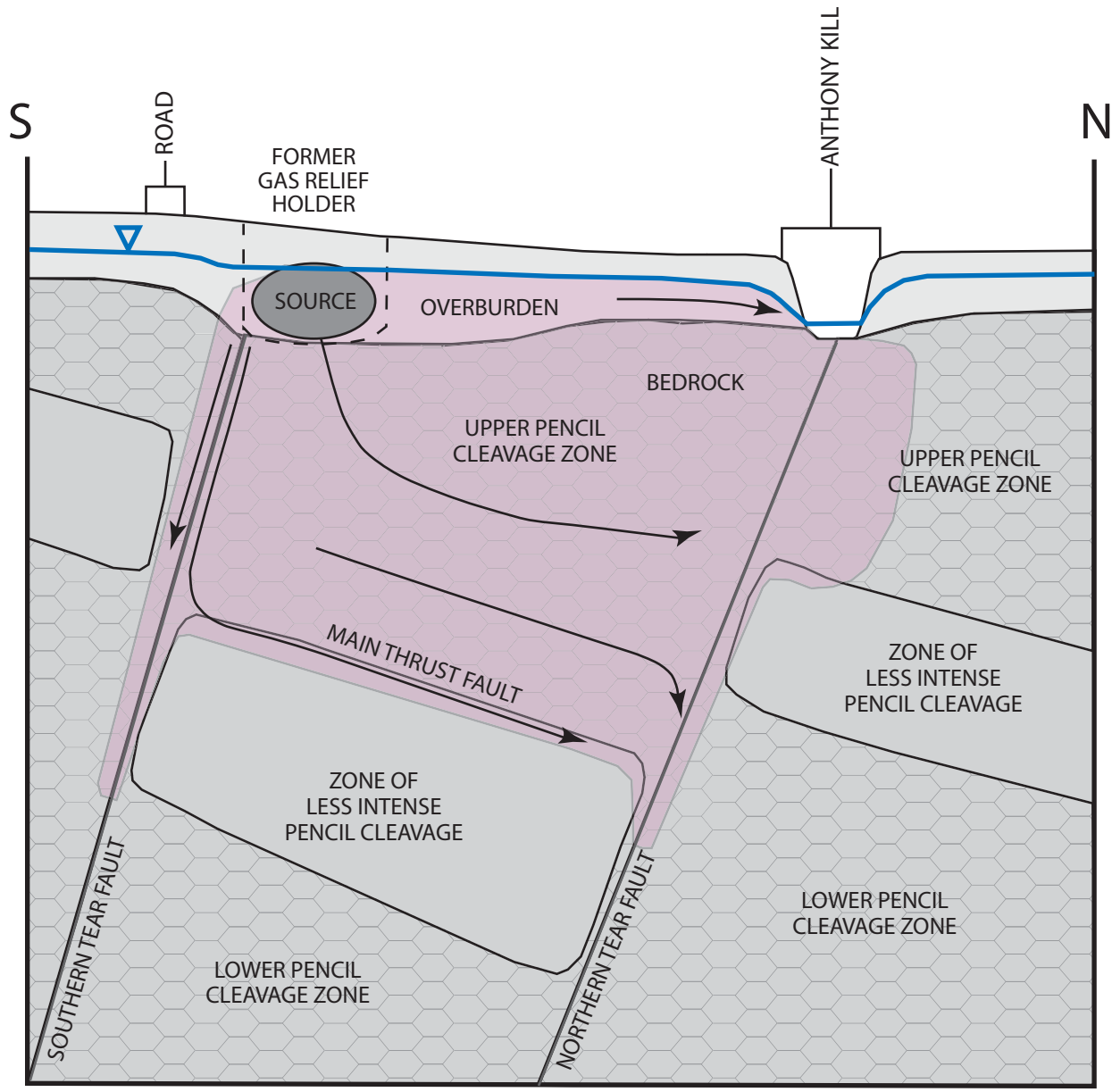
NYSEG

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 1-1 Site Location Map.ai



LEGEND:

- NAPL
- CONTAMINANT MIGRATION
- OVERBURDEN
- BEDROCK
- ZONE OF INTENSE PENCIL CLEAVAGE
- WATER TABLE

FIGURE 2-1	CONCEPTUAL SITE MODEL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 2-1 Conceptual Site Model.ai

ANTHONY KILL

REMAINING NYSEG PROPERTY

FORMER DIESEL UST

TRANSFORMER STORAGE

FILTER BEDS

12" CMP

C.B.

FORMER MGP SITE

COAL STORAGE

BOILER ROOM

SUBSTATION

12" CMP

C.B.

NYSEG MECHANICS SHOP AND REPAIR BUILDING

STORAGE AND TOOL HOUSE

FERRIS LANE

FORMER GASOLINE UST

TAR DEHYDRATOR

GAS HOUSE

PURIFIER HOUSE

OXIDE HOUSE

OIL TANKS UNDER PLATFORM

METER

DISTRIBUTION GAS HOLDER 100,000 FT³

OIL TANK

GAS RELIEF HOLDER 40,000 FT³

GAS REGULATOR BUILDING

TRANSFORMER PLATFORM

CHAMPLAIN CANAL (NOW NORTH CENTRAL AVENUE)

NYSEG SUBSTATION

BURKE

N

LEGEND

- CURRENT STRUCTURE
- FORMER STRUCTURE
- POWER POLE
- LIGHT POLE
- POST, SIGN
- FORMER RAILROAD TRACKS

0 50 100

SCALE IN FEET

FIGURE 3-1

FORMER SITE LAYOUT

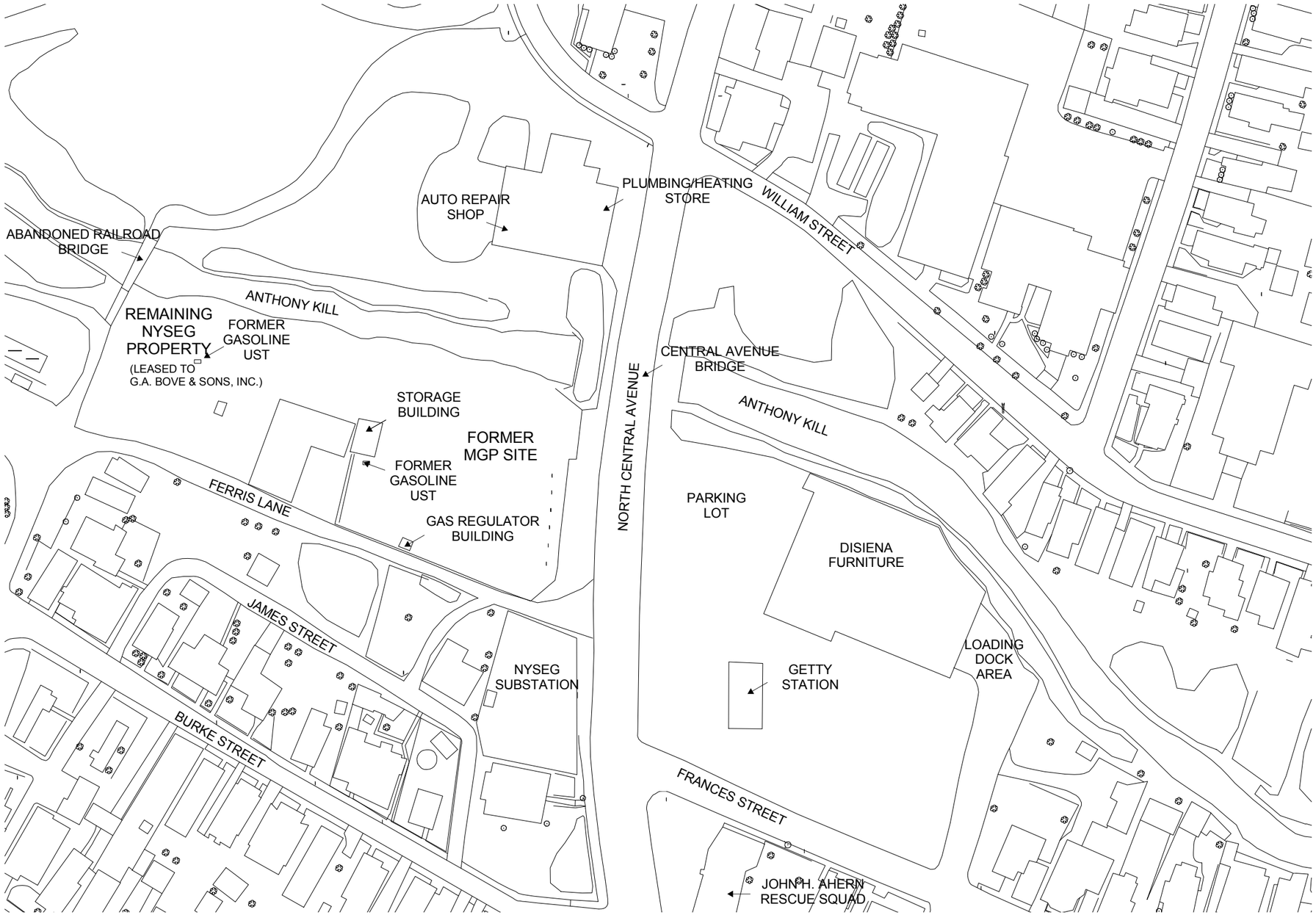
NYSEG

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 3-1 Former Site Layout.dwg



GRAPHIC SCALE

0 40 80 120 160 Feet

FIGURE 3-2	CURRENT SITE MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 3-2 Current Site Map

P:/Database/NYSEG/Mechanicville\Other Figures\Fig 3-3 Interim Remedial Measure

PE-16 (9') 19 JAN 00
TOTAL BENZENE – <0.007
TOTAL PAHs – 189.1

PE-18 (7') 24 JAN 00
TOTAL BENZENE – 4
TOTAL PAHs – 17,500

PE-17 (8') 19 JAN 00
TOTAL BENZENE – <0.016
TOTAL PAHs – 117.5

PE-20 (7') 6 APR 00
TOTAL BENZENE – <0.006
TOTAL PAHs – 88.70

PE-19 (8') 25 JAN 00
TOTAL BENZENE – 0.310
TOTAL PAHs – 6,150

PE-6 (4') 23 NOV 99
TOTAL BENZENE – 17
TOTAL PAHs – 993.1

PE-7 (10') 23 NOV 99
TOTAL BENZENE – 6.2
TOTAL PAHs – 935.9

PE-2 (4') 23 NOV 99
TOTAL BENZENE – 0.330
TOTAL PAHs – 572.5

PE-5 (4') 23 NOV 99
TOTAL BENZENE – 6
TOTAL PAHs – 29,930

PE-8 (6') 23 NOV 99
TOTAL BENZENE – 0.130
TOTAL PAHs – 9.886

PE-9 (7') 23 NOV 99
TOTAL BENZENE – 9.8
TOTAL PAHs – 7,891

PE-1 (8') 23 NOV 99
TOTAL BENZENE – 9
TOTAL PAHs – 1,603

PE-26 (2') 27 SEP 00
TOTAL BENZENE – <0.005
TOTAL PAHs – 112.7

PE-24 (1') 27 SEP 00
TOTAL BENZENE – <0.006
TOTAL PAHs – 190.7

PE-25 (2') 27 SEP 00
TOTAL BENZENE – 0.079
TOTAL PAHs – 76.10

PE-3 (5') 23 NOV 99
TOTAL BENZENE – 140
TOTAL PAHs – 24,380

PE-12 (4') 13 JAN 00
TOTAL BENZENE – 0.067
TOTAL PAHs – 46.95

PE-10 (7') 12 JAN 00
TOTAL BENZENE – <0.006
TOTAL PAHs – 0.758

PE-11 (8') 12 JAN 00
TOTAL BENZENE – <0.008
TOTAL PAHs – 48.42

PE-4 (5') 23 NOV 99
TOTAL BENZENE – 35
TOTAL PAHs – 2,223

PE-15 (5') 19 JAN 00
TOTAL BENZENE – 2.6
TOTAL PAHs – 3,221

PE-22 (3') 10 APR 00
TOTAL BENZENE – <0.006
TOTAL PAHs – 166.3

PE-23 (3') 10 APR 00
TOTAL BENZENE – <0.006
TOTAL PAHs – 20.79

PE-14 (12') 19 JAN 00
TOTAL BENZENE – 44
TOTAL PAHs – 11,860

PE-21 (3') 10 APR 00
TOTAL BENZENE – 0.220
TOTAL PAHs – 4,627

PE-13 (6') 14 JAN 00
TOTAL BENZENE – 3.8
TOTAL PAHs – 2,763

AREA 5
AREA 3
AREA 4
AREAS 1 AND 2

ANTHONY KILL
REMAINING NYSEG PROPERTY
FERRIS LANE
FORMER DIESEL UST
TRANSFORMER STORAGE
NYSEG MECHANICS SHOP AND REPAIR BUILDING
STORAGE AND TOOL HOUSE
FORMER GASOLINE UST
COAL STORAGE
C.B.
FORMER MGP SITE
BOILER ROOM
SUBSTATION
TAR DEHYDRATOR
GAS HOUSE
PURIFIER HOUSE
OXIDE HOUSE
OIL TANK UNDER PLATFORM
METER
DISTRIBUTION GAS HOLDER 100,000 FT³
GAS REGULATOR BUILDING
TRANSFORMER PLATFORM
GAS RELIEF HOLDER 40,000 FT³
CHAMPLAIN CANAL (NOW NORTH CENTRAL AVENUE)
NYSEG

N

0 50 100
SCALE IN FEET

LEGEND

FORMER STRUCTURE
POWER POLE
LIGHT POLE
POST, SIGN
FORMER RAILROAD TRACKS

ALL VALUES IN mg/kg

APPROXIMATE LIMIT OF EXCAVATION (NOVEMBER 1999 TO APRIL 2000)

PE-23 ● 1999/2000 IRM EXCAVATION ENDPOINT SAMPLING LOCATION

BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

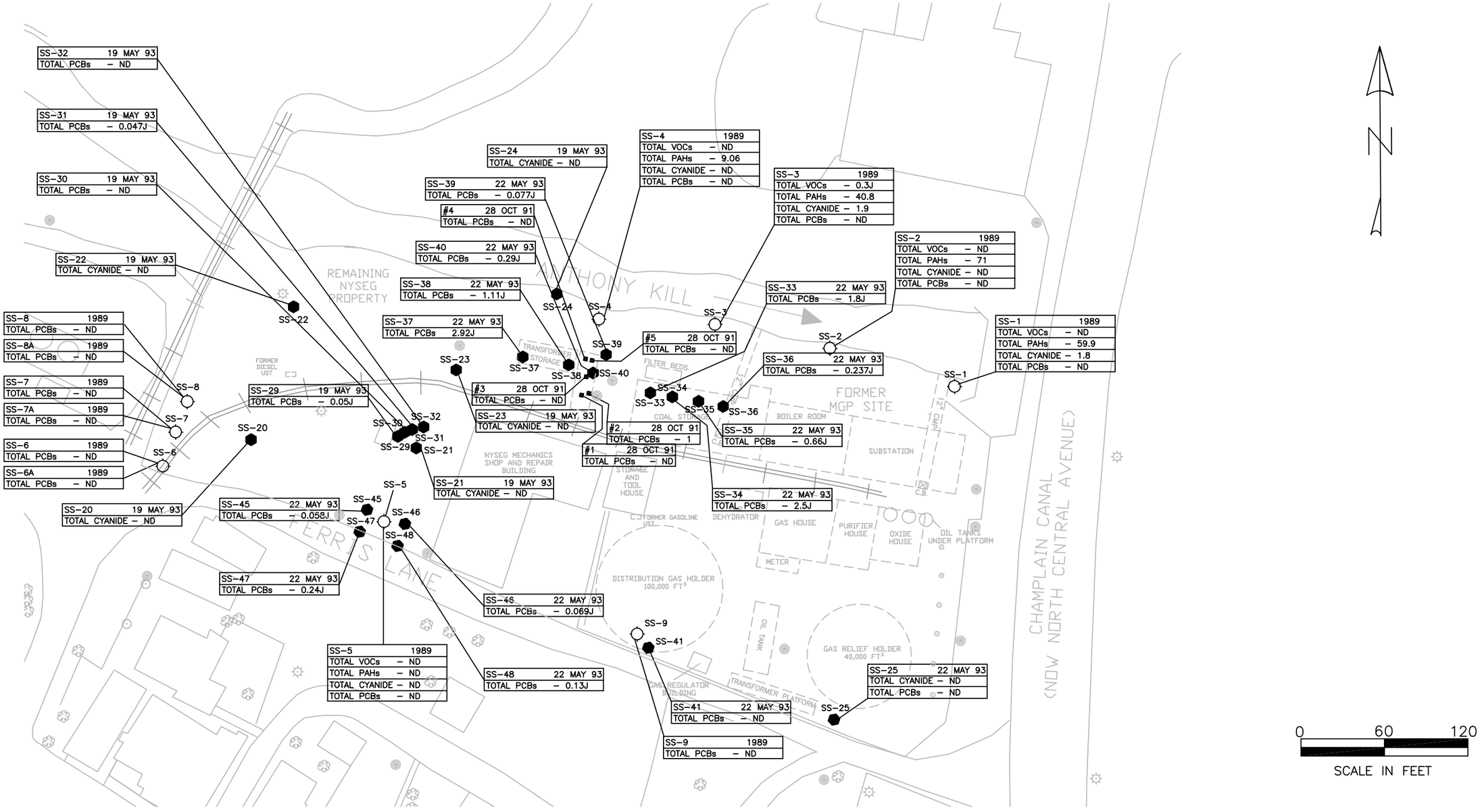
FIGURE 3-3

1999 AND 2000 INTERIM REMEDIAL MEASURE

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 3-4 Surface Soil.dwg



LEGEND

- FORMER STRUCTURE
- POWER POLE
- LIGHT POLE
- POST, SIGN
- FORMER RAILROAD TRACKS
- #1 — 1991 SURFACE SOIL SAMPLING LOCATION FROM 2 FEET
- SS-29 — 1993 SURFACE SOIL SAMPLING LOCATION
- SS-1 — 1989 SURFACE SOIL SAMPLING LOCATION

ALL VALUES IN MILLIGRAMS PER KILOGRAM

ND NOT DETECTED

J ESTIMATED BELOW THE REPORTING LIMIT

BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

FIGURE 3-4

1986 THROUGH 1993
SURFACE SOIL INVESTIGATION

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 3-5 Subsurface Soil Investigation.dwg

B-15 (4'-8') 19 NOV 87
VOCs – 1.45
TOTAL PAHs – ND
CYANIDE – ND

B-5 (10'-11') 4 AUG 86
VOCs – 15.98
TOTAL PAHs – 4,654
CYANIDE – ND

TP-5 (3'-4') 21 JULY 86	TP-5 (4'-6') 21 JULY 86
VOCs – 24.4	VOCs – 15
TOTAL PAHs – 4,630	TOTAL PAHs – 1,137
CYANIDE – ND	CYANIDE – NA

TP-1 (6.5'-7.0') 21 JULY 86
VOCs – ND
TOTAL PAHs – ND
CYANIDE – ND

B-9 (4'-5.5') 17 NOV 87
VOCs – NA
TOTAL PAHs – 305
CYANIDE – ND

B-14 (18'-20') 17 NOV 87
VOCs – NA
TOTAL PAHs – ND
CYANIDE – ND

B-3 (4'-6') 5 AUG 86
VOCs – 270.6
TOTAL PAHs – 9,310
CYANIDE – 3.2

B-16 (6'-8') 17 MAY 93
VOCs – ND
TOTAL PAHs – 0.231
CYANIDE – ND

B-4 (6'-8') 29 JULY 86
VOCs – 10.3
TOTAL PAHs – 796
CYANIDE – 1.0

TP-4 (3'-4') 21 JULY 86
VOCs – 0.848
TOTAL PAHs – 412
CYANIDE – ND

B-2 (8'-9.5') 1 AUG 86
VOCs – ND
TOTAL PAHs – ND
CYANIDE – ND

B-7 (7'-9') 31 JULY 86
VOCs – 4.31
TOTAL PAHs – 11.2
CYANIDE – ND

B-8 (13.5'-15.5') 6 AUG 86
VOCs – 3,800
TOTAL PAHs – 8,720
CYANIDE – ND

TP-2 (7.0'-7.5') 21 JULY 86
VOCs – ND
TOTAL PAHs – 120
CYANIDE – 2

B-12 (22'-24') 19 NOV 87
VOCs – 0.120 J
TOTAL PAHs – 7.6
CYANIDE – ND

B-17 (18'-20') 18 MAY 93
VOCs – ND
TOTAL PAHs – 0.729
CYANIDE – ND

B-1 (8'-10') 23 JULY 86
VOCs – ND
TOTAL PAHs – 54.2
CYANIDE – ND

B-10 (16'-18') 17 NOV 87
VOCs – NA
TOTAL PAHs – 4.20
CYANIDE – ND

ANTHONY KILL
REMAINING NYSEG PROPERTY
FORMER MGP SITE
FERRIS LANE
CHAMPLAIN CANAL (NORTH CENTRAL AVENUE)
FORMER DIESEL UST
TRANSFORMER STORAGE
COAL STORAGE
FILTER BED
C.B.
BOILER ROOM
SUBSTATION
12" CMP
NYSEG MECHANICS SHOP AND REPAIR BUILDING
STORAGE AND TOOL HOUSE
FORMER GASOLINE TANK
TAR DEHYDRATOR
GAS HOUSE
PURIFIER HOUSE
OXIDE HOUSE
OIL TANKS UNDER PLATFORM
METER
DISTRIBUTION GAS HOLDER 100,000 FT³
OIL TANK
GAS RELIEF HOLDER 40,000 FT³
GAS REGULATOR BUILDING
TRANSFORMER PLATFORM
NYSEG
BURY

B-16 MW-16
B-11 MW-11
TP-1 P-1
B-20
TP-5
B-21
B-25
B-5 MW-5
B-22
B-15 MW-15
B-23
B-24
B-9
B-14 MW-14
B-3 MW-3
B-4 MW-4
B-6 MW-6
TP-4
TP-3
B-2 MW-2
B-7
TP-2 P-2
B-13 MW-13
B-12 MW-12
B-8
B-17 MW-17
B-18 MW-18
B-1 MW-1
B-10 MW-10

