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REPORT

MGP/RCRA Investigation Report

Volume I of VII

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

November 1997

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

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Executive Summary

This report presents the results of a comprehensive, site-wide investigation that was conducted at the Niagara Mohawk Power Corporation (NMPC) North Albany Service Center in Albany, New York. The investigation was conducted pursuant to the following:

- An existing Order on Consent (the "Consent Order") between NMPC and the New York State Department of Environmental Conservation (NYSDEC) which required NMPC to implement a Remedial Investigation/Feasibility Study (RI/FS) to evaluate potential issues associated with a former manufactured gas plant (MGP) facility at the site; and
- Module III - Corrective Action (Permit Module III) of the 6NYCRR Part 373 Hazardous Waste Management Permit (NYSDEC Permit No. 4-0101-00114/00004-0) for the hazardous waste treatment, storage, and disposal facility (TSDF) located at the North Albany Service Center which required NMPC to implement a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) to evaluate releases of hazardous wastes or hazardous constituents from solid waste management units (SWMUs) at the North Albany Service Center.

Based on meetings and correspondence with the NYSDEC, NMPC obtained approval for a technical approach to conduct a single comprehensive, site-wide investigation and detailed evaluation of potential remedial measures (collectively referred to as the "MGP/RCRA Investigation and Remedial Measures Evaluation") to satisfy the requirements of both the Consent Order and Permit Module III. Background information relating to the MGP/RCRA Investigation is presented below, followed by a summary of the MGP/RCRA Investigation field activities and a brief discussion of conclusions and recommendations supported by the investigation results.

I. Background Information

The North Albany Service Center serves as the primary maintenance/supply and office facility for NMPC's eastern operating division. The North Albany Service Center is situated on an approximately 25-acre parcel that is bordered by Broadway to the west, Interstate I-90 to the north, a Delaware and Hudson Railroad right-of-way to the east, and Bridge Street to the south. Erie Boulevard, Interstate I-787, and the Hudson River are located to the east of the Delaware and Hudson right-of-way. The Erie Canal was formerly located to the east of the Delaware and Hudson Railway right-of-way which borders the North Albany Service Center property to the east (the section of the canal in the vicinity of the site was abandoned during the 1920s and was filled during the late 1920s/early 1930s).

Industrial usage of the property includes the MGP facility which operated from the 1870s through the 1940s, and electric/gas utility support services which began in connection with the MGP operation and continue to the present. The former MGP at the North Albany Service Center property initially used the coal-carbonization process. The MGP switched to the water gas process around the 1890s and to the carbureted water gas process prior to 1908.

NMPC was issued the final 6NYCRR Part 373 Hazardous Waste Management Permit for the North Albany Service Center TSDF on January 6, 1995. As a requirement of the Hazardous Waste Management Permit, NMPC submitted Corrective Action Information Forms identifying 26 SWMUs that were known to exist at the site. Based on a review of the information contained in the Corrective Action Information Forms completed by NMPC, the NYSDEC determined that a RCRA Facility Assessment-Sampling Visit (RFA-SV) was required to determine if hazardous wastes or hazardous constituents had been released from 13 of the 26 identified SWMUs at the North Albany Service Center.

Potential issues associated with the former MGP operation and the RCRA SWMUs at the site were initially evaluated through a Preliminary Site Assessment/Interim Remedial Measures (PSA/IRM) Study which was implemented by Foster Wheeler Environmental, Inc. (Foster Wheeler) during 1994. Analytical results obtained for the laboratory analysis of the soil, ground-water, and storm sewer debris samples collected for the PSA/IRM Study indicated that chemical constituents were present in environmental media at the site at concentrations exceeding NYSDEC-recommended cleanup standards, criteria, and/or objectives. In addition, non-aqueous phase liquids (NAPL) was observed in soil borings and ground-water monitoring wells completed as part of the PSA/IRM Study. Based on the results of the PSA/IRM Study, the NYSDEC added the North Albany Service Center to the New York State Inactive Hazardous Waste Sites Registry (with an assigned Class 2 ranking) and requested that NMPC proceed with a remedial investigation/feasibility study (RI/FS) of the area in the vicinity of the site. The RI/FS requirements for issues associated with the former MGP operation and the RFI requirements for the RCRA SWMUs at the site were addressed through the implementation of the MGP/RCRA Investigation.

II. MGP/RCRA Investigation

The overall objective of the MGP/RCRA Investigation summarized in this report is to provide data that can be used to assess current site conditions, supplement the existing data provided by the PSA/IRM Study, and determine the scope of future remedial measures which may be implemented at the site. Activities associated with the MGP/RCRA Investigation were implemented as part of the following investigative efforts:

- Soil Investigation;
- Ground-Water Investigation;
- Storm Sewer Investigation;
- Baseline Human Health Risk Assessment; and
- Assessment of Air Emissions.

A brief summary of relevant results obtained for each of the above-listed investigative efforts is presented below.

Soil Investigation

Soil investigation activities conducted as part of the MGP/RCRA Investigation consisted of the following:

- Collecting surface soil samples for laboratory analysis from the yard storage area (which extends across the southern portion of the site) and in the area south of the TSDF (the area south of the main building at the site);

- Excavating test pits in the yard storage area to facilitate visual assessment of subsurface conditions and the collection of subsurface soil samples; and

- Completing soil borings to further characterize subsurface conditions, facilitate the collection of subsurface soil samples, determine appropriate locations for off-site monitoring wells, and delineate the extent of NAPL. Subsurface soil samples were also collected for laboratory analysis from selected soil borings completed for the installation of ground-water monitoring wells.

Surface soil encountered in the yard storage area and the area south of the TSDF consisted of grayish-brown and black gravel mixed with silt and sand. Traces of oil-staining and black-stained soil were encountered at three sampling locations and concrete rubble was encountered at one sampling location. Analytical results obtained for the laboratory analysis of the surface soil samples indicate that polychlorinated biphenyls (PCBs) were detected above the NYSDEC-recommended cleanup level of 1 parts per million (ppm) in surface soil at eight locations in the yard storage area and the area south of the TSDF. Several semi-volatile organic compounds (SVOCs) were also detected in surface soils in the yard storage area and the area south of the TSDF at concentrations above NYSDEC-recommended soil cleanup objectives.

Subsurface staining and/or fill material with noticeable odors (including materials that were potentially associated with the former MGP operations at the site) were encountered at several test pit locations in the yard storage area. Analytical results obtained for the laboratory analysis of the subsurface soil samples collected from the test pits excavated in the yard storage area indicate that volatile organic compounds (VOCs) and SVOCs were detected in several locations at concentrations exceeding NYSDEC-recommended soil cleanup objectives (mostly where visually-stained soil was encountered).

Subsurface soil samples recovered from soil borings completed as part of the MGP/RCRA Investigation provide detailed information on subsurface stratigraphy and the distribution of NAPL associated with the former MGP operation. Analytical results obtained for the laboratory analysis of the subsurface soil samples recovered from the soil borings indicate that concentrations of VOCs, SVOCs, and petroleum hydrocarbons generally coincide with the subsurface distribution of NAPL encountered within the soil borings. VOCs and SVOCs were not detected in the subsurface soil samples collected from the furthest downgradient sampling locations in the area east of Erie Boulevard.

Subsurface stratigraphic units encountered during the completion of soil borings included the following: fill material which varies from 0- to 18-feet in thickness; glacial/fluvial deposits which range from 4- to 31-feet in thickness; glacial till ranging from 0- to 9-feet in thickness; and shale bedrock which is encountered at depths ranging from 12- to 38-feet below ground surface (the upper portion of the bedrock consists of a weathered/fractured zone that extends up to 7-feet in thickness).

Ground-Water Investigation

Ground-water investigation activities completed for the MGP/RCRA Investigation consisted of the following:

- Evaluating the existing monitoring wells installed as part of the PSA/IRM Study;
- Installing and developing new ground-water monitoring wells and piezometers;
- Conducting hydraulic conductivity testing;
- Conducting continuous water-level monitoring to evaluate potential tidal influences associated with the Hudson River; and
- Collecting ground-water samples from ground-water monitoring wells (including fluid-level measurements and additional NAPL sampling).

Based on fluid-level measurements collected from monitoring wells in the vicinity of the site, ground-water within overburden and shallow bedrock flows generally to the east/southeast. The fill material within the former Erie Canal may act as a preferential flow path for shallow ground water in the area downgradient of the site (it is unlikely that the canal would influence ground-water flow within deeper overburden or bedrock). Downward vertical hydraulic gradients were observed between perched ground water and the water table in the area south and east of Building 2. Downward vertical hydraulic gradients were also observed between the water table and deep overburden. Downward vertical gradients were observed between deep overburden and the shallow bedrock in the area immediately east of the site (e.g., along the Delaware & Hudson Railroad right-of-way), and both upward and downward vertical gradients were observed between deep overburden and shallow bedrock in the area east of Erie Boulevard (within the Delaware & Hudson railyard). Slug testing results indicate the following geometric mean hydraulic conductivities: $8.6X10^{-3}$ cm/sec in the shallow overburden; $1.8X10^{-2}$ cm/sec for the deep overburden; and $4.4X10^{-5}$ cm/sec for the bedrock. The site-wide average linear ground-water flow velocity was calculated to be 0.7 feet/day.

Analytical results obtained for the laboratory analysis of ground-water samples collected from the ground-water monitoring wells indicate that VOCs and SVOCs were detected in ground-water samples collected in the vicinity of the former MGP facility and in off-site wells located hydraulically downgradient of the former MGP area at concentrations exceeding NYSDEC-recommended ground-water quality standards and guidance values. VOCs and SVOCs were not detected at concentrations exceeding the NYSDEC ground-water quality standards and guidance values in ground-water samples collected from the furthest downgradient monitoring wells (east of Erie Boulevard). Inorganics (iron, manganese, and sodium) were detected at concentrations exceeding the NYSDEC ground-water standards and guidance values in every ground-water sample (including at the background sampling locations). Total cyanide was detected at a concentration slightly above the NYSDEC ground-water standards and guidance values in a ground-water sample collected from one of the furthest downgradient monitoring wells located east of Erie Boulevard.

Potentially mobile DNAPL/ LNAPL was primarily observed within the former MGP area and in the off-site area hydraulically downgradient and downslope along the top of bedrock surface (which slopes to the southeast in the vicinity of the site). The horizontal extent of DNAPL has been delineated based on observations within soil borings and as confirmed by the analytical results obtained for the laboratory analysis of saturated soil samples and ground-water samples collected for the MGP/RCRA Investigation. Potentially mobile DNAPL would be expected to migrate by gravity over time along the top of competent bedrock which slopes generally to the southeast. DNAPL was observed at minimal thicknesses in monitoring wells and does not appear to be recoverable by standard methods. DNAPL was not observed upgradient from the facility along the bedrock surface. Within the former MGP area, DNAPL was typically observed throughout the overburden and often into the upper portion of the weathered/fractured bedrock. In the off-site area located immediately downgradient of the former MGP operation, DNAPL was typically only observed immediately above and into the upper weathered/fractured bedrock. Further delineation of the vertical extent of DNAPL in the vicinity of the site does not appear to be necessary based on chemical constituent concentrations observed at the downgradient bedrock monitoring well locations, the lack of ground water use in the vicinity of the site, the upward vertical hydraulic gradient between bedrock and overburden in the area downgradient from the site, and the proximity of the site to the Hudson River (the likely ground-water discharge point for ground-water flow in shallow bedrock in the vicinity of the site). Further drilling to delineate the vertical extent of DNAPL at the site could also create pathways for further migration of DNAPL into bedrock.

The horizontal extent of LNAPL has been delineated by the MGP/RCRA Investigation (as confirmed by the absence of LNAPL in monitoring wells located downgradient of areas where LNAPL was observed). Mobile LNAPL in the vicinity of the site would be expected to migrate downgradient (to the east and southeast) over time along the direction of ground-water flow. The presence of fill material within the former Erie Canal could potentially influence the distribution of LNAPL in the area downgradient from the site (if LNAPL were to extend to the former canal location). The potential influence of the fill material within the former canal has not been fully characterized by the investigation activities conducted to date. Total PCBs were detected at a concentration of 34.7 ppm in a sample of LNAPL recovered from one monitoring well located in the former MGP area. Physical characterization of the LNAPL samples and field observations indicate that the LNAPL is likely recoverable.

Drainage Structures and Piping

The Drainage Structure and piping investigation activities conducted for the MGP/RCRA Investigation consisted of the following:

- Conducting a visual reconnaissance of each catch basin and manhole located at the facility; and
- Collecting samples of accumulated debris for laboratory analysis from selected drainage structures.

Standing water was observed in all drainage structures identified at the facility. A slight sheen was observed on the surface of water within eight drainage structures and a green-colored liquid was observed on the surface of water within one catch basin. No dry weather flow was observed in any of the drainage structures at the site. Accumulated debris was observed in all but one of the drainage structures. Black-colored debris with a slight odor or oil-sheen was encountered in several of the drainage structures.

Analytical results obtained for the laboratory analysis of samples of accumulated debris indicate that PCBs were detected in each of the drainage structures samples at concentrations ranging between 0.31 ppm and 60 ppm (at manhole MH-1). VOCs, SVOCs, and inorganic constituents were also detected in the debris samples collected from the manholes and catch basins.

Baseline Human Health Risk Assessment

The baseline human health risk assessment was performed to evaluate whether any adverse health impacts could potentially result for the following exposure scenarios:

- Oral, dermal, and inhalation exposure to surface soil by long-term on-site workers; and
- Oral, dermal, and inhalation exposure to surface and subsurface soil by workers engaged in excavation during hypothetical construction activities in the vicinity of the site.

For the exposure scenarios evaluated using standard USEPA methods and procedures for human health risk assessment, long-term on-site NMPC workers and short-term workers performing excavation activities should not experience adverse health impacts as a result of exposure to the chemical constituents identified at the site.

Assessment for Air Emission

Based on the results of air monitoring activities conducted during the MGP/RCRA investigation activities, VOC and particulate levels in the worker breathing zone did not exceed site action levels which would require more stringent air monitoring and/or upgraded personal protective equipment.

III. SWMU/AOC Characterization

As defined by Permit Module III, the SWMUs/AOCs which were investigated as part of the PSA/IRM Study and the MGP/RCRA Investigation were categorized according to the following classifications:

- Category I SWMUs include any SWMUs at the site that are only impacted by MGP wastes and residuals;

- Category II SWMUs include SWMUs that are impacted by MGP residuals and MGP-related constituents, together with 6NYCRR Part 371 hazardous wastes or hazardous constituents; and

- Category III SWMUs include SWMUs that are impacted with only 6NYCRR Part 371 hazardous wastes or hazardous constituents (e.g., releases not associated with the former MGP operation at the site).

Based on the results of the PSA/IRM study and the MGP/RCRA Investigation, recommended future actions relating each of the on-site SWMUs/AOCs that are classified as either Category I, II, or III (in accordance with Permit Module III) are presented below.

Unit Number	**SWMU Description**	**Recommended Action**
Category I SWMUs		
L-1	Coal tar residuals from former MGP facility.	Issues associated with this SWMU will be addressed by Remedial Measures Evaluation.
Category II SWMUs		
B-2	Soil beneath transformer shop (Building 2)	Not fully evaluated. Remedial measures for this SWMU are not practical due to inaccessibility.
DW-1	Dry well (inactive)	Issues associated with these SWMUs will be addressed by Remedial Measures Evaluation. NMPC will implement interim remedial measure consisting of passive LNAPL recovery and monitoring to address LNAPL issues in the vicinity of these SWMUs.
T-1	Oil/water separator	
T-2	8,000-gallon underground diesel tank	
T-3	1,000-gallon waste oil tank (removed)	
T-4	Skimmed oil collection tank	
T-5	8,000-gallon underground gasoline tank (removed)	
T-9	8,000-gallon underground gasoline tank (removed)	
--	Storm sewer system	Minimize potential future off-site migration by removing accumulated debris from manholes and catch basins associated with the site storm sewer system.
Category III SWMUs		
S-3	Mercury storage area	No further action.
S-5	Yard storage area	Issues associated with this SWMU will be addressed by Remedial Measures Evaluation.
T-6200	Non-hazardous waste oil tank (removed)	No further action is justified.
T-6300	PCB-contaminated waste oil tank (removed)	No further action is justified.
--	AOC located in the vicinity of ground-water monitoring well MW-10 (portion of facility utilized as petroleum storage facility prior to NMPC ownership)	Issues associated with the AOC will be addressed by Remedial Measures Evaluation. NMPC will implement interim remedial measure consisting of passive LNAPL recovery and monitoring to address LNAPL issues in the vicinity of this AOC.

IV. Recommendations

Based on the results of the PSA/IRM Study and the MGP/RCRA Investigation, the distribution and extent of chemical constituents in environmental media associated with the former MGP operation and the RCRA SWMUs/AOCs has been adequately defined for the purposes of evaluating remedial requirements and alternatives. Recommendations which are supported by the results of the PSA/IRM Study and the MGP/RCRA Investigation include the following:

1. NMPC proposes to implement the following additional field investigation activities to further evaluate minor data gaps identified by the results of the MGP/RCRA Investigation:

    - Installation of two water table monitoring wells within Erie Boulevard to further evaluate the potential influence of fill material within the former Erie Canal on ground-water flow and LNAPL distribution in the area located hydrualically downgradient from the site; and

    - Completion of one additional round of fluid-level measurements from all existing monitoring wells in the vicinity of the site to confirm ground-water flow patterns.

2. Based on the results of the MGP/RCRA Investigation, NMPC proposes to proceed with the Remedial Measures Evaluation in accordance with the requirements of the MGP Consent Order and Permit Module III of the 6NYCRR Part 373 Hazardous Waste Management Permit for the North Albany Service Center.

3. Based on the observed presence of LNAPL in monitoring wells in the vicinity of the site, NMPC proposes to implement an IRM that will include passive recovery of LNAPL from specific on-site monitoring wells on a monthly basis. NMPC will conduct monthly monitoring of LNAPL thickness at monitoring wells where LNAPL has been observed and in areas located hydraulically downgradient of locations where LNAPL has been observed. In conjunction with the LNAPL recovery activities, NMPC will continue to monitor the presence and/or thickness of DNAPL at specific monitoring well locations (in order to provide additional baseline data for the Remedial Measures Evaluation).

4. Based on the results of the storm sewer investigation activities, NMPC proposes to implement an IRM that will consist of removing accumulated debris from manholes and catch basins associated with the site storm sewer system.

Section 1

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1. Introduction

1.1 General

This document presents the results of a comprehensive, site-wide investigation that was conducted at the Niagara Mohawk Power Corporation (NMPC) North Albany Service Center (the "site") located at 1125 Broadway in Albany, New York. The comprehensive, site-wide investigation was conducted pursuant to the following:

- An existing Order on Consent (Index # D0-0001-82101 herein referred to as the "Consent Order") between NMPC and the New York State Department of Environmental Conservation (NYSDEC). The Consent Order requires NMPC to conduct a site investigation and remediation program to evaluate potential issues associated with a former manufactured gas plant (MGP) facility at the site, determine whether any identified constituents represent a potential threat to public health or the environment, and develop appropriate interim remedial measures (IRMs), if necessary. During the fall of 1994, Foster Wheeler Environmental Corporation (Foster Wheeler) implemented a Preliminary Site Assessment (PSA)/IRM Study in accordance with a NYSDEC-approved Work Plan. Based on the results of the PSA/IRM Study (as summarized in the PSA/IRM Study Report, Foster Wheeler, May 1995), the NYSDEC added the North Albany Service Center to the New York State Inactive Hazardous Waste Sites Listing (with an assigned Class 2 ranking) and requested that NMPC implement a Remedial Investigation/Feasibility Study (RI/FS) to further evaluate the former MGP facility at the site.

- Module III - Corrective Action (Permit Module III) of the 6NYCRR Part 373 Hazardous Waste Management Permit (NYSDEC Permit No. 4-0101-00114/00004-0) for the hazardous waste treatment, storage, and disposal facility (TSDF) located at the North Albany Service Center which required NMPC to implement a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) and Corrective Measures Study (CMS) to evaluate releases of hazardous wastes or hazardous constituents from solid waste management units (SWMUs) at the site.

During a January 25, 1996 meeting at the North Albany Service Center between NMPC and the NYSDEC, NMPC proposed to conduct a single comprehensive, site-wide investigation and detailed evaluation of potential remedial measures (collectively referred to as the "MGP/RCRA Investigation and Remedial Measures Evaluation") to satisfy the requirements of both the Consent Order and Permit Module III. NMPC's technical approach for combining the requirements of the Consent Order and Permit Module III was presented in a February 6, 1996 letter from NMPC to the NYSDEC. The technical approach was approved by the NYSDEC in a February 14, 1996 letter to NMPC.

As required by the Consent Order, the MGP/RCRA Investigation was structured to generally follow the RI/FS requirements set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended [42 U.S.C. 960 et. seq.], the National Contingency Plan (NCP), and the United States Environmental Protection Agency (USEPA) guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA", dated October 1988.

In accordance with Permit Module III, the MGP/RCRA Investigation has also been structured to follow the RCRA Corrective Action Requirements set forth under Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984 and the USEPA Guidance Document entitled "RCRA Facility Investigation Guidance, Interim Final," dated 1988.

The MGP/RCRA Investigation activities described in this report were performed by Blasland, Bouck & Lee, Inc. (BBL) in accordance with the NYSDEC-approved MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan (BBL, August 1996) and additional correspondence between NMPC and the NYSDEC. Copies of

NMPC and NYSDEC correspondence relating to the MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan are presented in Appendix A. The MGP/RCRA Investigation activities implemented at the North Albany Service Center were conducted as part of the following investigative efforts which are described in detail in this report:

- Soil Investigation;
- Ground-Water Investigation;
- Storm Sewer Investigation;
- Focused Screening Level Risk Assessment; and
- Assessment of Air Emissions.

The organization of the MGP/RCRA Investigation Report is outlined below, followed by a discussion of relevant background information and the objectives of the MGP/RCRA Investigation.

1.2 Report Organization

The MGP/RCRA Investigation Report is organized into the following sections

Section	Purpose
Section 1 - Introduction	Presents general background information and the objectives of the MGP/RCRA Investigation.
Section 2 - Interpretation of Analytical Results	Presents information pertaining to the use and interpretation and analytical results generated by the MGP/RCRA Investigation.
Section 3 - Soil Investigation	Presents soil investigation activities and results.
Section 4 - Ground-Water Investigation	Presents ground-water investigation activities and results.
Section 5 - Storm Sewer Investigation	Presents storm sewer investigation activities and results.
Section 6 - Human Health Baseline Risk Assessment	Presents a Human Health Baseline Risk Assessment for potential pathways of exposure to chemical constituents in environmental media at the site.
Section 7 - Assessment of Air Emission	Presents an assessment of potential air emissions associated with chemical constituents in environmental media at the site.
Section 8 - Conclusions and Recommendations	Presents conclusions and recommendations developed based on the results of the MGP/RCRA Investigation.

1.3 Background Information

A description of the location and physical setting of the North Albany Service Center is presented below followed by a description of current and historical operations at the facility.

1.3.1 Location and Physical Setting

A general discussion of the location, topography and drainage, and geologic and hydrogeologic settings of the North Albany Service Center is presented below.

1.3.2 Location

The geographic location of the North Albany Service Center is shown on the site location map presented as Figure 1. The site is bordered by Broadway to the west, Interstate I-90 to the north, a Delaware and Hudson Railroad right-of-way to the east, and Bridge Street to the south. As shown on Figure 1, Erie Boulevard, Interstate I-787, and the Hudson River are located to the east of the Delaware and Hudson right-of-way. Land use in the surrounding area is primarily commercial/industrial, with residential areas located to the west of the facility.

1.3.3 Topography and Drainage

Surface topography in the vicinity of the North Albany Service Center slopes gently towards the south and east. The average ground surface elevation at the site is approximately 20 feet above mean sea level. A topographic map of the area in the immediate vicinity of the site is presented in Attachment 1. Storm water is conveyed off-site via a series of catch basins, manholes, and piping which are shown on Figure 2. All storm water flow from the site storm sewer system is conveyed to a single manhole (MH-3) which discharges via two effluent pipes to the south and east (the proportion of flow discharged to each effluent pipe has not been determined). The storm water discharged from Manhole MH-3 is ultimately conveyed to the Hudson River, as described below:

- Storm-water flow discharged through the pipe that flows towards the east from manhole MH-3 is conveyed off-site to a 54-inch corrugated metal pipe located to the east of the site (immediately west of Interstate I-787). The 54-inch corrugated metal pipe discharges storm water to a flow dissipation area located along the west bank of the Hudson River.

- Storm-water flow discharged through the pipe that flows towards the south from manhole MH-3 is conveyed off-site to the Patroon's Creek Sewer (a brick and stone arch storm sewer that conveys flow from Patroon's Creek, along with storm water from the area south of the facility). The Patroon's Creek Sewer conveys storm-water flow to an outfall located along the west bank of the Hudson River.

1.3.4 Geology and Hydrogeology

The North Albany Service Center is located in the Hudson-Champlain Lowland physiographic province. Bedrock beneath the site is the Black Snake Hill Shale. The depth to bedrock generally varies from 16 to 24 feet in the western/northwestern part of the site, and is generally greater than 25 feet in the eastern/southeastern part of the site. Overburden soils in the vicinity of the site consist of fill, glacial-fluvial deposits, and till. Surface and shallow subsurface soil in the vicinity of the site consist of a mixture of imported fill and native materials that have been disturbed by excavation and grading activities. A detailed characterization of geologic and hydrogeologic conditions in the vicinity of the site is presented in Sections 3 and 4 of this report.

1.3.5 Facility Description

The North Albany Service Center serves as the primary maintenance/supply and office facility for NMPC's eastern operating division. The North Albany Service Center is located on an approximately 25-acre parcel which consists of several buildings, parking lots, and storage areas. A detailed site map is presented as Figure 2. Buildings and primary site features which are currently present at the facility include the following:

- The Versaire Building (Building 1) is a warehouse and crew headquarters building. A storage shed, which is part of the North Albany TSDF [the polychlorinated biphenyl (PCB) storage shed], is located along the western side of the Versaire Building;
- Building 2 is a three-story structure which contains offices, meeting rooms, and maintenance shops. A transformer shop located on the first floor of Building 2 is used to service various electrical equipment (including oil-filled units containing PCBs);
- Building 2-1 is a vacant office building located at the southwestern corner of the property that was formerly used to support NMPC customer service and billing operations;
- Buildings 2-3 and 2-4 are storage sheds that were constructed as part of a lumber planing business formerly located in the southeastern section of the property;
- A vehicle maintenance building is located in the northeastern section of the property;
- An electrical equipment and non-RCRA-regulated waste storage building (i.e., the Transformer Shop Building) is located to the south of Building 2;
- An aboveground storage tank facility consisting of a PCB-contaminated waste oil tank (which stores waste oil containing PCBs at concentrations ranging between 50 and 499 parts per million), two non-hazardous waste oil storage tanks, and a virgin oil storage tank, is located south of Building 2 in the area immediately outside the transformer shop;
- A gravel-covered storage yard (the yard storage area) which extends across the southern section of the site. The yard storage area is used to store various electrical equipment, cable spools, steel framing, and wood poles;
- An electrical substation (the Genesee Street Substation) is located at the northwestern corner of the property;
- Two guard houses are located at the facility (one at an entrance off Bridge Street and one at the main facility entrance near the northeastern corner of Building 2); and
- A diesel fuel pump island is located east of Building 2, and a gasoline pump island is located to the northeast of Building 2.

1.4 Historical Site Operations

This subsection presents a discussion of historical site operations at the North Albany Service Center. The discussion of historical activities at the property is based on a review of the following information:

- The document entitled "Initial Submittal, North Albany (Broadway Ave.) MGP Site" prepared by NMPC (January 1994);
- Sanborn Insurance Maps of Albany, New York dated 1892, 1908, and 1935 (prepared by the Sanborn-Perris Company Limited and the Sanborn Map Company);

- New York State Library Archives Department files relating to the construction, operation, and abandonment of the Erie Canal;
- City of Albany assessment records dated 1927 and 1932;
- Aerial photographs obtained from the City of Albany and the New York State Department of Transportation (NYSDOT); and
- NYSDOT records relating to the construction of Interstate 1-787.

General information relating to historical use of the site and surrounding properties is presented below, followed by a detailed discussion of the former MGP operation at the site.

1.4.1 Historical Site Usage

Prior to 1872, the property was part of the Steven Van Rensselear estate and was primarily farmland and residential. Industrial usage of the property includes the MGP facility which operated from the 1870s through the 1940s, and electric/gas utility support services which began in connection with the MGP operation and continue to the present. The southern portion of the property has also been used for ice storage and distribution, lumber planing and milling, and petroleum distribution operations. During the period of industrial usage of the site (e.g., 1870s to present), the property has been bordered to the west by Broadway and to the east by the Delaware and Hudson Railway. Site usage to the east and south of the current property has varied and includes transportation facilities (railway and streetcar), lumber planing and milling, chemical manufacturing, and rendering.

The Erie Canal was formerly located to the east of the Delaware and Hudson Railway right-of-way which borders the North Albany Service Center property (at the current location of Erie Boulevard as shown on Figure 2). The canal (which predates the railroad) was constructed during the 1830s and varied from approximately 7 to 13 feet in depth. The sides of the canal consisted of stone or brick embankments which were approximately 2.5 feet thick. Former barge slips located on the east side of the canal accessed various lumber yards and milling operations in an area referred to as the Albany Lumber District. The Erie Canal in the vicinity of the site was abandoned during the 1920s and was filled during the late 1920s/early 1930s. Several utilities (water supply, sanitary sewer, and storm sewer lines were constructed within the former canal bed prior to paving the backfilled canal).

A branch of the Hudson River known as the Little River (approximately 1,000 feet to the east of the property) was previously located immediately to the east of the Lumber District. The Little River was separated from the main channel of the Hudson River by Patroon's Island. The Little River was filled during construction of Interstate I-787 during the mid-1960's (the Interstate was constructed over the former location of the Little River and Patroon's Island was incorporated into a recreation area that extends along the west bank of the Hudson River).

1.4.2 Historical MGP Operations

As indicated above, MGP operations were conducted at the North Albany Service Center property from the 1870s until the 1940s. NMPC does not possess operating records relating to the former MGP facility at the North Albany Service Center. However, the detailed equipment and facility layout information presented on Sanborn Mapping of the property can be utilized to develop an interpretation of historical MGP operations conducted at the site. The approximate locations of former structures and support facilities associated with the MGP operation at the site are shown on Figure 3a. A timetable of events associated with the former MGP operation at the North Albany Service

Center (developed based on review of Sanborn mapping, NMPC facility drawings, and NMPC's Initial Submittal document dated January 1994) is presented below.

Year	MGP-Related Historical Information
Prior to 1872	The North Albany Service Center property was used primarily as farmland and/or as a residential property.
1872	The first MGP operation at the site was constructed on the northern portion of the current property in 1872. The MGP facility contained a coal shed, a retort house, a purifier house, gas holder, and an office. The facility manufactured gas using the coal carbonization process. The MGP operation was bordered to the north by a depot and stables owned by the Troy and Albany Passenger Railway. An ice house and an unidentified building (indicated as "Colby and Kelly") were located east of and adjacent to the Railway depot.
1885	By the mid-1880s, demand for manufactured gas exceeded expectations. A multi-purpose building (housing boilers, engines, and a generator) was constructed at the property around 1885.
1892	Three small gas holders, a lime/oxide house (i.e., a building in which by-products such as hydrogen sulfide would have been removed from the manufactured gas using hydrated lime and/or various iron oxides), and a machine shop/storage building were added to the property in 1892. In addition, the retort house was converted to a water-gas generator house. The conversion of the retort house indicates that the gas manufacturing process at the facility changed from coal-carbonization to the water gas process.
1907	A 2,000,000 cubic foot (CF) gas holder was constructed on the western portion of the property in 1907 to provide increased gas storage space. A multi-purpose building (for carriage storage and meter repair/storage) was also constructed adjacent to the 2,000,000 CF gas holder.
1908	Three oil tanks had been constructed just north of the current location of Building 2 by 1908 (indicating that the gas manufacturing process at the facility changed from the water gas process to the carbureted water gas process). In addition, two tar tanks/pits had been constructed at the property.
1924	A 3,000,000 cubic foot (CF) gas holder was constructed just northeast of the current location of Building 2 in 1924.
1930 - 1940	The following changes occurred at the North Albany Service Center property between 1930 and 1940: • The southern property boundary was extended to Bridge Street as a result of purchasing properties which were owned by Albany Lumber & Planning Company, Hudson Valley Ice Company, the Delaware & Hudson Railroad, Paradise Oil Company, and Beacon Oil Company (note: NMPC has not conclusively determined what company(s) operated and/or owned the former petroleum distribution facility located in the southeast portion of the current property. Various records between 1927 and 1935 reference J.J. McCafferty Petroleum Products and Penzoil, while the initial submittal document references property ownership by Paradise Oil and Beacon Oil Company). A portion of the property located along Broadway (north of the Versaire Building) was leased by Standard Oil Company and operated as a gas station. • A large building containing a garage area for storing automobiles, various repair shops, and office space (Building 2) was constructed in the central portion of the property around 1931. • An equipment storage building was constructed at the current location of the Versaire Building around 1931. • Two purifying boxes were added to the north of Building 2 around 1934. • An education building was constructed on the northwestern portion of the property around 1935. • A former 250,000 CF gas holder and an old retort house were demolished around 1940.
1950	NMPC was formed by the consolidation of several companies in 1950. NMPC continued to operate the site as a service center for gas and electric operations. NMPC constructed additional buildings at the property during the 1950s.

Year	MGP-Related Historical Information
1980s	NMPC began operation of a regional hazardous waste storage facility (the North Albany TSDF) at the property.

As indicated above, the former MGP at the North Albany Service Center property initially used the coal-carbonization process. The MGP switched to the water gas process around the 1890s and to the carbureted water gas process prior to 1908. As indicated on Figure 3a, various equipment and appurtenances associated with the MGP operation included a horizontal retort house, carbureted water gas sets, gas purification equipment, gas holders, oil-drip tanks, and tar pits/tar tanks. A general overview of the MGP processes utilized at the property (based on information presented in the USEPA document entitled "U.S. Production of Manufactured Gases: Assessment of Past Disposal Practices", dated February 1988) is presented below.

Coal Carbonization Process

Prior to 1892, the MGP operation at the North Albany Service Center property produced manufactured gas using the coal carbonization process. The coal carbonization process involved heating bituminous coal in a sealed chamber. A distillation process occurred within the chamber which reduced the bituminous coal to carbon and formed gas and coke. The gas which formed in the chamber was collected, cleaned, and distributed. The coke which formed in the chamber was also removed, and either sold or used.

The coal carbonization process at the North Albany Service Center property was conducted in a horizontal retort which consisted of the following: 1) a vessel used to contain coal; 2) a source of heat for the vessel; 3) a method for removing volatile compounds from the vessel; and 4) methods for filling the vessel with coal and removing coke. Based on the period in which the coal carbonization process was conducted at the North Albany Service Center (1872 through 1892), gas was most likely manufactured in a horizontal retort constructed of clay which was heated using producer gas (a gas with a low heating value generated by incomplete combustion of coal or coke) or raw coal tar (a mixture of carbon and various hydrocarbons with a specific gravity greater than water). The typical clay horizontal retort was approximately seven feet long and contained an open end and a sealed end. The gas formed in the retort by the coal carbonization process typically contained substantial amounts of tar, ammonia, cyanide, phenolic compounds, and hydrogen sulfide (e.g., by-products) which were removed through a purification process which is described later in this section.

Water Gas Process

By 1892, the gas manufacturing process at the property had been converted from the coal carbonization process to the water gas process (evident from review of the Sanborn maps which indicated that the retort house at the property had been converted to a water gas generator house). The water gas process involved passing steam through a bed of incandescent carbon (coke/coal which was heated to high temperatures using various liquid hydrocarbons) which reacted with the incandescent carbon to produce a gas composed primarily of carbon monoxide and hydrogen (referred to as blue gas). Originally, anthracite coal and/or coke was used in the generation of water gas because of their high carbon contents and low volatile contents. However, due to rising costs of anthracite coal and shortages of coke after World War I, the water gas process was modified so that bituminous coal could be used directly in the process instead of the anthracite coal and coke. Use of bituminous coal resulted in reduced gas production capacity and an increase in the amount of tars and cyanides which were generated.

Tars were the predominant by-product formed during the production of gas via the water gas process. The amount of tar produced and the characteristics of the tar were dependent on the hydrocarbon feed material and on the operation of the system. In general, the tars formed by the water gas process contained many of the compounds found in the coal tars formed by the coal carbonization process (e.g., benzene, naphthalene, anthracene, and related compounds) but did not contain phenolics or large amounts of ammonia or cyanide. The tars formed during the production of gas via the water gas process were removed and either used or sold. The gases which were generated were cleaned and distributed.

Carbureted Water Gas Process

Prior to 1908, the gas manufacturing process at the property had been modified to the carbureted water gas process. As part of this process, hydrocarbons were sprayed (carbureted) into blue gas and "thermally cracked" to produce a gas product which had greater heating value and illuminating power than the gas produced by the water gas process. Naphtha was the preferred liquid hydrocarbon used in production of carbureted water gas. Naphtha was used because it vaporized readily in the carburetor, was almost completely converted to gaseous hydrocarbons, and was relatively inexpensive. Gas oil, a more viscous and heavier petroleum fraction than naphtha, was the most predominant liquid hydrocarbon used. Demand for naphtha and gas oil increased as the internal combustion engine became more widely utilized (both naphtha and gas oil were used in the production of gasoline). The increased demand caused an increase in the price for naphtha while availability decreased. As a result, the gas industry began to switch to fuel oils around the 1930s. As the price of fuel oils increased during the later 1940s, some facilities switched to heavier fuel oils. As the gas manufacturers switched from naphtha and gas oil to fuel oils and heavier oils, more tar by-products were generated.

Gas Purification

The gas purification process involved the extraction of by-products from the manufactured gas and was conducted in a purifying house (shown on Figure 3a). The methods of purification differed according to the presence and percentages of by-products in the manufactured gas. However, the purification process generally involved sequential cleaning and extracting to remove water vapor, tars, naphthalene, light oils, ammonia, phenols, hydrogen sulfide, and cyanide from the manufactured gas. Condensers and scrubbers were used at the site to remove the water vapor, tars, naphthalene, light oils, ammonia, and phenols from the manufactured gas. Originally, a hydrated lime purifying process was used at the site to remove hydrogen sulfide, cyanide, and carbon dioxide (as well as to solubilize other impurities in water). By 1908, oxide boxes (iron oxide process) had replaced the hydrated lime purifying process. The oxide boxes contained wood chips immersed in iron oxide. Produced gases were run through the oxide boxes to remove hydrogen sulfide as ferric sulfide and cyanide as ferrocyanides. The used wood chips were generally fouled by sulfur, tar, and ferrocyanides. During cleaning of the oxide boxes, purifier tanks (located adjacent to the purification house) were used for the temporary storage of the gas. Various tar constituents and unwanted by-products were condensed from the manufactured gas along the entire purification line.

Gas Holders

As indicated on Figure 3, the MGP formerly located at the site had three large gas holders (250,000 to 3,000,000 CF) and three smaller gas holders which were constructed between 1872 and 1924. Specific information relating to the construction and design of the gas holders at the facility is not available. However, the smaller holders were most likely 'single-lift' or 'multiple-lift' type holders which consisted of an inverted iron dome that was sealed in a tank of water (the pressure within the holder was kept slightly above ambient atmospheric pressure by adding or removing gas from the holder and adjusting the height of the dome over the water column). The water holding portion of the gas holders was usually a masonry tank placed underground or partly underground (the surrounding soil supported the sidewalls of the tank and minimized construction costs). The two largest holders at the site were most likely waterless gas holders which had a free-moving piston that would move up or down depending on the volume of gas stored in the tank.

Drip Oil Tanks

As indicated on the Sanborn mapping, a drip oil tank (sump) was formerly located near the center of the MGP facility. Drip oil tanks were used to store hydrocarbons which condensed as a liquid in the gas holder or within gas mains as part of the manufactured gas process.

Tar Pits and Tar Tanks

The Sanborn mapping indicate that two tar pits were located at the MGP facility (i.e., in the central area of the property and adjacent to the machine shop). As previously mentioned, tars were considered to be any organic liquid that was more dense than water. Tars produced by MGP activities varied from tars that were slightly more dense and viscous than water to tars that were solid at ambient temperature. The tars produced by the MGP operation at the site included coal tars and water-gas tars. Coal tars primarily contained aromatic hydrocarbons: benzene, naphthalene, anthracene and related compounds; phenolics; and tar bases. Water-gas tars were very similar to coal tars, except water-gas tars lacked phenolics and tar bases.

1.5 Summary of RCRA-Related Activities

During 1982, NMPC submitted a Solid Waste Management Permit Application for storage of hazardous waste at the North Albany Service Center, in accordance with the solid waste management permitting requirements contained in 6NYCRR Part 360. This submittal resulted in automatic designation of the hazardous waste storage areas at the North Albany Service Center as an interim status TSDF when the regulations contained in 6NYCRR Part 373-1.2(d) were promulgated in 1985. In July 1988, NMPC submitted a 6NYCRR Part 373 Hazardous Waste Management Permit Application (HWMPA) to the NYSDEC to obtain final status for the North Albany Service Center TSDF. NMPC was issued the final 6NYCRR Hazardous Waste Management Permit for the North Albany Service Center TSDF on January 6, 1995.

As a requirement of the HWMPA, NMPC submitted Corrective Action Information Forms identifying 26 SWMUs that were known to exist at the site. Based on a review of the information contained in the Corrective Action Information Forms completed by NMPC, the NYSDEC determined that a RCRA Facility Assessment-Sampling Visit (RFA-SV) was required to determine if any hazardous wastes or hazardous constituents had been released from 13 of the 26 identified SWMUs at the North Albany Service Center. The locations of SWMUs included under the RFA-SV requirements as outlined in Permit Module III are shown on Figure 3b. SWMUs included under the RFA-SV requirements of Permit Module III were as follows:

Unit Number	SWMU Description
DW-1	Dry Well (Inactive)
L-1	Coal Tar Residuals from Former MGP Area
S-3	Mercury Storage Area
B-2	Soil Beneath Transformer Shop (Building 2)
S-5	Yard Storage Area

Unit Number	SWMU Description
T-1	Oil/Water Separator
T-2	8000-Gallon Underground Diesel Tank
T-3	1000-Gallon Waste Oil Tank (Removed)
T-4	Skimmed Oil Collection Tank
T-5	8000-Gallon Underground Gasoline Tank (Removed)
T-9	8000-Gallon Underground Gasoline Tank (Removed)
T-6200	Non-Hazardous Waste Oil Tank (Removed)
T-6300	PCB-Contaminated Waste Oil Tank (Removed)

In accordance with Section E.2(b) of Permit Module III, RFA-SV investigation requirements for the above-listed SWMUs were to be incorporated into the PSA/IRM Study implemented pursuant to the Consent Order, as described above. Based on the results of the PSA/IRM Study, any SWMUs requiring further investigation (based on an apparent release from the SWMU) would be categorized as follows:

- *Category I SWMUs:* SWMUs impacted by MGP residuals and MGP-related constituents only;
- *Category II SWMUs:* SWMUs impacted by MGP residuals and MGP-related constituents, together with 6NYCRR Part 371 hazardous wastes or hazardous constituents; and
- *Category III SWMUs:* SWMUs impacted with only 6NYCRR Part 371 hazardous wastes or hazardous constituents.

In accordance with Permit Module III, further investigation of Category I and Category II SWMUs would be conducted under the Consent Order and further investigation of Category III SWMUs would be conducted under Permit Module III. In accordance with the technical approach for the MGP/RCRA Investigation and Remedial Measures Evaluation, as outlined in the February 6, 1996 letter from NMPC to the NYSDEC (included in Appendix A), NMPC has categorized the 13 SWMUs investigated as part of the PSA/IRM Study and three newly-identified SWMUs/Areas of Concern (AOCs) as summarized below.

Unit Number	SWMU Description
Category I SWMUs	
L-1	Coal tar residuals from former MGP area
Category II SWMUs	
DW-1	Dry well (inactive)
B-2	Soil beneath transformer shop (Building 2)
T-1	Oil/water separator

Unit Number	SWMU Description
T-2	8,000-gallon underground diesel tank
T-3	1,000-gallon waste oil tank (removed)
T-4	Skimmed oil collection tank
T-5	8,000-gallon underground gasoline tank (removed)
T-9	8,000-gallon underground gasoline tank (removed)
--	Storm sewer system
Category III SWMUs	
S-3	Mercury storage area
S-5	Yard storage area
T-6200	Non-hazardous waste oil tank (removed)
T-6300	PCB-contaminated waste oil tank (removed)
--	AOC located in the vicinity of ground-water monitoring well MW-10 (portion of facility utilized as petroleum storage facility prior to NMPC ownership)
--	AOC located in vicinity of soil boring SB-5 (area located west of Versaire Building)

1.6 Summary of PSA/IRM Study

The PSA/IRM Study field activities implemented at the site by Foster Wheeler during 1994 consisted of the following (as discussed in the PSA/IRM Study Report prepared by Foster Wheeler, dated May 1995):

- Collecting two surface soil samples in the vicinity of the mercury storage area. Both of the surface soil samples were submitted for laboratory analysis for PCBs, Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) inorganic constituents, and pesticides;

- Completing 37 soil borings and excavating eight test pits. Approximately 75 percent of the subsurface soil samples collected from the soil borings/test pits were submitted for laboratory analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX), polynuclear aromatic hydrocarbons (PAHs), and cyanide. The remaining 25 percent of the subsurface soil samples were submitted for laboratory analysis for PCBs, TCL VOCs, TCL SVOCs, TAL inorganic constituents, and pesticides. Approximately 60 percent of the soil samples submitted for laboratory analysis were collected from below the water table (e.g., saturated soil samples).

- Installing 14 ground-water monitoring wells. Ground-water samples were collected from the monitoring wells during two sampling events (conducted at the beginning and end of November 1994). Thirteen monitoring wells were sampled during the first sampling event, while 12 monitoring wells were sampled during the second sampling event. Each ground-water sample was submitted for laboratory analysis for PCBs, TCL VOCs, TCL

SVOCs, TAL inorganic constituents, and pesticides. Concentrations of dissolved constituents detected in ground-water samples collected for the PSA/IRM Study may not be representative of ground-water quality beneath the site due to the presence of light non-aqueous phase liquids (LNAPLs) and/or dense non-aqueous phase liquids (DNAPLs) in the monitoring wells at the time of sampling.

- Collecting grab samples of accumulated debris from two storm drains located in the area north of Building 2 (within the limits of the former MGP facility). Both of the debris samples were submitted for laboratory analysis for PCBs, TCL VOCs, TCL SVOCs, TAL inorganic constituents, and pesticides.

Soil, ground-water, and debris samples collected for the PSA/IRM Study were submitted to Nytest Environmental, Inc., for laboratory analysis. The analytical results of the samples were submitted for data validation by a chemist (using USEPA data validation guidelines). The analytical results for the soil samples were compared by Foster Wheeler to NYSDEC-recommended soil cleanup objectives contained in the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046 entitled, "Determination of Soil Cleanup Objectives and Cleanup Levels," dated January 1994. Ground-water analytical results were compared to Class GA Ground-Water Standards/Guidance Values contained in the NYSDEC Technical and Operational Guidance Series Memorandum entitled, "Ambient Water Quality Standards and Guidance Values," dated October 1993.

A summary of the analytical results obtained by the laboratory analysis of soil, ground-water, and debris samples collected for the PSA/IRM Study is presented below.

Surface Soil Samples

- PCBs, TCL VOCs, and pesticides were not detected in any of the surface soil samples at concentrations above the NYSDEC-recommended soil cleanup objectives;

- PAHs, including benzo(a)pyrene and dibenz(a,h)anthracene, were detected in surface soil samples at concentrations above the NYSDEC-recommended soil cleanup objectives; and

- TAL inorganic constituents, including beryllium, chromium, iron, mercury, nickel, zinc, and cyanide, were detected at concentrations above the NYSDEC-recommended soil cleanup objectives. However, no background soil samples were collected to evaluate naturally occurring concentrations of inorganic constituents in the vicinity of the site.

Subsurface Soil Samples

- PCBs were detected at a concentration of 0.35 parts per million (ppm) in a subsurface soil sample collected from the soil boring for monitoring well MW-4. PCBs were not detected above laboratory detection limits in any of the other subsurface soil samples submitted for analysis.

- TCL VOCs (primarily BTEX) were detected at concentrations above the NYSDEC-recommended soil cleanup objectives in subsurface soil samples collected from locations along the northern and eastern boundaries of the site;

- TCL SVOCs (primarily PAHs) were detected at concentrations exceeding the NYSDEC-recommended soil cleanup objectives in several subsurface soil samples collected at the site. In addition, coal tar and petroleum residuals were encountered in numerous soil borings completed as part of the PSA/IRM Study; and

- TAL inorganic constituents were detected at concentrations exceeding the NYSDEC-recommended soil cleanup criteria in subsurface soil samples collected for the PSA/IRM Study. The PSA/IRM Study concluded that elevated concentrations of TAL inorganic constituents may either be naturally occurring or the result of historical industrial operations conducted at the site.

Ground-Water Samples

PSA Results

- PCBs and pesticides were not detected above laboratory detection limits in the ground-water samples collected during either of the two ground-water sampling events;

- TCL VOCs, including BTEX, 1,1-dichloroethane, tetrachloroethene, 1,1,2,2-tetrachloroethane, and methylene chloride were detected above NYSDEC ground-water standards/guidance values during the two ground-water sampling events;

- TCL SVOCs, including phenolics, phthalates, dibenzofuran, and carbazole, were also detected above NYSDEC ground-water standards/guidance values during either of the ground-water sampling rounds; and

- TAL inorganic constituents, including antimony, barium, chromium, iron, lead, magnesium, manganese, sodium, and cyanide, were detected in ground-water samples at concentrations exceeding the NYSDEC ground-water standards/guidance values.

Debris Samples

- PCBs and pesticides were detected at concentrations exceeding laboratory detection limits in both samples of accumulated debris collected from storm sewer catch basins located north of Building 2;

- Ethylbenzene was the only TCL VOC detected in the debris samples;

- Relatively low concentrations of PAHs were detected in the debris samples; and

- Cyanide was not detected above laboratory detection limits in either of the debris samples.

1.7 MGP/RCRA Investigation Objectives

Based on the background information relating to former MGP and current RCRA activities at the North Albany Service Center (as summarized above), the overall objective of the MGP/RCRA Investigation summarized in this report is to provide data that can be used to assess current site conditions, supplement the existing data provided by the PSA/IRM Study, and determine the scope of future remedial measures which may be implemented at the site. Based on this general objective, the following specific objectives have been established for the MGP/RCRA Investigation:

1. Determine the presence and extent of chemical constituents in environmental media resulting from past releases of MGP residuals, MGP-related constituents, and 6NYCRR Part 371 hazardous wastes and hazardous constituents at the site;

2. Determine the potential for off-site migration of MGP residuals, MGP-related constituents, and 6NYCRR Part 371 hazardous wastes and hazardous constituents;

3. Determine potential sources of releases to and/or from the site storm sewer system;
4. Evaluate potential exposure pathways for on-site NMPC and contractor employees;
5. Provide data to be used in preparation of the Remedial Measures Evaluation; and
6. Determine if any IRMs are necessary to address existing conditions present at the site.

Section 2

2. Interpretation of Analytical Results

2.1 General

This section presents general information relating to the interpretation of analytical results obtained for the laboratory analysis of samples collected for the MGP/RCRA Investigation. Except where separately noted in this report, the samples collected for the MGP/RCRA Investigation were submitted to Galson Laboratories, Inc. (Galson) for laboratory analysis in accordance with USEPA SW-846 Methods as referenced in the NYSDEC 1991 Analytical Services Protocol (ASP). Analytical results obtained for the laboratory analysis for the MGP/RCRA Investigation samples were validated by BBL's data validation staff. Data Validation Summary Reports are presented in Attachment 2 (organized by sample delivery group).

The following notes pertain to the presentation of the analytical data in this report:

- Soil and storm sewer debris data are presented in parts per million (ppm); aqueous data (i.e., ground water) are presented in parts per billion (ppb);

- Soil samples collected from soil borings are designated by the prefix "SB", soil samples collected from soil borings completed at locations where monitoring wells were installed are indicated by the prefix "MW", soil samples collected at depths of greater than six inches from grade at test pit locations are designated by the prefix "TP", surface soil samples (0- to 6-inches) collected at test pit locations are designated by the prefix "SS";

- For purposes of this report, the discussion of surface soil sampling results will include surface soil samples (0- to 6-inches) collected at test pit locations, soil samples collected at depths ~~of 0-~~ to 6-inches from soil borings in the vicinity of the TSDF area, and soil samples collected at depths of 0- to 2-feet from soil borings and monitoring wells completed in the area north of Building 2 and immediately downgradient from the site. The discussion of subsurface soil sampling results will include samples collected at depths of greater than 6 inches from test pit locations and samples collected from depths of greater than 2 feet from soil boring and monitoring well locations;

- For ease of discussion in the text and presentation in the tables, concentrations of individual tentatively identified compounds (TICs) for both volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analyses have been totaled and reported as total TICs. TICs are compounds that are detected during analysis but are not part of the Target Compound List (TCL). Individual TICs are summarized in the validated laboratory data sheets included in Attachment 1;

- In the tables presenting VOC and SVOC data results, only the detected compounds and their respective concentrations are reported; and

- The analytical results from field duplicate samples collected for quality assurance/quality control (QA/QC) purposes are included in discussions, tables, and figures. The analytical results from matrix spikes, laboratory duplicates and rinse or trip blanks collected for QA/QC purposes are not included in discussions, tables, and figures, but are included in the validated laboratory data sheets.

Table 1 presents an analytical sample summary which lists the matrices that were sampled for the MGP/RCRA Investigation, the date on which the samples were collected, the sampling intervals submitted for laboratory analysis (where applicable), the samples delivery groups assigned by Galson (which will facilitate identification of QA/QC sample results), and the specific parameters analyzed for each sample.

Section 3

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engineers & scientists

3. Soil Investigation

3.1 General

This section presents the results of the soil investigation activities conducted as part of the MGP/RCRA Investigation. The objectives of the soil investigation activities were as follows:

- Determine the presence and extent of chemical constituents in soil resulting from the former MGP facility and from potential releases of hazardous wastes or hazardous constituents from SWMUs at the site;
- Provide additional data to characterize surface and subsurface conditions in the vicinity of the site;
- Evaluate soil conditions at the perimeter of the site to determine whether chemical constituents may be migrating to or from the site;
- Provide data to assess potential risks to human health and the environment associated with constituents detected in the soil; and
- Provide data to evaluate potential remedial measures (including the need for IRMs to address conditions identified by the soil investigation activities).

Field investigation activities conducted as part of the soil investigation are described below, followed by a discussion of the investigation results.

3.2 Soil Investigation Activities

Soil investigation activities associated with the MGP/RCRA Investigation were conducted during the period between September 1996 and May 1997. The soil investigation activities included the following:

- Collecting surface soil samples for laboratory analysis;
- Excavating test pits in the yard storage area to facilitate the visual assessment of subsurface conditions and the collection of subsurface soil samples; and
- Completing soil borings to further characterize subsurface conditions, facilitate the collection of subsurface soil samples, determine appropriate locations for off-site monitoring wells, and delineate the extent of NAPL. Subsurface soil samples were also collected from soil borings completed for the installation of monitoring wells MW-17S, MW-19D, MW-20D, MW-21R, and MW-22R.

The soil investigation activities were conducted in accordance with the detailed field sampling protocols and the quality assurance/quality control protocols included in the NYSDEC-approved Quality Assurance Project Plan (QAPjP) that was prepared in support of the MGP/RCRA Investigation Work Plan (BBL, August 1996). Soil samples collected as part of the MGP/RCRA Investigation were handled, labeled, packaged, and shipped in accordance with the protocols outlined in the QAPjP. Soil samples selected for laboratory analysis as part of the soil investigation activities were submitted to Galson for laboratory analysis using one or more of the following methods:

Parameter	Analytical Method
TCL VOCs/BTEX	USEPA SW-846 Method 8260
TCL SVOCs/PAHs	USEPA SW-846 Method 8270
PCBs	USEPA SW-846 Method 8081
TAL Inorganics	USEPA SW-846 Method 6010 (except mercury by USEPA Method 7470/7471 and cyanide by USEPA Method 9010)
Total Petroleum Hydrocarbons (TPH)	USEPA SW-846 Method 8015

A detailed description of the soil investigation activities conducted as part of the MGP/RCRA Investigation is presented below.

3.2.1 Collection of Surface Soil Samples

Surface soil samples were collected at the following locations in order to provide data to evaluate potential exposure pathways for chemical constituents in surface soil at the site (shown on Figure 2):

- Six locations in the area immediately south of the TSDF (in the vicinity of the storage tank facility as shown on Figure 3b), designated SB-103 (0-6"), SB-104 (0-6"), SB-105 (0-6"), SB-106 (0-6"), SB-101 (0-2') and SB-104 (0-2'); and

- Fourteen locations in the yard storage area, designated TP-101 through TP-114. The surface soil samples collected at locations TP-101 through TP-114 were designated by the prefix SS [e.g., sample SS-101 (0-6") was collected at sample location TP-101].

The surface soil sampling locations coincide with the location of the test pits excavated in the yard storage area and the soil borings completed in the area immediately south of the TSDF. Prior to collecting each surface soil sample, the sampling location was exposed by removing grass and/or crushed stone (grass was removed at sampling location SB-103 and crushed stone was removed at the remaining sampling locations).

At each sampling location in the yard storage area, eight subsamples (0-6 inches) were collected within a one-square-meter area at each surface soil sampling location using a dedicated stainless steel sampling scoop. The subsamples collected at each location were composited in the field and a portion of the composite sample was placed in a sample screening jar for visual characterization and headspace screening using a PID. A portion of each composite sample was also placed in a separate sample container and submitted to Galson for laboratory analysis for PCBs. Seven surface soil samples [SS-103 (0-6"), SS-104 (0-6"), SS-107 (0-6"), SS-110 (0-6"), SS-111 (0-6"), SS-112 (0-6"), SS-114 (0-6")] collected from the corresponding test pit locations in the yard storage area were also submitted for laboratory analysis for TCL SVOCs and TAL inorganics. Surface soil samples submitted for laboratory analysis for TCL SVOCs and TAL inorganics were selected based on the visual characterization of the samples by on-site field personnel and the distribution of the surface soil sampling locations (in order to provide a uniform distribution across the yard storage area).

Surface soil samples SB-103 (0-6"), SB-104 (0-6"), SB-105 (0-6"), and SB-106 (0-6") were collected using the surface soil sampling methods discussed above for the surface soil samples collected in the yard storage area.

Surface soil samples SB-101 (0-2') and SB-104 (0-2') were recovered from the 0- to 2-foot sampling interval at soil boring locations SB-101 and SB-104 using the sampling methods discussed below under Section 3.2.3. Each surface soil sample collected in the area immediately south of the TSDF was analyzed for PCBs, TCL SVOCs, and TAL inorganics. The surface soil sample recovered from the 0 to 2 foot sampling interval at soil boring SB-104 was also analyzed for TCL VOCs.

Table 1 presents a summary of the laboratory analyses performed for each surface soil sampled. PID headspace screening results for each surface soil sampling location are summarized in Table 2.

3.2.2 Excavation of Test Pits

As part of the MGP/RCRA soil investigation, BBL's subcontractor, SJB Services, Inc. (SJB) excavated 14 test pits at locations TP-101 through TP-114 (as shown on Figure 2) using a rubber-tired backhoe. Test pits TP-101 through TP-112 were excavated at the locations proposed in the MGP/RCRA Investigation Work Plan. Test pits TP-113 and TP-114 were excavated at judgmental sampling locations which were selected by BBL field personnel to further evaluate subsurface conditions encountered at test pits TP-101 through TP-112.

Subsurface soil samples were collected at 2-foot intervals from each test pit for visual characterization (i.e., staining, soil type, etc.) and headspace screening using a PID. The PID headspace screening measurements are summarized in Table 2. Subsurface conditions encountered at each test pit location are summarized in the test pit logs presented in Appendix B.

Based on the conditions encountered within each test pit, one subsurface soil sample collected from the excavation sidewall was submitted to Galson for laboratory analysis for PCBs and TAL inorganic constituents. In addition, subsurface soil samples collected from seven test pits were submitted for laboratory analysis for TCL VOCs and TCL SVOCs (based on the presence of staining, odors, or oil droplets/petroleum sheens on the surface of ground water within the test pit). Subsurface soil conditions encountered at test pit locations where subsurface soil samples were collected for laboratory analysis are summarized below.

Subsurface Soil Sample	Basis for Collecting Subsurface Soil Samples
TP-101 (2-4')	Presence of gray-black ash silt layer.
TP-102 (4-6')	Gray-colored soil interval immediately below wood fiber material.
TP-105 (2-4')	Black wood fragments in brown silt and brick debris.
TP-106 (2-4')	Orange-brown layered soil (possible fill material).
TP-108 (1.5-2')	Black layer of silt.
TP-109 (2-4')	Gray-brown silt/gravel (possible fill material).
TP-113 (2-3')	Black gravelly silt (possible fill material). Noticeable odor.
TP-103 (2-4')	Dark brown clay at bottom of slag layer, above native-appearing clay layer.
TP-104 (1-2')	Headspace reading of 26 ppm. Reddish-orange silt material with strong odor.
TP-104 (6-8')	Headspace reading of 6.1 ppm. Bottom soil interval of test pit.
TP-107 (6-7')	Black pocket of clay.
TP-110 (1-2')	Headspace reading of 14.2 ppm. Brown/black wood chips/organic material. Strong petroleum-type odor.

Subsurface Soil Sample	Basis for Collecting Subsurface Soil Samples
TP-111 (4-6')	Trace blue-colored soil material encountered within medium brown clay. Slight odor. Some slag present.
TP-112 (6-7')	Brown/black clay with strong odor. Paper/fiber material embedded in black soil.
TP-114 (1-2')	Headspace reading of 4.6 ppm. Black slag. Strong odor.

3.2.3 Completion of Soil Borings

As part of the MGP/RCRA soil investigation, SJB completed 50 soil borings [including 34 soil borings at soil boring locations SB-101 through SB-134 (as shown on Figure 2) and 16 soil borings at locations where groundwater monitoring wells were installed as part of the MGP/RCRA Investigation]. The soil borings were completed as part of three separate phases of field activities which were conducted during the periods from October 1 to October 17, 1996; January 9 to February 18, 1997; and April 28 to May 9, 1997. During the first phase of the soil boring activities, soil borings were completed at on-site locations and at locations located hydrologically upgradient of the site. During the second phase of the soil boring activities, off-site soil borings were installed within the Delaware and Hudson railroad right-of-way in the area between the eastern property boundary and the eastern side of Erie Boulevard. The third phase of the soil boring activities consisted of completing additional soil borings in the area east of Erie Boulevard to determine downgradient monitoring well locations and the extent of NAPL in the area downgradient of the site. A geophysical survey, discussed in Section 3.3.2.1, was conducted between the second and third mobilizations to determine appropriate drilling locations for the additional soil borings and downgradient monitoring well clusters. The soil borings installed as part of the MGP/RCRA Investigation included the following:

- **Soil borings SB-101 through SB-106:** These soil borings were completed in the area immediately south of the TSDF to collect subsurface soil samples for the purpose of evaluating potential releases of hazardous waste or hazardous constituents from SWMUs in this area of the site. Soil borings SB-101 through SB-105 were completed to the depth of the ground water table (approximately 15 feet) and Soil boring SB-106 was completed to bedrock;

- **Soil borings SB-107, SB-107B, SB-108, and SB-108B:** These borings were completed to bedrock in the vicinity of a newly-identified AOC associated with soil boring SB-105 that was completed as part of the PSA/IRM Study (the PSA/IRM Study indicated that isolated DNAPL was present in soil at soil boring SB-105);

- **Soil borings SB-109, SB-110, SB-112 through SB-115, and SB-120:** These borings were completed to bedrock to further delineate the extent of LNAPL and DNAPL observed in soil borings and test pits completed to the north of Building 2 as part of the PSA/IRM Study (e.g., LNAPL and DNAPL associated with the former MGP operation and the petroleum related SWMUs located to the north of Building 2);

- **Soil Borings SB-111 and SB-121:** These soil borings were completed to bedrock in areas to the north and west of the Genesee Street Substation (a former location for a relief gas holder) in order to evaluate potential off-site DNAPL migration and impacts to subsurface utilities along Broadway and the New York State Department of Transportation right-of-way (for Interstate I-787) that borders the property to the north;

- **Soil borings SB-116 through SB-118:** These soil borings were completed to bedrock in the vicinity of the newly- identified AOC near monitoring well MW-10 installed for the PSA/IRM Study. The locations of these borings were selected to further delineate the horizontal extent of LNAPL observed at monitoring well MW-10 and to determine whether the LNAPL is part of a larger plume originating to the north of MW-10 of a separate plume associated with the former oil storage facilities previously located in this area of the site;

- **Soil boring SB-119:** This soil boring was completed to bedrock in the vicinity of the fuel service island to the east of Building 2 (near the former location for monitoring well MW-6) to evaluate the presence of NAPL/DNAPL. This location was selected to determine whether the LNAPL observed at monitoring well location MW-6 is part of a larger plume originating to the north of MW-6 or a separate plume associated with the former USTs in this area;

- **Soil boring SB-122:** This soil boring was completed to the water table to facilitate the collection of background soil samples for laboratory analysis for TAL inorganic constituents;

- **Soil Borings SB-123 through SB-134:** These soil borings were completed to bedrock in order to establish appropriate downgradient monitoring well locations and further delineate the extent of LNAPL and DNAPL in the area hydrologically downgradient from (to the east of) the site. Soil borings SB-123 through SB-131 were completed at proposed locations for downgradient ground-water monitoring wells. However, because LNAPL and/or DNAPL was encountered at these locations, subsurface conditions at the soil boring locations where documented, samples were collected for laboratory analysis as necessary, and the proposed monitoring wells were relocated to locations further downgradient from the site. Soil borings SB-132 through SB-134 were completed to provide further delineation of the potential extent of LNAPL and DNAPL in the area hydrologically downgradient from the site; and

- **Ground-Water Monitoring Well and Piezometer Locations:** Soil borings completed at the locations of 16 ground-water monitoring wells and 2 piezometers installed as part of the MGP/RCRA Investigation provide additional information on subsurface conditions in the vicinity of the site (including an upgradient background monitoring well location, 2 on-site monitoring well locations, 2 on-site piezometer locations, and 13 ground-water monitoring well locations in the area hydrologically downgradient from the site). Approximately 24 feet of bedrock coring was also conducted during the completion of borings associated with the installation of monitoring wells MW-16R, MW-21R, and MW-22R.

The soil borings were completed by SJB using truck-mounted and all-terrain vehicle (ATV) mounted drill rigs, including Central Mining Equipment- (CME-) 75, CME-85, and CME-550 models. Each boring was advanced to the depth of completion (i.e., the water table or until auger refusal was encountered) using 4.25-inch inside diameter (ID) hollow-stem augers. Soil samples were collected continuously in 2-foot intervals from ground surface to the completed depth of each boring utilizing American Society for Testing and Materials (ASTM) Method D-1586/Split-Barrel Sampling (Standard Method for Penetration Test and Split-Barrel Sampling of Soils ASTM D-1586-84) by driving either a 2-inch or 3-inch outside diameter (OD), 2-foot-long standard split spoon with a 140-lb hammer dropped 30 inches. A representative portion of each soil sample was placed in a screening jar for headspace screening using a PID. PID headspace screening results for each sampling interval recovered from the soil borings are summarized in Table 2 and indicated on the soil boring logs included in Appendix C. Following headspace screening, distilled water was added to the soil within the sample screening jars and the jars were shaken to evaluate the presence of NAPL. Each soil sample was also visually examined and classified in accordance with the Unified Soil Classification System (USCS).

To minimize contact of subsurface soil cuttings with the ground surface in the vicinity of the soil boring, soil cuttings from the borehole were collected during drilling activities using plywood sheeting placed on the ground surface adjacent to the auger stem. Soil cuttings were removed periodically throughout the boring installation and placed in a steel container on the back of a support vehicle utilized by SJB. Upon completion of each borehole, the soil cuttings were transferred to a roll-off waste container for storage prior to off-site transport and disposal in accordance with applicable regulations. Following completion of each soil boring, the borehole was tremie-grouted to ground surface using the cement grout mixture (3 bags of Portland cement/25 pounds of bentonite/30 gallons of potable water) specified in the Generic Quality Assurance Project Plan and Field Sampling Plan for Site Investigations (NMPC, 1996). Borings were tremie-grouted from within the augers as the augers were slowly removed from the bore hole. Specific details pertaining to the completion of each soil boring are presented in the boring logs provided in Appendix C.

A total of 53 subsurface soil samples recovered from the soil borings were submitted to Galson for laboratory analysis using the analytical protocols included in the NYSDEC-approved QAPjP. A summary of the laboratory analyses performed for each subsurface soil sample collected for the MGP/RCRA Investigation is presented in Table 1 of the MGP/RCRA Investigation Report. Field criteria for selecting soil samples for laboratory analysis from the soil borings include the following:

- At soil boring locations where LNAPL/DNAPL, visually-stained soil, odors, and/or elevated PID screening measurements were encountered, up to two soil samples were selected for laboratory analysis (one to confirm the presence and concentrations of chemical constituents and one to delineate the vertical extent of impacted soil); and

- At soil boring locations where LNAPL/DNAPL, visually-stained soil, odors, and/or elevated PID screening measurements were not encountered, soil samples recovered from the split-barrel soil sampling interval just above the water table and/or at the vertical extent of the boring were selected for laboratory analysis.

Based on the objectives of the soil sampling activities conducted as part of the MGP/RCRA Investigation, both unsaturated soil samples (e.g., samples collected above the water table) and saturated soil samples (e.g., samples collected below the water table) were collected for laboratory analysis. Unsaturated soil samples were submitted for laboratory analysis to provide data to address each of the soil investigation objectives summarized above in Section 3.1. Saturated soil samples were submitted for laboratory analysis to provide data to confirm the horizontal and vertical distribution of subsurface NAPL, as well as to characterize the total mass of chemical constituents in saturated soil for the purpose of evaluating potential remedial measures.

For soil sampling intervals selected for laboratory analysis for TCL VOCs or benzene, toluene, ethylbenzene, and xylenes (BTEX), a discrete portion of the soil recovered from the sampling interval was placed directly into a laboratory-supplied sampling container. The remaining portion of the soil recovered from sampling intervals selected for laboratory analyses was composited by mixing the soil in a decontaminated stainless steel bowl prior to placing the soil into appropriate laboratory-supplied sampling containers for additional laboratory analyses (as applicable). Soil samples were identified, labeled, packaged, and shipped to the laboratory following the protocols outlined in the NYSDEC-approved QAPjP.

In addition to the subsurface soil samples submitted for laboratory analysis by Galson, 9 representative subsurface soil samples were collected and submitted to SJB for geotechnical analysis. The geotechnical samples were selected to physically characterize the geologic units, intervals where monitoring well screens had been installed, and units where potential LNAPL/DNAPL migration may occur. Geotechnical analyses were performed on the following samples: MW-15S (14-16'), MW-16R (10-12'), MW-16S (13-15'), MW-19D (16-18'), MW-21R (23-25'), MW-22R (24-26'), SB-125 (10-12'), SB-125 (18-20'), and SB-133 (8-10'). Each geotechnical sample was analyzed for particle size distribution (i.e., sieve and hydrometer analysis) and Atterberg limits. Samples from MW-15S (14-

16'), SB-125 (18-20'), and SB-133 (8-10') were also analyzed for bulk density, moisture, and specific gravity. Results of geotechnical analyses are included as Appendix D.

3.3 Soil Investigation Results

A detailed discussion of the results of the surface soil sampling, test pitting, and soil boring activities conducted as part of the MGP/RCRA Investigation is presented below.

3.3.1 Surface Soil Sampling Results

The results of the visual characterization and headspace screening of surface soil samples collected for the MGP/RCRA Investigation are presented below, followed by a discussion of analytical results obtained from the laboratory analysis of surface soil samples for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents.

3.3.1.1 Visual Characterization and Field Screening Results

BBL personnel visually observed each surface soil sample to determine the soil type, identify the presence of any staining or odors, and record any other relevant observations. The following observations were noted by BBL personnel:

- Each of the surface soil samples collected from 0- to 6-inches consisted of grayish-brown or grayish-black gravel mixed with silt and sand (i.e., with no visible staining reported);
- Trace oil-staining was observed in the surface soil sample SS-106 (0-6") collected at sample location TP-106;
- Concrete debris (small rubble) was observed in the surface soil sample SS-109 (0-6") collected at sample location TP-109; and
- Apparent black staining was noted in the surface soil samples recovered from the 0- to 2-foot sampling interval at soil boring locations SB-101 and SB-104, however, no elevated PID headspace readings were detected for these samples.

Although no staining was noted in the surface soil at sampling location TP-103, the surface gravel adjacent to this location was visibly oil-stained. In addition, a puddle over a portion of the stained gravel in the vicinity of sampling location TP-103 contained a noticeable petroleum-type sheen. Additional areas of stained gravel were noted at the ground surface in the vicinity of selected transformers/capacitors staged in the yard storage area.

The results obtained for PID headspace screening of surface soil samples are summarized in Table 2. As shown in Table 2, the headspace screening results for surface soil samples ranged from 0.0 ppm (at 13 of the 20 sampling locations) to 2.0 ppm in SS-103 (0-6") (collected at sample location TP-103).

3.3.1.2 Surface Soil Analytical Results

Analytical results obtained for the laboratory analysis of surface soil samples collected during the MGP/RCRA Investigation for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents are summarized below. The discussion below includes a comparison of the analytical results obtained from the laboratory analysis of the surface soil samples with the recommended soil cleanup objectives presented in the NYSDEC Technical Administrative Guidance Memorandum (TAGM) HWR-94-4046, dated January 24, 1994.

PCBs

Analytical results obtained for the laboratory analysis of surface soil samples for PCBs are listed in Table 3 and shown on Figure 4. Total PCBs were detected in each surface soil sample at concentrations ranging from 0.037 ppm in sample SB-103 (0-6") to an estimated concentration of 13 ppm in sample SS-102 (0-6") collected at sample location TP-102 (an estimated concentration indicates that the compound was positively identified to be present at a concentration below the laboratory detection limit for that sample). In accordance with the NYSDEC TAGM HWR-94-4046, the NYSDEC-recommended cleanup objective for total PCBs in surface soil is 1 ppm. As indicated in Table 3, this recommended cleanup objective is exceeded in the following 8 surface soil samples: SS-102 (0-6"), SS-103 (0-6"), SS-104 (0-6"), SS-110 (0-6"), SS-113 (0-6"), SB-105 (0-6"), SB-106 (0-6"), and SB-101 (0-2').

TCL VOCs

Analytical results obtained for the laboratory analysis of surface soil samples for detected TCL VOCs are listed in Table 4 and shown on Figure 5. Surface soil sample SB-104 (0-2') was the only surface soil sample analyzed for TCL VOCs as part of the MGP/RCRA Investigation. The following VOCs were detected in surface soil sample SB-104 (0-2') at estimated concentrations which are less than the NYSDEC-recommended cleanup objectives presented in NYSDEC TAGM HWR-94-4046: benzene at 0.026 ppm; ethylbenzene at 0.005 ppm; methylene chloride at 0.007 ppm; and toluene at 0.022 ppm.

TCL SVOCs

Analytical results obtained for the laboratory analysis of surface soil samples for TCL SVOCs are listed in Table 5 and shown on Figure 5. TCL SVOCs were detected at concentrations above laboratory detection limits in each of the surface soil sampling locations. Analytical results obtained for the laboratory analysis of the surface soil samples for TCL SVOCs are summarized below.

Surface Soil

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
1,2,4-Trichlorobenzene	1	0.13 J	SS-111(0-0.5')	3.4
1,4-Dichlorobenzene	1	0.1 J	SS-111(0-0.5')	8.5
2,4-Dinitrotoluene	1	0.15 J	SS-111(0-0.5')	1.
2-Chlorophenol	1	0.18 J	SS-111 (0-0.5')	0.8
2-Methylnapthalene	6	0.087 - 0.24 J	SB-104 (0-2')	36.4
4-Chloro-3-methylphenol	1	0.21 J	SS-111 (0-0.5')	0.24 or MDL
4-Nitrophenol	1	0.22 J	SS-111 (0-0.5')	0.1 or MDL
Acenaphthene	8	0.093 - 2.1	SS-103 (0-0.5')	50
Acenaphthylene	2	0.062 - 0.1 J	SS-111 (0-0.5')	41
Anthracene	10	0.052 - 5.6	SS-103 (0-0.5')	50
Benzo(a)anthracene	10	0.36 - 27	SS-103 (0-0.5')	0.224 or MDL
Benzo(a)pyrene	11	0.053 - 38 D	SS-103 (0-0.5')	0.061 or MDL
Benzo(b)fluoranthene	10	0.92 - 35 D	SS-103 (0-0.5')	1.1
Benzo(g,h,i)perylene	10	0.47 - 20	SS-103 (0-0.5')	50
Benzo(k)fluoranthene	10	0.7 - 27	SS-103 (0-0.5')	1.1

Surface Soil cont

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
bis(2-Ethylhexyl)phthalate	1	4.6 B	SS-111 (0-0.5')	50
Butyl benzyl phthalate	2	0.11 - 0.21 J	SB-104 (0-2')	50
Carbazole	10	0.53 - 3.4	SS-103 (0-0.5')	NA
Chrysene	11	0.065 - 28	SS-103 (0-0.5')	0.4
Di-n-butyl phthalate	3	0.039 - 0.12 J	SS-104 (0-0.5')	8.1
Dibenzofuran	7	0.14 - 0.83 J	SS-103 (0-0.5')	6.2
Fluoranthene	11	0.11 - 64 D	SS-103 (0-0.5')	50
Fluorene	8	0.12 - 1.8	SS-103 (0-0.5')	50
Indeno(1,2,3-cd)pyrene	10	0.5 - 19	SS-103 (0-0.5')	3.2
N-Nitroso-di-n-propylamine	1	0.12	SS-111(0-0.5')	NA
Naphthalene	7	0.12 - 1.1	SB-104 (0-2')	13
Pentachlorophenol	3	0.17 - 26 D	SS-111(0-0.5')/ DUP-1	1 or MDL
Phenanthrene	11	0.063 - 24	SS-103 (0-0.5')	50
Phenol	1	0.17 J	SS-111 (0-0.5')	0.03 or
Pyrene	11	0.12 - 55 JD	SS-103 (0-0.5')	50

Notes:
1. J = Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.
3. B= Constituent was also detected in an associated blank.
4. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
5. NA = Not available.