0 50 100
SCALE IN FEET

N

LEGEND

- FORMER STRUCTURE
- POWER POLE
- LIGHT POLE
- POST, SIGN
- FORMER RAILROAD TRACKS

- B-14 / MW-14 — DEEP BEDROCK BORING AND MONITORING WELL LOCATION
- B-7 — SOIL AND SHALLOW BEDROCK BORING LOCATION
- TP-1 / P-1 — TEST PIT AND PIEZOMETER LOCATION
- TP-3 — TEST PIT LOCATION

- B-16 / MW-16 — SOIL AND SHALLOW BEDROCK BORING AND MONITORING WELL LOCATION
- ND — NOT DETECTED
- NA — NOT ANALYZED
- J — ESTIMATED BELOW REPORTING LIMIT

ALL VALUES IN mg/kg

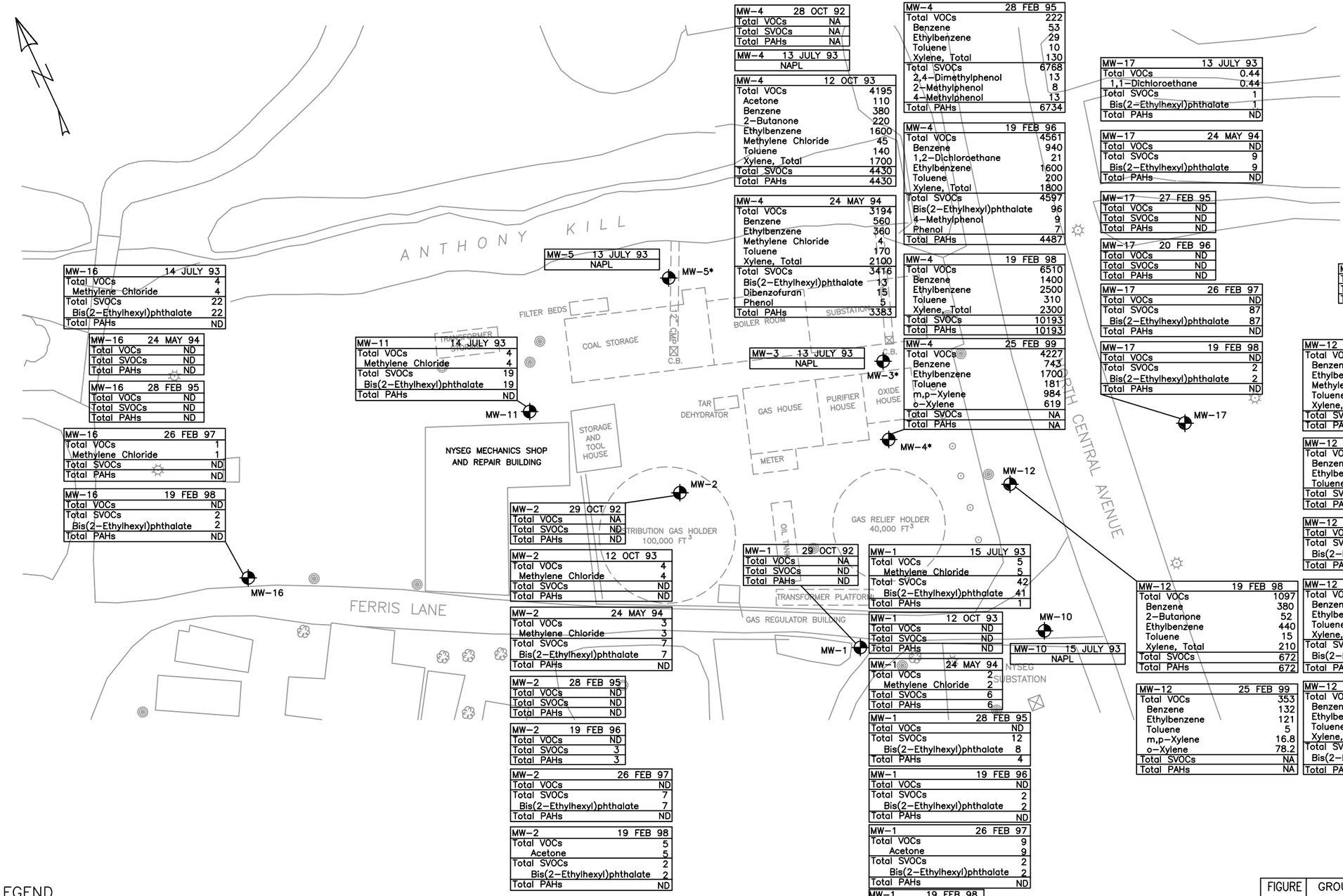
BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

FIGURE 3-5

1986 THROUGH 1993
SUBSURFACE SOIL INVESTIGATION

NYSEG
NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS
URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065



MW-16	14 JULY 93
Total VOCs	4
Methylene Chloride	4
Total SVOCs	22
Bis(2-Ethylhexyl)phthalate	22
Total PAHs	ND

MW-16	24 MAY 94
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-16	28 FEB 95
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-16	26 FEB 97
Total VOCs	1
Methylene Chloride	1
Total SVOCs	ND
Total PAHs	ND

MW-16	19 FEB 98
Total VOCs	ND
Total SVOCs	2
Bis(2-Ethylhexyl)phthalate	2
Total PAHs	ND

MW-11	14 JULY 93
Total VOCs	4
Methylene Chloride	4
Total SVOCs	19
Bis(2-Ethylhexyl)phthalate	19
Total PAHs	ND

MW-5	13 JULY 93
NAPL	

MW-3	13 JULY 93
NAPL	

MW-2	29 OCT 92
Total VOCs	NA
Total SVOCs	ND
Total PAHs	ND

MW-2	12 OCT 93
Total VOCs	4
Methylene Chloride	4
Total SVOCs	ND
Total PAHs	ND

MW-2	24 MAY 94
Total VOCs	3
Methylene Chloride	3
Total SVOCs	7
Bis(2-Ethylhexyl)phthalate	7
Total PAHs	ND

MW-2	28 FEB 95
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-2	19 FEB 96
Total VOCs	ND
Total SVOCs	3
Total PAHs	3

MW-2	26 FEB 97
Total VOCs	ND
Total SVOCs	7
Bis(2-Ethylhexyl)phthalate	7
Total PAHs	ND

MW-2	19 FEB 98
Total VOCs	5
Acetone	5
Total SVOCs	2
Bis(2-Ethylhexyl)phthalate	2
Total PAHs	ND

MW-4	28 OCT 92
Total VOCs	NA
Total SVOCs	NA
Total PAHs	NA

MW-4	13 JULY 93
NAPL	

MW-4	12 OCT 93
Total VOCs	4195
Acetone	110
Benzene	380
2-Butanone	220
Ethylbenzene	1600
Methylene Chloride	45
Toluene	140
Xylene, Total	1700
Total SVOCs	4430
Total PAHs	4430

MW-4	24 MAY 94
Total VOCs	3194
Benzene	560
Ethylbenzene	360
Methylene Chloride	4
Toluene	170
Xylene, Total	2100
Total SVOCs	3416
Bis(2-Ethylhexyl)phthalate	13
Dibenzofuran	15
Phenol	5
Total PAHs	3383

MW-4	28 FEB 95
Total VOCs	222
Benzene	53
Ethylbenzene	29
Toluene	10
Xylene, Total	130
Total SVOCs	6768
2,4-Dimethylphenol	13
2-Methylphenol	8
4-Methylphenol	13
Total PAHs	6734

MW-4	19 FEB 96
Total VOCs	4561
Benzene	940
1,2-Dichloroethane	21
Ethylbenzene	1600
Toluene	200
Xylene, Total	1800
Total SVOCs	4597
Bis(2-Ethylhexyl)phthalate	96
4-Methylphenol	9
Phenol	7
Total PAHs	4487

MW-4	19 FEB 98
Total VOCs	6510
Benzene	1400
Ethylbenzene	2500
Toluene	310
Xylene, Total	2300
Total SVOCs	10193
Total PAHs	10193

MW-4	25 FEB 99
Total VOCs	4227
Benzene	743
Ethylbenzene	1700
Toluene	181
m,p-Xylene	984
o-Xylene	619
Total SVOCs	NA
Total PAHs	NA

MW-1	29 OCT 92
Total VOCs	NA
Total SVOCs	ND
Total PAHs	ND

MW-1	15 JULY 93
Total VOCs	5
Methylene Chloride	5
Total SVOCs	42
Bis(2-Ethylhexyl)phthalate	41
Total PAHs	1

MW-1	12 OCT 93
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-1	24 MAY 94
Total VOCs	2
Methylene Chloride	2
Total SVOCs	6
Total PAHs	6

MW-1	28 FEB 95
Total VOCs	ND
Total SVOCs	12
Bis(2-Ethylhexyl)phthalate	8
Total PAHs	4

MW-1	19 FEB 96
Total VOCs	ND
Total SVOCs	2
Bis(2-Ethylhexyl)phthalate	2
Total PAHs	ND

MW-1	26 FEB 97
Total VOCs	9
Acetone	9
Total SVOCs	2
Bis(2-Ethylhexyl)phthalate	2
Total PAHs	ND

MW-1	19 FEB 98
Total VOCs	3
Benzene	3
Total SVOCs	NA
Total PAHs	NA

MW-10	15 JULY 93
NAPL	

MW-17	13 JULY 93
Total VOCs	0.44
1,1-Dichloroethane	0.44
Total SVOCs	1
Bis(2-Ethylhexyl)phthalate	1
Total PAHs	ND

MW-17	24 MAY 94
Total VOCs	ND
Total SVOCs	9
Bis(2-Ethylhexyl)phthalate	9
Total PAHs	ND

MW-17	27 FEB 95
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-17	20 FEB 96
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-17	26 FEB 97
Total VOCs	ND
Total SVOCs	87
Bis(2-Ethylhexyl)phthalate	87
Total PAHs	ND

MW-17	19 FEB 98
Total VOCs	ND
Total SVOCs	2
Bis(2-Ethylhexyl)phthalate	2
Total PAHs	ND

MW-12	29 OCT 92
Total VOCs	NA
Total SVOCs	2175.6
Total PAHs	2175.6

MW-12	15 JULY 93
NAPL	

MW-12	12 OCT 93
Total VOCs	1062
Benzene	340
Ethylbenzene	390
Methylene Chloride	51
Toluene	21
Xylene, Total	260
Total SVOCs	7335
Total PAHs	7335

MW-12	24 MAY 94
Total VOCs	429
Benzene	400
Ethylbenzene	13
Toluene	16
Total SVOCs	1404
Total PAHs	1404

MW-12	28 FEB 95
Total VOCs	ND
Total SVOCs	1050
Bis(2-Ethylhexyl)phthalate	9
Total PAHs	1041

MW-12	19 FEB 98
Total VOCs	1097
Benzene	380
2-Butanone	52
Ethylbenzene	440
Toluene	15
Xylene, Total	210
Total SVOCs	672
Total PAHs	672

MW-12	20 FEB 96
Total VOCs	826
Benzene	370
Ethylbenzene	250
Toluene	16
Xylene, Total	190
Total SVOCs	746
Bis(2-Ethylhexyl)phthalate	8
Total PAHs	738

MW-12	25 FEB 99
Total VOCs	353
Benzene	132
Ethylbenzene	121
Toluene	5
m,p-Xylene	16.8
o-Xylene	78.2
Total SVOCs	NA
Total PAHs	NA

MW-12	26 FEB 97
Total VOCs	1241
Benzene	410
Ethylbenzene	570
Toluene	21
Xylene, Total	240
Total SVOCs	578
Bis(2-Ethylhexyl)phthalate	1
Total PAHs	577

LEGEND

- MONITORING WELL LOCATION
- ALL RESULTS IN MICROGRAMS PER LITER
- * INDICATES MONITORING WELL WAS DESTROYED
- ND NOT DETECTED
- NA NOT ANALYZED
- NAPL NOT SAMPLED DUE TO THE PRESENCE OF NAPL
- POWER POLE
- LIGHT POLE
- POST, SIGN

BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

0 50 100
SCALE IN FEET

FIGURE 3-6

GROUNDWATER CONTAMINANT DISTRIBUTION MAP
OVERBURDEN AND SHALLOW BEDROCK MONITORING WELLS

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 3-6 OB Shallow Bedrock GW.dwg

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 3-7 Deep Bedrock GW.dwg

MW-15	29 OCT 92
Total VOCs	NA
Total SVOCs	470.1
Total PAHs	470.1

MW-15	14 JULY 93
Total VOCs	112
Benzene	27
1,1–Dichloroethane	6
Ethylbenzene	47
Methylene Chloride	3
Xylene, Total	29
Total SVOCs	205
Bis(2–Ethylhexyl)phthalate	45
Dibenzofuran	4
Total PAHs	156

MW-15	12 OCT 93
Total VOCs	118
Benzene	28
1,1–Dichloroethane	5
Ethylbenzene	41
Toluene	8
1,1,1–Trichloroethane	7
Xylene, Total	29
Total SVOCs	554
Total PAHs	554

MW-15	24 MAY 94
Total VOCs	169
Benzene	34
1,1–Dichloroethane	5
Ethylbenzene	66
Toluene	12
1,1,1–Trichloroethane	7
Xylene, Total	45
Total SVOCs	1456
Bis(2–Ethylhexyl)phthalate	15
Dibenzofuran	13
Total PAHs	1428

MW-15	28 FEB 95
Total VOCs	117
Benzene	35
1,1–Dichloroethane	5
Ethylbenzene	29
Toluene	9
1,1,1–Trichloroethane	4
Xylene, Total	35
Total SVOCs	1479
Bis(2–Ethylhexyl)phthalate	10
Total PAHs	1469

MW-15	19 FEB 96
Total VOCs	100
Benzene	26
1,1–Dichloroethane	4
Ethylbenzene	36
Toluene	7
1,1,1–Trichloroethane	3
Xylene, Total	24
Total SVOCs	618
Bis(2–Ethylhexyl)phthalate	2
Total PAHs	616

MW-15	27 FEB 97
Total VOCs	113
Benzene	30
Chloroethane	2
1,1–Dichloroethane	4
Ethylbenzene	42
Methylene Chloride	2
Toluene	8
1,1,1–Trichloroethane	2
Xylene, Total	23
Total SVOCs	647
Bis(2–Ethylhexyl)phthalate	1
Total PAHs	646

MW-15	19 FEB 98
Total VOCs	114
Benzene	37
1,1–Dichloroethane	4
Ethylbenzene	40
Toluene	8
1,1,1–Trichloroethane	2
Xylene, Total	23
Total SVOCs	617
Total PAHs	617

MW-15	25 FEB 99
Total VOCs	98.9
Benzene	30.3
Ethylbenzene	38.8
Toluene	6.3
m,p–Xylene	9.7
o–Xylene	13.8
Total SVOCs	NA
Total PAHs	NA

MW-14	29 OCT 92
Total VOCs	NA
Total SVOCs	4226.4
Total PAHs	4226.4

MW-14	15 JULY 93
Total VOCs	7134
Benzene	4300
Ethylbenzene	1900
Methylene Chloride	84
Xylene, Total	850
Total SVOCs	74
Phenol	44
Pyridine	2
Total PAHs	28

MW-14	13 OCT 93
Total VOCs	7250
Acetone	290
Benzene	3800
Ethylbenzene	1700
Methylene Chloride	620
Toluene	120
Xylene, Total	720
Total SVOCs	569
Phenol	25
Total PAHs	544

MW-14	24 MAY 94
Total VOCs	5396
Benzene	3400
Ethylbenzene	1400
Toluene	76
Xylene, Total	520
Total SVOCs	1078
Carbazol	6
Dibenzofuran	5
Total PAHs	1067

MW-14	28 FEB 95
Total VOCs	5695
Benzene	3400
Ethylbenzene	1600
Toluene	95
Xylene, Total	600
Total SVOCs	3328
Bis(2–Ethylhexyl)phthalate	5
Carbazol	5
Dibenzofuran	5
Phenol	21
Total PAHs	3292

MW-14	20 FEB 96
Total VOCs	4722
Benzene	2900
Ethylbenzene	1300
Toluene	62
Xylene, Total	460
Total SVOCs	1748
Bis(2–Ethylhexyl)phthalate	92
Phenol	12
Total PAHs	1644

MW-14	27 FEB 97
Total VOCs	2838
Benzene	1700
Ethylbenzene	800
Methylene Chloride	18
Toluene	50
Xylene, Total	270
Total SVOCs	1827
Bis(2–Ethylhexyl)phthalate	1
Carbazol	4
Dibenzofuran	5
Phenol	35
Total PAHs	1791

MW-14	19 FEB 98
Total VOCs	5941
Benzene	3900
Ethylbenzene	1400
Methylene Chloride	11
Toluene	100
Xylene, Total	530
Total SVOCs	2337
Phenol	15
Total PAHs	2322

MW-14	25 FEB 99
Total VOCs	3697
Benzene	2370
Ethylbenzene	931
Toluene	42
m,p–Xylene	125
o–Xylene	209
Total SVOCs	NA
Total PAHs	NA

MW-18	24 MAY 94
Total VOCs	2
Methylene Chloride	2
Total SVOCs	ND
Total PAHs	ND

MW-18	27 FEB 95
Total VOCs	ND
Total SVOCs	ND
Total PAHs	ND

MW-18	20 FEB 96
Total VOCs	ND
Total SVOCs	8
Bis(2–Ethylhexyl)phthalate	3
Total PAHs	5

MW-18	26 FEB 97
Total VOCs	1
Methylene Chloride	1
Total SVOCs	1
Bis(2–Ethylhexyl)phthalate	1
Total PAHs	ND

MW-18	19 FEB 98
Total VOCs	ND
Total SVOCs	2
Bis(2–Ethylhexyl)phthalate	2
Total PAHs	ND

MW-6*	13 JULY 93
NAPL	

MW-13	29 OCT 92
Total VOCs	NA
Total SVOCs	6416.6
Total PAHs	6416.6

MW-13	15 JULY 93
Total VOCs	4
Methylene Chloride	4
Total SVOCs	133
Bis(2–Ethylhexyl)phthalate	44
Phenol	48
Total PAHs	41

MW-13	13 OCT 93
Total VOCs	13200
Acetone	700
Benzene	5700
Ethylbenzene	2600
Methylene Chloride	1200
Toluene	1100
Xylene, Total	1900
Total SVOCs	2753
Total PAHs	2753

MW-13	24 MAY 94
Total VOCs	5170
Benzene	2200
Ethylbenzene	1100
Styrene	130
Toluene	770
Xylene, Total	970
Total SVOCs	2107
Bis(2–Ethylhexyl)phthalate	4
Phenol	15
Total PAHs	2088

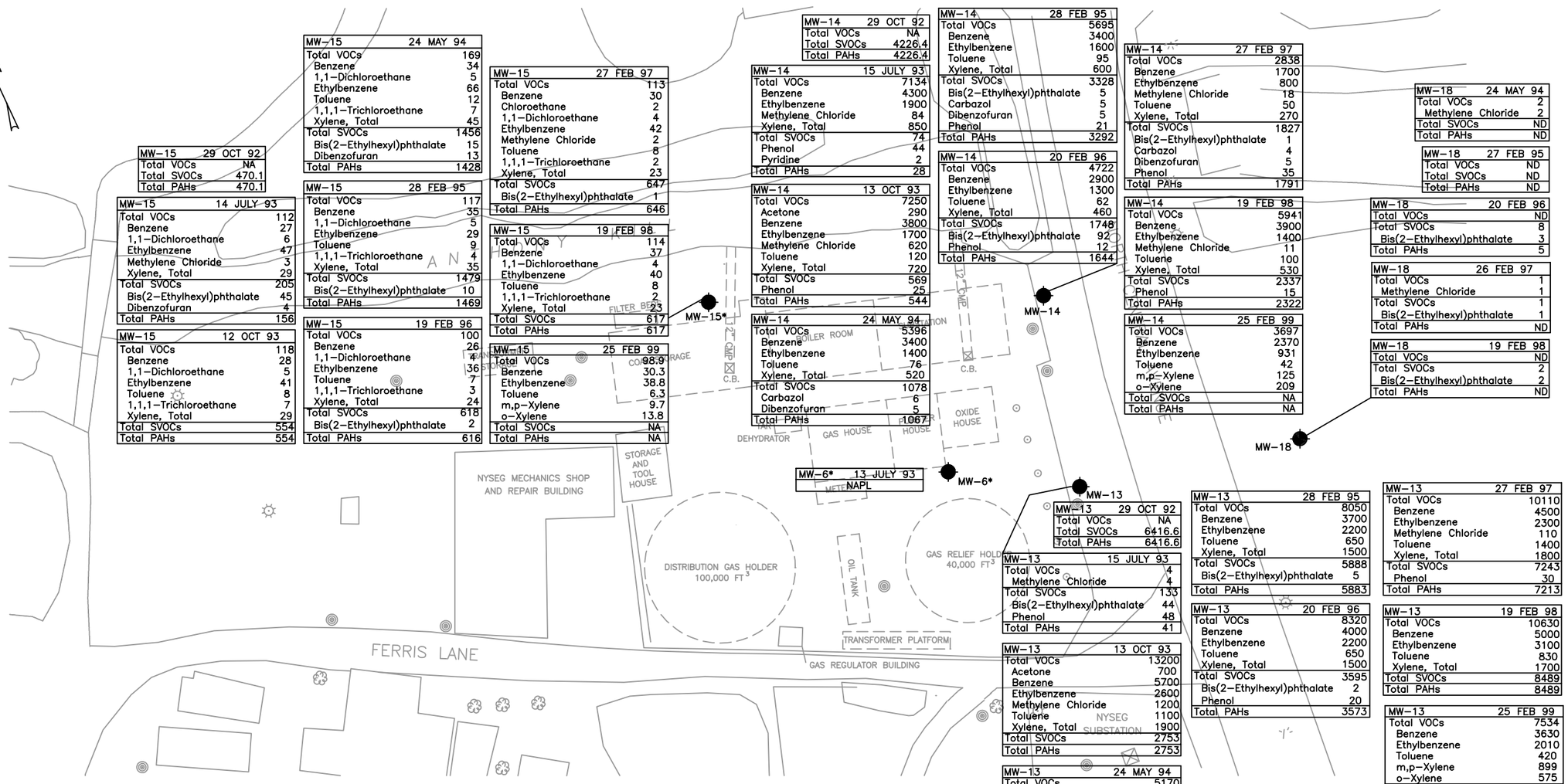
MW-13	28 FEB 95
Total VOCs	8050
Benzene	3700
Ethylbenzene	2200
Toluene	650
Xylene, Total	1500
Total SVOCs	5888
Bis(2–Ethylhexyl)phthalate	5
Total PAHs	5883

MW-13	20 FEB 96
Total VOCs	8320
Benzene	4000
Ethylbenzene	2200
Toluene	650
Xylene, Total	1500
Total SVOCs	3595
Bis(2–Ethylhexyl)phthalate	2
Phenol	20
Total PAHs	3573

MW-13	27 FEB 97
Total VOCs	10110
Benzene	4500
Ethylbenzene	2300
Methylene Chloride	110
Toluene	1400
Xylene, Total	1800
Total SVOCs	7243
Phenol	30
Total PAHs	7213

MW-13	19 FEB 98
Total VOCs	10630
Benzene	5000
Ethylbenzene	3100
Toluene	830
Xylene, Total	1700
Total SVOCs	8489
Total PAHs	8489

MW-13	25 FEB 99
Total VOCs	7534
Benzene	3630
Ethylbenzene	2010
Toluene	420
m,p–Xylene	899
o–Xylene	575
Total SVOCs	NA
Total PAHs	NA



LEGEND

ALL RESULTS IN MICROGRAMS PER LITER

- DEEP BEDROCK MONITORING WELL LOCATION
- ✳ INDICATES MONITORING WAS DESTROYED
- ND NOT DETECTED
- NA NOT ANALYZED
- NAPL NOT SAMPLED DUE TO PRESENCE OF NAPL
- POWER POLE
- LIGHT POLE
- POST, SIGN

BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

0 50 100

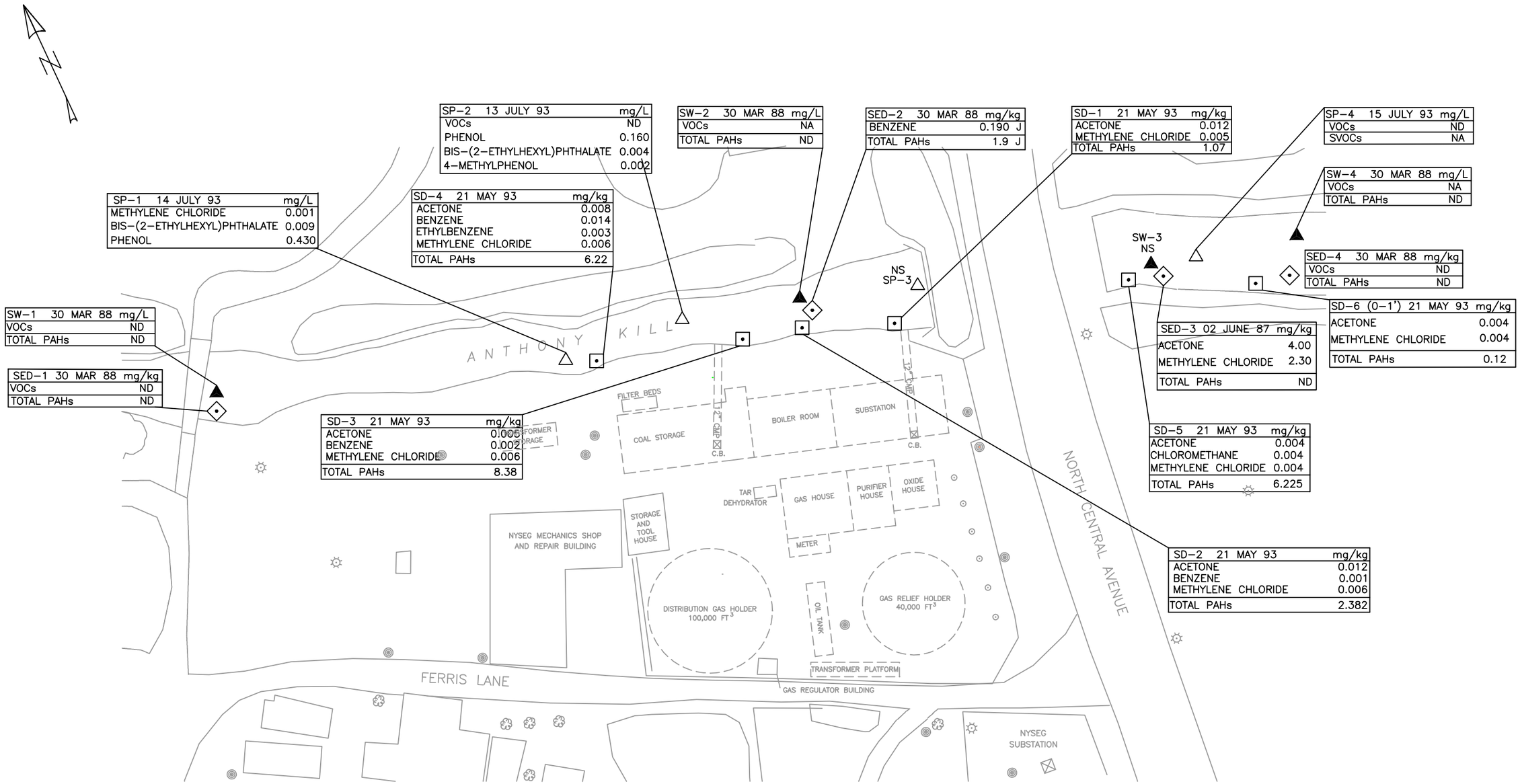
SCALE IN FEET

FIGURE 3–7

GROUNDWATER CONTAMINANT DISTRIBUTION MAP
DEEP BEDROCK MONITORING WELLS

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065



LEGEND

- SD-1 ◻ 1993 SEDIMENT SAMPLING LOCATIONS (RESULTS IN mg/kg)
- SW-1 ▲ 1988 SURFACE WATER SAMPLING LOCATIONS (RESULTS IN mg/L)
- SP-1 △ 1993 SEEPAGE SAMPLING LOCATIONS (RESULTS IN mg/L)
- SED-1 ◇ 1987/1988 SEDIMENT SAMPLE LOCATION

NA NOT ANALYZED
ND NOT DETECTED
NS NOT SAMPLED

0 50 100
SCALE IN FEET

BASE PROVIDED BY NYSEG ENGINEERING SERVICES, BINGHAMTON, NY.

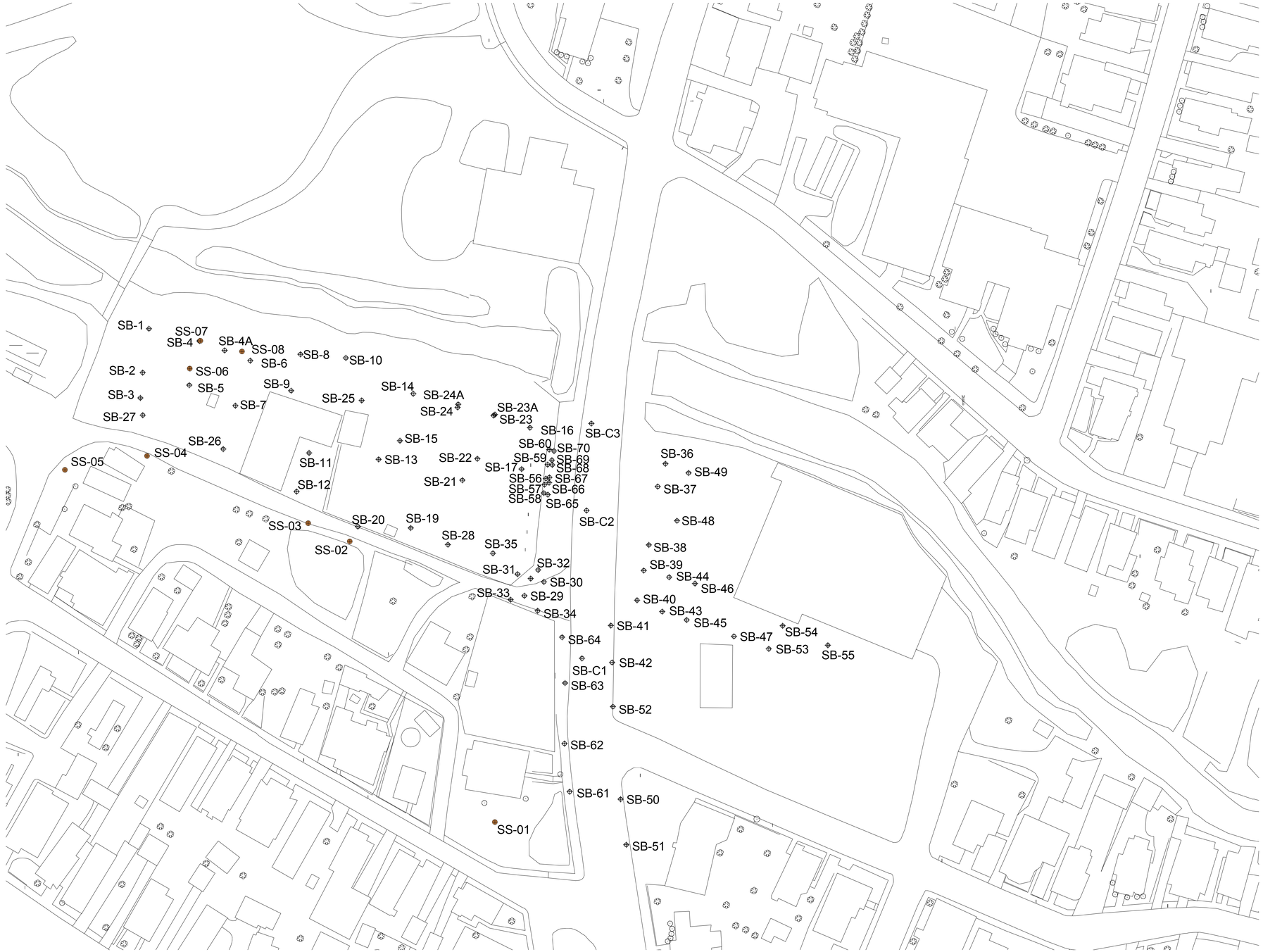
FIGURE 3-8

SEDIMENT/SEEPAGE/SURFACE WATER ANALYTICAL RESULTS

NYSEG
NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS
URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville/Other Figures/2003 SRI Figures/Fig 3-8 Sed Seeps SW.dwg



LEGEND:

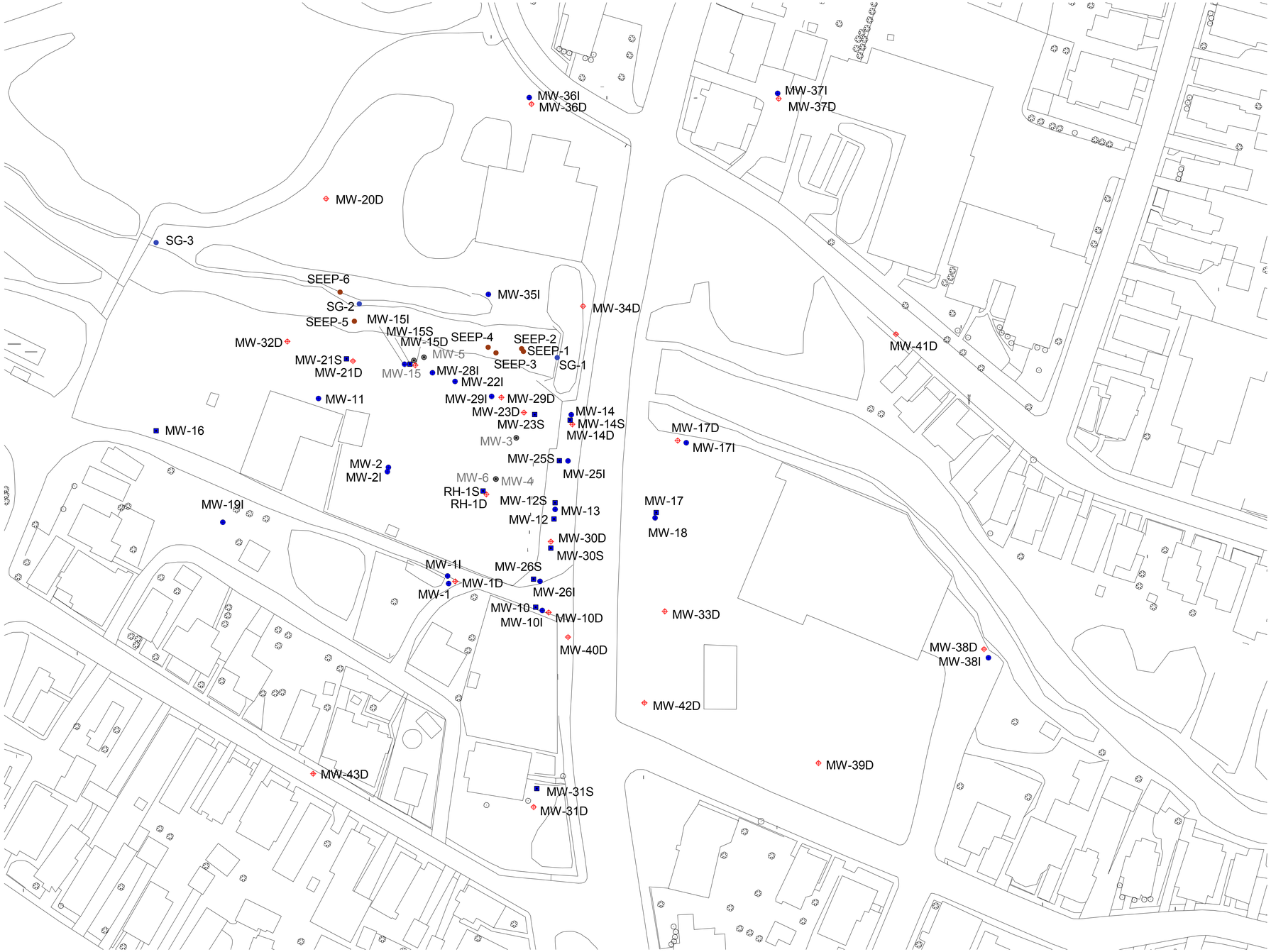
- 2001 SOIL BORING LOCATION
- 2001 SURFACE SOIL SAMPLING LOCATION

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 5-1	SURFACE SOIL SAMPLE AND SOIL BORING LOCATION MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView2004 Figures.apr\Fig 5-1 Soil Boring Location



LEGEND:
- STAFF GAUGE LOCATIONS
- SEEP LOCATIONS

MONITORING WELL LOCATIONS
- DEEP BEDROCK MONITORING WELL LOCATION
- SHALLOW BEDROCK MONITORING WELL LOCATION
- OVERBURDEN MONITORING WELL LOCATION
- MONITORING WELLS DESTROYED DURING THE 2001 IRM

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 5-2	MONITORING WELL LOCATION MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 5-2 Monitoring Well Location Map

"UT" SERIES OF TRANSECTS

UT-6

UT-1

"AS" SERIES OF TRANSECTS

AS-1

ABANDONED RAILROAD BRIDGE

ANTHONY KILL

AS-29

WILLIAM STREET

CENTRAL AVENUE BRIDGE

NYSEG

FERRIS LANE

NORTH CENTRAL AVENUE

FRANCES STREET

NORTHERN NORTH MAIN STREET BRIDGE

NORTH MAIN STREET

HUDSON RIVER

DS-7

DS-6

DS-5

SOUTHERN NORTH MAIN STREET BRIDGE

DS-4

TERMINAL STREET

HR-1

DS-14

DS-3

DS-2

DS-8

HR-2

DS-1

DS-9

DS-10

HR-3

DS-11

HR-4

OVERHANGING DEAD TREE

DS-12

HR-5

DS-13

LEGEND

HR-1 HUDSON RIVER SEDIMENT SAMPLING LOCATIONS

STORM SEWER

AQUATIC VEGETATION

WILLOW TREE

CONCRETE DOCK/RETAINING WALL

DS-1 APPROXIMATE SEDIMENT PROBING LOCATION

NOT TO SCALE

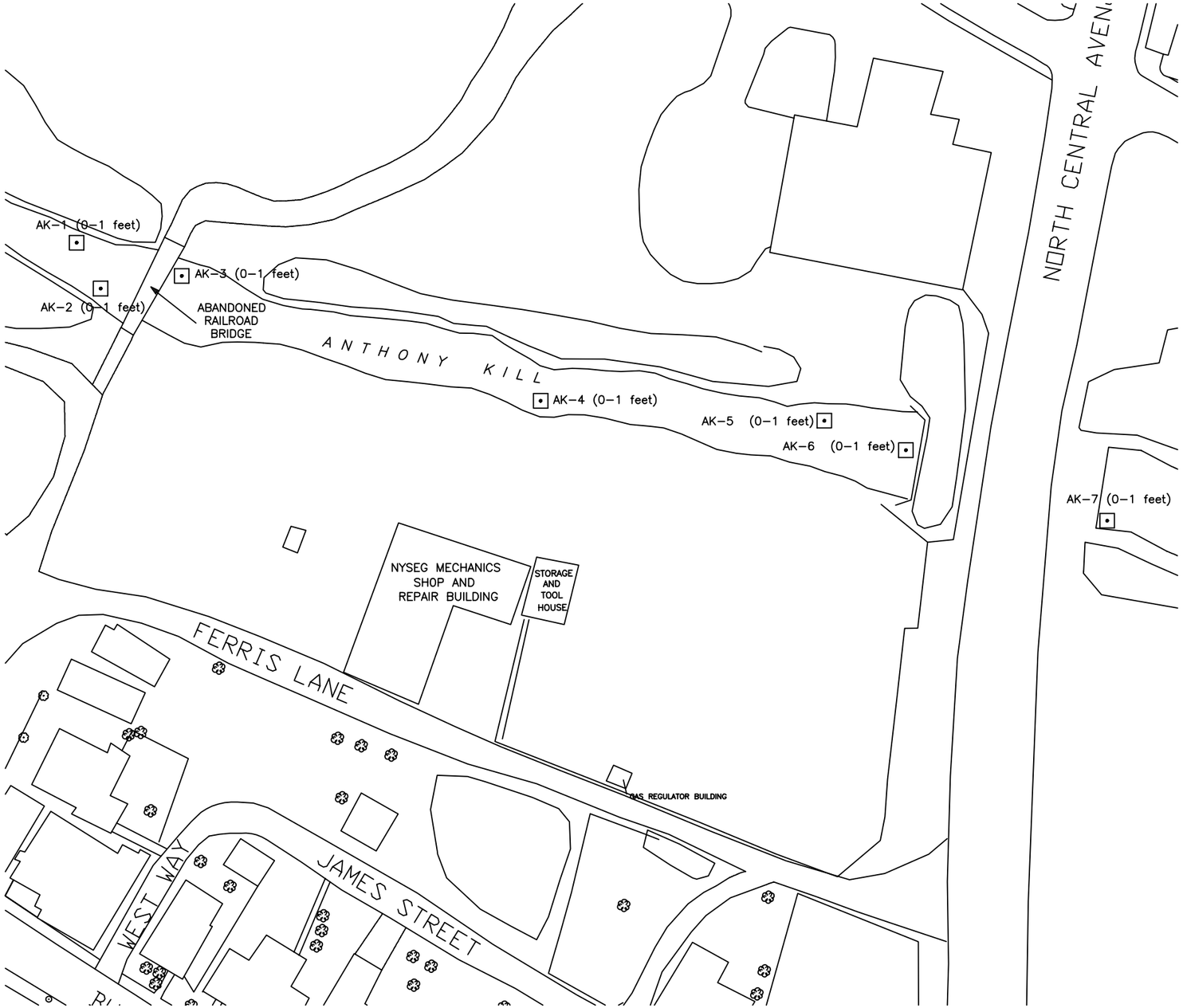
FIGURE 5-3

SEDIMENT RECONNAISSANCE AND SAMPLING LOCATIONS

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville\Other Figures\2003 SRI Figures\Fig 5-3 Sediment.dwg



N

LEGEND:

AK-1 ANTHONY KILL SEDIMENT SAMPLING LOCATIONS (2002)

POWER POLE

LIGHT POLE

POST, SIGN

0 50 100

Scale in Feet

FIGURE 5-4

ANTHONY KILL
SEDIMENT SAMPLING LOCATIONS
ADJACENT TO SITE

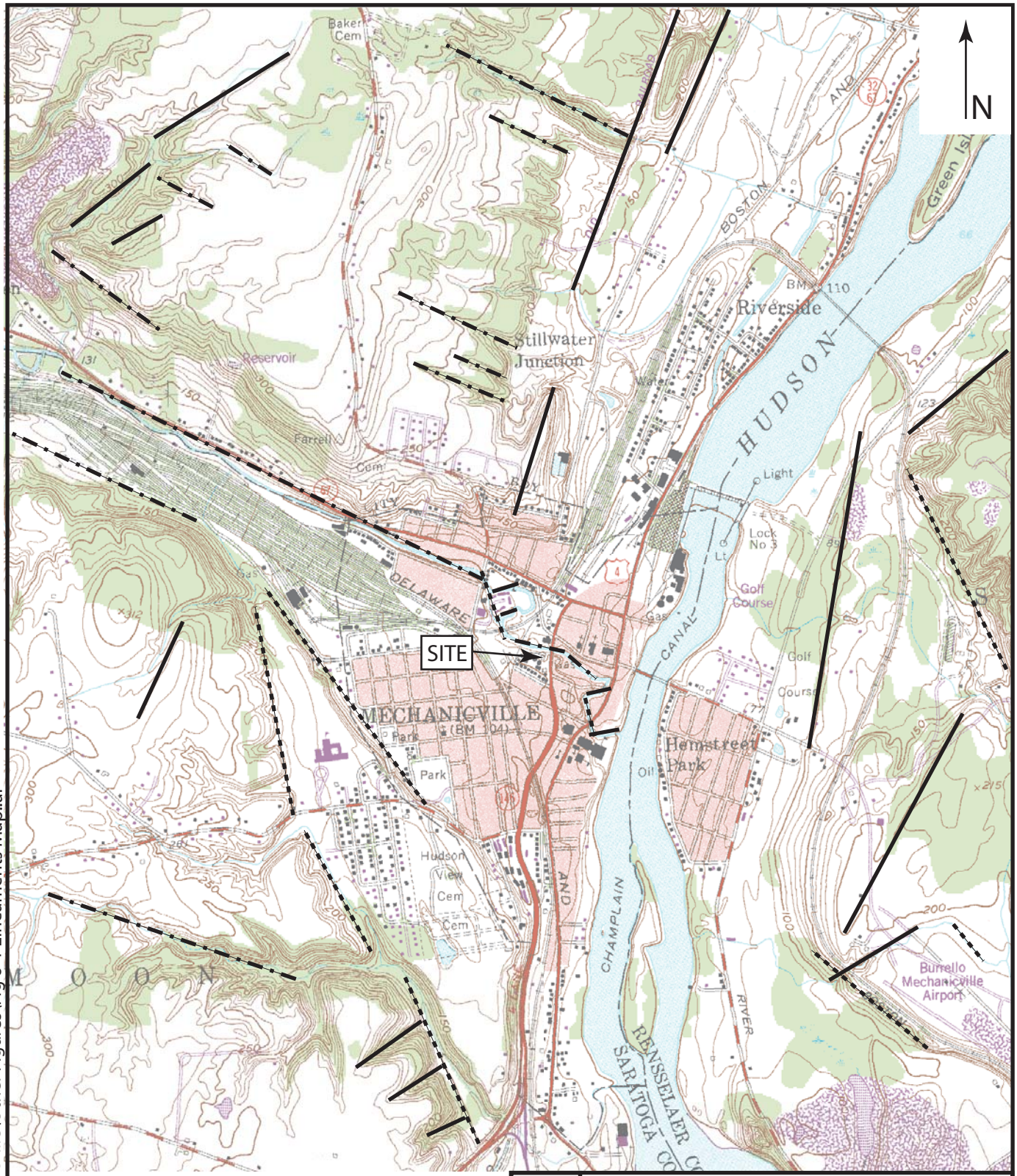
NYSEG

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville/Other Figures/2003 SRI Figures/Fig 5-4 Anthony Kill.dwg



LEGEND:

NNE-STRIKING LINEAMENT

WNW-STRIKING LINEAMENT

NNW-STRIKING LINEAMENT

0 1/2 1 MILE

Source: USGS Mechanicville 7.5' Quadrangle, 1954 (Photorevised 1980).