The analytical results indicate that each surface soil sample [with the exception of SB-103 (0-6")] collected in the area immediately south of the TSDF (in the vicinity of the storage tank facility as shown on Figure 3b) and the yard storage area contains SVOC constituents at concentrations which exceed the NYSDEC-recommended cleanup objectives presented in NYSDEC TAGM HWR-94-4046.

TAL Inorganic Constituents

Analytical results obtained from the laboratory analysis of the surface soil samples for TAL inorganic constituents are listed in Table 6 and shown on Figure 6. TAL inorganic constituents were detected at concentrations above laboratory detection limits in each of the surface soil samples. Analytical results obtained from the laboratory analysis of the surface soil samples for TAL inorganic constituents are summarized below (with the exception of typical mineral constituents, including aluminum, calcium, iron, magnesium, manganese, potassium, and sodium).

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
Antimony	19	0.6 - 1.9 BJ	SS-112 (0-0.5')	1.8*
Arsenic	20	4.2 - 77.5	SS-112 (0-0.5')	8.5*

Surface Soil

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
Barium	20	29 - 133	SS-114 (0-0.5')	300
Beryllium	20	0.24 - 0.71	SB-106 (0-0.5')	0.71*
Cadmium	20	0.29 - 2.6	SS-104 (0-0.5')	1
Chromium	20	6 - 21.4	SB-105 (0-0.5')	21*
Cobalt	20	3.2 - 9.9	SB-104 (0-2')	30
Copper	20	8.5 - 207	SS-104 (0-0.5')	42*
Cyanide (total)	6	0.59 - 31.2	SB-104 (0-2')	ND
Iron	20	8,040 - 29,700	SS-112 (0-0.5')	34,000*
Lead	20	5.2 - 548 J	SB-104 (0-0.5')	20*
Mercury	20	0.07 - 1.5	SS-110 (0-0.5')	0.1
Nickel	20	8.1 - 29.4	SS-112 (0-0.5')	30*
Selenium	14	0.44 - 1.6	SS-111 (0-0.5')	2
Vanadium	20	4.3 - 45.5	SS-112 (0-0.5')	150
Zinc	20	28.1 - 800	SS-112 (0-0.5')	88*

Notes:
1. J = Estimated value.
2. B= Indicates that the result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
4. * = Listed criteria is site background for subsurface soil.
5. ND = Not Determined, HWR-94-4046 recommends using site background as cleanup criteria, this constituent was not detected in background samples.

The analytical results indicate that each surface soil sample collected in the area immediately south of the TSDF and the yard storage area contains inorganic constituents at concentrations which exceed the NYSDEC-recommended cleanup objectives or site background values (as applicable). Surface soil sample SB-103 (0-6") contained only typical mineral constituents (calcium and magnesium) at concentrations which exceed the site background values. As indicated above, Cyanide (total) was detected in 6 surface soil samples at concentrations ranging from 0.59 ppm to 31.2 ppm. NYSDEC TAGM HWR-94-4046 recommends use of the site background value as the cleanup criteria for cyanide. Cyanide was not detected in site background samples collected as part of the MGP/RCRA Investigation.

3.3.2 Subsurface Soil Collected from Test Pits

The results of the visual characterization and headspace screening of subsurface soil samples collected from test pit excavations completed as part of the MGP/RCRA Investigation is presented below, followed by a discussion of the analytical results obtained from the laboratory analysis of the subsurface soil samples for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents.

3.3.2.1 Visual Characterization and Field Screening Results

As described above in 3.2.2, subsurface soil samples were collected at 2-foot depth intervals from the test pits excavated in the yard storage area as part of the MGP/RCRA Investigation. BBL personnel observed each subsurface soil sample to determine the soil type, identify the presence of any staining or odors, and record any other relevant observations. Subsurface conditions encountered within the test pits completed as part of the MGP/RCRA Investigation are summarized in the test pit logs presented in Appendix B.

As indicated by the test pit logs, the following conditions were noted in the test pits completed during the MGP/RCRA Investigation:

- Brick debris was encountered in nine of the test pit locations, including TP-101 (4-6'), TP-103 (0.5-2'), TP-105 (1-8'), TP-106 (4-5.5'), TP-107 (0.5-5'), TP-108 (2-4'), TP-109 (2-4'), TP-111 (0.5-2'), and TP-113 (1-3'). The bricks appeared to form a portion of a wall/foundation in test pits TP-105 and TP-108.

- Wood chips were encountered within test pits toward the western portion of the yard storage area, including TP-101 (4-6'), TP-102 (0.5-4'), and TP-105 (2-4') [Note: a lumberyard was formerly present on this portion of the property.

- A grayish colored cinder/slag-like material was encountered within test pits TP-103 (3-3.5'), TP-108 (4-6.5'), TP-109 (0.5-2'), TP-111 (5-6'), and TP-112 (0.7-2').

- An orange-brown colored sand/silt material with a noticeable odor was encountered within test pits TP-104 (1-1.5') and TP-111 (2-5').

- A reddish-orange colored sand/silt material with a noticeable odor was encountered within test pit TP-104 (1.5-2').

- A black, fibrous material with a noticeable odor was encountered within test pits TP-104 (2-3') and TP-112 (5-7.5').

- A black slag-type material with a noticeable odor was encountered within TP-114 (1-2.5').

- Several small chunks of a smooth-surfaced, blue substance were encountered in test pit TP-111 (2-5').

- A gray-black ash material with what appeared to be a crumbling mortar substance was encountered overlying brick debris in test pit TP-101 (2-4').

- A layer of an orange-colored gravelly material was encountered in test pit TP-106 (2-4').

- A pocket of black clay was encountered below the brick debris in test pit TP-107 at approximately 6 feet deep, and a gray-brown silt/clay with embedded fibrous material (i.e., possibly from a former low area/wetlands area) was also encountered in test pit TP-107 (6.5-8').

- Wood chips/organic material with a strong petroleum-type odor were encountered within test pit TP-110 (0.5-2').

- A black, gravelly fill material with a slight odor was encountered within test pit TP-113 (2-3').

Perched ground-water was encountered in test pits TP-106, TP-110, TP-112, and TP-114 at depths ranging from 3.5 feet below grade in TP-114, to 7 feet below grade in TP-112. Noticeable petroleum-type sheens were observed on the ground-water surface in test pits TP-110 and TP-112. Perched/ground water was observed seeping into test pits TP-101, TP-107, and TP-111 at depths ranging from 6 to 8 feet (however, no measurable depth of water filled into these test pits). Perched/ground water was not encountered in test pits TP-102 through TP-105, TP-108, TP-109, or TP-113.

PID headspace screening results obtained for subsurface soil samples collected from each 2-foot sampling interval within the test pits are presented in Table 2. As indicated on Table 2, no headspace screening results above 0.0 ppm were obtained for soil samples collected from the 2-foot sampling intervals within test pits TP-101, TP-106 through TP-109, and TP-113. PID headspace screening results for soil samples collected from the remaining test pits ranged from 0.0 ppm to 26.0 ppm in sample TP-104 (0.5-2').

3.3.2.2 Subsurface Soil Analytical Results from Test Pits

Analytical results obtained for the laboratory analysis of subsurface soil samples collected from test pits completed for the MGP/RCRA Investigation for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents are summarized below. The discussion below includes a comparison of the analytical results obtained from the laboratory analysis of the subsurface soil samples with the recommended soil cleanup objectives presented in NYSDEC TAGM HWR-94-4046.

PCBs

Analytical results obtained from the laboratory analysis of subsurface soil samples collected from test pits for PCBs are listed in Table 7 and shown on Figure 7. PCBs were detected in subsurface soil sample TP-105 (2-4') at 0.170 ppm and in subsurface soil sample TP-108 (1.5-2') at 0.041 ppm. PCBs were not detected above laboratory detection limits in any of the other subsurface soil samples collected from test pits that were excavated as part of the MGP/RCRA Investigation. In accordance with NYSDEC TAGM HWR-94-4046, the NYSDEC-recommended subsurface soil cleanup objective for PCBs is 10 ppm.

TCL VOCs

Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from test pits for TCL VOCs are listed in Table 8 and shown on Figure 8. TCL VOCs were detected at concentrations above laboratory detection limits in each of the subsurface soil samples collected from the test pits. Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from test pits for TCL VOCs are summarized below.

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
1,1,2,2-Tetrachlorethane	1	0.006 J	TP-107 (6-7')	0.6
1,1-Dichloroethane	1	0.006 J	TP-107 (6-7')	0.2
1,1-Dichloroethene	1	0.006 J	TP-107 (6-7')	0.4
1,2-Dichloroethane	1	0.006 J	TP-107 (6-7')	0.1
1,2-Dichloroethene, Total	1	0.006 J	TP-107 (6-7')	0.3
2-Butanone	6	0.013 J - 0.210 J	TP-110 (1-2')	0.3
2-Hexanone	1	0.013 J	TP-107 (6-7')	NA
4-Methyl-2-pentanone	1	0.013 J	TP-107 (6-7')	1
Acetone	6	0.023 J - 3.7 J	TP-104 (1-2')	0.2

Subsuf. - Test Pits

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
Bromomethane	1	0.013 J	TP-107 (6-7')	NA
Carbon Disulfide	4	0.006 J - 0.800 J	TP-114 (1-2')	2.7
Chlorobenzene	1	0.006 J	TP-107 (6-7')	1.7
Chloroethane	1	0.013 J	TP-107 (6-7')	1.9
Chloroform	1	0.006 J	TP-107 (6-7')	0.3
Chloromethane	1	0.006 J	TP-107 (6-7')	NA
Ethylbenzene	4	0.006 J - 20	TP-104 (1-2')	5.5
Methylene Chloride	3	0.004 J - 0.037 J	TP-110 (1-2')	0.1
Styrene	2	0.006 J - 1.3	TP-114 (1-2')	NA
Tetrachloroethene	1	0.006 J	TP-107 (6-7')	1.4
Toluene	4	0.006 J - 0.610 J	TP-104 (1-2')	1.5
Trichloroethene	4	0.006 J - 1.9 J	TP-104 (1-2')	0.7
Vinyl Acetate	3	0.012 - 3.7 J	TP-104 (1-2')	NA
Vinyl Chloride	1	0.013 J	TP-107 (6-7')	0.2
Xylenes (total)	2	0.006 J - 0.340 J	TP-110 (1-2')	1.2

<u>Notes:</u>
1. J = Estimated value.
2. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
3. NA = Not available.

The analytical results indicate that only two subsurface soil samples [TP-104 (1-2') and TP-110 (1-2')] collected from test pits located in the yard storage area during the MGP/RCRA Investigation contain VOC constituents at concentrations which exceed the NYSDEC-recommended cleanup objectives. VOC constituents detected in subsurface soil samples collected from test pits at concentrations which exceed the NYSDEC-recommended cleanup objectives include acetone and ethylbenzene. Acetone is a common laboratory chemical which may be inadequetantly introduced into samples in the laboratory during handling and analysis (however, acetone was not detected in the method blank sample analyzed with the subsurface soil samples).

Total SVOCs

Analytical results obtained for the laboratory analysis of the subsurface soil samples collected from test pits for TCL SVOCs are listed in Table 9 and shown on Figure 9. TCL SVOCs were detected at concentrations above laboratory detection limits in each of the subsurface soil samples collected from the test pits. Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from test pits for TCL SVOCs are summarized below.

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
2-Methynaphthalene	3	0.880 - 130	TP-104 (1-2')	36.4
Acenaphthene	4	0.220 J - 11 J	TP-104 (1-2')	50.0
Acenaphthylene	2	4.2 J - 5.1	TP-114 (1-2')	0.1

Subsurface - T.P.

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
Anthracene	6	0.056 J - 17	TP-114 (1-2')	50.0
Benzo(a)anthracene	8	0.130 J - 67 JD	TP-114 (1-2')	0.224 or MDL
Benzo(a)pyrene	8	0.066 J - 28 J	TP-114 (1-2')	0.061 or MDL
Benzo(b)fluoranthene	7	0.140 J - 26	TP-104 (1-2')	1.1
Benzo(g,h,i)perylene	8	0.062 J - 23 J	YP-114 (1-2')	50.0
Benzo(k)fluoranthene	8	0.140 J - 32	TP-104 (1-2')	1.1
bis(2-Ethylhexyl)phthalate	2	6.0 B - 6.4 B	TP-111 (4-6')	50.0
Carbazole	1	0.690 J	TP-114 (1-2')	NA
Chrysene	8	0.150 J - 84 JD	TP-114 (1-2')	0.5
Dibenz(a,h)anthracene	1	5.9 J	TP-104 (1-2')	0.014 or MDL
Dibenzofuran	2	1.8 J - 5.4 J	TP-104 (1-2')	6.2
Fluoranthene	8	0.230 J - 87	TP-104 (1-2')	50.0
Fluorene	4	0.180 J - 55	TP-104 (1-2')	50.0
Indeno(1,2,3-cd)pyrene	3	1.2 - 19J	TP-114 (1-2')	3.2
Naphthalene	6	0.100 J - 30	TP-104 (1-2')	13.0
Pentachlorophenol	1	0.700 J	TP-111 (4-6')	1.0 or MDL
Phenanthrene	8	0.120 J - 200	TP-104 (1-2')	50.0
Pyrene	8	0.240 J - 170 JD	TP-114 (1-2')	50.0

Notes:

1. J= Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.
3. B= Constituent was also detected in an associated blank.
4. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
5. NA= Not available.

The analytical results indicate that eight subsurface soil samples collected from test pits located in the yard storage area during the MGP/RCRA Investigation contain SVOC constituents at concentrations which exceed the NYSDEC-recommended cleanup objectives. SVOC constituents detected in subsurface soil samples at concentrations which exceed the NYSDEC-recommended cleanup objectives consist primarily ofPAH compounds [and one detection of 2-methylnaphthalene in TP-104 (1-2')]. Benzo(a)pyrene was the only SVOC constituent detected in subsurface soil samples TP-103 (2-4'), TP-104 (6-8'), TP-107 (6-7'), TP-111 (4-6'), and TP-112 (6-7') at concentrations (ranging from an estimated 0.14 ppm to 0.85 ppm) which exceed the NYSDEC-recommended cleanup objective. Specific SVOC constituents detailed in the subsurface soil samples collected from the test pits at concentrations which exceed the NYSDEC-recommended soil cleanup objectives are indicated in Table 9.

TAL Inorganic Constituents

Analytical results obtained for the laboratory analysis of the subsurface soil samples collected from test pits for TAL inorganic constituents are listed in Table 10 and shown on Figure 10. TAL inorganic constituents were detected at concentrations above laboratory detection limits in each of the subsurface soil samples collected from test pits. Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from test pits for TAL inorganic constituents are summarized below (with the exception of typical mineral constituents, including aluminum, calcium, iron, magnesium, maganese, potassium, and sodium).

Subsurface T.P.

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)*
Antimony	11	0.59- 4.7 BJ	TP-105 (2-4')	1.8*
Arsenic	15	4.6 - 97.5	TP-104 (1-2')	8.5*
Barium	15	21.8 - 222	TP-114 (1-2')	300
Beryllium	14	0.18 - 0.89	TP-107 (6-7')	0.71*
Cadmium	14	0.22 - 1.4	TP-104 (1-2')	1
Chromium	15	2.7 - 75.6	TP-104 (1-2')	21*
Cobalt	15	1.2 - 22.2	TP-104 (1-2')	30
Copper	15	4.6 - 212	TP-106 (2-4')	42*
Cyanide (total)	6	0.79 - 1020	TP-104 (0-2')	ND
Lead	15	20.7 - 1850	TP-101 (2-4')	20*
Mercury	14	0.12 - 7.9	TP-111 (4-6')	0.1
Nickel	15	0.77 - 56	TP-104 (1-2')	30*
Selenium	15	0.46 - 3.2	TP-114 (1-2')	2
Silver	1	0.95 B	TP-106 (2-4')	ND
Vanadium	15	3.6 - 71.9	TP-104 (1-2')	150
Zinc	15	6.7 - 263	TP-114 (1-2')	88*

Notes:

1. J = Estimated value.
2. B = Indicates that the result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
4. * = Listed criteria is site background for subsurface soil.
5. ND = Not Determined, HWR-94-4046 recommends using site background as cleanup criteria, this constituent was not detected in background samples.

The analytical results indicate that each subsurface soil sample collected from test pits located in the yard storage area during the MGP/RCRA Investigation contain inorganic constituents at concentrations which exceed NYSDEC-recommended cleanup objectives or site background values (ass applicable). Lead was detected in each subsurface soil sample collected from the test pits at concentrations which exceed the NYSDEC-recommended cleanup objectives. Mercury was also detected in each subsurface soil sample [with the exception of TP-110 (1-2')] at concentrations exceeding the NYSDEC-recommended cleanup objectives. As indicated above, Cyanide (total) was detected in six (6) subsurface soil samples at concentrations ranging from 0.79 ppm to 1020 ppm in TP-104 (0-2'). NYSDEC TAGM HWR-94-4046 recommends use of the site background value as the cleanup criteria for cyanide, however, cyanide was not detected in site background samples collected as part of the MGP/RCRA Investigation. The Specific TAL inorganics detected in the subsurface soil samples collected from the test pits at concentrations exceeding the NYSDEC-recommended soil cleanup objectives are indicated in Table 10.

3.3.3 Subsurface Soil Collected from Soil Borings

The results of the visual characterization and headspace screening of subsurface soil samples collected from soil borings (including soil samples collected at ground-water monitoring well installations) are presented below, followed by a discussion of the analytical results obtained from the laboratory analysis of the subsurface soil samples for PCBs, TCL VOCs or BTEX, TCL SVOCs or PAHs, TAL inorganic constituents, and TPH.

3.3.3.1 Visual Characterization and Field Screening Results

Subsurface soil samples were collected continuously at each soil boring location as part of the MGP/RCRA Investigation (with the exception of shallow borings completed at the monitoring-well cluster locations where soil samples were recovered at intervals of five feet on-center within the boring). BBL personnel visually observed each subsurface soil sample to determine the soil type, identify the presence of any staining or odors, and record any other relevant observations. Subsurface conditions encountered in the soil borings completed as part of the MGP/RCRA Investigation are summarized in the soil boring logs presented in Appendix C and monitoring wells subsurface logs presented in Appendix D.

As indicated on the soil boring and monitoring well logs, the following conditions were noted in the soil borings completed during the MGP/RCRA Investigation:

- Fine-grained layer(s) (clayey silt to silty clay) were observed in close proximity to the water table at well clusters MW-06, MW-15, MW-16, MW-17, MW-18, MW-21, MW-22, PZ-01, and PZ-02. Fine-grained layer(s) were also observed at soil borings SB-101 through SB-106, SB-116 through SB-119, SB-123 through SB-127, SB-129 through SB-134. These layers do not appear to be continuous across the site, but may affect local hydraulics and NAPL distribution. For example, in the yard storage area and to the east of Building 2, a fine-grained layer appears to cause perched soil water conditions, as observed within borings completed at monitoring wells MW-06, MW-07, and piezometer PZ-01 (and as noted in the test pit excavations).

- Subsurface obstructions (building foundations) were encountered at soil boring locations SB-107 and SB-108, as evidenced by auger refusal at depths of 7 to 12 feet below ground surface (bgs). Three attempts were required to complete soil boring SB-107 to shale bedrock at a depth of approximately 22 feet bgs. Four attempts were required to complete soil boring SB-108 to weathered shale bedrock at approximately 25 feet bgs.

- Gray ash was observed at soil borings SB-112 from approximately 6 to 10 feet bgs and SB-113 from approximately 4 to 9.8 feet bgs. Black-stained silt with a sheen was observed below the ash from approximately 10 to 11 feet bgs. Black-stained silt, saturated with yellow NAPL, was also observed at soil boring SB-113 from approximately 9.8 to 10 feet bgs.

- Black, tar-like material mixed with wood chips was observed at soil borings MW-06D, MW-06S, SB-110, and SB-119. At each location except SB-110, this was observed above a fine-grained layer (e.g., silty clay). At SB-110, the tar-like substance and wood chips was located above gray mortar and red brick that may be associated with the foundation of the former relief gas holder in this area of the site. Brown wood chips were also noted at a similar elevation at PZ-01, but did not contain NAPL or tar. Black slag, coal, and cinders or wood coated with a tarry substance was observed a soil boring SB-114 from approximately 4.5 to 12.2 feet bgs.

- DNAPL (e.g., tar-like substances) was observed in soil samples recovered from soil borings SB-109, SB-110, SB-114, SB-115, SB-120, SB-124, SB-125, SB-130, and SB-131.

- LNAPL (e.g., petroleum sheens) was observed in soil samples recovered from soil borings SB-102, SB-113, SB-115, SB-116, SB-117, SB-118, MW-19/SB-123, SB-123A, SB-124, SB-124A, SB-126, and SB-127.

- NAPL was observed in the subsurface at varying depths in the overburden and into the top of the weathered bedrock zone. For example, at SB-109, subsurface soils were saturated with NAPL from approximately 8

NAPL IN WEATHERED
BUT NOT COMPETENT
ACCORDING TO RPT

feet to split-spoon refusal at 22.4 feet. Weathered bedrock was first encountered at soil boring SB-109 at an approximate depth of 21 feet bgs. No NAPL was observed in the bedrock during coring at MW-16R, MW-21R, or MW-22R. A slight sheen was observed during coring at soil boring SB-123 and MW-16R.

PID headspace screening measurements obtained for subsurface soil samples collected from soil borings are presented in Table 2. No headspace screening results above 0.0 ppm were obtained for soil samples collected from each 2-foot interval at 11 soil borings: SB-101, SB-103, SB-104, SB-107, SB-111, SB-113, SB-122, SB-128, SB-132, SB-133, and SB-134. PID headspace screening results for soil samples collected from the 23 remaining soil borings ranged from 0.0 ppm to greater than 2000 ppm [in samples SB-110 (10-12'), SB-110 (16-18'), SB-110 (18-20'), SB-118 (14-16'), and SB-118 (16-18')]. The maximum PID headspace readings were associated with soil samples containing tar-like substances at SB-110 and sheens at SB-118.

3.3.3.2 Subsurface Soil Analytical Results from Soil Borings

Analytical results obtained for the laboratory analysis of subsurface soil samples collected from soil borings completed during the MGP/RCRA Investigation for PCBs, TCL VOCs or BTEX, TCL SVOCs or PAHs, TAL inorganic constituents, and TPH are summarized below (including the results obtained for the laboratory analysis of eight subsurface soil samples collected from borings completed at the locations of ground-water monitoring wells installed for the MGP/RCRA Investigation). The discussion below includes a comparison of analytical results obtained for the laboratory analysis of unsaturated subsurface soil samples with the NYSDEC-recommended soil cleanup objectives presented in the NYSDEC TAGM HWR-94-4046. Analytical results obtained for the laboratory analysis of saturated subsurface soil samples collected from the soil borings are not compared with the NYSDEC-recommended soil cleanup objectives because NYSDEC TAGM HWR-94-4046 is not intended to apply to chemical constituents in saturated soil samples (as indicated by the discussion of how the recommended cleanup objectives should be applied within the TAGM document).

PCBs

Analytical results obtained from the laboratory analysis of subsurface soil samples collected from soil borings for PCBs are listed in Table 7 and shown on Figure 7. PCBs were not detected in the unsaturated or saturated subsurface soil samples collected from soil borings at concentrations exceeding the NYSDEC-recommended subsurface soil cleanup objective for PCBs of 10 ppm. PCBs were detected in unsaturated subsurface soil samples collected from the following soil borings: MW-17S (2-4') at an estimated concentration of 0.031 ppm; SB-102 (4-6') at 0.18 ppm; and SB-110(6-8') at an estimated concentration of 9.9 ppm. These sampling locations are situated near the railroad line east of the NMPC property, adjacent to the transformer building, and near the Genesee Street Substation, respectively. PCBs were not detected above laboratory detection limits in any of the other unsaturated or saturated subsurface soil samples collected from soil borings as part of the MGP/RCRA Investigation.

VOCs

Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from soil borings for TCL VOCs or BTEX are listed in Table 8 and shown on Figure 8. VOCs were detected in 18 of the unsaturated subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the unsaturated subsurface soil samples collected from soil borings for VOCs are summarized below.

BORINGS

UNSATURATED SUBSURFACE SOIL SAMPLES

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
1,1,1-Trichloroethane	1	0.34 - 0.49 JD	SB-102(4-6')/DUP-04	0.8
1,1-Dichloroethane	1	0.01 J - 0.016	SB-102(4-6')/DUP-04	0.2
Benzene	5	0.024 - 2700	SB-119(8-10')/DUP-02	0.06
Ethylbenzene	6	0.005 J - 3900	SB-119(8-10')/DUP-02	5.5
Methylene chloride	1	0.004 J	SB-105(6-8')	0.1
Toluene	11	0.003 J - 2000	SB-119(8-10')/DUP-02	1.5
Xylenes, Total	6	0.008 J - 1200	SB-119(8-10')/DUP-02	1.2

Notes:
1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.

The analytical results indicate that 5 unsaturated subsurface soil samples collected from soil borings located in the former MGP area and 1 unsaturated subsurface soil sample collected from soil borings located in the area hydraulically downgradient of the site contain VOCs at concentrations which exceed the NYSDEC-recommended soil cleanup objectives. Benzene, ehtylbenzene, toluene, and xylenes were the only VOCs detected in the unsaturated subsurface soil samples collected from soil borings at concentrations exceeding the NYSDEC-recommended soil cleanup objectives. Specific VOC constituents detected in the unsaturated subsurface soil samples collected from the soil borings at concentrations exceeding the NYSDEC-recommended soil cleanup objectives are indicated in Table 8.

VOCs were detected in 20 saturated subsurface soil samples collected from soil borings. Analytical results obtained from the laboratory analysis of the saturated subsurface soil samples collected from soil borings for VOCs are summarized below.

SATURATED SUBSURFACE SOIL SAMPLES

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
Benzene	9	0.006 J - 940 J	SB-110 (18-20')
Ethylbenzene	12	0.004 J - 270 D	SB-109 (20-22')
Toluene	8	0.002 J - 720 J	SB-110 (18-20')
Xylenes, Total	10	0.002 J - 520 J	SB-110 (18-20')

Notes:
1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.

Benzene, ehtylbenzene, toluene, and xylenes were the only VOCs detected in the saturated subsurface soil samples collected from soil borings. Samples collected from soil borings located in the former MGP area and the area immediately to the east (hydraulically downgradient) of the site contain the greatest concentrations of VOCs detected in saturated subsurface soil samples. As indicated on Figure 8, VOCs were not detected in the saturated subsurface soil samples collected at the furthest downgradient sampling locations in the area east of Erie Boulevard (including soil samples collected at soil boring SB-132 and at monitoring well cluster locations MW-21 and MW-22)

SVOCs

Analytical results obtained for the laboratory analysis of subsurface soil samples collected from soil borings for TCL SVOCs or PAHs are listed in Table 9 and shown on Figure 9. SVOCs were detected in 24 of the unsaturated subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the unsaturated subsurface soil samples collected from soil borings for SVOCs are summarized below.

BORINGS

UNSATURATED SUBSURFACE SOIL SAMPLES

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
2-Methylnaphtlene	2	0.78 - 3.3	SB-124(4-6')/DUP	36.4
Acenaphthene	12	0.043 J - 1400	SB-119(8-10')/DUP-02	50
Acenaphthylene	8	0.1 J - 8700 D	SB-119(8-10')/DUP-02	41
Anthracene	15	0.053 J - 3500 D	SB-119(8-10')/DUP-02	50
Benzo(a)anthracene	18	0.05 J - 2900 DJ	SB-119(8-10')/DUP-02	0.224 or MDL
Benzo(a)pyrene	18	0.056 J - 3800 D	SB-119(8-10')/DUP-02	0.061 or MDL
Benzo(b)fluoranthene	15	0.096 J - 1600 J	SB-119(8-10')/DUP-02	1.1
Benzo(g,h,i)perylene	11	0.38 - 1900 J	SB-119(8-10')/DUP-02	50
Benzo(k)fluoranthene	15	0.089 J - 2300 DJ	SB-119(8-10')/DUP-02	1.1
bis(2-Ethylhexyl)phthalate	4	0.24 J - 0.82	SB-126(4-6')	50
Butyl benzyl phthalate	1	0.26 J	SB-105(6-8')	50
Carbazole	2	0.05 J - 1.1	SB-102(4-6')/DUP-04	NC
Chrysene	19	0.084 J - 2800 DJ	SB-119(8-10')/DUP-02	0.4
Dibenzofuran	2	0.75 J - 4	SB-102(4-6')/DUP-04	6.2
Fluoranthene	19	0.073 J - 9200 D	SB-119(8-10')/DUP-02	50
Fluorene	11	0.052 J - 4200 D	SB-119(8-10')/DUP-02	50
Indeno(1,2,3-cd)pyrene	12	0.11 J - 1400 J	SB-119(8-10')/DUP-02	3.2
Naphthalene	13	0.06 J - 43,000 D	SB-119(8-10')/DUP-02	13
Phenanthrene	19	0.07 J - 18,000 D	SB-119(8-10')/DUP-02	50
Pyrene	19	0.089 J - 13,000 D	SB-119(8-10')/DUP-02	50

Notes:

1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.

The analytical results indicate that 17 subsurface soil samples (including 4 samples from the former MGP area, 5 samples from the area hydraulically downgradient from the former MGP operation, 5 samples in the vicinity of the TSDF, and 1 sample collected in the vicinity of the newly-identified SWMUs near monitoring well MW-10) collected from soil borings during the MGP/RCRA Investigation contain SVOCs at concentrations which exceed the NYSDEC-recommended cleanup objectives. PAH compounds were the only SVOCs detected in the unsaturated subsurface soil samples at concentrations which exceed NYSDEC-recommended cleanup objectives. Benzo(a)pyrene was detected in unsaturated subsurface soil sample SB117 (8-10') (collected in the vicinity of the newly-identified AOC near monitoring well MW-10) at an estimated concentration of 0.1 ppm which exceeds the NYSDEC-recommended cleanup objective from TAGM HWR-94-4046.

SVOCs were detected in 26 saturated subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the saturated subsurface soil samples collected from soil borings for SVOCs are summarized below.

SATURATED SUBSURFACE SOIL SAMPLES			
Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
2-Methylnaphthalene	1	0.089 J - 5	SB-125(24-26')
Acenaphthene	17	0.043 J - 1300 J	SB-110(18-20')
Acenaphthylene	12	0.077 J - 4700 J	SB-110(18-20')
Anthracene	15	0.053 J - 4100 J	SB-110(18-20')
Benzo(a)anthracene	15	0.05 J - 3200 J	SB-110(18-20')
Benzo(a)pyrene	15	0.065 J - 2900 J	SB-110(18-20')
Benzo(b)fluoranthene	12	0.11 J - 1400 J	SB-110(18-20')
Benzo(g,h,i)perylene	13	0.06 J - 1300 J	SB-110(18-20')
Benzo(k)fluoranthene	12	0.097 J - 2200 J	SB-110(18-20')
bis(2-Ethylhexyl)phthalate	1	0.17 J	SB-123(6-8')
Chrysene	17	0.056 J - 3200 J	SB-110(18-20')
Dibenzo(a,h)anthracene	1	0.99	SB-124(22-24')
Dibenzofuran	1	0.24 J	SB-125(24-26')
Fluoranthene	19	0.053 J - 6700 J	SB-110(18-20')
Fluorene	16	0.052 J - 7000 J	SB-110(18-20')
Indeno(1,2,3-cd)pyrene	11	0.21 J - 980 J	SB-110(18-20')
Naphthalene	14	0.14 J - 1,300,000 D*	SB-110(18-20')
Phenanthrene	17	0.079 J - 19,000 J	SB-110(18-20')
Pyrene	19	0.067 J - 10,000 J	SB-110(18-20')

Notes:
1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.
3. * = Maximum possible concentration is 1,000,000 mg/kg (ppm) (100%). Result is greater than 100% due to systematic error in the dilution process.

PAHs were the primary SVOC constituents detected in saturated subsurface soil samples collected from the soil borings. The highest concentrations of SVOCs detected in the saturated subsurface soil samples coincide with locations where NAPL was encountered during the completion of the soil borings (e.g., within soil samples that were collected to characterize DNAPL in saturated soil). As indicated on Figure 9, SVOCs were not detected in the saturated subsurface soil samples collected at the furthest downgradient sampling locations in the area east of

Erie Boulevard (monitoring well cluster locations MW-21 and MW-22 which are hydraulically downgradient and downslope along the bedrock surface from the former MGP facility).

TAL Inorganic Constituents

Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from soil borings for TAL inorganic constituents are listed in Table 10 and shown on Figure 10. TAL inorganic constituents were detected in each of the subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the unsaturated subsurface soil samples collected from soil borings for TAL inorganic constituents are summarized below (with the exception of typical mineral constituents, including aluminum, calcium, iron, magnesium, manganese, potassium, and sodium).

Borings

UNSATURATED SUBSURFACE SOIL SAMPLES

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Soil Cleanup Objective (ppm)
Antimony	20	0.9 BJ - 6.8 BJ	MW-22R(6-8')	1.8*
Arsenic	26	1.8 - 40.2 J	MW-19D(1-3')	8.5*
Barium	28	28.4 - 435	MW-22R(6-8')	300
Beryllium	25	0.16 B - 1.2	SB-133(10-12')	0.71*
Cadmium	24	0.24 B - 2.3 J	MW-22R(6-8')	1
Chromium	26	4.1 - 24.2	SB-133(10-12')	21*
Cobalt	26	0.82 B - 17.6	SB-127(4-6')	30
Copper	26	1.5 B - 393	SB-108D(2-4')	42*
Cyanide, Total	9	0.64 - 247	SB-113(4-6')	ND
Lead	26	6.7 J - 2980 J	MW-22R(6-8')	20*
Mercury	24	0.07 B - 3.3 J	SB-117(8-10')	0.1
Nickel	26	2.5 B - 35.7	SB-124(1-3')	30*
Selenium	17	0.44 BJ - 3.1 J	SB-114(6-8')	2
Silver	2	0.33 BJ - 0.6 B	SB-108D(2-4')	ND
Thallium	1	0.73 B	SB-114(6-8')	ND
Vanadium	26	5 B - 30.6	SB-110(6-8')	150
Zinc	26	9 - 541 J	MW-22R(6-8')	88*

Notes:

1. J = Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.
3. NYSDEC-recommended soil cleanup objectives from HWR-94-4046, January 1994.
4. * = Listed criteria is site background for subsurface soil.
5. ND = Not determined, HWR-94-4046 recommends using site background as cleanup criteria, this constituent was not detected in background samples.

The analytical results indicate that each of the unsaturated subsurface soil samples [with the exception of SB-132 (12-14')] collected from soil borings during the MGP/RCRA Investigation contain inorganic constituents at concentrations which exceed the NYSDEC-recommended cleanup objectives or site background values (as applicable based on the criteria established in NYSDEC TAGM HWR-94-4046). As indicated above, Cyanide (total) was detected in 9 unsaturated subsurface soil samples collected from soil borings at concentrations ranging from 0.64 ppm to 247 ppm. NYSDEC TAGM HWR-94-4046 recommends use of the site background value as the cleanup criteria for cyanide. Cyanide was not detected in the site background soil samples collected from soil boring SB-122 or from the soil building completed for monitoring well MW-20D.

TAL inorganic constituents were detected in each of the saturated subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the saturated subsurface soil samples collected from soil borings for TAL inorganic constituents are summarized below (with the exception of typical mineral constituents, including aluminum, calcium, iron, magnesium, manganese, potassium, and sodium).

SATURATED SUBSURFACE SOIL SAMPLES

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
Antimony	33	0.94 BJ - 4.1 BJ	MW-22R(26-28')/DUP-12
Arsenic	35	2 J - 14.9 J	SB-120(14-16')
Barium	35	2.6 B - 531	MW-22R(26-28')/DUP-12
Beryllium	34	0.34 B - 1	SB-123(6-8')
Cadmium	31	0.24 B - 3.5 J	MW-22R(26-28')/DUP-12
Chromium	35	2.5 - 23	SB-108D(24-26')
Cobalt	35	5.1 B - 20.9	SB-125(22-24')
Copper	35	11.7 - 101 J	MW-22R(26-28')/DUP-12
Cyanide, Total	5	0.49 - 14.6	SB-112(10-12')
Lead	35	8.1 J - 748 J	MW-22R(26-28')/DUP-12
Mercury	26	0.06 B - 0.87 J	SB-113(16-18')
Nickel	35	12.6 - 38.5	SB-109(20-22')
Selenium	23	0.38 B - 3.4 J	SB-110(18-20')
Silver	1	1.9 J	MW-22R(26-28')/DUP-12
Vanadium	35	4.7 B - 22.7	SB-125(22-24')
Zinc	35	22.3 - 1000 J	MW-22R(26-28')/DUP-12

Notes:

1. J = Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.

DNAPL may contain elevated concentrations of inorganic constituents (including cyanide, arsenic, and other heavy metals) that are associated with the carbon source used for gas production or with manufacturing processes. Analytical results obtained for the saturated subsurface soil samples collected for the MGP/RCRA investigation appear to be relatively uniform across the area in the vicinity of the site (indicating that inorganic constituents do not appear to be a concern in the DNAPL-impacted soil associated with the former MGP operation at the site).

TPH

Analytical results obtained for the laboratory analysis of subsurface soil samples collected from soil borings for TPH are listed in Table 11. Based on the purpose of the TPH sampling (to further delineate subsurface NAPL) and the lack of regulatory criteria for TPH concentrations in soil at the site, the discussion of TPH sampling results will not be separated into unsaturated and saturated soil samples. TPH was detected in 45 of the subsurface soil samples collected from the soil borings. Analytical results obtained from the laboratory analysis of the subsurface soil samples collected from soil borings for TPH are summarized below (the total petroleum hydrocarbon result for a sample is the sum of the individual petroleum product types listed below).

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
Fuel Oil No. 2	1	4.1 J	MW-22R
Lube Oil	7	110 J - 18,000 D	SB-109 (10-12')
Unknown Hydrocarbon	39	25 J - 810,000 D	SB-110 (18-20')

Notes:
1. J = Estimated value
2. D = The reported concentration is the result of a diluted sample analysis.

The concentrations of TPH observed in the subsurface soil samples coincide with the occurrence of NAPL. Samples collected from soil borings where NAPL was observed contained elevated levels of TPH. Samples collected at locations where NAPL was not observed during the completion of the soil borings reveal relatively low or non-detectable levels of TPH.

3.3.4 Site Geology

This section presents a summary of geologic conditions encountered in the vicinity of the site during the PSA/IRM Study and the MGP/RCRA Investigation. Detailed information relating to subsurface conditions encountered in test pits, soil borings, and monitoring wells completed for the MGP/RCRA Investigation are provided in Appendices B, C, and E. The general stratigraphy underlying the site is characterized as follows (with increase depth from grade):

- A glacial fill layer, consisting primarily of sand with ash, brick, cinders, coal, slag, and wood.
- Glacial/fluvial deposits, consisting of predominantly sand and silt, with occasional layers of clay or peat.
- A glacial till layer consisting of predominantly dense, clayey silt with shale fragments.
- Shale bedrock, consisting of a weathered zone underlain by more competent gray to black shale.

As discussed in Section 1.2.1, the site is located in the Hudson-Mohawk region of the Great Valley physiographic province. Site topography is generally of low relief, with ground surface elevations ranging from 16 feet above MSL at downgradient monitoring well MW-22 to 32 feet above MSL at upgradient well MW-20D. Two geologic cross-sections were prepared at the locations shown on Figure 11: a west-east cross-section is shown on Figure 12 and a north-south cross-section is shown on Figure 13. Observations of NAPL from drilling and fluid measurements are also shown on these cross-sections. The following paragraphs describe the site geology in additional detail.

Fill

As shown on Figures 12 and 13, evidence of fill was observed across the site. This fill layer varies in thickness from 0 to 18 feet (at soil boring SB-110) and consists primarily of sand with ash, brick, cinders, coal, slag, and wood. Brick debris was noted at several test pit and boring locations. Gray ash was observed at test pit TP-101 (2-4') and soil borings SB-112 (6 to 10 feet) and SB-113 (4 to 9.8 feet). Black, tar-like substance mixed with wood chips was observed at soil borings MW-06D, MW-06S, SB-110, and SB-119. Brown wood chips were also noted at a similar elevation at PZ-01, but did not contain NAPL or tar. Black slag, coal, and cinders or wood coated with a tarry substance was observed a soil boring SB-114 from approximately 4.5 to 12.2 feet bgs. Wood fragments and fibers were observed at TP-102, TP-105, TP-104, TP-107, and TP-110.

Subsurface fill materials (potentially MGP-related materials) were noted at test pits TP-104 (1-1.5 feet), TP-111 (2-5 feet), TP-112 (5-7.5 feet), and TP-114(1-2 feet). A reddish-orange fine-grained material with a noticeable odor was observed at TP-104 (1-1.5 feet) immediately above a black fibrous material with an odor. At TP-111 (2-5 feet) trace blue material in an orange gravelly silt was noted. At TP-112 (5-7.5 feet) black clay embedded with paper/fiber with a noticeable odor was observed. A black slag with a noticeable odor was observed at TP-114 (1-2 feet).

Glacial/Fluvial Deposits

During Pleistocene glaciation, the future location of Albany was covered by a glacier. As the glacier retreated, pro-glacial Lake Albany was formed (approximately 14,000 years ago). Lake Albany and its successors occupied the Hudson Valley in the Albany area and glacial lake sediments including clay, silt, and sand were deposited (e.g., glacial lacustrine deposits). With the end of the ice age, the glacial lake environment evolved into the more recent fluvial environment of the Hudson River. In the fluvial environment, partial erosion of the previously deposited sediments likely occurred, as well as the deposition of sandier fluvial deposits. For the purpose of this report, these glacial/fluvial deposits will be considered to be a single stratigraphic unit. Glacial/fluvial deposits at the site were observed at thicknesses ranging from 4 to 31 feet (at ground-water monitoring well MW-11). These deposits consist of predominantly sand and silt, with occasional layers of clay or peat. The sandy glacial/fluvial deposits are the main water-bearing zone in the overburden at the site. Clayey silt to silty clay layers up to 9 feet thick (SB-111) were observed within the glacial/fluvial deposits. As shown on the cross-sections (Figures 12 and 13), the clay layer is fairly continuous in the vicinity of the site. In the eastern portion of the site, this clay layer was observed in close proximity to the water table. Locally, this clay layer appears to influence hydraulics by maintaining perched ground-water conditions.

Glacial Till

Prior to the formation of glacial Lake Albany, a glacial till layer was deposited during the continental Pleistocene glaciation. The glacial till layer ranges from 0 to 9 feet thick (at monitoring well MW-02) and is encountered at depths ranging between 7 and 34 feet bgs (at monitoring well MW-11). The till layer consists of predominantly dense, clayey silt with shale fragments. Till was not defined as a continuous unit across the site as shown on the cross-sections (potentially due to the similarity of the till to weathered shale). Underlying the till is weather shale bedrock which is differentiated from the till by its lower density and amount of silt and clay.

Shale Bedrock

The shale bedrock in the vicinity of the site is the Snake Hill Shale (Rogers, et al, 1990) which originates from the Middle Ordovician (approximately 460 to 470 million years old). The sediments from which this rock formed were originally deposited in a low energy, basin environment. The lithified sediments were subjected to metamorphism as a result of the building of the Taconic Mountains (approximately 440 to 460 million years ago).

The upper portion of the bedrock unit consists of a weathered shale zone that extends up to 7 feet in thickness. The weathered shale is underlain by more competent gray to black shale. This weathered shale zone may at some locations be indistinguishable from the till layer. As part of the MGP/RCRA Investigation, approximately 14 feet of bedrock coring was conducted at monitoring wells MW-16R, MW-21R, and MW-22R. The bedrock was described in cores as dark gray shale, soft, folded, slightly calcareous, and slightly weathered. Fractures were observed frequently during coring, and were typically described as 50 degree fractures along bedding planes with occasional high angle 80 degree fractures. The rock quality designation (RQD) ranged from 0 (due to core barrel blockage) to 94 percent, with rock quality improving with depth. The upper weathered and fractured zone of the shale is expected to be the most transmissive of ground water. Detailed rock descriptions are included on the subsurface logs presented in Appendix E.

Shale bedrock is encountered at depths ranging from 12 feet bgs at SB-20 to 38 feet bgs at MW-11. As shown on Figure 17, the bedrock slopes generally to the east/southeast in the vicinity of the site. The elevation of the top of bedrock ranges from 12 feet above MSL at monitoring wells MW-20D to 17 feet above MSL at monitoring well MW-11.

A ground-penetrating radar (GPR) geophysical survey was conducted in February 1997 by BBL in the area east of the facility (i.e., from the eastern facility perimeter fence to the railyard between Interstate 787 and Erie Boulevard) to characterize the relative bedrock elevations and subsurface features in the area downgradient of the facility and to evaluate preferential DNAPL migration pathways. A summary of the GPR survey activities and results is presented in Appendix E. As shown on Figure 2 in Appendix E, the interpreted bedrock surface slopes generally to the east/southeast in the area east of the facility. Based on the GPR survey results, BBL identified proposed locations for two downgradient monitoring well cluster locations, MW-21 and MW-22. These locations were determined to be hydraulically downgradient and downslope along the interpreted bedrock surface from locations where DNAPL was observed during MGP/RCRA Investigation drilling activities (e.g., SB-130 and SB-131). The GPR Survey Results were also utilized as the basis for selecting three additional soil boring locations to confirm the extent of DNAPL in the subsurface.

Section 4

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4. Ground-Water Investigation

4.1 General

This section presents the results of the ground-water investigation activities that were implemented as part of the MGP/RCRA Investigation. The objectives of the ground-water investigation activities were as follows:

- Determine the presence and extent of chemical constituents in ground water resulting from the former MGP facility and from past releases of hazardous wastes or hazardous constituents from RCRA SWMUs at the site;
- Provide data to physically and chemically characterize the ground-water system at the site;
- Evaluate ground-water quality hydraulically upgradient and downgradient of the site to determine whether chemical constituents may be migrating to or from the site;
- Provide data to assess potential risks to human health and the environment associated with constituents detected in the ground water; and
- Provide data to evaluate remedial requirements and alternatives for ground water in the vicinity of the site.

Field activities conducted for the ground-water investigation are described below followed by a discussion of the investigation results.

4.2 Ground-Water Investigation Activities

Ground-water investigation activities associated with the MGP/RCRA Investigation were conducted during the period between September 1996 and June 1997. The ground-water investigation activities included the following:

- Evaluating the existing monitoring wells installed as part of the PSA/IRM Study (including fluid level measurements and the collection of NAPL samples from the existing wells);
- Installing and developing new ground-water monitoring wells and piezometers;
- Conducting hydraulic conductivity testing (i.e., slug tests) of new monitoring wells;
- Conducting continuous water-level monitoring to evaluate potential tidal influences at monitoring wells MW-21S and MW-21D; and
- Collecting ground-water samples from ground-water monitoring wells (including fluid level measurements and additional NAPL sampling).

The ground-water investigation activities were conducted in accordance with the detailed sampling and QA/QC protocols included in the NYSDEC-approved QAPjP that was prepared in support of the MGP/RCRA Investigation Work Plan (BBL, August 1996). Laboratory analyses for ground-water and NAPL samples collected as part of the MGP/RCRA Investigation were performed in accordance with the QAPjP. A detailed description of the field activities associated with the MGP/RCRA Investigation is presented below.

4.2.1 Evaluation of Existing Monitoring Wells

Existing ground-water monitoring wells that were installed as part of the PSA/IRM Study were evaluated on September 26 and 27, 1996 to assess their general physical condition (including surface seals, protective casing, and well depths). The existing monitoring wells were found to be in generally satisfactory condition. Well locks were replaced on each well, and new well plugs were placed on wells MW-04, MW-07, MW-13, and MW-14. Ground-water fluid levels were obtained from each existing monitoring well, and wells were also monitored to determine whether LNAPL/DNAPL was present (to evaluate the appropriateness of sampling each existing monitoring well for dissolved phase constituents). NAPL fluid level measurements obtained from the existing ground-water monitoring wells are discussed below in Section 4.3.4.

4.2.2 Installation of New Monitoring Wells

A total of 16 ground-water monitoring wells (including 6 shallow overburden wells, 7 deep overburden wells, and 3 bedrock wells) were installed for the MGP/RCRA Investigation. Based on the presence of NAPL at off-site soil boring locations in the area downgradient of the site, the proposed ground-water monitoring well locations presented in the MGP/RCRA Investigation Work Plan were moved further downgradient to provide suitable locations for monitoring dissolved phase constituents in ground water. This observed presence of NAPL in the downgradient soil borings resulted in the implementation of additional field activities, including the completion of additional soil borings (as described in Section 3) to evaluate the off-site distribution of NAPL, bedrock monitoring well installation due to the proximity of observed DNAPL to the bedrock, and the relocation of monitoring wells further downgradient.

Field activities associated with the installation of the new ground-water monitoring wells and piezometers were conducted during the following time periods: October 1 to 17, 1996; January 9 to February 18, 1997; and April 28 to May 9, 1997. Well construction details for new and previously installed wells are summarized in Table 12. Well construction details for each new monitoring well are also shown on the monitoring well logs provided in Appendix E. Field activities associated with the installation of the new shallow overburden, deep overburden, and bedrock monitoring wells are discussed below.

4.2.2.1 Shallow Overburden Ground-Water Monitoring Well Installation

Six shallow overburden monitoring wells (monitoring wells MW-06S, MW-15S, MW-17S, MW-18S, MW-21S, and MW-22S) were installed at the locations shown on Figure 2 as part of the MGP/RCRA Investigation. Prior to installing the monitoring wells, soil borings were completed at each location using the soil boring methods described in Section 3 (with the exception that split-spoon samples were collected at five-foot intervals for the shallow wells installed at monitoring well cluster locations). The shallow overburden ground-water monitoring wells were installed according to the following specifications:

- The monitoring wells were constructed using polyvinyl chloride (PVC) 2-inch-diameter threaded, flush-joint casing and screens were installed.
- Wells were screened in unconsolidated deposits. Screens were 5.0 feet to 9.5 feet long, depending on location, and slot openings were 0.010-inch.

- The wells were installed with the top of the casing extended to approximately 0.5 feet below ground surface for all wells and flush-mount casings were used for all wells.

- The annulus around the screens was backfilled with silica sand to an approximate height of one to two feet above the top of the screen with the exception of monitoring well MW-6S. Monitoring well MW-6S which has a 0.6 foot sand pack above the screen (to allow for an appropriate surface seal above the sand).

- An approximately 1- to 2-foot thick bentonite chip seal was placed above the silica sand pack. The chip seal was allowed to hydrate by adding potable water before placement of a concrete pad above the seal.

- All of the wells were provided with flush-mounted casings. A sand drain was constructed between the flush-mounted casing and the monitoring well riser at well locations where ponding of water was likely to occur.

- A concrete seal or pad, approximately 2-feet in diameter and 1- to 2-feet below ground surface (bgs), was installed at each monitoring well location.

- The top of the PVC well casing and outer protective casing was marked and the elevation determined by NMPC surveyors to the nearest 0.01 foot, relative to a fixed benchmark or datum.

- The innermost PVC casing on the wells was used for all measurements (i.e., well construction, water levels, etc.).

Specific details pertaining to the constuction of each monitoring well are provided on the monitoring well logs in Appendix E.

4.2.2.2 Deep Overburden Ground-Water Monitoring Well Installation

Seven deep overburden monitoring wells (monitoring wells MW-06A, MW-16D, MW-17D, MW-19D, MW-20D, MW-21D, and MW-22D) were installed as part of the MGP/RCRA Investigation at the locations indicated on Figure 2. The deep overburden ground-water monitoring wells were installed in the same manner as the shallow wells, with the following exceptions:

- A 1-foot long, 2-inch, ID PVC sump was placed at the bottom of each well screen for all deep overburden monitoring wells. Each sump was installed with a hydrated bentonite seal placed around the outside of the casing.

Specific details relating to the construction of each deep overburden ground-water monitoring well is presented on the monitoring well logs in Appendix E.

4.2.2.3 Bedrock Ground-Water Monitoring Well Installation

Three bedrock monitoring wells (monitoring wells MW-16R, MW-21R, and MW-22R) were installed as part of the MGP/RCRA Investigation at the locations indicated on Figure 2. Prior to completing each bedrock monitoring well, soil borings were advanced to the top of competent bedrock (i.e., auger refusal) by SJB using a drill rig equipped with 6.25-inch ID hollow-stem augers. The bedrock was then reamed approximately two feet using a 5-7/8-inch rollerbit and potable water. Bedrock fragments were flushed from the borehole through the inside of the augers using a combination of the Moyno pump on the drill rig and a barrel constructed of 4-inch ID PVC. Recirculated ream water and bedrock fragments were contained in an approximately 200-gallon galvanized water trough, and later transferred to a polyethylene storage tank for storage prior to off-site transport and disposal. The water trough was sealed around the outside of the augers with a bentonite seal to prevent loss of recirculated water to the ground surface. The reaming of bedrock facilitated the installation of 4-inch ID black iron steel casing, which was grouted in place as the augers were slowly removed.

After allowing the grouted steel casing to set for at least 48 hours, approximately 14 feet of bedrock was cored at each location using a 3-3/4-inch OD, 5-foot long, HQ double-tube core barrel equipped with a diamond bit. Core runs varied from 4-feet to 5-feet long, depending on bedrock conditions. Upon retrieval of bedrock cores, core samples were screened with a PID and were visually observed to determine the presence/absence of NAPL. Cores were then rinsed with potable water and placed in wood core boxes with increasing depths aligned left to right and core runs separated by wood blocks. During the coring activities, mechanical characteristics (e.g., rock quality designation (RQD), percent recovery; etc.) were recorded in a field notebook by the on-site geologist and geologic characteristics of the rock cores were latter recorded in a field notebook (e.g., lithology, fractures, etc.). Bedrock monitoring wells were not installed as open-hole wells as specified in the MGP/RCRA Investigation Work Plan due to the quality of the bedrock and low RQD values encountered during coring. The bedrock ground-water monitoring wells were installed in the same manner as the shallow wells, with the following exceptions:

- Wells were screened in bedrock with 9.5-foot-long well screens and 0.010-inch slot openings.
- The bedrock ground-water monitoring wells were installed as double-cased wells. Monitoring wells were completed with 4-inch ID steel outer casings from approximately 0.5 feet below ground surface to approximately 2-feet into bedrock. Steel casings were cement grouted in place within an approximately 10-inch diameter borehole created with 6-1/4-inch ID hollow-stem augers.
- A 1-foot long, 2-inch ID PVC sump was placed at the bottom of each well screen for all bedrock monitoring wells. Each sump was installed with a hydrated bentonite seal placed around the outside.

Specific details relating to the construction of each deep overburden ground-water monitoring well is presented on the monitoring well logs in Appendix E.

4.2.2.4 Piezometer Installation

Three piezometers (piezometers PZ-01S, PZ-01D, and PZ-02) were installed as part of the MGP/RCRA Investigation at the locations indicated on Figure 2. Prior to installing each piezometer, a soil boring was completed using the soil boring methods described in Section 3 (with the exception of the installation of shallow piezometer PZ-01S). At piezometer location PZ-01S, a single split-spoon sample was recovered at the 9-foot to 11-foot interval to verify the existence of a confining unit (continuous split spoon samples were collected from the adjacent deep piezometer (PZ-01D). The piezometers were installed in the same manner as the shallow wells, with the exception that the piezometers were screened in the unconsolidated deposits with 7.9- to 9.5-foot long screens, depending on location.

Specific details relating to the construction of each piezometer installed as part of the MGP/RCRA Investigation are provided on the monitoring well logs presented in Appendix E.

4.2.2.5 Monitoring Well and Piezometer Development

After completion, the monitoring wells and piezometers were allowed to stabilize for a minimum of 24 hours prior to development to remove any fine material which had migrated into the sand pack during installation and improve hydraulic communication with the surrounding formation. In accordance with the procedures presented in the QAPjP, monitoring well development was accomplished by surging and removing water from the well with a Waterra inertial pump, dedicated polypropylene tubing, and a footvalve with an attached surge block. The surge block and tubing were raised at 2-foot increments approximately every 10 minutes until the entire length of the well screen had been surged. After surging of the sandpack, the surge block was removed from the footvalve and pumping of the well continued. This procedure was continued until the water entering the well was relatively free of sediment, the turbidity was less than 50 nephelometric turbidity units (NTUs), and/or a minimum of ten well volumes of water was removed from the wells. Piezometer development was accomplished by surging and removing water from the piezometer using a disposable, dedicated, polypropylene bailer. The bailer was lowered and raised in a surging motion in 2-foot increments for a period of approximately 10 minutes until the entire length of the piezometer screen had been surged. After surging of the sandpack, water was removed from the piezometer using the bailer until the water entering the well was relatively free of sediment, the turbidity was less than 50 nephelometric turbidity units (NTUs), and/or a minimum of ten well volumes of water was removed from the wells.

Water generated by the monitoring well and piezometer development activities was temporarily contained in 55-gallon drums. Upon completion of well development activities, the development water was transferred to an on-site polyethylene tank for storage prior to off-site transportation and disposal in accordance with applicable regulations. Following development, monitoring wells were allowed to recover for at least one week before initiation of ground-water sampling activities. The duration, method of development, and approximate volume of water removed from each monitoring well and piezometer during development were recorded in a field book by the on-site BBL geologist.

4.2.3 Physical Characterization of Ground-Water Flow System

Fluid level measurements, hydraulic conductivity testing and tidal influence monitoring were conducted as part of the MGP/RCRA Investigation to physically characterize the ground-water flow system at the site.

4.2.3.1 Fluid Level Measurements

Two rounds of fluid-level measurements were conducted for the MGP/RCRA Investigation. The first round of fluid-level measurements was conducted on September 27, 1996, during the evaluation of the existing wells installed for the PSA/IRM Study. The second round of fluid-levels was conducted on June 2, 1997 (in conjunction with ground-water sampling) and included all existing wells that were installed as part of the PSA/IRM Study and the MGP/RCRA Investigation. In accordance with the procedures outlined in the Work Plan, an interface probe was used to measure the static water level and/or NAPL level at each monitoring location. The fluid-level measurements were recorded in the field notebook to the nearest 0.01 foot. The ground-water elevation measurements were made within a six-hour period to minimize the effects of temporal fluctuations in hydraulic conditions on measurements. The fluid level measurements obtained by the MGP/RCRA Investigation are presented in Table 13. A ground-water elevation potentiometric surface map for June 2, 1997 is provided as Figure 14.

4.2.3.2 In-Situ Hydraulic Conductivity Testing

In-situ hydraulic conductivity testing was performed at 15 of the 16 ground-water monitoring wells installed for the MGP/RCRA Investigation (hydraulic conductivity testing was not performed at monitoring well MW-6S due to the presence of MGP residuals observed during monitoring well installation). The hydraulic conductivity tests consisted of removing a slug of water from the well and then measuring water-level recovery rates using a data logger and pressure transducers. A Hermit multichannel data logger was used in conjunction with 10-pounds per square inch (psi) and 15-psi pressure transducers to record water-level data. The initial water level was measured using a water level indicator probe to determine the depths for the placement of the pressure transducer in the well. The decontaminated pressure transducer was lowered into the well to a depth below the bailer. Once the bailer was fully submerged in the water column, the data logger was activated and the bailer was quickly withdrawn from the water in the well. The water level readings from the transducer were directly transferred into the memory of the data logger. The data from the hydraulic conductivity tests were reduced and evaluated using the Bouwer-Rice method of estimating hydraulic conductivity of the formation surrounding the monitoring well screen. Field data and supporting information for the calculation of hydraulic conductivity at each monitoring well are presented in Appendix F.

4.2.3.3 Tidal Influence Monitoring

As part of the MGP/RCRA Investigation, continuous ground-water level measurements were obtained at monitoring wells MW-21S and MW-21D during the period from June 4, 1997 to June 6, 1997 to evaluate potential tidal influences that may cause daily water table fluctuations. Although the North Albany Service Center is located considerably inland, the Hudson River in the vicinity of Albany does exhibit tidal fluctuations which could potentially influence groundwater conditions at the site. Water-level fluctuations in each well were monitored using an In-Situ Troll pressure/level combination transducer/data logger. The water level at each monitoring well location was initially measured using a water level indicator probe to determine the depth for the placement of the pressure transducer/data logger in the well. The decontaminated pressure transducer/data logger was then secured within the well and programed according to manufacturer's specifications to record water levels every hour on the hour. The water level readings from the transducer were transferred into the memory of the data logger. Upon completion of the monitoring period, the stored data from the transducer/data loggers was down-loaded to the field computer and later reduced and evaluated. Water-level data collected from each well during the monitoring period, as well as graphs of the data, are presented in Appendix G.

4.2.4 Ground-Water and NAPL Sampling

As part of the MGP/RCRA Investigation, ground-water samples were collected for laboratory analysis from each monitoring well where NAPL was not observed to be present. In addition, NAPL samples were collected for laboratory analysis from representative wells where a sufficient volume of NAPL was present to permit analysis.

4.2.4.1 Ground-Water Sampling

Ground-water samples were collected during the period between June 3 and June 10, 1997. Ground-water samples were collected from 15 of the 16 ground-water monitoring wells installed for the MGP/RCRA Investigation (all wells with the exception of MW-6S where MGP residuals were observed during monitoring well installation) and from 5 of the monitoring wells installed for the PSA/IRM Study (at locations where NAPL was not observed within the wells completed for the PSA/IRM study).

Prior to sampling each monitoring well, measurements of water level depth and the bottom of the well were obtained using an electric well probe and recorded in a bound field book. The well was then purged using a submersible Gundfos pump in accordance with the well sampling protocols presented in the QAPjP. The pump intake was kept at least two feet above the bottom of the well, where possible, to prevent mobilization of any sediment present in the bottom of the well and the wells were pumped at a rate of 200 to 500 milliliters per minute (with the exception of monitoring wells MW-17S and MW-17D, which had to be purged at rates of 975 ml/min and 1100 ml/min, respectively, in order to prevent silt/sediment buildup at the location where the disposable tubing is joined to the pump). Where possible, the pumping rate was adjusted to create little or no water level drawdown in the well (less than 0.3 feet). The water level was monitored approximately every five to ten minutes (or as appropriate) during pumping. Pumping rate adjustments and depths to water were recorded throughout pumping.

During purging of the well, field indicator parameters (turbidity, temperature, specific conductance, pH, dissolved oxygen, and oxidation/reduction potential) were monitored every five to ten minutes (or as appropriate). Field indicator parameters were measured in a clean plastic beaker retrofitted as a "flow-through" cell. The well was considered stabilized and ready for sample collection once all the field indicator parameter values remained within 10% for three consecutive readings. If the parameters had stabilized, but the turbidity was not in the range of the 50 NTU goal, the pump flow rate was decreased to no more than 100 ml/min. If, after reducing the pumping rate to 100 ml/min, the turbidity did not decrease to less than the 50 NTU goal, both filtered and unfiltered samples were collected for metals analysis (filtered ground-water samples were only obtained at monitoring wells MW-16R and MW-17D). Measurement of the indicator parameters continued every five to ten minutes.

After the measured parameters had stabilized and turbidity was less than 50 NTU (where possible), ground water samples were transferred from the flow-through cell device into the appropriate sample containers supplied by the laboratory. After all sampling containers had been filled, an additional volume of ground water was removed and the physical appearance, pH, temperature, turbidity, conductivity, dissolved oxygen, and oxidation/reduction potential were measured and recorded by the supervising geologist. These parameters are included in the ground-water sampling logs included as Appendix H. Purge water was temporarily contained in DOT-approved 55-gallon drums, and later transferred to a polyethylene storage tank for storage prior to off-site transport and disposal in accordance with applicable regulations.

The ground-water samples were handled, labeled, packaged, and shipped in accordance with the protocols outlined in the QAPjP. The ground-water samples were submitted to Galson for laboratory analysis using the following methods:

Parameter	Analytical Method
TCL VOCs	USEPA SW-846 Method 8260
TCL SVOCs	USEPA SW-846 Method 8270
PCBs	USEPA SW-846 Method 8081
TAL Inorganics	USEPA SW-846 Method 6010 (except mercury by Method 7470/7471 and cyanide by Method 9010)
Sulfate/Sulfide	USEPA Method 375.4/376.1

Parameter	Analytical Method
Nitrate/Nitrite	USEPA Method 352.1/354.1

QA/QC samples including blind duplicates, rinse blanks, trip blanks, matrix spike, and matrix spike duplicate samples were collected in support of the ground-water sampling activities as required by the QAPjP.

4.2.4.2 NAPL Sampling

As part of the MGP/RCRA Investigation, LNAPL samples were collected for analysis of both physical and chemical properties. On September 27, 1997, LNAPL samples were collected for chemical analysis from monitoring wells MW-08 and MW-10. On June 2, 1997, LNAPL samples from monitoring wells MW-04, MW-08, and MW-10 were collected for analyses of physical parameters. A LNAPL sample for chemical analyses was also collected from monitoring well MW-04 on June 2, 1997. Due to insufficient DNAPL volumes at monitoring wells, DNAPL samples could not be collected for analysis. However, the LNAPL samples submitted for chemical and physical analysis from monitoring well MW-08 appeared to be commingled LNAPL/DNAPL.

Prior to sampling, NAPL elevations, water level depths, and bottom of well depths were measured at each monitoring well using an electric well interface probe and were recorded in a bound field book. The well probe was cleaned after each use with a soapy (Alconox) water wash and a distilled water rinse. After fluid elevations were measured, LNAPL samples were collected using a dedicated disposable polyethylene bailer and a separate phase sampling attachment, also made of polyethylene. LNAPL samples were transferred directly to laboratory provided glassware and identified, handled, labeled, packaged, and transported to the laboratory following the procedures in the QAPjP. Samples were secured with packing material (vermiculite) and stored at 4°C on wet ice in an insulated transport container provided by the laboratory. LNAPL samples for physical characterization, including samples from monitoring wells MW-04, MW-08, and MW-10, were analyzed by Queens University, Department of Civil Engineering, in Kingston, Ontario using the following methods:

Parameter	Analytical Method
Viscosity	ASTM Method D445
Density	ASTM Method D4052
Interfacial Tension	ASTM Method D971

LNAPL samples for chemical characterization, including samples from monitoring wells MW-04, MW-08, and MW-10, were analyzed by Galson using the following methods:

Parameter	Analytical Method
TCL VOCs	USEPA SW-846 Method 8260
TCL SVOCs	USEPA SW-846 Method 8270
PCBs	USEPA SW-846 Method 8081
TPHs	USEPA SW-846 Method 8015(Modified)

Parameter	Analytical Method
TAL Inorganics	USEPA SW-846 Method 6010 (except mercury by Method 7470/7471 and cyanide by Method 9010)

4.3 Ground-Water Investigation Results

A detailed discussion of the results of the ground-water investigation activities conducted as part of the MGP/RCRA Investigation is presented below, including the hydrogeologic characterization of the ground-water flow system, chemical characterization of the ground-water and NAPL samples, physical characterization of the NAPL samples, and the subsurface distribution of NAPL in the vicinity of the site.

4.3.1 Hydrogeologic Characterization of Ground-Water Flow Systems

The September 1996 and June 1997 fluid-level measurements obtained from ground-water monitoring wells and piezometers indicate the following information regarding the ground-water flow system in the vicinity of the site:

- Ground water in the overburden flows generally to the east/southeast.

- Ground water in the shallow bedrock flows generally to the southeast.

- As identified by the inferred water table contours shown on Figure 14, fill material within the former Erie Canal (the present location of Erie Boulevard) could potentially act as a preferential flow pathway for shallow ground-water in the area hydraulically downgradient of the property. Based on the probable depth of the former Canal (approximately 7 to 13 feet) and the depth to ground water in the vicinity of the canal (approximately 10 feet) hydraulic influences associated with the fill material within the former canal bed would not effect ground-water flow within deeper overburden or shallow bedrock:

- The September 1996 fluid-level measurements obtained from the ground-water monitoring wells installed for the PSA/IRM Study indicate that the hydraulic gradient was 0.011 feet per foot (ft/ft) (4.5 feet/415 feet between monitoring wells MW-02 and MW-04). Using the June 1997 fluid-level measurements for the monitoring wells installed for both the PSA/IRM Study and the MGP/RCRA Investigation, hydraulic gradients vary from 0.009 ft/ft (7.9 feet/800 feet between MW-02 and PZ-01D) in the northwest to southeast portion of the site to 0.035 ft/ft in the northeast portion of the site (10.4 feet/300 feet between MW-05 and MW-18S). The higher gradient observed in the northeast portion of the site may be related to water table mounding in the vicinity of monitoring well MW-05 at the southeast corner of the vehicle maintenance building [The PSA/IRM Study Report (Foster Wheeler, May 1995) speculates that the mounded water in the vicinity of monitoring well MW-05 may be related to a water line in the vicinity of the monitoring well location]. Another possible ground-water mound is suggested by the water level observation at MW-15S. However, there has only been one ground-water level measurement obtained at monitoring well MW-15S and additional ground-water level data is required to fully evaluate the potential mound indicated by this data point.

- Perched ground water appears to exist above a clay layer encountered at monitoring well locations MW-06S, MW-07, and PZ-01S, as indicated by the difference in ground-water elevations (differential head) observed between adjacent wells that are screen above and below the clay layer (i.e., shallow and deep overburden wells located in the same general area of the site). Observed differential hydraulic heads which indicated the presence of perched ground-water conditions include the following:

Well Locations	Differential Hydraulic Head (ft)	Vertical Hydraulic Gradient (ft/ft)
MW-06S/MW-06A	7.1	0.84 downward
MW-07/MW-14	8.5	1.10 downward
PZ-01S/PZ-01D	3.18	0.37 downward

The calculated vertical hydraulic gradients for these wells (e.g., difference in water-level elevations divided by the distance between the wells) indicate a downward gradient between the perched water located east and southeast of Building 2 and the water table.

- Observed differential hydraulic heads between adjacent shallow and deep overburden wells indicate the following:

Well Locations	Differential Hydraulic Head (ft)	Vertical Hydraulic Gradient (ft/ft)
MW-17S/MW-17D	0.08	0.01 downward
MW-21S/MW-21D	0.27	0.02 downward
MW-22S/MW-22D	2.21	0.13 downward

The calculated vertical hydraulic gradients for these wells indicate a downward gradient between the water table and deep overburden in the area located east (hydraulically downgradient) of the site.

- Observed differential hydraulic heads between adjacent wells screened in the deep overburden and shallow bedrock indicate the following:

Well Locations	Differential Hydraulic Head (ft)	Vertical Hydraulic Gradient (ft/ft)
MW-16D/MW-16R	1.46	0.09 upward
MW-21D/MW-21R	0.21	0.01 downward
MW-22D/MW-22R	0.23	0.01 upward

The calculated vertical hydrualic gradients for these wells indicate an upward gradient between the deep overburden and shallow bedrock in the area immediately east of the site and slight upward/downward gradients in the area located east of Erie Boulevard (the farthest downgradient wells installed for the MGP/RCRA Investigation).

- Hydraulic conductivity values calculated for each of the monitoring wells installed as part of the MGP/RCRA Investigation (based on the slug tests performed in June 1997) ranged from $8.3x10^{-6}$ cm/sec ($1.6x10^{-5}$ ft/min) at monitoring well location MW-22R to $9.5x10^{-2}$ cm/sec at monitoring well location MW-21D. Based on these hydraulic conductivity values, average hydraulic conductivities (geometric mean) for the shallow overburden, deep overburden, and bedrock in the vicinity of the site were, respectively, calculated at $8.6X10^{-3}$ cm/sec ($1.7X10^{-2}$ ft/min), $1.8X10^{-2}$ cm/sec ($3.6X10^{-2}$ ft/min), and $4.4X10^{-5}$ cm/sec ($2.0X10^{-4}$ ft/min).

- The average linear ground-water flow velocity within the shallow overburden was calculated using the following equation (Fetter, 1988):

  $V=KI/n_e$

  where:
  V= average linear ground-water flow velocity;
  K= horizontal hydraulic conductivity (24.5 feet/day for shallow overburden);
  I = horizontal hydraulic gradient (0.009 ft/ft, as discussed above); and
  n_e = effective porosity (assumed default value of 0.3).

  Using the above equation the average linear ground-water flow velocity in the shallow overburden was calculated to be 0.7 feet/day.

- Tidal influence monitoring was conducted in the shallow and deep overburden wells at monitoring well cluster MW-21. The tidal influence monitoring data is presented in Appendix G. A roughly twelve hour interval between head peaks was noted throughout the measurement period, with a maximum head change of 0.13 feet. The tidal monitoring results indicated that slight periodic fluctuations in ground-water elevations at monitoring well MW-21D may be associated with tidal effects on the Hudson River.

4.3.2 Ground-Water Analytical Results

Analytical results obtained from the laboratory analysis of ground-water samples collected during the MGP/RCRA Investigation June 1997 sampling event for PCBs, TCL VOCs, TCL SVOCs, TAL inorganic constituents, nitrate/nitrite and sulfate/sulfide are summarized below. The discussion below includes a comparison of the analytical results obtained from the laboratory analysis of the ground-water samples with the ground-water quality standards and guidance values (herein referred to as "ground-water criteria" presented in NYSDEC document entitled "Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values" (NYSDEC, October 1993) and USEPA maximum contaminant levels (MCLs) presented in the USEPA document entitled "Drinking Water Regulations and Health Advisories" (USEPA Office of Water, October 1996).

PCBs

Analytical results obtained from the laboratory analysis of ground-water samples for PCBs are listed in Table 14. PCBs were not detected in groundwater above laboratory detection limits in any of the samples analyzed as part of the MGP/RCRA Investigation.

TCL VOCs

Analytical results obtained from the laboratory analysis of the ground-water samples for TCL VOCs are listed in Table 15 and shown on Figure 15. Analytical results obtained from the laboratory analysis of the ground-water samples collected for VOCs are summarized below.

GROUNDWATER

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Ground-Water Criteria	USEPA MCLs
1,1-Dichloroethane	1	2 J	MW-06	5	NA
Acetone	3	51 - 150	MW-16R	50 G	NA
Benzene	6	120 - 3200	MW-05	0.7	5
Chloroform	1	2 J	MW-21R	7	80
Ethylbenzene	6	16 - 250	MW-05	5	700
Toluene	7	1 J - 200	MW-16R	5	1000
Xylenes, Total	5	10 - 230	MW-16R	5 D	10,000

Notes:
1. J = Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.
3. NA = Not available.
4. NYSDEC Ground-Water Criteria from TOGs 1.1.1, October 1993.
5. USEPA MCLs from Drinking Water Regulations and Health Advisories, October 1996.

Acetone, benzene, ethylbenzene, toluene, and xylenes were detected at concentrations above the NYSDEC ground-water standards and guidance values. Benzene was the only VOC detected above the USEPA MCL. Wells where more than one VOC were detected at concentrations exceeding the NYSDEC ground-water quality standards and guidance values include locations within the former MGP area (MW-05 and MW-14) and wells hydraulically downgradient of the former MGP area (monitoring wells MW-16R, MW-17D, MW-17S, and MW-18S). Acetone was the only VOC detected at concentrations exceeding the NYSDEC ground-water quality standard and guidance values at monitoring wells MW-15S and MW-16D (acetone is a common laboratory chemical which may be inadvertently introduced during handling and preparation of samples).

TCL SVOCs

Analytical results obtained from the laboratory analysis of the ground-water samples collected for TCL SVOCs are listed in Table 16 and shown on Figure 15. Analytical results obtained from the laboratory analysis of the ground-water samples for TCL SVOCs are summarized below.

GROUNDWATER

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration	NYSDEC Ground-Water Criteria	USEPA MCLs
2,4-Dimethylphenol	1	2 J	MW-05	1	NL
2-Methylnaphthalene	6	2 J - 60 J	MW-16R	NA	NL
4-Methylphenol	1	4 J	MW-05	1	NL
Acenaphthene	6	14 J - 150 D	MW-05	20	NA
Acenaphthylene	3	2 J - 34	MW-05	NA	NA
Anthracene	2	2 J - 12	MW-05	50	NA
Benzo(a)anthracene	1	2 J	MW-05	0.002	NA
bis(2-Ethylhexyl)phthalate	4	2 - 15	MW-20 D	50	6
Carbazole	4	1 - 4	MW-05	NA	NA
Chrysene	1	1 J	MW-05	0.002	NA
Dibenzofuran	2	2 J - 5 J	MW-05	NA	NL
Diethyl phthalate	1	1 J	MW-11	50	NA
Fluoranthene	2	2 J - 8 J	MW-05	50	NL
Fluorene	5	4 J - 67	MW-05	50	NA
Naphthalene	6	7 J - 1300 DJ	MW-16R	10	NA
Nitrobenzene	1	3 J	MW-17S	5	NL
Phenanthrene	5	2 J - 51	MW-05	50	NA
Phenol	1	27	MW-05	1	NA
Pyrene	2	4 J - 13	MW-05	50	NA

Notes:
1. J = Estimated value.
2. D= The reported concentration is the result of a diluted sample analysis.
3. NA and NL = Not available.
4. NYSDEC Ground-Water Criteria from TOGs 1.1.1, October 1993.
5. USEPA MCLs from Drinking Water Regulations and Health Advisories, October 1996.

Bis(2-ethylhexyl)phthalate was the only SVOC detected at concentrations above the USEPA MCL (at monitoring well locations MW-11 and MW-20D). 2,4-dimethylphenol, 4-methylphenol, acenaphthene, benzo(a)anthracene, chrysene, fluorene, naphthalene, phenathrene, and phenol were detected at monitoring well location MW-05 at concentrations which exceeded the NYSDEC ground-water standards and criteria. DNAPL was observed at monitoring well MW-05 in September 1996 and a sheen was observed at the time of sampling. Acenaphthene and napthalene were each detected at three of the monitoring wells located hydraulically downgradient of the site at concentrations which exceed the NYSDEC groundwater standards and criteria.

TAL Inorganic Constituents

Analytical results obtained for the laboratory analysis of ground-water samples for TAL inorganic constituents are listed in Table 17 and shown on Figure 16. TAL inorganic constituents were detected at concentrations above laboratory detection limits in each of the ground-water samples collected. Analytical results obtained from the laboratory analysis of the ground-water samples collected for TAL inorganic constituents are summarized below.

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration	NYSDEC Ground-Water Criteria	USEPA MCLs
Aluminum	15	52.5 B - 13,800	MW-18SDUP	NA	50 S
Arsenic	11	4.3 B - 26.7	MW-14	25	50
Barium	21	67.1 B - 8430	MW-22R	1000	2000
Cadmium	4	1.4 B - 2 B	MW-18SDUP	10	5
Calcium	21	2260 B - 313,000	MW-14	NA	NA
Chromium	11	3.6 B - 34.3	MW-16R	50	100
Cobalt	9	2 B - 18.6 B	MW-17D	NA	NL
Copper	5	8.1 B - 26.4	MW-18SDUP	200	1000
Cyanide, Total	16	12.8 - 865	MW-14	100	200
Iron	20	103 - 62,500	MW-17S	300	300
Lead	7	2.2 B - 13.6	MW-18SDUP	25	15
Magnesium	21	880 B - 67,800	MW-17D	35,000	NA
Manganese	21	26.5 - 10,700	MW-14	300	50
Mercury	1	0.12 B	MW-05	2	2
Nickel	11	3 B - 24.7 B	MW-16R	NA	100
Potassium	21	3330 B - 18,500	MW-19D	NA	NA
Selenium	12	3.2 B - 9.8	MW-22D	10	50
Sodium	21	11,600 - 518,000	MW-05	20,000	NA
Thallium	1	6.1 B	MW-12	4 G	2
Vanadium	5	3.4 B - 22.8 B	MW-18SDUP	NA	NA
Zinc	5	18.2 B - 197	MW-22S	300	5000

Notes:

1. B = Indicates that the reported result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
2. NA = Not available.
3. NYSDEC Ground-Water Criteria from TOGs 1.1.1, October 1993.
4. USEPA MCLs from Drinking water Regulations and Health Advisors, October 1996.

Iron, manganese, and sodium (common mineral constituents) were detected in almost every ground-water sample at concentrations exceeding the NYSDEC and USEPA ground-water standards and criteria. Manganese and sodium were also detected above criteria in the upgradient monitoring well MW-20D. Total cyanide was detected above NYSDEC and USEPA criteria (100 and 200 ppb, respectively) at several wells located within the former MGP area (MW-05, MW-06A, MW-14), and immediately downgradient of the former MGP area (MW-16D, MW-16R, MW-17D, MW-17S, MW-18S, MW-19D). Cyanide was also detected at a concentration slightly above the NYSDEC ground-water criteria at monitoring well location MW-21D (one of the furthest downgradient monitoring wells installed for the MGP/RCRA Investigation).

Nitrate/Nitrite and Sulfate/Sulfide

Analytical results obtained from the laboratory analysis of the ground-water samples collected for nitrate/nitrite and sulfate/sulfide are listed in Table 18 and presented on Figure 16. These constituents were detected in 17 of the ground-water samples collected. Analytical results obtained from the laboratory analysis of the ground-water samples for nitrate/nitrite and sulfate/sulfide provide a general indication of whether oxidized conditions exist in ground water in the vicinity of the site (and whether natural degration of organic constituents may be possible). Anlytical results obtained for the analysis of the ground-water samples for nitrate-nitrite (as N) and sulfate/sulfide are summarized below.

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration	NYSDEC Ground-Water Criteria	USEPA MCLs
Nitrate-Nitrite (As N)	12	50 - 930	MW-20 DUP	10,000	10,000
Sulfate	17	2870 - 405,000	MW-06	NC	250,000

Notes:
1. NYSDEC Ground-Water Criteria from TOGs 1.1.1, October 1993.
2. USEPA MCLs from Drinking Water Regulations and Health Advisories, October 1996.

Sulfide was not detected in any of the ground-water samples collected for the MGP/RCRA Investigation. The analytical results obtained for the analysis of the nitrate-nitrite (as N) and sulfate samples (together with the field measurements of ORP and DO) indicate that iron, manganese, and sulfate reduction may potentially occur in ground water in the vicinity of the site (which could result in natural and/or enhanced degradation of VOCs/SVOCs in ground water).

4.3.3 NAPL Characterization and Distribution

As described above in Section 4.2.4.2, DNAPL samples could not be collected due to the minimal thickness of DNAPL observed in the monitoring wells. Analytical results obtained from the laboratory analysis of LNAPL samples for PCBs, TCL VOCs, TCL SVOCs, TAL inorganic constituents, and TPH are summarized below, followed a discussion of the LNAPL physical characterization results, and the probable subsurface distribution of LNAPL and DNAPL in the vicinity of the site.

PCBs

Analytical results obtained from the laboratory analysis of LNAPL samples for PCBs are listed in Table 19. PCBs were detected at a concentration of 34.7 ppm in the LNAPL sample collected at monitoring well MW-04.

TCL VOCs

Analytical results obtained from the laboratory analysis of LNAPL samples for TCL VOCs are listed in Table 20 and summarized below.

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
Ethylbenzene	3	180 J - 7200	MW-04
Toluene	1	2200	MW-04
Xylenes, Total	1	17,000	MW-04

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration

Notes:
1. J = Estimated value.

TCL SVOCs

Analytical results obtained from the laboratory analysis of LNAPL samples for TCL SVOCs are listed in Table 21 and summarized below.

L-NAPL

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
2-Methylnaphthalene	2	28 J - 1500 D	MW-04
Acenaphthene	3	91 - JD - 1200	MW-08
Acenaphtjylene	2	95 J - 150 JD	MW-04
Anthracene	3	100 - 500	MW-08
Benzo(a)anthracene	3	78 J - 480 J	MW-08
Benzo(a)pyrene	3	72 J - 550 J	MW-08
Benzo(b)fluoranthene	3	34 J - 300 J	MW-08
Benzo(g,h,i)perylene	2	44 J - 240 J	MW-08
Benzo(k)fluoranthene	3	58 J - 380 J	MW-08
bis(2-Ethylhexyl)phthalate	1	68 J	MW-10/MW-10 DUP
Chrysene	3	72 J - 460 J	MW-08
Dibenzofuran	1	49 J	MW-08
Fluoranthene	3	380 - 1100	MW-08
Fluorene	3	180 JD - 580	MW-08
Indeno(1,2,3-cd)pyrene	1	190 J	MW-08
Naphthalene	2	750 - 4400 D	MW-04
Phenanthrene	3	530 JD - 1400	MW-08
Pyrene	3	500 - 1600 D	MW-08

Notes:
1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.

TAL Inorganic Constituents

Analytical results obtained from the laboratory analysis of LNAPL samples for TAL inorganic constituents are listed in Table 22 and summarized below.

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
Aluminum	2	2.8 B - 63.3 B	MW-08
Arsenic	2	1.6 B - 1.8 B	MW-08
Barium	2	0.16 B - 0.65 B	MW-08

Detected Constituent	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppb)	Sample Exhibiting Maximum Concentration
Cadmium	1	0.15 B	MW-08
Calcium	3	14.9 B - 180 B	MW-10DUP
Chromium	1	0.87 B	MW-08
Copper	3	0.19 B - 1.9 B	MW-08
Iron	3	4.7 B - 156 J	MW-10DUP
Lead	2	3.5 - 122 J	MW-04
Magnesium	3	5 B - 22.4 B	MW-10DUP
Manganese	2	0.16 B - 1.5 B	MW-10DUP
Nickel	1	0.44 B	MW-04
Potassium	3	2.1 B - 13.8 B	MW-10DUP
Selenium	3	0.24 B - 1.3 B	MW-10
Sodium	3	15.4 B - 102 B	MW-08
Vanadium	2	1.1 B - 1.4 B	MW-08MW-08
Zinc	3	2.5 - 3.9 B	MW-10DUP

Notes:
1. J = Estimated value.
2. B = Indicates that result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.

TPH

Analytical results obtained from the laboratory analysis of LNAPL samples for TPH are listed in Table 23 and summarized below.

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample Exhibiting Maximum Concentration
Lube Oil	1	3,100,000 D	MW-04
Total Petroleum Hydrocarbons	2	43 D - 100 D	MW-10 / MW-10DUP
Unknown hydrocarbon	3	43 D - 2,700,000 D	MW-04

Notes:
1. D = The reported concentration is the result of a diluted sample analysis.

LNAPL Physical Characteristics

LNAPL sample physical characterization results are presented on Table 24. Results are given for the NAPL at 26 degrees Celsius. These results confirm that each of the LNAPL samples collected were lighter than water, with densities ranging from 0.782 at MW-10 to 0.892 at MW-08. Viscosities were also relatively low, ranging from 0.9 centipoises (cP) at MW-10 (similar to the viscosity of water, 0.89 cP at 25 degrees Celsius) to 4.8 cP at MW-08. Interfacial tension of the NAPL samples ranged from 26 dynes per centimeter (dynes/cm) at MW-04 and MW-08 to 29 dynes/cm at MW-10.

4.3.4 NAPL Distribution

As discussed in Section 3.0, NAPL was observed at the location of several soil borings completed as part of the MGP/RCRA Investigation. These observations are provided on the soil boring and monitoring well logs in Appendices C and E. NAPL fluid level measurements were conducted to provide an indication of the apparent thickness of mobile NAPL in the subsurface. The fluid level measurements conducted during the MGP/RCRA Investigation are presented on Table 13. As shown in Table 13, LNAPL was observed at monitoring wells MW-08, MW-10, and MW-13 in both September 1996 and June 1997 measurements. LNAPL was also observed at monitoring well MW-04 during only the June 1997 measurement event. Apparent observed LNAPL thicknesses ranged from 0.05 feet at MW-13 in June 1997 to 2.07 feet at MW-04 in June 1997. DNAPL was observed at monitoring well MW-02, during both measurement events and at monitoring wells MW-05 and MW-07 during the September 1996 event only. The apparent thickness of DNAPL observed in the monitoring wells was 0.02 feet to 0.15 feet, which, as noted previously, was not sufficient for sample collection. Slight sheens were observed at MW-16R during rock coring activities, at MW-17D during well development, and at MW-05 and MW-16R during ground-water sampling.

Figure 18 provides a summary of the monitoring wells where NAPL was measured, as well as the probable DNAPL and LNAPL areas. Probable NAPL areas were estimated from observed NAPL level measurements and the drilling observations made by Foster Wheeler during the PSA Investigation and by BBL during the MGP/RCRA Investigation. Quantitative methods of determining the likely presence and distribution of NAPL were also evaluated, including comparisons of chemical constituent concentrations in ground water and soil pore-water (as estimated from the saturated soil sample results) with aqueous solubility limits (Cohen and Mercer, 1993). However, due to the presence of the predominantly coal-tar NAPL at the site, the quantitative methods were found to consistently agree with the NAPL distribution as delineated by field observations during drilling (e.g., sheens and/or NAPL was observed at locations where chemical constituents were observed in ground-water at concentrations exceeding one percent of the aqueous solubility limit). Therefore, field observations were considered to be adequate for delineating probable NAPL zones in the vicinity of the site. As shown in Figure 18, the two larger probable DNAPL and LNAPL areas overlap covering a large portion of the former MGP area (i.e., the area north of Building 2). In this area of the site, residual NAPL was typically observed throughout the borings and often into the upper portion of the weathered and/or fractured bedrock. Beyond the eastern site perimeter fence, DNAPL was typically only observed immediately above and into the upper weathered and/or fractured bedrock and LNAPL was observed in close proximity to the water table. In the area east of Building 2, DNAPL, typically in the form of coal tar with wood chips, was observed above a clay unit from approximately 8 to 12 feet bgs. The extent of LNAPL associated with the AOC in the vicinity of monitoring well MW-10 is confirmed by the absence of LNAPL in monitoring well MW-15S which is located immediately downgradient of MW-10. the extent of LNAPL in the area hydraulically downgradient from the former MGP facility is indicated by the fact that only a slight petroleum sheen has been observed at monitoring well MW-18S (indicating that the downgradient extent of LNAPL should be relatively close to monitoring well MW-18S). The fill material within the former Erie Canal (located along the present Erie Boulevard) could potentially influence the downgradient extent of LNAPL in the area downgradient of the facility (if LNAPL were to extend to the former Canal location). The potential influence of the fill material within the former canal bed on LNAPL distribution in the area downgradient from the site has not been fully characterized by the investigation activities conducted to date.

Section 5

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5. Storm Sewer Investigation

5.1 General

This section presents the results of the storm sewer investigation activities that were implemented as part of the MGP/RCRA Investigation. The objectives of the storm sewer investigation activities were as follows:

- Determine potential sources of release to and/or from the site storm sewer system;
- Determine whether hazardous waste or hazardous constituents are present in debris or dry-weather flow in the drainage structures and piping which are part of the site storm sewer system;
- Determine whether the storm sewer system may act as a pathway for the off-site migration of chemical constituents associated with the former MGP operation or the RCRA SWMUs/AOCs at the facility;
- Provide data to assess potential risks to human health and the environment associated with the chemical constituents detected in the dry-weather flow and debris in the storm sewer system; and
- Provide data to determine the need for potential remedial measures based on inspection information and analytical results obtained for the laboratory analysis of dry-weather flow and debris samples.

Field activities conducted for the storm sewer investigation are described below followed by a discussion of the investigation results.

5.2 Storm Sewer Investigation Activities

Field activities that were implemented for the storm sewer investigation consisted of the following:

- Performing a field reconnaissance of the facility to identify the locations of drainage structures at the facility;
- Visually inspecting each drainage structure associated with the site storm sewer system; and
- Collecting samples of accumulated debris within drainage structures associated with the site storm sewer system for laboratory analysis for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents.

The storm sewer investigation activities associated with the MGP/RCRA Investigation is presented below.

5.2.1 Storm Sewer Reconnaissance

The initial effort associated with the storm sewer investigation consisted of performing a field reconnaissance to verify the layout of the site storm sewer system and to identify dry-weather flow and debris sampling locations. The following manholes and catch basins associated with the site storm sewer system (shown on Figure 2) were identified:

- Catch basins CB-1 through CB-8 and CB-11 through CB-19 (catch basins CB-9 and CB-10 were not found based on a visual inspection and electromagnetic survey of the area of where these structures were shown on facility mapping); and

- Manholes MH-1, MH-3, MH-5, MH-6, and MH-8 (manholes MH-2, MH-4, and MH-7 were not found based on a visual inspection and electromagnetic survey of the area where these structures were shown on facility mapping).

While conducting the field reconnaissance to verify the locations of drainage structures associated with the site storm sewer system, BBL also identified the following structures which are shown on Figure 2:

- Five electrical manholes located south of the Versaire Building (which are designated as E-1 through E-5);

- A vault for telephone/electric service in the driveway northeast of Building 2 which is designated as Vault-1, and a vault for telephone/electric service in the grass area north of Building 2 which is designated as Vault-2;

- Five manholes for telephone and electric service in the paved driveway and parking areas east of Building 2 which are designated as TMH-1 through TMH-3, EMH-1, and EMH-2; and

- Two abandoned manholes in the paved parking area east of Building 2 which may have formerly been associated with gas service/production at the site, designated as GMH-1 and GMH-2 [Note: manhole GMH-1 contained a disconnected steel line (i.e., possible old gas line) and GMH-2 was filled in with soil/gravel].

Following the reconnaissance activities, inspections of the drainage structures and piping associated with the site storm sewer system were conducted as described below.

5.2.2 Inspection of Drainage Structures and Piping:

This task consisted of inspecting each manhole and catch basin associated with the site storm sewer system. Prior to inspecting each manhole/catch basin, the cover was removed and the air inside the structure was monitored for volatile organic vapors, oxygen, combustible gases, carbon monoxide, and hydrogen sulfide levels. Due to the limited sizes of the drainage structures, inspections were performed from the ground surface. Inspections of the drainage structures were conducted to determine the following information:

1. The dimensions of each structure, including the following:
    - The length and width (or diameter) of the cover;
    - The depth from the rim to the base of each structure;
    - The length and width (or diameter) of each structure; and
    - The depth from the rim to the inverts for piping entering or leaving each structure.

2. The size, orientation, and material of construction for all pipes entering or exiting each manhole/catch basin, including the joint composition of the pipes, if visible;

3. The material(s) of construction for the sidewalls and base of each manhole/catch basin (i.e., pre-cast concrete, brick and mortar, etc.) and overall observed condition of each manhole/catch basin (i.e., cracks, corrosion, infiltration);

4. The presence and depth of any accumulated water, the presence of any petroleum/oil sheen on the surface of accumulated water, and/or the presence of any flowing water within the manhole/catch basin; and

5. The presence and depth of debris in the base of each manhole/catch basin and piping entering the manhole/catch basin.

Drainage structure inspection forms presenting the above-listed information for each structure identified by the field reconnaissance activities are presented in Appendix D. The orientations of pipes that enter and exit each drainage structure are referenced by clock position. The discharge pipe that conveys flow from the structure is referred to as the 12:00 pipe, and all other pipes within the drainage structure are referred to relative to the discharge pipe. The layout of the site storm sewer system as confirmed by the inspection of drainage structures and piping is shown on Figure 2.

As noted in the drainage structure inspection forms, no flowing water was observed within any of the manholes/catch basins associated with the site storm sewer system. As a result, no dry-weather flow samples were collected for laboratory analysis. However, samples of debris observed in the manholes/catch basins associated with the site storm sewer system were collected for laboratory analysis as discussed below.

5.2.3 Collection of Drainage Structure Debris Samples

During the inspection activities, BBL observed measurable amounts of debris in four of the five inspected manholes at depths ranging from approximately one to four inches, and in each of the inspected catch basins at depths ranging from approximately two to nineteen inches (Note: a measurable amount of debris was not encountered in MH-6). Samples of accumulated debris were collected from the following manholes and catch basins:

- Manholes MH-1 and MH-3; and

- Catch basins CB-2, CB-4, CB-7, CB-12, CB-13, CB-17, CB-18, and CB-19.

The debris sampling locations were selected based on the appearance of visual staining and to provide a uniform distribution of sample locations within the site storm sewer system. The debris samples were collected, handled, labeled, packaged, and transported to the laboratory using the procedures specified in the QAPjP. The debris samples were submitted to Galson for laboratory analysis using the following methods:

Parameter	Analytical Method
TCL VOCs	USEPA SW-846 Method 8260
TCL SVOCs	USEPA SW-846 Method 8270
PCBs	USEPA SW-846 Method 8081
TAL Inorganics	USEPA SW-846 Method 6010 (except mercury by Method 7470/7471 and cyanide by Method 9010).

QA/QC samples including blind duplicates, rinse blanks, trip blanks, matrix spike, and matrix spike duplicate samples were collected in support of the ground-water sampling activities as required by the QAPjP.

5.3 Storm Sewer Investigation Results

The results of the drainage structure and piping investigation, including the inspection information and analytical results obtained from the laboratory analysis of the debris samples is presented below.

5.3.1 Drainage Structure and Piping Inspection Results

A summary of the drainage structure and piping inspection results for the site storm sewer system is presented in Table 25. Detailed inspection information for each drainage structure that was inspected, including the dimensions, materials of construction, orientation of pipes, presence of debris, etc., is presented on the inspection forms in Appendix I. A discussion of the information obtained from the site storm sewer system inspection activities is presented below.

Materials of Construction

As indicated on the manhole inspection forms presented in Appendix I, each drainage structure that was inspected appeared to have a solid concrete base, except for CB-13, which had a base constructed of brick. The sidewalls of the drainage structures were constructed of the following materials:

- Pre-cast concrete sidewalls were observed in drainage structures CB-1 through CB-8, CB-11, CB-14 through CB-17, CB-19, MH-6, and MH-8;
- Brick sidewalls were observed in drainage structures CB-13, MH-1, and MH-5; and
- Concrete block sidewalls were observed in drainage structures CB-18 and MH-3.

Condition of Drainage Structures

Each of the drainage structures appeared to be in generally good condition with the exception of catch basin CB-13. Some of the bricks that form the sidewalls of catch basin CB-13 were loose and some of the bricks had collapsed into the base of the catch basin.

Presence of Water and Debris in the Drainage Structures

During the drainage structure inspections, BBL noted the following observations:

- Standing water was observed at depths ranging from one to nineteen inches in all of the drainage structures that were inspected, except for catch basins CB-4, CB-11, CB-13, CB-16, and CB-17, and manhole MH-6;
- A slight sheen/film was observed on the water surface in drainage structures CB-2, CB-3, CB-4, CB-5, CB-6, CB-12, CB-19, and MH-1;
- A pocket of green-colored liquid was observed floating on the water surface at the north side of catch basin CB-18;
- Accumulated debris was present in each of the drainage structures except for manhole MH-6;

- Black-colored debris was observed in catch basins CB-2, CB-3, CB-4, CB-7, CB-12, CB-13, CB-17, and CB-18, and manhole MH-1;

- The black-colored debris encountered in catch basins CB-4, CB-7, and CB-12 exhibited a noticeable petroleum odor; and

- Oil droplets were observed in the silt/gravel in catch basin CB-18.

5.3.2 Drainage Structure Debris Sampling Results

Analytical results obtained from the laboratory analysis of the accumulated debris samples are presented below.

PCBs

Laboratory analysis of the accumulated debris samples indicate that detectable concentrations of PCBs were present in each drainage structure debris sampling location. PCBs were detected in the drainage structure debris sampling locations at concentrations ranging from 0.31 ppm at catch basin CB-19 to 60 ppm at manhole MH-1. PCB analytical results obtained from the laboratory analysis of the drainage structure debris samples collected for the MGP/RCRA Investigation are listed in Table 26 and shown on Figure 19.

TCL VOCs

Analytical results obtained from the laboratory analysis of the drainage structure debris samples for TCL VOCs are listed in Table 27 and shown on Figure 20. TCL VOCs were detected at concentrations above laboratory detection limits in five of the debris sampling locations (CB-7, CB-12, CB-18, CB-19, and MH-1). Analytical results obtained from the laboratory analysis of the drainage structure debris samples for TCL VOCs are summarized below.

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Detected Compound	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
2-Butanone	1	0.058 J	CB-19
Acetone	1	0.062 J	CB-19
Ethylbenzene	5	0.015 J - 10	MH-1
Toluene	2	0.011 J - 0.5 J	MH-1
Xylenes (total)	3	0.023 J - 3.8	MH-1

Notes:
1. J = Estimated value.

TCL SVOCs

Analytical results obtained from the laboratory analysis of drainage structure debris samples for TCL SVOCs are listed in Table 27 and shown on Figure 20. TCL SVOCs were detected at concentrations above laboratory detection limits in each of the debris sampling locations. Analytical results obtained from the laboratory analysis of the drainage structure debris samples for TCL SVOCs are summarized below.

Detected Compound	Number of Sampling Locations Where Compound Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
2 Methylnaphthalene	4	0.140 J - 410	MH-1
Acenaphthene	6	0.12 J - 370	MH-1
Acenaphthylene	6	0.14 J - 20 J	MH-1
Anthracene	10	0.072 J - 180	MH-1
Benzo(a)anthracene	10	0.140 J - 110	MH-1
Benzo(a)pyrene	10	0.140 J - 84	MH-1
Benzo(b)fluoranthene	10	0.180 J - 32	MH-1
Benzo(g,h,i)perylene	9	0.300 J - 30	MH-1
Benzo(k)fluoranthene	10	0.140 J - 49	MH-1
bis(2-Ethylhexyl)phthalate	9	0.400 J - 10 J	CB-12
Butyl benzyl phthalate	3	0.089 J - 1.5 J	CB-17
Carbazole	6	0.058 J - 8.1	CB-12
Chrysene	10	0.220 J - 100	MH-1
Di-n-butyl phthalate	2	0.110 J - 0.120 J	CB-7
Di-n-octyl phthalate	7	0.120 J - 10 J	CB-12
Dibenz(a,h)anthracene	2	3.2 J - 9.3 J	MH-1
Dibenzofuran	3	3.4 - 24 J	MH-1
Fluoranthene	10	0.290 J - 210	MH-1
Fluorene	7	0.085 J - 270	MH-1
Indeno(1,2,3-cd)pyrene	9	0.300 J - 26 J	MH-1
Naphthalene	5	0.092 J - 440	MH-1
Phenanthrene	10	0.240 J - 970 D	MH-1
Pyrene	10	0.380 J - 340	MH-1

Notes:

1. J = Estimated value.
2. D = The reported concentration is the result of a diluted sample analysis.

TAL Inorganic Constituents

Analytical results obtained from the laboratory analysis of drainage structure debris samples for TAL inorganic constituents are listed in Table 28 and shown on Figure 21. TAL inorganic constituents were detected at concentrations above laboratory detection limits in each of the debris sampling locations. Analytical results obtained from the laboratory analysis of the drainage structure debris samples for TAL inorganic constituents are summarized below (with the exception of typical mineral constituents, including aluminum, calcium, iron, magnesium, manganese, potassium, and sodium).

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
Arsenic	10	3 - 18.9	MH-1
Barium	10	31.3 - 407	CB-17

Detected Constituent	Number of Sampling Locations Where Constituent Was Detected	Range of Detected Concentrations (ppm)	Sample(s) Exhibiting Maximum Concentration
Beryllium	10	0.24 B - 0.54 B	MH-1
Cadmium	10	0.92 - 11.3	MH-1
Chromium	10	10.2 - 138	MH-3
Cobalt	10	3.5 B - 8.5	MH-3
Copper	10	18.9 J - 806 J	MH-1
Cyanide (total)	1	3.2 J	MH-3
Lead	10	29.1 - 541	CB-13
Mercury	9	0.06 BJ - 7 J	CB-13
Nickel	10	10.1 - 30.4	MH-3
Selenium	5	0.52 B - 1.7	MH-1
Silver	4	0.69 B - 102	MH-3
Vanadium	10	10.2 - 53.3	MH-3
Zinc	10	223 - 2090	MH-1

Notes:
1. J = Estimated value.
2. B= Indicates that the result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.

Section 6

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6. Baseline Human Health Risk Assessment

6.1 General

This section presents a baseline human health risk assessment for the NMPC North Albany Service Center. Using the available data generated by the PSA IRM Study and the MGP/RCRA Investigation, BBL conducted a baseline human health risk assessment using standard methods and procedures outlined by the USEPA to evaluate whether current or future use of the site could result in adverse impacts on human health. Specifically, this assessment focuses on NMPC employees and other workers (i.e., contractor personnel and railway workers) who could potentially be exposed to surface soil, subsurface soil, or ground water located in the vicinity of the site.

A baseline human health risk assessment is a study which evaluates whether conditions in the vicinity of the site could cause illness within the lifetime of an individual who could come into contact with chemical constituents associated with the site under current or reasonably likely future property uses. Such assessments are not meant to predict actual disease outcomes (i.e., numbers of people getting sick), but rather, are used as tools to help decide whether action needs to be taken to prevent possible illness.

As described by the USEPA's Risk Assessment Guidance for Superfund (USEPA, 1989), a baseline human health risk assessment is a step-wise procedure which entails evaluation of the available data, assessment of possible human exposure, evaluation of the toxicity of the constituents of interest present in environmental media in the vicinity of the site (i.e., chemicals found in soil, or ground water), and a characterization of potential risks associated with the identified chemicals and exposures.

6.2 Data Evaluation

The first step in the baseline human health risk assessment is to evaluate the available data. This generally entails gathering the available data, to identify appropriate "chemicals of potential interest". The data used for this assessment includes the validated analytical results of the PSA/IRM Study (summarized in Section 1) and the MGP/RCRA Investigation as discussed in Section 3 through 5 of the document.

As defined in the USEPA's Risk Assessment guidance, chemicals of potential interest are chemicals detected in soil, sediment, surface water, ground water or air associated with a site, and which potentially result from site-related activities. These chemicals are evaluated further in the risk assessment to determine whether exposure to these chemicals is possible, and if so, whether illness could occur from exposure. The chemicals of interest in this assessment are detected organic and inorganic constituents.

As discussed below in Section 6.3, exposure to surface (top 2 feet) and subsurface (2 to 8 feet below ground surface) soils are evaluated in this assessment. The chemicals of interest in surface soil are presented in Tables 6-1 through 6-4 (included at the end of this section) and the chemicals of concern in subsurface soil are presented in Tables 6-5 through 6-8. No chemicals of interest are defined for ground water, sediment or surface water for due to a lack of complete quantifiable exposure pathways involving these media (as discussed below).

6.3 Exposure Assessment

Within the context of this assessment, "exposure" means contact with a chemical of potential interest. For exposure to occur, there must be a complete "pathway" of exposure whereby a person can come into contact with a chemical of potential interest. For a pathway to be complete, there must be 1) a source of chemicals of potential interest (e.g., soil, water, air), 2) a location where exposure could take place (i.e., an "exposure point"), and 3) a feasible means for the chemicals of interest to enter into the person's body. The person who can come into contact with chemicals of potential interest at an exposure point is called a "receptor". The ways in which the chemicals of potential interest can enter the body are known as "routes of exposure". Oral (i.e., by mouth), dermal (contact with the skin) and inhalation (breathing into the lungs) routes of exposure are considered in this assessment.

Based on the location and history of the area in the vicinity of the site, areas where chemical constituents associated with the site were found to be present (including the North Albany Service Center property, and the railroad right of way and rail yard to the east of the property) will likely to remain in use for commercial or industrial purposes. Individuals that are most likely to be exposed to the chemicals of potential interest associated with the site include long-tem NMPC employees and short-term workers conducting construction at or in the vicinity of the property (e.g., contractors, railway workers, and municipal workers, etc.). Therefore, as stated in the work plan, the following pathways of exposure are evaluated quantitatively in this assessment:

1) Oral, dermal and inhalation exposure to surface soil by long-term on-site workers; and

2) Oral, dermal and inhalation exposure to surface and subsurface soil by workers engaged in excavation during hypothetical construction activities in the vicinity of the site.

The exposures associated with each of the above pathways can be estimated quantitatively based on the concentration of each chemical of potential interest is at an exposure point concentration, how frequently a receptor comes into contact with the chemicals of potential interest at the exposure point, how long the exposure occurs, and how much of each of the chemicals of potential interest are taken into the body ("intake" or "dose"). The exposure to chemicals of potential interest for each of the above pathways were quantified using standard methods, assumptions and procedures described in the USEPA's Risk Assessment Guidance for Superfund and Human Health Evaluation Manual (USEPA, 1992). The equations and assumptions used to estimate exposures, as well as the estimates of exposure, are presented in Tables 6-9 through 6-14. In this assessment, "surface soil" samples were considered to be those samples taken from the top two feet below ground surface. Samples taken from depths up to and including eight feet below ground surface were used to estimate exposures and risks for hypothetical excavation workers. Soil taken from depths greater than 8 feet was not considered due to the probable lack of exposure to such soil. Soil sample concentrations were used directly to estimate exposure concentrations used in estimating oral and dermal exposures. Air concentrations were estimated from soil concentrations via methodology presented in USEPA's Soil Screening Guidance (USEPA, 1994).

Exposure to groundwater is not evaluated quantitatively in this assessment due to the lack of complete exposure pathways. There are no current or likely future users of site-related or down- gradient groundwater. Residents and commercial establishments in the vicinity of the North Albany Service Center obtain municipal drinking water from the City of Albany. There are no known drinking water supply wells within a one-half mile radius of the North Albany Service Center.

In addition, workers engaged in excavating activities on-site will not be exposed to ground water due to the depth of ground water below the surface (greater than 10 feet).

Exposure to site-related constituents in surface water and sediment is not evaluated in this assessment due to the lack of nearby surface water bodies.

6.4 Toxicity Evaluation

"Toxicity" refers to adverse effects upon an organism which are caused by exposure to a chemical agent. The USEPA has conducted toxicity evaluations for many chemicals which have been released to the environment. These evaluations use the available scientific studies etc. to determine the potential adverse effects resulting from exposure, and the daily dose of a chemical (how much) associated with such effects.

USEPA classifies toxic effects into two major categories: cancer, and non-cancerous effects. "Non-cancerous effects" are any endpoints other than tumor development. For chemicals which cause non-cancerous toxicity, USEPA derives reference doses (RfDs) or reference concentrations (RfCs). A RfD or RfC for a chemical is ideally based upon studies where either animal or human populations were exposed to a given chemical by a given route of exposure for the major portion of the life-span. RfDs and RfCs represent USEPA's view of the dose or concentration at or below which even the most sensitive individual can be exposed every day for life without adverse impacts on health.

Where sufficient data are available, USEPA derives cancer slope factors for chemicals which have been shown to cause the development of tumors in animals or humans. These values are derived from either human or animal data, and represent the upper bound estimate on the risk of developing cancer above the "background risk" (risk due to factors other than exposure to the chemical of potential interest) over the course of a lifetime.

The RfDs, and cancer slope factors derived by USEPA are commonly called "reference toxicity criteria. The available USEPA reference toxicity criteria are used in this assessment to evaluate risks associated with oral and dermal exposures. These values are shown in Tables 6-9 through 6-14. These values were derived from USEPA's Integrated Risk Information System (IRIS) and Health Assessment Summary Tables (HEAST) databases as reported by the Electronic Handbook of Risk Assessment Values (EHRAV, 1997).

This assessment uses time-weighted average threshold limit values (TLV-TWAs) derived by the American Conference of Governmental and Industrial Hygienists (ACGIH) to evaluate inhalation exposures. A TLV-TWA value represents the average concentration to which a worker can be exposed over the course of an 8-hour workday without suffering adverse health effects due to exposure. These values are used to evaluate risks associated with inhalation exposure in place of USEPA reference concentrations (RfCs) for inhalation because 1) there are very few RfCs; and 2) the longest term and most frequent exposures will involve workers.

6.5 Risk Characterization

This section ties together estimates of exposure and toxicity to estimate potential risks. Risks to human health are generally presented in two ways: 1) risks associated with non-carcinogenic endpoints; and 2) risks associated with developing cancer over the span of a lifetime.

The USEPA's Risk Assessment Guidance for Superfund presents non-carcinogenic risks in terms of a hazard index (HI), where the HI is the sum of the ratios of exposure dose or concentration to RfD or RfC for each chemical and pathway of exposure. A HI less than or equal to one indicates that adverse effects on human health are not likely. A HI in excess of one does not necessarily indicate that adverse effects are likely to occur because in is only appropriate to add together hazard quotients for constituents which produce similar toxic effects and have a similar mechanism of action. If an HI exceeds one, the risk assessor must segregate constituents by toxic endpoint and mode of action, and then re-calculate the HI for each category. HI values in excess of one for a group of constituents producing similar toxic effects by a similar mode of action may indicate that potential adverse non-carcinogenic effects could occur following exposure.

The USEPA's Risk Assessment Guidance for Superfund views carcinogenic risk as something which is accrued over a lifetime of exposure, and defines the excess (above "background") lifetime carcinogenic risk associated with exposure to a constituent of interest as the product of the exposure dose or concentration times the chemical-specific carcinogenic slope factor. The sum of the chemical-specific risks over all pathways of exposure yields the overall excess lifetime carcinogenic risk for a receptor. The USEPA typically views risk below or within the range of one-in-one-million (10^{-6}) to one-in-ten-thousand (10^{-4}) as acceptable. The New York State Department of Health (NYSDOH) does not typically recognize an acceptable target range for cancer risk within the context of a remedial investigation.

This assessment presents risk estimates for oral and dermal exposures in terms of HI values and excess lifetime cancer risk. Risk estimates for inhalation exposure are presented in a hazard-index-like manner by presenting the ratio of air concentration to TLV-TWA for constituents released from soil to air, either by volatilization or particulate emission. The sum of the constituent-specific ratios for a given receptor indicate that adverse effects are unlikely to occur when the sum of the ratios is less than one.

The hazard indices for long-term on-site workers and short-term workers conducting hypothetical construction activities in the vicinity of the site are less than one. The estimated cancer risks for these receptors are below USEPA's target range of 10^{-6} to 10^{-4}. Details are presented in the following table:

Receptor/Medium/ Exposure Route	Hazard Index	Cancer Risk
Short-Term Excavation Worker (surface and sub-surface soil)		
Oral	0.2	1E-5
Dermal	0.3	2E-7
Inhalation Sum of Ratios = 4×10^{-4}	not applicable	not applicable
Long Term On-Site Worker (surface soil)		
Oral	2E-4	9E-8
Dermal	3E-4	2E-7
Inhalation Sum of Ratios = 1×10^{-4}	not applicable	not applicable

Table 6-1

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Surface Soil VOCs (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
2-Butanone	0.210 J	TP-110	1-2'
Acetone	3.7 J	TP-104	1-2'
Benzene	0.026	SB-104	0-2'
Carbon disulfide	0.800 J	TP-114	1-2'
Ethylbenzene	20 J	TP-104	1-2'
Methylene chloride	0.037 J	TP-110	1-2'
Styrene	1.3	TP-114	1-2'
Toluene	0.610 J	TP-104	1-2'
Trichloroethene	1.9 J	TP-104	1-2'

Notes:

(1) Concentrations reported in milligrams per kilogram (mg/kg).

Table 6-2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Surface Soil SVOCs (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
1,2,4-Trichlorobenzene	0.130 J	SS-111	0-6"
1,4-Dichlorobenzene	0.100 J	SS-111	0-6"
2,4-Dinitrotoluene	0.150 J	SS-111	0-6"
2-Chlorophenol	0.180 J	SS-111	0-6"
2-Methylnaphthalene	130	TP-104	1-2'
4-Chloro-3-methylphenol	0.210 J	SS-111	0-6"
4-Nitrophenol	0.220 J	SS-111	0-6"
Acenaphthene	11 J	TP-104	1-2'
Acenaphthylene	5.1	TP-114	1-2'
Anthracene	17	TP-114	1-2'
Benzo(a)anthracene	67 JD	TP-114	1-2'
Benzo(a)pyrene	38 D	SS-103	0-6"
Benzo(b)fluoranthene	35 D	SS-103	0-6"
Benzo(g,h,i)perylene	23 J	TP-114	1-2'
Benzo(k)fluoranthene	32	TP-104	1-2'
bis(2-Ethylhexyl)phthalate	4.6 B	SS-111	0-6"
Butyl benzyl phthalate	0.210 J	SB-104	0-2'
Carbazole	260 J	SS-111 DUP	0-6"
Chrysene	84 JD	TP-114	1-2'
Di-n-butyl phthalate	0.120 J	SS-104	0-6"
Dibenzofuran	5.4 J	TP-104	1-2'
Fluoranthene	87	TP-104	1-2'
Fluorene	55	TP-104	1-2'
Indeno(1,2,3-cd)pyrene	19	SS-103	0-6"
N-Nitroso-di-n-propylamine	0.120 J	SS-111	0-6"
Naphthalene	30	TP-104	1-2'
Pentachlorophenol	26 D	SS-111DUP	0-6"
Phenanthrene	200	TP-104	1-2'
Phenol	0.170 J	SS-111	0-6"
Pyrene	170 JD	TP-114	1-2'

Notes:
(1) Concentrations reported in milligrams per kilogram (mg/kg).

Table 6-3

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Surface Soil TAL inorganics (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
Aluminum	8960	SB-106	0-6"
Antimony	1.9 BJ	SS-112	0-6"
Arsenic	97.5	TP-104	1-2'
Barium	222	TP-114	1-2'
Beryllium	0.71	SB-106	0-6"
Cadmium	2.6	SS-104	0-6"
Calcium	259000	SB-103	0-6"
Chromium	75.6	TP-104	1-2'
Cobalt	22.2	TP-104	1-2'
Copper	120	TP-114	1-2'
Cyanide, Total	1020	TP-104	1-2'
Iron	51100	TP-104	1-2'
Lead	548 J	SB-104	0-6"
Magnesium	25200	SB-101	0-6"
Manganese	663	TP-104	1-2'
Mercury	2.4	TP-104	1-2'
Nickel	56	TP-104	1-2'
Potassium	1120	TP-114	1-2'
Selenium	3.2	TP-114	1-2'
Sodium	310 B	SS-113	0-6"
Vanadium	71.9	TP-104	1-2'
Zinc	800	SS-112	0-6"

Notes:

(1) Concentrations reported in milligrams per kilogram (mg/kg).

Table 6-4

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Surface Soil PCBs (mg/kg) (1)

Constituent	Max Detected Surface Soil	Location	Sample Depth
PCB	13 J	SS-102	0-6"

Table 6-5

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Subsurface Soil PCBs (mg/kg) (1)

Constituent	Max Detected Subsurface Soil	Location	Sample Depth
PCB	9.9 DJ	SB-110	6-8'

Notes:
(1) Concentrations reported in milligrams per kilogram (mg/kg).

Table 6-6

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Subsurface Soil VOCs (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
1,1,1 Trichloroethane	0.49 JD	SB-102 DUP	4-6'
1,1-Dichloroethene	0.016	SB-102 DUP	4-6'
2-Butanone	0.07 J	TP-103	2-4'
Acetone	0.089 J	TP-104	6-8'
Benzene	**360 D**	**TP1-02 DL**	**2-4'**
Ethylbenzene	**1100 D**	**SB18-0408 DL**	**4-8'**
Methylene chloride	**36 JBD**	**MW4-0204 DL**	**2-4'**
Toluene	**760 D**	**SB18-0408 DL**	**4-8'**
Xylenes, Total	**1400 D**	**SB18-0408 DL**	**4-8'**

Notes:

(1) Concentrations reported in milligrams per kilogram (mg/kg).

(2) Boldface Values from Foster Wheeler PSA, May 1995.

Table 6-7

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Subsurface Soil SVOCs (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
2-Methylnaphthalene	**1000 D**	**TP7-02 DL**	4-6'
Acenaphthene	**13000 D**	**SB12-0608 DL**	**6-8'**
Acenaphthylene	**8400 JD**	**SB12-0608 DL**	**6-8'**
Anthracene	**5400 JD**	**SB12-0608 DL**	**6-8'**
Benzo(a)anthracene	**4800 JD**	**SB12-0608 DL**	**6-8'**
Benzo(a)pyrene	**4000 JD**	**SB12-0608 DL**	**6-8'**
Benzo(b)fluoranthene	**1800 JD**	**SB12-0608 DL**	**6-8'**
Benzo(g,h,i)perylene	**2400 JD**	**SB12-0608 DL**	**6-8'**
Benzo(k)fluoranthene	**2200 JD**	**SB12-0608 DL**	**6-8'**
bis(2-Ethylhexyl)phthalate	3000 J	MW1403	**3-5'**
Carbazole	77	MW1403	**3-5'**
Chrysene	**4300 JD**	**SB12-0608 DL**	**6-8'**
Dibenzo(a,h)anthracene	**93 J**	**SB12-0608**	**6-8'**
Dibenzofuran	**210 JD**	**MW1403 DL**	**3-5'**
Fluoranthene	**16000 D**	**SB12-0608 DL**	**6-8'**
Fluorene	**8100 JD**	**SB12-0608 DL**	**6-8'**
Indeno(1,2,3-cd)pyrene	**1600 JD**	**SB12-0608 DL**	**6-8'**
Naphthalene	**55000 D**	**SB12-0608 DL**	**6-8'**
Pentachlorophenol	0.7 J	TP-111	4-6'
Phenanthrene	**33000 D**	**SB12-0608 DL**	**6-8'**
Pyrene	**22000 D**	**SB12-0608 DL**	**6-8'**

Notes:

(1) Concentrations reported in milligrams per kilogram (mg/kg).

(2) Boldface Values from Foster Wheeler PSA, May 1995.

Table 6-8

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Subsurface Soil SVOCs (mg/kg) (1)

Constituent	Max Detected Value	Location	Sample Depth
Aluminum	**18500**	**MW1103D**	**3-5'**
Antimony	**12.3 B**	**MW4-0204**	**2-4'**
Arsenic	40.2 J	MW-19D	1-3'
Barium	**607**	**TP4-01**	**1-3'**
Beryllium	**1.9**	**TP4-01**	**1-3'**
Cadmium	**1.6**	**TP4-01**	**1-3'**
Calcium	**301000**	**MW4-0204**	**2-4'**
Chromium	**24.1 J**	**MW8-0608**	**6-8'**
Cobalt	**24.8 J**	**MW8-0608**	**6-8'**
Copper	**262 J**	**TP2-01**	**1-3'**
Cyanide, Total	247	SB-113	4-6'
Iron	64400	SB-127 DUP	4-6'
Lead	1850	TP-101	2-4'
Magnesium	**7010**	**MW1004**	**4-6'**
Manganese	2230	SB-114	6-8'
Mercury	7.9	TP-111	4-6'
Nickel	**75**	**MW8-0608**	**6-8'**
Potassium	2530 J	TP-107	6-7'
Selenium	**7.1 J**	**TP6-02**	**2-4'**
Silver	**1.4 JB**	**SB7-0408**	**4-8'**
Sodium	**1400 B**	**TP4-01**	**1-3'**
Thallium	**0.73 B**	SB-114	**6-8'**
Vanadium	**64.6**	**TP4-01**	**1-3'**
Zinc	**710 J**	**MW4-0204**	**2-4'**

Notes:

(1) Concentrations reported in milligrams per kilogram (mg/kg).

(2) Boldface Values from Foster Wheeler PSA, May 1995.

Table 6-9

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers

Incidental Ingestion of Surface Soil

Chemical of Potential Interest	RME Concentration	Units	Non-Carcinogenic Risk			Carcinogenic risk		
			Intake (2) (mg/kg-day)	RfD (mg/kg-day)	Hazard Quotient	Intake (2) (mg/kg-day)	SF 1/(mg/kg-day)	Risk
Volatile Organics								
2-Butanone	2.10E-01	ug/kg	1.03E-10	0.6	1.71E-10		NC	
Acetone	3.70E+00	ug/kg	1.81E-09	0.1	1.81E-08		NC	
Benzene	2.60E-02	ug/kg	1.27E-11	NV		4.54E-12	0.029	1.32E-13
Carbon disulfide	8.00E-01	ug/kg	3.91E-10	0.1	3.91E-09		NC	
Ethylbenzene	2.00E+01	ug/kg	9.78E-09	0.1	9.78E-08		NC	
Methylene chloride	3.70E-02	ug/kg	1.81E-11	0.06	3.02E-10	6.46E-12	0.0075	4.85E-14
Styrene	1.30E+00	ug/kg	6.36E-10	0.2	3.18E-09		NC	
Toluene	6.10E-01	ug/kg	2.98E-10	0.2	1.49E-09		NC	
Trichloroethene	1.90E+00	ug/kg	9.30E-10	NV		3.32E-10	1.00E-02	3.32E-12
Semivolatile Organics								
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	6.36E-11	0.01	6.36E-09		NC	
1,4-Dichlorobenzene	1.00E-01	ug/kg	4.89E-11	NV			NC	
2,4-Dinitrotoluene	1.50E-01	ug/kg	7.34E-11	0.002	3.67E-08	2.62E-11	6.80E-01	1.78E-11
2-Chlorophenol	1.80E-01	ug/kg	8.81E-11	0.005	1.76E-08		NC	
2-Methylnaphthalene	1.30E+02	ug/kg	6.36E-08	NV			NC	
4-Chloro-3-methylphenol	2.10E-01	ug/kg	1.03E-10	NV			NC	
4-Nitrophenol	2.20E-01	ug/kg	1.08E-10	NV			NC	
Acenaphthene	1.10E+01	ug/kg	5.38E-09	0.06	8.97E-08		NC	
Acenaphthylene	5.10E+00	ug/kg	2.50E-09	NV			NC	
Anthracene	1.70E+01	ug/kg	8.32E-09	0.3	2.77E-08		NC	
Benzo(a)anthracene	6.70E+01	ug/kg	3.28E-08	NV			NC	
Benzo(a)pyrene	3.80E+01	ug/kg	1.86E-08	NV		6.64E-09	7.3	4.85E-08
Benzo(b)fluoranthene	3.50E+01	ug/kg	1.71E-08	NV		6.12E-09	0.73	4.46E-09
Senzo(g,h,i)perylene	2.30E+01	ug/kg	1.13E-08	NV			NC	
Benzo(k)fluoranthene	3.20E+01	ug/kg	1.57E-08	NV		5.59E-09	0.073	4.08E-10
bis(2-Ethylhexyl)phthalat	4.60E+00	ug/kg	2.25E-09	0.2	1.13E-08	8.04E-10	0.14	1.13E-10
Butylbenzylphthalate	2.10E-01	ug/kg	1.03E-10	0.2	5.14E-10		NC	
Carbazole	2.60E+02	ug/kg	1.27E-07	NV		4.54E-08	0.02	9.09E-10
Chrysene	8.40E+01	ug/kg	4.11E-08	NV			NC	
Di-n-butylphthalate	1.20E-01	ug/kg	5.87E-11	0.1	5.87E-10		NC	
Dibenzofuran	5.40E+00	ug/kg	2.64E-09	NV			NC	
Fluoranthene	8.70E+01	ug/kg	4.26E-08	0.04	1.06E-06		NC	
Fluorene	5.50E+01	ug/kg	2.69E-08	0.04	6.73E-07		NC	
Indeno(1,2,3-cd)pyrene	1.90E+01	ug/kg	9.30E-09	NV		3.32E-09	0.73	2.42E-09
N-Nitro-di-n-propylamine	1.20E-01	ug/kg	5.87E-11	NV			NC	
Naphthalene	3.00E+01	ug/kg	1.47E-08	NV			NC	
Pentachlorophenol	2.60E+01	ug/kg	1.27E-08	0.03	4.24E-07	4.54E-09	0.12	5.45E-10
Phenanthrene	2.00E+02	ug/kg	9.78E-08	NV			NC	
Phenol	1.70E-01	ug/kg	8.32E-11	0.6	1.39E-10		NC	
Pyrene	1.70E+02	ug/kg	8.32E-08	0.03	2.77E-06		NC	
PCBs								
Total PCB's	1.30E+01	ug/kg	6.36E-09	NV		2.27E-09	2	4.54E-09
Inorganics								
Aluminum	8.96E+03	mg/kg	4.38E-06	NV			NC	
Antimony	1.90E+00	mg/kg	9.30E-10	0.0004	2.32E-06		NC	
Arsenic	9.75E+01	mg/kg	4.77E-08	0.0003	1.59E-04	1.70E-08	1.5	2.56E-08
Barium	2.22E+02	mg/kg	1.09E-07	0.07	1.55E-06		NC	
Beryllium	7.10E-01	mg/kg	3.47E-10	0.005	6.95E-08	1.24E-10	4.3	5.33E-10
Cadmium	2.60E+00	mg/kg	1.27E-09	0.001	1.27E-06		NC	
Calcium	2.59E+05	mg/kg	1.27E-04	NV			NC	
Chromium	7.56E+01	mg/kg	3.70E-08	1	3.70E-08		NC	
Cobalt	2.22E+01	mg/kg	1.09E-08	NV			NC	
Copper	1.20E+02	mg/kg	5.87E-08	0.037	1.59E-06		NC	
Iron	5.11E+04	mg/kg	2.50E-05	NV			NC	
Lead	5.48E+02	mg/kg	2.68E-07	NV			NV	
Magnesium	2.52E+04	mg/kg	1.23E-05	NV			NC	
Manganese	6.63E+02	mg/kg	3.24E-07	0.14	2.32E-06		NC	
Mercury	2.40E+00	mg/kg	1.17E-09	0.0003	3.91E-06		NC	
Nickel	5.60E+01	mg/kg	2.74E-08	0.02	1.37E-06		NC	
Potassium	1.12E+03	mg/kg	5.48E-07	NV			NC	
Selenium	3.20E+00	mg/kg	1.57E-09	0.005	3.13E-07		NC	
Sodium	3.10E+02	mg/kg	1.52E-07	NV			NC	
Vanadium	7.19E+01	mg/kg	3.52E-08	0.007	5.03E-06		NC	
Zinc	8.00E+02	mg/kg	3.91E-07	0.3	1.30E-06		NC	
Cyanide	1.20E+00	mg/kg	5.87E-10	0.02	2.94E-08		NC	
				Hazard Index	0.0002	Total CancerRisk =		9E-08

Notes:
NV = no value; NC = not a carcinogen

(1) Assumes that a hypothetical on-site worker will be exposed to surface soil 250 days/yr for 25 yrs

(2) Intake - (C x CF x IR x EF x ED)/(BW x AT) where:

C = Soil Concentration (mg/kg)
CF = Conversion Factor = 1E-09 ug/kg or 1E-06 mg/kg
IR = Soil Ingestion Rate = 50 mg/day
EF = Exposure Frequency = 250 days/yr
ED = Exposure Duration = 25 yr
BW = Body Weight = 70 kg
AT = 9125 days for non-carcinogenic risk; 25550 days for carcinogenic risk (70 yr lifespan)

Table 6-10

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers (1)

Dermal Contact With Surface Soil

Chemical of Potential Interest	RME Concentration	Units	Non-Carcinogenic Risk			Carcinogenic risk		
			Intake (2) (mg/kg-day)	RfD (mg/kg-day)	Hazard Quotient	Intake (2) (mg/kg-day)	SF 1/(mg/kg-day)	Risk
Volatile Organics								
2-Butanone	2.10E-01	ug/kg	2.98E-09	0.6	4.97E-09		NC	
Acetone	3.70E+00	ug/kg	5.25E-08	0.1	5.25E-07		NC	
Benzene	2.60E-02	ug/kg	3.69E-10	NV		1.32E-10	0.029	3.82E-12
Carbon disulfide	8.00E-01	ug/kg	1.14E-08	0.1	1.14E-07		NC	
Ethylbenzene	2.00E+01	ug/kg	2.84E-07	0.1	2.84E-06		NC	
Methylene chloride	3.70E-02	ug/kg	5.25E-10	0.06	8.75E-09	1.87E-10	0.0075	1.41E-12
Styrene	1.30E+00	ug/kg	1.84E-08	0.2	9.22E-08		NC	
Toluene	6.10E-01	ug/kg	8.65E-09	0.2	4.33E-08		NC	
Trichloroethene	1.90E+00	ug/kg	2.70E-08	NV		9.63E-09	1.00E-02	9.63E-11
Semivolatile Organics								
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	7.38E-10	0.01	7.38E-08		NC	
1,4-Dichlorobenzene	1.00E-01	ug/kg	5.68E-10	NV			NC	
2,4-Dinitrotoluene	1.50E-01	ug/kg	8.51E-10	0.002	4.26E-07	3.04E-10	6.80E-01	2.27E-18
2-Chlorophenol	1.80E-01	ug/kg	1.02E-09	0.005	2.04E-07		NC	
2-Methylnaphthalene	1.30E+02	ug/kg	7.38E-07	NV			NC	
4-Chloro-3-methylphenol	2.10E-01	ug/kg	1.19E-09	NV			NC	
4-Nitrophenol	2.20E-01	ug/kg	1.25E-09	NV			NC	
Acenaphthene	1.10E+01	ug/kg	6.24E-08	0.06	1.04E-06		NC	
Acenaphthylene	5.10E+00	ug/kg	2.89E-08	NV			NC	
Anthracene	1.70E+01	ug/kg	9.65E-08	0.3	3.22E-07		NC	
Benzo(a)anthracene	6.70E+01	ug/kg	3.80E-07	NV			NC	
Benzo(a)pyrene	3.80E+01	ug/kg	2.16E-07	NV		7.70E-08	7.3	5.74E-16
Benzo(b)fluoranthene	3.50E+01	ug/kg	1.99E-07	NV		7.09E-08	0.73	5.18E-08
Benzo(g,h,i)perylene	2.30E+01	ug/kg	1.31E-07	NV			NC	
Benzo(k)fluoranthene	3.20E+01	ug/kg	1.82E-07	NV		6.49E-08	0.073	4.73E-09
bis(2-Ethylhexyl)phthalat	4.60E+00	ug/kg	2.61E-08	0.2	1.31E-07	9.32E-09	0.14	1.31E-09
Butylbenzylphthalate	2.10E-01	ug/kg	1.19E-09	0.2	5.96E-09		NC	
Carbazole	2.60E+02	ug/kg	1.48E-06	NV		5.27E-07	0.02	1.05E-08
Chrysene	8.40E+01	ug/kg	4.77E-07	NV			NC	
Di-n-butylphthalate	1.20E-01	ug/kg	6.81E-10	0.1	6.81E-09		NC	
Dibenzofuran	5.40E+00	ug/kg	3.06E-08	NV			NC	
Fluoranthene	8.70E+01	ug/kg	4.94E-07	0.04	1.23E-05		NC	
Fluorene	5.50E+01	ug/kg	3.12E-07	0.04	7.80E-06		NC	
Indeno(1,2,3-cd)pyrene	1.90E+01	ug/kg	1.08E-07	NV		3.85E-08	0.73	2.81E-08
N-Nitro-di-n-propylamine	1.20E-01	ug/kg	6.81E-10	NV			NC	
Naphthalene	3.00E+01	ug/kg	1.70E-07	NV			NC	
Pentachlorophenol	2.60E+01	ug/kg	1.48E-07	0.03	4.92E-06	5.27E-08	0.12	6.32E-09
Phenanthrene	2.00E+02	ug/kg	1.14E-06	NV			NC	
Phenol	1.70E-01	ug/kg	9.65E-10	0.6	1.61E-09		NC	
Pyrene	1.70E+02	ug/kg	9.65E-07	0.03	3.22E-05		NC	
PCBs								
Total PCB's	1.30E+01	ug/kg	4.43E-08	NV		1.58E-08	2	3.16E-08
Inorganics								
Aluminum	8.96E+03	mg/kg	5.08E-06	NV			NC	
Antimony	1.90E+00	mg/kg	1.08E-09	0.0004	2.70E-06		NC	
Arsenic	9.75E+01	mg/kg	5.53E-08	0.0003	1.84E-04	1.98E-08	1.5	2.96E-08
Barium	2.22E+02	mg/kg	1.26E-07	0.07	1.80E-06		NC	
Beryilium	7.10E-01	mg/kg	4.03E-10	0.005	8.06E-08	1.44E-10	4.3	6.19E-10
Cadmium	2.60E+00	mg/kg	1.48E-09	0.001	1.48E-06		NC	
Calcium	2.59E+05	mg/kg	1.47E-04	NV			NC	
Chromium	7.56E+01	mg/kg	4.29E-08	1	4.29E-08		NC	
Cobalt	2.22E+01	mg/kg	1.26E-08	NV			NC	
Copper	1.20E+02	mg/kg	6.81E-08	0.037	1.84E-06		NC	
Iron	5.11E+04	mg/kg	2.90E-05	NV			NC	
Lead	5.48E+02	mg/kg	3.11E-07	NV			NV	
Magnesium	2.52E+04	mg/kg	1.43E-05	NV			NC	
Manganese	6.63E+02	mg/kg	3.76E-07	0.14	2.69E-06		NC	
Mercury	2.40E+00	mg/kg	1.36E-09	0.0003	4.54E-06		NC	
Nickel	5.60E+01	mg/kg	3.18E-08	0.02	1.59E-06		NC	
Potassium	1.12E+03	mg/kg	6.36E-07	NV			NC	
Selenium	3.20E+00	mg/kg	1.82E-09	0.005	3.63E-07		NC	
Sodium	3.10E+02	mg/kg	1.76E-07	NV			NC	
Vanadium	7.19E+01	mg/kg	4.08E-08	0.007	5.83E-06		NC	
Zinc	8.00E+02	mg/kg	4.54E-07	0.3	1.51E-06		NC	
Cyanide	1.02E+03	mg/kg	5.79E-07	0.02	2.89E-05		NC	
				Hazard Index	0.0003		Total CancerRisk =	2E-07

Notes:
NV = no value; NC = not a carcinogen; NQ = Not Quantifiable

(1) Assumes that a hypothetical on-site worker will be exposed to surface soil 250 days/yr for 25 yr

(2) Intake - (C x CF x ABS x AF x SA x EF x ED)/(BW x AT) where:

C = Soil Concentration (mg/kg)
CF = Conversion Factor = 1E-09 ug/kg or 1E-06 mg/kg
ABS = Chemical-specific absorption factor
= 25% for volatile organics; 10% for semivoiatiles; 6% for PCBs; 1% for inorganics
AF = Soil-to-skin Adherence Factor = 1mg/cm2
SA = Skin Surface Area available for contact = 5800 cm2 (25% total SA for adult)
EF = Exposure Frequency = 10 days
ED = Exposure Duration = 14 days
BW = Body Weight = 70 kg
AT = 9125 days for non-carcinogenic risk; 25550 days for carcinogenic risk (70 yr lifespan)

(3) Unmodified oral values are used. It is important to note that it is technically inappropriate to use oral values to estimate dermal risks for the carcinogenic PAHs due to portal-of-entry effects (USEPA, 1989). However, due to the importance of evaluating exposure to these constituents this assessment uses oral values for the PAHs and assumes equivalent potency following oral and dermal exposures.

Table 6-11

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers

Inhalation of particulates and vapors released to air from surface soil (1)

Chemical of Potential Interest	Soil RME Concentration	Units	Air Concentration (mg/m3) (1)	ACGIH TLV-TWA (mg/m3) (2)	Ratio of Concentration to TLV-TWA (3)
Volatile Organics					
2-Butanone	2.10E-01	ug/kg	9.55E-08	NE	
Acetone	3.70E+00	ug/kg	1.68E-06	NE	
Benzene	2.60E-02	ug/kg	1.18E-08	1.6	7.39E-09
Carbon disulfide	8.00E-01	ug/kg	3.64E-07	NE	
Ethylbenzene	2.00E+01	ug/kg	9.10E-06	NE	
Methylene chloride	3.70E-02	ug/kg	1.68E-08	NE	
Styrene	1.30E+00	ug/kg	5.91E-07	NE	
Toluene	6.10E-01	ug/kg	2.77E-07	NE	
Trichloroethene	1.90E+00	ug/kg	8.64E-07	NE	
Semivolatile Organics					
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	1.91E-13	NV	
1,4-Oichlorobenzene	1.00E-01	ug/kg	1.47E-13	NV	
2,4-Dinitrotoluene	1.50E-01	ug/kg	2.21E-13	NV	
2-Chlorophenol	1.80E-01	ug/kg	2.65E-13	NV	
2-Methylnaphthalene	1.30E+02	ug/kg	1.91E-10	0.2	9.57E-10
4-Chloro-3-methylphen	2.10E-01	ug/kg	3.09E-13	NV	
4-Nitrophenol	2.20E-01	ug/kg	3.24E-13	NV	
Acenaphthene	1.10E+01	ug/kg	1.62E-11	0.2	8.10E-11
Acenaphthylene	5.10E+00	ug/kg	7.51E-12	0.2	3.76E-11
Anthracene	1.70E+01	ug/kg	2.50E-11	0.2	1.25E-10
Benzo(a)anthracene	6.70E+01	ug/kg	9.87E-11	0.2	4.93E-10
Benzo(a)pyrene	3.80E+01	ug/kg	5.60E-11	0.2	2.80E-10
Benzo(b)fluoranthene	3.50E+01	ug/kg	5.15E-11	0.2	2.58E-10
Benzo(g,h,i)perylene	2.30E+01	ug/kg	3.39E-11	0.2	1.69E-10
Benzo(k)fluoranthene	3.20E+01	ug/kg	4.71E-11	0.2	2.36E-10
bis(2-Ethylhexyl)phthal	4.60E+00	ug/kg	6.77E-12	NV	
Butylbenzylphthalate	2.10E-01	ug/kg	3.09E-13	NV	
Carbazole	2.60E+02	ug/kg	3.83E-10	NV	
Chrysene	8.40E+01	ug/kg	1.24E-10	0.2	6.19E-10
Di-n-butylphthalate	1.20E-01	ug/kg	1.77E-13	5	3.53E-14
Dibenzofuran	5.40E+00	ug/kg	7.95E-12	NV	
Fluoranthene	8.70E+01	ug/kg	1.28E-10	0.2	6.41E-10
Fluorene	5.50E+01	ug/kg	8.10E-11	0.2	4.05E-10
Indeno(1,2,3-cd)pyrene	1.90E+01	ug/kg	2.80E-11	0.2	1.40E-10
N-Nitro-di-n-propylamin	1.20E-01	ug/kg	1.77E-13	NV	
Naphthalene	3.00E+01	ug/kg	4.42E-11	52	8.50E-13
Pentachlorophenol	2.60E+01	ug/kg	3.83E-11	0.5	7.66E-11
Phenanthrene	2.00E+02	ug/kg	2.95E-10	0.2	1.47E-09
Phenol	1.70E-01	ug/kg	2.50E-13	19	1.32E-14
Pyrene	1.70E+02	ug/kg	2.50E-10	0.2	1.25E-09
PCBs					
Aroclor 1242	1.30E+01	ug/kg	1.91E-11	1	1.91E-11
Inorganics					
Aluminum	8.96E+03	mg/kg	1.32E-05	2	6.60E-06
Antimony	1.90E+00	mg/kg	2.80E-09	0.5	5.60E-09
Arsenic	9.75E+01	mg/kg	1.44E-07	0.01	1.44E-05
Barium	2.22E+02	mg/kg	3.27E-07	0.5	6.54E-07
Beryllium	7.10E-01	mg/kg	1.05E-09	0.002	5.23E-07
Cadmium	2.60E+00	mg/kg	3.83E-09	0.002	1.91E-06
Calcium	2.59E+05	mg/kg	3.81E-04	NV	
Chromium	7.56E+01	mg/kg	1.11E-07	0.5	2.23E-07
Cobalt	2.22E+01	mg/kg	3.27E-08	0.02	1.63E-06
Copper	1.20E+02	mg/kg	1.77E-07	1	1.77E-07
Iron	5.11E+04	mg/kg	7.53E-05	1	7.53E-05
Lead	5.48E+02	mg/kg	8.07E-07	0.05	1.61E-05
Magnesium	2.52E+04	mg/kg	3.71E-05	NV	
Manganese	6.63E+02	mg/kg	9.76E-07	0.2	4.88E-06
Mercury	2.40E+00	mg/kg	3.53E-09	0.025	1.41E-07
Nickel	5.60E+01	mg/kg	8.25E-08	0.1	8.25E-07
Potassium	1.12E+03	mg/kg	1.65E-06	NV	
Seienium	3.20E+00	mg/kg	4.71E-09	0.2	2.36E-08
Sodium	3.10E+02	mg/kg	4.57E-07	NV	
Vanadium	7.19E+01	mg/kg	1.06E-07	NV	
Zinc	8.00E+02	mg/kg	1.18E-06	10	1.18E-07
Cyanide	1.20E+00	mg/kg	1.77E-09	NV	
				Sum of Ratios	1E-04

Notes:

(1) Soil concentration in mg/kg x 1/PEF, where PEF = 6.79E=8 m3/kg (USEPA default particulate emission factor) Concentrations are estimated only for semi-volatles and inorganics. Volatilization is not estimated for volatile organics other than benzene because methods are time-consuming and because estimated concentrations would be much lower than TWAs.

The benzene concentration in air = soil benzene concentration in mg/kg x 1/VF, where VF = 2199 m3/kg (see USEPA 1994 Soil Screening Guidance).

(2) American Conference of Governmental Industrial Hygienists. 1996. Guide to Occupational Exposure Values - 1996. Note that value for most PAHs is for coal tar pitch volatiles.

(3) Sum of ratios less than 1 indicates no adverse effects expected

NE = not estimated. Soil concentrations are very low, and would yield air concentrations less than TWAs.
NV = no value

Table 6-12

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers (1)
Incidental Ingestion of Subsurface Soil

Chemical of Potential Interest	RME Concentration	Units	Non-Carcinogenic Risk			Carcinogenic risk		
			Intake (2) (mg/kg-day)	RfD (mg/kg-day)	Hazard Quotient	Intake (2) (mg/kg-day)	SF 1/(mg/kg-day)	Risk
Volatile Organics								
1,1-Dichloroethene	1.60E-02	ug/kg	7.84E-11	0.009	8.71E-09	4.29E-14	0.6	2.58E-14
1,1,1-Trichloroethane	4.90E-01	ug/kg	2.40E-09	NV			NC	
2-Butanone	2.10E-01	ug/kg	1.03E-09	0.6	1.71E-09		NC	
Acetone	3.70E+00	ug/kg	1.81E-08	0.1	1.81E-07		NC	
Benzene	3.60E+02	ug/kg	1.76E-06	NV		9.66E-10	0.029	2.80E-11
Carbon Disulfide	8.00E-01	ug/kg	3.92E-09	0.1	3.92E-08		NC	
Ethylbenzene	1.10E+03	ug/kg	5.39E-06	0.1	5.39E-05		NC	
Methylene chloride	3.60E+01	ug/kg	1.76E-07	0.06	2.94E-06	9.66E-11	0.0075	7.25E-13
Styrene	1.30E+00	ug/kg	6.37E-09	0.2	3.18E-08		NC	
Toluene	7.60E+02	ug/kg	3.72E-06	0.2	1.86E-05		NC	
Trichloroethene	1.90E+00	ug/kg	9.31E-09	NV		5.10E-12	0.01	5.10E-14
Xylenes, Total	1.40E+03	ug/kg	6.86E-06	2	3.43E-06		NC	
Semivolatile Organics								
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	6.37E-10	0.01	6.37E-08		NC	
1,4-Dichlorobenzene	1.00E-01	ug/kg	4.90E-10	NV			NC	
2,4-Dinitrotoluene	1.50E-01	ug/kg	7.35E-10	0.002	3.67E-07	4.03E-13	6.80E-01	2.74E-13
2-Chlorophenol	1.80E-01	ug/kg	8.82E-10	0.005	1.76E-07		NC	
2-Methylnaphthalene	1.00E+03	ug/kg	4.90E-06	NV			NC	
4-Chloro-3-methylphen	2.10E-01	ug/kg	1.03E-09	NV			NC	
4-Nitrophenol	2.20E-01	ug/kg	1.08E-09	NV			NC	
Acenaphthene	1.30E+05	ug/kg	6.37E-04	0.06	1.06E-02		NC	
Acenaphthylene	8.40E+03	ug/kg	4.11E-05	NV			NC	
Anthracene	5.40E+03	ug/kg	2.64E-05	0.3	8.82E-05		NC	
Benzo(a)anthracene	4.80E+03	ug/kg	2.35E-05	NV		1.29E-08	0.73	9.40E-09
Benzo(a)pyrene	4.00E+03	ug/kg	1.96E-05	NV		1.07E-08	7.3	7.84E-08
Benzo(b)fluoranthene	1.80E+03	ug/kg	8.82E-06	NV		4.83E-09	0.73	3.53E-09
Benzo(g,h,i)perylene	2.40E+03	ug/kg	1.18E-05	NV			NC	
Benzo(k)fluoranthene	2.20E+03	ug/kg	1.08E-05	NV		5.90E-09	0.073	4.31E-10
bis(2-Ethylhexyl)phthal	3.00E+03	ug/kg	1.47E-05	0.2	7.35E-05	8.05E-09	0.14	1.13E-09
Butylbenzylphthalate	2.10E-01	ug/kg	1.03E-09	0.2	5.14E-09		NC	
Carbazole	2.60E+02	ug/kg	1.27E-06	NV		6.98E-10	0.02	1.40E-11
Chrysene	4.30E+03	ug/kg	2.11E-05	NV		1.15E-08	0.0073	8.42E-11
Dibenzo(a,h)anthracene	9.30E+01	ug/kg	4.56E-07	NV		2.50E-10	7.3	1.82E-09
Dibenzofuran	2.10E+02	ug/kg	1.03E-06	NV			NC	
Di-n-butylphthalate	1.20E-01	ug/kg	5.88E-10	0.1	5.88E-09		NC	
Fluoranthene	1.60E+04	ug/kg	7.84E-05	0.04	1.96E-03		NC	
Fluorene	8.10E+03	ug/kg	3.97E-05	0.04	9.92E-04		NC	
Indeno(1,2,3-cd)pyrene	1.60E+03	ug/kg	7.84E-06	NV		4.29E-09	0.73	3.13E-09
N-Nitro-di-n-propylamin	1.20E-01	ug/kg	5.88E-10	NV			NC	
Naphthalene	5.50E+04	ug/kg	2.69E-04	NV			NC	
Pentachlorophenol	2.60E+01	ug/kg	1.27E-07	0.03	4.24E-06	6.98E-11	0.12	8.37E-12
Phenanthrene	3.30E+04	ug/kg	1.62E-04	NV			NC	
Phenol	1.70E-01	ug/kg	8.33E-10	0.6	1.39E-09		NC	
Pyrene	2.20E+04	ug/kg	1.08E-04	0.03	3.59E-03		NC	
PCBs								
Total PCBs	1.30E+01	ug/kg	6.37E-08	NV		3.49E-11	2	6.98E-11
Inorganics								
Aluminum	1.85E+04	mg/kg	9.06E-05	NV			NC	
Antimony	1.23E+01	mg/kg	6.02E-08	0.0004	1.51E-04		NC	
Arsenic	9.75E+01	mg/kg	4.78E-07	0.0003	1.59E-03	2.62E-10	1.5	3.93E-10
Barium	6.07E+02	mg/kg	2.97E-06	0.07	4.25E-05		NC	
Beryllium	1.90E+00	mg/kg	9.31E-09	0.005	1.86E-06	5.10E-12	4.3	2.19E-11
Cadmium	2.60E+00	mg/kg	1.27E-08	0.001	1.27E-05		NC	
Calcium	3.01E+05	mg/kg	1.47E-03	NV			NC	
Chromium	7.56E+01	mg/kg	3.70E-07	1	3.70E-07		NC	
Cobalt	2.48E+01	mg/kg	1.21E-07	NV			NC	
Copper	2.62E+02	mg/kg	1.28E-06	0.037	3.47E-05		NC	
Iron	6.44E+04	mg/kg	3.15E-04	NV			NC	
Lead	1.85E+03	mg/kg	9.06E-06	NV			NC	
Magnesium	2.52E+04	mg/kg	1.23E-04	NV			NC	
Manganese	2.23E+03	mg/kg	1.09E-05	0.14	7.80E-05		NC	
Mercury	7.90E+00	mg/kg	3.87E-08	0.0003	1.29E-04		NC	
Nickel	7.50E+01	mg/kg	3.67E-07	0.02	1.84E-05		NC	
Potassium	2.53E+03	mg/kg	1.24E-05	NV			NC	
Selenium	7.10E+00	mg/kg	3.48E-08	0.005	6.96E-06		NC	
Silver	1.40E+00	mg/kg	6.86E-09	0.005	1.37E-06		NC	
Sodium	1.40E+03	mg/kg	6.86E-06	NV			NC	
Thallium	7.30E-01	mg/kg	3.58E-09	NV			NC	
Vanadium	7.19E+01	mg/kg	3.52E-07	0.007	5.03E-05		NC	
Zinc	8.00E+02	mg/kg	3.92E-06	0.3	1.31E-05		NC	
Cyanide	1.02E+03	mg/kg	5.00E-06	0.02	2.50E-04		NC	
				Hazard Index	0.02	Total CancerRisk =		1E-07

Notes:
NV = no value; NC = not a carcinogen

(1) Assumes that a hypothetical excavation worker will be exposed to subsurface soil for 10 days.