FIGURE 6-1

LINEAMENTS MAP

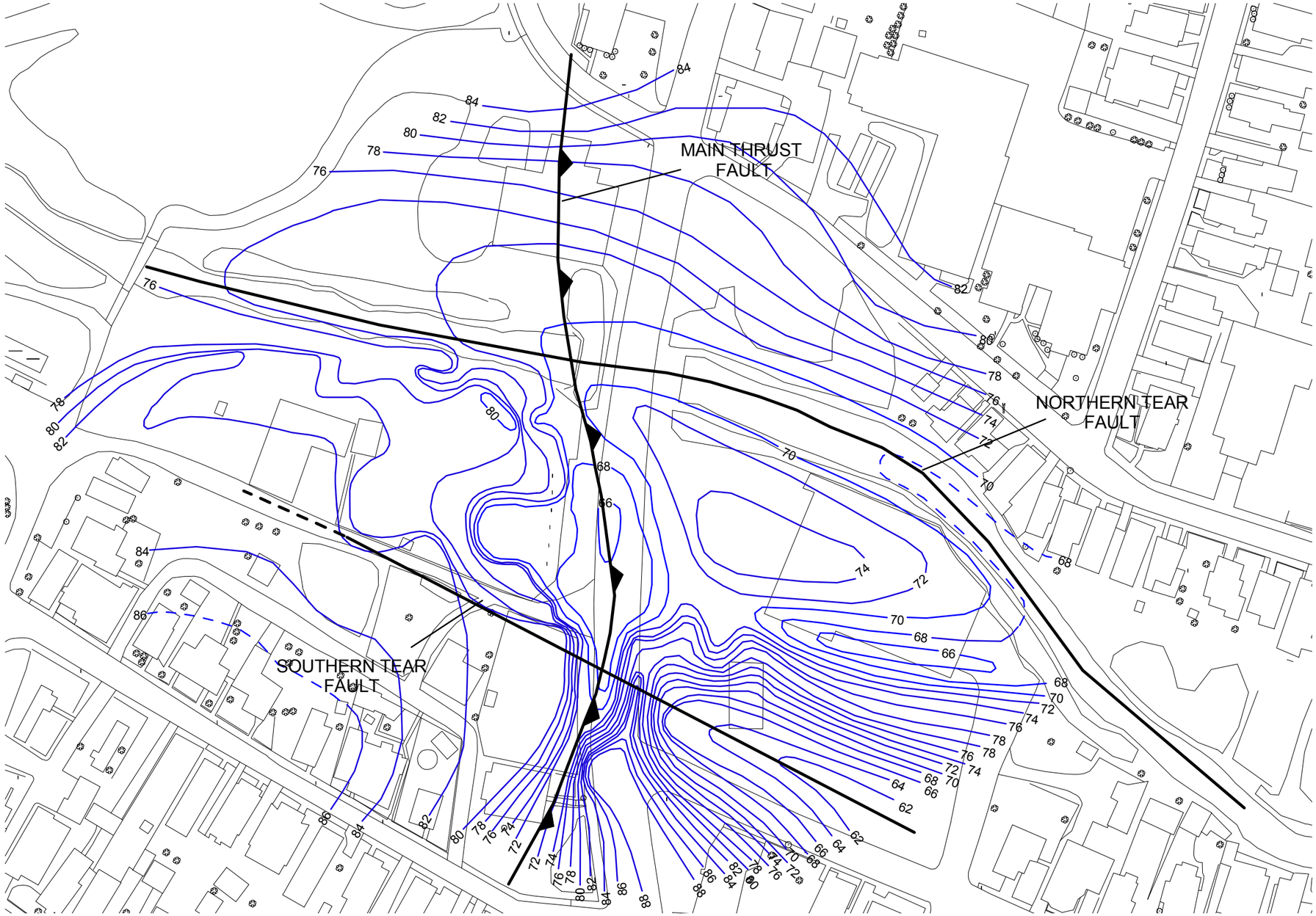
NYSEG

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-1 Lineaments Map..ai



LEGEND:

TOP OF BEDROCK (FEET MSL)

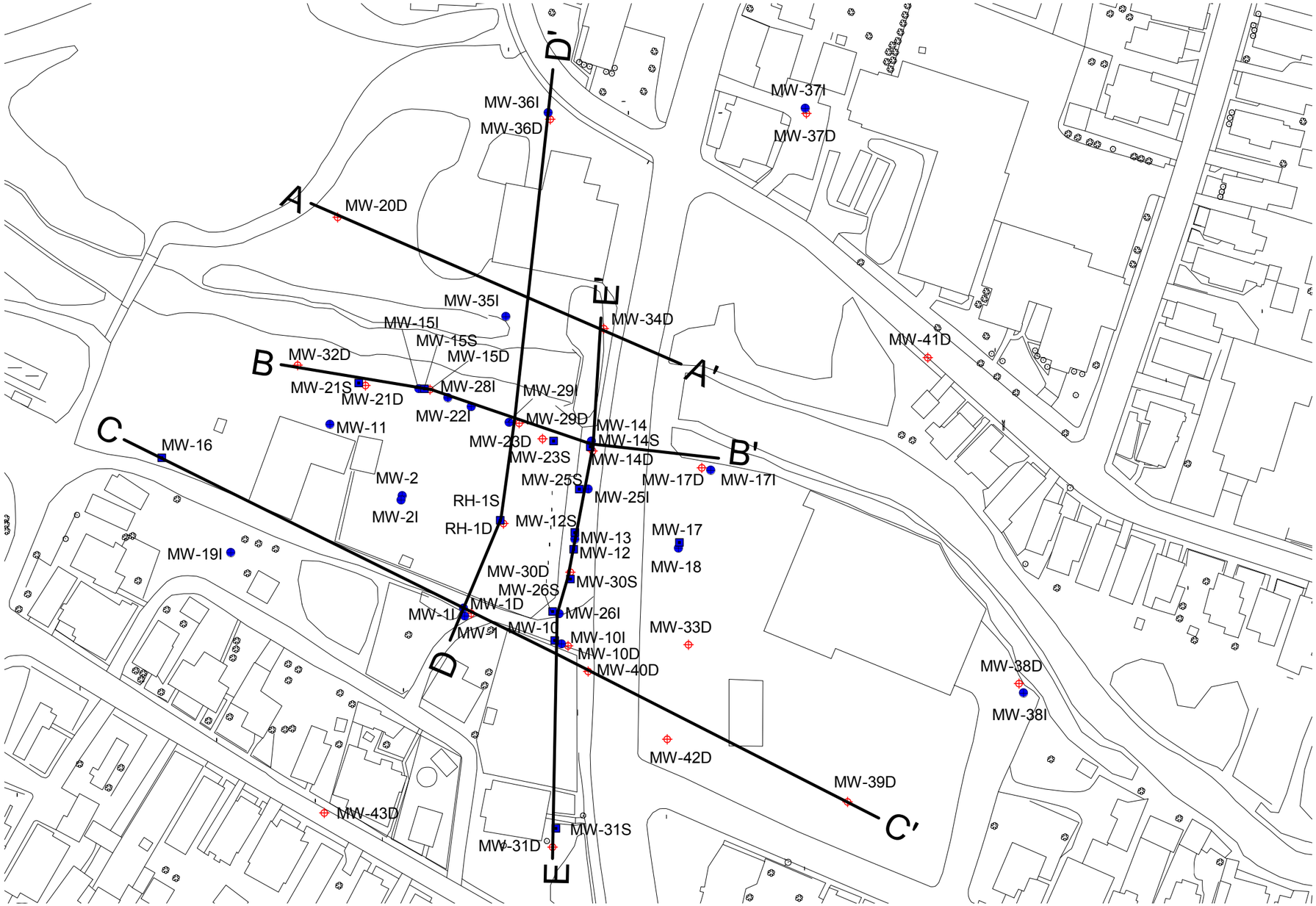
FAULT

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 6-2	TOP OF BEDROCK MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\MechanicvilleArcView\2004 Figures.apr\Fig 6-2 Top of Bedrock Map



LEGEND:

LINES OF SECTION

MONITORING WELL LOCATIONS

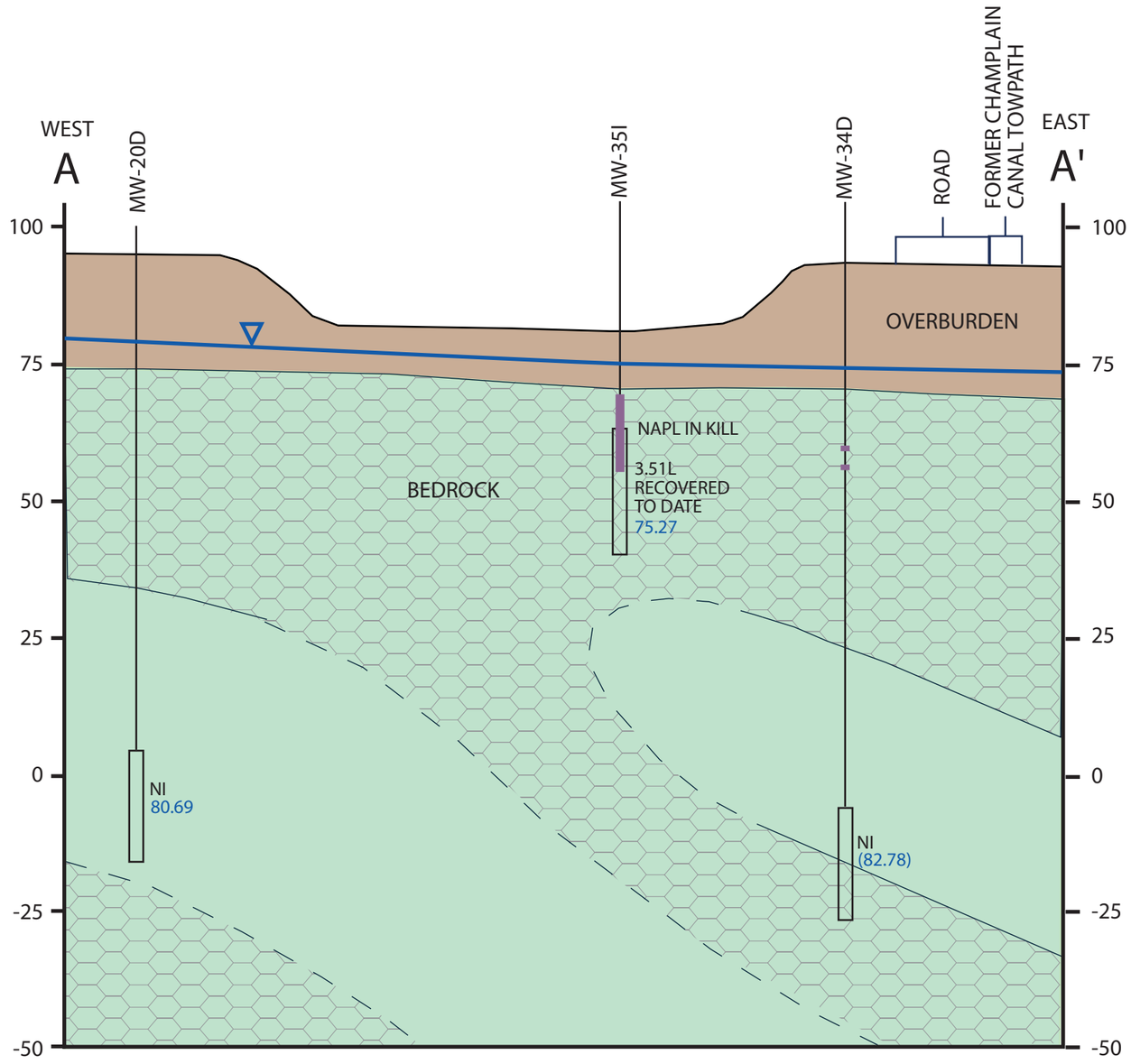
- DEEP BEDROCK MONITORING WELL LOCATION
- SHALLOW BEDROCK MONITORING WELL LOCATION
- OVERBURDEN MONITORING WELL LOCATION

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 6-3	LINES OF SECTION
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 6-3 Lines of Section



LEGEND:

MW-2 — WELL DESIGNATION AND APPROXIMATE LOCATION
GENERALIZED GROUND SURFACE
SCREENED INTERVAL

NAPL OBSERVED

TRACE — TRACE NAPL (NOT RECOVERABLE)

NI — NO INDICATION OF NAPL

OVERBURDEN

BEDROCK - SNAKE HILL SHALE

ZONE OF INTENSE PENCIL CLEAVAGE

WATER TABLE - MAY 9, 2003
(): INDICATES WATER LEVEL THAT HAS NOT STABILIZED

NOTES:

1. REFER TO FIGURE 6-3 FOR THE ORIENTATION OF THE LINE OF SECTION.
2. REFER TO THE BORING LOGS AND BEDROCK CORE LOGS IN APPENDIX E FOR DETAILED LITHOLOGIC DESCRIPTIONS.
3. NAPL OBSERVATIONS THROUGH JULY 18, 2003.

HORIZONTAL SCALE (IN FEET)
0 50 100

VERTICAL EXAGGERATION = 2X

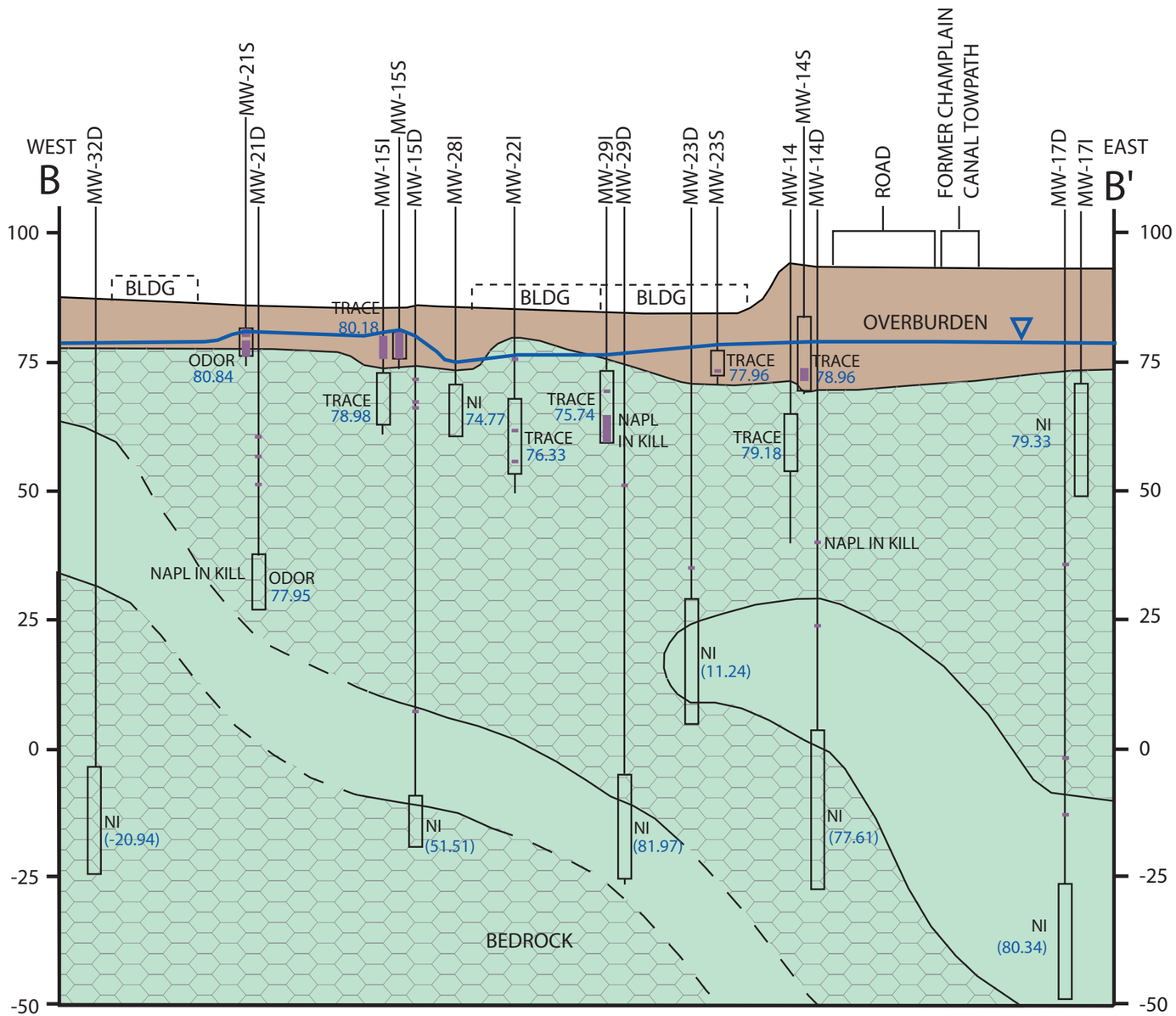
FIGURE 6-4

GEOLOGIC CROSS-SECTION A-A'

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-4 csA.ai



LEGEND:

- MW-2 — WELL DESIGNATION AND APPROXIMATE LOCATION
  GENERALIZED GROUND SURFACE
  SCREENED INTERVAL
- NAPL OBSERVED
- TRACE — TRACE NAPL (NOT RECOVERABLE)
- NI — NO INDICATION OF NAPL
- OVERBURDEN
- BEDROCK - SNAKE HILL SHALE
- ZONE OF INTENSE PENCIL CLEAVAGE
- WATER TABLE - MAY 9, 2003
  (): INDICATES WATER LEVEL THAT HAS NOT STABILIZED

NOTES:

1. REFER TO FIGURE 6-3 FOR THE ORIENTATION OF THE LINE OF SECTION.
2. REFER TO THE BORING LOGS AND BEDROCK CORE LOGS IN APPENDIX E FOR DETAILED LITHOLOGIC DESCRIPTIONS.
3. NAPL OBSERVATIONS THROUGH JULY 18, 2003.