(2) Intake - (C x CF x IR x EF x ED)/(BW x AT) where:

C = Soil Concentration (mg/kg)
CF = Conversion Factor = 1E-09 ug/kg or 1E-06 mg/kg
IR = Soil Ingestion Rate = 480 mg/day
EF = Exposure Frequency = 10 days
ED = Exposure Duration = 14 days
BW = Body Weight = 70 kg
AT = 14 days for non-carcinogenic risk; 25550 days for carcinogenic risk (70 yr lifespan)

Table 6-13

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers (1)
Dermal Contact with Subsurface Soil

Chemical of Potential Interest	RME Concentration	Units	Non-Carcinogenic Risk			Carcinogenic risk		
			Intake (2) (mg/kg-day)	RfD (mg/kg-day)	Hazard Quotient	Intake (2) (mg/kg-day)	SF 1/(mg/kg-day)	Risk
Volatile Organics								
1,1-Dichloroethene	1.60E-02	ug/kg	2.37E-10	0.009	2.63E-08	1.30E-13	0.6	7.78E-14
1,1,1-Trichloroethane	4.90E-01	ug/kg	7.25E-09	NV			NC	
2-Butanone	2.10E-01	ug/kg	3.11E-09	0.6	5.18E-09		NC	
Acetone	3.70E+00	ug/kg	5.47E-08	0.1	5.47E-07		NC	
Benzene	3.60E+02	ug/kg	5.33E-06	NV		2.92E-09	0.029	8.46E-11
Carbon Disulfide	8.00E-01	ug/kg	1.18E-08	0.1	1.18E-07		NC	
Ethylbenzene	1.10E+03	ug/kg	1.63E-05	0.1	1.63E-04		NC	
Methylene chloride	3.60E+01	ug/kg	5.33E-07	0.06	8.88E-06	2.92E-10	0.0075	2.19E-12
Styrene	1.30E+00	ug/kg	1.92E-08	0.2	9.62E-08		NC	
Toluene	7.60E+02	ug/kg	1.12E-05	0.2	5.62E-05		NC	
Trichloroethene	1.90E+00	ug/kg	2.81E-08	NV		1.54E-11	0.01	1.54E-13
Xylenes, Total	1.40E+03	ug/kg	2.07E-05	2	1.04E-05		NC	
Semivolatile Organics								
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	7.69E-10	0.01	7.69E-08		NC	
1,4-Dichlorobenzene	1.00E-01	ug/kg	5.92E-10	NV			NC	
2,4-Dinitrotoluene	1.50E-01	ug/kg	8.88E-10	0.002	4.44E-07	4.86E-13	6.80E-01	3.31E-13
2-Chlorophenol	1.80E-01	ug/kg	1.07E-09	0.005	2.13E-07		NC	
2-Methylnaphthalene	1.00E+03	ug/kg	5.92E-06	NV			NC	
4-Chloro-3-methylphen	2.10E-01	ug/kg	1.24E-09	NV			NC	
4-Nitrophenol	2.20E-01	ug/kg	1.30E-09	NV			NC	
Acenaphthene	1.30E+05	ug/kg	7.69E-04	0.06	1.28E-02		NC	
Acenaphthylene	8.40E+03	ug/kg	4.97E-05	NV			NC	
Anthracene	5.40E+03	ug/kg	3.20E-05	0.3	1.07E-04		NC	
Benzo(a)anthracene	4.80E+03	ug/kg	2.84E-05	NV		1.56E-08	0.73	1.14E-08
Benzo(a)pyrene	4.00E+03	ug/kg	2.37E-05	NV		1.30E-08	7.3	9.47E-08
Benzo(b)fluoranthene	1.80E+03	ug/kg	1.07E-05	NV		5.84E-09	0.73	4.26E-09
Benzo(g,h,i)perylene	2.40E+03	ug/kg	1.42E-05	NV			NC	
Benzo(k)fluoranthene	2.20E+03	ug/kg	1.30E-05	NV		7.13E-09	0.073	5.21E-10
bis(2-Ethylhexyl)phthal	3.00E+03	ug/kg	1.78E-05	0.2	8.88E-05	9.73E-09	0.14	1.36E-09
Butylbenzylphthalate	2.10E-01	ug/kg	1.24E-09	0.2	6.21E-09		NC	
Carbazole	2.60E+02	ug/kg	1.54E-06	NV		8.43E-10	0.02	1.69E-11
Chrysene	4.30E+03	ug/kg	2.54E-05	NV		1.39E-08	0.0073	1.02E-10
Dibenzo(a,h)anthracene	9.30E+01	ug/kg	5.50E-07	NV		3.02E-10	7.3	2.20E-09
Dibenzofuran	2.10E+02	ug/kg	1.24E-06	NV			NC	
Di-n-butylphthalate	1.20E-01	ug/kg	7.10E-10	0.1	7.10E-09	3.89E-13	NC	
Fluoranthene	1.60E+04	ug/kg	9.47E-05	0.04	2.37E-03		NC	
Fluorene	8.10E+03	ug/kg	4.79E-05	0.04	1.20E-03		NC	
Indeno(1,2,3-cd)pyrene	1.60E+03	ug/kg	9.47E-06	NV		5.19E-09	0.73	3.79E-09
N-Nitro-di-n-propylamin	1.20E-01	ug/kg	7.10E-10	NV			NC	
Naphthalene	5.50E+04	ug/kg	3.26E-04	NV			NC	
Pentachlorophenol	2.60E+01	ug/kg	1.54E-07	0.03	5.13E-06	8.43E-11	0.12	1.01E-11
Phenanthrene	3.30E+04	ug/kg	1.95E-04	NV			NC	
Phenol	1.70E-01	ug/kg	1.01E-09	0.6	1.68E-09		NC	
Pyrene	2.20E+04	ug/kg	1.30E-04	0.03	4.34E-03		NC	
PCBs								
Total PCBs	1.30E+01	ug/kg	4.62E-08	NV		2.53E-11	2	5.06E-11
Inorganics								
Aluminum	1.85E+04	mg/kg	1.09E-02	NV			NC	
Antimony	1.23E+01	mg/kg	7.28E-06	0.0004	1.82E-02		NC	
Arsenic	9.75E+01	mg/kg	5.77E-05	0.0003	1.92E-01	3.16E-08	1.5	4.74E-08
Barium	6.07E+02	mg/kg	3.59E-04	0.07	5.13E-03		NC	
Beryllium	1.90E+00	mg/kg	1.12E-06	0.005	2.25E-04	6.16E-10	4.3	2.65E-09
Cadmium	2.60E+00	mg/kg	1.54E-06	0.001	1.54E-03		NC	
Calcium	3.01E+05	mg/kg	1.78E-01	NV			NC	
Chromium	7.56E+01	mg/kg	4.47E-05	1	4.47E-05		NC	
Cobalt	2.48E+01	mg/kg	1.47E-05	NV			NC	
Copper	2.62E+02	mg/kg	1.55E-04	0.037	4.19E-03		NC	
Iron	6.44E+04	mg/kg	3.81E-02	NV			NC	
Lead	1.85E+03	mg/kg	1.09E-03	NV			NC	
Magnesium	2.52E+04	mg/kg	1.49E-02	NV			NC	
Manganese	2.23E+03	mg/kg	1.32E-03	0.14	9.43E-03		NC	
Mercury	7.90E+00	mg/kg	4.68E-06	0.0003	1.56E-02		NC	
Nickel	7.50E+01	mg/kg	4.44E-05	0.02	2.22E-03		NC	
Potassium	2.53E+03	mg/kg	1.50E-03	NV			NC	
Selenium	7.10E+00	mg/kg	4.20E-06	0.005	8.40E-04		NC	
Silver	1.40E+00	mg/kg	8.29E-07	0.005	1.66E-04		NC	
Sodium	1.40E+03	mg/kg	8.29E-04	NV			NC	
Thallium	7.30E-01	mg/kg	4.32E-07	NV			NC	
Vanadium	7.19E+01	mg/kg	4.26E-05	0.007	6.08E-03		NC	
Zinc	8.00E+02	mg/kg	4.73E-04	0.3	1.58E-03		NC	
Cyanide	1.02E+03	mg/kg	6.04E-04	0.02	3.02E-02		NC	
				Hazard Index	0.31	Total CancerRisk =		2E-07

Notes:
NV = no value; NC = not a carcinogen; NQ = Not Quantifiable

(1) Assumes that a hypothetical excavation worker will be exposed to subsurface soil for 10 days.

(2) Intake - (C x CF x ABS x AF x SA x EF x ED)/(BW x AT) where:

C = Soil Concentration (mg/kg)
CF = Conversion Factor = 1E-09 ug/kg or 1E-06 mg/kg
ABS = Chemical-specific absorption factor
= 25% for volatile organics; 10% for semivolatiles; 6% for PCBs; 1% for inorganics
AF = Soil-to-skin Adherence Factor = 1mg/cm2
SA = Skin Surface Area available for contact = 5800 cm2 (25% total SA for adult)
EF = Exposure Frequency = 10 days
ED = Exposure Duration = 14 days
BW = Body Weight = 70 kg
AT = 14 days for non-carcinogenic risk; 25550 days for carcinogenic risk (70 yr lifespan)

(3) Unmodified oral values are used. It is important to note that it is technically inappropriate to use oral values to estimate dermal risks for the carcinogenic PAHs due to portal-of-entry effects (USEPA, 1989). However, due to the importance of evaluating exposure to these constituents, this assessment uses oral values for the PAHs and assumes equivalent potency following oral and dermal exposures.

Table 6-14

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

Exposure and Risk Quantification for Hypothetical Excavation Workers
Inhalation of particulates and vapors to air from subsurface soil during excavation (1)

Chemical of Potential Interest	Soil RME (4) Concantration	Units	Air Concentration (mg/m3) (1)	ACGIH TLV-TWA (mg/m3) (2)	Ratio of Concentration to TLV-TWA (3)
Volatile Organics					
1,1-Dichloroethene	1.60E-02	ug/kg	NE		
1,1,1-Trichloroethane	4.90E-01	ug/kg	NE		
2-Butanone	2.10E-01	ug/kg	NE		< < 1
Acetone	3.70E+00	ug/kg	NE		< < 1
Benzene	3.60E+02	ug/kg	1.64E-04	1.6	1.02E-04
Carbon Disulfide	8.00E-01	ug/kg	NE		< < 1
Ethylbenzene	1.10E+03	ug/kg	NE		< < 1
Methylene chloride	3.60E+01	ug/kg	NE		< < 1
Styrene	1.30E+00	ug/kg	NE		< < 1
Toluene	7.60E+02	ug/kg	NE		< < 1
Trichloroethene	1.90E+00	ug/kg	NE		< < 1
Xylenes, Total	1.40E+03	ug/kg	NE		< < 1
Semivolatile Organics					
1,2,4-Trichlorobenzene	1.30E-01	ug/kg	1.91E-13	NV	
1,4-Dichlorobenzene	1.00E-01	ug/kg	1.47E-13	NV	
2,4-Dinitrotoluene	1.50E-01	ug/kg	2.21E-13	NV	
2-Chlorophenol	1.80E-01	ug/kg	2.65E-13	NV	
2-Methylnaphthalene	1.00E+03	ug/kg	1.47E-09	0.2	7.36E-09
4-Chloro-3-methylphen	2.10E-01	ug/kg	3.09E-13	0.2	1.55E-12
4-Nitrophenol	2.20E-01	ug/kg	3.24E-13	NV	
Acenaphthene	1.30E+05	ug/kg	1.91E-07	0.2	9.57E-07
Acenaphthylene	8.40E+03	ug/kg	1.24E-08	0.2	6.19E-08
Anthracene	5.40E+03	ug/kg	7.95E-09	0.2	3.98E-08
Benzo(a)anthracene	4.80E+03	ug/kg	7.07E-09	0.2	3.53E-08
Benzo(a)pyrene	4.00E+03	ug/kg	5.89E-09	0.2	2.95E-08
Benzo(b)fiuoranthene	1.80E+03	ug/kg	2.65E-09	0.2	1.33E-08
Benzo(g,h,i)perylene	2.40E+03	ug/kg	3.53E-09	0.2	1.77E-08
Benzo(k)fluoranthene	2.20E+03	ug/kg	3.24E-09	0.2	1.62E-08
bis(2-Ethylhexyl)phthala	3.00E+03	ug/kg	4.42E-09	NV	
Butylbenzylphthalate	2.10E-01	ug/kg	3.09E-13	NV	
Carbazole	2.60E+02	ug/kg	3.83E-10	NV	
Chrysene	4.30E+03	ug/kg	6.33E-09	0.2	3.17E-08
Dibenzo(a,h)anthracene	9.30E+01	ug/kg	1.37E-10	NV	
Dibenzofuran	2.10E+02	ug/kg	3.09E-10	NV	
Di-n-butylphthalate	1.20E-01	ug/kg	1.77E-13	NV	
Fluoranthene	1.60E+04	ug/kg	2.36E-08	0.2	1.18E-07
Fluorene	8.10E+03	ug/kg	1.19E-08	0.2	5.96E-08
Indeno(1,2,3-cd)pyrene	1.60E+03	ug/kg	2.36E-09	0.2	1.18E-08
N-Nitro-di-n-propylamin	1.20E-01	ug/kg	1.77E-13	NV	
Naphthalene	5.50E+04	ug/kg	8.10E-08	52	1.56E-09
Pentachlorophenol	2.60E+01	ug/kg	3.83E-11	0.5	7.66E-11
Phenanthrene	3.30E+04	ug/kg	4.86E-08	0.2	2.43E-07
Phenol	1.70E-01	ug/kg	2.50E-13	19	1.32E-14
Pyrene	2.20E+04	ug/kg	3.24E-08	0.2	1.62E-07
PCBs					
Total PCBs	1.30E+01	mg/kg	1.91E-08	0.5	3.83E-08
Inorganics					
Aluminum	1.85E+04	mg/kg	2.72E-05	2	1.36E-05
Antimony	1.23E+01	mg/kg	1.81E-08	0.5	3.62E-08
Arsenic	9.75E+01	mg/kg	1.44E-07	0.01	1.44E-05
Barium	6.07E+02	mg/kg	8.94E-07	0.5	1.79E-06
Beryllium	1.90E+00	mg/kg	2.80E-09	0.002	1.40E-06
Cadmium	2.60E+00	mg/kg	3.83E-09	0.002	1.91E-06
Calcium	3.01E+05	mg/kg	4.43E-04	NV	
Chromium	7.56E+01	mg/kg	1.11E-07	0.5	2.23E-07
Cobalt	2.48E+01	mg/kg	3.65E-08	0.02	1.83E-06
Copper	2.62E+02	mg/kg	3.86E-07	1	3.86E-07
Iron	6.44E+04	mg/kg	9.48E-05	1	9.48E-05
Lead	1.85E+03	mg/kg	2.72E-09	0.05	5.45E-08
Magnesium	2.52E+04	mg/kg	3.71E-05	NV	
Manganese	2.23E+03	mg/kg	3.28E-06	0.02	1.64E-04
Mercury	7.90E+00	mg/kg	1.16E-08	0.025	4.65E-07
Nickel	7.50E+01	mg/kg	1.10E-07	0.1	1.10E-06
Potassium	2.53E+03	mg/kg	3.73E-06	NV	
Selenium	7.10E+00	mg/kg	1.05E-08	0.2	5.23E-08
Silver	1.40E+00	mg/kg	2.06E-09	0.1	2.06E-08
Sodium	1.40E+03	mg/kg	2.06E-06	NV	
Thallium	7.30E-01	mg/kg	1.08E-09	0.1	1.08E-08
Vanadium	7.19E+01	mg/kg	1.06E-07	NV	
Zinc	8.00E+02	mg/kg	1.18E-06	10	1.18E-07
Cyanide	1.02E+03	mg/kg	1.50E-06	NV	
				Sum of Ratios	4E-04

Notes:

(1) Soil concentration in mg/kg x 1/PEF, where PEF = 6.79E=8 m3/kg (USEPA default particulate emission fa
Concentrations are estimated only for semi-volatles and inorganics. Volatilization is not estimated for volatile organics other than benzene because methods are time-consuming and because estimated concentrations would be much lower than TWAs.
The benzene concentration in air = soil benzene concentration in mg/kg x 1/VF, where VF = 2199 m3/kg (see USEPA 1994 Soil Screening Guidance).

(2) American Conference of Governmental Industrial Hygienists. 1996. Guide to Occupational Exposure Values - 1996. Note that value for most PAHs is for coal tar pitch volatiles.

(3) Sum of ratios less than 1 indicates no adverse effects expected

NE = not estimated. Soil concentrations are very low, and would yield air concentrations less than TWAs.
NV = no value

Section 7

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

7. Assessment of Air Emissions

7.1 General

This section presents an assessment of air emissions associated with the investigation activities conducted as part of the MGP/RCRA Investigation. Air emissions monitoring was conducted during the collection of surface soil samples, the excavation of test pits, the completion of soil borings, and the installation of ground-water monitoring wells in accordance with the protocols presented in the HASP. The air emissions monitoring consisted of measuring the concentrations of total VOC vapors in the worker breathing zone using a PID. Particulate levels in the work breathing zone were also monitored using a Real Time Aerosol Monitor (mini-RAM). Based on the air monitoring conducted during the MGP/RCRA Investigation activities, VOC and particulate levels in the worker breathing zone did not exceed site action levels which would require more stringent air monitoring and/or the use of upgraded personnel protective equipment. Based on the results of the air monitoring conducted in the worker breathing zone during the MGP/RCRA Investigation activities, perimeter monitoring of air emissions associated with the MGP/RCRA investigation activities was not required in accordance with the air monitoring protocols outlined in the HASP.

Section 8

8. Conclusions and Recommendations

8.1 General

This section presents relevant conclusions and recommendations that were developed based on the results of the PSA/IRM Study and the MGP/RCRA Investigation. Recommendations presented in this section are based on the comparison of analytical results obtained for the PSA/IRM Study and the MGP/RCRA Investigation with the NYSDEC cleanup criteria and/or guidance values for soil and ground water in the vicinity of the facility. Conclusions developed based on the results of the PSA/IRM Study and the MGP/RCRA Investigation are presented below, followed by a discussion of how the conclusions apply to the RCRA SWMUs/AOCs at the site and recommendations which are supported by the results of the investigation activities.

8.2 Conclusions

Based on the results of the PSA/IRM Study and the MGP/RCRA Investigation, (as described in Sections 3 through 5 of this report) the distribution and extent of chemical constituents in environmental media associated with the former MGP operation and the RCRA SWMUs/AOCs has been adequately defined for the purposes of evaluating remedial requirements and alternatives. Conclusions supported by the results of the PSA/IRM Study and the MGP/RCRA Investigation (including the soil investigation, the ground-water investigation, and the drainage structure and piping investigation) are presented below.

8.2.1 Soil Investigation

Surface Soil

Surface soil encountered at the site consist of grayish-brown and black gravel mixed with silt and sand. Traces of oil-staining and black-stained soil were encountered at sampling locations S-106, SB-101, and SB-104. Concrete rubble was encountered at surface soil sampling location S-109. Analytical results obtained for the laboratory analysis of the surface soil samples indicate the following:

- PCBs were detected above the NYSDEC-recommended cleanup level of 1 ppm in surface soil at eight locations in the yard storage area and the area south of the TSDF.
- VOCs were not observed at concentrations exceeding the NYSDEC-recommended soil cleanup levels in surface soil sample SB-104 (0- to 2-feet) (the only surface soil sample that was submitted for laboratory analysis for TCL VOCs).
- Several PAHs and phenols (4-nitrophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, pentachlorophenol, phenol, and pyrene) were observed in surface soils in the yard storage area and the area south of the TSDF at concentrations above the TAGMs.
- Inorganic constituents were detected in each soil sample collected in the yard storage area and the area immediately south of the TSDF at concentrations exceeding the NYSDEC-recommended soil cleanup objectives or site background levels (as applicable).

Subsurface Soil

Subsurface soil conditions encountered in test pits completed in the yard storage area included a variety of fill materials and debris. Subsurface staining and/or fill material with noticeable odors (including materials that were potentially associated with the former MGP operations at the site) were encountered in test pits TP-104, TP-110, TP-111, and TP-113. Analytical results obtained for the laboratory analysis of the subsurface soil samples collected from the test pits excavated in the yard storage area indicate the following:

- PCBs were not detected in subsurface soil samples from the yard storage area at concentrations exceeding the NYSDEC-recommended soil cleanup objective for subsurface soil of 10 ppm.
- Acetone and ethlybenzene were detected in subsurface soil samples from the yard storage area at concentrations exceeding the NYSDEC-recommended soil cleanup objectives.
- PAHs were detected at eight subsurface soil sampling locations in the yard storage area.
- Each subsurface soil sample collected in the yard storage area contained inorganic constituents at concentrations exceeding the NYSDEC-recommended soil cleanup objectives or site background levels (as applicable).

Subsurface soil samples recovered from soil borings completed as part of the MGP/RCRA Investigation provide a detailed characterization of subsurface conditions in the vicinity of the site (including geologic characterization and the subsurface distribution of NAPL as discussed below). Analytical results obtained for the laboratory analysis of the unsaturated and saturated subsurface soil samples recovered from the soil borings indicate the following:

- PCBs were not detected at concentrations exceeding the NYSDEC-recommended soil cleanup objective for subsurface soil of 10 ppm.
- BTEX compounds were detected at concentrations exceeding the NYSDEC-recommended soil cleanup objectives in unsaturated subsurface soil samples recovered from soil borings located in the former MGP area and at one off-site soil boring in the area hydraulically downgradient (and downslope along the top of the bedrock surface) of the former MGP operation. VOCs were not detected in the unsaturated and saturated subsurface soil samples collected from the furthest downgradient sampling locations in the area east of Erie Boulevard.
- PAHs were detected at concentrations which exceed the NYSDEC-recommended soil cleanup objectives in 39 subsurface soil samples collected from the former MGP area, from the area hydraulically downgradient of the former MGP operation, in the vicinity of the TSDF, and from the vicinity of the AOC near MW-10. SVOCs were not detected in the unsaturated and saturated soil samples collected at the furthest downgradient sampling locations in the area east of Erie Boulevard.
- Inorganic constituents were detected at concentrations exceeding the NYSDEC-recommended soil cleanup objectives or background levels (as applicable) in most of the unsaturated subsurface soil samples recovered from soil borings completed for the MGP/RCRA Investigation (including the background soil sampling locations). Analytical results obtained for the laboratory analysis of the saturated subsurface soil samples

indicate that inorganic constituents do not appear to be a concern in DNAPL-impacted soil located in the former MGP area.

- Petroleum hydrocarbon concentrations detected in subsurface soil samples collected from the soil borings coincide with the distribution of NAPL observed in the soil borings completed as part of the MGP/RCRA Investigation.

Geologic Characterization

The following subsurface stratigraphic units were encountered during the completion of soil borings for the MGP/RCRA investigation:

- Fill material which varies from 0- to 18-feet in thickness and consists primarily of sand with ash, brick, cinders, coal, slag, and wood (MGP-related materials including wood chips coated with tar-like substances were encountered at several soil boring and test pit locations).

- Glacial/fluvial deposits consisting predominantly of sand and silt which range from 4- to 31-feet in thickness. The glacial/fluvial unit is the predominant overburden water-bearing zone at the site.

- A layer of glacial till (encountered at depths of 7- to 34-feet below grade) which consists primarily of dense clayey silt with shale fragments and varies in depth from 0 to 9 feet in thickness.

- Shale Bedrock which is encountered at depths ranging from 12- to 38-feet below ground surface. The upper portion of the bedrock unit consists of a weathered shale zone that extends up to 7-feet in thickness. Bedrock coring conducted as part of the MGP/RCRA Investigation indicates that the weathered shale is highly fractured and that bedrock competence increases with increased depth.

8.2.2 Ground-Water Investigation

Hydrogeologic Characterization

- Ground water in the overburden flows generally to the east/southeast.

- Ground water in the shallow bedrock flows generally to the southeast.

- The fill material within the former Erie Canal (along the present location of Erie Boulevard) may act as a preferential flow path for shallow ground water in the area downgradient of the site. However, based on the depth of the former canal and the depth to ground water in the area downgradient from the site, it is unlikely that the canal would influence ground-water flow within deeper overburden or bedrock.

- Based on the June 1997 fluid-level measurements, horizontal hydraulic gradients vary from 0.009 ft/ft (in the northwest to southeast portion of the site) to 0.035 ft/ft (in the northeast portion of the site). The higher gradients observed in the northeast portion of the site may be related to water table mounding in the vicinity of monitoring well MW-05. Another possible ground water mound is suggested by the water table elevation observed at MW-15S (based on the single water level observation at this location).

- Downward vertical hydraulic gradients were observed between perched ground water and the water table in the area south and east of Building 2. Downward vertical hydraulic gradients were also observed between the water table and deep overburden. Downward vertical gradients were observed between deep overburden and the shallow bedrock in the area immediately east of the site (e.g., along the Delaware & Hudson Railroad right-of-way), and both upward and downward vertical gradients were observed between deep overburden and shallow bedrock in the area east of Erie Boulevard (within the Delaware & Hudson railyard).

- Slug testing results indicate the following geometric mean hydraulic conductivities: $8.6X10^{-3}$ cm/sec in the shallow overburden; $1.8X10^{-2}$ cm/sec for the deep overburden; and $4.4X10^{-5}$ cm/sec for the bedrock.

- The site-wide average linear ground-water flow velocity was calculated to be 0.7 feet/day.

- Ground-water flow in the shale unit appears to be predominantly in the weathered shale and fractured bedrock.

- Tidal influence monitoring results from well cluster MW-21 east of Erie Boulevard suggest that ground water within the deep overburden may be slightly influenced by tidal effects from the Hudson River.

Distribution of Chemical Constituents in Ground Water

- PCBs were not detected in ground-water samples collected as part of the MGP/RCRA Investigation or the PSA/IRM Study.

- Benzene was the only VOC detected in ground water at concentrations exceeding the USEPA MCL. Acetone, benzene, ethylbenzene, toluene, and xylenes were detected at concentrations exceeding the NYSDEC ground-water standards and guidance values in monitoring wells located within the former MGP area and in off-site wells located hydraulically downgradient of the former MGP area (monitoring wells MW-17D, MW-17S, and MW-18S). VOCs were not detected at concentrations exceeding the NYSDEC ground-water quality standards and guidance values in ground-water samples collected from the furthest downgradient monitoring wells (in the Delaware & Hudson railyard located east of Erie Boulevard).

- Bis(2-ethylhexyl)phthalate was the only SVOC detected in ground-water samples at concentrations above the USEPA MCL. 2,4-Dimethylphenol, 4-methylphenol, acenaphthene, benzo(a)anthracene, chrysene, fluorene, naphthalene, phenathrene, and phenol were detected in ground-water samples at concentrations exceeding the NYSDEC ground-water standards and guidance values. Of the SVOCs detected, only acenaphthene and naphthalene were detected at more than one location at concentrations exceeding the NYSDEC criteria. The other SVOCs were only detected at MW-05, where a sheen was observed during sampling. SVOCs were not detected at concentrations exceeding the NYSDEC ground-water quality standards and guidance values in ground-water samples collected from the furthest downgradient monitoring wells (in the Delaware & Hudson railyard located east of Erie Boulevard).

- Inorganics (iron, manganese, and sodium) were detected at concentrations exceeding NYSDEC ground-water standards and guidance values every ground-water sample. Manganese and sodium were detected above criteria at the upgradient well MW-20D. Total cyanide was detected at concentrations above NYSDEC and USEPA criteria (100 and 200 ppb, respectively) in ground-water samples collected from several wells located within the former MGP area (MW-05, MW-06A, MW-14) and the off-site area located hydraulically downgradient of the former MGP operation (MW-16D, MW-16R, MW-17D, MW-17S, MW-18S, MW-19D). Total cyanide was also detected at a concentration slightly above the NYSDEC ground-water standards and guidance values in a ground-water samples collected from monitoring well MW-21D (one of the furthest downgradient wells located in the Delaware & Hudson railyard to the east of Erie Boulevard).

- Data obtained during the MGP/RCRA Investigation (including ORP, DO, sulfate/sulfide, and nitrate/nitrite) can be used to evaluate natural and/or enhanced degradation of dissolved phase constituents in ground water. The presence of iron, manganese, and sulfate in ground water as well as the ORP readings measured during ground-water sampling indicate that iron, manganese, and sulfate reduction could occur. Provided that control of source areas and NAPL is implemented, natural and/or enhanced degradation of VOC/SVOC concentrations in ground water may be possible.

<u>Extent of DNAPL/LNAPL</u>

- Potentially mobile DNAPL/ LNAPL was primarily observed within the former MGP area and in the off-site area hydraulically downgradient and downslope along the top of bedrock surface. The bedrock surface was found to generally slope to the southeast in the vicinity of the site.

- The horizontal extent of DNAPL has been adequately delineated by the MGP/RCRA Investigation. The horizontal extent of DNAPL in the vicinity of the site (as shown on Figure 18) has been visually determined based on observations within soil borings and is confirmed by the analytical results obtained for the laboratory analysis of saturated soil samples and ground-water samples collected for the MGP/RCRA Investigation. Potentially mobile DNAPL would be expected to migrate by gravity over time along the top of competent bedrock which slopes generally to the southeast. Based on the observed downgradient extent of DNAPL in the vicinity of the site, DNAPL migration appears to be relatively slow. DNAPL was observed at minimal thicknesses only in monitoring wells MW-02, MW-05, and MW-07 and does not appear to be recoverable by standard methods. DNAPL was not observed in soil boring SB-121, SB-111, or MW-20D, which are located upgradient and upslope along the bedrock surface. Within the former MGP area, DNAPL was typically observed throughout the overburden and often into the upper portion of the weathered and/or fractured bedrock. In the off-site area located immediately downgradient of the former MGP operation, DNAPL was typically only observed immediately above and into the upper weathered bedrock. Further delineation of the vertical extent of DNAPL in the vicinity of the site does not appear to be necessary based on chemical constituent concentrations observed at the downgradient bedrock monitoring well locations, the lack of ground water use in the vicinity of the site, the upward vertical hydraulic gradient between bedrock and overburden in the area downgradient from the site, and the proximity of the site to the Hudson River (the likely ground-water discharge point for ground-water flow in shallow bedrock in the vicinity of the site). Further drilling to delineate the vertical extent of DNAPL at the site could also create pathways for further migration of DNAPL into bedrock. Where DNAPL is present in weathered bedrock, DNAPL recovery activities are limited by technical limitations in the ability to effectively recover DNAPL from the rock.

- The horizontal extent of LNAPL has been delineated by the MGP/RCRA Investigation Report and is shown on Figure 18. LNAPL was identified in monitoring wells MW-04, MW-08, and MW-10. The horizontal extent of LNAPL associated with the AOC in the vicinity of MW-10 is confirmed by the absence of LNAPL in monitoring well MW-15S. The horizontal extent of LNAPL in the area downgradient from the former MGP facility is indicated by the fact that only a slight petroleum sheen has been observed at monitoring well location MW-18S. Mobile LNAPL in the vicinity of the site would be expected to migrate downgradient (to the east and southeast) along the direction of ground-water flow. The presence of fill material within the former Erie Canal could potentially influence the distribution of LNAPL in the area downgradient from the site, (if LNAPL were to extend to the former canal location). The potential influence of the fill material within the former canal has not been fully characterized by the investigation activities conducted to date. An LNAPL sample collected from monitoring well MW-04 contained total PCBs at a concentration of 34.7 ppm. The presence of LNAPL in wells MW-04, MW-08, and MW-10 indicates the potential for recovery of mobile LNAPL. Physical characterization of the LNAPL samples as well as field observations of LNAPL recovery during bailing indicate that the LNAPL is likely recoverable at monitoring wells MW-04, MW-08, and MW-10. Monitoring wells MW-15S and MW-18S should be monitored for the presence of LNAPL due to their proximity to monitoring wells MW-10 and MW-08, respectively, where LNAPL has been observed.

8.2.3 Drainage Structures and Piping

- A detailed field reconnaissance of the facility revealed the presence of 22 drainage structures associated with the site storm sewer system (including 17 catch basins and 5 manholes).

- Standing water was observed in all drainage structures identified at the facility. A slight sheen was observed on the surface of water within eight drainage structures and a green-colored liquid was observed on the surface of water within one catch basin. No dry weather flow was observed in any of the drainage structures at the site.

- Accumulated debris was observed in all but one of the drainage structures. Black-colored debris with a slight odor or oil-sheen was encountered in 9 of the drainage structures.

- Samples of accumulated debris collected from 10 drainage structures were submitted for laboratory analysis for PCBs, TCL VOCs, TCL SVOCs, and TAL inorganic constituents. No directly applicable regulatory cleanup criteria or guidance values were identified for accumulated debris within on-site drainage structures. Analytical results obtained for the laboratory analysis of the storm sewer debris samples indicated the following:

    - PCBs were detected in each of the drainage structures samples at concentrations ranging between 0.31 ppm and 60 ppm (at manhole MH-1);

    - 2-Butanone, acetone, ethylbenzene, toluene, and xylenes were detected at concentrations above laboratory detection limits (at concentrations of up to 10 ppm) in samples collected at five of the debris sampling locations;

    - A total of 23 different SVOCs were detected in the samples of accumulated debris collected from the site storm sewer system. Individual SVOC constituents were detected at concentrations ranging up to 440 ppm (for napthalene at manhole MH-1); and

    - TAL inorganic constituents were detected in each of the samples of accumulated debris collected from drainage structures associated with the site storm sewer system.

8.2.4 Baseline Human Health Risk Assessment

The baseline human health risk assessment was performed to evaluate whether any adverse health impacts could potentially result for the following exposure scenarios:

- Oral, dermal, and inhalation exposure to surface soil by long-term on-site workers; and
- Oral, dermal, and inhalation exposure to surface and subsurface soil by workers engaged in excavation during hypothetical construction activities in the vicinity of the site.

For the exposure scenarios evaluated using standard USEPA methods and procedures for human health risk assessment, long-term on-site NMPC workers and short-term workers performing excavation activities should not experience adverse health impacts as a result of exposure to the chemical constituents identified at the site.

8.2.5 Assessment for Air Emission

Based on the results of air monitoring activities conducted during the MGP/RCRA investigation activities, VOC and particulate levels in the worker breathing zone did not exceed site action levels which would require more stringent air monitoring and/or upgraded personnel protective equipment.

8.3 Characterization of SWMUs/AOCs

This subsection presents a discussion of how the results of the PSA/IRM Study and the MGP/RCRA Investigation apply to each of the SWMUs/AOCs which are classified as either Category I, II or III SWMUs as defined by Permit Module III (as discussed above in Section 1.5). The discussion of each SWMU/AOC includes a brief summary of any identified issues and NMPCs proposed approach for any further actions in connection with the SWMU/AOC (if necessary).

8.3.1 Category I SWMUs

As defined by Permit Module III, Category I SWMUs include any SWMUs at the site that are only impacted by MGP wastes and residuals. SWMU L-1 (coal tar residuals from the former MGP area) is the only Category I SWMU at the facility. Based on the results of the PSA/IRM Study and the MGP/RCRA Investigation, SWMU L-1 appears to be the primary source of the concentrations of chemical constituents identified in soil and ground-water in the former MGP area and in the area located hydraulically downgradient of the site. Issues associated with SWMU L-1 will be address through the Remedial Measures Evaluation.

8.3.2 Category Ii SWMUs

As defined by Permit Module III, Category II SWMUs include SWMUs which are impacted by MGP residuals and MGP-related constituents, together with 6NYCRR Part 371 hazardous wastes or hazardous constituents. Category II SWMUs at the facility include the following:

Unit Number	SWMU Description
Category II SWMUs	
DW-1	Dry well (inactive)
B-2	Soil beneath transformer shop (Building 2)
T-1	Oil/water separator
T-2	8,000-gallon underground diesel tank
T-3	1,000-gallon waste oil tank (removed)
T-4	Skimmed oil collection tank
T-5	8,000-gallon underground gasoline tank (removed)
T-9	8,000-gallon underground gasoline tank (removed)
--	Storm sewer system

Based on the results of the PSA/IRM Study and the MGP/RCRA Investigation, each of the storage tank SWMUs located in the northeast portion of the property (including former tanks T-2 through T-5, oil-water separator T-1, and drywell DW-1) are located within a continuous LNAPL area. LNAPL was also observed in the vicinity of SWMU T-9 during the PSA/IRM study (although LNAPL was not present at monitoring well MW-6S during the single round of fluid-level measurements obtained for the MGP/RCR Investigation). Laboratory analysis of samples of the LNAPL for TPH indicate that the LNAPL appears to be a mixture of different petroleum and/or MGP-related wastes. Therefore, issues associated with SWMUs T-1 through T-5, DW-1, and SWMU T-9 will be grouped together and addressed through the recommendations presented below in Section 8.4.

Issues associated with SWMU B-2 [soils located beneath the transformer shop (Building 2)] have not been fully evaluated as part of the PSA/IRM study or the MGP/RCRA Investigation. Based on the location of this SWMU (which prevents direct contact with the soil) and the long-term ground water monitoring which will likely be required in connection with the future disposition of the site, NMPC believes that remedial measures for the soil beneath Building 2 are not practical and that the soil located beneath Building 2 should be regarded as an inaccessible SWMU for purposes of future activities in connection with the facility.

The storm sewer system was designated as a newly-identified AOC based on the results of the PSA/IRM Study. The results of the MGP/RCRA Investigation confirm that concentrations of chemical constituents in accumulated debris within catch basins and manholes associated with the storm sewer system could potentially function as a pathway for off-site migration of constituents (through the suspension of accumulated debris in storm sewer runoff from the facility). Based on previous experience with other facilities, NMPC does not believe that the concentrations of chemical constituents identified in accumulated debris within the storm sewer catch basins and manholes warrant further off-site sampling. However, NMPC proposes to minimize potential future off-site migration of accumulated debris within the catch basins and manholes by implementing the recommendations described below under Section 8.4.

8.3.3 Category III SWMUs

As defined by Permit Module III, Category III SWMUs include those SWMUs at the site which are impacted with only 6NYCRR Part 371 hazardous wastes or hazardous constituents (e.g., releases not associated with the former MGP operation at the site). Category III SWMUs at the facility include the following:

Unit Number	SWMU Description
Category III SWMUs	
S-3	Mercury storage area
S-5	Yard storage area
T-6200	Non-hazardous waste oil tank (removed)
T-6300	PCB-contaminated waste oil tank (removed)
--	AOC located in the vicinity of ground-water monitoring well MW-10 (portion of facility utilized as petroleum storage facility prior to NMPC ownership)
--	AOC located in vicinity of soil boring SB-5 (area located west of Versaire Building)

Based on the results of the soil sampling activities conducted as part of the PSA/IRM Study and the MGP/RCRA Investigation, concentrations of mercury identified in surface soil samples collected in the vicinity of the SWMU S-3 (mercury storage area) range from 0.11 ppm to 0.31 ppm [the NYSDEC-recommended soil cleanup objective for mercury (which is based on residential exposure scenarios) is 0.1 ppm]. Based on the industrial nature of site activities at the facility, and the concentration of mercury observed in the surface soil samples collected in the vicinity of SWMU S-3, NMPC believes that no further action is justified in connection with this SWMU.

Based on the concentrations of chemical constituents identified in the surface and subsurface soil samples collected to evaluate SWMU S-5 (yard storage area), potential remedial requirements and alternatives for this SWMU will be addressed as part of the Remedial Measures Evaluation.

Based on the results obtained for the laboratory analysis of surface and subsurface soil samples collected in the area located to the south of the TSDF, no concerns or issues associated with SWMUs T-6200 (former non-hazardous waste oil tank) and T-6300 (former PCB-contaminated waste oil tank) were identified. NMPC believes that no further action is justified in connection with SWMUs T-6200 or T-6300.

The results of the PSA/IRM Study and the MGP/RCRA Investigation confirm the presence of LNAPL associated with the AOC in the vicinity of MW-10. This portion of the property was formerly utilized as a petroleum storage facility prior to NMPC's ownership of the site. Further issues associated with the LNAPL in the vicinity of monitoring well MW-10 will be addressed through the implementation of the recommendations presented below in Section 8.4.

The results of the MGP/RCRA Investigation did not identify any MGP-related residuals in two soil borings that were completed to further evaluate the AOC in the vicinity of soil boring SB-5 (MGP "spots" were reportedly present in soil boring SB-5 which was completed as part of the PSA/IRM Study). Based on the results of the MGP/RCRA Investigation, any MGP-related residuals that may be present in this portion of the site are isolated at depth and no further action in connection with the AOC in the vicinity of soil boring SB-5 appears to be justified.

8.4 Recommendations

Recommendations which are supported by the results of the PSA/IRM Study and the MGP/RCRA Investigation include the following:

1. NMPC proposes to implement the following additional field investigation activities to further evaluate minor data gaps identified by the results of the MGP/RCRA Investigation

    - Installation of two water table monitoring wells within Erie Boulevard (in the area to the east of monitoring well MW-15S and monitoring well cluster MW-17) to further evaluate the potential influence of fill material within the former Erie Canal on groundwater flow and LNAPL distribution in the area located hydrualically downgradient from the site; and

    - Completion of one additional round of fluid-level measurements from all existing monitoring wells in the vicinity of the site to confirm groundwater flow patterns and further evaluate potential ground-water mounding at monitoring well location MW-15S and in the vicinity of the Vehicle Maintenance building.

2. Based on the results of the MGP/RCRA Investigation, NMPC proposes to proceed with the Remedial Measures Evaluation in accordance with the requirements of the MGP Consent Order and Permit Module III of the 6NYCRR Part 373 Hazardous Waste Management Permit for the North Albany Service Center. The Remedial Measures Evaluation will include the presentation of appropriate remedial action objectives and a detailed evaluation of potential remedial measures for addressing issues associated with the former MGP facility and the RCRA SWMUs/AOCs at the facility. NMPC will proceed with the Remedial Measures Evaluation following NYSDEC approval of this MGP/RCRA Investigation Report.

3. Based on the observed presence of LNAPL in the former MGP area and the vicinity of the AOC near monitoring well MW-10, NMPC proposes to implement an IRM that will include passive recovery of LNAPL from monitoring wells MW-04, MW-08 and MW-10 on a monthly basis. In support of the passive LNAPL recovery activities, NMPC will conduct monthly monitoring of LNAPL thickness at monitoring wells MW-04, MW-08, and MW-10 and at monitoring wells MW-15S and MW-18S which are located immediately downgradient of locations where LNAPL has been observed (at monitoring wells MW-08 and MW-10, respectively). In conjunction with the LNAPL recovery activities, NMPC will continue to monitor the presence and/or thickness of DNAPL at monitoring well locations MW-2, MW-5, MW-17D, MW-6A, and MW-16D (in order to provide additional baseline data for the Remedial Measures Evaluation). Based on the results of the passive LNAPL recovery and monitoring activities conducted for this IRM, a formal evaluation of LNAPL recovery requirements will be incorporated into the Remedial Measures Evaluation. In support of this proposed IRM, NMPC will prepare a brief IRM Plan (in the form of a letter) that will present methods for passive LNAPL recovery and the handling, storage, and disposal of LNAPL removed

from the on-site wells. The IRM Plan will be submitted for review by the NYSDEC following approval of this MGP/RCRA Investigation Report.

4. Based on the results of the storm sewer investigation activities, NMPC proposes to implement an IRM that will consist of removing accumulated debris from manholes and catch basins associated with the site storm sewer system. The proposed approach and methods for removing accumulated debris from the storm sewer manholes and catch basins will be included in the IRM Plan to be submitted to the NYSDEC following approval of the MGP/RCRA Investigation Report.

Acronyms and Abbreviations

ACGIH	American Conference of Governmental and Industrial Hygienists
AOC	Area of Concern
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
ATV	All-Terrain Vehicle
BBL	Blasland, Bouck & Lee
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CME	Central Mining Equipment
CMS	Corrective Measures Study
DNAPL	Dense Non-aqueous Phase Liquid
DO	Dissolved Oxygen
EHRAV	Electronic Handbook of Assessment Values
FS	Feasibility Study
GPR	Ground-Penetrating Radar
HASP	Health and Safety Plan
HEAST	Health Assessment Summary Tables
HI	Hazard Index
HWMPA	Hazardous Waste Management Permit Application
ID	Inside Diameter
IRIS	Integrated Risk Information System
IRM	Interim Remedial Measure
LNAPL	Light Non-aqueous Phase Liquid
MCL	Maximum Contaminant Level
MGP	Manufactured Gas Plant
NAPL	Non-aqueous Phase Liquid
NCP	National Contingency Plan
NMPC	Niagara Mohawk Power Corporation
NTU	Nephelometric Turbidity Units
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OD	Outside Diameter
ORP	Oxidation/Reduction Potential
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenol
PID	Photoionization Detector
ppb	Parts per billion
ppm	Parts per million
PSA	Preliminary Site Assessment
psi	Pounds per square inch
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFA-SV	RCRA Facility Assessment - Site Visit
RfCs	Reference Concentrations

RfDs	Reference Doses
RFI RCRA	Facility Investigation
RI	Remedial Investigation
RQD	Rock Quality Designation
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAGM	Technical Administrative Guidance Memorandum
TAL	Target Analyte List
TCL	Target Compound List
TIC	Tentatively Identified Compound
TLV	Threshold Limit Values
TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage, and Disposal Facility
TWA	Time Weighted Average
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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TABLES

TABLE 1

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

Matrix	Sample ID	Date Sampled	SDG #	Analyses			
				PCBs	VOCs	SVOCs	Inorganics
Debris	CB-2	9/30/96	L32723	X	X	X	X
	CB-4	9/30/96	L32723	X	X	X	X
	CB-7	9/30/96	L32723	X	X	X	X
	CB-7 (DUP)	9/30/96	L32723	X	X	X	X
	CB-12	9/30/96	L32723	X	X	X	X
	CB-13	9/30/96	L32723	X	X	X	X
	CB-17	10/1/96	L32723	X	X	X	X
	CB-18	10/1/96	L32723	X	X	X	X
	CB-19	10/1/96	L32723	X	X	X	X
	MH-1	10/1/96	L32723	X	X	X	X
	MH-3	10/1/96	L32723	X	X	X	X

Matrix	Sample ID	Date Sampled	SDG #	Analyses				
				PCBs	VOCs	SVOCs	Inorganics	Bioindicator
Groundwater	MW-01	6/10/97	L37417	X	X	X	X	X
	MW-05	6/9/97	L37417	X	X	X	X	X
	MW-06	6/9/97	L37417	X	X	X	X	X
	MW-09	6/10/97	L37417	X	X	X	X	X
	MW-11	6/10/97	L37417	X	X	X	X	X
	MW-12	6/9/97	L37417	X	X	X	X	X
	MW-14	6/9/97	L37417	X	X	X	X	X
	MW-15S	6/5/97	L37269	X	X	X	X	X
	MW-16D	6/6/97	L37269	X	X	X	X	X
	MW-16R	6/6/97	L37269	X	X	X	X[a]	X
	MW-17D	6/5/97	L37269	X	X	X	X[a]	X
	MW-17S	6/5/97	L37269	X	X	X	X	X
	MW-18S	6/4/97	L37269	X	X	X	X	X
	MW-18S (DUP)	6/4/97	L37269		X	X	X	X
	MW-19D	6/5/97	L37269	X	X	X	X	X
	MW-20D	6/9/97	L37417	X	X	X	X	X

*See Notes on Page 6

TABLE 1

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

Matrix	Sample ID	Date Sampled	SDG #	Analyses				
				PCBs	VOCs	SVOCs	Inorganics	Bioindicator
Groundwater	MW-20D (DUP)	6/9/97	L37417	X	X	X	X	X
	MW-21D	6/3/97	L37269	X	X	X	X	X
	MW-21R	6/3/97	L37269	X	X	X	X	X
	MW-21S	6/3/97	L37269	X	X	X	X	X
	MW-22D	6/3/97	L37269	X	X	X	X	X
	MW-22R	6/4/97	L37269	X	X	X	X	X
	MW-22S	6/3/97	L37269	X	X	X	X	X

Matrix	Sample ID	Sample Interval	Date Sampled	SDG #	Analyses				
					PCBs	VOCs	SVOCs	Inorganics	TPH
Surface Soil	SB-101	(0 - 2')	10/7/96	L32868	X			X	
	SB-103	(0 - 0.5')	9/26/96	L32668	X		X	X	
	SB-104	(0 - 0.5')	10/7/96	L32868	X			X	
	SB-104	(0 - 2')	10/8/96	L32868	X	X	X	X	
	SB-105	(0 - 0.5')	9/26/96	L32668	X		X	X	
	SB-106	(0 - 0.5')	9/26/96	L32668	X		X	X	
	SS-101	(0 - 0.5')	9/24/96	L32584	X			X	
	SS-102	(0 - 0.5')	9/25/96	L32636	X			X	
	SS-103	(0 - 0.5')	9/25/96	L32636	X		X	X	
	SS-104	(0 - 0.5')	9/25/96	L32636	X		X	X	
	SS-105	(0 - 0.5')	9/25/96	L32636	X			X	
	SS-106	(0 - 0.5')	9/25/96	L32636	X			X	
	SS-107	(0 - 0.5')	9/24/96	L32584	X		X	X	
	SS-108	(0 - 0.5')	9/24/96	L32584	X			X	
	SS-109	(0 - 0.5')	9/24/96	L32584	X			X	
	SS-110	(0 - 0.5')	9/24/96	L32584	X		X	X	
	SS-111	(0 - 0.5')	9/24/96	L32584	X		X	X	
	SS-111 (DUP)	(0 - 0.5')	9/24/96	L32584	X		X	X	
	SS-112	(0 - 0.5')	9/23/96	L32584	X		X	X	
	SS-113	(0 - 0.5')	9/26/96	L32636	X			X	
	SS-114	(0 - 0.5')	9/26/96	L32636	X		X	X	
Subsurface Soil	MW-17S	(2 - 4')	2/12/97	L35277	X	X[1]	X[3]	X	X
	MW-19D	(1 - 3')	1/23/97	L34904	X	X[1]	X[3]	X	X
	MW-20D	(6 - 8')	2/5/97	L35158				X	

*See Notes on Page 6

TABLE 1

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MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

Matrix	Sample ID	Sample Interval	Date Sampled	SDG #	Analyses				
					PCBs	VOCs	SVOCs	Inorganics	TPH
Subsurface Soil	MW-21R	(12 - 14')	5/1/97	L36625	X	X[1]	X[3]	X	X
	MW-21R	(25 - 27')	5/1/97	L36625	X	X[1]	X[3]	X	X
	MW-22R	(6 - 8')	4/29/97	L36625	X	X[1]	X[3]	X	X
	MW-22R	(26 - 28')	4/29/97	L36625	X	X[1]	X[3]	X	X
	MW-22R (DUP)	(26 - 28')	4/29/97	L36625	X	X[1]	X[3]	X	X
	SB-102	(4 - 6')	10/7/96	L32868	X	X	X	X	
	SB-102 (DUP)	(4 - 6')	10/7/96	L32868		X	X		
	SB-103	(2 - 4')	10/7/96	L32868	X			X	
	SB-103 (DUP)	(2 - 4')	10/7/96	L32868	X			X	
	SB-105	(6 - 8')	10/8/96	L32868	X	X	X	X	
	SB-106	(2 - 4')	10/3/96	L32778	X			X	
	SB-106 (DUP)	(2 - 4')	10/3/96	L32778	X			X	
	SB-107C	(14 - 16')	2/4/97	L35158	X	X[1]	X[3]	X	X
	SB-108D	(2 - 4')	1/30/97	L35034	X	X[1]	X[3]	X	X
	SB-108D	(24 - 26')	1/30/97	L35034	X	X[1]	X[3]	X	X
	SB-109	(10 - 12')	10/8/96	L32868	X	X[1]	X[3]	X	X
	SB-109	(20 - 22')	10/8/96	L32868	X	X[1]	X[3]	X	X
	SB-110	(6 - 8')	10/9/96	L32868	X	X[1]	X[3]	X	X
	SB-110	(18 - 20')	10/9/96	L32868	X	X[1]	X[3]	X	X
	SB-110 (DUP)	(18 - 20')	10/9/96	L32868					X
	SB-111	(8 - 10')	2/5/97	L35158	X	X[1]	X[3]	X	X
	SB-111 (DUP)	(8 - 10')	2/5/97	L35158	X	X[1]	X[3]	X	X
	SB-112	(10 - 12')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-112	(18 - 20')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-113	(4 - 6')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-113	(16 - 18')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-114	(6 - 8')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-114	(14 - 16')	10/10/96	L32868	X	X[1]	X[3]	X	X
	SB-115	(6 - 8')	10/11/96	L32868	X	X[1]	X[3]	X	X
	SB-115	(10 - 12')	10/11/96	L32868	X	X[1]	X[3]	X	X
	SB-116	(12 - 14')	10/1/96	L32778	X	X[1]	X[3]	X	X
	SB-116	(20 - 22')	10/1/96	L32778	X	X[1]	X[3]	X	X
	SB-117	(8 - 10')	10/1/96	L32778	X	X[1]	X[3]	X	X

*See Notes on Page 6

TABLE 1

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

Matrix	Sample ID	Sample Interval	Date Sampled	SDG #	Analyses				
					PCBs	VOCs	SVOCs	Inorganics	TPH
Subsurface Soil	SB-117	(14 - 16')	10/1/96	L32778	X	X[1]	X[3]	X	X
	SB-118	(14 - 16')	10/1/96	L32778	X	X[1]	X[3]	X	X
	SB-118	(26 - 28')	10/1/96	L32778	X	X[1]	X[3]	X	X
	SB-119	(8 - 10')	10/4/96	L32778	X	X[1]	X[3]	X	X
	SB-119 (DUP)	(8 - 10')	10/4/96	L32778		X[1]	X[3]		X
	SB-119	(18 - 20')	10/4/96	L32778	X	X[1]	X[3]	X	X
	SB-120	(8 - 10')	10/14/96	L33028	X	X[2]	X[3]	X	X
	SB-120 (DUP)	(8 - 10')	10/14/96	L33028	X		X[3]	X	X
	SB-120	(14 - 16')	10/14/96	L33028	X	X[1]	X[3]	X	X
	SB-121	(8 - 10')	1/29/97	L35034	X	X[1]	X[3]	X	X
	SB-121 (DUP)	(8 - 10')	1/29/97	L35034	X	X[1]	X[3]	X	X
	SB-122	(12 - 14')	10/17/96	L33028				X	
	SB-123	(6 - 8')	1/9/97	L34714	X	X[1]	X	X	X
	SB-124	(1 - 3')	1/24/97	L34904	X	X[1]	X[3]	X	X
	SB-124	(4 - 6')	1/13/97	L34714	X	X[1]	X	X	X
	SB-124 (DUP)	(4 - 6')	1/13/97	L34714	X	X[1]	X	X	X
	SB-124	(22 - 24')	1/24/97	L34904	X	X[1]	X[3]	X	X
	SB-125	(22 - 24')	1/13/97	L34714	X	X[1]	X	X	X
	SB-125	(24 - 26')	1/13/97	L34714	X	X[1]	X	X	X
	SB-126	(4 - 6')	1/16/97	L34801	X	X[1]	X	X	X
	SB-126	(6 - 8')	1/16/97	L34801	X	X[1]	X	X	X
	SB-127	(4 - 6')	1/22/97	L34904	X	X[1]	X[3]	X	X
	SB-127 (DUP)	(4 - 6')	1/22/97	L34904	X	X[1]	X[3]	X	X
	SB-127	(10 - 12')	1/22/97	L34904	X	X[1]	X[3]	X	X
	SB-128	(14 - 16')	2/4/97	L35158	X	X[1]	X[3]	X	X
	SB-129	(8 - 10')	2/11/97	L35277	X	X[1]	X[3]	X	X
	SB-129 (DUP)	(8 - 10')	2/11/97	L35277	X	X[1]	X[3]	X	X
	SB-129	(24 - 26')	2/11/97	L35277	X	X[1]	X[3]	X	X
	SB-131	(24 - 26')	2/14/97	L35277	X	X[1]	X[3]	X	X
	SB-131	(28 - 30')	2/14/97	L35277	X	X[1]	X[3]	X	X
	SB-132	(12 - 14')	5/7/97	L36802	X	X[2]	X[3]	X	X
	SB-132	(30 - 32')	5/7/97	L36802	X	X[1]	X[3]	X	X
	SB-132 (DUP)	(30 - 32')	5/7/97	L36802	X	X[1]	X[3]	X	X
	SB-133	(10 - 12')	5/8/97	L36802	X	X[1]	X[3]	X	X

*See Notes on Page 6

TABLE 1

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

Matrix	Sample ID	Sample Interval	Date Sampled	SDG #	Analyses				
					PCBs	VOCs	SVOCs	Inorganics	TPH
Subsurface Soil	SB-133	(18 - 20')	5/8/97	L36802	X	X[1]	X[3]	X	X
	SB-134	(10 - 12')	5/8/97	L36802	X	X[1]	X[3]	X	X
	TP-101	(2 - 4')	9/24/96	L32584	X			X	
	TP-102	(4 - 6')	9/25/96	L32636	X			X	
	TP-103	(2 - 4')	9/25/96	L32636	X	X	X	X	
	TP-103 (DUP)	(2 - 4')	9/25/96	L32636	X			X	
	TP-104	(1 - 2')	9/25/96	L32636	X	X	X	X	
	TP-104	(6 - 8')	9/25/96	L32636	X	X	X	X	
	TP-105	(2 - 4')	9/25/96	L32636	X			X	
	TP-106	(2 - 4')	9/25/96	L32636	X			X	
	TP-107	(6 - 7')	9/24/96	L32584	X	X	X	X	
	TP-107 (DUP)	(6 - 7')	9/24/96	L32584		X			
	TP-108	(1.5 - 2')	9/24/96	L32584	X			X	
	TP-109	(2 - 4')	9/24/96	L32584	X			X	
	TP-110	(1 - 2')	9/24/96	L32584	X	X	X	X	
	TP-111	(4 - 6')	9/24/96	L32584	X	X	X	X	
	TP-112	(6 - 7')	9/23/96	L32584	X	X	X	X	
	TP-113	(2 - 3')	9/26/96	L32636	X			X	
	TP-114	(1 - 2')	9/26/96	L32668	X	X	X	X	

Matrix	Sample ID	Date Sampled	SDG #	Analyses				
				PCBs	VOCs	SVOCs	Inorganics	TPH
NAPL	MW-04	6/2/97	L37307	X	X	X	X	X
	MW-08	9/27/96	L32703	X	X	X	X	X
	MW-10	9/27/96	L32703	X	X	X	X	X
	MW-10 (DUP)	9/27/96	L32703	X	X	X	X	X

*See Notes on Page 6

TABLE 1

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
ANALYTICAL SAMPLE SUMMARY

NOTES:

1. SDG = Sample delivery group.
2. Sample designations include the following:
   CB = Debris sample from catch basin
   MH = Debris sample from manhole
   MW = Monitoring well
   SB = Soil boring
   SS = Surface soil
   TP = Test pit
   (DUP) = Blind duplicate sample.
3. Sample analyses include the following:
   PCBs = Polychlorinated Biphenyls
   VOCs = Volatile organic compounds.
   SVOCs = Semivolatiie organic compounds.
   TPH = Total petroleum hydrocarbons.

   X = Indicates full scan.
   X^1 = Sample was analyzed for BTEX compounds only.
   X^2 = Sample was analyzed for BTEX + 1,1-Dichloroethene, Chlorobenzene, Trichloroethene.
   X^3 = Sample was analyzed for PAH compounds only.
   X^a = Sample was analyzed for both unfiltered and filtered TAL inorganic constituents.

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
TP-101	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
TP-102	0-0.5	0.0
	0.5-2	0.0
	2-4	0.9
	4-6	1.9
	6-8	0.2
TP-103	0-0.5	2.0
	0.5-2	0.7
	2-4	0.4
	4-6	1.1
	6-8	0.3
TP-104	0-0.5	0.0
	0.5-2	26.0
	2-4	2.6
	4-6	4.5
	6-8	6.1
TP-105	0-0.5	1.2
	0.5-2	0.7
	2-4	0.2
	4-6	0.4
	6-8	0.3
TP-106	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
TP-107	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
TP-108	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
TP-109	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
TP-110	0-0.5	0.1
	0.5-2	14.2
	2-4	0.2
TP-111	0-0.5	0.0
	0.5-2	0.1
	2-4	0.0
	4-6	0.0
	6-8	0.1
TP-112	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
TP-113	0-0.5	0.0
	0.5-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
TP-114	0-0.5	0.0
	0.5-2	4.6
	2-4	0.4

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
MW-15S	0-2	0.0
	10-12	0.0
	14-16	0.0
MW-16D	0-2	0.0
	5-7	0.0
	9-11	0.0
	13-15	0.0
	18-20	0.0
MW-16R	0-2	0.0
	2-4	0.0
	4-6	2.8
	6-8	0.8
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	24.5-29.5	0.0
	29.5-34.5	0.0
	34.5-38.5	0.0
MW-17D	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	11.1
	20-22	8.2
	22-24	9.8
	24-26	9.5
	26-28	9.6
	28-30	0.0
MW-17S	2-4	0.0
	5-7	0.0
	10-12	0.0
	15-17	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
MW-18S	0-2	0.0
	5-7	0.0
	10-12	1.0
	15-17	12.5
MW-19D	1-3	0.0
	6-8	124.9
	8-10	66.5
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
MW-20D	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
MW-21D	0-2	0.6
	2-4	0.4
	4-6	0.8
	6-8	0.0
	8-10	0.3
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	24-26	0.0
	26-28	0.0
	28-30	0.0
	30-32	0.0
	32-34	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
MW-21R	12-14	0.0
	23-25	0.0
	25-27	0.0
MW-21S	0-2	0.0
	5-7	0.0
	10-12	0.0
	15-17	0.0
MW-22D	0-2	0.0
	2-4	0.0
	4-6	0.4
	6-8	7.7
	8-10	1.7
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
	28-30	0.0
	30-32	0.0
	32-34	0.0
MW-22R	6-8	4.3
	26-28	0.0
	35-40	0.0
	40-44.4	0.0
	44.4-49.4	0.0
MW-22S	0-2	1.8
	5-7	1.0
	10-12	0.0
	15-16.5	0.0
MW-6A	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
PZ-01D	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
PZ-01S	9-11	0.0
PZ-02	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
SB-101	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
SB-102	0-2	0.0
	2-4	3.5
	4-6	3.6
	6-8	1.6
	8-10	1.8
	10-12	2.4
	12-14	1.6
SB-103	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-104	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
SB-105	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.6
	8-10	0.0
	10-12	0.0
	12-14	0.0
SB-106	0-2	0.2
	2-4	2.4
	4-6	9.2
	6-8	0.5
	8-10	0.3
	10-12	0.1
	12-14	0.5
	16-18	0.0
SB-107	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
SB-107C	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	16-18	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-108	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	28.9
	10-12	0.0
	12-14	0.0
SB-108D	0-2	0.0
	2-4	11.7
	4-6	8.8
	6-8	0.0
	8-10	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
SB-109	0-2	0.5
	2-4	0.8
	4-6	4.6
	6-8	1.0
	8-10	8.1
	10-12	386.1
	12-14	397.0
	14-16	823.0
	16-18	874.0
	18-20	562.0
	20-22	1526.0
	22-24	165.0
SB-110	0-2	344.7
	4-6	327.8
	6-8	1056.0
	8-10	1743.0
	10-12	>2000
	12-14	1504.0
	14-16	1479.0
	16-18	>2000
	18-20	>2000

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-111	0-2	0.0
	2-4	0.0
	4-6	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
	28-30	0.0
SB-112	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	12-14	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
SB-113	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
SB-114	0-2	0.0
	2-4	4.7
	4-6	81.3
	6-8	88.0
	8-10	78.0
	10-12	76.0
	12-14	30.1
	14-16	19.3
	16-18	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-115	0-2	0.0
	2-4	142.7
	6-8	169.0
	8-10	161.5
	10-12	149.7
	12-14	86.9
	14-16	73.4
	16-18	37.6
	20-22	68.7
SB-116	0-2	1.1
	2-4	24.7
	4-6	8.7
	6-8	3.1
	8-10	8.1
	12-14	888.3
	14-16	94.3
	16-18	519.7
	18-20	30.4
	20-22	18.8
	22-24	92.8
	24-26	36.8
	26-28	6.6
SB-117	0-2	63.8
	2-4	111.6
	4-6	473.0
	8-10	1161.0
	10-12	133.8
	12-14	280.6
	14-16	14.4
	16-18	44.5
	20-22	127.3
	22-24	69.3
SB-118	0-2	19.1
	2-4	2.8
	4-6	1.0
	6-8	1.2
	8-10	0.4
	10-12	1.3
	12-14	523
	14-16	>2000
	16-18	>2000
	20-22	329.5
	22-24	145.4
	24-26	17.5
	26-28	10.5
	28-30	28

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-119	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	132.7
	8-10	174.3
	10-12	528.0
	12-14	65.3
	14-16	10.0
	16-18	9.8
	18-20	1.3
	20-22	0.0
SB-120	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	38.7
	8-10	759.7
	10-12	582
	12-14	657
	14-16	44.9
	16-18	72.9
	18-20	60.2
	20-22	69.8
SB-121	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	1.2
	12-14	3.4
	14-16	0.7
	16-18	0.0
	18-20	0.0
	20-22	1.4
	22-24	0.0
	24-26	0.0
	26-28	0.0
SB-122	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-123	0-2	0.0
	2-4	8.1
	4-6	2.4
	6-8	348.9
	8-10	183.4
	26.5-31.5	0.0
	31.5-36.5	0.0
SB-124	0-2	24.8
	2-4	90.2
	4-6	84.4
SB-124A	1-3	19.4
	4-6	262
	6-8	190.7
	8-10	32.7
	10-12	23.8
	12-14	29.3
	14-16	27.4
	18-20	24.8
	20-22	148
SB-125	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	15.4
	16-18	6.4
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	48.5
SB-126	0-2	0.0
	2-4	0.0
	4-6	113.8
	6-8	2.8
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-127	0-2	0.0
	2-4	11.4
	4-6	0.0
	6-8	0.0
	10-12	112.7
	12-14	113.6
	14-16	9.5
	16-18	0.0
	18-20	0.0
SB-128	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
SB-129	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	15.4
	16-18	6.4
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	48.5
SB-131	0-2	0.0
	2-4	0.0
	4-6	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	12.7
	28-30	182.2

*See Notes on Page 14

Table 2

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Investigation
Headspace Screening Summary

Sample Location	Sample Depth (feet)	PID Measurement (ppm)
SB-132	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
	28-30	0.0
	30-32	0.0
SB-133	0-2	0.0
	2-4	0.0
	6-8	0.0
	10-12	0.0
	12-14	0.0
	16-18	0.0
	18-20	0.0
	20-20.9	0.0
SB-134	0-2	0.0
	2-4	0.0
	4-6	0.0
	6-8	0.0
	8-10	0.0
	10-12	0.0
	12-14	0.0
	14-16	0.0
	16-18	0.0
	18-20	0.0
	20-22	0.0
	22-24	0.0
	24-26	0.0
	26-28	0.0
	28-30	0.0
	30-32	0.0

Notes:

1. PID = Photoionization detector
2. ppm = parts per million
3. Sample location designations indicate the following:
   - TP = Test Pit
   - MW = Monitoring Well
   - PZ = Piezometer
   - SB = Soil Boring

TABLE 3

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR TOTAL PCBs (ppm)

Sample ID	Sample Depth	Total PCB Concentration
SS-101	0 - 6"	0.330 D
SS-102	0 - 6"	**13 J**
SS-103	0 - 6"	**2.6**
SS-104	0 - 6"	**1.8**
SS-105	0 - 6"	0.640
SS-106	0 - 6"	0.540
SS-107	0 - 6"	0.430 D
SS-108	0 - 6"	0.660 D
SS-109	0 - 6"	0.280 D
SS-110	0 - 6"	**1.38 D**
SS-111	0 - 6"	0.850 D
DUP-1 (SS-111)	0 - 6"	0.910 D
SS-112	0 - 6"	0.990 D
SS-113	0 - 6"	**1.3**
SS-114	0 - 6"	0.130
SB-103	0 - 6"	0.037
SB-104	0 - 6"	0.170
SB-105	0 - 6"	**1.79**
SB-106	0 - 6"	**1.2**
SB-101	0 - 2'	**6.3**
SB-104	0 - 2'	0.120

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for PCBs using USEPA SW-846 Method 8080 as referenced in NYSDEC 1991 ASP.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   SS = Surface Soil
   SB = Soil Boring
   DUP = Duplicate Sample
6. D = The reported concentration is the result of a diluted sample analysis.
7. J = The concentration is an estimated value.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.
9. Bold values indicate that the total PCB concentration is equal to or greater than the NYSDEC recommended soil cleanup objective of 1.0 ppm (NYSDEC HWR-94-4046, January 24, 1994).

TABLE 4

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Constituent	NYSDEC - Recommended Soil Cleanup Objective	SB-104 (0 - 2') 10/8/96
1,1,1-Trichloroethane	0.8	0.010 J
Benzene	0.06	0.026 J
Ethylbenzene	5.5	0.005 J
Methylene chloride	0.1	0.007 J
Toluene	1.5	0.022 J

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for volatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   SB = Soil Boring
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.
9. NYSDEC - recommended soil cleanup objective from TAGM HWR-94-4046

TABLE 5

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup objective	Surface Soil Samples and Analytical Results					
		SS-103 (0-6")	SS-104 (0-6")	SS-107 (0-6")	SS-110 (0-6")	SS-111 (0-6")	DUP-1 (SS-111)
1,2,4-Trichlorobenzene	3.4	1.8 U	0.420 U	0.350 UJ	0.360 U	0.130 J	0.390 U
1,4-Dichlorobenzene	8.5	1.8 U	0.420 U	0.350 U	0.360 U	0.100 J	0.390 U
2,4-Dinitrotoluene	1.0	1.8 U	0.420 U	0.350 U	0.360 U	0.150 J	0.390 U
2-Chlorophenol	0.8	1.8 U	0.420 U	0.350 U	0.360 U	0.180 J	0.390 U
2-Methylnaphthalene	36.4	1.8 U	0.087 J	0.140 J	0.150 J	0.120 J	0.170 J
4-Chloro-3-methylphenol	0.240 or MDL	1.8 U	0.420 U	0.350 U	0.360 U	0.210 J	0.390 U
4-Nitrophenol	0.100 or MDL	4.4 U	1 U	0.870 U	0.900 U	**0.220 J**	0.960 U
Acenaphthene	50	2.1	0.220 J	0.390	0.490	0.240 J	0.390 U
Acenaphthylene	41	1.8 U	0.420 U	0.350 U	0.062 J	0.390 U	0.100 J
Anthracene	50	5.6	0.500	0.610	1	0.420	0.470
Benzo(a)anthracene	0.224 or MDL	**27**	2.2	**2.5**	**3.2**	**1.6**	2
Benzo(a)pyrene	0.061 or MDL	**38 D**	2.4	**2.3**	**3.4**	**1.6**	**1.9**
Benzo(b)fluoranthene	1.1	**35 D**	**3.1**	**3.2**	**2.9**	2	2.2
Benzo(g,h,i)perylene	50	20	1.8	2.3	3	1.2	1.6
Benzo(k)fluoranthene	1.1	**27**	**2.3**	**3.8**	**3**	**1.7**	**1.8**
bis(2-Ethylhexyl)phthalate	50	4.8 U	0.750 U	1.9 U	1.4 U	4.6 B	1.1 U
Butyl benzyl phthalate	50	1.8 U	0.420 U	0.350 U	0.360 U	0.390 U	0.390 U
Carbazole	NA	3.4	0.460	0.490	0.380	0.270 J	260 J
Chrysene	0.4	**28**	**3**	**3**	**3.4**	**2.3**	**2.6**
Di-n-butyl phthalate	8.1	1.8 U	0.120 J	0.039 J	0.360 U	0.390 U	0.390 U
Dibenzofuran	6.2	0.830 J	0.150 J	0.250 J	0.280 J	0.140 J	0.170 J
Fluoranthene	50	**64 D**	4.4	4.3	5.5	2.9	3.2
Fluorene	50	1.8	0.220 J	0.330 J	0.390	0.130 J	0.160 J
Indeno(1,2,3-cd)pyrene	3.2	**19**	1.8	2.2	2.6	1.1	1.6
N-Nitroso-di-n-propylamine	NA	1.8 U	0.420 U	0.350 U	0.360 U	0.120 J	0.390 U
Naphthalene	13	0.470 J	0.120 J	0.280 J	0.200 J	0.170 J	0.220 J
Pentachlorophenol	1.0 or MDL	4.4 U	1 U	0.870 U	0.170 J	**16 D**	**26 D**
Phenanthrene	50	24	3	3.4	5	2.1	2.5
Phenol	0.03 or MDL	1.8 U	0.420 U	0.350 UJ	0.360 U	**0.170 J**	0.390 U
Pyrene	50	**55 JD**	4.9 J	4.4 J	11 DJ	4.1 J	5 J
Tentatively Identified Compounds	NA	137.3 J	46.69 J	47.48 J	51.23 J	42.48 J	27.9 J

*See Notes on Page 3

TABLE 5

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup objective	Surface Soil Samples and Analytical Results					
		SS-112 (0-6")	SS-114 (0-6")	SB-103 (0-6")	SB-104 (0-2')	SB-105 (0-6")	SB-106 (0-6")
1,2,4-Trichlorobenzene	3.4	0.340 UJ	0.370 UJ	0.360 U	0.380 U	0.360 UJ	0.370 UJ
1,4-Dichlorobenzene	8.5	0.340 UJ	0.370 U	0.360 U	0.380 U	0.360 U	0.370 U
2,4-Dinitrotoluene	1.0	0.340 UJ	0.370 U	0.360 U	0.380 U	0.360 U	0.370 U
2-Chlorophenol	0.8	0.340 UJ	0.370 U	0.360 U	0.380 U	0.360 U	0.370 U
2-Methylnaphthalene	36.4	0.190 J	0.370 U	0.360 U	0.240 J	0.360 U	0.370 U
4-Chloro-3-methylphenol	0.240 or MDL	0.340 UJ	0.370 U	0.360 U	0.380 U	0.360 U	0.370 U
4-Nitrophenol	0.100 or MDL	0.850 UJ	0.920 U	0.900 U	0.950 U	0.900 U	0.930 U
Acenaphthene	50	0.560 J	0.370 U	0.360 U	0.380 U	0.093 J	0.098 J
Acenaphthylene	41	0.340 UJ	0.370 U	0.360 U	0.077 J	0.360 U	0.370 U
Anthracene	50	0.920 J	0.052 J	0.360 U	0.160 J	0.270 J	0.160 J
Benzo(a)anthracene	0.224 or MDL	**3.3 J**	0.360 J	0.360 U	**0.430**	**1.3**	**0.870**
Benzo(a)pyrene	0.061 or MDL	**2.9 J**	**0.220 J**	0.053 J	**0.480 J**	**1.2 J**	**0.630 J**
Benzo(b)fluoranthene	1.1	**3.4 J**	0.920 J	0.360 U	1 J	**1.6 J**	**1.6 J**
Benzo(g,h,i)perylene	50	2.4 J	0.470 J	0.360 U	0.820 J	1.1 J	1.3 J
Benzo(k)fluoranthene	1.1	**3.2 J**	1 J	0.360 U	0.700 J	**1.6 J**	**1.9 J**
bis(2-Ethylhexyl)phthalate	50	1.8 UJ	0.860 U	1.5 U	0.380 U	1.8 U	4.9 U
Butyl benzyl phthalate	50	0.340 UJ	0.370 U	0.360 U	0.210 J	0.110 J	0.370 U
Carbazole	NA	0.600 J	0.053 J	0.360 U	0.068 J	0.270 J	0.093 J
Chrysene	0.4	**3.9 J**	**0.580**	0.065 J	**0.810**	**1.6**	**1.1**
Di-n-butyl phthalate	8.1	0.048 J	0.370 U	0.360 U	0.380 U	0.360 U	0.370 U
Dibenzofuran	6.2	0.360 J	0.370 U	0.360 U	0.140 J	0.360 U	0.370 U
Fluoranthene	50	4.8 J	0.800	0.110 J	0.810	2.8	1.9
Fluorene	50	0.450 J	0.370 U	0.360 U	0.380 U	0.120 J	0.120 J
Indeno(1,2,3-cd)pyrene	3.2	2.3 J	0.500 J	0.360 U	0.660 J	1.1 J	1.3 J
N-Nitroso-di-n-propylamine	NA	0.340 UJ	0.370 UJ	0.360 U	0.380 U	0.360 UJ	0.370 UJ
Naphthalene	13	0.410 J	0.370 U	0.360 U	1.1	0.360 U	0.370 U
Pentachlorophenol	1.0 or MDL	0.850 UJ	0.920 U	0.900 U	2.2	0.900 U	0.930 U
Phenanthrene	50	4.1 J	0.340 J	0.063 J	0.680	1.9	1.3
Phenol	0.03 or MDL	0.340 UJ	0.370 UJ	0.360 U	0.380 U	0.360 UJ	0.370 UJ
Pyrene	50	19JD	0.860 J	0.120 J	1.2	3.0 J	2.2 J
Tentatively Identified Compounds	NA	38.62 J	7.98 J	2.4 J	9.68 J	10.53 J	11.91 J

*See Notes on Page 3

TABLE 5

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for SVOCs in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   SS = Surface Soil
   SB = Soil Boring
6. NA = Indicates that NYSDEC recommended soil objectives are not available for this constituent.
7. U = Indicates that the constituent was not detected.
8. J = The concentration is an estimated value.
9. D = The reported concentration is the result of a diluted sample analysis.
10. Analytical results were validated by Blasland, Bouck & Lee, Inc.
11. Results are shown for constituents which were detected at one or more sampling locations.
12. Bold values indicate that the constituent was detected at or above NYSDEC recommeded soil cleanup objectives.