HORIZONTAL SCALE (IN FEET)
0 50 100
VERTICAL EXAGGERATION = 2X

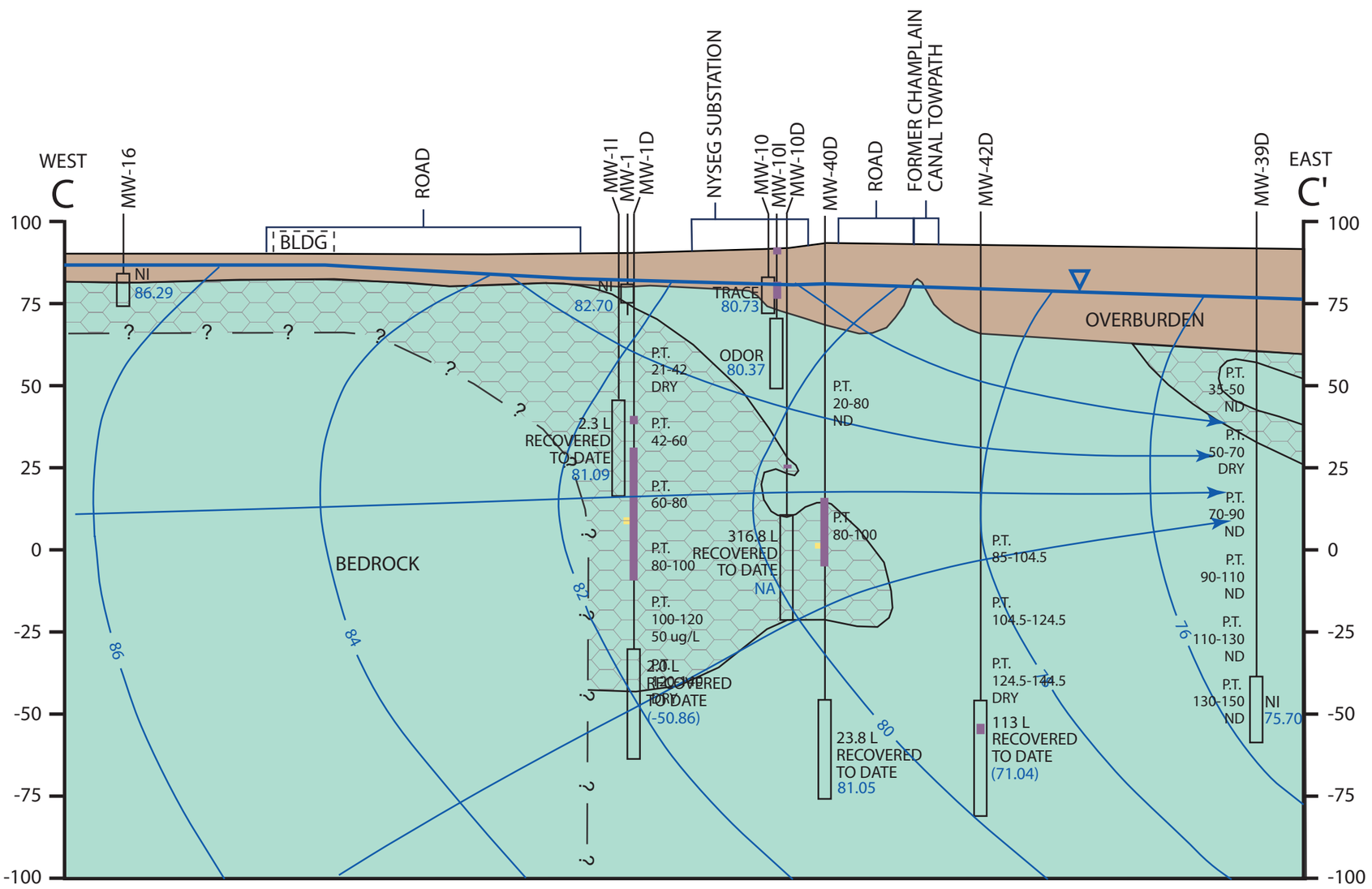
FIGURE 6-5

GEOLOGIC CROSS-SECTION B-B'

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-5 csB.ai



LEGEND:

- MW-2 — WELL DESIGNATION AND APPROXIMATE LOCATION
  GENERALIZED GROUND SURFACE
  SCREENED INTERVAL
- NAPL OBSERVED
- TRACE — TRACE NAPL (NOT RECOVERABLE)
- NI — NO INDICATION OF NAPL
- OVERBURDEN
- BEDROCK - SNAKE HILL SHALE
- ZONE OF INTENSE PENCIL CLEAVAGE
- WATER TABLE - MAY 9, 2003
  (): INDICATES WATER LEVEL THAT HAS NOT STABILIZED
- –79– EQUIPOTENTIAL CONTOUR (FEET MSL)
- ASH LAYER

NOTES:

1. REFER TO FIGURE 6-3 FOR THE ORIENTATION OF THE LINE OF SECTION.
2. REFER TO THE BORING LOGS AND BEDROCK CORE LOGS IN APPENDIX E FOR DETAILED LITHOLOGIC DESCRIPTIONS.
3. NAPL OBSERVATIONS THROUGH JULY 18, 2003.

HORIZONTAL SCALE (IN FEET)

0 75 150

VERTICAL EXAGGERATION = 2X

FIGURE 6-6

GEOLOGIC CROSS-SECTION C-C'

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-6 csC.ai

SOUTH D

NORTH D'

MW-1 MW-1D MW-1I ROAD FORMER RELIEF GAS HOLDER RH-1D RH-1S MW-29D MW-29I SEEPS 1-4 ANTHONY KILL MW-35I MW-36D MW-36I ROAD

BLDG BLDG BLDG

OVERBURDEN

BEDROCK

TEAR FAULT

TEAR FAULT

100 75 50 25 0 -25 -50 -75

NI 82.70

32.9 L RECOVERED TO DATE 82.59

TRACE 75.74

NAPL IN KILL

NAPL IN KILL

3.51 L RECOVERED TO DATE 75.27

NAPL IN KILL

NAPL IN KILL

P.T. 21-42 DRY

P.T. 42-60

2.3 L RECOVERED TO DATE 81.09

P.T. 60-80

P.T. 80-100

P.T. 100-120 50 ug/L

P.T. 120-140 DRY

2.0 L RECOVERED TO DATE (-50.86)

NI (-15.94)

NI (81.97)

P.T. 20-40 ND

NI (86.23)

P.T. 40-60 ND

P.T. 60-80 ND

P.T. 80-100 DRY

P.T. 100-120 DRY

P.T. 120-140 DRY

P.T. 136-160 ND

NI 83.02

82 74 76 78 80 82

LEGEND:

MW-2 WELL DESIGNATION AND APPROXIMATE LOCATION GENERALIZED GROUND SURFACE SCREENED INTERVAL

NAPL OBSERVED

TRACE TRACE NAPL (NOT RECOVERABLE)

NI NO INDICATION OF NAPL

OVERBURDEN

BEDROCK - SNAKE HILL SHALE

ZONE OF INTENSE PENCIL CLEAVAGE

WATER TABLE - MAY 9, 2003
(): INDICATES WATER LEVEL THAT HAS NOT STABILIZED

–79– EQUIPOTENTIAL CONTOUR (FEET MSL)

ASH LAYER

NOTES:

1. REFER TO FIGURE 6-3 FOR THE ORIENTATION OF THE LINE OF SECTION.
2. REFER TO THE BORING LOGS AND BEDROCK CORE LOGS IN APPENDIX E FOR DETAILED LITHOLOGIC DESCRIPTIONS.
3. NAPL OBSERVATIONS THROUGH JULY 18, 2003.

HORIZONTAL SCALE (IN FEET)

0 50 100

VERTICAL EXAGGERATION = 2X

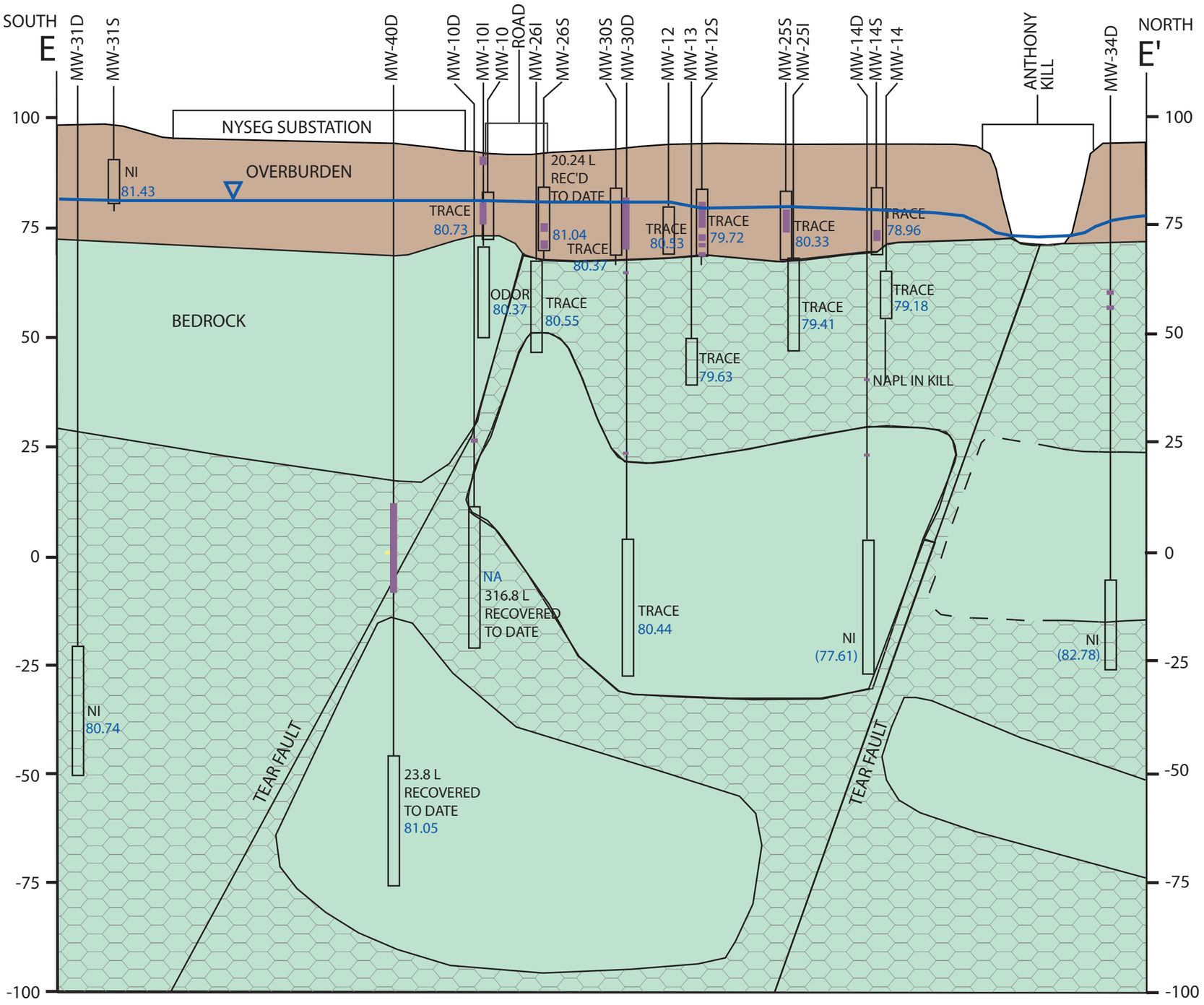
FIGURE 6-7

GEOLOGIC CROSS-SECTION D-D'

NYSEG NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-7 cs D.ai



LEGEND:

- MW-2 — WELL DESIGNATION AND APPROXIMATE LOCATION
  GENERALIZED GROUND SURFACE
  SCREENED INTERVAL
- NAPL OBSERVED
- TRACE — TRACE NAPL (NOT RECOVERABLE)
- NI — NO INDICATION OF NAPL
- OVERBURDEN
- BEDROCK - SNAKE HILL SHALE
- ZONE OF INTENSE PENCIL CLEAVAGE
- WATER TABLE - MAY 9, 2003
  (): INDICATES WATER LEVEL THAT HAS NOT STABILIZED
- ASH LAYER

NOTES:

1. REFER TO FIGURE 6-3 FOR THE ORIENTATION OF THE LINE OF SECTION.
2. REFER TO THE BORING LOGS AND BEDROCK CORE LOGS IN APPENDIX E FOR DETAILED LITHOLOGIC DESCRIPTIONS.
3. NAPL OBSERVATIONS THROUGH JULY 18, 2003.

HORIZONTAL SCALE (IN FEET)
0 50 100
VERTICAL EXAGGERATION = 2X

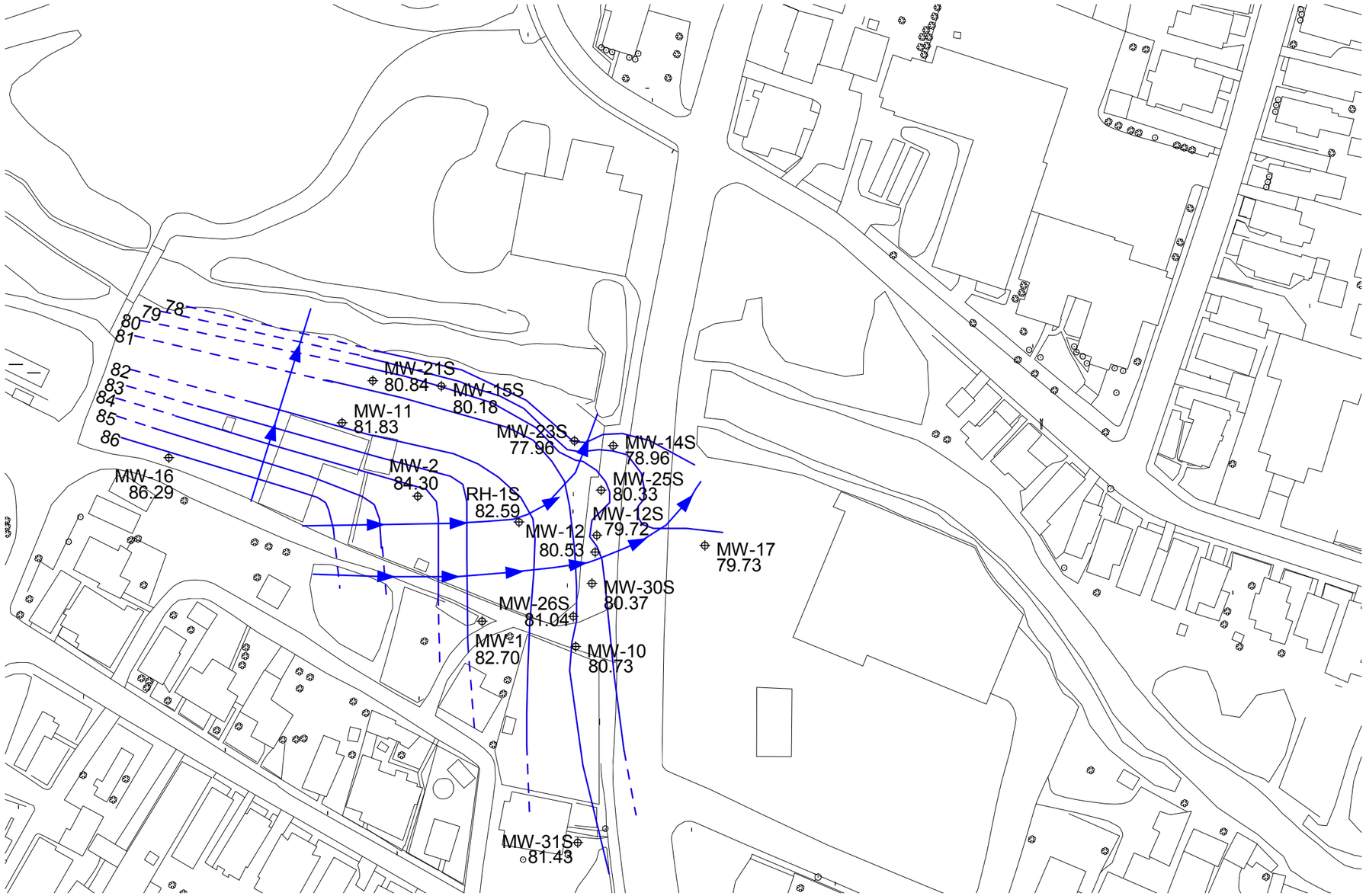
FIGURE 6-8

GEOLOGIC CROSS-SECTION E-E'

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\Other Figures\Fig 6-8 cs E.ai



LEGEND:

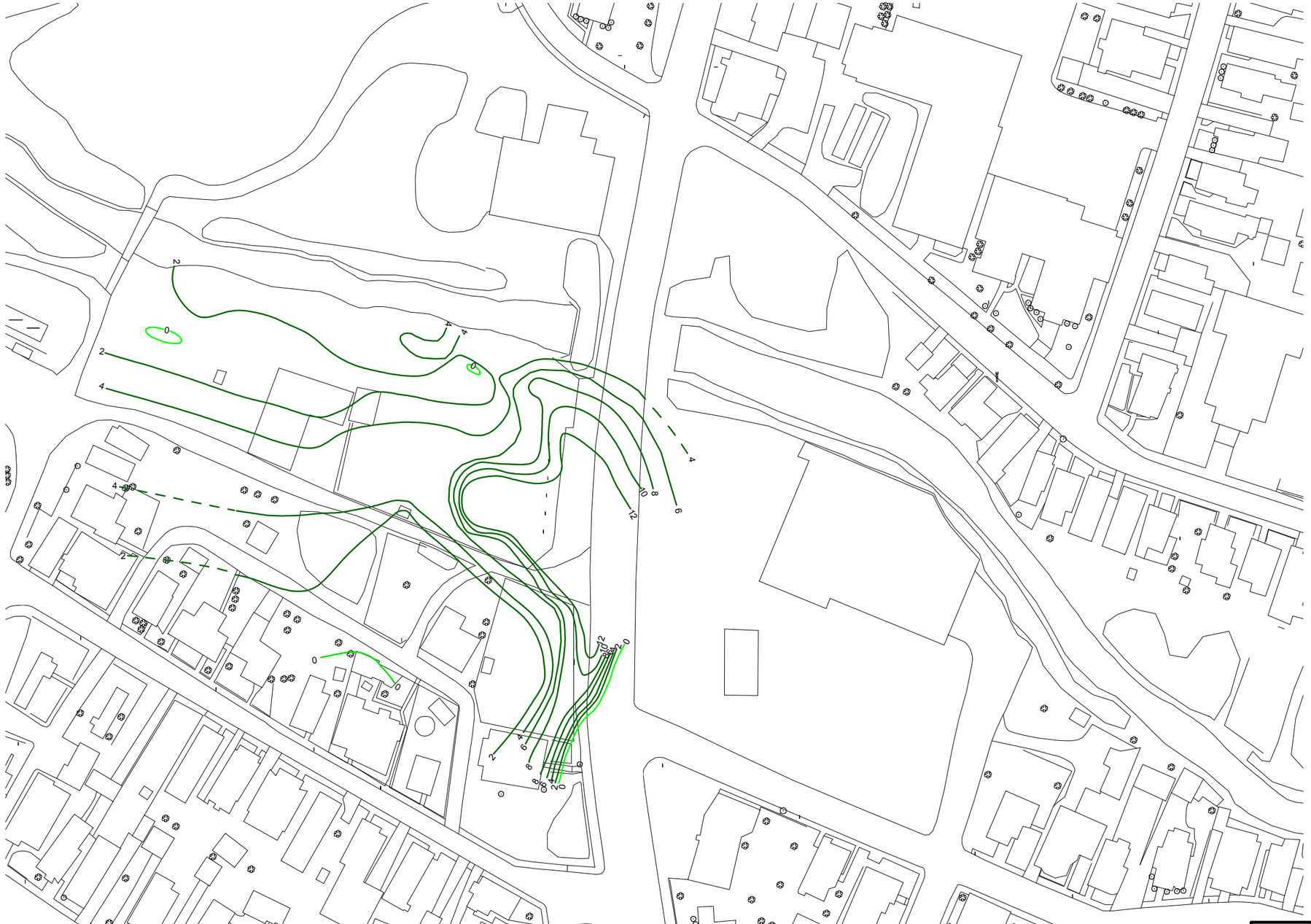
- MONITORING WELL LOCATION
  WATER TABLE ELEVATION - MAY 9, 2003
- WATER TABLE ELEVATION CONTOURS (FEET MSL)
- FLOW LINES

GRAPHIC SCALE

0 50 100 150 Feet

FIGURE 6-9	WATER TABLE ELEVATION MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 6-9 Water Table Elevation Map



LEGEND:

SATURATED THICKNESS OF OVERBURDEN CONTOURS (FEET)

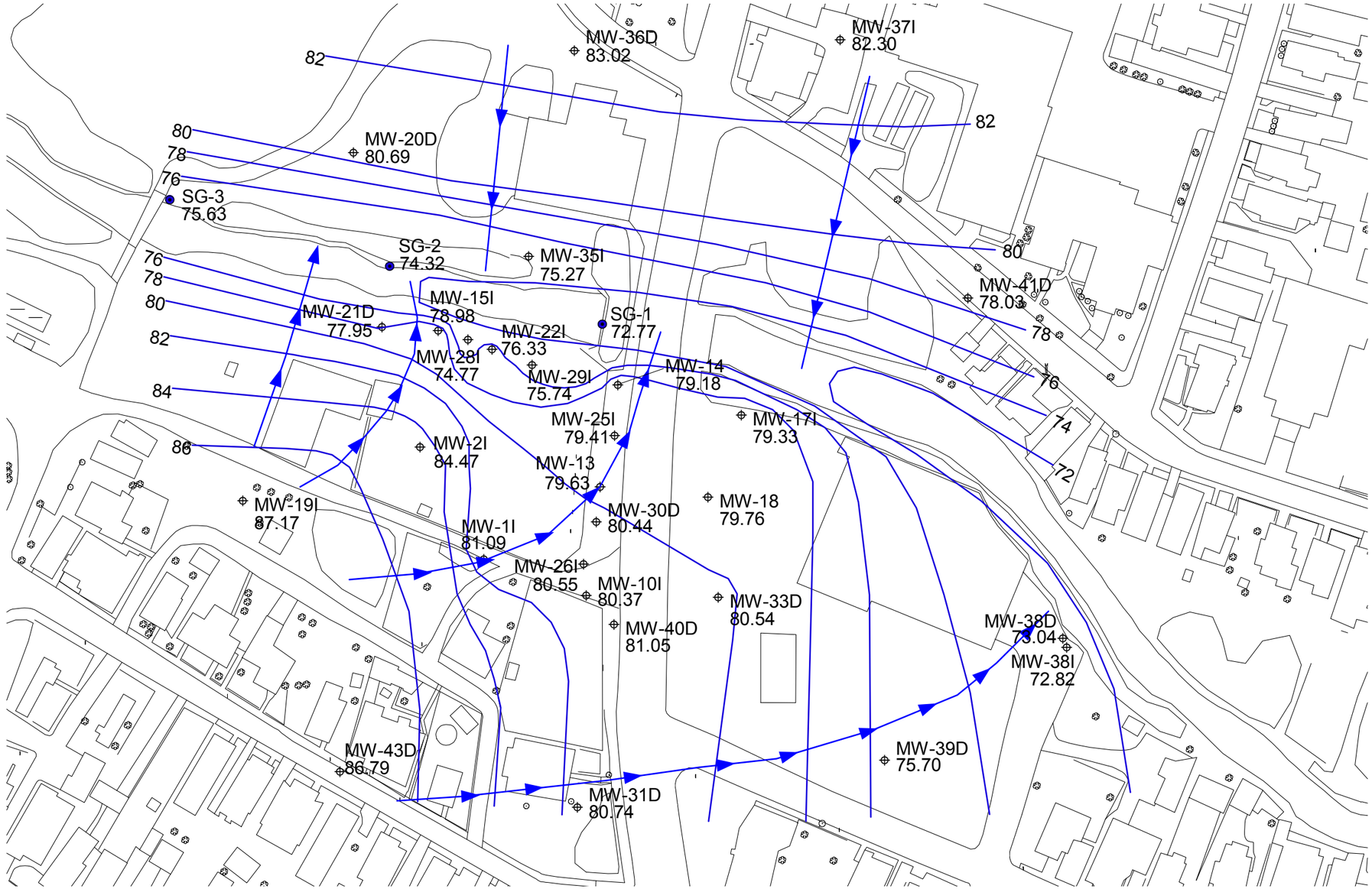
UNSATURATED OVERBURDEN

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 6-10	SATURATED THICKNESS OF OVERBURDEN
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 6-10 Saturated Thickness of Overburden



LEGEND:

- BEDROCK MONITORING WELL LOCATION
  POTENTIOMETRIC SURFACE ELEVATION - MAY 9, 2003
- STAFF GAUGE LOCATION
- POTENTIOMETRIC SURFACE ELEVATION CONTOURS (FEET MSL)
- FLOW LINES

NOTE: BEDROCK WELLS AT WHICH WATER LEVELS HAVE NOT STABILIZED ARE NOT SHOWN.