TABLE 6

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup objective	Surface Soil Samples and Analytical Results						
		SS-101 (0-6")	SS-102 (0-6")	SS-103 (0-6")	SS-104 (0-6")	SS-105 (0-6")	SS-106 (0-6")	SS-107 (0-6")
Aluminum	13,000*	4,880	3,630	3,800	4,410	6,570	3,870	6,990
Antimony	1.8*	1 BJ	1 BJ	0.65 BJ	1.6 BJ	1.1 BJ	0.6 BJ	1.1 BJ
Arsenic	8.5*	8	8	6.7	**13.4**	5.9	4.4	6.3
Barium	300	80.5	72	48.2	128	43.1	42.7	61
Beryllium	0.71*	0.4 B	0.4 B	0.42 B	0.43 B	0.41 B	0.29 B	0.45 B
Cadmium	1	0.55	0.64	0.57	2.6	0.64	0.79	**1.9**
Calcium	4,400*	**91,600**	**196,000**	**177,000**	89,100	**35,000**	**213,000**	**28,700**
Chromium	21*	9.1	8.2	8.1	11.6	11.4	8.5	10.8
Cobalt	30	6.1	4.8 B	4.2 B	6.1 B	7.3	4.8 B	7.8
Copper	42*	**89.4**	25.6	14.7	207	36.9	20	30.9
Cyanide, Total	ND	0.51 U	0.54 U	0.52 U	0.59 U	0.53 U	0.52 U	0.52 U
Iron	34,000*	14,900	11,300	10,500	14,400	18,200	10,800	18,800
Lead	20*	**52**	**53.1**	**28.5**	392	100	**59.6**	**39.3**
Magnesium	6,200*	**25,200**	**10,400**	**21,400**	4,820	5,360	**10,200**	**10,800**
Manganese	780*	285	189	272	199	284	299	506
Mercury	0.1	0.46	0.22	0.09 B	0.42	0.69	0.22	**0.39**
Nickel	30*	14.8	12.9	11.7	18.2	16.3	11.2	17.1
Potassium	1,500*	848	675	692	811	970	608	914
Selenium	2	0.43 UJ	0.96	0.42 U	1.2	0.53 B	0.44 B	0.42 UJ
Silver	ND	0.32 U	0.34 U	0.31 U	0.38 U	0.34 U	0.33 U	0.32 U
Sodium	340*	206 B	204 B	296 B	240 B	169 B	154 B	201 B
Thallium	ND	0.21 U	0.23 UJ	0.42 UJ	0.5 UJ	0.46 UJ	0.44 UJ	0.42 U
Vanadium	150	12.6	16.2	10	24.6	14.6	9.6	13.7
Zinc	88*	**122**	83.3	68	**485**	97.6	48.2	**613**

* See Notes on Page 4

TABLE 6

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup objective	Surface Soil Samples and Analytical Results						
		SS-108 (0-6")	SS-109 (0-6")	SS-110 (0-6")	SS-111 (0-6")	DUP-1 (SS-111)	SS-112 (0-6")	SS-113 (0-6")
Aluminum	13,000*	6,590	5,870	5,370	3,180	3,350	7,260	5,990
Antimony	1.8*	1.1 BJ	0.85 BJ	0.6 BJ	0.71 BJ	0.67 BJ	1.9 BJ	0.93 BJ
Arsenic	8.5*	6.3	7.9	19.4	21.3	21.2	77.5	14.3
Barium	300	46	68.8	70.9	94.8	92	86.7	111
Beryllium	0.71*	0.43 B	0.48 B	0.55	0.38 B	0.4 B	0.6	0.49 B
Cadmium	1	0.53 B	1.9	1.8	1.6	1.1	2	1.4
Calcium	4,400*	22,600	99,900	43,300	39,300	27,500	50,400	15,600
Chromium	21*	11.2	10.6	13.3	15.6	16.9	21.3	15.1
Cobalt	30	6.9	4.9 B	5.6	5 B	5.2 B	9.4	6.9
Copper	42*	30.7	30.7	78.6	41.9	43.6	110	77.5
Cyanide, Total	ND	0.52 U	0.55 U	0.59	0.86	0.57 U	0.53 U	4.2
Iron	34,000*	17,600	16,100	18,400	19,600	19,800	29,700	19,300
Lead	20*	82.1	60.8	363	256	250	359	279
Magnesium	6,200*	4,570	8,740	5,780	1,900	1,640	5,150	3,810
Manganese	780*	335	417	335	258	240	410	367
Mercury	0.1	0.39	0.36	1.5	1	0.53	0.82	0.64
Nickel	30*	17.2	15.3	16	10.8	11.5	29.4	18.8
Potassium	1,500*	806	821	697	658	724	905	911
Selenium	2	0.6 J	0.44 UJ	1.3 J	1.6 J	1.3 J	0.74 J	1.1
Silver	ND	0.34 U	0.33 U	0.32 U	0.35 U	0.35 U	0.34 U	0.34 U
Sodium	340*	228 B	321 B	297 B	150 B	135 B	261 B	310 B
Thallium	ND	0.23 U	0.44 U	0.22 U	0.23 U	0.47 U	0.46 U	0.92 UJ
Vanadium	150	16.8	14.8	21.7	29.3	32.4	45.5	24
Zinc	88*	84.7	90.5	518	110	106	800	230

* See Notes on Page 4

TABLE 6

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup objective	Surface Soil Samples and Analytical Results						
		SS-114 (0-6")	SB-103 (0-6")	SB-104 (0-6")	SB-105 (0-6")	SB-106 (0-6")	SB-101 (0-2')	SB-104 (0-2')
Aluminum	13,000*	5,920	2,780	6,520	5,080	8,960	3,680	7,720
Antimony	1.8*	1.3 BJ	0.73 BJ	1.1 BJ	1 BJ	1.6 BJ	0.58 UJ	1.2 BJ
Arsenic	8.5*	8.3	5.6	**17.3**	4.2	8.2	**13.1**	4.9
Barium	300	133	29	103	48.7	73.2	81.7	87.3
Beryllium	0.71*	0.52 B	0.24 B	0.58	0.38 B	**0.71**	0.27 B	0.49 B
Cadmium	1	**1.6**	0.29 B	0.81	**1.5**	0.95	0.43 B	0.35 B
Calcium	4,400*	**52,800**	**259,000**	**5,320**	**71,500**	**23,000**	**11,200**	**5,260**
Chromium	21*	14.9	6	16	**21.4**	15.7	13.5	13
Cobalt	30	6.6	3.2 B	8.1	5 B	9.5	5.6 B	9.9
Copper	42*	**43.4**	8.5	113	38.2	**46.8**	**63**	31.8
Cyanide, Total	ND	0.54 U	0.52 U	1	0.54 U	0.55 U	13.4	31.2
Iron	34,000*	18,800	8,040	19,300	14,300	22,600	21,300	18,200
Lead	20*	**240**	5.2	**548 J**	**129**	**62.8**	**172 J**	**155 J**
Magnesium	6,200*	4,700	**8,050**	4,160 J	**14,100**	6,190	1,950 J	3,330 J
Manganese	780*	344	149	426	300	534	124	231
Mercury	0.1	0.34	0.07 B	**0.84 J**	0.14	**0.46**	0.69 J	**0.31 J**
Nickel	30*	16.8	8.1	20.7	17.9	22.8	11.7	17.8
Potassium	1,500*	798	537 B	800	649	1,110	979	805
Selenium	2	0.82	0.43 U	0.91 J	0.44 U	0.51 B	0.77 J	0.6 J
Silver	ND	0.33 U	0.33 U	0.34 U	0.33 U	0.34 U	0.35 U	0.35 U
Sodium	340*	294 B	230 B	202 B	228 B	132 B	164 B	151 B
Thallium	ND	0.87 UJ	0.22 UJ	0.23 U	0.44 UJ	0.45 UJ	0.92 U	0.46 U
Vanadium	150	16.1	4.3 B	19	21.4	18.1	24.4	15.6
Zinc	88*	**433**	28.1	**178 J**	**287**	**123**	53.3 J	107 J

* See Notes on Page 4

TABLE 6

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for TAL inorganic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   SS = Surface Soil
   SB = Soil Boring
   DUP = Duplicate Sample
6. * = Listed soil objectives are site background value for subsurface soil.
7. ND = NYSDEC (HWR-94-4046, January 24, 1994) recommends use of site background value as a cleanup objective, however this constituent was not detected in subsurface background soil samples.
8. U = Indicates that the constituent was not detected.
9. D = The reported concentration is the result of a diluted sample analysis.
10. J = The concentration is an estimated result.
11. B = Indicates that the reported result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
12. Analytical results were validated by Blasland, Bouck & Lee, Inc.
13. NYSDEC recommends using site background values as cleanup objective, however no background data is available.
14. Bold values indicate that the constituent was detected at or above NYSDEC soil cleanup objective.

TABLE 7

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

TABLE 7

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

Sample ID	Depth	Date	Total PCBs
MW-17S	(2 - 4')	2/12/97	0.031 J
MW-19D	(1 - 3')	1/23/97	0.038 U
MW-21R	(12 - 14')	5/1/97	0.038 U
MW-21R	(25 - 27')	5/1/97	0.037 U
MW-22R	(6 - 8')	4/29/97	0.037 U
MW-22R	(26 - 28')	4/29/97	0.039 U
MW-22R (DUP)	(26 - 28')	4/29/97	0.038 U
SB-102	(4 - 6')	10/7/96	0.18
SB-103	(2 - 4')	10/7/96	0.044 U
SB-103 (DUP)	(2 - 4')	10/7/96	0.044 U
SB-105	(6 - 8')	10/8/96	0.038 U
SB-106	(2 - 4')	10/3/96	0.2 U
SB-106 (DUP)	(2 - 4')	10/3/96	0.21 U
SB-107C	(14 - 16')	2/4/97	0.04 U
SB-108D	(2 - 4')	1/30/97	0.042 U
SB-108D	(24 - 26')	1/30/97	0.038 U
SB-109	(10 - 12')	10/8/96	0.039 U
SB-109	(20 - 22')	10/8/96	0.036 U
SB-110	(6 - 8')	10/9/96	9.9 J
SB-110	(18 - 20')	10/9/96	640 UD
SB-111	(8 - 10')	2/5/97	0.037 U
SB-111 (DUP)	(8 - 10')	2/5/97	0.038 U
SB-112	(10 - 12')	10/10/96	0.042 U
SB-112	(18 - 20')	10/10/96	0.038 U
SB-113	(4 - 6')	10/10/96	0.056 U
SB-113	(16 - 18')	10/10/96	0.035 U
SB-114	(6 - 8')	10/10/96	0.078 U
SB-114	(14 - 16')	10/10/96	0.036 U
SB-115	(6 - 8')	10/11/96	0.038 U
SB-115	(10 - 12')	10/11/96	0.04 U
SB-116	(12 - 14')	10/1/96	0.037 U
SB-116	(20 - 22')	10/1/96	0.036 U
SB-117	(8 - 10')	10/1/96	0.043 U
SB-117	(14 - 16')	10/1/96	0.037 U
SB-118	(14 - 16')	10/1/96	0.036 U
SB-118	(26 - 28')	10/1/96	0.034 U
SB-119	(8 - 10')	10/4/96	0.22 U
SB-119	(18 - 20')	10/4/96	0.036 U
SB-120	(8 - 10')	10/14/96	0.037 U
SB-120 (DUP)	(8 - 10')	10/14/96	0.043 U
SB-120	(14 - 16')	10/14/96	0.039 U
SB-121	(8 - 10')	1/29/97	0.039 U
SB-121 (DUP)	(8 - 10')	1/29/97	0.041 U

*See Notes on Page 3

TABLE 7

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

Sample ID	Depth	Date	Total PCBs
SB-123	(6 - 8')	1/9/97	0.039 U
SB-124	(1 - 3')	1/24/97	0.038 U
SB-124	(4 - 6')	1/13/97	0.039 U
SB-124 (DUP)	(4 - 6')	1/13/97	0.038 U
SB-124	(22 - 24')	1/24/97	0.036 U
SB-125	(22 - 24')	1/13/97	0.043 U
SB-125	(24 - 26')	1/13/97	0.038 U
SB-126	(4 - 6')	1/16/97	0.038 U
SB-126	(6 - 8')	1/16/97	0.041 U
SB-127	(4 - 6')	1/22/97	0.036 U
SB-127 (DUP)	(4 - 6')	1/22/97	0.037 U
SB-127	(10 - 12')	1/22/97	0.038 U
SB-128	(14 - 16')	2/4/97	0.038 U
SB-129	(8 - 10')	2/11/97	0.043 U
SB-129 (DUP)	(8 - 10')	2/11/97	0.043 U
SB-129	(24 - 26')	2/11/97	0.037 U
SB-131	(24 - 26')	2/14/97	0.038 U
SB-131	(28 - 30')	2/14/97	0.036 U
SB-132	(12 - 14')	5/7/97	0.026 U
SB-132	(30 - 32')	5/7/97	0.025 U
SB-132 (DUP)	(30 - 32')	5/7/97	0.024 U
SB-133	(10 - 12')	5/8/97	0.029 U
SB-133	(18 - 20')	5/8/97	0.025 U
SB-134	(10 - 12')	5/8/97	0.031 U
TP-101	(2 - 4')	9/24/96	0.036 U
TP-102	(4 - 6')	9/25/96	0.058 U
TP-103	(2 - 4')	9/25/96	0.039 U
TP-103 (DUP)	(2 - 4')	9/25/96	0.041 U
TP-104	(6 - 8')	9/25/96	0.38 UD
TP-105	(2 - 4')	9/25/96	0.17
TP-106	(2 - 4')	9/25/96	0.041 U
TP-107	(6 - 7')	9/24/96	0.041 U
TP-108	(1.5-2')	9/24/96	0.041
TP-109	(2 - 4')	9/24/96	0.039 U
TP-110	(1 - 2')	9/24/96	1.8 UD
TP-111	(4 - 6')	9/24/96	0.043 U
TP-112	(6 - 7')	9/23/96	0.05 U
TP-113	(2 - 3')	9/26/96	3.8 UD

* See Notes on Page 3

TABLE 7

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for polychlorinated biphenyls in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in milligrams per kilogram (mg/kg), equivalent to parts per million (ppm).
5. Sample designations indicate the following:
   MW = Monitoring Well
   SB = Soil Boring
   TP = Test Pit
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. D = Concentration is based on a diluted sample analysis.
9. Analytical data were validated by Blasland, Bouck & Lee, Inc.
10. No samples exceeded the NYSDEC recommended soil cleanup objective of 10 ppm (NYSDEC HWR-94-4046, January 24, 1997).
11. Shaded value indicated that the sample was collected from a location beneath the water table (i.e. saturated soil). Saturated soil samples were collected to characterize NAPL distribution. Saturated soil samples have not been compared with NYSDEC recommended soil cleanup objectives (NYSDEC HWR-94-4046, January 24)

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	MW-17S (2 - 4') 2/12/97	MW-19D (1 - 3') 1/23/97	MW-21R (12 - 14') 5/1/97	MW-21R (25 - 27') 5/1/97	MW-22R (6 - 8') 4/29/97	MW-22R (26 - 28') 4/29/97	MW-22R (DUP) (26 - 28') 4/29/97	SB-102 (4 - 6') 10/7/96	SB-102 (DUP) (4 - 6') 10/7/96	SB-105 (6 - 8') 10/8/96
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	0.34	0.49 JD	0.006 U
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	0.01 J	0.016	0.006 U
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	0.026 UJ	0.012 UJ	0.012 UJ
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	0.026 U	0.012 U	0.012 U
Benzene	0.06	0.006 U	0.006 U	0.006 U	0.006 U	0.006 UJ	0.006 U	0.006 U	0.013 U	0.006 UJ	0.024 J
Ethylbenzene	5.5	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 U	0.006 U	0.013 U	0.006 UJ	0.005 J
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	0.013 U	0.006 U	0.004 J
Toluene	1.5	0.003 J	0.01 J	0.006 UJ	0.006 UJ	0.006 UJ	0.006 U	0.006 U	0.013 U	0.006 UJ	0.001 J
Xylenes, Total	1.2	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 U	0.006 U	0.013 U	0.006 UJ	0.006 U
Tentatively Identified Compounds	NA								0.027 J	0.019 J	0.011 J

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-107C (14 - 16') 2/4/97	SB-108D (2 - 4') 1/30/97	SB-108D (24 - 26') 1/30/97	SB-109 (10 - 12') 10/8/96	SB-109 (20 - 22') 10/8/96	SB-110 (6 - 8') 10/9/96	SB-110 (18 - 20') 10/9/96	SB-111 (8 - 10') 2/5/97	SB-111 (DUP) (8 - 10') 2/5/97	SB-112 (10 - 12') 10/10/96
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	0.006 U	0.006 U	0.006 U	3 U	**27**	**48 J**	**940 J**	0.006 UJ	0.005 UJ	0.81 U
Ethylbenzene	5.5	0.006 U	0.006 U	0.006 U	**65 J**	**270 D**	**110 J**	**49 J**	0.006 UJ	0.005 UJ	0.81 U
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.5	0.006 U	0.048	0.006 U	3 U	**110 D**	**100 J**	**720 J**	0.006 UJ	0.005 UJ	0.81 U
Xylenes, Total	1.2	0.006 U	0.006 U	0.006 U	**15 J**	**50**	**150 J**	**520 J**	0.006 UJ	0.005 UJ	0.81 U

*See Notes on Page 5

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-112 (18 - 20') 10/10/96	SB-113 (4 - 6') 10/10/96	SB-113 (16 - 18') 10/10/96	SB-114 (6 - 8') 10/10/96	SB-114 (14 - 16') 10/10/96	SB-115 (6 - 8') 10/11/96	SB-115 (10 - 12') 10/11/96	SB-116 (12 - 14') 10/1/96	SB-116 (20 - 22') 10/1/96	SB-117 (8 - 10') 10/1/96
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	0.006 UJ	1.1 U	0.026 J	**1.9**	0.006 J	2.9 UJ	3 U	0.7 U	R	0.81 U
Ethylbenzene	5.5	0.006 UJ	1.1 U	0.005 UJ	**36**	0.049 J	**81 J**	**78**	0.22 J	R	0.81 U
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.5	0.006 UJ	1.1 U	0.005 UJ	**2**	0.002 J	2.9 UJ	3 U	0.7 U	R	0.81 U
Xylenes, Total	1.2	0.006 UJ	1.1 U	0.005 UJ	**41**	0.035 J	**34 J**	**34**	0.7 U	R	**0.81 U**

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-117 (14 - 16') 10/1/96	SB-118 (14 - 16') 10/1/96	SB-118 (26 - 28') 10/1/96	SB-119 (8 - 10') 10/4/96	SB-119 (DUP) (8 - 10') 10/4/96	SB-119 (18 - 20') 10/4/96	SB-120 (8 - 10') 10/14/96	SB-120 (DUP) (8 - 10') 10/14/96	SB-120 (14 - 16') 10/14/96	SB-121 (8 - 10') 1/29/97
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	0.029 U	0.68 U	0.013 J	**1,700**	**2,700**	0.005 UJ	**27**	**1.2 DJ**	**0.51 J**	0.006 U
Ethylbenzene	5.5	0.029 U	0.68 U	R	**2,400**	**3,900**	0.004 J	**27**	0.73 DJ	0.73 U	0.006 U
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.5	0.029 U	0.68 U	R	**1,200**	**2,000**	0.002 J	**62**	1.3 DJ	0.19 J	0.008
Xylenes, Total	1.2	0.029 U	0.68 U	R	**730**	**1,200**	R	**88**	**3 DJ**	0.73 UJ	0.006 U

*See Notes on Page 5

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-121 (DUP) (8 - 10') 1/29/97	SB-123 (6 - 8') 1/9/97	SB-124 (1 - 3') 1/24/97	SB-124 (4 - 6') 1/13/97	SB-124 (DUP) (4 - 6') 1/13/97	SB-124 (22 - 24') 1/24/97	SB-125 (22 - 24') 1/13/97	SB-125 (24 - 26') 1/13/97	SB-126 (4 - 6') 1/16/97	SB-126 (6 - 8') 1/16/97
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	0.006 U	0.006 U	0.006 U	**0.14 J**	0.055 J	**0.46 J**	0.008	0.045	0.006 U	0.006 U
Ethylbenzene	5.5	0.006 U	0.006 U	0.006 U	**18 DJ**	3.3 **DJ**	**4**	0.005 U	0.064	0.006 U	0.006 U
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.5	0.007	0.006 U	0.019 J	0.035 J	0.008 J	0.67 U	0.002 J	0.023	0.009 J	**0.022**
Xylenes, Total	1.2	0.006 U	0.006 U	0.006 U	**5.6 DJ**	0.2 J	**1.7**	0.002 J	0.061	0.006 U	0.006 U

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-127 (4 - 6') 1/22/97	SB-127 (DUP) (4 - 6') 1/22/97	SB-127 (10 - 12') 1/22/97	SB-128 (14 - 16') 2/4/97	SB-129 (8 - 10') 2/11/97	SB-129 (DUP) (8 - 10') 2/11/97	SB-129 (24 - 26') 2/11/97	SB-131 (24 - 26') 2/14/97	SB-131 (28 - 30') 2/14/97	SB-132 (12 - 14') 5/7/97
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	**1.4**	0.005 UJ	0.65 U	0.006 UJ
Ethylbenzene	5.5	0.006 U	0.006 U	0.07	0.006 U	0.006 U	0.006 U	**50 D**	0.005 UJ	1.4	0.006 UJ
Methylene chloride	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.5	0.023 J	0.013	0.006 U	0.006 U	0.006 U	0.006 U	0.39 J	0.005 UJ	0.65 U	0.006 UJ
Xylenes, Total	1.2	0.004 J	0.006 U	0.052	0.006 U	0.006 U	0.006 U	**25**	0.005 UJ	0.84	0.006 UJ

*See Notes on Page 5

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS EOR BETECTED VOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-132 (30 - 32') 5/7/97	SB-132 (DUP) (30 - 32') 5/7/97	SB-133 (10 - 12') 5/8/97	SB-133 (18 - 20') 5/8/97	SB-134 (10 - 12') 5/8/97	TP-103 (2 - 4') 9/25/96	TP-104 (6 - 8') 9/25/96
1,1,1-Trichloroethane	0.8	NA	NA	NA	NA	NA	0.006 U	0.029 U
1,1-Dichloroethane	0.2	NA	NA	NA	NA	NA	0.006 U	0.029 U
2-Butanone	0.3	NA	NA	NA	NA	NA	0.07 J	0.057 UJ
Acetone	0.2	NA	NA	NA	NA	NA	0.07 J	0.089 J
Benzene	0.06	0.006 UJ	0.006 UJ	0.007 UJ	R	R	0.006 U	0.029 U
Ethylbenzene	5.5	R	0.006 UJ	0.007 UJ	0.006 UJ	R	0.006 U	0.029 U
Methylene chloride	0.1	NA	NA	NA	NA	NA	0.006 U	0.029 U
Toluene	1.5	R	0.006 UJ	0.007 UJ	0.006 UJ	R	0.006 U	0.029 U
Xylenes, Total	1.2	R	0.006 UJ	0.007 UJ	0.006 UJ	R	0.006 U	0.029 U
Tentatively Identified Compounds	NA						0.042 J	0.476 J

Constituent	NYSDEC Recommended Soil Cleanup Objectives	TP-107 (6 - 7') 9/24/96	TP-107 (DUP) (6 - 7') 9/24/96	TP-111 (4 - 6') 9/24/96	TP-112 (6 - 7') 9/23/96	TP-104 (1-2') 9/25/96	TP-110 (1 - 2') 9/24/96	TP-114 (1 - 2') 9/26/96
1,1,1-Trichloroethane	0.8	0.006 U	0.007 U	0.006 U	0.008 U	1.9 U	0.028 U	0.920 U
1,1-Dichloroethane	0.2	0.006 UJ	0.007 U	0.006 U	0.008 U	1.9 U	0.028 U	0.920 U
2-Butanone	0.3	0.013 UJ	0.026 J	0.051 J	0.058 J	3.7 U	0.21 J	1.8 U
Acetone	0.2	*0.023 J*	*0.051 J*	*0.013 UJ*	*0.045 J*	*3.7 UJ*	**0.25 J**	1.8 U
Benzene	0.06	0.006 U	0.007 U	0.006 U	0.008 U	1.9 U	0.028 U	0.92 U
Ethylhenzene	5.5	0.006 UJ	0.007 U	0.006 U	0.008 U	**20**	**17 DJ**	0.23 J
Methylene chloride	0.1	0.007 UJ	0.007 U	0.004 J	0.004 J	1.9 U	0.037 J	0.92 U
Toluene	1.5	0.006 UJ	0.007 U	0.006 U	0.008 U	0.61J	0.26 J	0.26 J
Xylenes, Total	1.2	0.006 UJ	0.007 U	0.006 U	0.008 U	1.9 U	0.34 J	0.92 U
Tentatively Identified Compounds	NA	0.012 J	0.007 J	0.014 J	0	399 J	2.61 J	15.2 J

*See Notes on Page 5

TABLE 8

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for volatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in milligrams per kilogram (mg/kg); equivalent to parts per million (ppm).
5. Sample designations indicate the following:
   MW = Monitoring Well
   SB = Soil Boring
   TP = Test Pit
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected; the associated value is the sample quantitation limit.
7. D = The concentration is based on a diluted sample analysis.
8. J = The concentration is an estimated value.
9. UJ = Indicates that the constituent was not detected; the associated value, the sample quantitation limit, is an estimated value.
10. NA = Sample was not analyzed for the indicated compound.
11. R = Indicates that the sample results are rejected due to significant quality control problems.
12. Analytical results were validated by Blasland, Bouck & Lee, Inc.
13. Results are shown for constituents which were detected at one or more sampling locations.
14. Bold values indicate that the consitituent was detected at or above NYSDEC recommended soil cleanup objectives.
15. Shaded value indicated that the sample was collected from a location beneath the water table (i.e. saturated soil). Saturated soil samples were collected to characterize NAPL distribution. Saturated soil samples have not been compared with NYSDEC recommended soil cleanup objectives (NYSDEC HWR-94-4046, January 24)

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	MW-17S (2 - 4') 2/12/97	MW-19D (1 - 3') 1/23/97	MW-21R (12 - 14') 5/1/97	MW-21R (25 - 27') 5/1/97	MW-22R (6 - 8') 4/29/97	MW-22R (26 - 28') 4/29/97	MW-22R (DUP) (26 - 28') 4/29/97	SB-102 (4 - 6') 10/7/96	SB-102 (DUP) (4 - 6') 10/7/96	SB-105 (6 - 8') 10/8/96
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	0.78	0.85	0.38 U
Acenaphthene	50	0.39	0.37 U	0.043 J	0.39 U	0.39 U	0.39 U	0.39 U	4.4	5.7	0.12 J
Acenaphthylene	41	0.1 J	0.37 U	0.38 U	0.39 U	0.39 U	0.39 U	0.39 U	0.38 J	0.41	0.38 U
Anthracene	50	0.22 J	0.053 J	0.11 J	0.39 U	0.094 J	0.39 U	0.39 U	2.8	3.4	0.1 J
Benzo(a)anthracene	0.224 or MDL	**0.41**	0.21 J	**0.25 J**	0.39 U	**0.85 J**	0.39 U	0.39 U	**2 J**	**2.2 J**	**0.47**
Benzo(a)pyrene	0.061 or MDL	**0.5**	**0.17 J**	**0.22 J**	0.39 U	**0.88 J**	0.39 U	0.39 U	**1.3 J**	**1.3 J**	**0.55**
Benzo(b)fluoranthene	1.1	0.33 J	0.19 J	0.19 J	0.39 U	0.63 J	0.39 U	0.39 U	**1.2 J**	**1.4 J**	0.39
Benzo(g,h,i)perylene	50	0.38	0.37 U	0.38 UJ	0.39 U	1.7 J	0.39 U	0.39 U	0.84 J	0.74 J	0.4
Benzo(k)fluoranthene	1.1	0.43	0.18 J	0.12 J	0.39 U	0.7 J	0.39 U	0.39 U	**1.4 J**	**1.1 J**	0.48
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	NA	NA	0.42 UJ	0.4 UJ	0.38 U
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	0.42 UJ	0.4 UJ	0.26 J
Carbazole		NA	NA	NA	NA	NA	NA	NA	0.97	1.1	0.05 J
Chrysene	0.4	**0.52**	0.31 J	0.27 J	0.39 U	**0.99 J**	0.39 U	0.39 U	**1.9 J**	**2.1 J**	**0.5**
Dibenz(a,h)anthracene	0.014 or MDL	0.37 U	0.37 U	0.38 UJ	0.39 U	0.39 UJ	0.39 U	0.39 U	0.42 UJ	0.4 UJ	0.38 U
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	3	4	0.38 U
Fluoranthene	50	1.2	0.47	0.3 J	0.39 U	0.65 J	0.39 U	0.39 U	6	9.1 D	0.96
Fluorene	50	0.23 J	0.37 U	0.052 J	0.39 U	0.39 U	0.39 U	0.39 U	3.8	5	0.38 U
Indeno(1,2,3-cd)pyrene	3.2	0.31 J	0.11 J	0.38 UJ	0.39 U	1.3 J	0.39 U	0.39 U	0.84 J	0.79 J	0.31 J
Naphthalene	13	0.94	0.1 J	0.38 U	0.39 U	0.072 J	0.39 U	0.39 U	2.4	3	1.3
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	NA	NA	1.1 U	1 U	0.96 U
Phenanthrene	50	1.4	0.42	0.52	0.39 U	0.71	0.39 U	0.39 U	12 D	15 D	0.44
Pyrene	50	1.2 J	0.51	0.74 J	0.39 U	1.7 J	0.39 U	0.39 U	5.7 J	6.2 J	1.2
Tentatively Identified Compounds	NA								21.42 J	17.72 J	8.94 J

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-107C (14 - 16') 2/4/97	SB-108D (2 - 4') 1/30/97	SB-108D (24 - 26') 1/30/97	SB-109 (10 - 12') 10/8/96	SB-109 (20 - 22') 10/8/96	SB-110 (6 - 8') 10/9/96	SB-110 (18 - 20') 10/9/96	SB-111 (8 - 10') 2/5/97	SB-111 (DUP) (8 - 10') 2/5/97	SB-112 (10 - 12') 10/10/96
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	50	0.4 U	0.42 U	0.38 U	190 D	34	160	1,300 J	0.37 U	0.38 U	0.51
Acenaphthylene	41	0.4 U	0.42 U	0.38 U	9.7	190 D	800	4,700 J	0.37 U	0.38 U	0.26 J
Anthracene	50	0.4 U	0.42 U	0.38 U	45	92 D	430	4,100 J	0.37 U	0.38 U	0.71
Benzo(a)anthracene	0.224 or MDL	0.4 U	0.05 J	0.38 U	35 J	59 J	220 J	3,200 J	0.094 J	0.38 U	1.7
Benzo(a)pyrene	0.061 or MDL	0.4 U	0.42 U	0.38 U	35 J	57 J	200 J	2,900 J	0.085 J	0.38 U	2
Benzo(b)fluoranthene	1.1	0.4 U	0.42 U	0.38 U	16 J	24 J	70 J	1,400 J	0.37 U	0.38 U	1.7
Benzo(g,h,i)perylene	50	0.4 U	0.42 U	0.38 UJ	18 J	22 J	120 J	1,300 J	0.37 U	0.38 U	1.6
Benzo(k)fluoranthene	1.1	0.4 U	0.42 U	0.38 U	18 J	30 J	130 J	2,200 J	0.37 U	0.38 U	1.6
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	0.4 U	0.059 J	0.38 U	34 J	53 J	210 J	3,200 J	0.11 J	0.059 J	1.7
Dibenz(a,h)anthracene	0.014 or MDL	0.4 U	0.42 U	0.38 UJ	3.9 UJ	3.7 UJ	80 UJ	13 UD	0.37 U	0.38 U	0.43 U
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	50	0.4 U	0.1 J	0.38 U	50	130 D	360	6,700 J	0.22 J	0.11 J	4.4
Fluorene	50	0.4 U	0.42 U	0.38 U	62	140 D	630	7,000 J	0.37 U	0.38 U	0.8
Indeno(1,2,3-cd)pyrene	3.2	0.4 U	0.42 U	0.38 UJ	13 J	20 J	74 J	980 J	0.37 U	0.38 U	1.3
Naphthalene	13	0.4 U	0.42 U	0.38 U	1,700 D	1,200 D	6,100 D	1,300,000 D[1]	0.37 U	0.38 U	65 D
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	50	0.4 U	0.089 J	0.38 U	230 D	360 D	1,300 D	19,000 J	0.24 J	0.13 J	2.8
Pyrene	50	0.4 U	0.089 J	0.38 U	140 JD	210 D	660 J	10,000 J	0.23 J	0.13 J	5.2

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-112 (18 - 20') 10/10/96	SB-113 (4 - 6') 10/10/96	SB-113 (16 - 18') 10/10/96	SB-114 (6 - 8') 10/10/96	SB-114 (14 - 16') 10/10/96	SB-115 (6 - 8') 10/11/96	SB-115 (10 - 12') 10/11/96	SB-116 (12 - 14') 10/1/96	SB-116 (20 - 22') 10/1/96	SB-117 (8 - 10') 10/1/96
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	50	0.38 U	2.7 J	0.14 J	**530**	1.4	**280 D**	**95 D**	0.14 J	0.35 U	0.53
Acenaphthylene	41	0.077 J	3.9 J	0.35 U	**57**	0.18 J	11	2.8	0.37 U	0.35 U	0.43 U
Anthracene	50	0.088 J	10	0.35 U	**280**	1.1	**110 D**	36 D	0.069 J	0.35 U	0.19 J
Benzo(a)anthracene	0.224 or MDL	**0.23 J**	**24 J**	0.35 U	**200**	**0.86**	**52 J**	**22 D**	0.37 U	0.35 U	0.11 J
Benzo(a)pyrene	0.061 or MDL	**0.28 J**	**38 J**	0.35 U	**190**	**0.67**	**48 J**	**19 JD**	0.37 U	0.35 U	**0.1 J**
Benzo(b)fluoranthene	1.1	0.25 J	**33 J**	0.35 U	**87**	0.49	**23 J**	**6.1 J**	0.37 U	0.35 U	0.43 U
Benzo(g,h,i)perylene	50	0.14 J	28 J	0.35 U	**76**	0.35 J	24 J	6.2 J	0.37 U	0.35 U	0.43 U
Benzo(k)fluoranthene	1.1	0.25 J	**25 J**	0.35 U	**130**	0.49	**31 J**	**13 JD**	0.37 U	0.35 U	0.43 U
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	0.24 J	**24 J**	0.35 U	**200**	**0.86**	**53 J**	**22 D**	0.066 J	0.35 U	0.14 J
Dibenz(a,h)anthracene	0.014 or MDL	0.38 U	5.6 UJ	0.35 U	39 U	0.36 U	3.8 UJ	0.4 UJ	0.37 U	0.35 U	0.43 U
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	50	0.53	48	0.053 J	**460**	2	**140 D**	49 D	0.17 J	0.35 U	0.39 J
Fluorene	50	0.099 J	5.4 J	0.35 U	**420**	1.4	**170 D**	**55 D**	0.15 J	0.35 U	0.47
Indeno(1,2,3-cd)pyrene	3.2	0.21 J	**24 J**	0.35 U	**70**	0.3 J	**20 J**	**5.7 J**	0.37 U	0.35 U	0.43 U
Naphthalene	13	1.6	6.4	0.56	**1,600 D**	1.1	**990 D**	**220 D**	0.37 U	0.35 U	0.43 U
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	50	0.39	21	0.35 U	**1,300 D**	4.6	**400 D**	**140 D**	0.41	0.35 U	1.2
Pyrene	50	0.68	60 J	0.067 J	**710 D**	2.7	**210 D**	**73 D**	0.22 J	0.35 U	0.64

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TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-117 (14 - 16') 10/1/96	SB-118 (14 - 16') 10/1/96	SB-118 (26 - 28') 10/1/96	SB-119 (8 - 10') 10/4/96	SB-119 (DUP) (8 - 10') 10/4/96	SB-119 (18 - 20') 10/4/96	SB-120 (8 - 10') 10/14/96	SB-120 (DUP (8 - 10') 10/14/96	SB-120 (14 - 16') 10/14/96	SB-121 (8 - 10') 1/29/97
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	50	0.18 J	0.43	0.35 U	580	1400	0.33 J	10 D	0.44 J	1.9 J	0.39 U
Acenaphthylene	41	0.38 U	0.36 U	0.35 U	4,900 D	8,700 D	0.13 J	1.5	0.28 J	1.2 J	0.39 U
Anthracene	50	0.057 J	0.36 U	0.35 U	1,400	3,500 D	0.11 J	8.5 D	1.2 J	4.8 J	0.39 U
Benzo(a)anthracene	0.224 or MDL	0.38 U	0.069 J	0.35 U	1,500	2,900 DJ	0.13 J	6 J	1.3 J	4.3 J	0.39 U
Benzo(a)pyrene	0.061 or MDL	0.38 U	0.065 J	0.35 U	2,000 DJ	3,800 D	0.16 J	6 J	1.1 J	4.2 J	0.39 U
Benzo(b)fluoranthene	1.1	0.38 U	0.36 U	0.35 U	900	1,600 J	0.36 U	2.9 J	0.68 J	2.1 J	0.39 U
Benzo(g,h,i)perylene	50	0.38 U	0.06 J	0.35 U	1,200	1,900 J	0.11 J	3.8 J	0.72 UJ	2.8 J	0.39 UJ
Benzo(k)fluoranthene	1.1	0.38 U	0.36 U	0.35 U	1,300	2,300 DJ	0.097 J	3.2 J	0.93 J	2.5 J	0.39 U
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	0.38 U	0.074 J	0.35 U	1,400	2,800 DJ	0.13 J	5.7 J	1.2 J	4.1 J	0.39 U
Dibenz(a,h)anthracene	0.014 or MDL	0.38 U	0.36 U	0.35 U	11 U	15 UJ	0.36 U	0.37 UJ	0.42 UJ	0.38 UJ	0.39 UJ
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	50	0.1 J	0.23 J	0.092 J	5,200 D	9,200 D	0.43	13 D	2.4 J	10 D	0.39 U
Fluorene	50	0.13 J	0.084 J	0.35 U	2,300 D	4,200 D	0.17 J	11 D	1.7 J	6 J	0.39 U
Indeno(1,2,3-cd)pyrene	3.2	0.38 U	0.36 U	0.35 U	850	1,400 J	0.36 U	2.6 J	0.54 UJ	2 J	0.39 UJ
Naphthalene	13	0.38 U	0.19 J	0.35 U	21,000 D	43,000 D	2	36 D	4.7 J	36 D	0.39 U
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	50	0.32 J	0.29 J	0.079 J	10,000 D	18,000 D	0.81	35 D	6.1 J	27 D	0.39 U
Pyrene	50	0.17 J	0.3 J	0.091 J	6,800 D	13,000 D	0.57	22 D	3.9 J	16 D	0.39 U

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TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-121 (DUP) (8 - 10') 1/29/97	SB-123 (6 - 8') 1/9/97	SB-124 (1 - 3') 1/24/97	SB-124 (4 - 6') 1/13/97	SB-124 (DUP) (4 - 6') 1/13/97	SB-124 (22 - 24') 1/24/97	SB-125 (22 - 24') 1/13/97	SB-125 (24 - 26') 1/13/97	SB-126 (4 - 6') 1/16/97	SB-126 (6 - 8') 1/16/97
2-Methylnaphthalene	36.4	NA	0.4 U	NA	2.9	3.3	NA	0.089 J	5	0.38 U	0.42 U
Acenaphthene	50	0.41 U	1.2	0.37 U	20 D	20 D	27 D	0.68	4.8	0.38 U	0.42 U
Acenaphthylene	41	0.41 U	0.1 J	0.37 U	1.7	1.7	1.9	0.42 U	0.84 J	0.38 U	0.42 U
Anthracene	50	0.41 U	0.084 J	0.37 U	6	6.3	10 D	0.42 U	2.9	0.38 U	0.42 U
Benzo(a)anthracene	0.224 or MDL	0.41 U	0.15 J	0.12 J	**5.7**	**6**	**7.1 D**	0.42 U	**3.1**	0.38 U	0.42 U
Benzo(a)pyrene	0.061 or MDL	0.41 U	**0.17 J**	**0.09 J**	**6.2**	**6.6**	**7.2 D**	0.42 U	**3.3**	0.056 J	0.42 U
Benzo(b)fluoranthene	1.1	0.41 U	0.11 J	0.1 J	**3**	**3.5**	**3**	0.42 U	**1.4**	0.38 U	0.42 U
Benzo(g,h,i)perylene	50	0.41 UJ	0.16 J	0.37 U	3.4	3.7	4.9	0.42 U	1.6	0.38 U	0.42 U
Benzo(k)fluoranthene	1.1	0.41 U	0.4 U	0.089 J	**3.7**	**3.7**	**4.6**	0.42 U	**2.1**	0.38 U	0.42 U
bis(2-Ethylhexyl)phthalate	50	NA	0.17 J	NA	0.41 J	0.43 J	NA	0.42 U	0.93 U	0.82	0.24 J
Butyl benzyl phthalate	50	NA	0.4 U	NA	0.98 U	0.94 U	NA	0.42 U	0.93 U	0.38 U	0.42 U
Carbazole		NA	0.4 U	NA	0.98 U	0.94 U	NA	0.42 U	0.93 U	0.38 U	0.42 U
Chrysene	0.4	0.41 U	0.14 J	0.17 J	**5.5**	**5.7**	**6.7 D**	0.42 U	**3**	0.084 J	0.42 U
Dibenz(a,h)anthracene	0.014 or MDL	0.41 UJ	0.4 U	0.37 U	0.98 U	0.94 U	**0.99**	0.42 U	0.93 U	0.38 U	0.42 U
Dibenzofuran	6.2	NA	0.4 U	NA	0.75 J	0.77 J	NA	0.42 U	0.24 J	0.38 U	0.42 U
Fluoranthene	50	0.41 U	0.41	0.28 J	13	13	18 D	0.42 U	5.5	0.1 J	0.42 U
Fluorene	50	0.41 U	0.44	0.37 U	9.4	9.7	15 D	0.42 U	3	0.38 U	0.42 U
Indeno(1,2,3-cd)pyrene	3.2	0.41 UJ	0.4 U	0.37 U	2.6	2.8	**3.6**	0.42 U	1.2	0.38 U	0.42 U
Naphthalene	13	0.41 U	0.4 U	0.065 J	14	19 D	**83 D**	4.2	8.8	0.38 U	0.42 U
Pentachlorophenol	1 or MDL	NA	1 UJ	NA	2.4 UJ	2.3 UJ	NA	1 UJ	2.3 UJ	0.94 U	1 U
Phenanthrene	50	0.41 U	0.4 U	0.19 J	27 D	28 D	42 D	0.42 U	10	0.07 J	0.42 U
Pyrene	50	0.41 U	0.6	0.27 J	22 D	23 D	26 D	0.42 U	8.4	0.12 J	0.42 U
Tentatively Identified Compounds	NA		4.59 J		90.2 J	127 J		6.09 J	55.8 J	0	14.94 J

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-127 (4 - 6') 1/22/97	SB-127 (DUP) (4 - 6') 1/22/97	SB-127 (10 - 12') 1/22/97	SB-128 (14 - 16') 2/4/97	SB-129 (8 - 10') 2/11/97	SB-129 (DUP) (8 - 10') 2/11/97	SB-129 (24 - 26') 2/11/97	SB-131 (24 - 26') 2/14/97	SB-131 (28 - 30') 2/14/97	SB-132 (12 - 14') 5/7/97
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	50	0.36 U	0.36 U	0.37 U	0.38 U	0.42 U	0.43 U	**200 D**	0.38 U	25	0.4 U
Acenaphthylene	41	0.36 U	0.36 U	0.37 U	0.38 U	0.42 U	0.43 U	14 J	0.38 U	2.1	0.4 U
Anthracene	50	0.053 J	0.057 J	0.37 U	0.38 U	0.42 U	0.43 U	**73 D**	0.38 U	9	0.4 U
Benzo(a)anthracene	0.224 or MDL	0.13 J	0.13 J	0.37 U	0.38 U	0.086 J	0.43 U	**44 D**	0.38 U	**5.5**	0.4 U
Benzo(a)pyrene	0.061 or MDL	**0.11 J**	**0.11 J**	0.37 U	0.38 U	**0.076 J**	0.43 U	**45 D**	0.38 U	**5.9**	0.4 U
Benzo(b)fluoranthene	1.1	0.096 J	0.1 J	0.37 U	0.38 U	0.42 U	0.43 U	**16 J**	0.38 U	**1.9**	0.4 U
Benzo(g,h,i)perylene	50	0.36 UJ	0.36 UJ	0.37 UJ	0.38 U	0.42 U	0.43 U	29 J	0.38 U	3.4	0.4 UJ
Benzo(k)fluoranthene	1.1	0.11 J	0.1 J	0.37 U	0.38 U	0.42 U	0.43 U	**25 J**	0.38 U	**4.1**	0.4 U
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.4	0.14 J	0.14 J	0.056 J	0.38 U	0.089 J	0.43 U	**44 D**	0.38 U	**5.5**	0.4 U
Dibenz(a,h)anthracene	0.014 or MDL	0.36 UJ	0.36 UJ	0.37 UJ	0.38 U	0.42 U	0.43 U	1.8 U	0.38 U	1.8 U	0.4 U
Dibenzofuran	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	50	0.32 J	0.34 J	0.15 J	0.38 U	0.2 J	0.073 J	**120 D**	0.38 U	14	0.4 U
Fluorene	50	0.36 U	0.36 U	0.37 U	0.38 U	0.42 U	0.43 U	**100 D**	0.38 U	13	0.4 U
Indeno(1,2,3-cd)pyrene	3.2	0.36 UJ	0.36 UJ	0.37 UJ	0.38 U	0.42 U	0.43 U	**23 J**	0.38 U	2.5	0.4 UJ
Naphthalene	13	0.36 U	0.36 U	0.14 J	0.38 U	0.42 U	0.43 U	**740 D**	0.38 U	**37 D**	0.4 U
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	50	0.29 J	0.3 J	0.17 J	0.38 U	0.11 J	0.43 U	**300 D**	0.38 U	18 D	0.4 U
Pyrene	50	0.32 J	0.35 J	0.14 J	0.38 U	0.16 J	0.43 U	**140 D**	0.38 U	17 J	0.4 UJ

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-132 (30 - 32') 5/7/97	SB-132 (DUP) (30 - 32') 5/7/97	SB-133 (10 - 12') 5/8/97	SB-133 (18 - 20') 5/8/97	SB-134 (10 - 12') 5/8/97	TP-103 (2 - 4') 9/25/96	TP-104 (6 - 8') 9/25/96	TP-107 (6 - 7') 9/24/96	TP-111 (4 - 6') 9/24/96	TP-112 (6 - 7') 9/23/96
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	0.37 UJ	0.88	0.42 U	0.44 U	0.5 U
Acenaphthene	50	0.38 U	0.37 U	0.45 U	0.38 U	0.18 J	0.37 UJ	0.38 U	0.42 U	0.44 U	0.22 J
Acenaphthylene	41	0.38 U	0.37 U	0.45 U	0.38 U	0.48 U	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Anthracene	50	0.38 U	0.37 U	0.45 U	0.38 U	0.44 J	0.056 J	0.38 U	0.074 J	0.068 J	0.5 U
Benzo(a)anthracene	0.224 or MDL	0.38 U	0.37 U	0.45 U	0.38 U	1	0.15 J	0.16 J	0.21 J	0.13 J	0.14 J
Benzo(a)pyrene	0.061 or MDL	0.38 U	0.37 U	0.45 U	0.38 U	**0.85**	**0.14 J**	**0.066 J**	**0.16 J**	**0.14 J**	**0.18 J**
Benzo(b)fluoranthene	1.1	0.38 U	0.37 U	0.45 U	0.38 U	0.86	0.16 J	0.38 U	0.19 J	0.18 J	0.14 J
Benzo(g,h,i)perylene	50	0.38 UJ	0.37 UJ	0.45 UJ	0.38 UJ	0.59	0.11 J	0.062 J	0.16 J	0.14 J	0.097 J
Benzo(k)fluoranthene	1.1	0.38 U	0.37 U	0.45 U	0.38 U	0.67	0.15 J	0.15 J	0.25 J	0.14 J	0.17 J
bis(2-Ethylhexyl)phthalate	50	NA	NA	NA	NA	NA	0.91 UJ	0.97 U	2.7 U	6.4 B	6 B
Butyl benzyl phthalate	50	NA	NA	NA	NA	NA	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Carbazole		NA	NA	NA	NA	NA	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Chrysene	0.4	0.38 U	0.37 U	0.45 U	0.38 U	1	0.19 J	0.21 J	0.27 J	0.15 J	0.17 J
Dibenz(a,h)anthracene	0.014 or MDL	0.38 U	0.37 U	0.45 U	0.38 U	0.48 U	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Dibenzofuran	6.2	NA	NA	NA	NA	NA	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Fluoranthene	50	0.38 U	0.37 U	0.45 U	0.38 U	2	0.32 J	0.3 J	0.48	0.23 J	0.3 J
Fluorene	50	0.38 U	0.37 U	0.45 U	0.38 U	0.18 J	0.37 UJ	0.18 J	0.42 U	0.44 U	0.5 U
Indeno(1,2,3-cd)pyrene	3.2	0.38 UJ	0.37 UJ	0.45 UJ	0.38 UJ	0.53	0.37 UJ	0.38 U	0.42 U	0.44 U	0.5 U
Naphthalene	13	0.38 U	0.37 U	0.45 U	0.38 U	0.06 J	0.37 UJ	0.31 J	0.1 J	0.44 U	0.15 J
Pentachlorophenol	1 or MDL	NA	NA	NA	NA	NA	0.93 UJ	0.94 U	1 U	0.7 J	1.2 U
Phenanthrene	50	0.38 U	0.37 U	0.45 U	0.38 U	2	0.27 J	0.66	0.42	0.12 J	0.12 J
Pyrene	50	0.38 UJ	0.37 UJ	0.45 UJ	0.38 UJ	2	0.33 J	0.49 J	0.51 J	0.24 J	0.3 J
Tentatively Identified Compounds	NA						6.08 J	12.42 J	16.34 J	16.9 J	24.79 J

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	TP-104 (1 - 2') 9/25/96	TP-110 (1 - 2') 9/24/96	TP-114 (1 - 2') 9/26/96
2-Methylnaphthalene	36.4	**130**	0.370 U	1.9 J
Acenaphthene	50	11 J	0.330 J	4.4
Acenaphthylene	41	4.2 J	0.370 U	5.1
Anthracene	50	15 J	0.340 J	17
Benzo(a)anthracene	0.224 or MDL	**51**	**1.5**	**67 JD**
Benzo(a)pyrene	0.061 or MDL	**22 J**	**1.2**	**28 J**
Benzo(b)fluoranthene	1.1	**26**	**1.3**	**25 J**
Benzo(g,h,i)perylene	50	18 J	1.4	23 J
Benzo(k)fluoranthene	1.1	**32**	**1.3**	**31 J**
bis(2-Ethylhexyl)phthalate	50	24 U	3.6 U	2 U
Butyl benzyl phthalate	50	24 U	0.370 U	2.4 U
Carbazole		24 U	0.370 U	0.690 J
Chrysene	0.4	**63**	**2.1**	**84 JD**
Dibenz(a,h)anthracene	0.014 or MDL	**5.9 J**	0.370 U	0.370 UJ
Dibenzofuran	6.2	5.4 J	0.370 U	1.8J
Fluoranthene	50	**87**	2	67 **D**
Fluorene	50	**55**	0.540	22
Indeno(1,2,3-cd)pyrene	3.2	**17J**	1.2	**19 J**
Naphthalene	13	**30**	0.220 J	2.5 J
Pentachlorophenol	1 or MDL	61 U	0.920 U	6.1 U
Phenanthrene	50	**200**	1.2	**110 D**
Pyrene	50	**160 J**	4.3 J	**170 JD**
Tentatively Identified Compounds	NA	1,867 J	48.7 J	561 J

*See Notes on Page 9

TABLE 9

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for semivolatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in milligrams per kilogram (mg/kg); equivalent to parts per million (ppm).
5. Sample designations indicate the following:
   MW = Monitoring Well
   SB = Soil Boring
   TP = Test Pit
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected; the associated value is the sample quantitation limit.
7. D = The concentration is based on a diluted sample analysis.
8. J = The concentration is an estimated value.
9. UJ = Indicates that the constituent was not detected; the associated value, the sample quantitation limit, is an estimated value.
10. ' = Maximum concentration is 1,000,000 mg/kg (ppm) (100 %). Result is greater than 100 % due to systematic error in the dilution process.
11. NA = Sample was not analyzed for the indicated compound.
12. Analytical results were validated by Blasland, Bouck & Lee, Inc.
13. Results are shown for constituents which were detected at one or more sampling locations.
14. Bold values indicate that the consitituent was detected at or above NYSDEC recommended soil cleanup objectives.
15. Shaded value indicated that the sample was collected from a location beneath the water table (i.e. saturated soil).
    Saturated soil samples were collected to characterize NAPL distribution. Saturated soil samples have not been
    compared with NYSDEC recommended soil cleanup objectives (NYSDEC HWR-94-4046, January 24)

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	MW-17S (2 - 4') 2/12/97	MW-19D (1 - 3') 1/23/97	MW-20D (6 - 8') 2/5/97	MW-21R (12 - 14') 5/1/97	MW-21R (25 - 27') 5/1/97	MW-22R (6 - 8') 4/29/97	MW-22R (26 - 28') 4/29/97	MW-22R (DUP) (26 - 28') 4/29/97	SB-102 (4 - 6') 10/7/96	SB-103 (2 - 4') 10/7/96
Aluminum	13,000*	10,900	5,020	9,900	9,460	6,500	4,970	6,420	6,470	9,470	4,800
Antimony	1.8*	1 BJ	**2.8 BJ**	1.2 BJ	1.3 BJ	0.94 UJ	**6.8 BJ**	1.2 BJ	**4.1 BJ**	1.3 BJ	1.3 BJ
Arsenic	8.5*	6.7	**40.2 J**	3.3	7.9 J	2.3 J	8.4 J	2 J	6.6 J	5	3.8
Barium	300	130	37	28.4	106	36.3	**435**	78.4	**531**	80.7	92.3
Beryllium	0.71*	0.68	0.5 B	0.54 B	0.58	0.34 B	0.33 B	0.35 B	0.4 B	0.54 B	0.27 B
Cadmium	1	0.48 B	0.41 B	0.3 B	0.55 BJ	0.29 BJ	**2.3 J**	0.3 BJ	**3.5 J**	0.42 B	0.26 U
Calcium	4,400*	4,320	**5,250**	4,440	**37,400 J**	2,090 J	**75,500 J**	1,500 J	**6,750 J**	7,380	**168,000**
Chromium	21*	16.6	11	15.9	**21.7**	8.9	20.2	9.5	17.6	14	6.5
Cobalt	30	10	11.2	11	8.7	7.1	5.6 B	5.1 B	7.1	10	4.2 B
Copper	42*	**61.2**	94.4	32.7	33.1 J	19.3 J	**143 J**	21.8 J	**101 J**	29.4	15.5
Cyanide, Total	ND	0.55 U	0.9	0.49 U	0.53 U	0.57 U	0.88	0.57 U	0.56 U	0.59 U	1.6
Iron	34,000*	20,500	**40,100**	23,600	25,900	16,800	33,700	16,900	**39,200**	21,700	10,200
Lead	20*	**108 J**	**119**	15.9 J	**51.3 J**	8.1 J	**2,980 J**	**22 J**	**748 J**	**80.2 J**	**79.5 J**
Magnesium	6,200*	4,540	1,740	6,150	4,460	3,450	4,630	3,370	3,160	4,130 J	3,030 J
Manganese	780*	472	430	187	370	157	423	120	206	355	401
Mercury	0.1	**0.16**	0.16	0.14	**0.15 J**	0.06 UJ	**1.1 J**	0.06 UJ	**0.14 J**	**1.1 J**	**0.22 J**
Nickel	30*	22.1	20.1	24.7	21.5	15.5	15.3	13.9	19	19.9	8.1
Potassium	1,500*	1,290	615	1,040	1,230	556 B	700	648	719	1,120	743
Selenium	2	0.44 BJ	0.93 J	0.33 U	0.69	0.76	1.3	0.46 B	1.4	0.51 U	0.52 U
Silver	ND	0.23 U	0.23 U	0.22 U	0.23 UJ	0.23 UJ	0.33 BJ	0.23 UJ	1.9 J	0.38 U	0.39 U
Sodium	340*	127 B	139 B	142 B	191 B	80.4 B	202 B	76.3 B	216 B	158 B	285 B
Thallium	ND	1.4 U	1.4 U	1.3 UJ	0.68 U	0.7 U	1.4 U	0.7 U	1.4 U	0.51 U	0.26 U
Vanadium	150	19.5	16.3	16.6	18	10.6	13	11	13.5	19.7	8.7
Zinc	88*	**125 J**	65.9	72.4 J	90.8 J	45.4 J	**541 J**	54.1 J	**1,000 J**	**103 J**	36.9 J

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-103 (DUP) (2 - 4') 10/7/96	SB-105 (6 - 8') 10/8/96	SB-106 (2 - 4') 10/3/96	SB-106 (DUP) (2 - 4') 10/3/96	SB-107C (14 - 16') 2/4/97	SB-108D (2 - 4') 1/30/97	SB-108D (24 - 26') 1/30/97	SB-109 (10 - 12') 10/8/96	SB-109 (20 - 22') 10/8/96	SB-110 (6 - 8') 10/9/96
Aluminum	13,000*	3,310	5,670	8,660	11,100	8,920	6,860	9,990	8,540	9,020	10,500
Antimony	1.8*	0.68 UJ	1.5 BJ	0.9 BJ	1.1 BJ	1.3 BJ	1 UJ	**1.8 BJ**	1.5 BJ	**2.1 BJ**	0.6 UJ
Arsenic	8.5*	2.2	7.5	5.3	5.2	6.7	**14.1**	7.5	4.4	7.7	**13.1**
Barium	300	97.7	49.3	84.4	64	51	65.6	72.9	64.4	64.1	65.5
Beryllium	0.71*	0.16 B	0.34 B	0.52 B	**0.89**	0.52 B	0.69	0.57 B	0.49 B	0.47 B	**0.73**
Cadmium	1	0.27 U	0.67	0.52 B	0.56 B	0.24 B	0.28 B	0.3 B	0.29 B	0.37 B	0.57 B
Calcium	4,400*	**244,000**	**27,300**	**87,600**	**67,100**	2,430	11,000	**6,820**	2,540	**17,500**	30,100
Chromium	21*	4.1	10.4	15.4	18.3	14.4	8.2	**23**	14.2	14.4	17.5
Cobalt	30	2.2 B	6.6	8.6	9.9	9.6	7.6	13.5	8.9	12.8	7.5
Copper	42*	6.7	40	35.3	35.2	32.2	393	35	27.4	28.9	32.9
Cyanide, Total	ND	1.5	3.2	0.64	0.62	0.57 U	0.63 U	0.53 U	0.59 U	0.56 U	5.2
Iron	34,000*	5,890	24,700	19,900	21,300	25,900	18,400	30,700	21,500	23,200	19,400
Lead	20*	16.6 J	**144 J**	73.3 J	**54 J**	11.5	**112**	14.5	11.8 J	13.7 J	**226 J**
Magnesium	6,200*	3,100 J	3,690 J	3,480	3,550	5,000	1,950	**6,900**	4,410 J	**7,730 J**	5,980 J
Manganese	780*	343	405	442	344	335	355	**863**	452	715	474
Mercury	0.1	**0.17 J**	**0.92 J**	**0.26 J**	**0.39 J**	0.06 B	0.18	0.06 U	**0.22 J**	**0.61 J**	**1.6 J**
Nickel	30*	4.5 B	13.8	19	24.9	23.5	15.5	26.3	19	**38.5**	20.7
Potassium	1,500*	546 B	827	1,060	956	1,100	1,110	1,260	1,260	1,130	962
Selenium	2	0.54 U	0.55 BJ	0.63 J	0.49 UJ	0.38 B	1.3	0.39 B	0.47 U	0.45 U	0.66 J
Silver	ND	0.41 U	0.35 U	0.37 U	0.37 U	0.24 U	0.6 B	0.23 U	0.35 U	0.34 U	0.36 U
Sodium	340*	265 B	190 B	148 B	126 B	226 B	442 B	144 B	160 B	132 B	784
Thallium	ND	0.27 U	0.47 U	0.24 U	0.49 U	1.4 UJ	0.76 UJ	1.4 UJ	0.47 U	0.45 U	0.48 U
Vanadium	150	5.6 B	17.8	16.9	24.4	14.5	24.3	16.8	15	14.7	30.6
Zinc	88*	20.4	**125 J**	70.5 J	81.8 J	67.5 J	**115**	70.5	59.1 J	50.6 J	83.7 J

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-110 (18 - 20') 10/9/96	SB-111 (8 - 10') 2/5/97	SB-111 (DUP) (8 - 10') 2/5/97	SB-112 (10 - 12') 10/10/96	SB-112 (18 - 20') 10/10/96	SB-113 (4 - 6') 10/10/96	SB-113 (16 - 18') 10/10/96	SB-114 (6 - 8') 10/10/96	SB-114 (14 - 16') 10/10/96	SB-115 (6 - 8') 10/11/96
Aluminum	13,000*	535	7,630	9,540	6,760	9,810	2,160	13,000	3,940	14,100	2,350
Antimony	1.8*	0.97 UJ	1.3 BJ	1.3 BJ	1.4 BJ	1.9 BJ	0.86 UJ	2 BJ	1.1 BJ	2.1 BJ	0.91 BJ
Arsenic	8.5*	8.1	8.8	8.6	2.3	8.9	4.2	11.8	16	11.7	7
Barium	300	2.6 B	94.8	67.9	51.6	41.9	47.3	83.4	277	186	39
Beryllium	0.71*	0.19 U	0.45 B	0.52 B	0.38 B	0.53 B	0.17 U	0.66	0.5 B	0.79	0.35 B
Cadmium	1	0.39 U	0.29 B	0.3 B	0.26 U	0.35 B	0.34 U	0.34 B	0.59	0.42 B	0.27 B
Calcium	4,400*	1,670	11,400	11,800	16,300	10,200	281,000	1,930	68,400	1,760	8,980
Chromium	21*	2.5	12.1	13.2	9.9	15.7	7.3	20.1	7.2	21	4.7
Cobalt	30	8.1 B	9.9	10.9	7.1	13.3	0.82 B	19.1	7.5	18.4	7.1
Copper	42*	29.7	34.9	31.7	11.7	41.1	1.5 B	44.3	50.7	46.6	37.4
Cyanide, Total	ND	3.9	0.55 U	0.48 U	14.6	2.4	247	0.49	2	0.53 U	0.57 U
Iron	34,000*	1,780	27,100	29,300	13,100	24,000	3,800	29,700	14,900	33,200	7,200
Lead	20*	214 J	22 J	23.7 J	17.7 J	17.3 J	6.7 J	20.4 J	123 J	20.7 J	67.9 J
Magnesium	6,200*	339 J	6,040	6,860	2,850 J	6,360 J	4,140 J	7,400 J	3,330 J	6,140 J	928 J
Manganese	780*	44	779	1,680	110	220	129	221	2,230	862	101
Mercury	0.1	0.1 U	0.05 U	0.07 B	0.06 U	0.39 J	0.92 J	0.87 J	0.54 J	0.78 J	0.36 J
Nickel	30*	14	20.1	22.1	12.6	26.9	2.5 B	35.2	16.2	34.7	13.7
Potassium	1,500*	42.9 U	976	1,190	665	1,280	345 B	1,600 J	741	1,700 J	415 B
Selenium	2	3.4 J	0.44 B	1.3	0.52 U	0.46 U	0.69 U	0.43 U	3.1 J	0.43 U	1 J
Silver	ND	0.58 U	0.23 U	0.23 U	0.39 U	0.34 U	0.51 U	0.32 U	0.35 U	0.32 U	0.34 U
Sodium	340*	80.4 U	130 B	143 B	340 B	181 B	610 B	264 B	361 B	193 B	268 B
Thallium	ND	0.39 U	1.4 UJ	1.4 UJ	0.52 U	0.46 U	0.34 U	0.43 U	0.73 B	0.43 U	0.23 U
Vanadium	150	4.7 B	12.7	14.7	13.3	16.4	5 B	19.8	15.9	20.5	7.2
Zinc	88*	22.3	62.1 J	67 J	39.6 J	62.7 J	9	71.1 J	87 J	92.5 J	35.6 J

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	**NYSDEC Recommended Soil Cleanup Objectives**	**SB-115 (10 - 12') 10/11/96**	**SB-116 (12 - 14') 10/1/96**	**SB-116 (20 - 22') 10/1/96**	**SB-117 (8 - 10') 10/1/96**	**SB-117 (14 - 16') 10/1/96**	**SB-118 (14 - 16') 10/1/96**	**SB-118 (26 - 28') 10/1/96**	**SB-119 (8 - 10') 10/4/96**	**SB-119 (18 - 20') 10/4/96**	**SB-120 (8 - 10') 10/14/96**
Aluminum	13,000*	12,000	12,600	10,100	8,730	10,600	11,500	7,440	12,800	12,900	8,020
Antimony	1.8*	**2 BJ**	1.7 BJ	1.5 BJ	**2.9 BJ**	**2.1 BJ**	1.3 BJ	0.94 BJ	0.66 U	1.6 BJ	0.9 BJ
Arsenic	8.5*	5.2	7.6	6.6	**9.6**	7.1	6.4	5	6.2	**12.5**	4.4 J
Barium	300	42	62.3	78.5	100	129	84.5	83.7	89.3	107	39.1
Beryllium	0.71*	0.6	0.69	0.5 B	0.59 B	0.58	0.63	0.37 B	**1**	0.65	0.51 B
Cadmium	1	0.37 B	0.61	0.63	**1.1**	0.61	0.58	0.44 B	0.65 B	0.65	0.54 B
Calcium	4,400*	1,100	2,260	**23,200**	**17,800**	4,100	2,830	**16,600**	**5,180**	**8,880**	1,530
Chromium	21*	16.5	19.3	16.5	13.9	16.1	19.3	11.7	15.8	20.4	11.7
Cobalt	30	12	15	11.5	11.1	12.3	13.7	9	12.8	18.7	9.6
Copper	42*	29.4	40.2	31.7	**100**	40.2	37.8	30.2	27.9	**46.5**	29.1
Cyanide, Total	ND	0.56 U	0.55 U	0.48 U	0.55 U	0.51 U	0.52 U	0.5 U	1.7	0.5 U	0.54 U
Iron	34,000*	23,800	30,300	27,500	**48,200**	28,400	25,200	20,400	26,000	31,100	19,900
Lead	20*	14.5 J	**21.2 J**	12 J	**230**	**29 J**	19.5 J	9.6	**35.7 J**	18.2 J	10.2
Magnesium	6,200*	4,570 J	5,350	**10,300**	3,590 J	4,860	5,290	7,500	4,180	**9,590**	3,590
Manganese	780*	163	**812**	**824**	**991**	**870**	**1,580**	758	373	**791**	628
Mercury	0.1	**0.43 J**	**0.52 J**	**0.26 J**	**3.3 J**	**0.29 J**	**0.43 J**	**0.16 J**	**0.84 J**	**0.62 J**	**0.37 J**
Nickel	30*	23.5	**30.1**	24.6	24.2	26.3	27.9	18.7	30.4	**34.9**	19.7
Potassium	1,500*	1,140	1,190 J	1,320 J	1,290	1,180	1,340 J	990	**1,520 J**	**1,830 J**	781
Selenium	2	0.47 U	0.45 UJ	0.59 J	**2.1 J**	0.77 J	0.93 J	0.78 J	1.1	0.87 J	0.45 U
Silver	ND	0.36 U	0.34 U	0.33 U	0.39 U	0.34 U	0.32 U	0.31 U	0.39 U	0.33 U	0.34 U
Sodium	340*	198 B	93 B	114 B	236 B	128 B	103 B	86.2 B	192 B	203 B	**404 B**
Thallium	ND	0.47 U	0.45 U	0.43 U	1 U	0.91 U	0.21 U	0.42 U	0.52 U	0.44 U	0.23 UJ
Vanadium	150	19.2	20.2	17.1	20.3	18.4	18.9	12.6	22.5	20.9	12.7 J
Zinc	88*	56.6 J	81.9 J	61 J	**175 J**	73.1 J	79.8 J	51.8 J	**107 J**	77 J	59.6 J

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

* Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-120 (DUP) (8 - 10') 10/14/96	SB-120 (14 - 16') 10/14/96	SB-121 (8 - 10') 1/29/97	SB-121 (DUP) (8 - 10') 1/29/97	SB-122 (12 - 14') 10/17/96	SB-123 (6 - 8') 1/9/97	SB-124 (1 - 3') 1/24/97	SB-124 (4 - 6') 1/13/97	SB-124 (DUP) (4 - 6') 1/13/97	SB-124 (22 - 24') 1/24/97
Aluminum	13,000*	9,320	7,690	10,800	11,800	12,800	**14,000**	6,510	11,800	10,200	**13,300**
Antimony	1.8*	1.1 BJ	1.6 BJ	1.5 BJ	1.3 BJ	**1.8 BJ**	**2.1 BJ**	**2.7 BJ**	1.7 BJ	1.5 BJ	1.6 BJ
Arsenic	8.5*	5.9 J	**14.9 J**	6.2	5.3	**8.5 J**	**9.8 J**	**9.6 J**	4.7 J	5.6 J	**8.5 J**
Barium	300	73.5	46	43.2	41.6	50.7	170	36.8	74	66.3	271
Beryllium	0.71*	0.54 B	0.44 B	0.67	0.67	**0.71**	**1**	0.39 B	0.6	0.58 B	0.68
Cadmium	1	0.71	0.61	0.3 B	0.26 B	0.8	0.26 B	0.81	0.24 B	0.28 B	0.32 B
Calcium	4,400*	2,420	3,340	**4,540**	**6,510**	2,070	1,710	2,090	1,250	1,260	**8,090**
Chromium	21*	13.8	11.4	16.5	16.8	**21.2**	20.2	14.9	17.9	15.6	20.6
Cobalt	30	13	11.6	11	10.3	14.6	14.9	13.7	16.1	16.1	15
Copper	42*	41.4	39.6	34.3	33.1	41.9	**52.3 J**	**105**	**43.6 J**	**43.5 J**	**45.2**
Cyanide, Total	ND	0.62 U	0.57 U	0.52 U	0.62 U	0.55 U	0.84	0.57 U	0.55 U	0.53 U	0.55 U
Iron	34,000*	25,100	20,600	29,400	28,000	**34,200**	**37,100**	**49,200**	30,600	28,500	**36,200**
Lead	20*	14 J	13.4 J	13.6	13.4	19.5 J	19 J	**57.5**	**21.3 J**	**36.4 J**	16.8
Magnesium	6,200*	4,360	3,460	5,460	5,840	5,780	6,010	2,520	4,940	4,320	**9,600**
Manganese	780*	**838**	**1,690**	595	338	775	196 J	656	190 J	226 J	736
Mercury	0.1	**0.3 J**	**0.24 J**	0.06 U	0.06 U	**0.5 J**	0.06 U	0.09 B	**0.22**	**0.14**	0.06 B
Nickel	30*	25.3	20.1	23.9	23	**30.1**	**30.5**	**35.7**	28.5	29.9	**31.6**
Potassium	1,500*	1,190	1,020	1,140	1270	**1,530**	1,340	725	1,180	1,070	**1,910**
Selenium	2	0.98	1.1	0.35 U	0.42 B	0.45 U	0.83 J	1.2 J	0.84 J	0.59 J	0.9 J
Silver	ND	0.39 U	0.35 U	0.24 U	0.24 U	0.34 U	0.36 U	0.23 U	0.35 U	0.35 U	0.23 U
Sodium	340*	216 B	160 B	**748**	**853**	**340 B**	198 B	126 B	151 B	146 B	263 B
Thallium	ND	0.52 UJ	0.23 UJ	1.4 UJ	1.5 UJ	0.45 UJ	0.97 UJ	2.7 U	0.47 UJ	0.93 UJ	1.4 U
Vanadium	150	15.8 J	13.4 J	20.1	22	20.7 J	19.8	25.7	19	18	21.2
Zinc	88*	80.4 J	65.6 J	65.4	65	87.5 J	83.8 J	**165**	76.2 J	85.6 J	69.3

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-125 (22 - 24') 1/13/97	SB-125 (24 - 26') 1/13/97	SB-126 (4 - 6') 1/16/97	SB-126 (6 - 8') 1/16/97	SB-127 (4 - 6') 1/22/97	SB-127 (DUP) (4 - 6') 1/22/97	SB-127 (10 - 12') 1/22/97	SB-128 (14 - 16') 2/4/97	SB-129 (8 - 10') 2/11/97	SB-129 (DUP) (8 - 10') 2/11/97
Aluminum	13,000*	**13,800**	12,000	11,500	11,800	11,500	11,000	12,900	10,300	**14,900**	12,100
Antimony	1.8*	**2.4 BJ**	1.3 BJ	1.4 BJ	1.2 BJ	**2.8 BJ**	**2.7 BJ**	1.5 BJ	1.6 BJ	1.3 BJ	1.1 BJ
Arsenic	8.5*	**11.3 J**	6.7 J	8.6	4.1	7.7 J	**10.4 J**	7.2 J	**9.5**	5.2	4.2
Barium	300	42.3	57.8	73.6	90.2	111	112	84.1	87.7	194	138
Beryllium	0.71*	0.65 B	0.52 B	0.62	0.64	0.66	0.61	0.68	0.59	0.9	0.77
Cadmium	1	0.27 U	0.23 U	0.29 B	0.25 B	0.5 B	0.51 B	0.28 B	0.3 B	0.37 B	0.29 B
Calcium	4,400*	2,340	2,460	15,500	2,930	6,000	**5,700**	2,450	3,230	2,560	2,720
Chromium	21*	**21.5**	18.8	18.6	15.7	19.2	**23.7**	17.3	16.6	19.2	15
Cobalt	30	20.9	15.5	12.7	10.3	17.6	20.7	11.6	13.6	12.8	10.8
Copper	42*	**59.7 J**	**52.5 J**	40.8	31	**42.1**	**42.5**	29.5	33.7	27.1	18.9
Cyanide, Total	ND	0.63 U	0.49 U	0.54 U	0.6 U	0.52 U	0.55 U	0.54 U	0.5 U	0.6 U	0.54 U
Iron	34,000*	33,100	28,400	31,700	25,400	63,200	64,400	**34,700**	26,600	32,100	20,800
Lead	20*	**21.6 J**	13.2 J	**29.7 J**	**27.3 J**	**22**	20	14.8	**23.2 J**	**21.3 J**	**24.9 J**
Magnesium	6,200*	**8,190**	**7,210**	7,950	3,950	5,180	4,520	4,210	5,140	4,810	3,390
Manganese	780*	214 J	225 J	724	566	**1,210**	929	387	**1,110**	552	434
Mercury	0.1	0.06 U	0.06 U	**0.27 J**	**0.27 J**	0.07 B	0.05 U	0.06 B	**0.15**	0.07 U	0.06 U
Nickel	30*	**38**	**30.8**	28.2	19.5	28.8	29.5	22.8	26	25.5	17.4
Potassium	1,500*	**1540 J**	1,400 J	1,310 J	1,360 J	1,350	1,450	1,280	1,160	1,170	993
Selenium	2	**2.1 J**	1.9 J	1.1	1.3	0.87 J	1.3 J	0.55 BJ	0.81	0.39 U	0.38 U
Silver	ND	0.4 U	0.34 U	0.34 U	0.37 U	0.22 U	0.22 U	0.24 U	0.23 U	0.26 U	0.26 U
Sodium	340*	333 B	255 B	130 B	171 B	56.8 U	66.5 B	82.6 B	291 B	95.3 B	126 B
Thallium	ND	1.1 UJ	0.46 UJ	0.45 UJ	0.5 UJ	2.7 U	2.7 U	1.4 U	1.4 UJ	1.6 U	0.77 U
Vanadium	150	22.7	19.2	20.3	21.6	20.4	26.8	22.1	17.2	25.3	20
Zinc	88*	**99.7 J**	79.7 J	83.1 J	61.3 J	62.6	62	57.5	71.5 J	73.9 J	65.3 J

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	SB-129 (24 - 26') 2/11/97	SB-131 (24 - 26') 2/14/97	SB-131 (28 - 30') 2/14/97	SB-132 (12 - 14') 5/7/97	SB-132 (30 - 32') 5/7/97	SB-132 (DUP) (30 - 32') 5/7/97	SB-133 (10 - 12') 5/8/97	SB-133 (18 - 20') 5/8/97	SB-134 (10 - 12') 5/8/97	TP-101 (2 - 4') 9/24/96
Aluminum	13,000*	11,900	9,850	12,600	10,600	11,700	12,200	**20,200**	10,400	**16,200**	2,320
Antimony	1.8*	**1.9 BJ**	1.6 BJ	1.7 BJ	0.96 UJ	**2.1 BJ**	1.5 BJ	1.4 BJ	1.5 BJ	1.2 BJ	0.59 BJ
Arsenic	8.5*	**8.9**	**9.1**	7.1	3	**10.1**	**12.1**	1.8	**8.6**	5.2	5.3
Barium	300	152	58.5	103	68.6 J	161 J	257 J	256 J	213 J	153 J	29.9
Beryllium	0.71*	0.66	0.53 B	0.65	0.7	0.65	**0.74**	**1.2**	0.62	**1.1**	0.24 B
Cadmium	1	0.4 B	0.38 B	0.52 B	0.28 B	0.43 B	0.37 B	0.43 B	0.38 B	0.53 B	0.22 B
Calcium	4,400*	2,930	**9,070**	**16,400**	1,470	2,220	2,280	3,140	2,070	3,360	2,290
Chromium	21*	18.8	15.4	18.8	15.3	17.9	19.5	**24.2**	16.5	**21.3**	4.9
Cobalt	30	14.1 J	12.5 J	13.1 J	9	14	15	11.9	13.2	15.4	7
Copper	42*	37.3	35.6	**54.4**	22.1	39.9	**44.3**	24.3	38.1	28.1	28.7
Cyanide, Total	ND	0.52 U	0.51 U	0.52 U	0.56 UJ	0.5 UJ	0.47 UJ	0.58 UJ	0.57 UJ	0.64 UJ	0.52 U
Iron	34,000*	**38,200**	27,000	28,200	20,500	**35,100**	**36,000**	25,700	30,300	33,100	8,200
Lead	20*	13.8 J	19.1 J	15.2 J	15	15.5	16.8	15.4	15	**25.3**	**1,850**
Magnesium	6,200*	**7,150**	**7,830**	**9,400**	4,310	**6,320**	**6,380**	5,230	5,010	5,600	898
Manganese	780*	407	754	940	163	518	347	294	**850**	415	130
Mercury	0.1	0.06 B	0.06 B	0.08 B	0.06 U	0.06 B	0.06 B	0.1 B	0.05 U	0.19	**0.12**
Nickel	30*	29.8	24	28.2	21.9	29.2	**31.8**	29.7	28.1	30.7	16.4
Potassium	1,500*	**1,770**	1,220	**1,660**	929	1,310	**1,570**	**1,710**	1,500	1,440	537 B
Selenium	2	0.74 J	0.35 U	0.5 BJ	0.36 U	0.46 B	0.37 B	0.4 U	0.52 B	0.43 U	0.46 BJ
Silver	ND	0.22 U	0.23 U	0.21 U	0.24 U	0.22 U	0.23 U	0.27 U	0.23 U	0.29 U	0.32 U
Sodium	340*	222 B	154 B	190 B	112 B	109 B	129 B	73 B	114 B	110 B	87.1 B
Thallium	ND	1.3 U	1.4 U	1.3 U	0.72 U	0.67 U	3.4 U	1.6 U	0.68 U	0.86 U	0.22 U
Vanadium	150	19	16.3	20.5	20.6	18.9	19.8	28.6	17.7	27.7	10
Zinc	88*	64.4 J	53.7 J	143 J	51.2	78.8	**90.6**	97.9	76.9	77.9	54.6

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	TP-102 (4 - 6') 9/25/96	TP-103 (2 - 4') 9/25/96	TP-103 (DUP) (2 - 4') 9/25/96	TP-104 (6 - 8') 9/25/96	TP-105 (2 - 4') 9/25/96	TP-106 (2 - 4') 9/25/96	TP-107 (6 - 7') 9/24/96	TP-109 (2 - 4') 9/24/96	TP-111 (4 - 6') 9/24/96	TP-112 (6 - 7') 9/23/96
Aluminum	13,000*	10,600	7,710	8,160	11,800	7,360	6,820	13,900	4,120	9,170	11,700
Antimony	1.8*	1.5 BJ	1.2 BJ	1.6 BJ	1.6 BJ	4.7 BJ	1.5 BJ	0.75 BJ	1.2 BJ	1.3 BJ	1.5 BJ
Arsenic	8.5*	11.1	6.4	7.3	6.3	9.6	16.3	6.1	5.1	5.7	5.2
Barium	300	91.4	51.7	54.1	57.5	107	56.1	116	35.4	71.1	116
Beryllium	0.71*	0.66 B	0.42 B	0.45 B	0.6	0.5 B	0.53 B	0.89	0.28 B	0.48 B	0.81
Cadmium	1	0.68 B	0.61	0.67	0.75	0.98 B	0.75	0.63	0.31 B	0.58 B	0.46 B
Calcium	4,400*	3,090	9,340	5,990	1,140	19,700	3,140	21,300	1,990	4,040	5,870
Chromium	21*	16.9	12.3	13.3	18.4	15.6	10.1	17.3	8.4	17.8	16.3
Cobalt	30	9.7	8.7	9.4	10.9	9.5 B	11.1	11.9	4.5 B	8.2	11.5
Copper	42*	37.2	34.4	50	33.2	66	212	37.5	24.2	61	31.1
Cyanide, Total	ND	0.86 U	0.58 U	0.61 U	0.79	0.92 U	0.56 U	0.59 U	0.57 U	1	0.59 U
Iron	34,000*	22,100	22,100	24,400	28,200	23,200	26,300	31,000	17,800	26,900	20,900
Lead	20*	130	64.5	65.8	20.7	492	146	469	73.8	184	120
Magnesium	6,200*	4,510	5,190	5,090	5,260	4,400	2,270	6,420	1,890	3,060	4,600
Manganese	780*	148	689	639	221	497	586	532	185	356	231
Mercury	0.1	0.42	1	1.2	0.38	2.1	0.68	1.4	0.46	7.9	2.3
Nickel	30*	23.4	18.1	20	24.3	19.8	32.5	23.3	12.7	54.3	21.8
Potassium	1,500*	1,320	1,010	929	770	1,240	627	2,530 J	531 B	1,100	1,450
Selenium	2	1.6	0.68	0.72	0.86	2.3	1.2	0.83 J	1.1 J	1.4 J	1.3 J
Silver	ND	0.53 U	0.35 U	0.37 U	0.34 U	0.6 U	0.95 B	0.37 U	0.35 U	0.4 U	0.45 U
Sodium	340*	205 B	205 B	180 B	111 B	414 B	92.8 B	163 B	90.3 B	224 B	241 B
Thallium	ND	0.35 UJ	0.47 UJ	0.99 UJ	0.46 UJ	1.6 UJ	0.5 UJ	0.49 U	0.24 U	0.53 U	0.3 U
Vanadium	150	22.4	16.7	16.6	19.3	21.3	17.6	27.3	13	19.2	21.9
Zinc	88*	88.2	56.2	58	95.1	229	95	82.7	57.9	94.7	97.8

*See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Constituent	NYSDEC Recommended Soil Cleanup Objectives	TP-113 (2 - 3') 9/26/96	TP-104 (1-2') 9/25/96	TP-108 (1.5 - 2') 9/24/96	TP-110 (1 - 2') 9/24/96	TP-114 (1 - 2') 9/26/96
Aluminum	13,000*	1,400	3,830	6,110	739	2,440
Antimony	1.8*	0.58 UJ	0.75 UJ	**1.8 BJ**	0.55 UJ	0.73 UJ
Arsenic	8.5*	**13.7**	**97.5**	**19.2**	4.6	**36.3**
Barium	300	85.2	57.8	85.7	21.8 B	222
Beryllium	0.71*	0.18 B	0.58 B	0.57 B	0.11 U	0.34 B
Cadmium	1	0.42 B	1.4	0.86	0.22 U	0.74
Calcium	4,400*	639	1,410	**22,200**	585	2,050
Chromium	21*	9.2	**75.6**	14.9	2.7	**22.1**
Cobalt	30	4.7 B	22.2	7.8	1.2 B	10.6
Copper	42*	24	**54.5**	**52.4**	4.6	**120**
Cyanide, Total	ND	5.4	1020	0.53 U	0.88	494
Iron	34,000*	14,900	**51,100**	21,800	2,390	26,800
Lead	20*	**150**	**457**	**393**	**45.6**	**475**
Magnesium	6,200*	312 B	294 B	**6,980**	151 B	491 B
Manganese	780*	163	663	370	18.4	123
Mercury	0.1	**0.72**	**2.4**	0.76	0.05 U	**2.3**
Nickel	30*	9.9	**56**	18.4	0.77 B	19.1
Potassium	1,500*	878	146 B	727	260 B	1,120
Selenium	2	1.4	1.9	1.1 J	0.48 BJ	**3.2**
Silver	ND	0.35 U	0.45 U	0.35 U	0.33 U	0.44 U
Sodium	340*	118 B	**498 U**	301 B	46.1 U	129 B
Thallium	ND	0.47 UJ	3.6 UJ	0.23 U	0.22 U	1.2 UJ
Vanadium	150	27.9	71.9	36.2	3.6 B	23.7
Zinc	88*	15.3	66.9	**155**	6.7	**263**

* See Notes on Page 10

TABLE 10

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR TAL INORGANIC COMPOUNDS (ppm)

Notes:
1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for TAL inorganic constituents in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in milligrams per kilogram (mg/kg) dry weight; equivalent to parts per million (ppm).
5. Sample designations indicate the following:
   MW = Monitoring Well
   SB = Soil Boring
   TP = Test Pit
   DUP = Duplicate Sample
6. * = Listed soil objective is site background value, per NYSDEC HWR-94-4046, January 24, 1994.
7. ND = NYSDEC (HWR-94-4046, January 24, 1994) recommends use of site background value as cleanup objectives, however this constituent was not detected.
8. U = Indicates that the constituent was not detected.
9. J = The concentration is an estimated value.
10. B = Indicates that the reported result was greater than or equal to the instrument detection limit but less than the contract-required detection limit.
11. Analytical results were validated by Blasland, Bouck & Lee, Inc.
12. Results are shown for constituents which were detected at one or more sampling locations.
13. Bold values indicate that the constituent was detected at or above NYSDEC recommended soil cleanup objectives.
14. Shaded value indicated that the sample was collected from a location beneath the water table (i.e. saturated soil). Saturated soil samples were collected to characterize NAPL distribution. Saturated soil samples have not been compared with NYSDEC recommended soil cleanup objectives (NYSDEC HWR-94-4046, January 24)

TABLE 11

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS (ppm)

TABLE 11

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS (ppm)

Constituent	MW-17S (2 - 4') 2/12/97	MW-19D (1 - 3') 1/23/97	MW-21R (12 - 14') 5/1/97	MW-21R (25 - 27') 5/1/97	MW-22R (6 - 8') 4/29/97	MW-22R (26 - 28') 4/29/97	MW-22R (DUP) (26 - 28') 4/29/97	SB-107C (14 - 16') 2/4/97	SB-108D (2 - 4') 1/30/97
Fuel Oil 2	28 U	27 U	28 U	29 U	4.1 J	29 U	29 U	30 U	32 U
Lube Oil	120 U	120 U	240	110 J	480	160	130	130 U	140 U
Unknown Hydrocarbon	110	200 J	28 U	29 U	29 U	29 U	29 U	30 U	340 J
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA

Constituent	SB-108D (24 - 26') 1/30/97	SB-109 (10 - 12') 10/8/96	SB-109 (20 - 22') 10/8/96	SB-110 (6 - 8') 10/9/96	SB-110 (18 - 20') 10/9/96	SB-110 (DUP) (18 - 20') 10/9/96	SB-111 (8 - 10') 2/5/97	SB-111 (DUP) (8 - 10') 2/5/97	SB-112 (10 - 12') 10/10/96
Fuel Oil 2	29 U	2,200 UD	2,100 UD	2,400 UD	3,700 UD	3,800 UD	28 U	29 U	24 U
Lube Oil	130 U	18,000 D	12,000 UD	13,000 UD	20,000 UD	21,000 UD	120 U	130 U	130 U
Unknown Hydrocarbon	29 U	25,000 DJ	27,000 DJ	130,000 D	810,000 D	500,000 D	28	29 U	150
Total Petroleum Hydrocarbons	NA	43,000 DJ	27,000 DJ	130,000 D	810,000 D	500,000 D	NA	NA	150

Constituent	SB-112 (18 - 20') 10/10/96	SB-113 (4 - 6') 10/10/96	SB-113 (16 - 18') 10/10/96	SB-114 (6 - 8') 10/10/96	SB-114 (14 - 16') 10/10/96	SB-115 (6 - 8') 10/11/96	SB-115 (10 - 12') 10/11/96	SB-116 (12 - 14') 10/1/96	SB-116 (20 - 22') 10/1/96
Fuel Oil 2	22 U	3,400 UD	20 U	2,300 UD	21 U	2,200 UD	220 UD	21 U	21 U
Lube Oil	120 U	19,000 UD	110 U	12,000 UD	120 U	12,000 UD	1,200 UD	120 U	120 U
Unknown Hydrocarbon	93	3,800 D	110	49,000 D	280	19,000 D	10,000 D	150 J	21 U
Total Petroleum Hydrocarbons	93	3,800 D	110	49,000 D	280	19,000 D	10,000 D	150 J	21 U

*See Notes on Page 3

TABLE 11

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS (ppm)

Constituent	SB-117 (8 - 10') 10/1/96	SB-117 (14 - 16') 10/1/96	SB-118 (14 - 16') 10/1/96	SB-118 (26 - 28') 10/1/96	SB-119 (8 - 10') 10/4/96	SB-119 (DUP) (8 - 10') 10/4/96	SB-119 (18 - 20') 10/4/96	SB-120 (8 - 10') 10/14/96	SB-120 (DUP) (8 - 10') 10/14/96
Fuel Oil 2	25 U	22 U	22 U	19 U	13,000 UD	36,000 UD	22 U	110 UD	25 U
Lube Oil	140 U	120 U	120 U	110 U	74,000 UD	20,000 UD	120 U	620 UD	140 U
Unknown Hydrocarbon	500 J	87	39	19 U	200,000 DJ	650,000 DJ	110 J	3,200 D	77 J
Total Petroleum Hydrocarbons	500 J	87	39	19 U	200,000 DJ	650,000 DJ	110 J	3,200 D	77 J

Constituent	SB-120 (14 - 16') 10/14/96	SB-121 (8 - 10') 1/29/97	SB-121 (DUP) (8 - 10') 1/29/97	SB-123 (6 - 8') 1/9/97	SB-124 (1 - 3') 1/24/97	SB-124 (4 - 6') 1/13/97	SB-124 (DUP) (4 - 6') 1/13/97	SB-124 (22 - 24') 1/24/97	SB-125 (22 - 24') 1/13/97
Fuel Oil 2	23 U	29 U	30 U	29 U	26 U	140 UD	140 UD	510 UD	31 U
Lube Oil	130 U	130 U	140 U	480	120 U	640 UD	640 UD	2,300 UD	140 U
Unknown Hydrocarbon	250 J	29 U	30 U	94 UJ	270 J	2,200	1,900	2,400 J	370 UJ
Total Petroleum Hydrocarbons	250 J	NA	NA	NA	NA	NA	NA	NA	NA

Constituent	SB-125 (24 - 26') 1/13/97	SB-126 (4 - 6') 1/16/97	SB-126 (6 - 8') 1/16/97	SB-127 (4 - 6') 1/22/97	SB-127 (DUP) (4 - 6') 1/22/97	SB-127 (10 - 12') 1/22/97	SB-128 (14 - 16') 2/4/97	SB-129 (8 - 10') 2/11/97	SB-129 (DUP) (8 - 10') 2/11/97
Fuel Oil 2	130 UD	28 U	30 U	26 U	25 U	28 U	28 U	30 U	29 U
Lube Oil	590 UD	120 U	130 U	120 U	110 U	120 U	130 U	130 U	130 U
Unknown Hydrocarbon	590 UJ	25 J	210 J	110 U	70 U	230 J	28 U	33	36
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA

*See Notes on Page 3

TABLE 11

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
SUBSURFACE SOIL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS (ppm)

Constituent	SB-129 (24 - 26') 2/11/97	SB-131 (24 - 26') 2/14/97	SB-131 (28 - 30') 2/14/97	SB-132 (12 - 14') 5/7/97	SB-132 (30 - 32') 5/7/97	SB-132 (DUP) (30 - 32') 5/7/97	SB-133 (10 - 12') 5/8/97	SB-133 (18 - 20') 5/8/97	SB-134 (10 - 12') 5/8/97
Fuel Oil 2	2,700 U	28 U	250 U	30 U	29 U	28 U	34 U	29 U	360 UD
Lube Oil	12,000 U	120 U	1,100 U	130 U	130 U	120 U	150 U	130 U	1,600 UD
Unknown Hydrocarbon	19,000	28 U	2,000	30 U	29 U	28 U	34 U	29 U	300 D
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for petroleum hydrocarbons in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, New York.
4. Concentrations reported in milligrams per kilogram (mg/kg), equivalent to parts per million (ppm).
5. Sample designations indicate the following:
   SB = Soil Boring
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. D = Concentration is based on a diluted sample analysis.
9. NA = Sample was not analyzed for the indicated constituent.
10. Analytical data were validated by Blasland, Bouck & Lee, Inc.
11. Results are shown for constituents which were detected at one or more sampling locations.
12. No NYSDEC recommended soil objectives exist for petroleum hydrocarbons (NYSDEC HWR-94-4046, January 24, 1994).
13. Shaded value indicated that the sample was collected from a location beneath the water table (i.e. saturated soil).
    Saturated soil samples were collected to characterize NAPL distribution.

TABLE 12

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
MONITORING WELL CONSTRUCTION SUMMARY

WELL NAME	DRILLER	GEOLOGIST	CONSULTANT	DATE STARTED	DATE FINISHED	DRILLING METHOD	TOTAL DEPTH (ft.)	COMPLETED DEPTH (ft.)	OUTER CASING DEPTH (ft.)
MW-01	SJB Drilling	K. MacGregor	Foster Wheeler	9/8/94	9/8/94	4 1/4" HSA	24.3	22.8	
MW-02	SJB Drilling	K. MacGregor	Foster Wheeler	9/9/94	9/9/94	4 1/4" HSA	23.8	23.8	
MW-03	SJB Drilling	K. MacGregor	Foster Wheeler	9/12/94	9/12/94	4 1/4" HSA	13.4	12.3	
MW-04	SJB Drilling	K. MacGregor	Foster Wheeler	9/28/94	9/28/94	4 1/4" HSA	18.0	16.0	
MW-05	SJB Drilling	K. MacGregor	Foster Wheeler	9/13/94	9/13/94	4 1/4" HSA	24.4	22.0	
MW-06	SJB Drilling	K. MacGregor	Foster Wheeler	9/27/94	9/27/94	4 1/4" HSA	21.7	21.7	
MW-06A	SJB Drilling	R. Kuhn	BBL	10/16/96	10/16/96	4 1/4" HSA	17.6	18.0	
MW-06S	SJB Drilling	R. Kuhn	BBL		2/18/97	4 1/4" HSA	9.0	9.0	
MW-07	SJB Drilling	K. MacGregor	Foster Wheeler	9/27/94	9/27/94	4 1/4" HSA	17.0	17.0	
MW-08	SJB Drilling	K. MacGregor	Foster Wheeler	9/14/94	9/14/94	4 1/4" HSA	20.9	17.0	
MW-09	SJB Drilling	K. MacGregor	Foster Wheeler	9/7/94	9/7/94	4 1/4" HSA	20.1	20.0	
MW-10	SJB Drilling	P. Andersen	Foster Wheeler	9/20/94	9/20/94	4 1/4" HSA	24.0	24.0	
MW-11	SJB Drilling	P. Andersen	Foster Wheeler	9/21/94	9/21/94	4 1/4" HSA	38.0	24.0	
MW-12	SJB Drilling	K. MacGregor	Foster Wheeler	10/3/94	10/3/94	4 1/4" HSA	25.3	25.3	
MW-13	SJB Drilling	K. MacGregor	Foster Wheeler	9/16/94	9/16/94	4 1/4" HSA	25.8		
MW-14	SJB Drilling	K. MacGregor	Foster Wheeler	9/23/94	9/26/94	4 1/4" HSA	22.0	22.0	
MW-15S	SJB Drilling	R. Kuhn	BBL	1/21/97	1/21/97	4 1/4" HSA	15.4	16.0	
MW-16D	SJB Drilling	R. Kuhn	BBL		1/16/97	4 1/4" HSA	21.5	21.5	
MW-16R	SJB Drilling	R. Kuhn	BBL		1/21/97	4 1/4" HSA	38.4	38.5	25.0
MW-17D	SJB Drilling	R. Kuhn	BBL		2/10/97	4 1/4" HSA	29.2	29.2	
MW-17S	SJB Drilling	R. Kuhn	BBL		2/12/97	4 1/4" HSA	17.6	17.6	
MW-18S	SJB Drilling	R. Kuhn	BBL		2/12/97	4 1/4" HSA	17.5	17.5	
MW-19D	SJB Drilling	R. Kuhn	BBL		1/23/97	4 1/4" HSA	25.0	25.0	
MW-20D	SJB Drilling	R. Kuhn	BBL		2/5/97	4 1/4" HSA	22.0	21.9	
MW-21D	SJB Drilling	R. Kuhn	BBL		5/1/97	4 1/4" HSA	34.5	34.4	
MW-21R	SJB Drilling	R. Kuhn	BBL		5/6/97	4 1/4" HSA	50.6	50.6	36.5
MW-21S	SJB Drilling	R. Kuhn	BBL		5/2/97	4 1/4" HSA	18.1	18.1	
MW-22D	SJB Drilling	R. Kuhn	BBL		4/29/97	4 1/4" HSA	34.0	34.0	
MW-22R	SJB Drilling	R. Kuhn	BBL		5/5/97	4 1/4" HSA	49.2	49.2	35.2
MW-22S	SJB Drilling	R. Kuhn	BBL		4/30/97	4 1/4" HSA	16.8	16.8	
PZ-01D	SJB Drilling	R. Kuhn	BBL		2/7/97	4 1/4" HSA	21.5	21.5	
PZ-01S	SJB Drilling	R. Kuhn	BBL		2/17/97	4 1/4" HSA	11.1	11.1	
PZ-02	SJB Drilling	R. Kuhn	BBL		2/17/97	4 1/4" HSA	16.5	16.5	

*See Note on Page 2

TABLE 12

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
MONITORING WELL CONSTRUCTION SUMMARY

WELL NAME	SCREEN LENGTH (ft.)	SCREEN TOP (ft.)	SCREEN BOTTOM (ft.)	SCREEN TYPE	SCREEN DIAMETER (in)	SCREEN SLOT SIZE (in.)	SAND PACK	SAND TOP (ft.)	SAND BOTTOM (ft.)
MW-01	15.0	5.0	20.0	PVC	2.00	0.010	MORIE #0	3.00	22.80
MW-02	15.0	6.0	21.0	PVC	2.00	0.010	MORIE #0	4.00	23.80
MW-03	5.0	4.5	9.5	PVC	2.00	0.010	MORIE #0	2.50	12.30
MW-04	10.0	3.0	13.0	PVC	2.00	0.010	MORIE #0	2.00	16.00
MW-05	15.0	4.0	19.0	PVC	2.00	0.010	MORIE #0	2.00	22.00
MW-06	15.0	3.0	18.0	PVC	2.00	0.010	MORIE #0	2.00	21.70
MW-06A	7.9	10.0	17.9	PVC	2.00	0.010	MORIE #0	9.00	18.00
MW-06S	5.0	3.1	8.1	PVC	2.00	0.010	MORIE #0		
MW-07	10.0	4.0	14.0	PVC	2.00	0.010	MORIE #0	3.00	17.00
MW-08	10.0	4.0	14.0	PVC	2.00	0.010	MORIE #0	2.00	17.00
MW-09	10.0	8.0	18.0	PVC	2.00	0.010	MORIE #0	6.00	20.00
MW-10	15.2	6.0	21.2	PVC	2.00	0.010	MORIE #0	3.50	24.00
MW-11	15.2	6.0	21.2	PVC	2.00	0.010	MORIE #0	4.00	24.00
MW-12	15.0	6.0	21.0	PVC	2.00	0.010	MORIE #0	10.00	25.30
MW-13	10.0	12.0	22.0	PVC	2.00	0.010	MORIE #0	2.00	
MW-14	5.0	14.2	19.2	PVC	2.00	0.010	MORIE #0	13.00	22.00
MW-15S	9.5	5.8	15.3	PVC	2.00	0.010	MORIE #0		
MW-16D	9.5	11.0	20.5	PVC	2.00	0.010	MORIE #0		
MW-16R	9.5	27.9	37.4	PVC	2.00	0.010	MORIE #0		
MW-17D	9.5	18.7	28.2	PVC	2.00	0.010	MORIE #0		
MW-17S	9.5	7.6	17.1	PVC	2.00	0.010	MORIE #0	5.00	17.60
MW-18S	9.5	7.5	17.0	PVC	2.00	0.010	MORIE #0	5.00	17.50
MW-19D	9.5	14.5	24.0	PVC	2.00	0.010	MORIE #0		
MW-20D	9.5	11.4	20.9	PVC	2.00	0.010	MORIE #0	9.50	20.90
MW-21D	9.5	23.9	33.4	PVC	2.00	0.010	MORIE #0		
MW-21R	9.5	40.4	49.9	PVC	2.00	0.010	MORIE #0	38.00	50.00
MW-21S	9.5	8.1	17.6	PVC	2.00	0.010	MORIE #0		
MW-22D	9.5	23.5	33.0	PVC	2.00	0.010	MORIE #0		
MW-22R	9.5	39.0	48.5	PVC	2.00	0.010	MORIE #0	37.00	48.80
MW-22S	9.5	6.8	16.3	PVC	2.00	0.010	MORIE #0		
PZ-01D	9.5	11.0	20.5	PVC	2.00	0.010	MORIE #0	10.00	20.50
PZ-01S	7.9	3.1	11.0	PVC	2.00	0.010	MORIE #0		
PZ-02	9.5	6.5	16.0	PVC	2.00	0.010	MORIE #0		

Note:
1. All measurements in feet, except as noted. All elevations referenced to NGVD 1929.

TABLE 13

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
FLUID LEVEL MEASUREMENTS (ft)

Well Number	Top of Casing Elevation	Ground-Water Elevation 9/27/96	Ground-Water Elevation 6/2/97	NAPL		NAPL	
				Thickness	Type	Thickness	Type
				9/27/96		6/2/97	
MW-01	22.93	14.62	14.61				
MW-02	26.51	18.41	18.55	0.07	D	0.05	D
MW-03	21.77	15.06	NM				
MW-04	19.52	13.93	12.85			2.07	L
MW-05	20.25	15.68	15.93	0.15	D		
MW-06	16.63	NM	NM				
MW-6A	15.99	NI	6.89				
MW-6S	16.10	NI	13.94				
MW-07	17.84	15.03	15.19	0.02	D		
MW-08	19.22	10.59	11.72	1.20	L	0.1	L
MW-09	21.24	9.09	9.02				
MW-10	17.45	6.40	6.58	0.87	L	0.61	L
MW-11	20.97	5.24	5.49				
MW-12	20.27	6.68	6.81				
MW-13	21.98	16.30	17.23	0.11	L	0.05	L
MW-14	17.63	6.59	6.7				
MW-15S	16.66	NI	10.94				
MW-16D	15.81	NI	6.41				
MW-16R	16.15	NI	7.87				
MW-17D	16.76	NI	5.2				
MW-17S	16.42	NI	5.28				
MW-18S	16.54	NI	5.57				
MW-19D	17.00	NI	8.9				
MW-20D	31.32	NI	24.18				
MW-21D	15.67	NI	2.87				
MW-21R	15.68	NI	2.66				
MW-21S	15.40	NI	3.14				
MW-22D	15.45	NI	3.1				
MW-22R	15.48	NI	3.33				
MW-22S	15.83	NI	5.31				
PZ-01D	17.99	NI	10.65				
PZ-01S	17.73	NI	13.83				
PZ-02	17.83	NI	5.71				

Notes:
1. NM = Not measured.
2. NI = Not installed at the time of the monitoring event.
3. D = Indicates Dense, Non-Aqueous Liquid (DNAPL) was observed.
4. L = Indicates Light, Non-Aqueous Liquid (LNAPL) was observed.
5. All measurements in feet above mean sea level (AMSL), all elevations referenced to NGVD 1929.

TABLE 14

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR PCBs (ppb)

PCB	MW-01 6/10/97	MW-05 6/9/97	MW-06 6/9/97	MW-09 6/10/97	MW-11 6/10/97	MW-12 6/9/97	MW-14 6/9/97	MW-15S 6/5/97	MW-16D 6/6/97	MW-16R 6/6/97	MW-17D 6/5/97
Aroclor-1016	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Aroclor-1242	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1260	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

PCB	MW-17S 6/5/97	MW-18S 6/4/97	MW-19D 6/5/97	MW-20D 6/9/97	MW-20D (DUP) 6/9/97	MW-21D 6/3/97	MW-21R 6/3/97	MW-21S 6/3/97	MW-22D 6/3/97	MW-22R 6/4/97	MW-22S 6/3/97
Aroclor-1016	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Aroclor-1242	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1260	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for PCBs in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated result.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.
9. No PCBs were detected above the detection limit in any sample and, therefore, do not exceed either NYSDEC or USEPA criteria for ground water.

TABLE 15

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR DETECTED VOCs (ppb)

Constituent	NYSDEC Criteria	USEPA MCL Criteria	MW-01 6/10/97	MW-05 6/9/97	MW-06 6/9/97	MW-09 6/10/97	MW-11 6/10/97	MW-12 6/9/97	MW-14 6/9/97	MW-15S 6/5/97	MW-16D 6/6/97	MW-16R 6/6/97	MW-17D 6/5/97	MW-17S 6/5/97
1,1-Dichloroethane	5	NA	5 U	170 U	2 J	5 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	50 U
Acetone	50	NA	10 U	330 U	10 U	10 U	10 U	10 U	10 U	**57**	**51**	**150**	100 U	210 U
Benzene	0.7	5	5 U	***3,200***	5 U	5 U	5 U	5 U	***120***	5 U	5 U	***840***	***1,000***	***850***
Chloroform	7	80	5 U	170 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	50 U
Ethylbenzene	5	700	5 U	**250**	5 U	5 U	5 U	5 U	**16**	5 U	5 U	**230**	19 J	**21 J**
Toluene	5	1,000	1 J	**130 J**	5 U	2 J	5 U	4 J	4 J	5 U	5 U	**200**	50 U	50 U
Xylenes, Total	5	10,000	5 U	**180 J**	5 U	5 U	5 U	5 U	**10**	5 U	5 U	**230**	36 J	50 U

Constituent	NYSDEC Criteria	USEPA Criteria	MW-18S 6/4/97	MW-18S (DUP) 6/4/97	MW-19D 6/5/97	MW-20D 6/9/97	MW-20D (DUP) 6/9/97	MW-21D 6/3/97	MW-21R 6/3/97	MW-21S 6/3/97	MW-22D 6/3/97	MW-22R 6/4/97	MW-22S 6/3/97
1,1-Dichloroethane	5	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	50	NA	10 U	10 U	76 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	0.7	5	***180***	***180***	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	80	5 U	5 U	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U	5 U
Ethylbenzene	5	700	**160**	**150**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5	1,000	**5**	4 J	5 U	5 U	1 J	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes, Total	5	10,000	**43**	**40**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for volatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. NA = Criteria are not available for this constituent.
7. Bold values are equal to or greater than NYSDEC criteria for ground water (Ambient Water Quality Standards and Guidance Values, October 22, 1993).
8. Bold and italic values are equal to or greater than both NYSDEC (Ambient Water Quality Standards and Guidance Values, October 22, 1993) and USEPA (Drinking Water Regulations and Health Advisories, EPA 822-B-96-002, October 1996) criteria for ground water.
9. U = Indicates that the constituent was not detected.
10. J = The concentration is an estimated result.
11. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 16

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR DETECTED SVOCs (ppb)

Constituent	NYSDEC Criteria	USEPA Criteria	MW-01 6/10/97	MW-05 6/9/97	MW-06A 6/9/97	MW-09 6/10/97	MW-11 6/10/97	MW-12 6/9/97	MW-14 6/9/97	MW-15S 6/5/97
2,4-Dimethylphenol	1	NL	10 U	**2 J**	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	5	NA	10 U	R	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	NA	NL	10 U	7 J	10 U	10 U	10 U	10 U	6 J	10 U
2-Methylphenol	1	NL	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	1	NL	10 U	**4 J**	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	1	NA	24 U	R	24 U	24 U	24 UJ	24 U	24 U	26 UJ
Acenaphthene	20	NA	10 U	**150 D**	10 U	10 U	10 U	10 U	**51**	10 U
Acenaphthylene	NA	NA	10 U	34	10 U	10 U	10 U	10 U	6 J	10 U
Anthracene	50	NA	10 U	12	10 U	10 U	10 U	10 U	2 J	10 U
Benzo(a)anthracene	0.002	NA	10 U	2 J	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	50	6	10 U	2 J	10 U	10 U	*6 J*	2 J	10 U	10 U
Carbazole	NA	NA	10 U	4 J	10 U	10 U	10 U	10 U	1 J	10 U
Chrysene	0.002	NA	10 U	**1 J**	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NA	NL	10 U	5 J	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50	NA	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U
Fluoranthene	50	NL	10 U	8 J	10 U	10 U	10 U	10 U	2 J	10 U
Fluorene	50	NA	10 U	**67**	10 U	10 U	10 U	10 U	9 J	10 U
Naphthalene	10	NA	10 U	**740 D**	10 U	10 U	10 U	10 U	**79**	10 U
Nitrobenzene	5	NL	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	50	NA	10 U	**51**	10 U	10 U	10 U	10 U	16	10 U
Phenol	1	NA	10 U	**27**	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	50	NA	10 U	13	10 U	10 U	10 U	10 U	4 J	10 U

Constituent	NYSDEC Criteria	USEPA Criteria	MW-16D 6/6/97	MW-16R 6/6/97	MW-17D 6/5/97	MW-17S 6/5/97	MW-18S 6/4/97	MW-18S (DUP) 6/4/97	MW-19D 6/5/97	MW-20D 6/9/97
[illegible]imethylphenol	1	NL	10 U	10 U	10 U	10 U	16 U	10 U	10 U	10 U
[illegible]-Dinitrotoluene	5	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
2-Methylnaphthalene	NA	NL	10 U	60 J	19 J	2 J	14 J	7 J	10 U	10 U
2-Methylphenol	1	NL	10 U	10 U	10 U	10 U	16 U	10 U	10 U	10 U
4-Methylphenol	1	NL	10 U	10 U	10 U	10 U	16 U	10 U	10 U	10 U
4-Nitrophenol	1	NA	26 U	26 U	25 U	26 U	39 U	24 U	26 U	26 UJ
Acenaphthene	20	NA	10 U	**53**	**40 J**	**110**	14 J	17	10 U	10 U
Acenaphthylene	NA	NA	10 U	2 J	10 UJ	10 U	16 U	10 U	10 U	10 U
Anthracene	50	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
Benzo(a)anthracene	0.002	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	50	6	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	*15*
Carbazole	NA	NA	10 U	**3 J**	10 UJ	2 J	16 U	1 J	10 U	10 U
Chrysene	0.002	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
Dibenzofuran	NA	NL	10 U	2 J	10 UJ	10 U	16 U	10 U	10 U	10 U
Diethyl phthalate	50	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
Fluoranthene	50	NL	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U
Fluorene	50	NA	10 U	14	4 J	11	16 U	2 J	10 U	10 U
Naphthalene	10	NA	10 U	**1,300 DJ**	9 J	7 J	**730 DJ**	**770 D**	10 U	10 U
Nitrobenzene	5	NL	10 U	10 U	10 UJ	3 J	16 U	10 U	10 U	10 U
Phenanthrene	50	NA	10 U	12	2 J	6 J	16 U	10 U	10 U	10 U
Phenol	1	NA	10 U	10 U	10 U	10 U	16 U	10 U	10 U	10 U
Pyrene	50	NA	10 U	10 U	10 UJ	10 U	16 U	10 U	10 U	10 U

*See Notes on Page 2

TABLE 16

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR DETECTED SVOCs (ppb)

Constituent	NYSDEC Criteria	USEPA Criteria	MW-20D (DUP) 6/9/97	MW-21D 6/3/97	MW-21R 6/3/97	MW-21S 6/3/97	MW-22D 6/3/97	MW-22R 6/4/97	MW-22S 6/3/97
2,4-Dimethylphenol	1	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
2,4-Dinitrotoluene	5	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
2-Methylnaphthalene	NA	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
2-Methylphenol	1	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
4-Methylphenol	1	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
4-Nitrophenol	1	NA	26 UJ	27 U	25 U	25 U	26 U	26 U	28 U
Acenaphthene	20	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Acenaphthylene	NA	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Anthracene	50	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Benzo(a)anthracene	0.002	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
bis(2-Ethylhexyl)phthalate	50	6	10 U	11 U	18 U	10 U	10 U	10 U	11 U
Carbazole	NA	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Dibenzofuran	NA	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Diethyl phthalate	50	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Fluoranthene	50	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Fluorene	50	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Naphthalene	10	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Nitrobenzene	5	NL	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Phenanthrene	50	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Phenol	1	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U
Pyrene	50	NA	10 U	11 U	10 U	10 U	10 U	10 U	11 U

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
[illegible]mples were analyzed for semi-volatile organic compounds in accordance with NYSDEC 1991 ASP methods.
[illegible]aboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. NA and NL = Criteria for this constituent are not available.
7. Bold values are equal to or greater than NYSDEC criteria for ground water (Ambient Water Quality Standards and Guidance Values, October 22, 1993).
8. Bold and italic values are equal to or greater than both NYSDEC (Ambient Water Quality Standards and Guidance Values, October 22, 1993) and USEPA (Drinking Water Regulations and Health Advisories, EPA 822-B-96-002, October 1996) criteria for ground water.
9. U = Indicates that the constituent was not detected.
10. J = The concentration is an estimated result.
11. D = The concentration is based on a diluted sample analysis.
12. R = Indicates that the sample results are rejected due to significant quality control problems.
13. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 17

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppb)

Constituent	NYSDEC Criteria	USEPA Criteria	MW-01 6/10/97	MW-05 6/9/97	MW-06 6/9/97	MW-09 6/10/97	MW-11 6/10/97	MW-12 6/9/97	MW-14 6/9/97	MW-15S 6/5/97	MW-16D 6/6/97
Aluminum	NA	50	65 B	47 U	***565***	47 U	47 U	*315*	*198 B*	69.7 U	***404***
Antimony	3	6	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U
Arsenic	25	50	4 U	7.8 B	4 U	4 U	20.2	4 U	**26.7**	4 U	6 B
Barium	1,000	2,000	104 B	377	156 B	110 B	105 B	74.4 B	**1,900**	156 B	**1,110**
Beryllium	3	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	10	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	NA	NL	153,000	180,000	256,000	209,000	104,000	182,000	313,000	70,500	209,000
Chromium	50	100	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	9.7 B
Cobalt	NA	NL	2 U	2 U	2 U	2 U	2 U	2.1 B	2 U	2 U	2.5 B
Copper	200	1,000	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Cyanide, Total	100	200	**R**	***807***	***344***	10 U	10 U	R	***865***	47.1	***401***
Iron	300	300	***1,830***	***20,000***	***39,800***	***573***	***25,900***	104	***10,600***	***2,770***	***24,500***
Lead	25	15	2 U	2.8 B	2.2 B	2 U	2 U	2 U	2 U	2 U	2 U
Magnesium	35,000	NL	**39,100**	19,400	**36,400**	**58,200**	21,600	**38,800**	**61,800**	7,020	29,400
Manganese	300	50	***947***	***1,060***	***4,260***	***1,050***	***3,420***	***4,530***	***10,700***	***804***	***3,160***
Mercury	2	2	0.1 U	0.12 B	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	NA	100	3 U	3 U	3 U	3 U	3 U	3.5 B	3 U	3 U	3.8 B
Potassium	NA	NL	7,630	14,800	12,000	5,150	6,710	10,100	11,600	4,140 B	7,540
Selenium	10	50	3 U	3 U	3.4 B	3 U	3.5 B	3 U	8.6	3 U	4.4 B
Silver	50	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20,000	NA	**144,000**	**518,000**	**222,000**	**208,000**	14,000	**233,000**	**377,000**	**93,700**	**291,000**
Thallium	4	2	6 U	6 U	6 U	6 U	6 U	***6.1 B***	6 U	6 U	6 U
Vanadium	NA	NA	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Zinc	300	5,000	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U

*See Notes on Page 4

TABLE 17

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppb)

Constituent	NYSDEC Criteria	USEPA Criteria	MW-16R 6/6/97	MW-16R (FILT) 6/6/97	MW-17D 6/5/97	MW-17D (FILT) 6/5/97	MW-17S 6/5/97	MW-18S 6/4/97	MW-18S (DUP) 6/4/97	MW-19D 6/5/97
Aluminum	NA	50	***9,050***	47 U	***9,720***	47 U	***477***	***10,800***	***13,800***	75.2 U
Antimony	3	6	8 U	8 U	8 U	16 U	8 U	8 U	8 U	8 U
Arsenic	25	50	4 U	6 B	12.1	19	10.3	7.9 B	8.5 B	4.3 B
Barium	1,000	2,000	**1,700**	**1,670**	***5,830***	***6,020***	***2,210***	727	751	103 B
Beryllium	3	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	10	5	1 U	1 U	1.5 B	1.3 B	1.8 B	1.7 B	2 B	1 U
Calcium	NA	NL	7,250	5,900	267,000	272,000	199,000	133,000	132,000	168,000
Chromium	50	100	34.3	7.1 B	28.8	3 U	4.1 B	17.4	23	3 U
Cobalt	NA	NL	10.1 B	2.9 B	18.6 B	5.1 B	4.6 B	16.3 B	18.4 B	13 B
Copper	200	1,000	8.1 B	6 U	22.4 B	6 U	6 U	20.8 B	26.4	6 U
Cyanide, Total	100	200	***487***	NA	***643***	NA	***447***	**135**	**128**	**125**
Iron	300	300	***12,100***	182	***54,200***	***40,900***	***62,500***	***57,100***	***61,700***	***5,110***
Lead	25	15	3.2	2 U	9.3	2 U	2 U	10.3	13.6	2 U
Magnesium	35,000	NL	4,460 B	707 B	**67,800**	**65,800**	**46,100**	24,000	24,600	33,000
Manganese	300	50	***165***	23.4	***7,660***	***7,620***	***9,420***	***9,690***	***9,680***	***10,100***
Mercury	2	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 B	0.1 U
Nickel	NA	100	24.7 B	4.4 B	23.6 B	3 U	3 U	18.2 B	22.8 B	3 B
Potassium	NA	NL	7,900	6,000	12,700	11,300	6,820	5,550	6,000	18,500
Selenium	10	50	3.6 B	**17.5**	5 B	**26.2**	3 U	7.2	8.4	8
Silver	50	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20,000	NA	**345,000**	**359,000**	**243,000**	**249,000**	**164,000**	**74,400**	**72,700**	**126,000**
Thallium	4	2	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Vanadium	NA	NA	14.9 B	3 U	14.8 B	3 U	3 U	17.2 B	22.8 B	3 U
Zinc	300	5,000	18.2 B	6 U	24.3	6 U	6 U	35.4	46	6 U

*See Notes on Page 4

TABLE 17

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppb)

Constituent	NYSDEC Criteria	USEPA Criteria	MW-20D 6/9/97	MW-20D (DUP) 6/9/97	MW-21D 6/3/97	MW-21R 6/3/97	MW-21S 6/3/97	MW-22D 6/3/97	MW-22R 6/4/97	MW-22S 6/3/97
Aluminum	NA	50	***52.5 B***	***98.4 B***	***612***	***1,480***	***830***	***6,080***	***973***	77.8 U
Antimony	3	6	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U
Arsenic	25	50	4 U	4 U	4.8 B	5 B	4 U	6 B	4 U	4 U
Barium	1,000	2,000	145 B	144 B	**1,240**	450	147 B	***3,700***	***8,430***	67.1 B
Beryllium	3	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	10	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4 B
Calcium	NA	NL	238,000	235,000	250,000	2,260 B	184,000	184,000	117,000	237,000
Chromium	50	100	3 U	4.1 B	5.3 B	9.6 B	3.6 B	15.1	5.7 B	4 B
Cobalt	NA	NL	2 B	2.3 B	2 U	2 U	2 U	4.3 B	2 U	2 U
Copper	200	1,000	6 U	6 U	6 U	6 U	6 U	21.5 B	6 U	12 B
Cyanide, Total	100	200	R	10 U	**110**	79.5	18.5	15.7	12.8	16.6
Iron	300	300	103	154	***22,400***	***1,890***	***8,200***	***18,500***	***1,240***	37 U
Lead	25	15	2 U	2 U	2.2 B	2 U	2 U	10.2	2 U	2 U
Magnesium	35,000	NL	**57,500**	**57,000**	**52,100**	880 B	31,200	**48,800**	31,500	33,000
Manganese	300	50	***716***	***707***	***5,160***	34.8	***5,230***	***3,780***	***1,710***	26.5
Mercury	2	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	NA	100	3.7 B	4.8 B	3.7 B	3 U	3.6 B	12.4 B	3 U	8.9 B
Potassium	NA	NL	3,930 B	3,910 B	8,520	3,330 B	5,680	6,180	9,400	5,390
Selenium	10	50	3 U	3.5 B	6.5	3.2 B	4.1 B	9.8	3 U	3 U
Silver	50	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20,000	NA	**243,000**	245,000	**228,000**	**210,000**	11,600	42,700	**133,000**	**26,200**
Thallium	4	2	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Vanadium	NA	NA	3 U	3 U	3 U	3.4 B	3 U	10.6 B	3 U	3 U
Zinc	300	5,000	6 U	6 U	6 U	6 U	6 U	29.9	6 U	197

*See Notes on Page 4

TABLE 17

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppb)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for TAL inorganic constituents in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   FILT = Filtered Sample
   DUP = Duplicate Sample
6. NA and NL = Criteria for this constituent are not available.
7. Bold values are equal to or greater than NYSDEC criteria for ground water (Ambient Water Quality Standards and Guidance Values, October 22, 1993).
8. Bold and italic values are equal to or greater than both NYSDEC (Ambient Water Quality Standards and Guidance Values, October 22, 1993) and USEPA (Drinking Water Regulations and Health Advisories, EPA 822-B-96-002, October 1996) criteria for ground water.
9. U = Indicates that the constituent was not detected.
10. J = The concentration is an estimated result.
11. D = The concentration is based on a diluted sample analysis.
12. B = Indicates that the reported result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
13. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 18

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
GROUND-WATER ANALYTICAL RESULTS FOR SULFATE, SULFIDE, AND NITRATE-NITRITE (ppm)

Sample Location	Sample Date	Nitrate-Nitrite (As N)	Sulfate	Sulfide
MW-01	6/10/97	260	84,900	2,000 UJ
MW-05	6/9/97	120	123,000	2,000 UJ
MW-06	6/9/97	50 U	405,000	2,000 UJ
MW-09	6/10/97	150	123,000	2,000 UJ
MW-11	6/10/97	70	8360	2,000 UJ
MW-12	6/9/97	50	145,000	2,000 UJ
MW-14	6/9/97	50 U	2,000 U	2,000 UJ
MW-15S	6/5/97	50 U	26,500	2,000 U
MW-16D	6/6/97	80	131,000	2,000 U
MW-16R	6/6/97	50 U	2,870	2,000 U
MW-17D	6/5/97	50	2,000 U	2,000 U
MW-17S	6/5/97	60	2,000 U	2,000 U
MW-18S	6/4/97	60	6,300	2,000 U
MW-18S (Dup)	6/4/97	50	6,100	2,000 U
MW-19D	6/5/97	50 U	151,000	2,000 U
MW-20D	6/9/97	910	118,000	2,000 UJ
MW-20D (Dup)	6/9/97	930	121,000	2,000 UJ
MW-21D	6/3/97	80	50,700	2,000 U
MW-21R	6/3/97	50 U	11,400	2,000 U
MW-21S	6/3/97	50 U	147,000	2,000 U
MW-22D	6/3/97	50 U	35,800	2,000 U
MW-22R	6/4/97	50 U	2,000 U	2,000 U
MW-22S	6/3/97	50	318,000	2,000 U

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for Sulfate, Sulfide, and Nitrate-Nitrite in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated result.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 19

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
LNAPL/DNAPL ANALYTICAL RESULTS FOR PCBs (ppm)

PCB	MW-04 6/2/97	MW-08 9/27/96	MW-10 9/27/96	MW-10 (DUP) 9/27/96
Aroclor-1242	8.7	1 U	5 UD	2 UD
Aroclor-1260	26	1 U	5 UD	2 UD

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for PCBs in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. D = Concentration is based on a diluted sample analysis.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 20

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
LNAPL/DNAPL ANALYTICAL RESULTS FOR DETECTED VOCs (ppm)

Constituent	MW-04 6/2/97	MW-08 9/27/96	MW-10 9/27/96	MW-10 (DUP) 9/27/96
Ethylbenzene	7,200	180 J	410	530 J
Toluene	2,200	31 U	25 U	25 UJ
Xylenes, Total	17,000	31 U	25 U	25 UJ

Notes:
1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for volatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 21

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
LNAPL/DNAPL ANALYTICAL RESULTS FOR DETECTED SVOCs (ppm)

Constituent	MW-04 6/2/97	MW-08 9/27/96	MW-10 9/27/96	MW-10 (DUP) 9/27/96
2-Methylnaphthalene	1,500 D	28 J	98 U	10 U
Acenaphthene	91 JD	1200	370	370
Acenaphthylene	150 JD	95 J	98 U	10 U
Anthracene	220 JD	500	100	100
Benzo(a)anthracene	130 JD	480 J	78 J	76 J
Benzo(a)pyrene	130 JD	550 J	72 J	71 J
Benzo(b)fluoranthene	110 JD	300 J	34 J	41 J
Benzo(g,h,i)perylene	800 U	240 J	44 J	43 J
Benzo(k)fluoranthene	180 JD	380 J	58 J	53 J
bis(2-Ethylhexyl)phthalate	800 U	98 UJ	68 J	68 J
Chrysene	200 JD	460 J	72 J	70 J
Dibenzofuran	800 U	49 J	98 U	10 U
Fluoranthene	380 JD	1100	380	380
Fluorene	180 JD	580	220	220
Indeno(1,2,3-cd)pyrene	800 U	190 J	98 U	10 U
Naphthalene	4,400 D	750	98 U	10 U
Phenanthrene	530 JD	1400	690	700
Pyrene	540 JD	1600 D	500	500

Notes:
1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for semivolatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. D = The reported concentration is the result of a diluted sample analysis.
9. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 22

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
LNAPL/DNAPL ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Constituent	MW-04 6/2/97	MW-08 9/27/96	MW-10 9/27/96	MW-10 (DUP) 9/27/96
Aluminum	2.8 B	63.3 B	4.9 U	11 B
Arsenic	0.22 U	1.8 B	1.6 B	1.2 B
Barium	0.16 B	0.65 B	0.35 U	0.58 B
Cadmium	0.04 U	0.15 B	0.1 U	0.1 U
Calcium	18.2 B	78.6 B	14.9 B	180 B
Chromium	0.23 U	0.87 B	0.3 U	0.3 U
Copper	0.19 B	1.9 B	0.98 B	1.1 B
Iron	4.7 B	80 J	4.7 BJ	156 J
Lead	122 J	0.45 U	3.5	3.1
Magnesium	5 B	20.4 B	9.7 B	22.4 B
Manganese	0.16 B	0.7 B	0.25 U	1.5 B
Nickel	0.44 B	1 U	1 U	1 U
Potassium	2.1 B	7.8 B	7.9 B	13.8 B
Selenium	0.24 B	1.2 B	1.3 B	0.78 B
Sodium	15.4 B	102 B	29.2 B	47.5 B
Vanadium	1.1 B	1.4 B	0.8 U	0.8 U
Zinc	2.5	3.1 B	3 B	3.9 B

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for TAL inorganic constituents in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. B = Indicates that the reported result was greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
9. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 23

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
LNAPL/DNAPL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS (ppm)

Constituent	MW-04 6/2/97	MW-08 9/27/96	MW-10 9/27/96	MW-10 (DUP) 9/27/96
Total Petroleum Hydrocarbons	NA	43 D	100 D	100 D
Lube Oil	620,000 D	88 UD	54 UD	54 UD
Unknown Hydrocarbon	540,000 D	43 D	100 D	100 D

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed for petroleum hydrocarbons in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per liter (mg/L).
5. Sample designations indicate the following:
   MW = Monitoring Well
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. D = The reported concentration is the result of a diluted sample analysis.
8. NA = Sample not analyzed for this constituent.
9. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 24

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
NAPL PHYSICAL CHARACTERIZATION RESULTS

Physical Parameter	MW-04	MW-08	MW-10
Mean Density (g/mL)	0.846	0.892	0.782
Viscosity (Centistokes)	3.3	5.4	1.2
Viscosity (Centipoises)	2.8	4.8	0.9
Corrected Interfacial Tension (dynes/cm)	26	26	29

Notes:
1. Samples were collected by Blasland, Bouck & Lee, Inc.
2. Samples were analyzed by Queen's University located in Kingston, Ontario, Canada.
3. Analyses were conducted at room temperature (26° Celsius ± 2° Celsius).

Table 25

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Storm Sewer Investigation
Storm Sewer Inspection Summary

Manhole/Catch Basin Identification	Construction Material and Structural Condition of the Manholes/Catch Basins	Approximate Water Depth (inches)	Description of Water	Approximate Depth of Debris (inches)	Description of Debris
CB-1	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	2	Water appears clear. No sheen observed.	10	Medium-brown silt.
CB-2	Pre-cast concrete sidewalls below brisk riser. Solid bottom, based on probing. Good condition.	3	Very slight sheen observed on water surface.	19	Dark brown/black gravel with some silt.
CB-3	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	2	Slight sheen observed on water surface.	15	Brown/black silt.
CB-4	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	0	Water encountered within the debris contained an oil film.	19	Approximately 1 inch of medium brown silt and gravel overlying black silt and gravel with petroleum-type odor. PID over sample went up to 45 ppm.
CB-5	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	15	Slight sheen observed on water surface.	10	Medium brown silt/sand.
CB-6	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	9	Slight film on water surface.	17	Medium brown silt/sand.
CB-7	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	2	No visible sheen on water surface.	10	Debris is black gravel with trace silt. Petroleum-type odor noticed.
CB-8	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	4	No visible sheen on water surface.	17	Debris is gravel with no visible staining.
CB-9 (not found)					
CB-10 (not found)					
CB-11	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	0	Not applicable.	16	Brown silt with no apparent staining.
CB-12	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	9	Oil film noticed on water surface.	6	Debris is black silt with some leaves and gravel. Noticeable petroleum-type odor in the debris.

Table 25

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Storm Sewer Investigation
Storm Sewer Inspection Summary

Manhole/Catch Basin Identification	Construction Material and Structural Condition of the Manholes/Catch Basins	Approximate Water Depth (inches)	Description of Water	Approximate Depth of Debris (inches)	Description of Debris
CB-13	Concrete riser over brick catch basin. Brick bottom. Some loose bricks/some bricks have fallen into bottom of CB-13.	0	No measureable water depth in CB-13.	2	Approximately 2 inches of debris in channel and trace debris on brick bottom. Debris is gray-brown to dark brown/black gravel with some silt. No noticeable odor.
CB-14	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	4	No apparent sheen on water surface.	2.5	Debris consists of medium brown silt and wood boards.
CB-15	Gravelly-concrete sidewalls. Concrete bottom. Good condition.	1	No apparent sheen on water surface.	9	Dark brown sand/silt and gravel.
CB-16	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	0	Not applicable.	12	Medium brown gravel and silt.
CB-17	Pre-cast concrete sidewalls. Concrete bottom. Good condition.	0	Not applicable.	16	Debris is layered: 1) Dark brown silt and gravel, over 2) black silt/sand/gravel, over 3) tan-colored silt/sand/gravel.
CB-18	Concrete block sidewalls. Solid bottom, based on probing. Good condition.	3	Pocket of green-colored liquid (like antifreeze) floating on the water surface in the north side of the catch basin.	6	Black silt with trace gravel. Oil droplets noticed in the debris. PID over debris was 1.2 ppm.
CB-19	Pre-cast concrete sidewalls. Solid bottom, based on probing. Good condition.	4	Sheen observed on water surface.	5	Dark brown silt and gravel.
MH-1	Pre-cast concrete between upper and lower rims. Brick and mortar construction below lower rim. Solid bottom, based on probing (appears to be concrete). Good condition.	6	Slight sheen on water surface after probing debris in MH-1.	4	Dark brown silt with trace gravel over black silt.
MH-2 (not found)					
MH-3	Concrete block and mortar. Concrete bottom. Good condition.	0.5	No visible sheen.	1	Brown silt/gravel.

10/22/97

Table 25

Niagara Mohawk Power Corporation
North Albany Service Center
Albany, New York

MGP/RCRA Storm Sewer Investigation
Storm Sewer Inspection Summary

Manhole/Catch Basin Identification	Construction Material and Structural Condition of the Manholes/Catch Basins	Approximate Water Depth (inches)	Description of Water	Approximate Depth of Debris (inches)	Description of Debris
MH-4 (not found)					
MH-5	Brick and mortar. Solid bottom. Good condition.	1	No visible sheen.	1	Medium brown silt and gravel.
MH-6	Possibly a combined storm and sanitary manhole. MH-6 has sanitary, septic odor and is the likely discharge location for trench drains in the vehicle maintenance building. Pre-cast concrete sidewalls. Concrete bottom. Good condition.	0, trickle flow	No visible sheen.	Trace	Medium brown silt/clay material with septic odor.
MH-7 (not inspected, on railroad/NYSDOT property)					
MH-8	Pre-cast concrete sidewalls. Solid bottom based on probing. Good condition.	2	No visible sheen.	4	Dark brown silt and gravel which does not appear to be oil-stained.

Notes:

1. Visual inspections performed by Blasland, Bouck & Lee, Inc. during dry-weather conditions on 9/26/96, 9/27/96, 9/30/96, and 10/1/96.

2. Manhole/catch basin identifications indicate the following:
   - CB = catch basin
   - MH = manhole

TABLE 26

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
DEBRIS ANALYTICAL RESULTS FOR TOTAL PCBs (ppm)

Sample ID	Total PCB Concentration
CB-2	3.8 D
CB-4	38 D
CB-7	4.3 D
DUP-4 (CB-7)	6.8 D
CB-12	3.2 D
CB-13	17 D
CB-17	0.390 DJ
CB-18	2.6 D
CB-19	0.310 D
MH-1	60 D
MH-3	11 D

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. during September & October 1996.
2. Samples analyzed using USEPA SW-846 Method 8080 as referenced in NYSDEC 1991 ASP.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   CB = Catch Basin
   MH = Manhole
   DUP = Duplicate Sample
6. D = The reported concentration is the result of a diluted sample analysis.
7. J = The concentration is an estimated result.
8. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 27

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
DEBRIS ANALYTICAL RESULTS FOR DETECTED TCL VOCs and TCL SVOCs (ppm)

Constituent	Debris Samples and Analytical Results										
	CB-2	CB-4	CB-7	DUP-4 (CB-7)	CB-12	CB-13	CB-17	CB-18	CB-19	MH-1	MH-3
Volatile Organic Compounds											
2-Butanone	0.012 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.065 UJ	0.013 UJ	0.012 UJ	3.6 U	0.058 J	2.1 U	0.014 UJ
Acetone	0.012 U	0.062 U	0.062 U	0.062 U	0.065 U	0.013 U	0.012 U	3.6 UJ	0.062 J	2.1 UJ	0.014 U
Ethylbenzene	0.006 U	0.031 U	0.054	0.09	0.015 J	0.006 U	0.006 U	8.3	0.020 J	10	0.007 U
Toluene	0.006 U	0.031 U	0.031 U	0.031 U	0.011 J	0.006 U	0.006 U	1.8 U	0.032 U	0.500 J	0.007 U
Xylenes, Total	0.006 U	0.031 U	0.031 U	0.031 U	0.032 U	0.006 U	0.006 U	3	0.023 J	3.8	0.007 U
Tentatively Identified Compounds	0.011 J	2.24 J	0.156 J	0.242 J	0.131 J	0.027 J	0.087 J	215 J	2.25 J	190.8 J	0.335 J
Semivolatile Organic Compounds											
2-Methylnaphthalene	0.410 U	0.410 U	0.410 U	0.420 U	2.1 U	0.430 U	0.400 U	4.4 J	0.140 J	410	1.9 J
Acenaphthene	0.410 U	0.410 U	0.410 U	0.100 J	5.8	0.120 J	0.400 U	44 J	1.5	370	3.5
Acenaphthylene	0.410 U	0.410 U	0.410 U	0.098 J	2.1 U	0.450	0.140 J	10 J	0.250 J	20 J	1.7 J
Anthracene	0.072 J	0.120 J	0.100 J	0.410 J	12	0.320 J	0.270 J	23 J	0.970 J	180	9.8
Benzo(a)anthracene	0.140 J	0.410	0.360 J	1.4 J	18 J	1.5	0.670	20 J	1 J	110	24 J
Benzo(a)pyrene	0.140 J	0.430	0.440 J	1.5	16 J	2	0.700	24 J	1.3	84	23
Benzo(b)fluoranthene	0.180 J	0.380 J	0.440 J	1.5	20 J	1.3	0.650	14 J	0.780	32	15
Benzo(g,h,i)perylene	0.410 UJ	0.300 J	0.390 J	1.3	12 J	1.1	0.600	23 J	1.3	30	15
Benzo(k)fluoranthene	0.140 J	0.440	0.490 J	1.4	12 J	1.4	0.720	21 J	1	49	17
bis(2-Ethylhexyl)phthalate	1.1 J	0.620 J	1.8 J	3.5 J	10 J	0.400 J	2 J	7.7 J	0.680 J	27 U	7.1 J
Butyl benzyl phthalate	0.098 J	0.410 U	0.089 J	0.180 J	2.1 U	0.430 U	1.5 J	13 UJ	0.430 UJ	27 U	2.3 UJ
Carbazole	0.410 U	0.120 J	0.058 J	0.310 J	8.1	0.150 J	0.110 J	13 UJ	0.430 UJ	27 U	5.7
Chrysene	0.220 J	0.510	0.550 J	1.9 J	23 J	1.8	0.890	23 J	1.2 J	100	25 J
Di-n-butyl phthalate	0.410 U	0.410 U	0.120 J	0.420 U	2.1 U	0.430 U	0.110 J	13 UJ	0.430 UJ	27 U	2.3 U
Di-n-octyl phthalate	0.120 J	0.410 U	0.210 J	0.380 J	10 J	0.430 U	0.340 J	2.2J	0.120 J	27 U	0.660 J
Dibenzo(a,h)anthracene	0.410 UJ	0.410 U	0.410 UJ	0.420 U	2.1 UJ	0.430 U	0.400 U	3.2 J	0.430 U	9.3 J	2.3 U
Dibenzofuran	0.410 U	0.410 U	0.410 U	0.420 U	3.4	0.430 U	0.400 U	13 UJ	0.430 U	24 J	3.5
Fluoranthene	0.290 J	0.820	0.620	2.8	65 D	2.2	1.4	67 J	3.4 J	210	54 D
Fluorene	0.410 U	0.410 U	0.410 U	0.160 J	6.4	0.200 J	0.085 J	27 J	0.600	270	5.4
Indeno(1,2,3-cd)pyrene	0.410 UJ	0.300 J	0.310 J	1.2	10J	1.2	0.520	17 J	0.950	26J	14
Naphthalene	0.410 U	0.410 U	0.410 U	0.630	2.1 U	0.092 J	0.400 U	110 J	0.380 J	440	5.5
Phenanthrene	0.240 J	0.470	0.420	1.6	63 D	1.5	0.790	83 J	2.8 J	970 D	62 D
Pyrene	0.380 J	0.760	0.860 J	2.6 J	79 DJ	2.6	1.4	90 J	5.2 J	340	86JD
Tentatively Identified Compounds	44.15 J	41.6 J	15.18 J	74.6 J	107.1 J	25.47 J	24.18 J	2,054 J	195 J	2,186 J	64.8 J

*See Notes on Page 2

TABLE 27

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
DEBRIS ANALYTICAL RESULTS FOR DETECTED TCL VOCs and TCL SVOCs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. during September & October 1996.
2. Samples were analyzed for TCL volatile organic compounds and semivolatile organic compounds in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. (Galson) located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   CB = Catch Basin
   MH = Manhole
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. D = The reported concentration is the result of a diluted sample analysis.
8. J = The concentration is an estimated result.
9. Analytical results were validated by Blasland, Bouck & Lee, Inc.

TABLE 28

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

MGP/RCRA INVESTIGATION
DEBRIS ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

	Debris Samples and Analytical Results										
Constituent	CB-2	CB-4	CB-7	DUP-4 (CB-7)	CB-12	CB-13	CB-17	CB-18	CB-19	MH-1	MH-3
Aluminum	3,250	5,430	4,040	6,530	4,960	5,740	5,760	6,220	5,040	5,800	5,860
Arsenic	3.5	3	3.8	4.8	5.6	5.9	5.3	5.6	4	18.9	9.5
Barium	31.3	34.9	33.6	61.5	72.3	43.7	407	109	33	87.5	175
Beryllium	0.25 B	0.24 B	0.28 B	0.45 B	0.36 B	0.35 B	0.37 B	0.38 B	0.28 B	0.54 B	0.47 B
Cadmium	0.92	1.2	1.1	1.4	2.3	1.5	4.5	3.1	1.9	11.3	9.3
Calcium	54,600	47,300	77,400	67,000	52,400	38,400	79,400	39,100	62,900	27,500	32,200
Chromium	16.8	50.7	25.2	30.4	14.5	51	47.3	24.9	10.2	46.3	138
Cobalt	3.5 B	4.6 B	4.1 B	6.9	5.4 B	5.9 B	5.7 B	5.7 B	5.1 B	7.6 B	8.5
Copper	18.9 J	43.9 J	21.3 J	28.1 J	42.2 J	41.5 J	40.1 J	87.6 J	177 J	806 J	471 J
Cyanide, Total	0.54 U	0.57 U	0.56 U	0.57 U	0.55 U	0.58 U	0.57 U	0.72 U	0.6 U	0.78 U	3.2
Iron	18,100	18,100	15,500	19,100	24,600	24,900	15,200	17,100	17,800	48,700	31,700
Lead	83.9	216	162	104	75.7	541	167	76.5	29.1	521	540
Magnesium	16,900	6,060	17,400	15,900	10,200	9,220	32,000	9,900	8,210	13,800	7,140
Manganese	288	284	238	671	283	290	415	284	504	335	1360
Mercury	0.06 BJ	0.2 J	0.06 UJ	0.06 UJ	0.13 J	7 J	0.28 J	0.08 BJ	0.12 BJ	2.4 J	1.6 J
Nickel	10.1	17.7	12.7	19.3	15.1	16.4	17.8	21.1	15.7	22.2	30.4
Potassium	390 B	475 B	639	625 B	1,020	794	800	1,850	651	878	0
Selenium	0.52 B	0.5 U	0.5 U	0.56 B	0.51 U	0.53 U	0.5 U	1.1	0.54 B	1.7	1.2
Silver	0.37 U	0.37 U	0.37 U	0.38 U	0.39 U	2.3	7.2	0.44 U	0.69 B	0.5 U	102
Sodium	113 B	142 B	274 B	330 B	216 B	139 B	212 B	383 B	89.2 B	595 B	226 B
Thallium	0.5 U	0.5 U	0.5 U	0.25 U	0.51 U	0.53 U	0.5 U	0.58 U	0.52 U	1.3 U	0.55 U
Vanadium	10.2	12.9	13.9	18	17.5	15.2	20.9	39.1	11.1	22.1	53.3
Zinc	223	501	535	813	273	375	401	283	232	2,090	913

* See Notes on Page 2

TABLE 28

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK

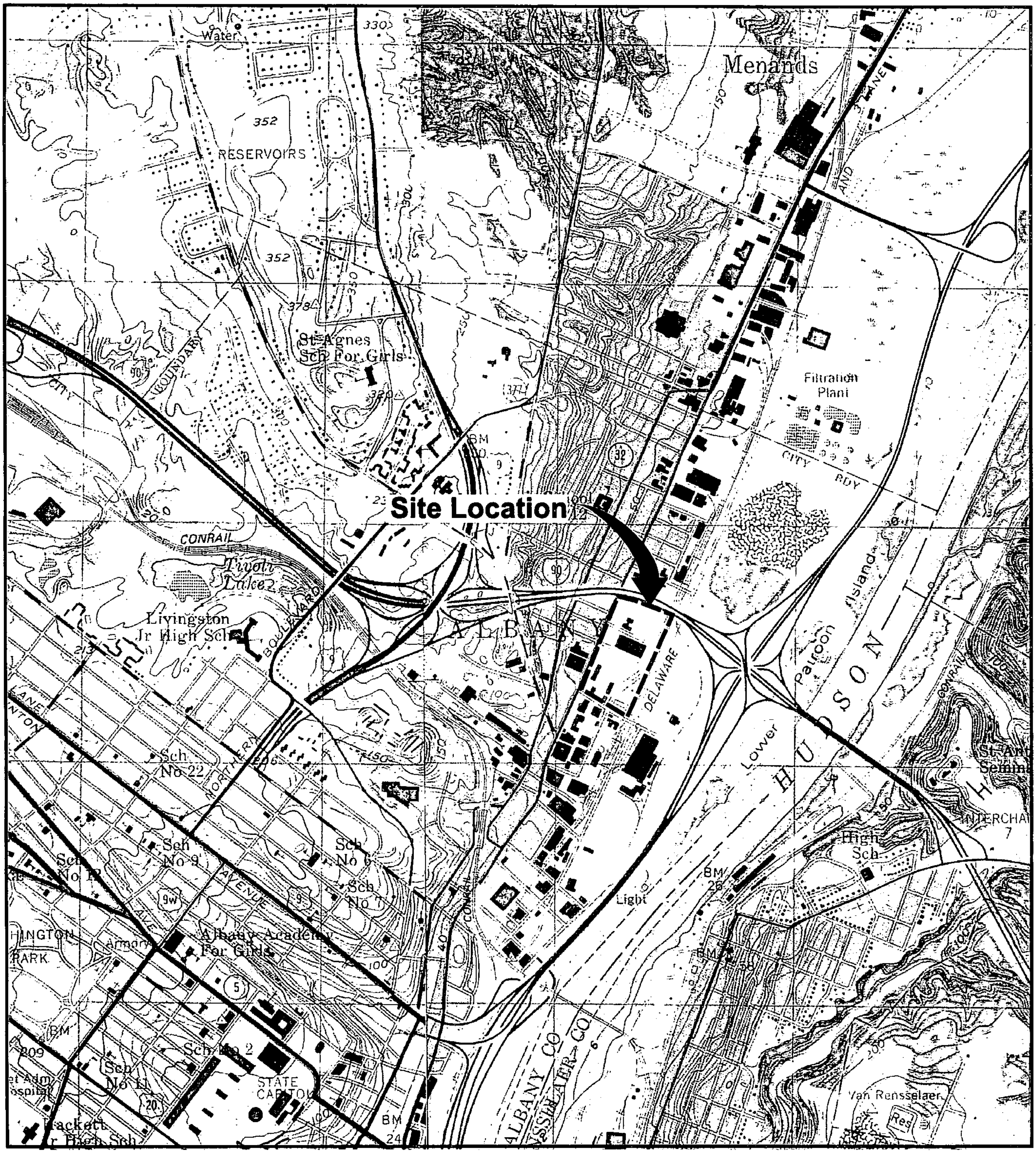
MGP/RCRA INVESTIGATION
DEBRIS ANALYTICAL RESULTS FOR TAL INORGANIC CONSTITUENTS (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. during September & October 1996.
2. Samples were analyzed for TAL inorganic constituents in accordance with NYSDEC 1991 ASP methods.
3. Laboratory analysis was conducted by Galson Laboratories, Inc. located in Syracuse, NY.
4. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
5. Sample designations indicate the following:
   CB = Catch Basin
   MH = Manhole
   DUP = Duplicate Sample
6. U = Indicates that the constituent was not detected.
7. J = The concentration is an estimated value.
8. B = Indicates that the reported result was greater than or equal to the instrument detection limit but less than the contract-required detection limit.
9. Analytical results were validated by Blasland, Bouck & Lee, Inc.

Figures

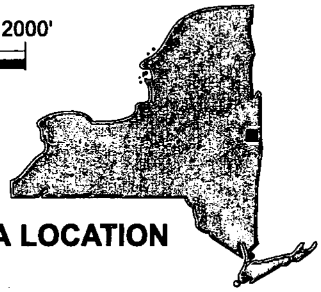
BLASLAND, BOUCK & LEE, INC.
engineers & scientists



REFERENCE: BASE MAP USGS QUADS., ALBANY, NEW YORK, 1980 AND TROY SOUTH, NEW YORK, 1980

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

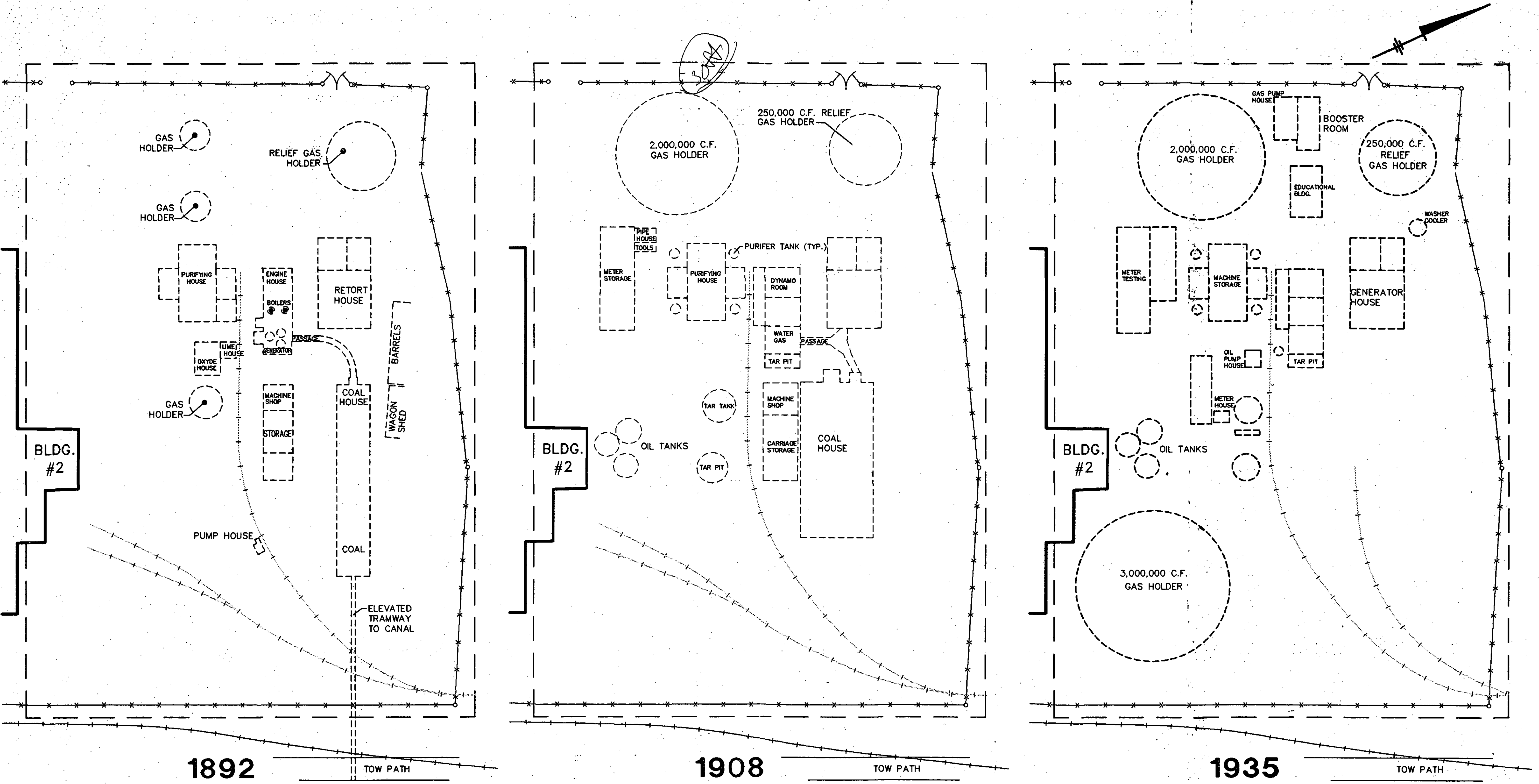
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SITE LOCATION MAP

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

FIGURE
1

10/97 SYR-D54-DJH
38469009/38469n01.cdr



NOTES:

1. BUILDING 2 AND EXISTING FENCE LOCATION DIGITIZED FROM NIAGARA MOHAWK POWER CORPORATION DRAWING NO. D–24687–E, FILE NO. INDEX 20.3–A1.1–B2, DATED 10/29/85.
2. HISTORIC STRUCTURE LOCATIONS ARE BASED ON ENGINEERING–SCIENCE FIGURE NO. 3.2, "MGP SITE PLAN" AND HISTORICAL MAPS INCLUDING SANBORN FIRE INSURANCE MAPS. SITE FEATURE LOCATIONS ARE APPROXIMATE.
3. LOCATION OF FACILITY SHOWN ON FIGURE 2.
4. C.F. = CUBIC FEET

LEGEND

—×—×—×— FENCE
—+—+—+— EXISTING RAILROAD
·····+·····+····· FORMER RAILROAD

100' 0 100'

SCALE: 1" = 100'

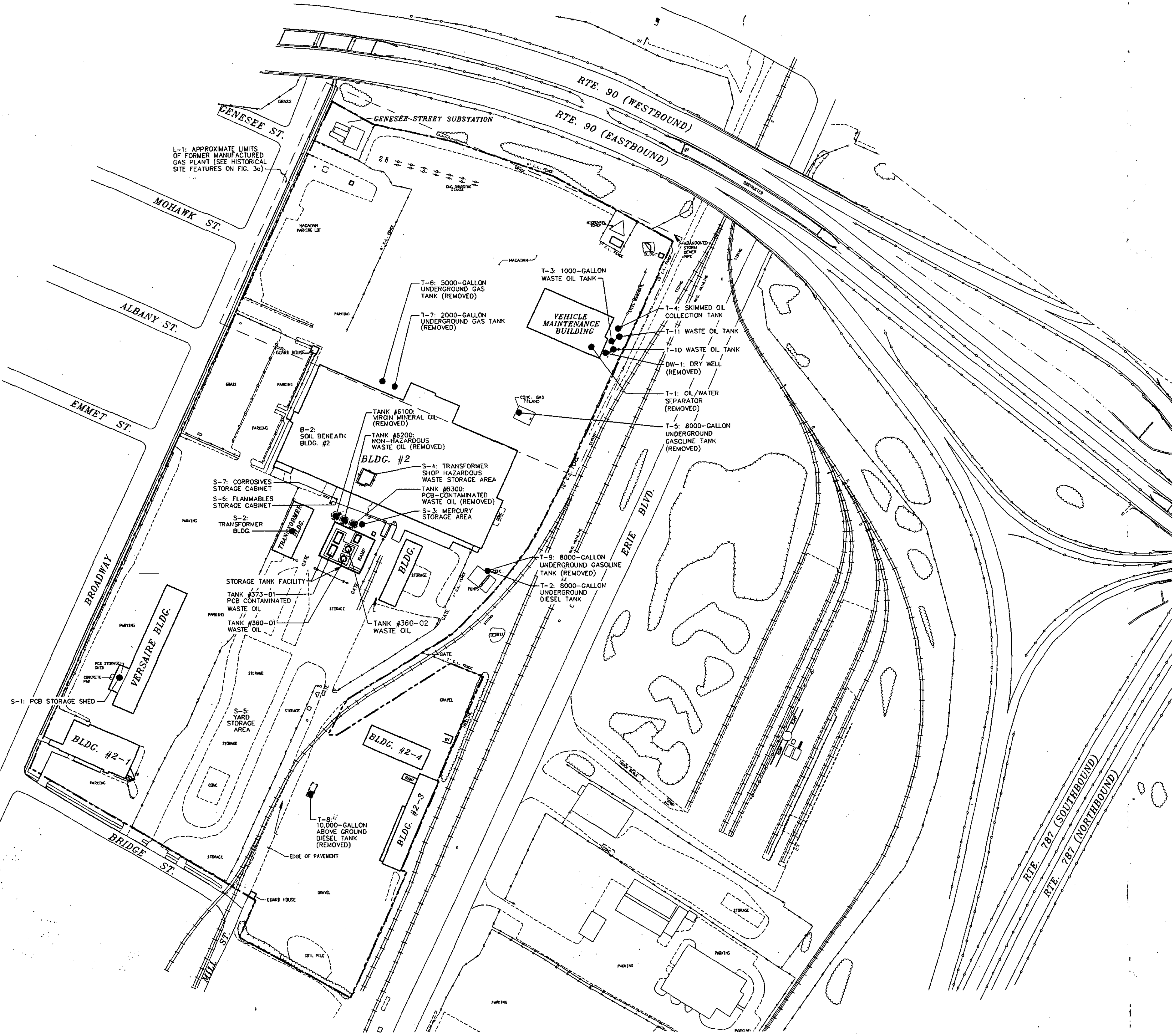
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

HISTORICAL SITE FEATURES

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

FIGURE
3a

10/28/97 SYR–54–AK,RCB,PGL,DMW
36469009/36469G04.DWG LAYERS OFF: REF,BO*,P*,TE,WE,FENCE,SS,TXTT,TXTS,



LEGEND

———	FENCE
╪╪╪╪	EXISTING RAILROAD
— - —	APPROXIMATE PROPERTY LINE
○—○	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.