GRAPHIC SCALE

0 50 100 150 200 Feet

FIGURE 6-11	POTENTIOMETRIC SURFACE ELEVATION MAP
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 6-11 Potentiometric Surface Elevation Map



LEGEND:
TOTAL BTEX IN SURFACE SOIL (mg/kg)
- 2001 SURFACE SOIL SAMPLING LOCATION
- PRE-2001 SURFACE SOIL SAMPLING LOCATION

NOTES:
ND - NOT DETECTED

GRAPHIC SCALE
0 60 120 Feet

FIGURE 7-1	TOTAL BTEX IN SURFACE SOIL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-1 Total BTEX in Surface Soil



LEGEND:
TOTAL PAHS IN SURFACE SOIL (mg/kg)
- 2001 SURFACE SOIL SAMPLING LOCATION
- PRE-2001 SURFACE SOIL SAMPLING LOCATION

NOTES:
ND - NOT DETECTED

GRAPHIC SCALE

0 60 120 Feet

FIGURE 7-2

TOTAL PAHS IN SURFACE SOIL

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-2 Total PAHs in Surface Soil



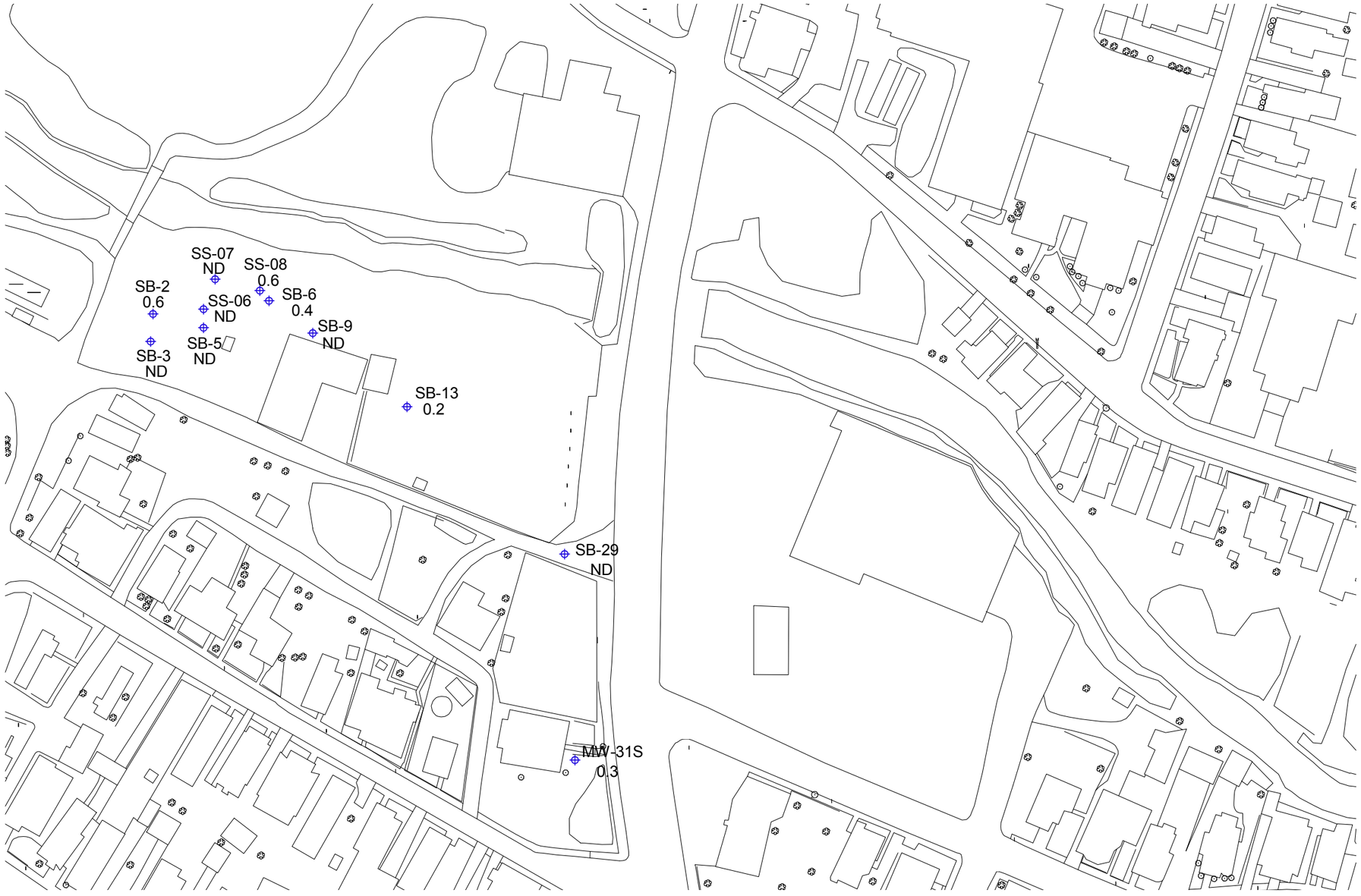
P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-3 Total CPAHs in Surface Soil

LEGEND:
TOTAL CPAHS IN SURFACE SOIL (mg/kg)
- 2001 SURFACE SOIL SAMPLING LOCATION
- PRE-2001 SURFACE SOIL SAMPLING LOCATION

NOTES:
ND - NOT DETECTED

GRAPHIC SCALE
0 60 120 Feet

FIGURE 7-3	TOTAL CPAHS IN SURFACE SOIL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065



LEGEND:

TOTAL PHENOLS IN SURFACE SOIL (mg/kg)

⌖ 2001 SURFACE SOIL SAMPLING LOCATION

NOTES:
ND - NOT DETECTED

GRAPHIC SCALE

0 60 120 Feet

FIGURE 7-4	TOTAL PHENOLS IN SURFACE SOIL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-4 Total Phenols In Surface Soil

N

MW-36D (4'-6') ND

MW-37D (14'-16') ND

MW-20D (14'-16') ND

MW-34D (12'-14') ND

SB-1 (2'-4') ND

SB-4 (4'-6') 0.890

MW-32D (6'-8') ND

SB-8 (4'-7') ND

SB-10 (8'-10') 0.180

B-15/MW-15 (4'-8') 1.45

SB-4A (2'-4') 0.618

TP-1 (6.5'-7') ND

MW-15S (6'-8') ND

MW-22I (2'-4') 0.002

MW-29I (4'-6') ND

MW-23S (8'-10') 0.018

MW-41D (4'-6') ND

SB-27 (2'-4') 0.010

SB-7 (2'-4') ND

SB-25 (4'-6') ND

SB-14 (2'-4') 0.00160

MW-28I (10'-12') ND

SB-24 (4'-6') ND

SB-23 (4'-6') ND

MW-14S (24'-25') 0.306

SB-16 (4'-6') 0.003

SB-C3 (6'-8') ND

B-16/MW-16 (6'-8') ND

SB-26 (4'-6') 0.046

SB-11 (6'-7') ND

B-2/MW-2 (8'-9.5') ND

SB-15 (4'-6') 0.008

TP-4 (3'-4') 0.703

SB-22 (4'-6') 13.7

MW-17I (20'-21') ND

MW-2I (7'-9') ND

SB-21 (8'-11') 1.60

SB-17 (2'-4') 67.5

MW-25S (16'-18') 0.006

MW-12S (24'-26') 0.576

SB-12 (2'-4') ND

B-7 (7'-9') 4.05

RH-1S (8'-10') 0.007

TP-2 (7'-7.5') ND

SB-C2 (12'-14') ND

B-17/MW-17 (18'-20') ND

MW-19I (4'-6') ND

SB-20 (8'-10') ND

SB-19 (6'-8') ND

SB-28 (2'-4') 34.4

B-12/MW-12 (22'-24') ND

MW-30D (10'-12') ND

SB-31 (6'-8') 0.003

SB-18 (8'-10') ND

MW-26S (22'-23') 0.007

SB-30 (8'-12') ND

B-1/MW-1 (8'-10') ND

MW-1D (8'-10') ND

MW-10I (14'-16') 0.208

SB-C1 (4'-8') ND

SB-45 (14'-18') 437

MW-38D (6'-8') ND

MW-39D (16'-18') ND

LEGEND:

TOTAL BTEX IN SUBSURFACE SOIL (mg/kg)

- Not Detected
- <1 mg/kg
- 1-10 mg/kg
- 10-100 mg/kg
- >100 mg/kg

APPROXIMATE LIMIT OF EXCAVATION (NOVEMBER 1999 TO APRIL 2000)

TP - Test Pit
PE - IRM Excavation Endpoint Sampling Location
B - Soil Boring
SB - Soil Boring
MW - Monitoring Well
RH - Relief Holder Monitoring Well

GRAPHIC SCALE

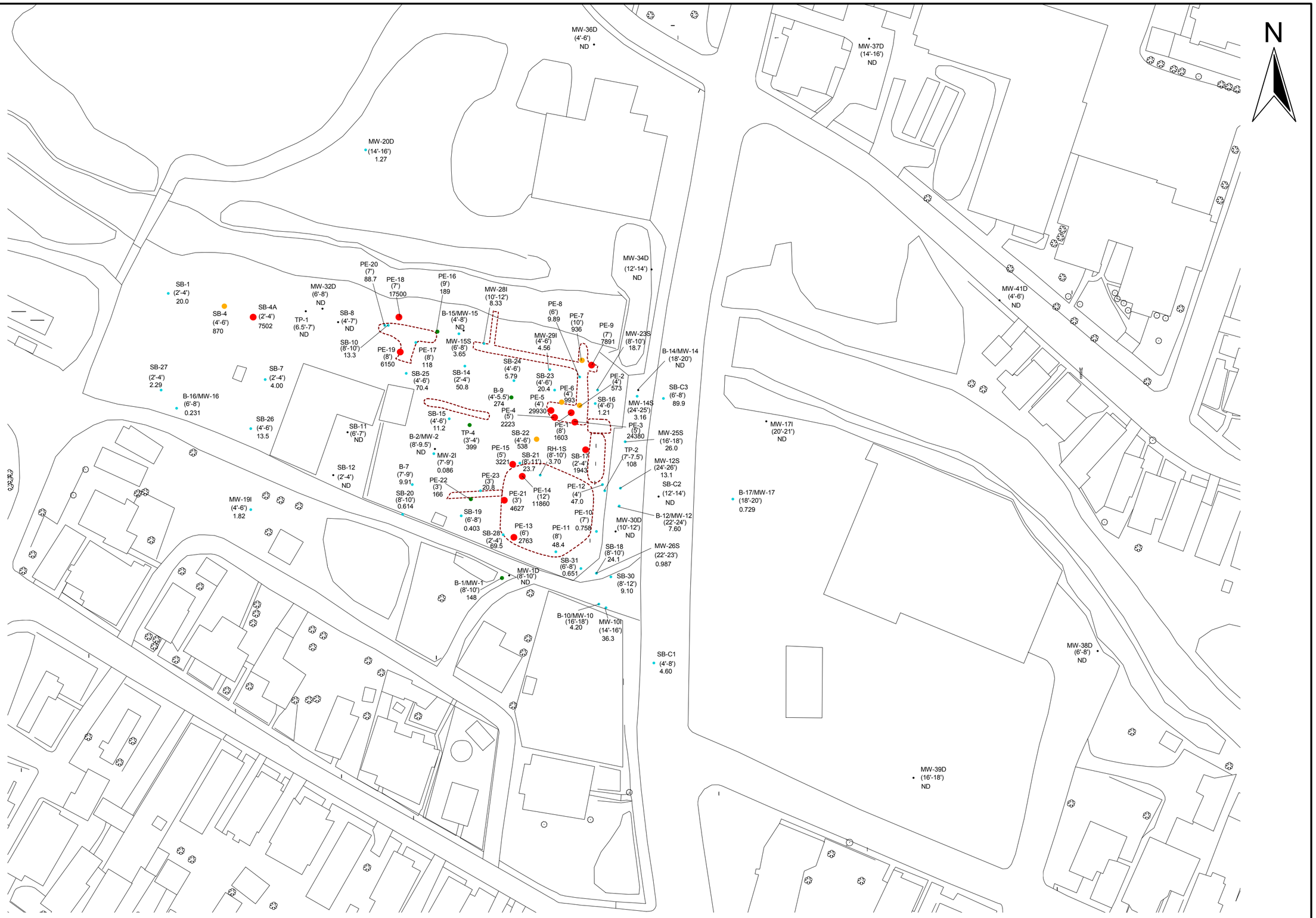
0 50 100 150 Feet

FIGURE 7-5	TOTAL BTEX IN SUBSURFACE SOIL

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville/ArcView/2004 figures.apr/Fig 7-5 Total BTEX in Subsurface Soil



LEGEND:

TOTAL PAHS IN SUBSURFACE SOIL (mg/kg)
- Not Detected
- <100 mg/kg
- 100-500 mg/kg
- 500-1,000 mg/kg
- =>1,000 mg/kg

APPROXIMATE LIMIT OF EXCAVATION (NOVEMBER 1999 TO APRIL 2000)

TP - Test Pit
PE - IRM Excavation Endpoint Sampling Location
B - Soil Boring
SB - Soil Boring
MW - Monitoring Well
RH - Relief Holder Monitoring Well

GRAPHIC SCALE
0 50 100 150 Feet

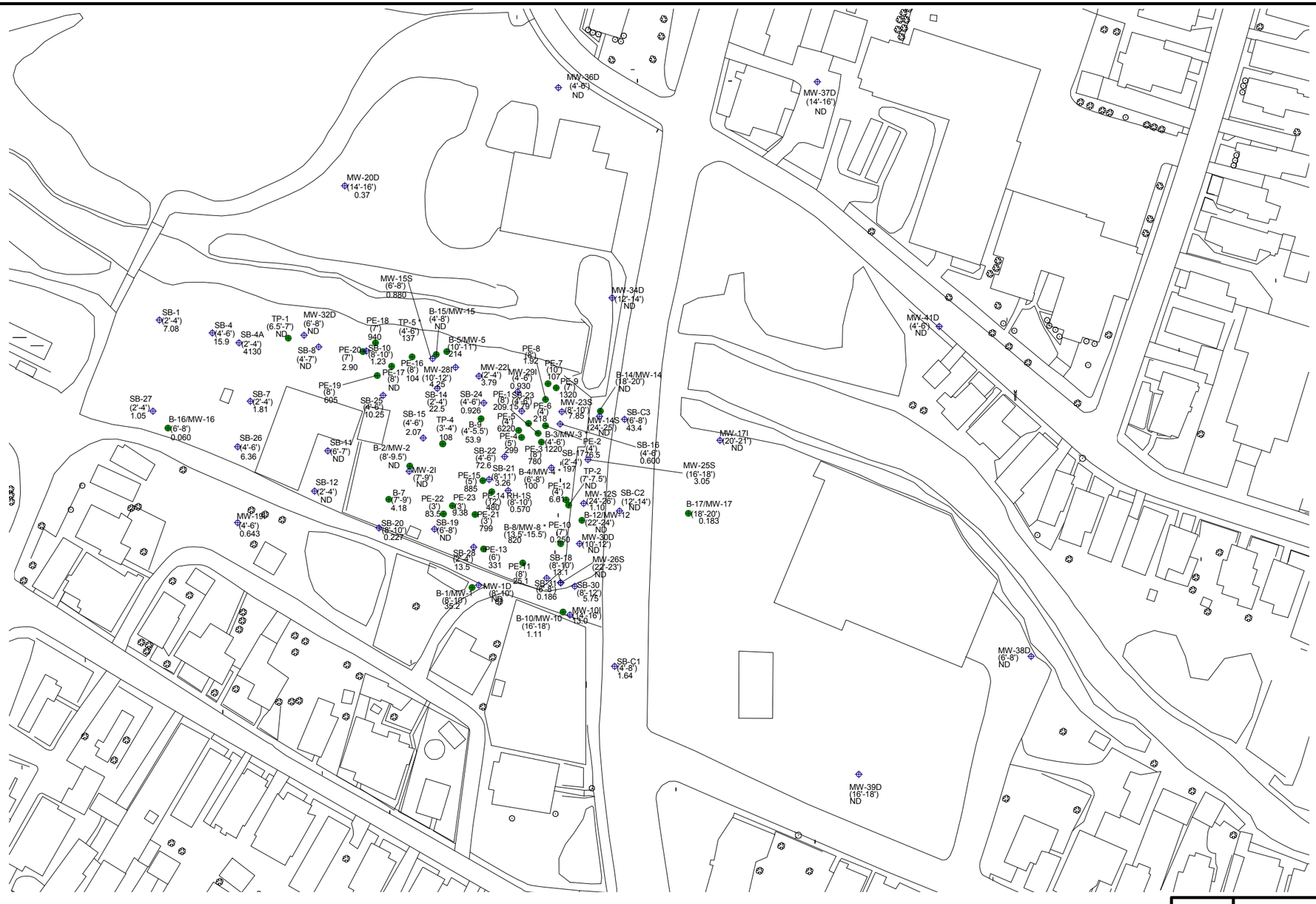
FIGURE 7-6

TOTAL PAHS IN SUBSURFACE SOIL

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:/Database/NYSEG/Mechanicville/ArcView/2004 figures.apr/Fig 7-6 Total PAHs in Subsurface Soil



LEGEND:
TOTAL CPAHS IN SUBSURFACE SOIL (mg/kg)
- 2001 SUBSURFACE SOIL SAMPLING LOCATION
- PRE-2001 SUBSURFACE SOIL SAMPLING LOCATION

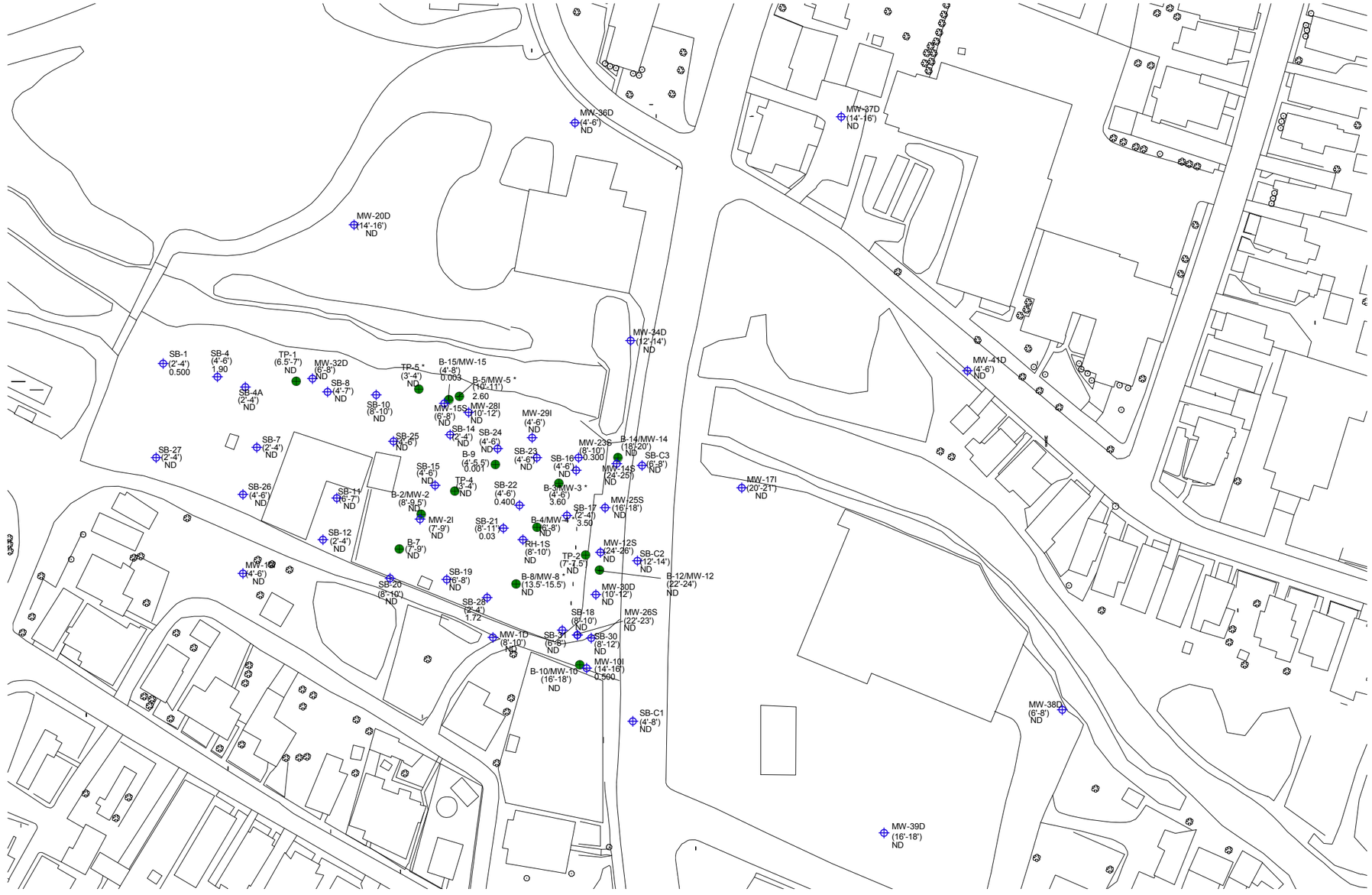
NOTES:
ND - NOT DETECTED
* - REMOVED DURING 1999 AND 2000 IRM

GRAPHIC SCALE
0 80 160 Feet

FIGURE 7-7	TOTAL CPAHS IN SUBSURFACE SOIL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\MechanicvilleArcView\2004 Figures.apr\Fig 7-7 Total CPAHs in Subsurface Soil

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-8 Total Phenols in Subsurface Soil



LEGEND:

TOTAL PHENOLS IN SUBSURFACE SOIL (mg/kg)

- 2001 SUBSURFACE SOIL SAMPLING LOCATION
- PRE-2001 SUBSURFACE SOIL SAMPLING LOCATION

NOTES:

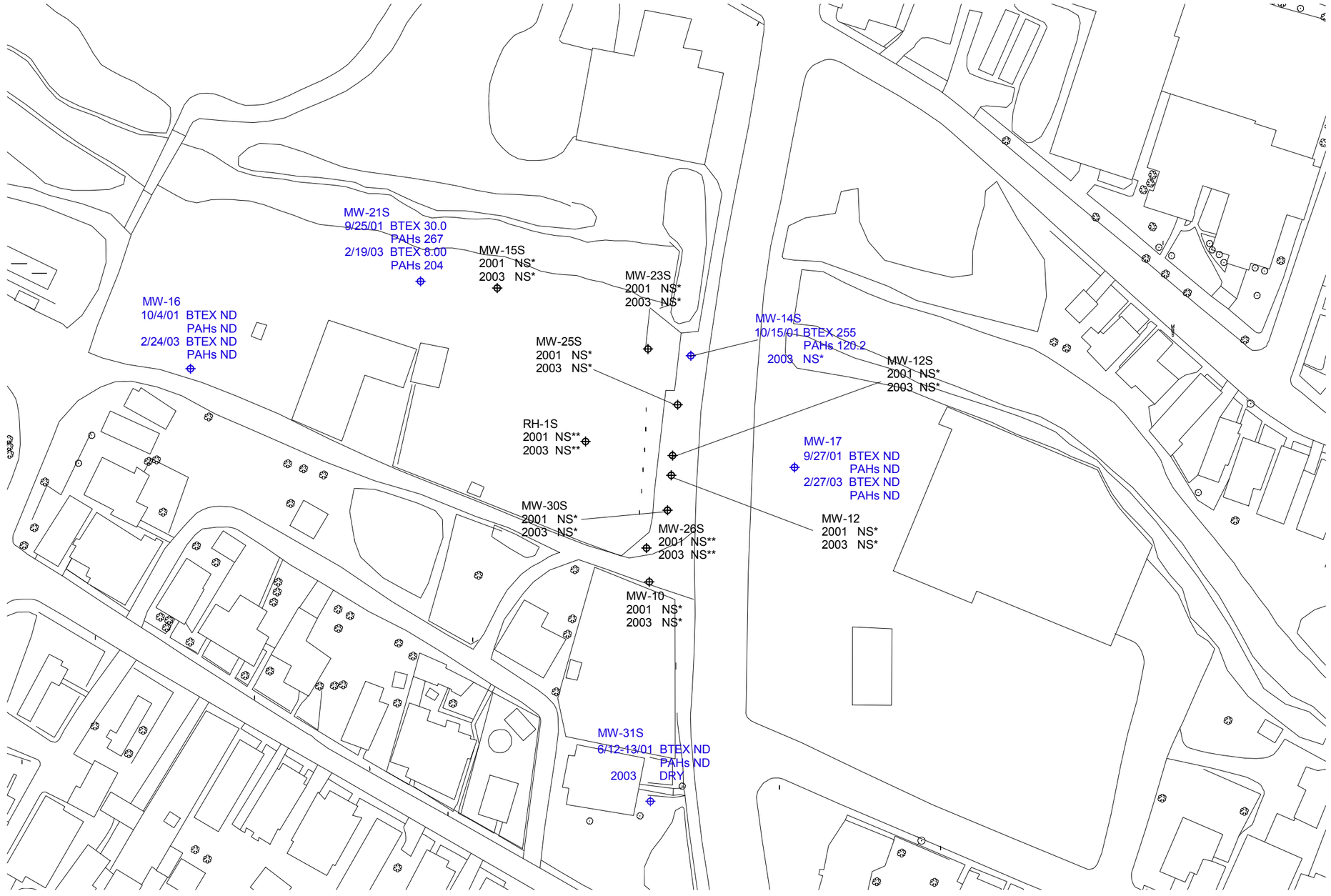
ND - NOT DETECTED

* - REMOVED DURING 1999 AND 2000 IRM

GRAPHIC SCALE

0 80 160 Feet

FIGURE 7-8	TOTAL PHENOLS IN SUBSURFACE SOIL
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065



LEGEND:

- ⌖ MONITORING WELL NOT SAMPLED
- ⌖ TOTAL BTEX AND PAHs IN OVERBURDEN GROUNDWATER (ug/L)

ND: NOT DETECTED
NS*: WELL NOT SAMPLED DUE TO PRESENCE OF A SHEEN
NS**: WELL NOT SAMPLED DUE TO PRESENCE OF NAPL
DRY: INSUFFICIENT VOLUME OF WATER IN WELL TO COLLECT SAMPLE

GRAPHIC SCALE

0 50 100 150 200 Feet

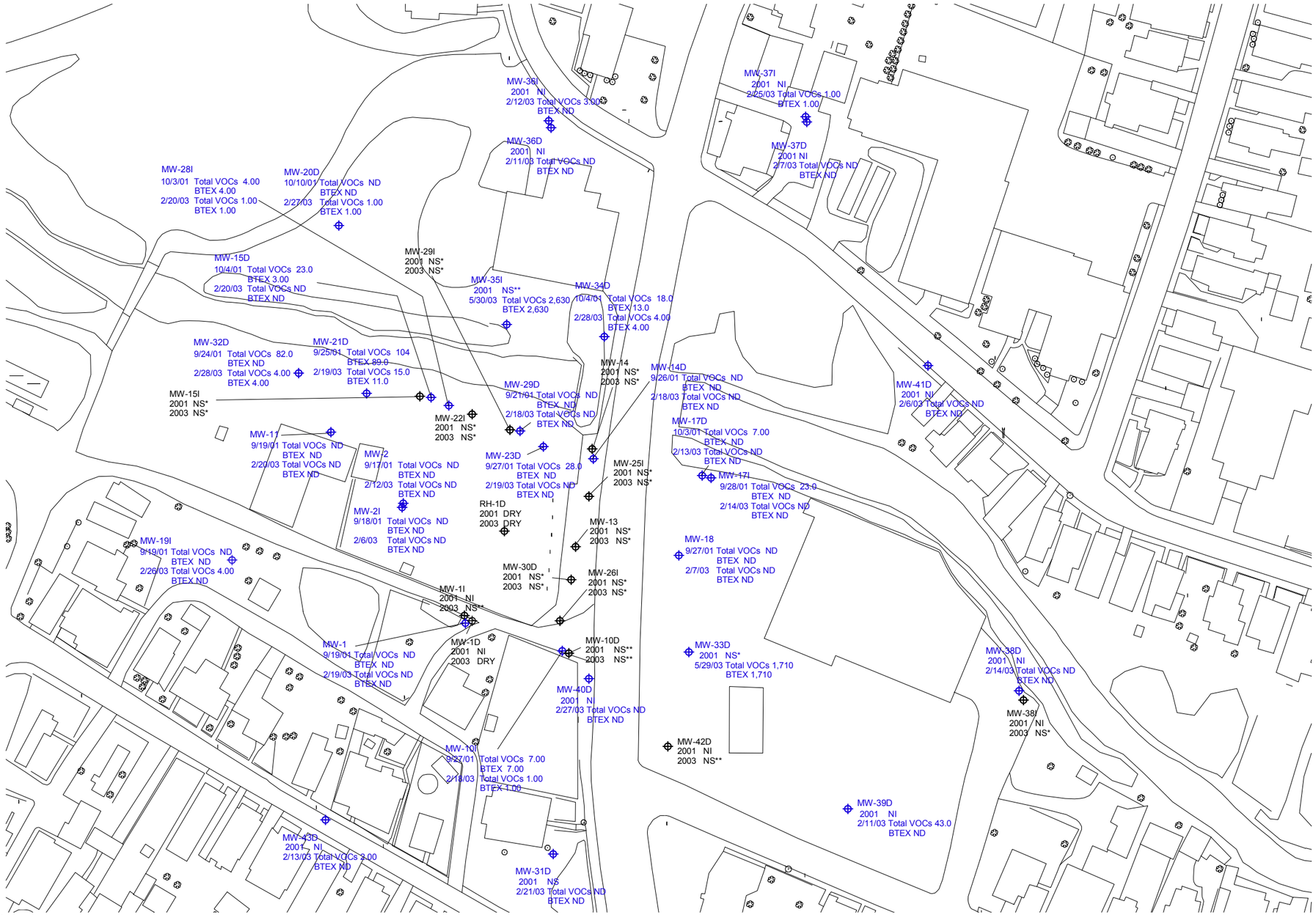
FIGURE 7-9

TOTAL BTEX AND PAHS IN OVERBURDEN GROUNDWATER

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-9 Total BTEX and PAHs in Overburden Groundwater



LEGEND:

- ⊕ MONITORING WELL NOT SAMPLED
- ⊕ TOTAL BTEX AND PAHs IN BEDROCK GROUNDWATER (ug/L)

ND: NOT DETECTED
NI: WELL NOT INSTALLED
NS: NOT SAMPLED
NS*: WELL NOT SAMPLED DUE TO PRESENCE OF A SHEEN
NS**: WELL NOT SAMPLED DUE TO PRESENCE OF NAPL
DRY: INSUFFICIENT VOLUME OF WATER IN WELL TO COLLECT SAMPLE

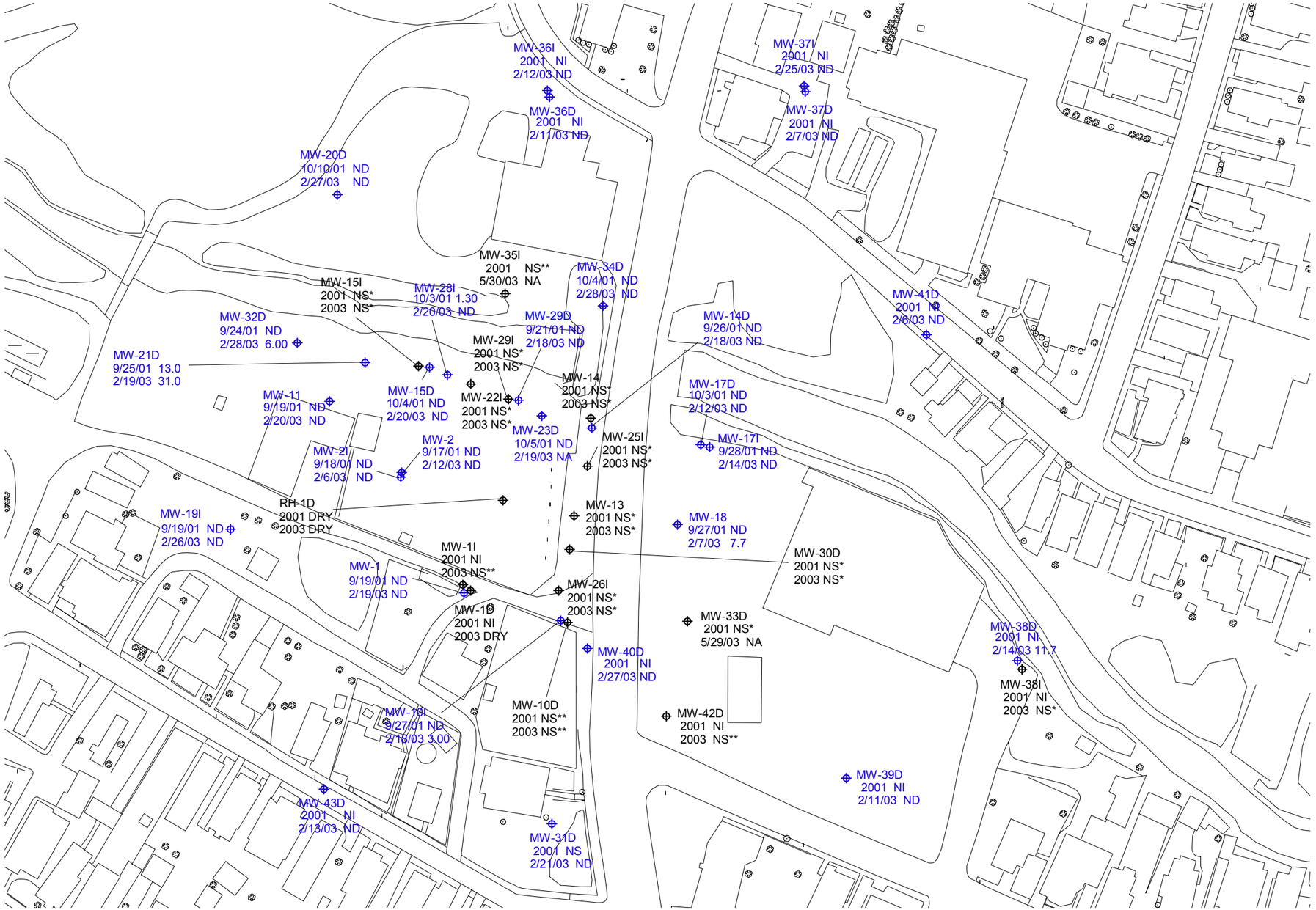
GRAPHIC SCALE
0 50 100 150 200 Feet

FIGURE 7-10
TOTAL VOLATILE ORGANIC COMPOUNDS IN BEDROCK GROUNDWATER

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-10 Total VOCs in Bedrock Groundwater



LEGEND:

- ⌖ MONITORING WELL NOT SAMPLED
- ⌖ TOTAL BTEX AND PAHs IN BEDROCK GROUNDWATER (ug/L)

NA: NOT ANALYZED
ND: NOT DETECTED
NI: WELL NOT INSTALLED
NS: NOT SAMPLED
NS*: WELL NOT SAMPLED DUE TO PRESENCE OF A SHEEN
NS**: WELL NOT SAMPLED DUE TO PRESENCE OF NAPL
DRY: INSUFFICIENT VOLUME OF WATER IN WELL TO COLLECT SAMPLE

GRAPHIC SCALE

0 50 100 150 200 Feet

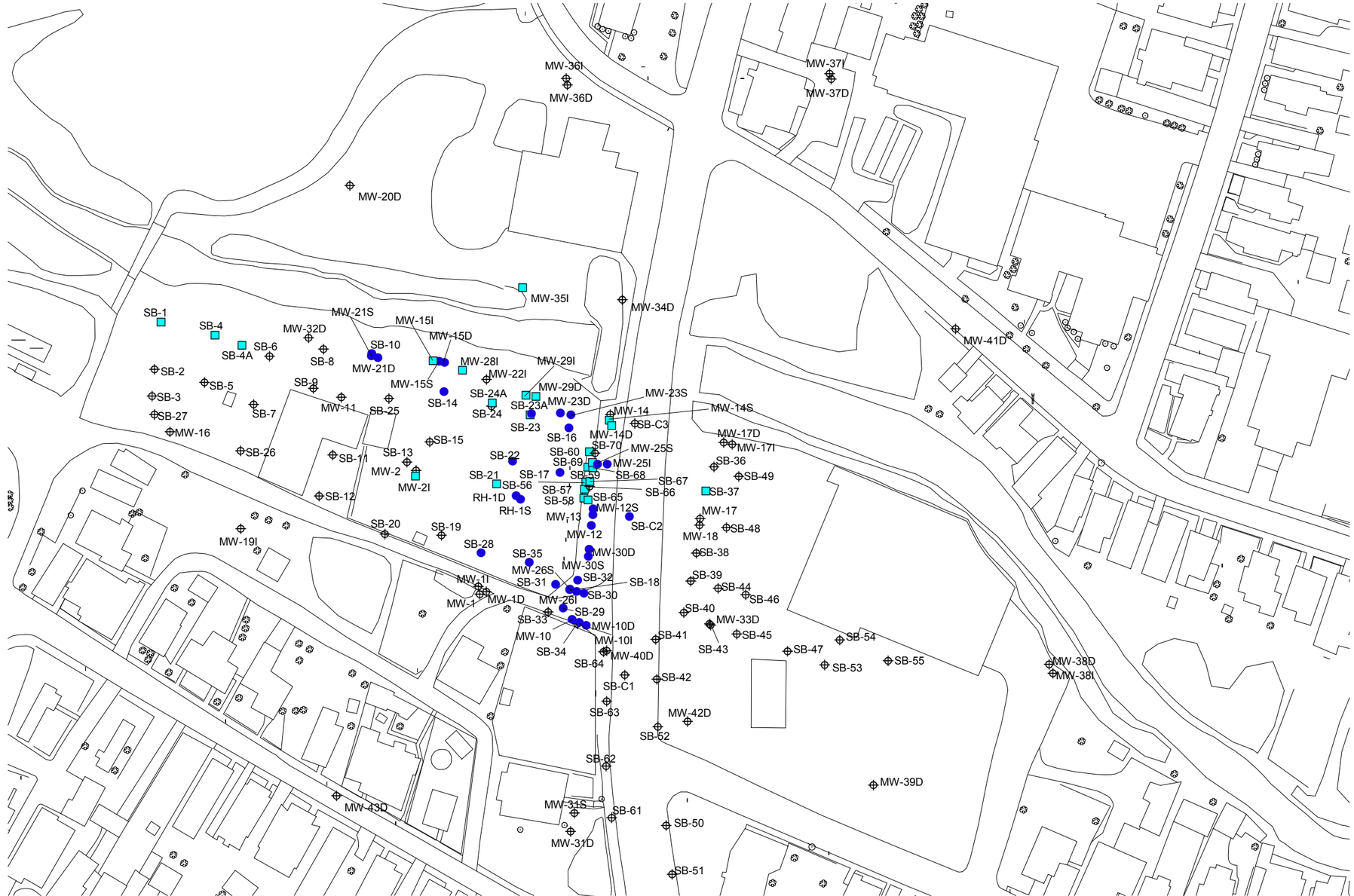
FIGURE 7-11

TOTAL PAHS IN BEDROCK GROUNDWATER

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-11 Total PAHs in Bedrock Groundwater



LEGEND:

NAPL IN OVERBURDEN

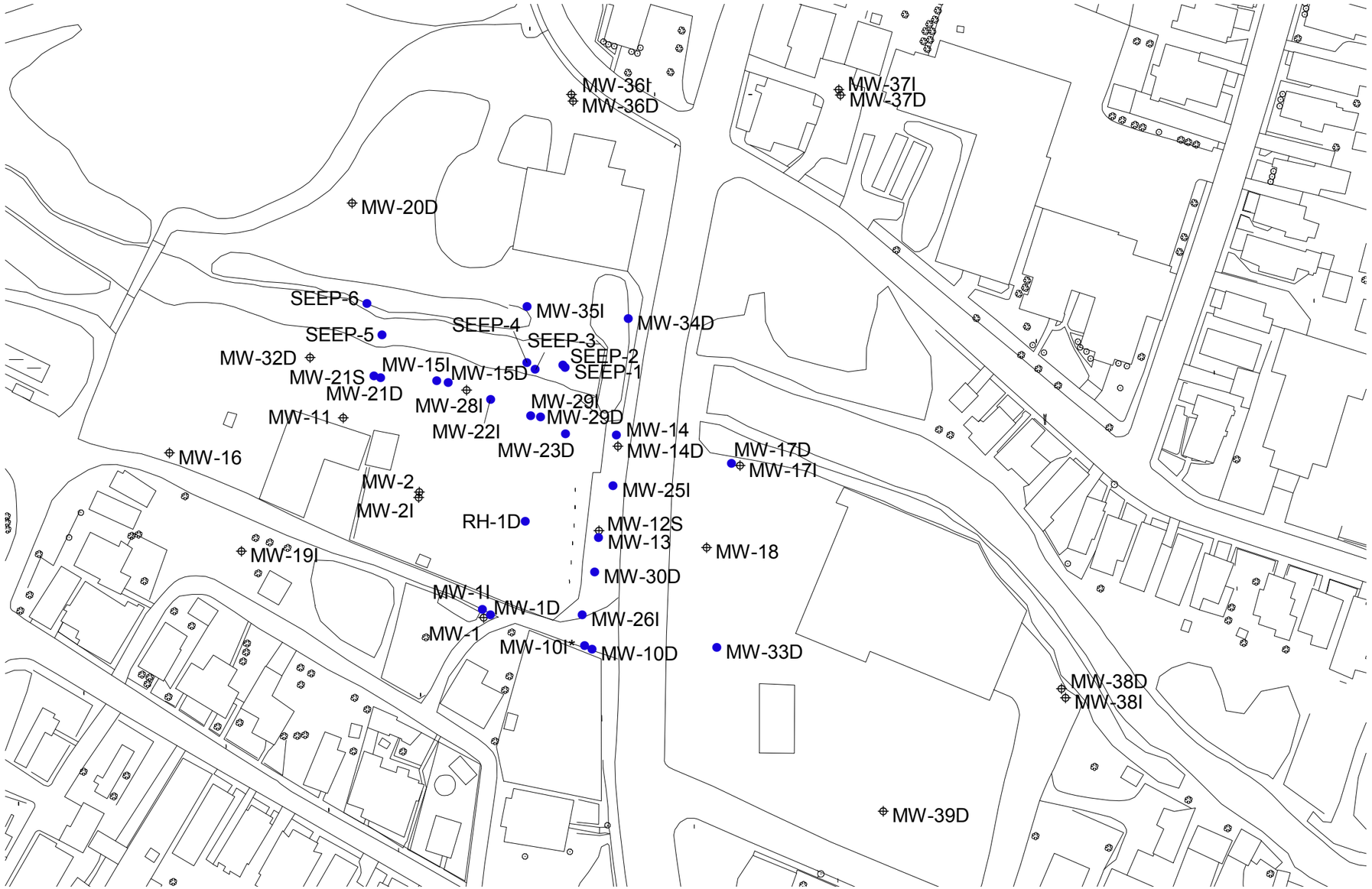
- CLEAN
- NAPL
- ODORS ONLY

GRAPHIC SCALE

0 100 200 Feet

FIGURE 7-12	EXTENT OF NAPL IN OVERBURDEN
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:\Database\NYSEG\MechanicvilleArcView\2004 Figures.apr\Fig 3-2 Current Site Map



LEGEND:

NAPL IN UPPER PENCIL CLEAVAGE ZONE
- CLEAN
- NAPL

*: ODORS IN BEDROCK ABOVE UPPER PENCIL CLEAVAGE ZONE.