0 100' 200'
APPROXIMATE SCALE

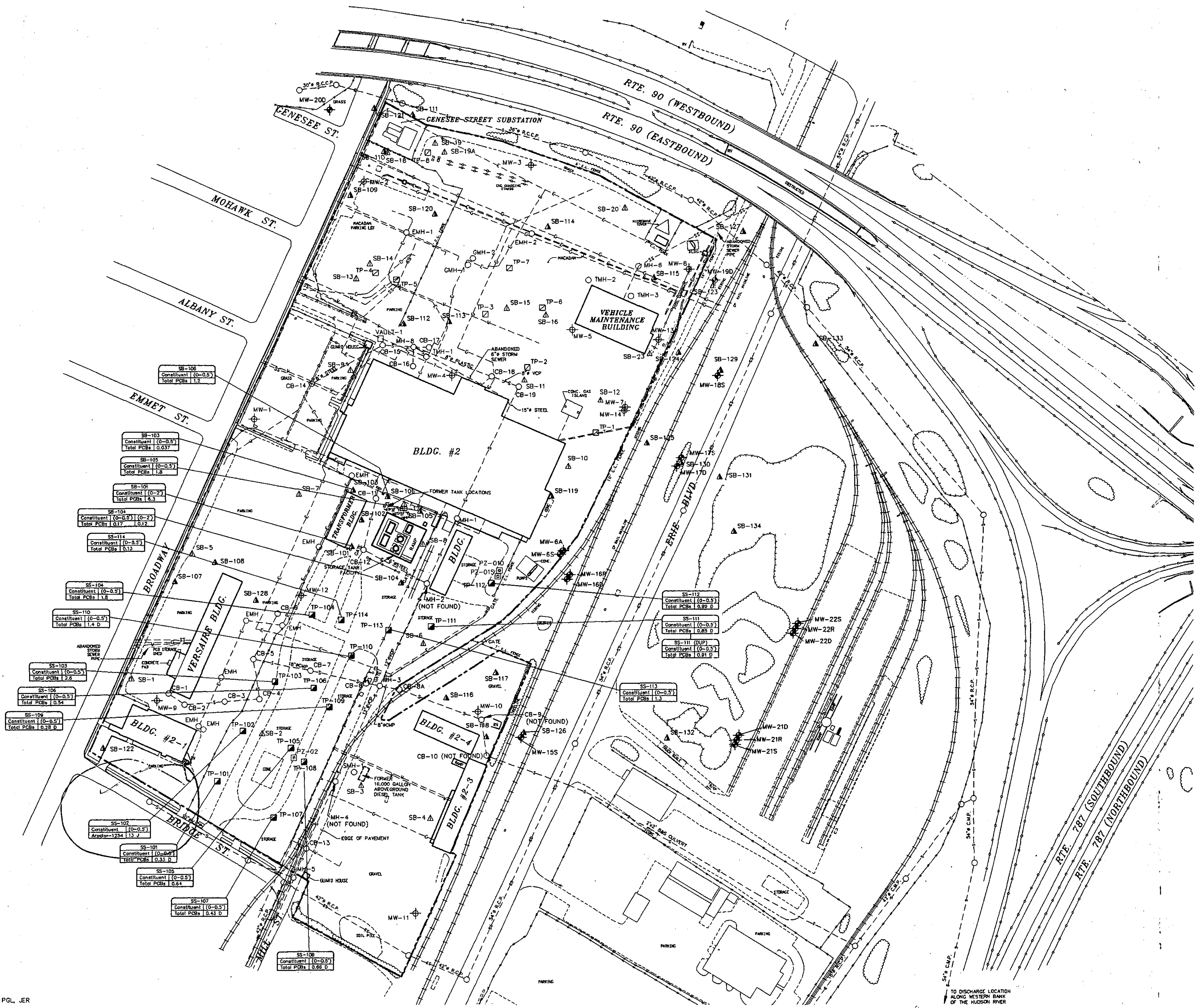
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION & REMEDIAL MEASURES EVALUATION

SWMU LOCATIONS

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

FIGURE
3b

P: NINA/D OR D2BX.PCP
X: 36469S19.DWG
10/28/97 SYR-54-RCB, DMW
36469009/36469S28.DWG



SB-106

Constituent	(0-0.5')
Total PCBs	1.2

SB-103

Constituent	(0-0.5')
Total PCBs	0.037

SB-105

Constituent	(0-0.5')
Total PCBs	1.8

SB-101

Constituent	(0-2')
Total PCBs	6.3

SB-104

Constituent	(0-0.5')	(0-2')
Total PCBs	0.17	0.12

SS-114

Constituent	(0-0.5')
Total PCBs	0.13

SS-104

Constituent	(0-0.5')
Total PCBs	1.8

SS-110

Constituent	(0-0.5')
Total PCBs	1.4 D

SS-103

Constituent	(0-0.5')
Total PCBs	2.6

SS-106

Constituent	(0-0.5')
Total PCBs	0.54

SS-109

Constituent	(0-0.5')
Total PCBs	0.28 D

SS-102

Constituent	(0-0.5')
Aroclor-1254	13 J

SS-101

Constituent	(0-0.5')
Total PCBs	0.33 D

SS-105

Constituent	(0-0.5')
Total PCBs	0.64

SS-107

Constituent	(0-0.5')
Total PCBs	0.43 D

SS-108

Constituent	(0-0.5')
Total PCBs	0.66 D

SS-112

Constituent	(0-0.5')
Total PCBs	0.99 D

SS-111

Constituent	(0-0.5')
Total PCBs	0.85 D

SS-111 (DUP)

Constituent	(0-0.5')
Total PCBs	0.91 D

SS-113

Constituent	(0-0.5')
Total PCBs	1.3

LEGEND

—×—×—	FENCE
╪╪╪	EXISTING RAILROAD
— - — -	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —s— —	STORM SEWER
— —ss— —	SANITARY SEWER
— —t— —	TELEPHONE LINE
— —e— —	ELECTRICAL LINE
— —g— —	GAS LINE
— —w— —	WATER LINE
— —c— —	CABLE LINE
○——○	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. D – CONCENTRATION IS THE RESULT OF A DILUTED SAMPLE ANALYSIS.

0 100' 200'
APPROXIMATE SCALE

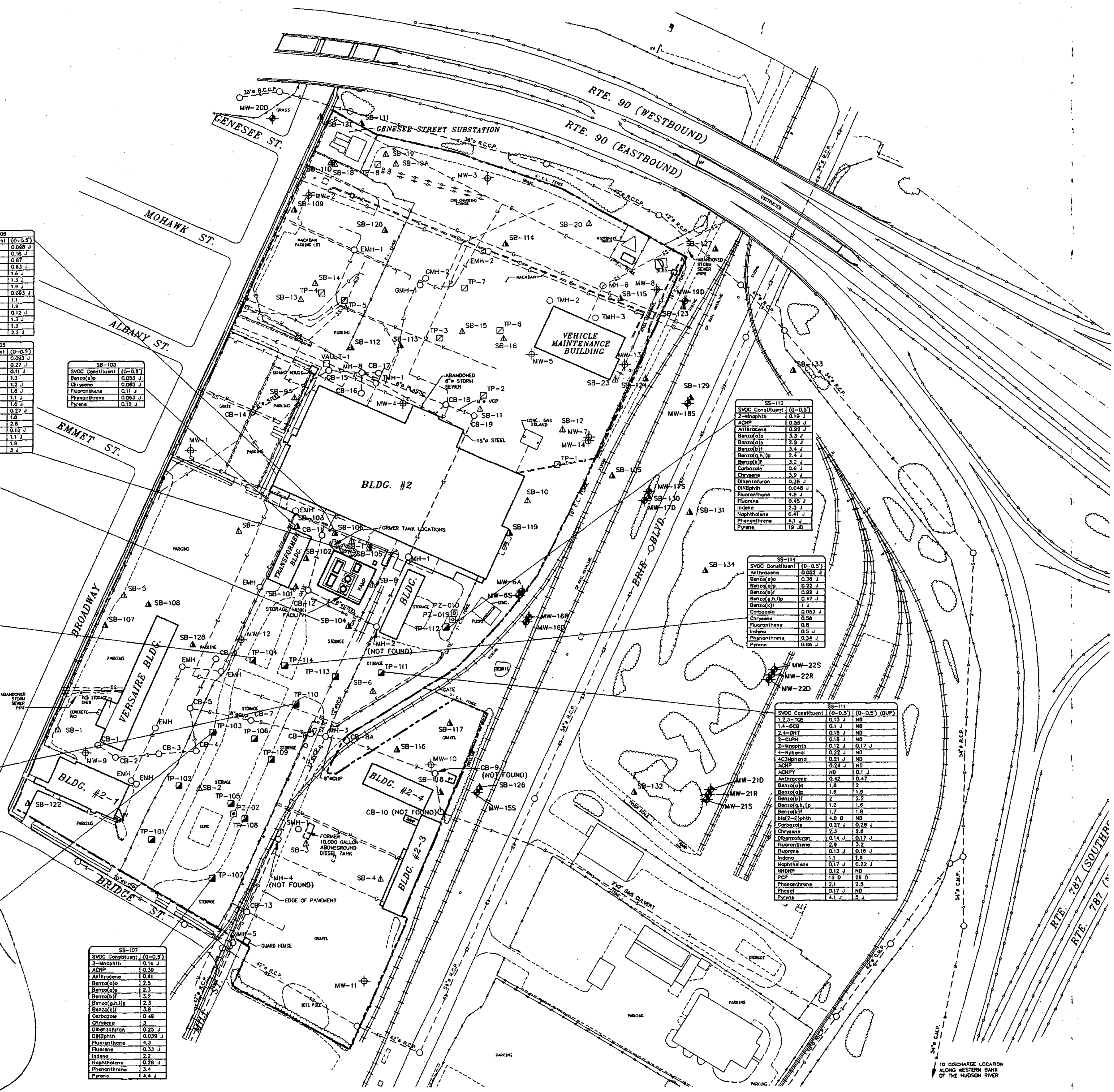
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SURFACE SOIL SAMPLING RESULTS
DETECTED PCBs (ppm)

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

FIGURE
4

SS_PCB.TXT
P: NINA/D OR D2BX.PCP
X: 36469S19.DWG
10/21/97 SYR-54-RCB, PGL, JER
36469D09/36469S15.DWG



SB-108

SVOC Constituent	(0-0.5')
ACNP	0.098 J
Anthracene	0.16 J
Benzo(a)a	0.87
Benzo(a)p	0.63 J
Benzo(b)f	1.6 J
Benzo(g,h,i)p	1.3 J
Benzo(k)f	1.9 J
Carbazole	0.093 J
Chrysene	1.1
Fluoranthene	1.9
Fluorene	0.12 J
Indeno	1.3 J
Phenanthrene	1.3
Pyrene	2.2 J

SB-105

SVOC Constituent	(0-0.5')
ACNP	0.093 J
Anthracene	0.27 J
BBphth	0.11 J
Benzo(a)a	1.3
Benzo(a)p	1.2 J
Benzo(b)f	1.6 J
Benzo(g,h,i)p	1.1 J
Benzo(k)f	1.6 J
Carbazole	0.27 J
Chrysene	1.6
Fluoranthene	2.8
Fluorene	0.12 J
Indeno	1.1 J
Phenanthrene	1.9
Pyrene	3 J

SB-103

SVOC Constituent	(0-0.5')
Benzo(a)p	0.053 J
Chrysene	0.065 J
Fluoranthene	0.11 J
Phenanthrene	0.063 J
Pyrene	0.12 J

SB-104

VOC Constituent	(0-2')
Benzene	0.026 J
DCM	0.007 J
Ethylbenzene	0.005 J
Toluene	0.022 J
Vinyl acetate	R
SVOC Constituent	(0-2')
2-Mnaphth	0.24 J
ACNPY	0.077 J
Anthracene	0.16 J
BBphth	0.21 J
Benzo(a)a	0.43
Benzo(a)p	0.48 J
Benzo(b)f	1 J
Benzo(g,h,i)p	0.82 J
Benzo(k)f	0.7 J
Carbazole	0.068 J
Chrysene	0.81
Dibenzofuran	0.14 J
Fluoranthene	0.81
Indeno	0.66 J
Naphthalene	1.1
PCP	2.2
Phesanthrene	0.68
Pyrene	1.2

SS-104

SVOC Constituent	(0-0.5')
2-Mnaphth	0.087 J
ACNP	0.22 J
Anthracene	0.5
Benzo(a)a	2.2
Benzo(a)p	2.4
Benzo(b)f	3.1
Benzo(g,h,i)p	1.8
Benzo(k)f	2.3
Carbazole	0.46
Chrysene	3
Dibenzofuran	0.15 J
DINBphth	0.12 J
Fluoranthene	4.4
Fluorene	0.22 J
Indeno	1.8
Naphthalene	0.12 J
Phenanthrene	3
Pyrene	4.9 J

SS-110

SVOC Constituent	(0-0.5')
2-Mnaphth	0.15 J
ACNP	0.49
ACNPY	0.062 J
Anthracene	1
Benzo(a)a	3.2
Benzo(a)p	3.4
Benzo(b)f	2.9
Benzo(g,h,i)p	3
Benzo(k)f	3
Carbazole	0.38
Chrysene	3.4
Dibenzofuran	0.28 J
Fluoranthene	5.5
Fluorene	0.39
Indeno	2.6
Naphthalene	0.2 J
PCP	0.17 J
Phenanthrene	5
Pyrene	11 DJ

SS-103

SVOC Constituent	(0-0.5')
ACNP	2.1
Anthracene	5.6
Benzo(a)a	27
Benzo(a)p	38 D
Benzo(b)f	35 D
Benzo(g,h,i)p	20
Benzo(k)f	27
Carbazole	3.4
Chrysene	28
Dibenzofuran	0.83 J
Fluoranthene	64 D
Fluorene	1.8
Indeno	19
Naphthalene	0.47 J
Phenanthrene	24
Pyrene	55 JD

SS-107

SVOC Constituent	(0-0.5')
2-Mnaphth	0.14 J
ACNP	0.39
Anthracene	0.61
Benzo(a)a	2.5
Benzo(a)p	2.3
Benzo(b)f	3.2
Benzo(g,h,i)p	2.3
Benzo(k)f	3.8
Carbazole	0.48
Chrysene	3
Dibenzofuran	0.25 J
DINBphth	0.039 J
Fluoranthene	4.3
Fluorene	0.33 J
Indeno	2.2
Naphthalene	0.28 J
Phenanthrene	3.4
Pyrene	4.4 J

SS-112

SVOC Constituent	(0-0.5')
2-Mnaphth	0.19 J
ACNP	0.55 J
Anthracene	0.92 J
Benzo(a)a	3.3 J
Benzo(a)p	2.9 J
Benzo(b)f	3.4 J
Benzo(g,h,i)p	2.4 J
Benzo(k)f	3.2 J
Carbazole	0.6 J
Chrysene	3.9 J
Dibenzofuran	0.36 J
DINBphth	0.048 J
Fluoranthene	4.8 J
Fluorene	0.45 J
Indeno	2.3 J
Naphthalene	0.41 J
Phenanthrene	4.1 J
Pyrene	19 JD

SS-114

SVOC Constituent	(0-0.5')
Anthracene	0.052 J
Benzo(a)a	0.36 J
Benzo(a)p	0.22 J
Benzo(b)f	0.82 J
Benzo(g,h,i)p	0.47 J
Benzo(k)f	1 J
Carbazole	0.053 J
Chrysene	0.58
Fluoranthene	0.8
Indeno	0.5 J
Phenanthrene	0.34 J
Pyrene	0.86 J

SS-111

SVOC Constituent	(0-0.5')	(0-0.5') (DUP)
1,2,3-TCB	0.13 J	ND
1,4-DCB	0.1 J	ND
2,4-DNT	0.15 J	ND
2-CLPH	0.18 J	ND
2-Mnaphth	0.12 J	0.17 J
4-Nphenol	0.22 J	ND
4C3Mphenol	0.21 J	ND
ACNP	0.24 J	ND
ACNPY	ND	0.1 J
Anthracene	0.42	0.47
Benzo(a)a	1.6	2
Benzo(a)p	1.6	1.9
Benzo(b)f	2	2.2
Benzo(g,h,i)p	1.2	1.6
Benzo(k)f	1.7	1.8
bis(2-E)phth	4.6 B	ND
Carbazole	0.27 J	0.26 J
Chrysene	2.3	2.6
Dibenzofuran	0.14 J	0.17 J
Fluoranthene	2.9	3.2
Fluorene	0.13 J	0.16 J
Indeno	1.1	1.6
Naphthalene	0.17 J	0.22 J
NNDNP	0.12 J	ND
PCP	16 D	26 D
Phenanthrene	2.1	2.5
Phenol	0.17 J	ND
Pyrene	4.1 J	5 J

LEGEND

FENCE
EXISTING RAILROAD
APPROXIMATE PROPERTY LINE
MW-15S MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126 MGP/RCRA SOIL BORING LOCATION
TP-105 MGP/RCRA TEST PIT LOCATION
PZ-01S MGP/RCRA PIEZOMETER
MW-11 PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4 PSA/IRM SOIL BORING LOCATION
TP-3 PSA/IRM TEST PIT LOCATION
○ CB-2 EXISTING CATCH BASIN
○ MH-1 EXISTING STORM SEWER MANHOLE
○ EMH-1 EXISTING ELECTRICAL MANHOLE
○ TMH-1 EXISTING TELEPHONE MANHOLE
○ GMH-1 EXISTING UTILITY MANHOLE
—s— STORM SEWER
—ss— SANITARY SEWER
—T— TELEPHONE LINE
—E— ELECTRICAL LINE
—G— GAS LINE
—W— WATER LINE
—C— CABLE LINE
GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. SAMPLE SB-104 (0-2') WAS THE ONLY SURFACE SOIL SAMPLE ANALYZED FOR VOCs.
4. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK. ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
   D – CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   R – THE SAMPLE RESULTS ARE REJECTED.
   ND – NOT DETECTED.
5.

1,2,4-TCB	1,2,4-Trichlorobenzene
1,4-DCB	1,4-Dichlorobenzene
2,4-DNT	2,4-Dinitrotoluene
2-CLPH	2-Chlorophenol
2-Mnaphth	2-Methylnaphthalene
4-Nphenol	4-Nitrophenol
4C3Mphenol	4-Chloro-3-methylphenol
ACNP	Acenaphthene
ACNPY	Acenaphthylene
BBphth	Butyl benzyl phthalate
Benzo(a)a	Benzo(a)anthracene
Benzo(a)p	Benzo(a)pyrene
Benzo(b)f	Benzo(b)fluoranthene
Benzo(g,h,i)p	Benzo(g,h,i)perylene
Benzo(k)f	Benzo(k)fluoranthene
bis(2-E)phth	Bis(2-ethylhexyl)phthalate
DCM	Methylene chloride
Dibenzo(a,h)a	Dibenzo(a,h)anthracene
DINBphth	Di-n-butyl phthalate
Indeno	Indeno(1,2,3-cd)pyrene
NNDNP	N-Nitroso-di-n-propylamine
PCP	Pentachlorophenol

0 100' 200'
APPROXIMATE SCALE

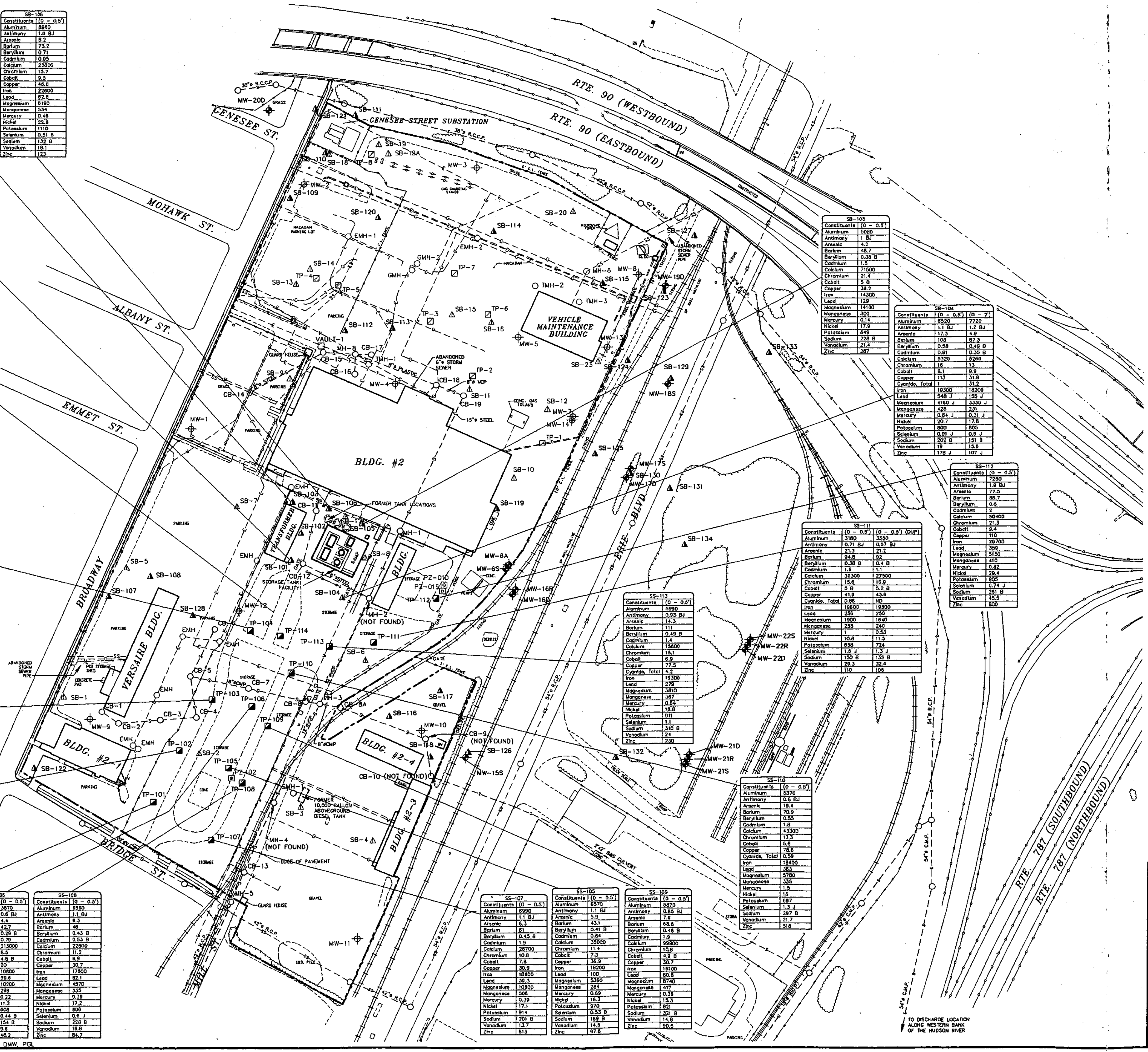
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION & REMEDIAL MEASURES EVALUATION

SURFACE SOIL SAMPLING RESULTS DETECTED VOCs AND SVOCs (ppm)

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

FIGURE
5

SS_O.TXT
P: NINA/D OR D2BX.PCP
X: 36469S19.DWG
10/27/97 SYR-54-RCB, PGL, JER, DNW
36469D09/36469S17.DWG



SB-103	
Constituents	(0 - 0.5')
Aluminum	2780
Antimony	0.73 BJ
Arsenic	5.6
Barium	29
Beryllium	0.24 B
Cadmium	0.29 B
Calcium	259000
Chromium	6
Cobalt	3.2 B
Copper	8.5
Iron	8040
Lead	5.2
Magnesium	8050
Manganese	149
Mercury	0.07 B
Nickel	8.1
Potassium	537 B
Sodium	230 B
Vanadium	4.5 B
Zinc	28.1

SB-106	
Constituents	(0 - 0.5')
Aluminum	8960
Antimony	1.6 BJ
Arsenic	8.2
Barium	73.2
Beryllium	0.71
Cadmium	0.85
Calcium	23000
Chromium	15.7
Cobalt	9.5
Copper	46.8
Iron	22600
Lead	62.8
Magnesium	6190
Manganese	534
Mercury	0.46
Nickel	22.8
Potassium	1110
Selenium	0.51 B
Sodium	132 B
Vanadium	18.1
Zinc	123

SB-101	
Constituents	(0 - 2')
Aluminum	3680
Arsenic	13.1
Barium	81.7
Beryllium	0.27 B
Cadmium	0.43 B
Calcium	11200
Chromium	13.5
Cobalt	5.6 B
Copper	63
Cyanide, Total	13.4
Iron	21300
Lead	172 J
Magnesium	1950 J
Manganese	124
Mercury	0.69 J
Nickel	11.7
Potassium	979
Selenium	0.77 J
Sodium	164 B
Vanadium	24.4
Zinc	53.3 J

SS-114	
Constituents	(0 - 0.5')
Aluminum	5920
Antimony	1.3 BJ
Arsenic	8.3
Barium	133
Beryllium	0.52 B
Cadmium	1.6
Calcium	52800
Chromium	14.9
Cobalt	6.6
Copper	43.4
Iron	18800
Lead	240
Magnesium	4700
Manganese	344
Mercury	0.34
Nickel	16.8
Potassium	798
Selenium	0.82
Sodium	294 B
Vanadium	16.1
Zinc	433

SS-104	
Constituents	(0 - 0.5')
Aluminum	4410
Antimony	1.6 BJ
Arsenic	13.4
Barium	128
Beryllium	0.43 B
Cadmium	2.6
Calcium	89100
Chromium	11.6
Cobalt	6.1 B
Copper	207
Iron	14400
Lead	392
Magnesium	4820
Manganese	189
Mercury	0.42
Nickel	18.2
Potassium	611
Selenium	1.2
Sodium	240 B
Vanadium	24.8
Zinc	489

SS-103	
Constituents	(0 - 0.5')
Aluminum	3800
Antimony	0.65 BJ
Arsenic	6.7
Barium	48.2
Beryllium	0.42 B
Cadmium	0.57
Calcium	177000
Chromium	8.1
Cobalt	4.2 B
Copper	14.7
Iron	10500
Lead	28.5
Magnesium	21400
Manganese	272
Mercury	0.09 B
Nickel	11.7
Potassium	692
Sodium	296 B
Vanadium	10
Zinc	68

SS-102	
Constituents	(0 - 0.5')
Aluminum	3630
Antimony	1 BJ
Arsenic	8
Barium	72
Beryllium	0.4 B
Cadmium	0.64
Calcium	196000
Chromium	8.2
Cobalt	4.8 B
Copper	25.6
Iron	11300
Lead	53.1
Magnesium	10400
Manganese	189
Mercury	0.22
Nickel	12.9
Potassium	675
Selenium	0.98
Sodium	204 B
Vanadium	16.2
Zinc	83.3

SS-101	
Constituents	(0 - 0.5')
Aluminum	4680
Antimony	1 BJ
Arsenic	8
Barium	80.5
Beryllium	0.4 B
Cadmium	0.55
Calcium	91600
Chromium	9.1
Cobalt	6.1
Copper	89.4
Iron	14900
Lead	52
Magnesium	25200
Manganese	265
Mercury	0.46
Nickel	14.8
Potassium	848
Sodium	206 B
Vanadium	12.6
Zinc	122

SS-106	
Constituents	(0 - 0.5')
Aluminum	3870
Antimony	0.6 BJ
Arsenic	4.4
Barium	42.7
Beryllium	0.29 B
Cadmium	0.79
Calcium	213000
Chromium	6.5
Cobalt	4.8 B
Copper	20
Iron	10800
Lead	59.6
Magnesium	10200
Manganese	298
Mercury	0.22
Nickel	11.2
Potassium	608
Selenium	0.44 B
Sodium	154 B
Vanadium	9.6
Zinc	46.2

SS-108	
Constituents	(0 - 0.5')
Aluminum	6580
Antimony	1.1 BJ
Arsenic	6.3
Barium	46
Beryllium	0.43 B
Cadmium	0.53 B
Calcium	22600
Chromium	11.2
Cobalt	6.9
Copper	30.7
Iron	17600
Lead	82.1
Magnesium	4570
Manganese	335
Mercury	0.39
Nickel	17.2
Potassium	506
Selenium	0.6 J
Sodium	228 B
Vanadium	16.8
Zinc	84.7

SS-107	
Constituents	(0 - 0.5')
Aluminum	6990
Antimony	1.1 BJ
Arsenic	6.3
Barium	61
Beryllium	0.45 B
Cadmium	1.9
Calcium	28700
Chromium	10.8
Cobalt	7.8
Copper	30.9
Iron	18800
Lead	39.3
Magnesium	10800
Manganese	506
Mercury	0.39
Nickel	17.1
Potassium	914
Sodium	201 B
Vanadium	13.7
Zinc	613

SS-105	
Constituents	(0 - 0.5')
Aluminum	6570
Antimony	1.1 BJ
Arsenic	5.9
Barium	43.1
Beryllium	0.41 B
Cadmium	0.64
Calcium	35000
Chromium	11.4
Cobalt	7.3
Copper	36.9
Iron	18200
Lead	100
Magnesium	5360
Manganese	284
Mercury	0.69
Nickel	16.3
Potassium	970
Selenium	0.53 B
Sodium	169 B
Vanadium	14.8
Zinc	97.6

SS-109	
Constituents	(0 - 0.5')
Aluminum	5870
Antimony	0.85 BJ
Arsenic	7.9
Barium	68.8
Beryllium	0.48 B
Cadmium	1.9
Calcium	99900
Chromium	10.6
Cobalt	4.9 B
Copper	30.7
Iron	16100
Lead	60.8
Magnesium	8740
Manganese	417
Mercury	0.36
Nickel	15.3
Potassium	821
Sodium	321 B
Vanadium	14.8
Zinc	90.5

SS-113	
Constituents	(0 - 0.5')
Aluminum	5990
Antimony	0.93 BJ
Arsenic	14.3
Barium	111
Beryllium	0.49 B
Cadmium	1.4
Calcium	15600
Chromium	15.1
Cobalt	6.9
Copper	77.5
Cyanide, Total	4.2
Iron	19300
Lead	279
Magnesium	3810
Manganese	367
Mercury	0.64
Nickel	18.8
Potassium	911
Selenium	1.1
Sodium	310 B
Vanadium	24
Zinc	230

SS-110	
Constituents	(0 - 0.5')
Aluminum	5370
Antimony	0.6 BJ
Arsenic	19.4
Barium	70.9
Beryllium	0.55
Cadmium	1.8
Calcium	43300
Chromium	13.3
Cobalt	5.6
Copper	78.6
Cyanide, Total	0.59
Iron	18400
Lead	383
Magnesium	5780
Manganese	335
Mercury	1.5
Nickel	16
Potassium	697
Selenium	1.3 J
Sodium	297 B
Vanadium	21.7
Zinc	518

SB-105	
Constituents	(0 - 0.5')
Aluminum	5080
Antimony	1 BJ
Arsenic	4.2
Barium	48.7
Beryllium	0.38 B
Cadmium	1.5
Calcium	71500
Chromium	21.4
Cobalt	5 B
Copper	38.2
Iron	14300
Lead	129
Magnesium	14100
Manganese	300
Mercury	0.14
Nickel	17.9
Potassium	649
Sodium	228 B
Vanadium	21.4
Zinc	287

SB-104		
Constituents	(0 - 0.5')	(0 - 2')
Aluminum	6520	7720
Antimony	1.1 BJ	1.2 BJ
Arsenic	17.3	4.9
Barium	103	87.3
Beryllium	0.58	0.49 B
Cadmium	0.81	0.35 B
Calcium	5320	5260
Chromium	16	13
Cobalt	8.1	9.9
Copper	113	31.8
Cyanide, Total	1	31.2
Iron	19300	18200
Lead	548 J	155 J
Magnesium	4160 J	3330 J
Manganese	426	231
Mercury	0.84 J	0.31 J
Nickel	20.7	17.8
Potassium	800	805
Selenium	0.91 J	0.6 J
Sodium	202 B	151 B
Vanadium	19	15.6
Zinc	176 J	107 J

SS-111		
Constituents	(0 - 0.5')	(0 - 0.5') (DUP)
Aluminum	3180	3350
Antimony	0.71 BJ	0.67 BJ
Arsenic	21.3	21.2
Barium	94.8	92
Beryllium	0.38 B	0.4 B
Cadmium	1.6	1.1
Calcium	39300	27500
Chromium	15.6	16.9
Cobalt	5 B	5.2 B
Copper	41.9	43.6
Cyanide, Total	0.86	ND
Iron	19600	19800
Lead	256	250
Magnesium	1900	1640
Manganese	258	240
Mercury	1	0.53
Nickel	10.8	11.5
Potassium	658	724
Selenium	1.6 J	1.3 J
Sodium	150 B	135 B
Vanadium	29.3	32.4
Zinc	110	108

SS-112	
Constituents	(0 - 0.5')
Aluminum	7280
Antimony	1.9 BJ
Arsenic	77.5
Barium	86.7
Beryllium	0.6
Cadmium	2
Calcium	50400
Chromium	21.3
Cobalt	9.4
Copper	110
Iron	29700
Lead	359
Magnesium	5150
Manganese	410
Mercury	0.82
Nickel	29.4
Potassium	805
Selenium	0.74 J
Sodium	281 B
Vanadium	45.5
Zinc	800

LEGEND

—×—×—	FENCE
╪╪╪	EXISTING RAILROAD
—— - - ——	APPROXIMATE PROPERTY LINE
⌖ MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◪ TP-105	MGP/RCRA TEST PIT LOCATION
⊡ PZ-01S	MGP/RCRA PIEZOMETER
⌖ MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
▨ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —S— —	STORM SEWER
— —SS— —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —W— —	WATER LINE
— —C— —	CABLE LINE
—o—o—	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK, ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.

   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

   ND – NOT DETECTED.

0 100' 200'
APPROXIMATE SCALE

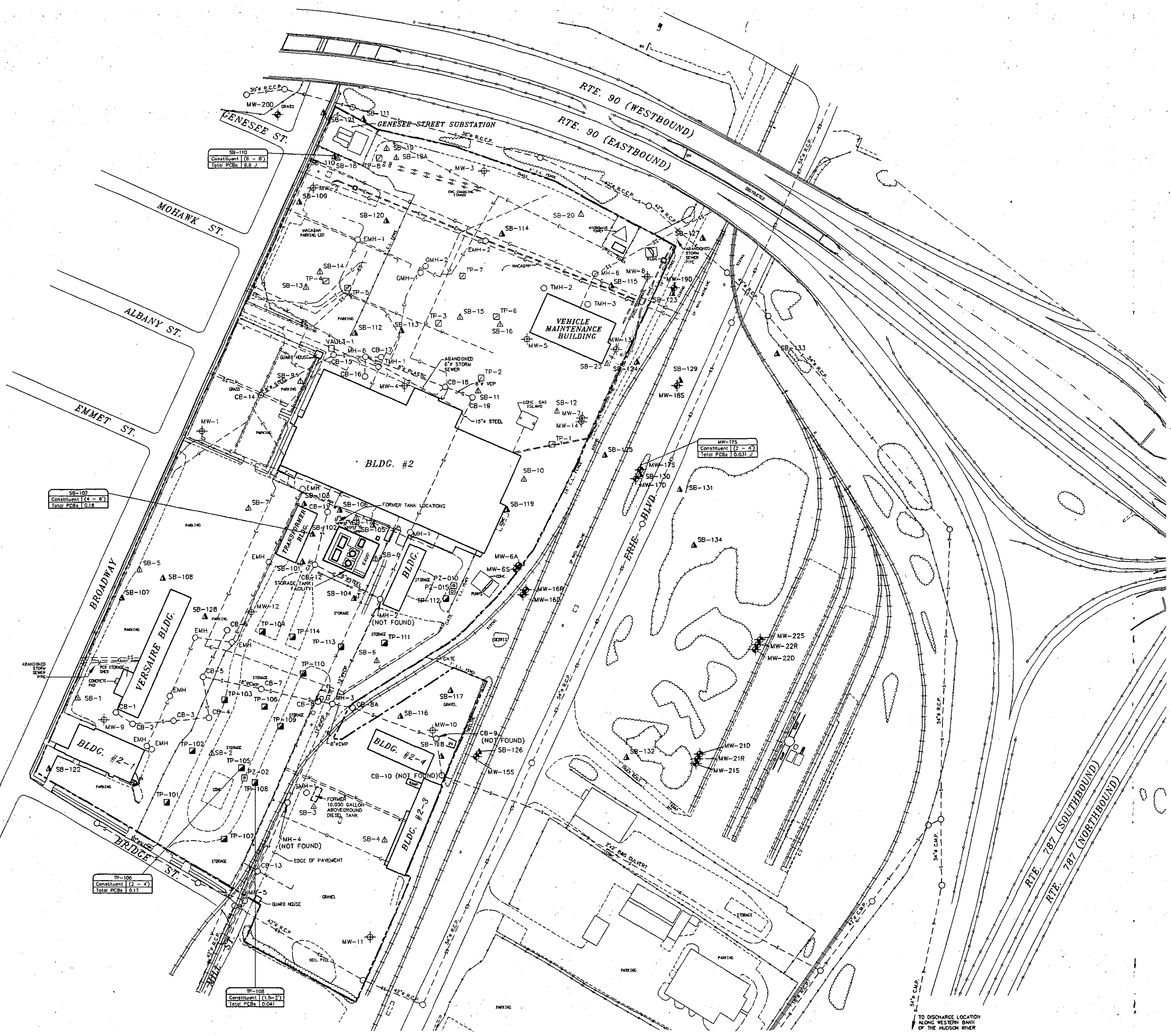
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SURFACE SOIL SAMPLING RESULTS DETECTED INORGANIC CONSTITUENTS (ppm)

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

FIGURE
6

SS_I.TXT
P: O2BX.PCP
X: 36469X00, 36469S19.DWG
36469D09/36469S16.DWG 11/13/97 SYR-54-RCB, DMW, PGL



SB-110	
Constituent	(6 - 8')
Total PCBs	9.9 J

SB-102	
Constituent	(4 - 6')
Total PCBs	0.18

MW-17S	
Constituent	(2 - 4')
Total PCBs	0.031 J

TP-106	
Constituent	(2 - 4')
Total PCBs	0.17

TP-108	
Constituent	(1.5-2')
Total PCBs	0.041

LEGEND

—×—×—	FENCE
╪╪╪╪	EXISTING RAILROAD
—— - - ——	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◪ TP-105	MGP/RCRA TEST PIT LOCATION
▣ PZ-01S	MGP/RCRA PIEZOMETER
⌖ MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
▨ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —S— —	STORM SEWER
— —SS— —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —W— —	WATER LINE
— —C— —	CABLE LINE
o——o——o	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

0 100' 200'
APPROXIMATE SCALE

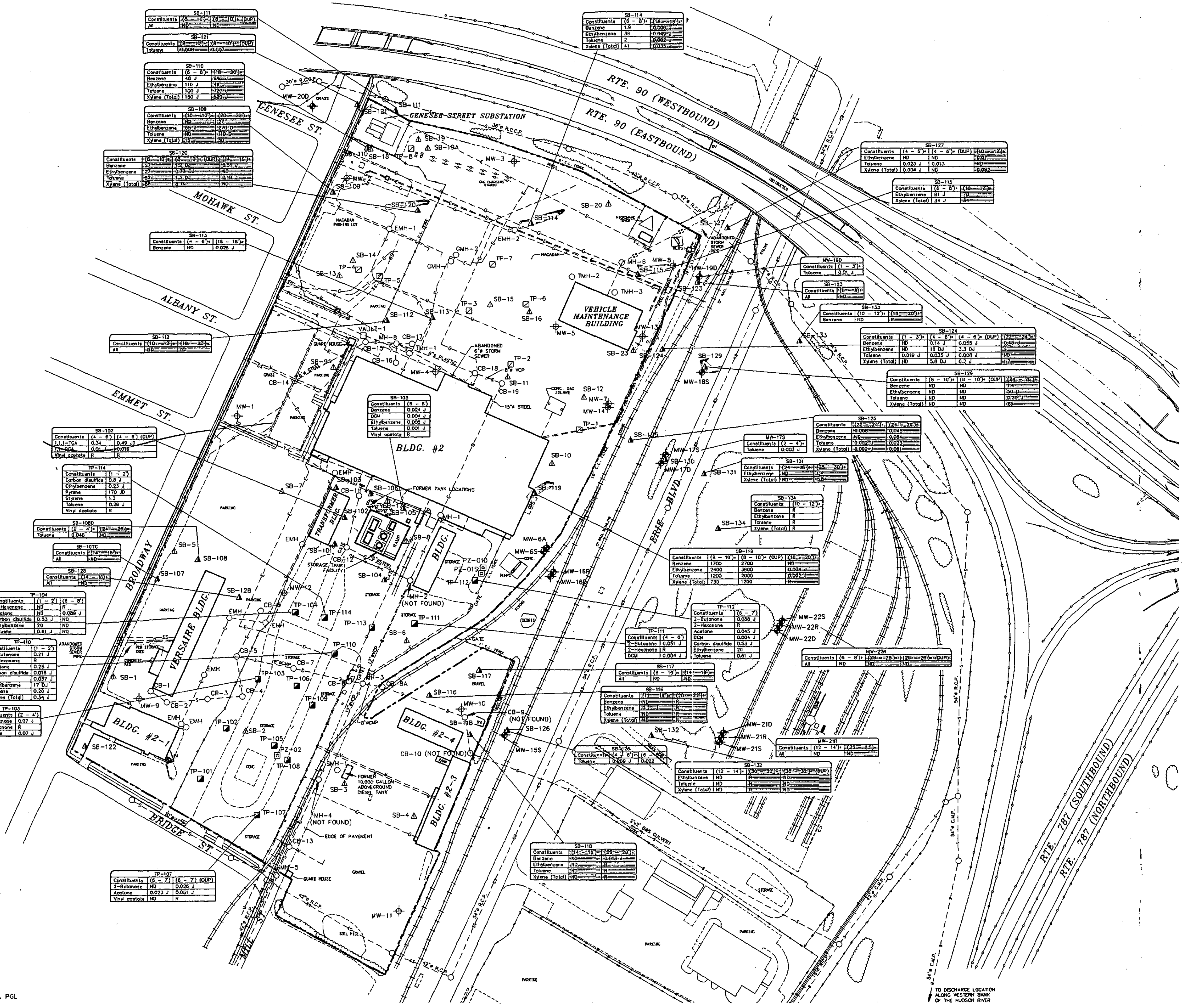
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SUBSURFACE SOIL SAMPLING RESULTS DETECTED PCBs (ppm)

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

FIGURE
7

S_PCB.TXT
P: 02BX.PCP
X: 36469X00. 36469S19.DWG
11/20/97 SYR-54-PGL DMW
36469009/36469S14.DWG



SB-111		
Constituents	(8 – 10')•	(8 – 10')• (DUP)
All	ND	ND

SB-121		
Constituents	(8 – 10')•	(8 – 10')• (DUP)
Toluene	0.008	0.007

SB-110		
Constituents	(6 – 8')•	(18 – 20')•
Benzene	46 J	940 J
Ethylbenzene	110 J	49 J
Toluene	100 J	720 J
Xylene (Total)	150 J	520 J

SB-109		
Constituents	(10 – 12')•	(20 – 22')•
Benzene	ND	27
Ethylbenzene	65 J	270 D
Toluene	ND	110 D
Xylene (Total)	15 J	50

SB-120			
Constituents	(8 – 10')•	(8 – 10')• (DUP)	(14 – 16')•
Benzene	27	1.2 DJ	0.51 J
Ethylbenzene	27	0.73 DJ	ND
Toluene	62	1.3 DJ	0.19 J
Xylene (Total)	88	3 DJ	ND

SB-113		
Constituents	(4 – 6')•	(16 – 18')•
Benzene	ND	0.026 J

SB-112		
Constituents	(10 – 12')•	(18 – 20')•
All	ND	ND

SB-102		
Constituents	(4 – 6')	(4 – 6') (DUP)
1,1,1-TCA	0.34	0.49 JD
1,1-DCA	0.01 J	0.016
Vinyl acetate	R	R

TP-114	
Constituents	(1 – 2')
Carbon disulfide	0.8 J
Ethylbenzene	0.23 J
Pyrene	170 JD
Styrene	1.3
Toluene	0.26 J
Vinyl acetate	R

SB-108D		
Constituents	(2 – 4')•	(24 – 26')•
Toluene	0.048	ND

SB-107C	
Constituents	(14 – 16')•
All	ND

SB-128	
Constituents	(14 – 16')•
All	ND

TP-104		
Constituents	(1 – 2')	(6 – 8')
2-Hexanone	ND	R
Acetone	ND	0.089 J
Carbon disulfide	0.53 J	ND
Ethylbenzene	20	ND
Toluene	0.61 J	ND

TP-110	
Constituents	(1 – 2')
2-Butanone	0.21 J
2-Hexanone	R
Acetone	0.25 J
Carbon disulfide	0.016 J
DCM	0.037 J
Ethylbenzene	17 DJ
Toluene	0.26 J
Xylene (Total)	0.34 J

TP-103	
Constituents	(2 – 4')
2-Butanone	0.07 J
2-Hexanone	R
Acetone	0.07 J

TP-107		
Constituents	(6 – 7')	(6 – 7') (DUP)
2-Butanone	ND	0.025 J
Acetone	0.023 J	0.051 J
Vinyl acetate	ND	R

SB-105	
Constituents	(6 – 8')
Benzene	0.024 J
DCM	0.004 J
Ethylbenzene	0.005 J
Toluene	0.001 J
Vinyl acetate	R

SB-114		
Constituents	(6 – 8')•	(14 – 16')•
Benzene	1.9	0.008 J
Ethylbenzene	38	0.049 J
Toluene	2	0.002 J
Xylene (Total)	41	0.035 J

SB-127			
Constituents	(4 – 6')•	(4 – 6')• (DUP)	(10 – 12')•
Ethylbenzene	ND	ND	0.07
Toluene	0.023 J	0.013	ND
Xylene (Total)	0.004 J	ND	0.092

SB-115		
Constituents	(6 – 8')•	(10 – 12')•
Ethylbenzene	81 J	78
Xylene (Total)	34 J	34

MW-19D	
Constituents	(1 – 3')•
Toluene	0.01 J

SB-123	
Constituents	(6 – 8')•
All	ND

SB-133		
Constituents	(10 – 12')•	(18 – 20')•
Benzene	ND	R

SB-124				
Constituents	(1 – 3')•	(4 – 6')•	(4 – 6')• (DUP)	(22 – 24')•
Benzene	ND	0.14 J	0.055 J	0.49 J
Ethylbenzene	ND	18 DJ	3.3 DJ	4
Toluene	0.019 J	0.035 J	0.008 J	ND
Xylene (Total)	ND	5.6 DJ	0.2 J	17

SB-129			
Constituents	(8 – 10')•	(8 – 10')• (DUP)	(24 – 26')•
Benzene	ND	ND	1.4
Ethylbenzene	ND	ND	50 D
Toluene	ND	ND	0.39 J
Xylene (Total)	ND	ND	25

SB-125		
Constituents	(22 – 24')•	(24 – 26')•
Benzene	0.008	0.045
Ethylbenzene	ND	0.064
Toluene	0.002 J	0.023
Xylene (Total)	0.002 J	0.081

MW-17S	
Constituents	(2 – 4')•
Toluene	0.003 J

SB-131		
Constituents	(24 – 26')•	(28 – 30')•
Ethylbenzene	ND	1.4
Xylene (Total)	ND	0.84

SB-134	
Constituents	(10 – 12')•
Benzene	R
Ethylbenzene	R
Toluene	R
Xylene (Total)	R

SB-119			
Constituents	(8 – 10')•	(8 – 10')• (DUP)	(18 – 20')•
Benzene	1700	2700	ND
Ethylbenzene	2400	3900	0.004 J
Toluene	1200	2000	0.002 J
Xylene (Total)	730	1200	R

TP-112	
Constituents	(6 – 7')
2-Butanone	0.058 J
2-Hexanone	R
Acetone	0.045 J
DCM	0.004 J
Carbon disulfide	0.53 J
Ethylbenzene	20
Toluene	0.81 J

TP-111	
Constituents	(4 – 6')
2-Butanone	0.051 J
2-Hexanone	R
DCM	0.004 J

MW-22R			
Constituents	(6 – 8')•	(26 – 28')•	(26 – 28')• (DUP)
All	ND	ND	ND

SB-117		
Constituents	(8 – 10')•	(14 – 16')•
All	ND	ND

SB-116		
Constituents	(12 – 14')•	(20 – 22')•
Benzene	ND	R
Ethylbenzene	0.22 J	R
Toluene	ND	R
Xylene (Total)	ND	R

SB-126		
Constituents	(4 – 6')•	(6 – 8')•
Toluene	0.009 J	0.022

MW-21R		
Constituents	(12 – 14')•	(25 – 27')•
All	ND	ND

SB-132			
Constituents	(12 – 14')•	(30 – 32')•	(30 – 32')• (DUP)
Ethylbenzene	ND	R	ND
Toluene	ND	R	ND
Xylene (Total)	ND	R	ND

SB-118		
Constituents	(14 – 16')•	(26 – 28')•
Benzene	ND	0.013 J
Ethylbenzene	ND	R
Toluene	ND	R
Xylene (Total)	ND	R

LEGEND

	FENCE
	EXISTING RAILROAD
	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— S —	STORM SEWER
— SS —	SANITARY SEWER
— T —	TELEPHONE LINE
— E —	ELECTRICAL LINE
— G —	GAS LINE
— W —	WATER LINE
— C —	CABLE LINE
	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. • INDICATES SAMPLE WAS ANALYZED FOR BENZENE, ETHYLBENZENE, TOLUENE, AND XYLENES.
3. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
4. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK, ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   ND – NOT DETECTED.
   R – THE SAMPLE RESULTS ARE REJECTED.
5. 1,1,1–TCA 1,1,1 Trichloroethane
   1,1–DCA 1,1 Dichloroethane
   DCM Methylene chloride
6. SHADED VALUES INDICATE THAT THE SAMPLE WAS COLLECTED FROM A LOCATION BENEATH THE WATER TABLE (i.e. SATURATED SOIL).

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

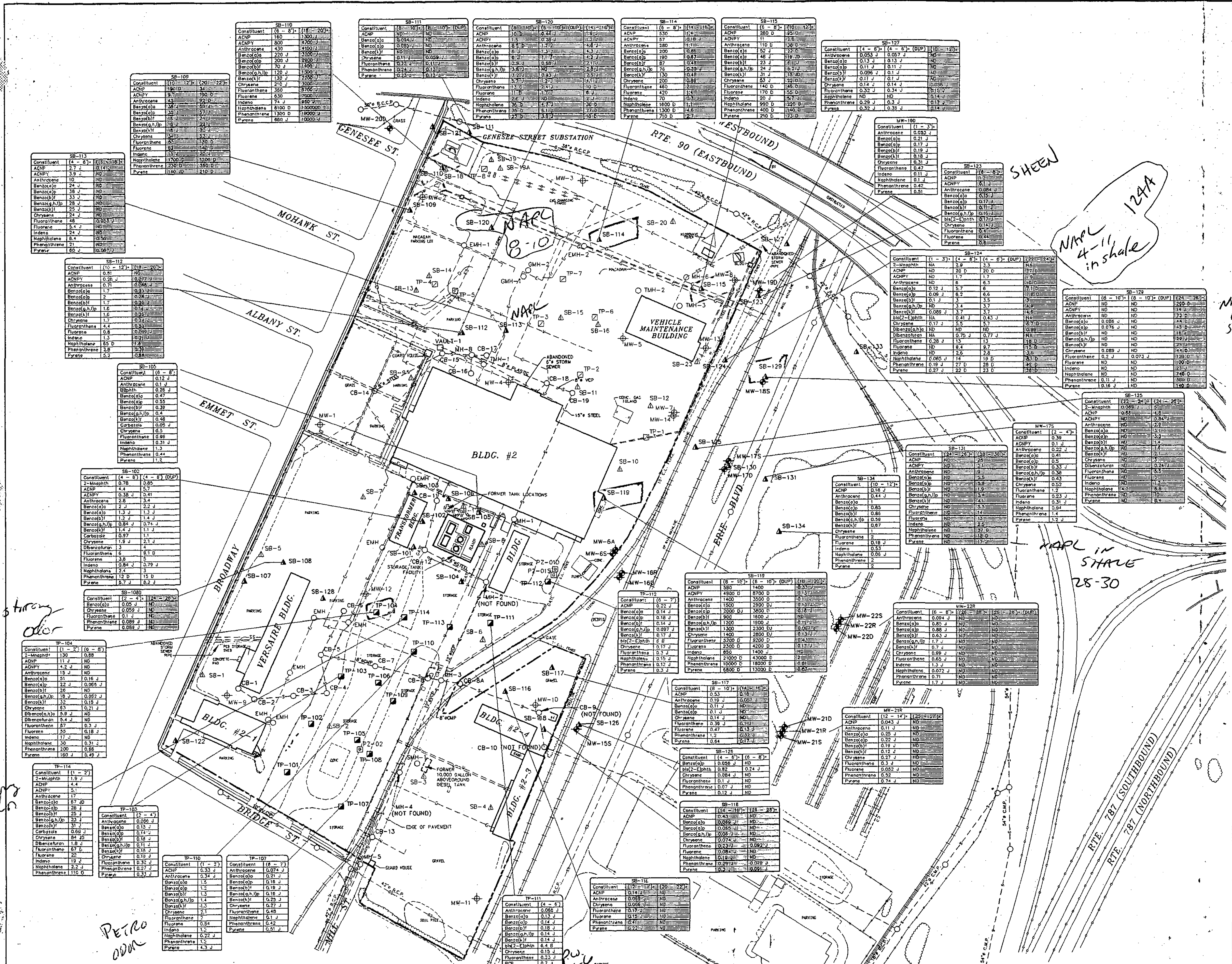
MGP/RCRA INVESTIGATION & REMEDIAL MEASURES EVALUATION

SUBSURFACE SOIL SAMPLING RESULTS DETECTED VOCs (ppm)

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

FIGURE
8

S_OV.TXT
X: 36469X00, 36469S19.DWG
P: NINA/D OR D2BX.PCP
11/13/97 SYR-54-RCB, DMW, PGL
36469009/36469SM1.DWG



S_DSV.TXT
P: NINA/D OR D2BX.PCP
X: 36469S19.DWG
11/13/97 SYR-54-RCB, DMW, PGL
36469009/36469S26.DWG

LEGEND

—·—·—	FENCE
╪╪╪╪	EXISTING RAILROAD
— - - —	APPROXIMATE PROPERTY LINE
⌖ MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◩ TP-105	MGP/RCRA TEST PIT LOCATION
⊡ PZ-01S	MGP/RCRA PIEZOMETER
⌖ MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
◫ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —s— —	STORM SEWER
— —ss— —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —W— —	WATER LINE
— —C— —	CABLE LINE
o——o——o	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. * – INDICATES SAMPLE WAS ANALYZED FOR PAHs ONLY.
3. ** – MAXIMUM POSSIBLE CONCENTRATION IS 1,000,000 mg/kg (ppm) (100%). RESULT IS GREATER THAN 100% DUE TO SYSTEMATIC ERROR IN THE DILUTION PROCESS.
4. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
5. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK. ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
   D – CONCENTRATION IS BASED ON A DILLUTED SAMPLE ANALYSIS.
   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   NA – NOT ANALYZED.
   ND – NOT DETECTED.
6.

2-Mnaphth	2-Methylnaphthalene
ACNP	Acenaphthene
ACNPY	Acenaphthylene
BBphth	Butyl benzyl phthalate
Benzo(a)a	Benzo(a)anthracene
Benzo(a)p	Benzo(a)pyrene
Benzo(b)f	Benzo(b)fluoranthene
Benzo(g,h,i)p	Benzo(g,h,i)perylene
Benzo(k)f	Benzo(k)fluoranthene
bis(2-E)phth	Bis(2-ethylhexyl)phthalate
Dibenzo(a,h)a	Dibenzo(a,h)anthracene
Indeno	Indeno(1,2,3-cd)pyrene
PCP	Pentachlorophenol

7. SHADED VALUES INDICATE THAT THE SAMPLE WAS COLLECTED FROM A LOCATION BENEATH THE WATER TABLE (i.e. SATURATED SOIL).

SHADED – BELOW W.T.

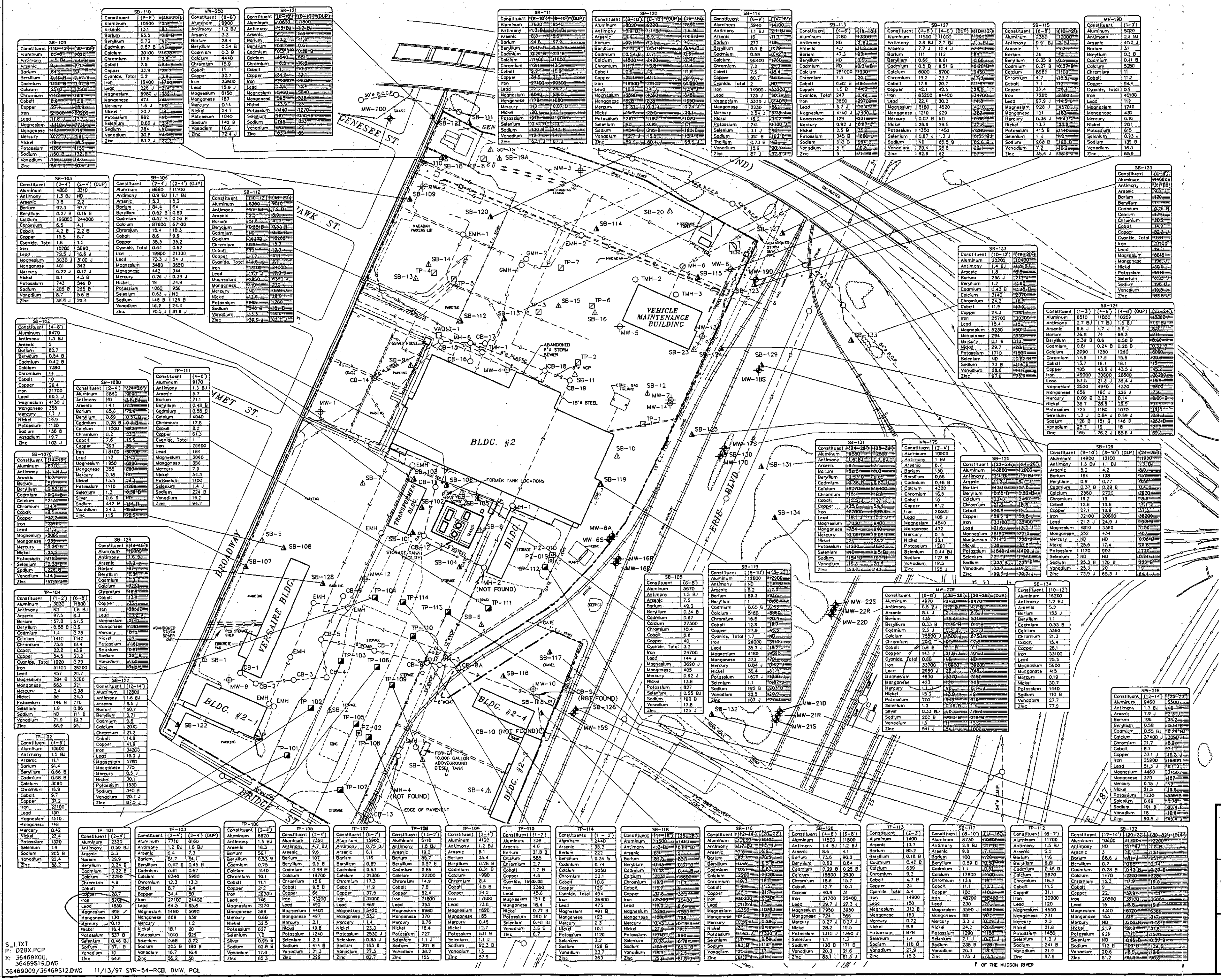
0 100' 200'
APPROXIMATE SCALE

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION & REMEDIAL MEASURES EVALUATION

SUBSURFACE SOIL SAMPLING RESULTS DETECTED SVOCs (ppm)

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

FIGURE
9



SB-109		
Constituent	(10-12')	(20-22')
Aluminum	8540	9020
Antimony	1.5 BJ	2.1 BJ
Arsenic	4.4	7.7
Barium	64.4	84.1
Beryllium	0.49 B	0.47 B
Cadmium	0.29 B	0.37 B
Calcium	2540	17500
Chromium	14.2	14.4
Cobalt	8.9	12.8
Copper	27.4	28.9
Iron	21500	23200
Lead	11.8 J	13.7 J
Magnesium	4410 J	7730 J
Manganese	452	715
Mercury	0.22 J	0.81 J
Nickel	19	38.5
Potassium	1280	1130
Sodium	160 B	132 B
Vanadium	15	14.7
Zinc	59.1 J	50.6 J

SB-110		
Constituent	(6-8')	(18-20')
Aluminum	10500	535
Arsenic	13.1	8.1
Barium	65.5	2.6 B
Beryllium	0.73	ND
Cadmium	0.57 B	ND
Calcium	30100	1630
Chromium	17.5	2.8
Cobalt	7.5	8.4 B
Copper	32.9	29.7
Cyanide, Total	5.2	3.9
Iron	19400	1780
Lead	226 J	214 J
Magnesium	5980 J	339 J
Manganese	474	44
Mercury	1.6 J	ND
Nickel	20.7	14
Potassium	982	ND
Selenium	0.66 J	3.4 J
Sodium	784	ND
Vanadium	30.6	4.7 B
Zinc	83.7 J	22.3

LEGEND

- FENCE
- EXISTING RAILROAD
- APPROXIMATE PROPERTY LINE
- MW-15S MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
- SB-126 MGP/RCRA SOIL BORING LOCATION
- TP-105 MGP/RCRA TEST PIT LOCATION
- PZ-01S MGP/RCRA PIEZOMETER
- MW-11 PSA/IRM GROUND-WATER MONITORING WELL LOCATION
- SB-4 PSA/IRM SOIL BORING LOCATION
- TP-3 PSA/IRM TEST PIT LOCATION
- ○ CB-2 EXISTING CATCH BASIN
- ○ MH-1 EXISTING STORM SEWER MANHOLE
- ○ EMH-1 EXISTING ELECTRICAL MANHOLE
- ○ TMH-1 EXISTING TELEPHONE MANHOLE
- ○ GMH-1 EXISTING UTILITY MANHOLE
- STORM SEWER
- SANITARY SEWER
- TELEPHONE LINE
- ELECTRICAL LINE
- GAS LINE
- WATER LINE
- CABLE LINE
- GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK, ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.

   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

   ND – NOT DETECTED.
4. SHADED VALUES INDICATE THAT THE SAMPLE WAS COLLECTED FROM A LOCATION BENEATH THE WATER TABLE (i.e. SATURATED SOIL).

0 100' 200'
APPROXIMATE SCALE

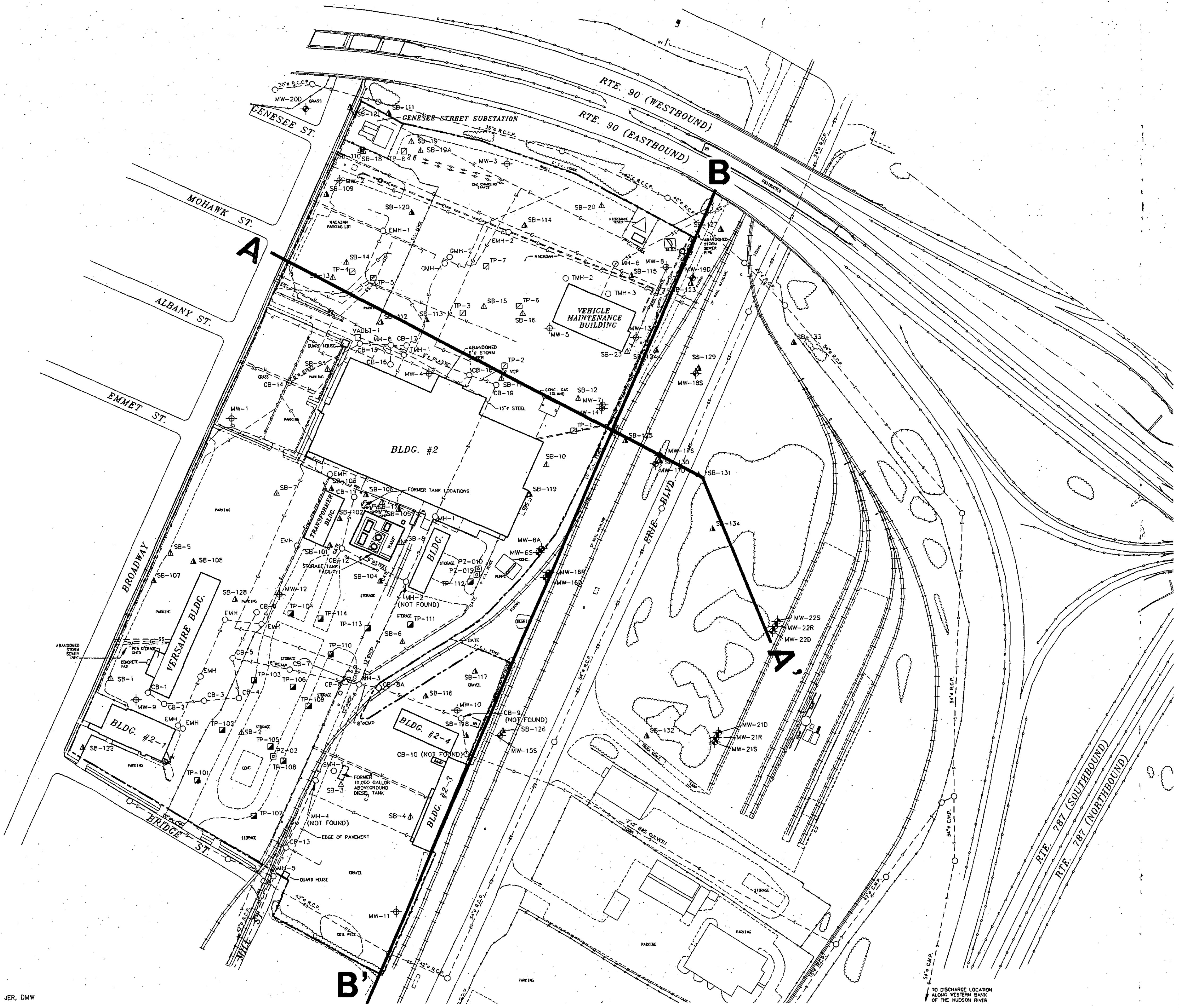
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SUBSURFACE SOIL SAMPLING RESULTS DETECTED INORGANIC CONSTITUENTS (ppm)

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

FIGURE
10

S_I.TXT
P: D2BX.PCP
X: 36469X00,
36469S19.DWG
36469009/36469S12.DWG 11/13/97 SYR-54-RCB, DMW, PCL



LEGEND

———	FENCE
╪╪╪	EXISTING RAILROAD
— - —	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —s— —	STORM SEWER
— —ss— —	SANITARY SEWER
— —t— —	TELEPHONE LINE
— —e— —	ELECTRICAL LINE
— —g— —	GAS LINE
— —w— —	WATER LINE
— —c— —	CABLE LINE
○—○	GUARD RAIL
A—A'	CROSS-SECTION LOCATION

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.

0 100' 200'
APPROXIMATE SCALE

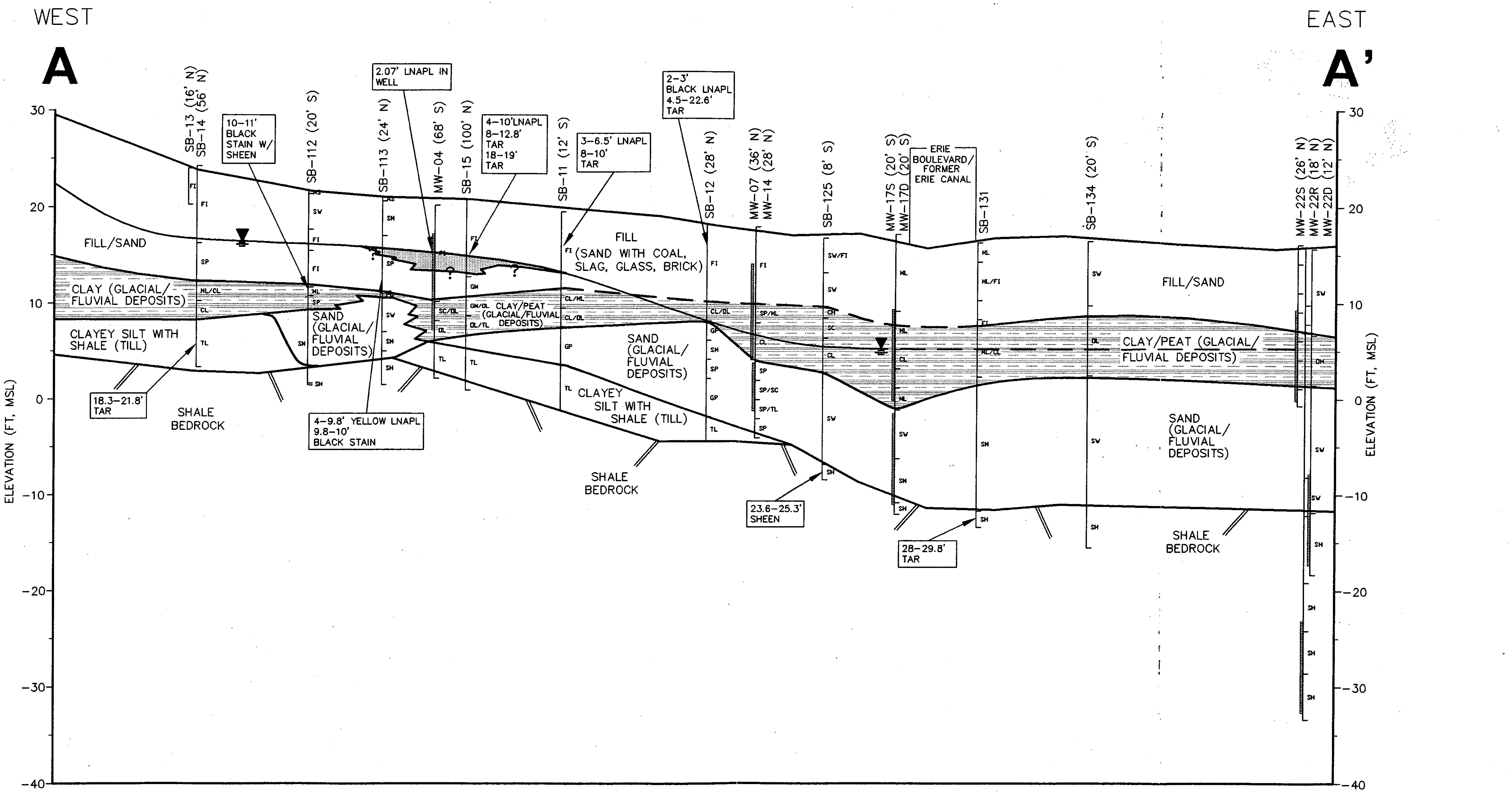
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

CROSS-SECTION
LOCATION MAP

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

FIGURE
11

d_i.txt
x: 36469x00, 36469s19.DWG
P: NINA/D
10/27/97 SYR-54-RCB. PGL. JER. DMW
36469009/36469CSL.DWG



KEY:

▨ LIGHT, NON-AQUEOUS PHASE LIQUID (LNAPL)

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) OR OTHER STRATIGRAPHIC DESCRIPTOR

WELL SCREEN — SP, SP/SC, SP/TL, SP — END OF BORING

AS = ASPHALT
CH,MH,OH = SILTS AND CLAYS OF MEDIUM TO HIGH PLASTICITY
CL,ML,OL = SILTS AND CLAYS OF LOW PLASTICITY
FI = FILL
GC,GM = GRAVELS WITH FINES
GP,GW = CLEAN GRAVELS

PT = PEAT
SC,SM = SANDS WITH FINES
SH = SHALE
SP,SW = CLEAN SANDS
TL = TILL

L: (LAYER)
P: STD-PCP/BL
10/29/97 SYR-54-PGL, DMW
36469009/36469CSA.DWG

NOTES:

1. FLUID MEASUREMENTS FROM JUNE 2, 1997. OTHER OBSERVATIONS FROM FOSTER WHEELER AND BBL SUBSURFACE BORING LOGS.
2. PROJECTED DISTANCES REPRESENT DISTANCE FROM CROSS-SECTION LINE TO LOCATION.

0 100' 200'

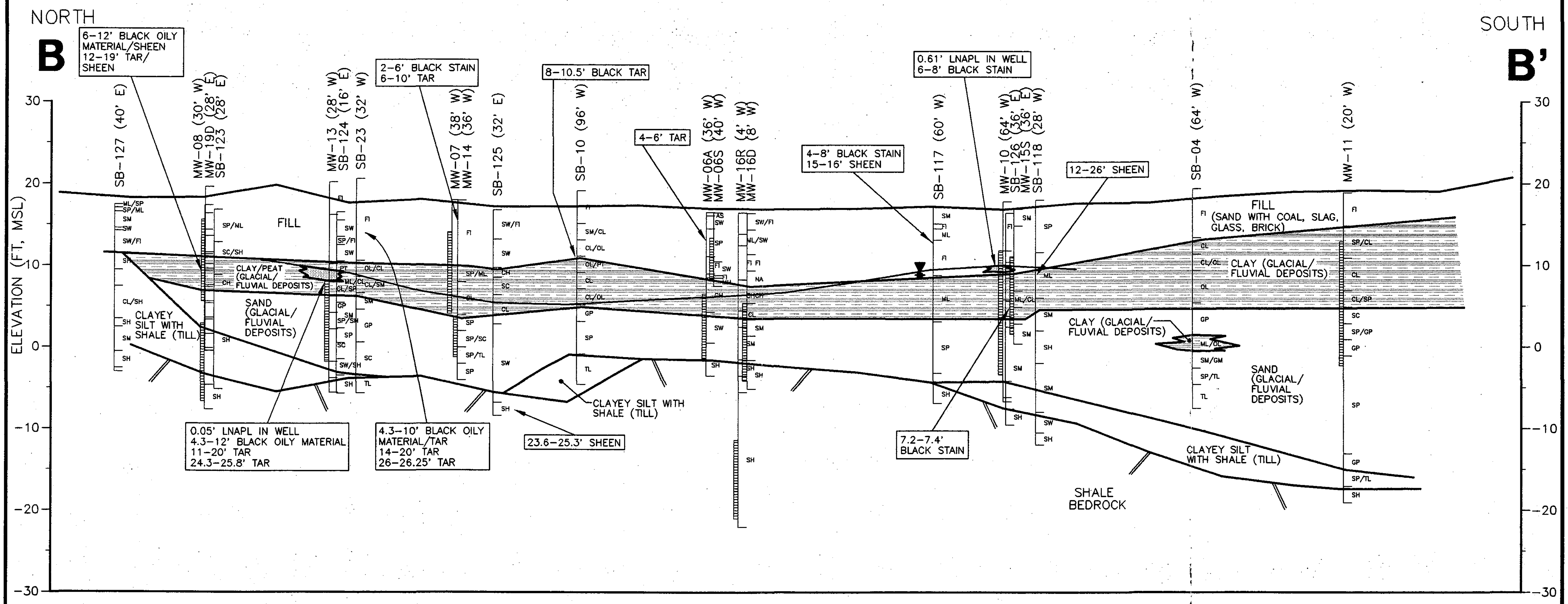
HORIZONTAL SCALE: 1"=100'
VERTICAL SCALE: 1"=10'

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

GEOLOGIC CROSS-SECTION A-A'

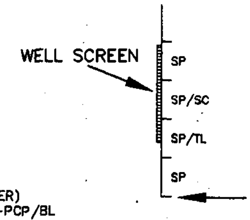
BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
12



KEY:

▨ LIGHT, NON-AQUEOUS PHASE LIQUID (LNAPL)



UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
OR OTHER STRATIGRAPHIC DESCRIPTOR

AS = ASPHALT
CH,MH,OH = SILTS AND CLAYS OF MEDIUM TO HIGH PLASTICITY
CL,ML,OL = SILTS AND CLAYS OF LOW PLASTICITY
FI = FILL
GW,GP = CLEAN GRAVELS

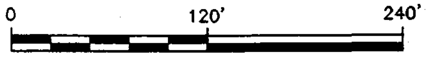
PT = PEAT
SC,SM = SANDS WITH FINES
SH = SHALE
SW,SP = CLEAN SANDS
TL= TILL

END OF BORING

L: (LAYER)
P: STD-PCP/BL
10/29/97 SYR-54-PGL
36469009/36469CSB.DWG

NOTES:

1. FLUID MEASUREMENTS FROM JUNE 2, 1997. OTHER OBSERVATIONS FROM FOSTER WHEELER AND BBL SUBSURFACE BORING LOGS.
2. PROJECTED DISTANCES REPRESENT DISTANCE FROM CROSS-SECTION LINE TO LOCATION.



HORIZONTAL SCALE: 1"=120'
VERTICAL SCALE: 1"=12'

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

GEOLOGIC CROSS-SECTION B-B'

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

FIGURE
13

LEGEND

	FENCE
	EXISTING RAILROAD
	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— S —	STORM SEWER
— SS —	SANITARY SEWER
— T —	TELEPHONE LINE
— E —	ELECTRICAL LINE
— G —	GAS LINE
— W —	WATER LINE
— C —	CABLE LINE
	GUARD RAIL
(14.61)	WATER TABLE ELEVATION (FEET, AMSL)
-10 ——	POTENTIOMETRIC SURFACE CONTOUR LINE (FEET, AMSL), DASHED WHERE INFERRED
➡	GENERALIZED GROUND-WATER FLOW DIRECTION

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. GROUND-WATER ELEVATIONS FOR MONITORING WELLS MW-04, MW-08, AND MW-10 WERE DENSITY-COMPENSATED TO ACCOUNT FOR THE PRESENCE OF LIGHT, NON-AQUEOUS PHASE LIQUID (LNAPL).
3. APPARENT GROUND-WATER MOUNDING AT MW-15S BASED ON ONE MEASUREMENT ONLY. ADDITIONAL MEASUREMENTS NEEDED TO EVALUATE THIS DATA POINT.