GRAPHIC SCALE
0 100 200 Feet

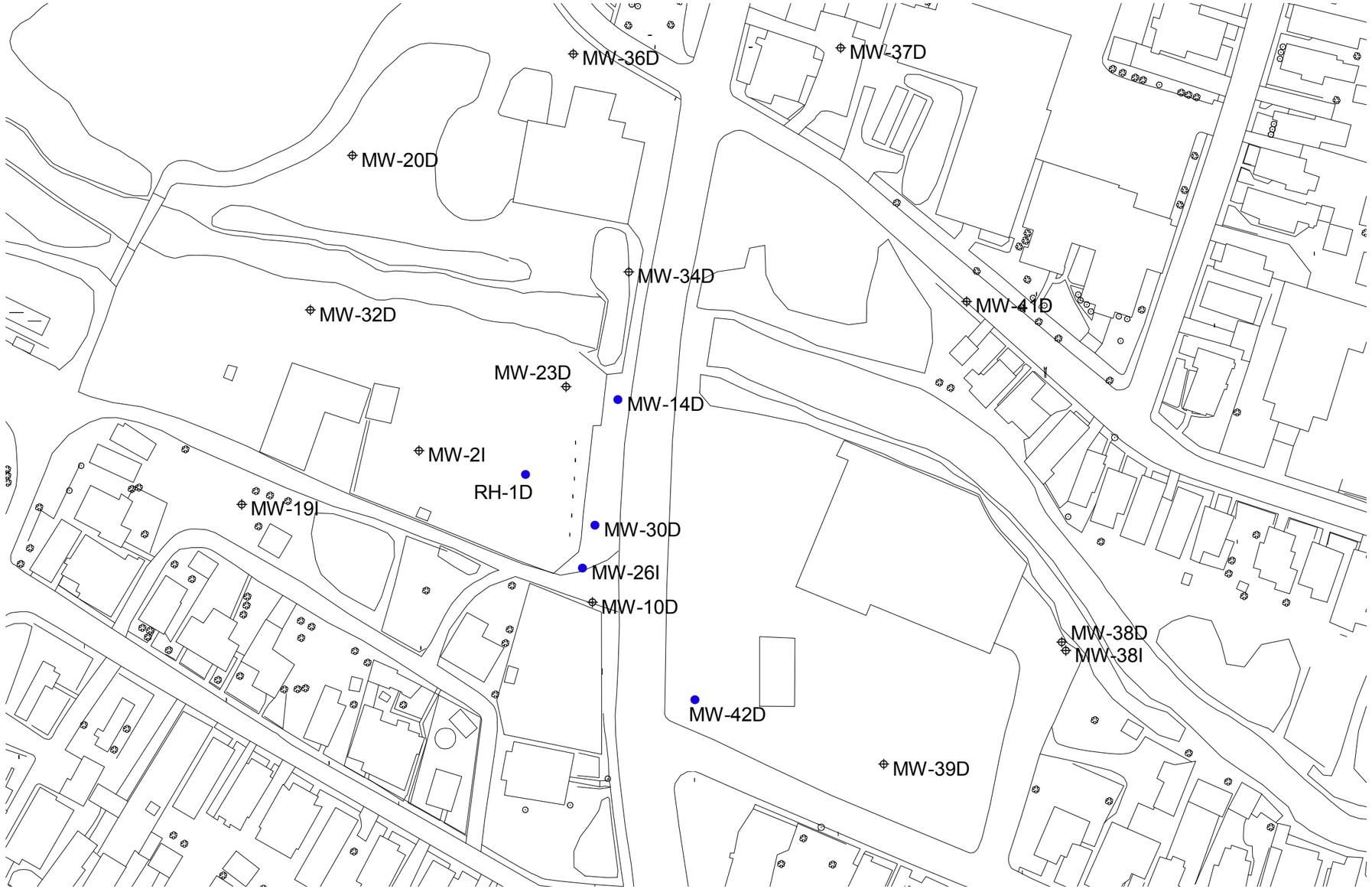
FIGURE 7-13

EXTENT OF NAPL IN UPPER PENCIL CLEAVAGE ZONE

NEW YORK STATE ELECTRIC AND GAS
FORMER COAL GASIFICATION SITE
MECHANICVILLE, NEW YORK

URS CORPORATION
28 CORPORATE DRIVE, SUITE 200
CLIFTON PARK, NEW YORK 12065

P:Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-13 Upper Pencil NAPL



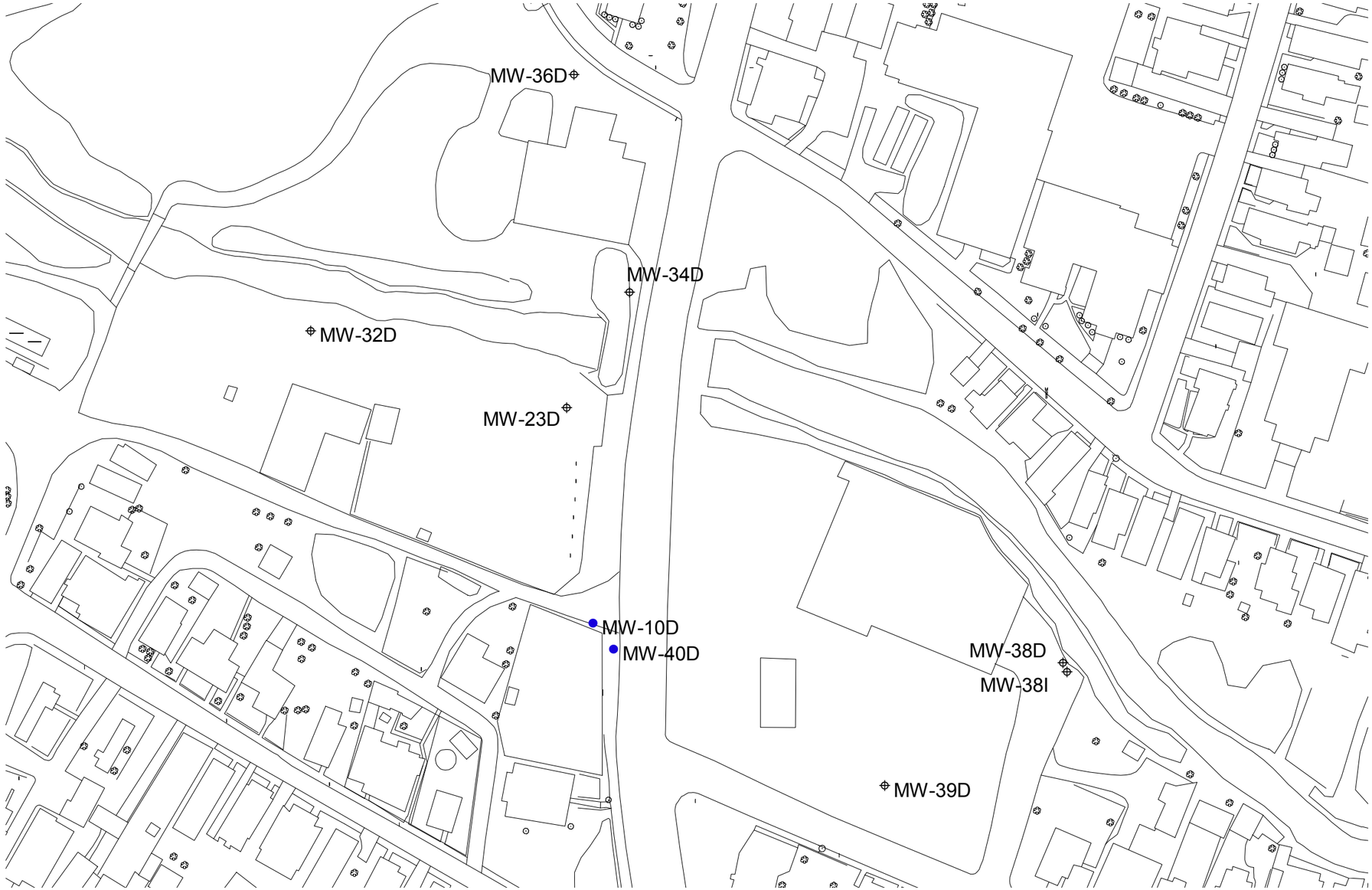
LEGEND:

NAPL IN LESS INTENSE PENCIL CLEAVAGE ZONE
- CLEAN
- NAPL

GRAPHIC SCALE
0 100 200 Feet

FIGURE 7-14	EXTENT OF NAPL IN LESS INTENSE PENCIL CLEAVAGE ZONE
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-14 Less Intense



LEGEND:

NAPL IN LOWER PENCIL CLEAVAGE ZONE

- CLEAN
- NAPL

GRAPHIC SCALE

0 100 200 Feet

FIGURE 7-15	EXTENT OF NAPL IN LOWER PENCIL CLEAVAGE ZONE
NYSEG	NEW YORK STATE ELECTRIC AND GAS FORMER COAL GASIFICATION SITE MECHANICVILLE, NEW YORK
URS	URS CORPORATION 28 CORPORATE DRIVE, SUITE 200 CLIFTON PARK, NEW YORK 12065

P:Database\NYSEG\Mechanicville\ArcView\2004 Figures.apr\Fig 7-15 Lower Pencil

FIGURE 7-16
SUMMARY OF PRODUCT RECOVERY
MW-26S

NYSEG
MECHANICVILLE, NEW YORK

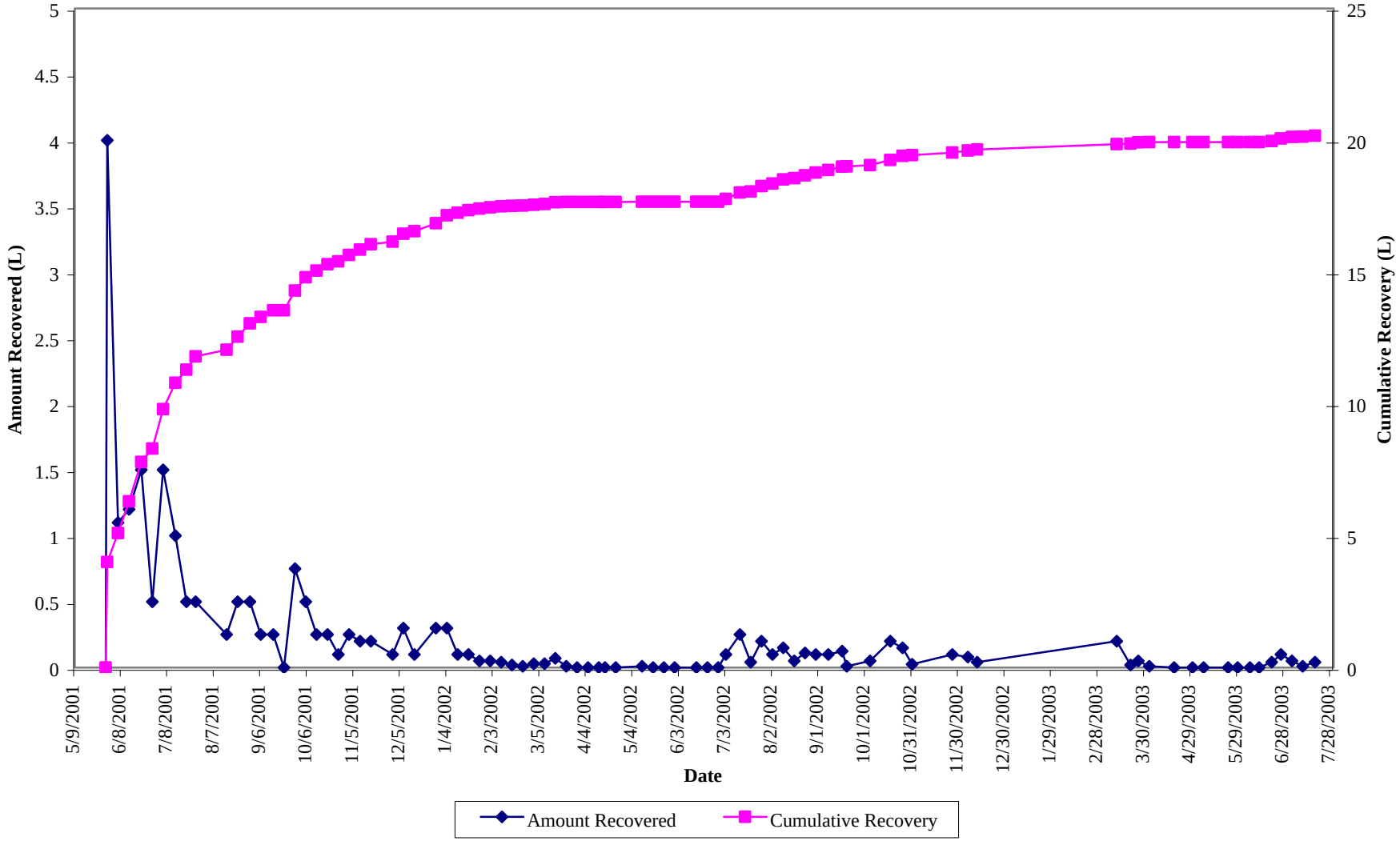


FIGURE 7-17
SUMMARY OF PRODUCT RECOVERY
RH-1S

NYSEG
MECHANICVILLE, NEW YORK

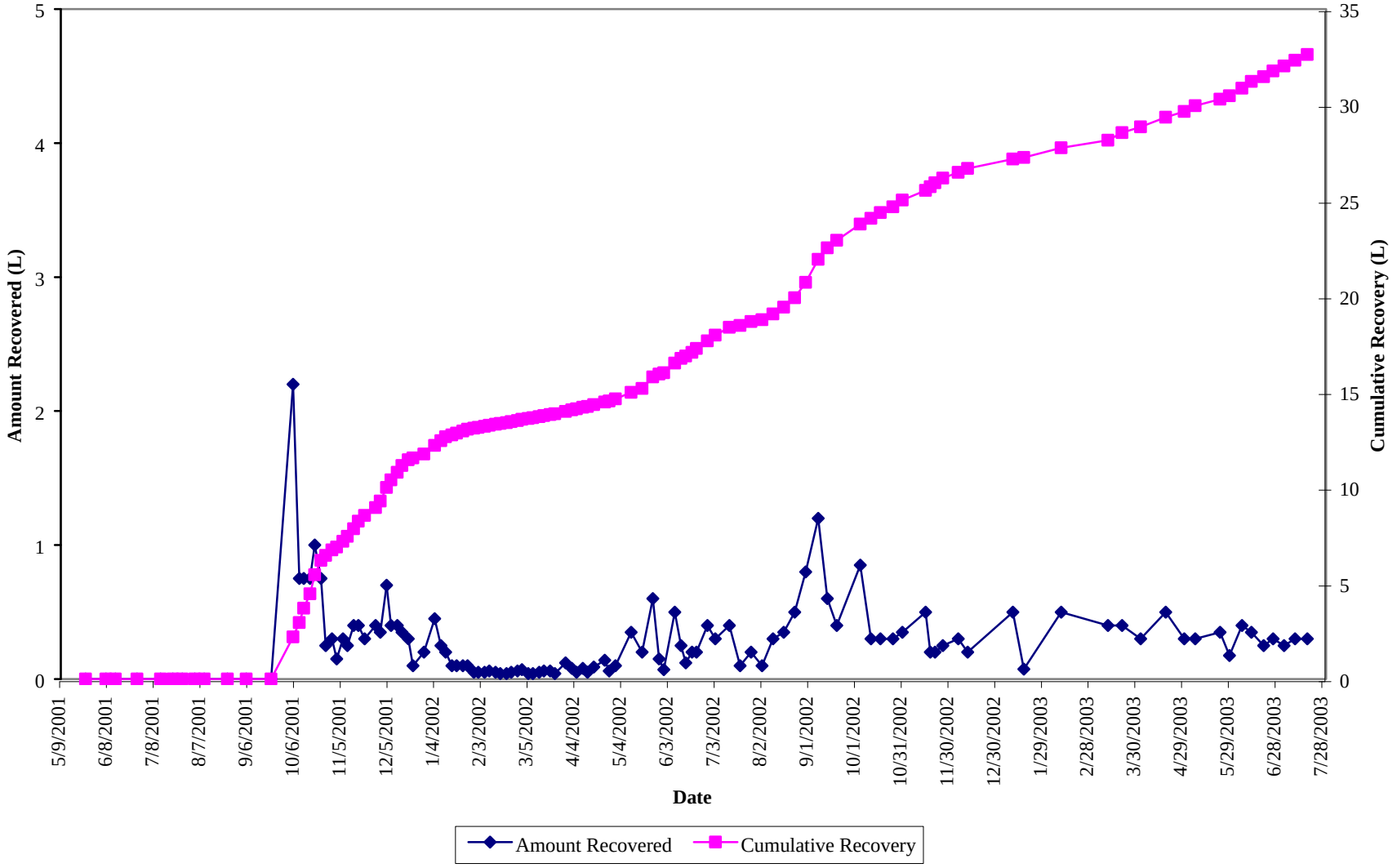


FIGURE 7-18
SUMMARY OF PRODUCT RECOVERY
MW-10D

NYSEG
MECHANICVILLE, NEW YORK

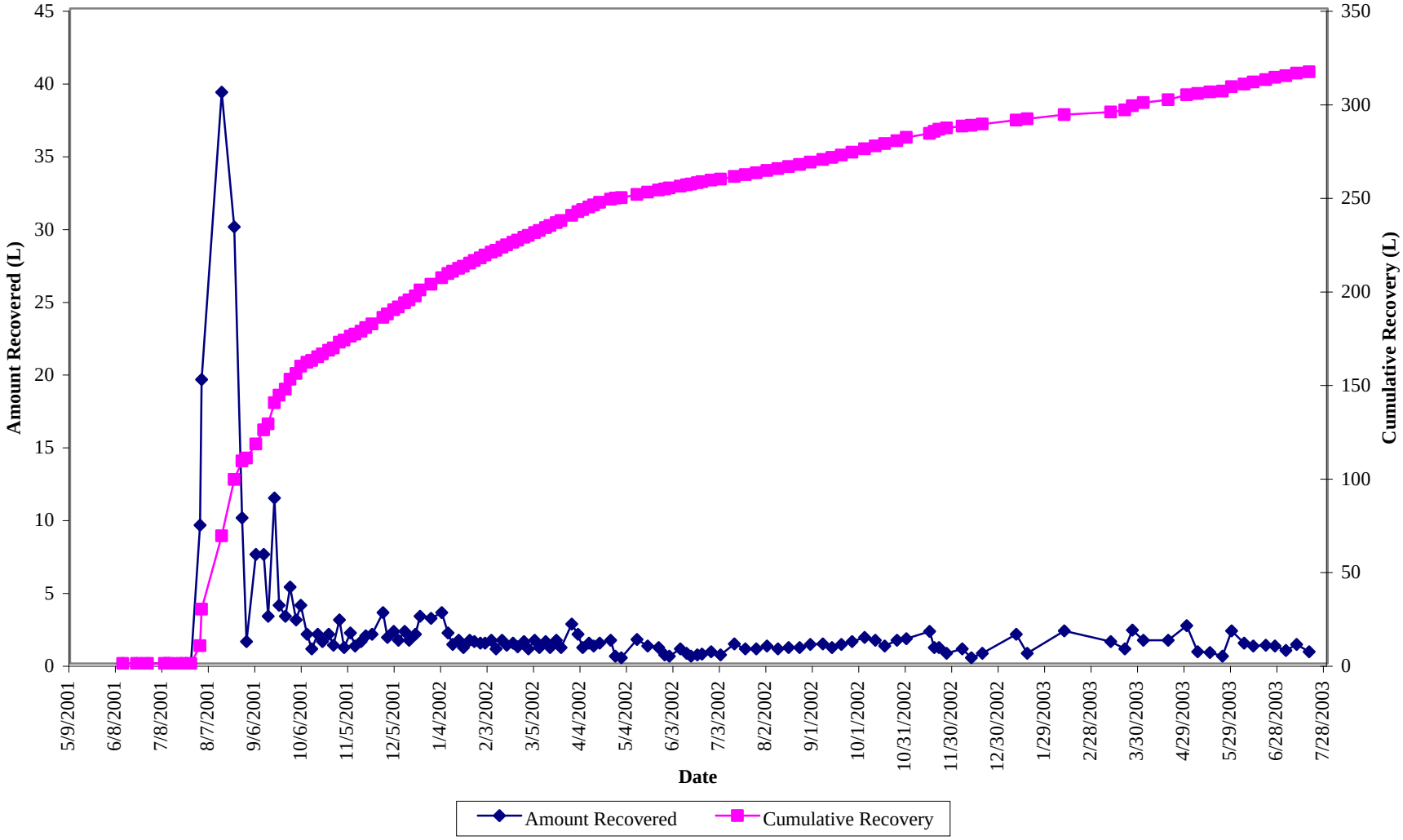


FIGURE 7-19
SUMMARY OF PRODUCT RECOVERY
MW-42D

NYSEG
MECHANICVILLE, NEW YORK