0 100' 200'
APPROXIMATE SCALE

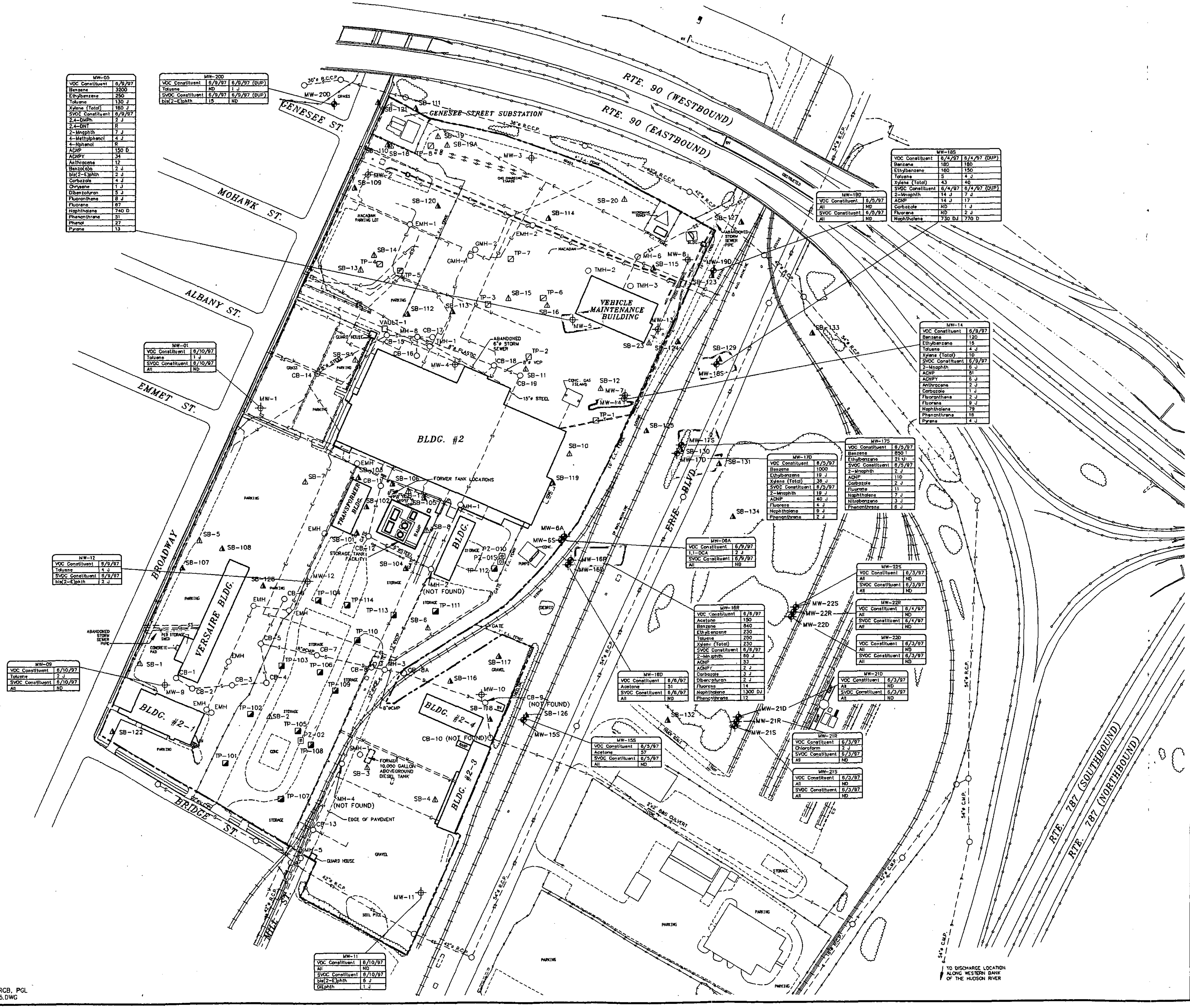
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

WATER TABLE CONTOUR MAP
- JUNE 2, 1997

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

FIGURE
14

d_i.txt
x: 36469x00, 36469s19.DWG
P: D2BX.PCP
10/29/97 SYR-54-RCB, PGL, JER, DMW
36469009/36469S25.DWG



MW-05	
VOC Constituent	6/9/97
Benzene	3200
Ethylbenzene	250
Toluene	130 J
Xylene (Total)	180 J
SVOC Constituent	6/9/97
2,4-DMPh	2 J
2,4-DNT	R
2-Mnaphth	7 J
4-Methylphenol	4 J
4-Nphenol	R
ACNP	150 D
ACNPY	34
Anthracene	12
Benzo(a)a	2 J
bis(2-E)phth	2 J
Carbazole	4 J
Chrysene	1 J
Dibenzofuran	5 J
Fluoranthene	8 J
Fluorene	67
Naphthalene	740 D
Phenanthrene	51
Phenol	27
Pyrene	13

MW-200		
VOC Constituent	6/9/97	6/9/97 (DUP)
Toluene	ND	1 J
SVOC Constituent	6/9/97	6/9/97 (DUP)
bis(2-E)phth	15	ND

MW-01	
VOC Constituent	6/10/97
Toluene	1 J
SVOC Constituent	6/10/97
All	ND

MW-12	
VOC Constituent	6/9/97
Toluene	4 J
SVOC Constituent	6/9/97
bis(2-E)phth	2 J

MW-09	
VOC Constituent	6/10/97
Toluene	2 J
SVOC Constituent	6/10/97
All	ND

MW-11	
VOC Constituent	6/10/97
All	ND
SVOC Constituent	6/10/97
bis(2-E)phth	6 J
DIEphth	1 J

MW-19D	
VOC Constituent	6/5/97
All	ND
SVOC Constituent	6/5/97
All	ND

MW-18S		
VOC Constituent	6/4/97	6/4/97 (DUP)
Benzene	180	180
Ethylbenzene	160	150
Toluene	5	4 J
Xylene (Total)	43	40
SVOC Constituent	6/4/97	6/4/97 (DUP)
2-Mnaphth	14 J	7 J
ACNP	14 J	17
Carbazole	ND	1 J
Fluorene	ND	2 J
Naphthalene	730 DJ	770 D

MW-14	
VOC Constituent	6/9/97
Benzene	120
Ethylbenzene	16
Toluene	4 J
Xylene (Total)	10
SVOC Constituent	6/9/97
2-Mnaphth	6 J
ACNP	51
ACNPY	6 J
Anthracene	2 J
Carbazole	1 J
Fluoranthene	2 J
Fluorene	9 J
Naphthalene	79
Phenanthrene	18
Pyrene	4 J

MW-17S	
VOC Constituent	6/5/97
Benzene	850 J
Ethylbenzene	21 J
SVOC Constituent	6/5/97
2-Mnaphth	2 J
ACNP	110
Carbazole	2 J
Fluorene	11
Naphthalene	7 J
Nitrobenzene	3 J
Phenanthrene	6 J

MW-17D	
VOC Constituent	6/5/97
Benzene	1000
Ethylbenzene	19 J
Xylene (Total)	38 J
SVOC Constituent	6/5/97
2-Mnaphth	19 J
ACNP	40 J
Fluorene	4 J
Naphthalene	9 J
Phenanthrene	2 J

MW-06A	
VOC Constituent	6/9/97
1,1-DCA	2 J
SVOC Constituent	6/9/97
All	ND

MW-16R	
VOC Constituent	6/6/97
Acetone	150
Benzene	840
Ethylbenzene	230
Toluene	200
Xylene (Total)	230
SVOC Constituent	6/6/97
2-Mnaphth	60 J
ACNP	33
ACNPY	2 J
Carbazole	3 J
Dibenzofuran	2 J
Fluorene	14
Naphthalene	1300 DJ
Phenanthrene	12

MW-16D	
VOC Constituent	6/6/97
Acetone	31
SVOC Constituent	6/6/97
All	ND

MW-15S	
VOC Constituent	6/5/97
Acetone	57
SVOC Constituent	6/5/97
All	ND

MW-22S	
VOC Constituent	6/3/97
All	ND
SVOC Constituent	6/3/97
All	ND

MW-22R	
VOC Constituent	6/4/97
All	ND
SVOC Constituent	6/4/97
All	ND

MW-22D	
VOC Constituent	6/3/97
All	ND
SVOC Constituent	6/3/97
All	ND

MW-21D	
VOC Constituent	6/3/97
All	ND
SVOC Constituent	6/3/97
All	ND

MW-21R	
VOC Constituent	6/3/97
Chloroform	2 J
SVOC Constituent	6/3/97
All	ND

MW-21S	
VOC Constituent	6/3/97
All	ND
SVOC Constituent	6/3/97
All	ND

LEGEND

─┼─┼─	FENCE
═╪═╪═	EXISTING RAILROAD
── ─ ─ ──	APPROXIMATE PROPERTY LINE
⊕ MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◪ TP-105	MGP/RCRA TEST PIT LOCATION
▣ PZ-01S	MGP/RCRA PIEZOMETER
⊕ MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
⧄ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —S— —	STORM SEWER
— —SS— —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —W— —	WATER LINE
— —C— —	CABLE LINE
o——o——o	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 - SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER BILLION (ppb).
3. D - CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS

   J - THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

   R - THE SAMPLE RESULTS ARE REJECTED

   ND - NOT DETECTED

4.

1,1-DCA	1,1-Dichloroethane
2,4-DMPh	2,4-Dimethylphenol
2,4-DNT	2,4-Dinitrotoluene
2-Mnaphth	2-Methylnaphthalene
4-Nphenol	4-Nitrophenol
ACNP	Acenaphthene
ACNPY	Acenaphthylene
Benzo(a)a	Benzo(a)anthracene
bis(2-E)phth	Bis(2-ethylhexyl)phthalate
DIEphth	Diethyl phthalate

0 100' 200'
APPROXIMATE SCALE

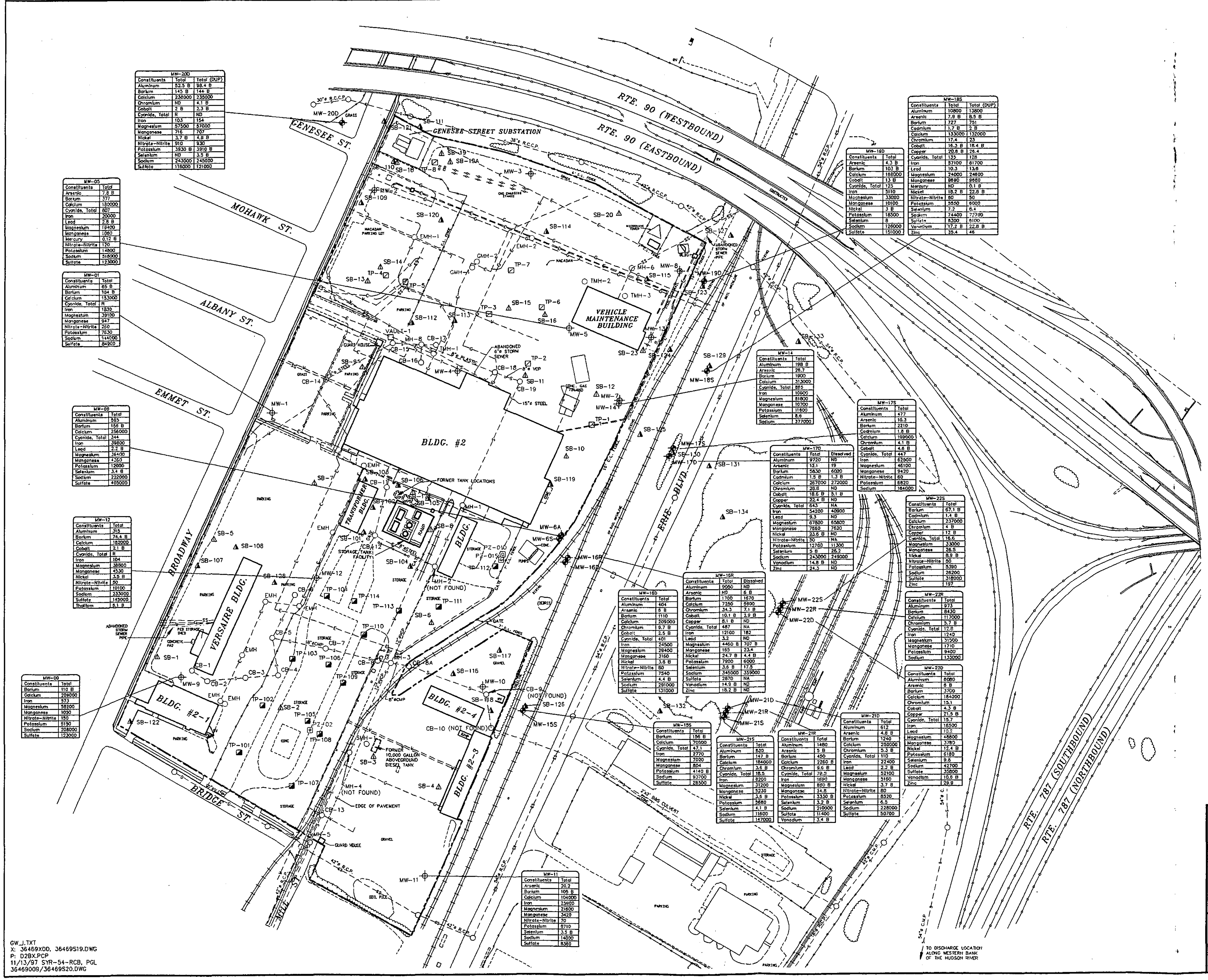
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

GROUND-WATER SAMPLING RESULTS (6/97) DETECTED VOCs AND SVOCs (ppb)

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

FIGURE
15

GW_O.TXT
P: D2BX.PCP
X: 36469S19.DWG
11/13/97 SYR-54-RCB, PGL
36469009/36469SM5.DWG



MW-20D		
Constituents	Total	Total (DUP)
Aluminum	52.5 B	98.4 B
Barium	145 B	144 B
Calcium	238000	235000
Chromium	ND	4.1 B
Cobalt	2 B	2.3 B
Cyanide, Total	R	ND
Iron	103	154
Magnesium	57500	57000
Manganese	716	707
Nickel	3.7 B	4.8 B
Nitrate-Nitrite	910	930
Potassium	3930 B	3910 B
Selenium	ND	3.5 B
Sodium	243000	245000
Sulfate	118000	121000

MW-05	
Constituents	Total
Arsenic	7.8 B
Barium	377
Calcium	180000
Cyanide, Total	807
Iron	20000
Lead	2.8 B
Magnesium	19400
Manganese	1060
Mercury	0.12 B
Nitrate-Nitrite	120
Potassium	14800
Sodium	516000
Sulfate	123000

MW-01	
Constituents	Total
Aluminum	65 B
Barium	104 B
Calcium	153000
Cyanide, Total	R
Iron	1830
Magnesium	39100
Manganese	947
Nitrate-Nitrite	260
Potassium	7630
Sodium	144000
Sulfate	84900

MW-08	
Constituents	Total
Aluminum	585
Barium	158 B
Calcium	256000
Cyanide, Total	344
Iron	39800
Lead	2.2 B
Magnesium	36400
Manganese	4260
Potassium	12000
Selenium	3.4 B
Sodium	222000
Sulfate	405000

MW-12	
Constituents	Total
Aluminum	315
Barium	74.4 B
Calcium	182000
Cobalt	2.1 B
Cyanide, Total	R
Iron	104
Magnesium	38800
Manganese	4530
Nickel	3.5 B
Nitrate-Nitrite	50
Potassium	10100
Sodium	233000
Sulfate	145000
Thallium	8.1 B

ABANDONED STORM SEWER PIPE

MW-09	
Constituents	Total
Barium	110 B
Calcium	209000
Iron	573
Magnesium	58200
Manganese	1050
Nitrate-Nitrite	150
Potassium	5150
Sodium	208000
Sulfate	123000

MW-19D	
Constituents	Total
Arsenic	4.3 B
Barium	103 B
Calcium	188000
Cobalt	13 B
Cyanide, Total	125
Iron	5110
Magnesium	33000
Manganese	10100
Nickel	3 B
Potassium	18500
Selenium	8
Sodium	126000
Sulfate	151000

MW-18S		
Constituents	Total	Total (DUP)
Aluminum	10800	13800
Arsenic	7.9 B	8.5 B
Barium	727	751
Cadmium	1.7 B	2 B
Calcium	133000	132000
Chromium	17.4	23
Cobalt	16.3 B	18.4 B
Copper	20.8 B	26.4
Cyanide, Total	135	128
Iron	57100	61700
Lead	10.3	13.6
Magnesium	24000	24600
Manganese	8680	8680
Mercury	ND	0.1 B
Nickel	18.2 B	22.8 B
Nitrate-Nitrite	60	50
Potassium	5550	6000
Selenium	7.2	6.4
Sodium	74400	72700
Sulfate	6300	6100
Vanadium	17.2 B	22.8 B
Zinc	35.4	46

MW-14	
Constituents	Total
Aluminum	198 B
Arsenic	26.7
Barium	1900
Calcium	313000
Cyanide, Total	885
Iron	10500
Magnesium	81800
Manganese	10700
Potassium	11600
Selenium	8.6
Sodium	377000

MW-17S	
Constituents	Total
Aluminum	477
Arsenic	10.3
Barium	2210
Cadmium	1.8 B
Calcium	199000
Chromium	4.1 B
Cobalt	4.6 B
Cyanide, Total	447
Iron	62500
Magnesium	46100
Manganese	9420
Nitrate-Nitrite	60
Potassium	6820
Sodium	184000

MW-17D		
Constituents	Total	Dissolved
Aluminum	9720	ND
Arsenic	12.1	19
Barium	5830	6020
Cadmium	1.5 B	1.3 B
Calcium	267000	272000
Chromium	28.8	ND
Cobalt	18.6 B	5.1 B
Copper	22.4 B	ND
Cyanide, Total	643	NA
Iron	54200	40900
Lead	9.3	ND
Magnesium	67800	65800
Manganese	7660	7620
Nickel	23.6 B	ND
Nitrate-Nitrite	50	NA
Potassium	12700	11300
Selenium	5 B	26.2
Sodium	243000	249000
Vanadium	14.8 B	ND
Zinc	24.3	ND

MW-22S	
Constituents	Total
Barium	67.1 B
Cadmium	1.4 B
Calcium	237000
Chromium	4 B
Copper	12 B
Cyanide, Total	16.6
Magnesium	33000
Manganese	26.5
Nickel	8.9 B
Nitrate-Nitrite	50
Potassium	5390
Sodium	26200
Sulfate	318000
Zinc	197

MW-22R	
Constituents	Total
Aluminum	973
Barium	8430
Calcium	117000
Chromium	5.7 B
Cyanide, Total	12.8
Iron	1240
Magnesium	31500
Manganese	1710
Potassium	9400
Sodium	133000

MW-22D	
Constituents	Total
Aluminum	6080
Arsenic	6 B
Barium	3700
Calcium	184000
Chromium	15.1
Cobalt	4.3 B
Copper	21.5 B
Cyanide, Total	15.7
Iron	16500
Lead	10.7
Magnesium	48800
Manganese	3780
Nickel	12.4 B
Potassium	6180
Selenium	9.8
Sodium	42700
Sulfate	35800
Vanadium	10.6 B
Zinc	28.9

MW-16D	
Constituents	Total
Aluminum	404
Arsenic	6 B
Barium	1110
Calcium	209000
Chromium	9.7 B
Cobalt	2.5 B
Cyanide, Total	401
Iron	24500
Magnesium	28400
Manganese	3160
Nickel	3.8 B
Nitrate-Nitrite	60
Potassium	7540
Selenium	4.4 B
Sodium	291000
Sulfate	131000

MW-16R		
Constituents	Total	Dissolved
Aluminum	9050	ND
Arsenic	ND	6 B
Barium	1700	1670
Calcium	7250	5900
Chromium	34.3	7.1 B
Cobalt	10.1 B	2.9 B
Copper	8.1 B	ND
Cyanide, Total	487	NA
Iron	12100	182
Lead	3.2	ND
Magnesium	4460 B	707 B
Manganese	165	23.4
Nickel	24.7 B	4.4 B
Potassium	7900	6000
Selenium	3.6 B	17.5
Sodium	345000	359000
Sulfate	2870	NA
Vanadium	14.9 B	ND
Zinc	18.2 B	ND

MW-15S	
Constituents	Total
Barium	156 B
Calcium	70500
Cyanide, Total	47.1
Iron	2770
Magnesium	7020
Manganese	804
Potassium	4140 B
Sodium	93700
Sulfate	28500

MW-21S	
Constituents	Total
Aluminum	830
Barium	147 B
Calcium	184000
Chromium	3.6 B
Cyanide, Total	18.5
Iron	8200
Magnesium	31200
Manganese	5230
Nickel	3.6 B
Potassium	5680
Selenium	4.1 B
Sodium	11600
Sulfate	147000

MW-21R	
Constituents	Total
Aluminum	1480
Arsenic	5 B
Barium	450
Calcium	2260 B
Chromium	9.6 B
Cyanide, Total	79.5
Iron	1690
Magnesium	880 B
Manganese	34.8
Potassium	3330 B
Selenium	3.2 B
Sodium	210000
Sulfate	11400
Vanadium	3.4 B

MW-21D	
Constituents	Total
Aluminum	612
Arsenic	4.8 B
Barium	1240
Calcium	250000
Chromium	5.3 B
Cyanide, Total	110
Iron	22400
Lead	2.2 B
Magnesium	52100
Manganese	5160
Nickel	3.7 B
Nitrate-Nitrite	80
Potassium	8520
Selenium	6.5
Sodium	228000
Sulfate	50700

MW-11	
Constituents	Total
Arsenic	20.2
Barium	105 B
Calcium	104000
Iron	23900
Magnesium	21600
Manganese	3420
Nitrate-Nitrite	70
Potassium	8710
Selenium	3.5 B
Sodium	14000
Sulfate	8360

LEGEND

————	FENCE
┼┼┼┼	EXISTING RAILROAD
— — —	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
—S—	STORM SEWER
—SS—	SANITARY SEWER
—T—	TELEPHONE LINE
—E—	ELECTRICAL LINE
—G—	GAS LINE
—W—	WATER LINE
—C—	CABLE LINE
○——○	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN,
2. ALL CONCENTRATIONS ARE IN PARTS PER BILLION (ppb).
3. B – THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK, ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
   R – THE SAMPLE RESULTS ARE REJECTED.
   ND – NOT DETECTED.
   NA – NOT ANALYZED.

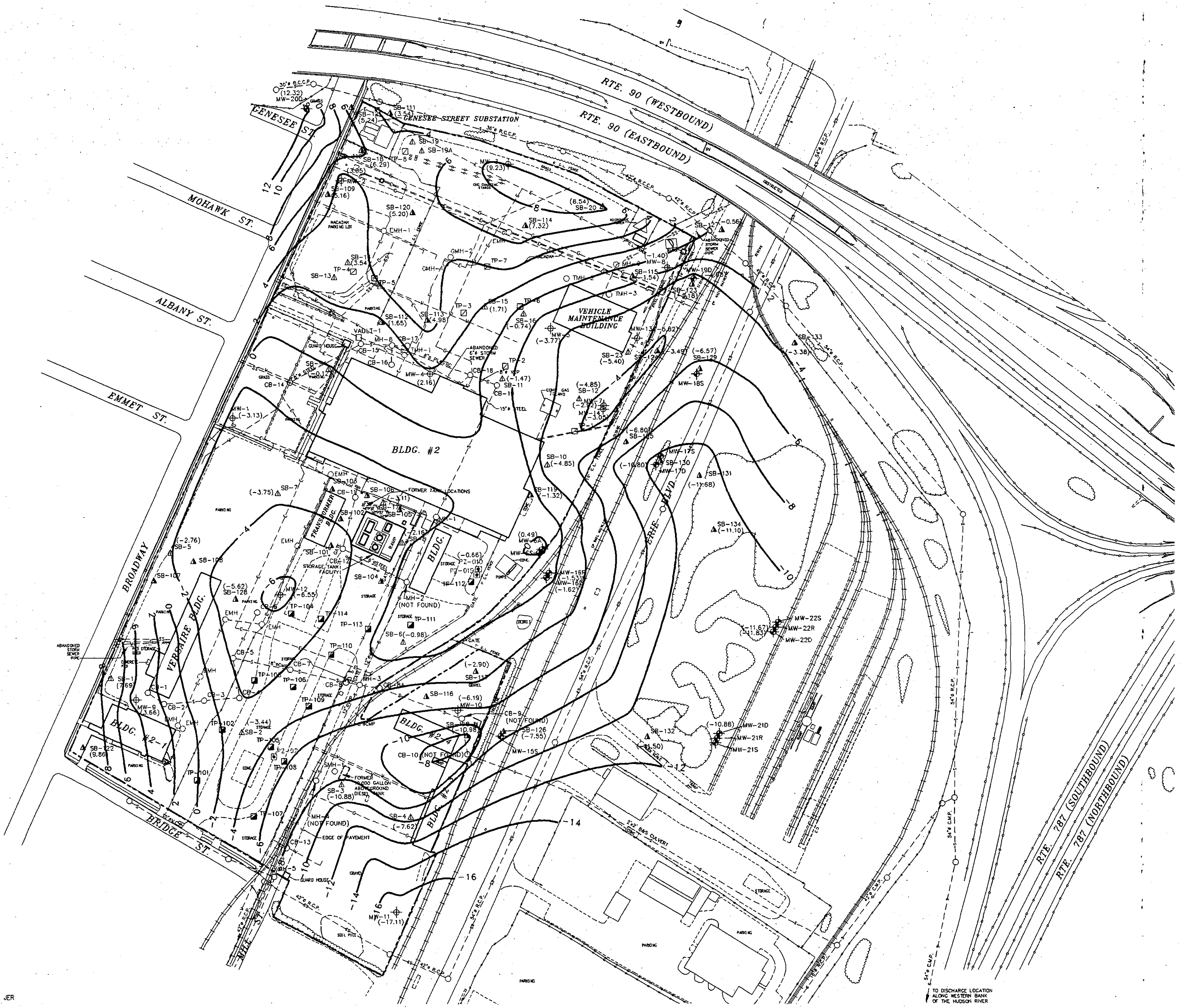
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

GROUND-WATER SAMPLING RESULTS (6/97) DETECTED INORGANIC CONSTITUENTS (ppb)

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

FIGURE
16

GW_J.TXT
X: 36469X00, 36469S19.DWG
P: D28X.PCP
11/13/97 SYR-54-RCB, PGL
36469009/36469S20.DWG



LEGEND

FENCE
EXISTING RAILROAD
APPROXIMATE PROPERTY LINE
MW-15S MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126 MGP/RCRA SOIL BORING LOCATION
TP-105 MGP/RCRA TEST PIT LOCATION
PZ-01S MGP/RCRA PIEZOMETER
MW-11 PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4 PSA/IRM SOIL BORING LOCATION
TP-3 PSA/IRM TEST PIT LOCATION
○ CB-2 EXISTING CATCH BASIN
○ MH-1 EXISTING STORM SEWER MANHOLE
○ EMH-1 EXISTING ELECTRICAL MANHOLE
○ TMH-1 EXISTING TELEPHONE MANHOLE
○ GMH-1 EXISTING UTILITY MANHOLE
STORM SEWER
SS SANITARY SEWER
T TELEPHONE LINE
E ELECTRICAL LINE
G GAS LINE
W WATER LINE
C CABLE LINE
GUARD RAIL
(-11.10) TOP OF BEDROCK SURFACE ELEVATION (FEET, MSL)
-10 TOP OF BEDROCK SURFACE ELEVATION CONTOUR LINE (FEET, MSL)

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 - SITE PLAN.

0 100' 200'
APPROXIMATE SCALE

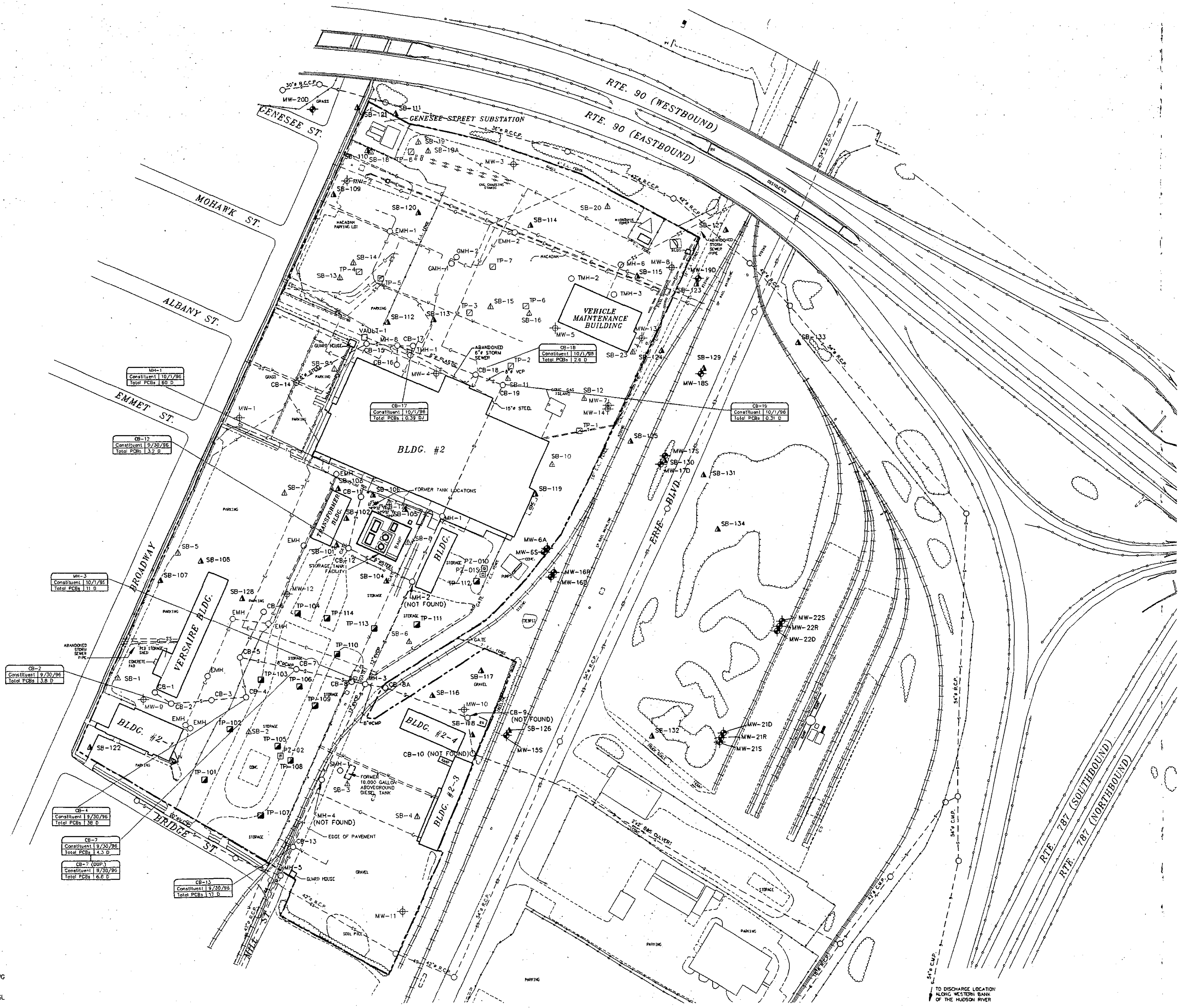
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

TOP OF BEDROCK SURFACE MAP

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

FIGURE
17

d_i.txt
x: 36469x00, 36469s19.DWG
P: D2BX.PCP
10/21/97 SYR-54-RCB, PGL, JER
36469009/36469S24.DWG



MH-1	
Constituent	10/1/96
Total PCBs	60 D

CB-12	
Constituent	9/30/96
Total PCBs	3.2 D

MH-3	
Constituent	10/1/96
Total PCBs	11 D

CB-2	
Constituent	9/30/96
Total PCBs	3.8 D

CB-4	
Constituent	9/30/96
Total PCBs	38 D

CB-7	
Constituent	9/30/96
Total PCBs	4.3 D

CB-7 (DUP.)	
Constituent	9/30/96
Total PCBs	6.8 D

CB-13	
Constituent	9/30/96
Total PCBs	17 D

CB-17	
Constituent	10/1/96
Total PCBs	0.39 DJ

CB-18	
Constituent	10/1/96
Total PCBs	2.6 D

CB-19	
Constituent	10/1/96
Total PCBs	0.31 D

LEGEND

	FENCE
	EXISTING RAILROAD
	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
SB-126	MGP/RCRA SOIL BORING LOCATION
TP-105	MGP/RCRA TEST PIT LOCATION
PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
SB-4	PSA/IRM SOIL BORING LOCATION
TP-3	PSA/IRM TEST PIT LOCATION
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○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —S— —	STORM SEWER
— -SS- —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —V— —	WATER LINE
— —C— —	CABLE LINE
	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 – SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. D – CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
   J – THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

0 100' 200'
APPROXIMATE SCALE

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

DEBRIS SAMPLING RESULTS
DETECTED PCBs (ppm)

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

FIGURE
19

X: 36469X0D, 36469S19.DWG
D_PCB.TXT
P: D2BX.PCP
11/13/97 SYR-54-RCB, PGL
36469009/36469S10.DWG

MH-1	
VOC Constituents	10/1/96
Ethylbenzene	10
Toluene	0.5 J
Xylene (Total)	3.8
SVOC Constituents	10/1/96
2-Mnaphth	410
ACNP	370
ACNPY	20 J
Anthracene	180
Benzo(a)a	110
Benzo(a)p	84
Benzo(b)f	32
Benzo(g,h,i)p	30
Benzo(k)f	49
Chrysene	100
Dibenzo(a,h)a	9.3 J
Dibenzofuran	24 J
Fluoranthene	210
Fluorene	270
Indeno	28 J
Naphthalene	440
Phenanthrene	970 D
Pyrene	340

CB-12	
VOC Constituents	9/30/96
Ethylbenzene	0.015 J
Toluene	0.011 J
SVOC Constituents	9/30/96
ACNP	5.8
Anthracene	12
Benzo(a)a	18 J
Benzo(a)p	18 J
Benzo(b)f	20 J
Benzo(g,h,i)p	12 J
Benzo(k)f	12 J
bis(2-E)phth	10 J
Carbazole	8.1
Chrysene	23 J
Dibenzofuran	3.4
Dphth	10 J
Fluoranthene	65 D
Fluorene	6.4
Indeno	10 J
Phenanthrene	63 D
Pyrene	79 DJ

MH-3	
VOC Constituents	10/1/96
All	ND
SVOC Constituents	10/1/96
2-Mnaphth	1.9 J
ACNP	3.5
ACNPY	1.7 J
Anthracene	9.8
Benzo(a)a	24 J
Benzo(a)p	23
Benzo(b)f	15
Benzo(g,h,i)p	15
Benzo(k)f	17
bis(2-E)phth	7.1 J
Carbazole	5.7
Chrysene	25 J
Dibenzofuran	3.5
Dphth	0.66 J
Fluoranthene	54 D
Fluorene	5.4
Indeno	14
Naphthalene	5.5
Phenanthrene	62 D
Pyrene	86 JD

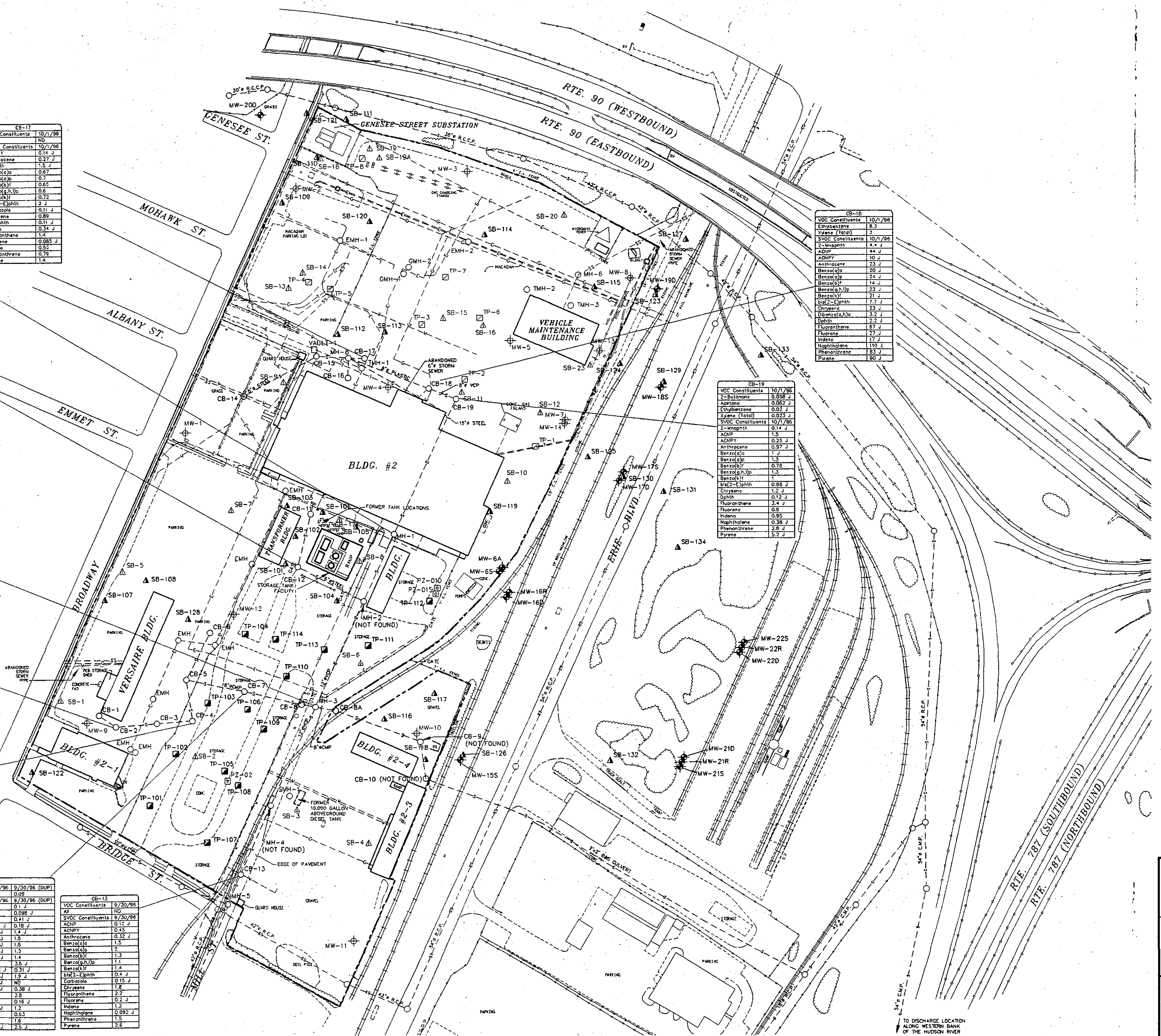
CB-2	
VOC Constituents	9/30/96
All	ND
SVOC Constituents	9/30/96
Anthracene	0.072 J
BBphth	0.098 J
Benzo(a)a	0.14 J
Benzo(a)p	0.14 J
Benzo(b)f	0.18 J
Benzo(k)f	0.14 J
bis(2-E)phth	1.1 J
Chrysene	0.22 J
Dphth	0.12 J
Fluoranthene	0.29 J
Phenanthrene	0.24 J
Pyrene	0.38 J

CB-4	
VOC Constituents	9/30/96
All	ND
SVOC Constituents	9/30/96
Anthracene	0.12 J
Benzo(a)a	0.41
Benzo(a)p	0.43
Benzo(b)f	0.38 J
Benzo(g,h,i)p	0.3 J
Benzo(k)f	0.44
bis(2-E)phth	0.62 J
Carbazole	0.12 J
Chrysene	0.51
Fluoranthene	0.82
Indeno	0.3 J
Phenanthrene	0.47
Pyrene	0.76

CB-17	
VOC Constituents	10/1/96
All	ND
SVOC Constituents	10/1/96
ACNPY	0.14 J
Anthracene	0.27 J
BBphth	1.5 J
Benzo(a)a	0.67
Benzo(a)p	0.7
Benzo(b)f	0.65
Benzo(g,h,i)p	0.6
Benzo(k)f	0.72
bis(2-E)phth	2 J
Carbazole	0.11 J
Chrysene	0.89
DINBphth	0.11 J
Dphth	0.34 J
Fluoranthene	1.4
Fluorene	0.085 J
Indeno	0.52
Phenanthrene	0.79
Pyrene	1.4

CB-7		
VOC Constituents	9/30/96	9/30/96 (DUP)
Ethylbenzene	0.054	0.09
SVOC Constituents	9/30/96	9/30/96 (DUP)
ACNP	ND	0.1 J
ACNPY	ND	0.098 J
Anthracene	0.1 J	0.41 J
BBphth	0.089 J	0.18 J
Benzo(a)a	0.36 J	1.4 J
Benzo(a)p	0.44 J	1.5
Benzo(b)f	0.44 J	1.5
Benzo(g,h,i)p	0.39 J	1.3
Benzo(k)f	0.49 J	1.4
bis(2-E)phth	1.8 J	3.5 J
Carbazole	0.058 J	0.31 J
Chrysene	0.55 J	1.9 J
DINBphth	0.12 J	ND
Dphth	0.21 J	0.38 J
Fluoranthene	0.62	2.8
Fluorene	ND	0.16 J
Indeno	0.31 J	1.2
Naphthalene	ND	0.63
Phenanthrene	0.42	1.6
Pyrene	0.86 J	2.6 J

CB-13	
VOC Constituents	9/30/96
All	ND
SVOC Constituents	9/30/96
ACNP	0.12 J
ACNPY	0.45
Anthracene	0.32 J
Benzo(a)a	1.5
Benzo(a)p	2
Benzo(b)f	1.3
Benzo(g,h,i)p	1.1
Benzo(k)f	1.4
bis(2-E)phth	0.4 J
Carbazole	0.15 J
Chrysene	1.8
Fluoranthene	2.2
Fluorene	0.2 J
Indeno	1.2
Naphthalene	0.092 J
Phenanthrene	1.5
Pyrene	2.6



CB-18	
VOC Constituents	10/1/96
Ethylbenzene	8.3
Xylene (Total)	3
SVOC Constituents	10/1/96
2-Mnaphth	4.4 J
ACNP	44 J
ACNPY	10 J
Anthracene	23 J
Benzo(a)a	20 J
Benzo(a)p	24 J
Benzo(b)f	14 J
Benzo(g,h,i)p	23 J
Benzo(k)f	21 J
bis(2-E)phth	7.7 J
Chrysene	23 J
Dibenzo(a,h)a	3.2 J
Dphth	2.2 J
Fluoranthene	67 J
Fluorene	27 J
Indeno	17 J
Naphthalene	110 J
Phenanthrene	83 J
Pyrene	90 J

CB-19	
VOC Constituents	10/1/96
2-Butanone	0.058 J
Acetone	0.062 J
Ethylbenzene	0.02 J
Xylene (Total)	0.023 J
SVOC Constituents	10/1/96
2-Mnaphth	0.14 J
ACNP	1.5
ACNPY	0.25 J
Anthracene	0.97 J
Benzo(a)a	1 J
Benzo(a)p	1.3
Benzo(b)f	0.78
Benzo(g,h,i)p	1.3
Benzo(k)f	1
bis(2-E)phth	0.88 J
Chrysene	1.2 J
Dphth	0.12 J
Fluoranthene	3.4 J
Fluorene	0.8
Indeno	0.95
Naphthalene	0.38 J
Phenanthrene	2.8 J
Pyrene	5.2 J

LEGEND

─┼─┼─	FENCE
╪╪╪	EXISTING RAILROAD
── - - ──	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◪ TP-105	MGP/RCRA TEST PIT LOCATION
▣ PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
▨ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
— —S— —	STORM SEWER
— --SS-- —	SANITARY SEWER
— —T— —	TELEPHONE LINE
— —E— —	ELECTRICAL LINE
— —G— —	GAS LINE
— —W— —	WATER LINE
— —C— —	CABLE LINE
○──○──○	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 - SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. D - CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
   J - THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   ND - NOT DETECTED.
4.

2-Mnaphth	2-Methylnaphthalene
ACNP	Acenaphthene
ACNPY	Acenaphthylene
BBphth	Butyl benzyl phthalate
Benzo(a)a	Benzo(a)anthracene
Benzo(a)p	Benzo(a)pyrene
Benzo(b)f	Benzo(b)fluoranthene
Benzo(g,h,i)p	Benzo(g,h,i)perylene
Benzo(k)f	Benzo(k)fluoranthene
bis(2-E)phth	Bis(2-ethylhexyl)phthalate
Dibenzo(a,h)a	Dibenzo(a,h)anthracene
DINBphth	Di-n-butyl phthalate
Dphth	Di-n-octyl phthalate
Indeno	indeno(1,2,3-cd)pyrene

0 100' 200'
APPROXIMATE SCALE

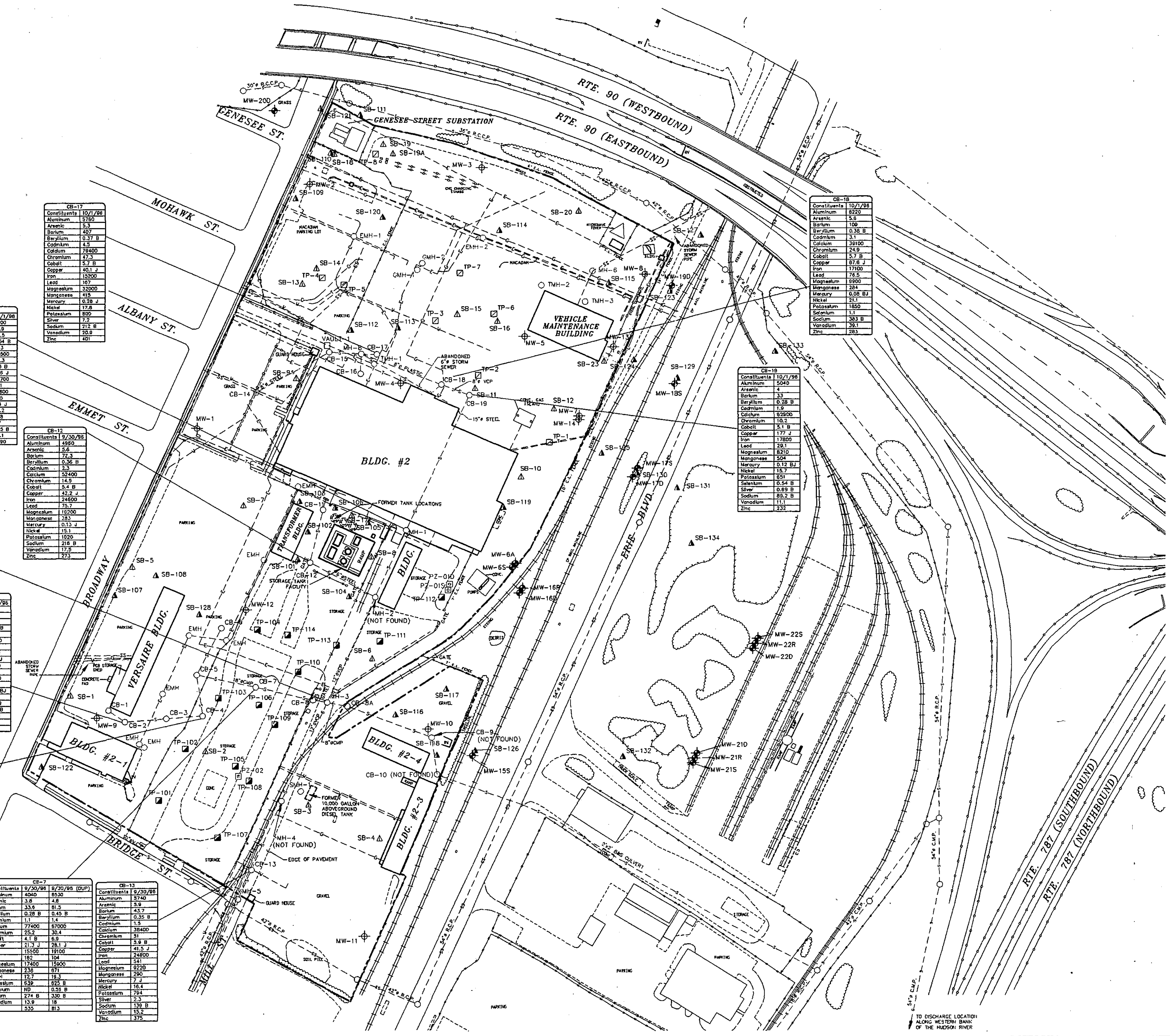
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

DEBRIS SAMPLING RESULTS DETECTED VOCs AND SVOCs (ppm)

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

FIGURE
20

D_O.TXT
X: 364690O.
36469S19.DWG
P: D2BX.PCP
36469OD9/36469S11.DWG 11/13/97 SYR-54-RCB. DMW. PGL



CB-17

Constituents	10/1/96
Aluminum	5760
Arsenic	5.3
Barium	407
Beryllium	0.37 B
Cadmium	4.5
Calcium	79400
Chromium	47.3
Cobalt	5.7 B
Copper	40.1 J
Iron	15200
Lead	167
Magnesium	32000
Manganese	415
Mercury	0.28 J
Nickel	17.8
Potassium	800
Silver	7.2
Sodium	212 B
Vanadium	20.9
Zinc	401

MH-1

Constituents	10/1/96
Aluminum	5800
Arsenic	18.9
Barium	87.5
Beryllium	0.54 B
Cadmium	11.3
Calcium	27500
Chromium	46.3
Cobalt	7.6 B
Copper	806 J
Iron	48700
Lead	521
Magnesium	13800
Manganese	335
Mercury	2.4 J
Nickel	22.2
Potassium	878
Selenium	1.7
Sodium	595 B
Vanadium	22.1
Zinc	2090

CB-12

Constituents	9/30/96
Aluminum	4960
Arsenic	5.6
Barium	72.3
Beryllium	0.36 B
Cadmium	2.3
Calcium	52400
Chromium	14.5
Cobalt	5.4 B
Copper	42.2 J
Iron	24600
Lead	75.7
Magnesium	10200
Manganese	283
Mercury	0.13 J
Nickel	15.1
Potassium	1020
Sodium	218 B
Vanadium	17.5
Zinc	273

MH-3

Constituents	10/1/96
Aluminum	5860
Arsenic	9.5
Barium	175
Beryllium	0.47 B
Cadmium	9.3
Calcium	32200
Chromium	138
Cobalt	8.5
Copper	471 J
Cyanide, Total	3.2
Iron	31700
Lead	540
Magnesium	7140
Manganese	1360
Mercury	1.8 J
Nickel	30.4
Potassium	743
Selenium	1.2
Silver	102
Sodium	226 B
Vanadium	53.3
Zinc	913

CB-2

Constituents	9/30/96
Aluminum	3250
Arsenic	3.5
Barium	31.3
Beryllium	0.25 B
Cadmium	0.92
Calcium	54600
Chromium	16.8
Cobalt	3.5 B
Copper	18.9 J
Iron	18100
Lead	83.9
Magnesium	16900
Manganese	288
Mercury	0.06 BJ
Nickel	10.1
Potassium	390 B
Selenium	0.52 B
Sodium	113 B
Vanadium	10.2
Zinc	223

CB-4

Constituents	9/30/96
Aluminum	5430
Arsenic	3
Barium	34.9
Beryllium	0.24 B
Cadmium	1.2
Calcium	47300
Chromium	50.7
Cobalt	4.6 B
Copper	43.9 J
Iron	18100
Lead	218
Magnesium	8060
Manganese	284
Mercury	0.2 J
Nickel	17.7
Potassium	475 B
Sodium	142 B
Vanadium	12.9
Zinc	501

CB-7

Constituents	9/30/96	9/30/96 (DUP)
Aluminum	4040	6530
Arsenic	3.8	4.8
Barium	33.6	81.5
Beryllium	0.28 B	0.45 B
Cadmium	1.1	1.4
Calcium	77400	67000
Chromium	25.2	30.4
Cobalt	4.1 B	6.9
Copper	21.3 J	28.1 J
Iron	15500	19100
Lead	182	104
Magnesium	17400	15900
Manganese	238	671
Nickel	12.7	19.3
Potassium	639	625 B
Selenium	ND	0.55 B
Sodium	274 B	330 B
Vanadium	13.9	18
Zinc	535	813

CB-13

Constituents	9/30/96
Aluminum	5740
Arsenic	5.9
Barium	43.7
Beryllium	0.35 B
Cadmium	1.5
Calcium	38400
Chromium	31
Cobalt	5.9 B
Copper	41.5 J
Iron	24800
Lead	541
Magnesium	9220
Manganese	290
Mercury	7 J
Nickel	16.4
Potassium	794
Silver	2.3
Sodium	139 B
Vanadium	15.2
Zinc	375

CB-18

Constituents	10/1/96
Aluminum	8220
Arsenic	5.6
Barium	109
Beryllium	0.38 B
Cadmium	3.1
Calcium	39100
Chromium	24.9
Cobalt	5.7 B
Copper	87.6 J
Iron	17100
Lead	76.5
Magnesium	9900
Manganese	284
Mercury	0.08 BJ
Nickel	21.1
Potassium	1850
Selenium	1.1
Sodium	383 B
Vanadium	39.1
Zinc	283

CB-19

Constituents	10/1/96
Aluminum	5040
Arsenic	4
Barium	33
Beryllium	0.28 B
Cadmium	1.9
Calcium	82900
Chromium	10.2
Cobalt	5.1 B
Copper	177 J
Iron	17800
Lead	29.1
Magnesium	8210
Manganese	504
Mercury	0.12 BJ
Nickel	15.7
Potassium	651
Selenium	0.54 B
Silver	0.89 B
Sodium	89.2 B
Vanadium	11.1
Zinc	232

LEGEND

——x——	FENCE
++++++	EXISTING RAILROAD
— — —	APPROXIMATE PROPERTY LINE
⊕ MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◩ TP-105	MGP/RCRA TEST PIT LOCATION
⊡ PZ-01S	MGP/RCRA PIEZOMETER
⊕ MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
◪ TP-3	PSA/IRM TEST PIT LOCATION
○ CB-2	EXISTING CATCH BASIN
○ MH-1	EXISTING STORM SEWER MANHOLE
○ EMH-1	EXISTING ELECTRICAL MANHOLE
○ TMH-1	EXISTING TELEPHONE MANHOLE
○ GMH-1	EXISTING UTILITY MANHOLE
—S—	STORM SEWER
—SS—	SANITARY SEWER
—T—	TELEPHONE LINE
—E—	ELECTRICAL LINE
—G—	GAS LINE
—W—	WATER LINE
—C—	CABLE LINE
○—○	GUARD RAIL

NOTES:

1. SEE GENERAL NOTES ON FIGURE 2 - SITE PLAN.
2. ALL CONCENTRATIONS ARE IN PARTS PER MILLION (ppm).
3. B - THE COMPOUND HAS BEEN FOUND IN THE SAMPLE AS WELL AS ITS ASSOCIATED BLANK. ITS PRESENCE IN THE SAMPLE MAY BE SUSPECT.
   J - THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   ND - NOT DETECTED.

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

DEBRIS SAMPLING RESULTS DETECTED INORGANIC CONSTITUENTS (ppm)

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

FIGURE
21

d_i.txt
x: 36469x00, 36469s19.DWG
D2BX.PCP
11/13/97 SYR-54-RCB, DMW, PGL
36469009/36469SM9.DWG

Appendices

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Appendix A - Correspondence Relating to MGP/RCRA Investigation and Remedial Measures Evaluation

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

Transmitted Via U.S. Mail

February 6, 1996

Mr. John T. Spellman, P.E.
Bureau of Construction Services
Division of Hazardous Waste Remediation
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Re: Niagara Mohawk Power Corporation
North Albany Service Center
MGP/RCRA Investigation

Dear Mr. Spellman:

This letter presents Niagara Mohawk Power Corporation's (NMPC's) technical approach for complying with the requirements of the Manufactured Gas Plant (MGP) Consent Order (Order on Consent index #D0-0001-92101) and Permit Module III of the Hazardous Waste Management Permit for the above-referenced facility. As discussed during the January 25, 1996 meeting at the North Albany Service Center, NMPC's overall technical approach is to conduct a comprehensive site-wide MGP/RCRA Investigation and Remedial Measures Evaluation that will satisfy the requirements of both the MGP Consent Order and Permit Module III. As discussed during the meeting, the investigation and remedial action evaluation requirements presented in Permit Module III are more specific (and generally more rigorous) than the requirements of the MGP Consent Order. Therefore, NMPC proposes to conduct the MGP/RCRA Investigation and Remedial Measures Evaluation in accordance with the requirements of Permit Module III [with the exception that the requirements will apply to the entire facility instead of to specific solid waste management units (SWMUs)]. Based on a detailed comparison of the MGP Consent Order and Permit Module III, NMPC has concluded that conducting the site-wide MGP/RCRA Investigation and Remedial Measures Evaluation in accordance with the requirements of Permit Module III will automatically result in satisfying the requirements of the MGP Consent Order.

Background information relating to NMPC's technical approach for complying with the MGP Consent Order and Permit Module III is presented below followed by a discussion of the elements to be included in the MGP/RCRA Investigation and Remedial Measures Evaluation.

I. Background

NMPC conducted a Preliminary Site Assessment/Interim Remedial Measures (PSA/IRM) Study for the North Albany Former MGP site during 1994 pursuant to the MGP Consent Order. The purpose of the PSA/IRM Study was to investigate hazardous substances associated with MGP operations at the facility. A secondary objective of the PSA/IRM Study was to investigate potential releases of hazardous wastes or hazardous constituents from 13 SWMUs located at the facility.

Pursuant to Permit Module III, SWMUs that are determined to require further investigation based on the results of the PSA/IRM Study were to be grouped into the following three categories:

- *Category I SWMUs*: This category includes SWMUs containing MGP residuals;
- *Category II SWMUs*: This category includes SWMUs containing MGP residuals mixed with 6NYCRR hazardous wastes or hazardous substances; and
- *Category III SWMUs*: This category includes SWMUs containing 6NYCRR Part 373 hazardous wastes or hazardous substances.

In accordance with Permit Module III, further investigation of Category I and Category II SWMUs would be conducted under the MGP Consent Order and further investigation of Category III SWMUs would be conducted under Permit Module III. The 13 SWMUs investigated as part of the PSA/IRM Study were not categorized in accordance with the requirements of Permit Module III in the NYSDEC-approved PSA/IRM Study Report (June 1995). In order to establish applicable requirements for further investigation activities at the facility, NMPC proposes to categorize the 13 SWMUs investigated as part of the PSA/IRM Study as summarized below.

Unit Number	SWMU Description
Category I SWMUs	
L-1	Coal tar residuals from former MGP area
Category II SWMUs	
DW-1	Dry well (inactive)
B-2	Soil beneath transformer shop (Building 2)
T-1	Oil/water separator
T-2	8,000-gallon underground diesel tank
T-3	1,000-gallon waste oil tank (removed)
T-4	Skimmed oil collection tank
T-5	8,000-gallon underground gasoline tank (removed)
T-9	8,000-gallon underground gasoline tank (removed)
Category III SWMUs	
S-3	Mercury storage area
S-5	Yard storage area
T-6200	Non-hazardous waste oil tank (removed)
T-6300	PCB-contaminated waste oil tank (removed)
--	Storm sewer system

Unit Number	SWMU Description
--	AOC located in the vicinity of ground-water monitoring well MW-10 (portion of facility utilized as petroleum storage facility prior to NMPC ownership)
--	AOC located in vicinity of soil boring SB-5 (area located west of Versaire Building)

Based on the grouping of SWMUs under the categories indicated above, the RCRA Facility Investigation (RFI) requirements in Permit Module III would apply for future investigations at the facility. The NYSDEC has also requested that NMPC conduct a remedial investigation/feasibility study (RI/FS) for the site in accordance with the requirements of the MGP Consent Order. In order to coordinate future investigation and remedial action requirements under the MGP Consent Order and Permit Module III, NMPC proposes to conduct a single, comprehensive MGP/RCRA Investigation and Remedial Measures Evaluation that will consist of the following elements:

- MGP/RCRA Investigation;
- Evaluation and Implementation (if necessary) of Interim Remedial Measures;
- Remedial Measures Evaluation; and
- Proposed Remedial Action Plan.

A detailed description of NMPC's technical approach for completing these elements and satisfying the requirements of the MGP Consent Order and Permit Module III is presented below.

II. Elements of MGP/RCRA Investigation and Remedial Measures Evaluation

NMPC's technical approach for completing the elements of the MGP/RCRA Investigation and Remedial Measures Evaluation is as follows:

A. MGP/RCRA Investigation

In accordance with Appendix III-B of Permit Module III and consistent with the requirements of Subparagraph II.C. of the MGP Consent Order, NMPC will prepare a MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan (Work Plan) that will present a detailed description of activities to be conducted for the MGP/RCRA Investigation. In accordance with the requirements of Appendix III-B of Permit Module III, the Work Plan will be supported by the following documents:

- A Project Management Plan, which will present a discussion of the management approach, project schedule, and key personnel responsible for implementation of the MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan (The Project Management Plan is not required under the MGP Consent Order);

- A Quality Assurance Project Plan (QAPjP) which will present project-specific protocols and QA/QC measures to be utilized during the collection of samples, completion of field measurements, and laboratory analysis of samples collected during implementation of the Work Plan (The QAPjP will include field sampling and quality assurance information that is required for a Sampling and Analysis Plan under the MGP Consent Order);

- A Data Management Plan that will present a discussion of how the data management system will document and track investigation data and results. The Data Management Plan will also present an outline of the contents to be included in the MGP/RCRA Investigation and Remedial Measures Evaluation Report (The Data Management Plan is not required under the MGP Consent Order);
- A project-specific Health and Safety Plan (HASP) which will present detailed procedures to minimize the exposure of on-site workers and the general public to hazardous wastes or constituents during implementation of the Work Plan (The HASP is required by both Permit Module III and the MGP Consent Order); and
- A Community Relations Plan which will present procedures for informing the public of activities to be conducted and the results generated for the MGP/RCRA Investigation and Remedial Measures Evaluation (The Community Relations Plan is consistent with the document referred to as a "Citizen Participation Plan" in the MGP Consent Order. Under Subparagraph III.A. of the MGP Consent Order, the document may be required at the discretion of the NYSDEC).

In addition to presenting the scope of work for conducting the MGP/RCRA Investigation, the Work Plan will also present a detailed outline for the Remedial Measures Evaluation to be conducted in accordance with the Feasibility Study (FS) requirements of the MGP Consent Order (Subparagraph V) and the Corrective Measures Study (CMS) requirements of Permit Module III (Appendix III-C and Conditions E.9 through E.12). The Work Plan will also present a detailed schedule for completing each work task presented in the Work Plan. The schedule will be developed to comply with Condition E and Appendix III-D of Permit Module III (which presents more detailed schedule requirements than the MGP Consent Order).

B. Evaluation and Implementation of Interim Remedial Measures

In accordance with Condition B.6. of Permit Module III and Subparagraph III.A. of the MGP Consent Order, NMPC will evaluate the need for interim remedial measures (IRMs) to address chemical constituents and/or non-aqueous phase liquids identified by the results of the MGP/RCRA investigation. The need for the IRM(s) will be evaluated based on the results of the MGP/RCRA Investigation and an exposure pathway analysis (i.e., focused screening level risk assessment) to be presented in the MGP/RCRA Investigation Report. The purpose of the IRM(s) will be to control active source areas or address areas where the concentrations of a particular constituent are judged to be an immediate problem that should be addressed prior to conducting the Remedial Measures Evaluation and/or implementation of a site-wide remedy. NMPC will provide a detailed description of the proposed IRM(s) in an IRM Action Plan that incorporates the requirements for an Interim Corrective Measures Study as described in Condition B.6. of Permit Module III and the requirements for an IRM Work Plan as described in Subparagraph III.A. of the MGP Consent Order.

As required by Subparagraph III.A. of the MGP Consent Order, NMPC will prepare detailed documents and specifications (if necessary) to implement the NYSDEC-approved IRM Action Plan. These documents and specifications will be signed and sealed by a professional engineer. In addition to the detailed documents and specifications, a health and safety plan and contingency plan will also be prepared. Information regarding the IRMs will be provided to the public in accordance with the Community Relations Plan.

C. Remedial Measures Evaluation

Based on the results of the MGP/RCRA Investigation, NMPC will conduct a Remedial Measures Evaluation that will consist of the following elements:

- Developing remedial action objectives (RAOs) to address the environmental concerns identified at the facility;
- Identifying and developing potential remedial measure alternatives and performing a preliminary screening of the remedial measure alternatives;
- Conducting a detailed analysis of potential remedial measures which could be implemented to address the remedial action objectives; and
- Preparing a Remedial Measures Evaluation Report to present the results of the Remedial Measures Evaluation and NMPC's recommended Remedial Measure Alternative(s).

A brief description of NMPC's technical approach for completing each element of the Remedial Measures Evaluation is presented below.

1. Establish Remedial Action Objectives

RAOs for the various environmental media at the site will be developed based on the results of the MGP/RCRA Investigation, including the present distribution of DNAPL and LNAPL, and the concentrations of chemical constituents identified in the soil and ground water at the site. The objectives will focus on overall environmental protection, while acknowledging the limitation of current technology to address DNAPL.

2. Remedial Measures Evaluation

The evaluation of potential remedial measures which could be implemented to address the remedial action objectives for the facility will be conducted in accordance with the following guidance:

- Appendix III-C of Permit Module III which presents a detailed outline for a Corrective Measures Study;
- NYSDEC Technical and Administrative Guidance Memorandum (TAGM) for the Selection of Remedial Actions at Inactive Hazardous Waste Disposal Sites (May 15, 1990);
- USEPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (October 1988); and
- Other applicable NYSDEC, USEPA, and New York State Department of Health (NYSDOH) regulations and guidance.

NMPC will focus the Remedial Measures Evaluation to address potential exposure pathways that may result in unacceptable human health risks and/or continued sources for release of hazardous waste or hazardous constituents to the environment.

The Remedial Measures Evaluation will consist of the following work elements:

- Preliminary screening of remedial technologies based on effectiveness, implementability, and ability of the technology to achieve the remedial action objectives in a reasonable time period;
- Identification and development of potential remedial measure alternatives;
- Evaluation of the remedial measure alternatives based on the criteria of technical feasibility, environmental and human health, compliance with institutional requirements, and costs; and
- Justification and recommendation of the preferred remedial measure alternative(s).

The identification and development of the Remedial Measure Alternative(s) will involve the identification, screening, and development of the technologies for removal, containment, and/or treatment of chemical constituents in environmental media at the facility, based on the RAOs established for the site (as discussed above). A comparison of the criteria which will be used to evaluate the remedial measure alternative(s) under Permit Module III (i.e., the RCRA CMS Criteria) and the MGP Consent Order (i.e., CERCLA FS Criteria) is presented below.

RCRA CMS Criteria	Applicable CERCLA FS Criteria
Technical Analysis	- Implementability - Reduction of toxicity, mobility, and volume
Environmental Analysis	- Long-term effectiveness - Short-term effectiveness - Overall protection of human health and environment
Human Health Analysis	- Overall protection of human health and environment - Short-term effectiveness
Institutional Analysis	- Compliance with New York State Standards, Criteria, and Guidelines (SCGs)
Cost Feasibility	- Cost

Based on the similarity of the evaluation criteria under Permit Module III and the MGP Consent Order, NMPC proposes to use a single set of criteria for the entire Remedial Measures Evaluation. Since the former MGP operation residues are included as a SWMU in the RCRA permit for the North Albany Service Center facility, the Permit Module III criteria are more directly applicable on a site-wide basis; therefore, NMPC proposes to use the evaluation criteria presented in Permit Module III.

If appropriate based on the results of the MGP/RCRA Investigation, NMPC will incorporate the evaluation of presumptive remedial measures, as described in the USEPA's Superfund Accelerated Cleanup Model (SACM), the USEPA's Presumptive Remedy Guidance for MGP Sites, the USEPA's Site Remediation Strategy Document, and the New York Power Pool document entitled, "Standard Remedy Framework for Manufactured Gas Plant Sites in the State of New York" (December 1994).

3. Remedial Measures Evaluation Report

The Remedial Measures Evaluation Report will present a detailed discussion of the Remedial Measures Evaluation (including documentation that the evaluation meets the requirements of Permit Module III and the MGP Consent Order). The report will also present a preliminary discussion of the preferred remedial measure(s) design, implementation precautions, cost estimates, and schedule considerations. The Remedial Measures Evaluation Report will form the basis for the selection of an appropriate remedial alternative(s) for implementation at the site.

D. Proposed Remedial Action Plan

After an appropriate remedial alternative(s) has been selected and approved by the NYSDEC, NMPC will meet with the NYSDEC to discuss the development of a PRAP by the NYSDEC. Once an acceptable PRAP has been reached, NMPC will prepare for and attend public meetings associated with the NYSDEC Record of Decision (ROD) that will detail the selected remedy for the facility.

Based on discussions during the January 25, 1995 meeting, NMPC has attached a site location map, a site plan (showing the location of SWMUs), and a map of historical site features (including the former MGP operation) as Figures 1 through 3. A proposed schedule for completing the elements of the MGP/RCRA investigation is included as Figure 4.

NMPC trusts that the proposed technical approach for complying with the requirements of the MGP Consent Order and Permit Module III will be acceptable to the NYSDEC. Please do not hesitate to call me at (315) 428-3101 if you have any questions regarding NMPC's planned approach for the MGP/RCRA Investigation and Remedial Measures Evaluation.

Sincerely,

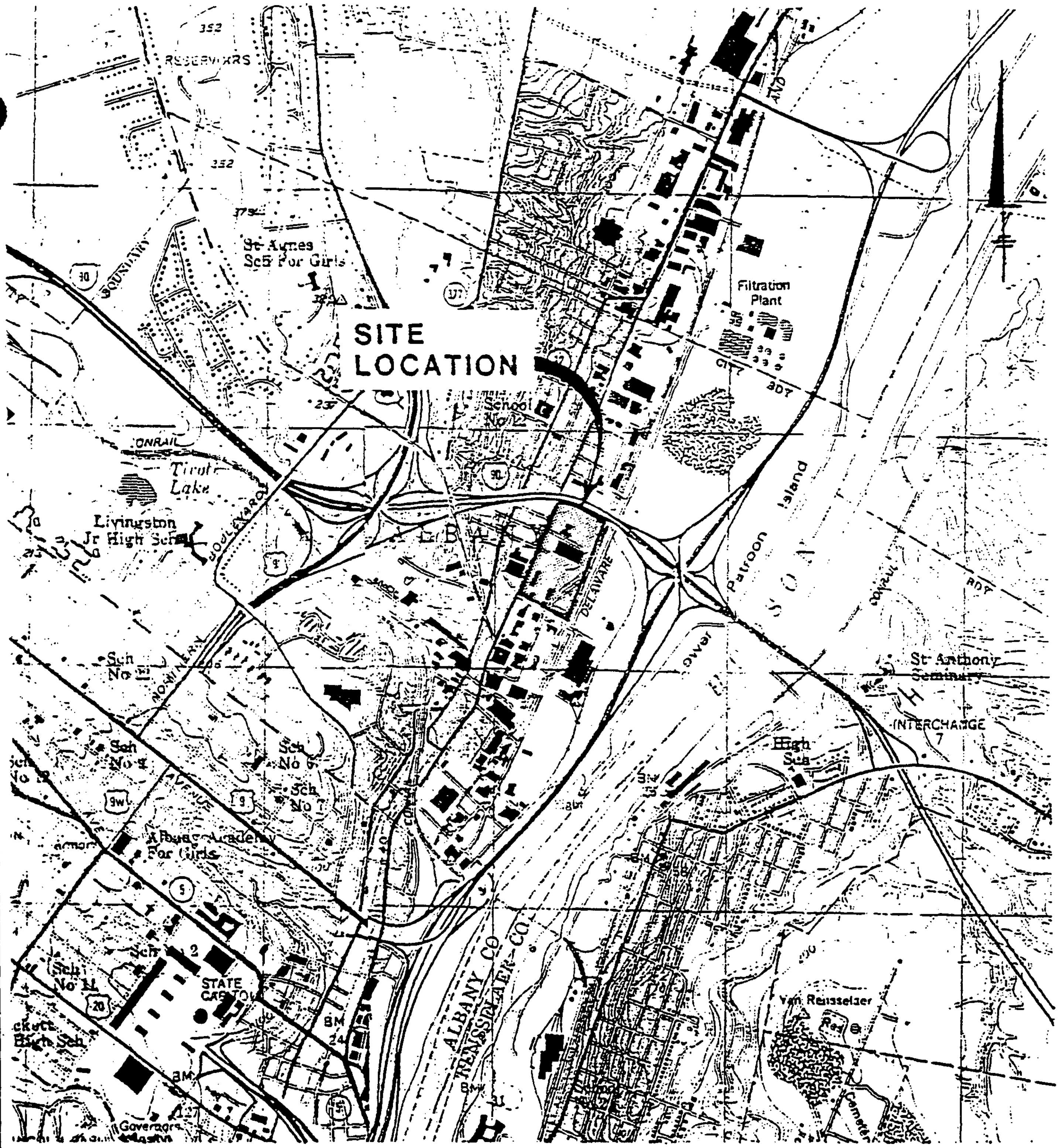
NIAGARA MOHAWK POWER CORPORATION

James F. Morgan

James F. Morgan
Environmental Analyst IV

JCB/mbl
Attachments
4296842.C

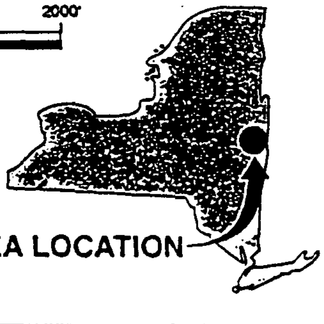
cc: Mr. James R. Meacham, NYSDEC
William C. Weiss, Esq., NMPC
William J. Holzhauer, Esq., NMPC
Robert J. Cazzolli, NMPC
Michael W. Sherman, NMPC
David H. King, NMPC
David J. Ulm, BBL ✓
Nancy E. Gensky, BBL
Michael C. Jones, BBL



REFERENCE: ALBANY, NEW YORK USGS QUAD. 1980
TROY SOUTH, NEW YORK USGS QUAD. 1980

2000' 0 2000'

Approximate Scale: 1" = 2000'



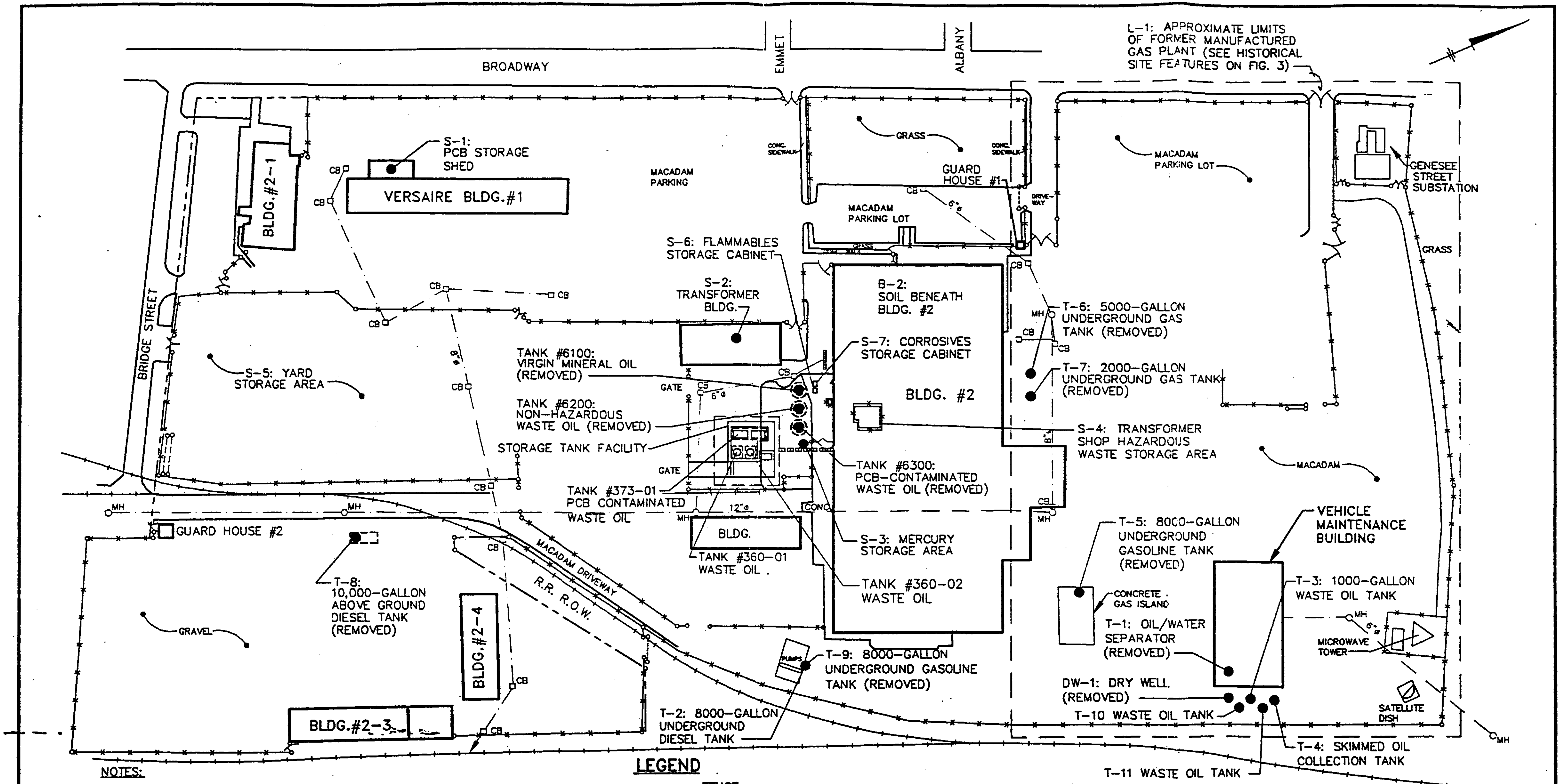
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

LOCATION MAP

FIGURE
1

11/95 DS4-JVM
36469F02/36469N01.CDR



NOTES:

1. DRAWING DIGITIZED FROM NIAGARA MOHAWK POWER CORPORATION DRAWING NO. D-24687-E, FILE NO. INDEX 20.3-A1.1-B2, DATED 10/29/85.
2. STORM SEWER LAYOUT DIGITIZED FROM NIAGARA MOHAWK POWER CORPORATION DRAWING NO. C-16925-E, FILE NO. INDEX 20.3-A1.1, CIRCA 1983.
3. EXISTING SAMPLE LOCATIONS DIGITIZED FROM FOSTER WHEELER CORPORATION DRAWING NO. NMPC2-3A.DWG, DATED 4/11/95.
4. ALL LOCATIONS ARE APPROXIMATE.

LEGEND

—x—x— FENCE
— — — RIGHT-OF-WAY
—+—+— EXISTING RAILROAD
— - — - — EXISTING STORM SEWER PIPE
□ CB EXISTING CATCH BASIN
○ MH EXISTING MANHOLE

100' 0 100'
SCALE: 1" = 100'

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NORTH ALBANY SERVICE CENTER
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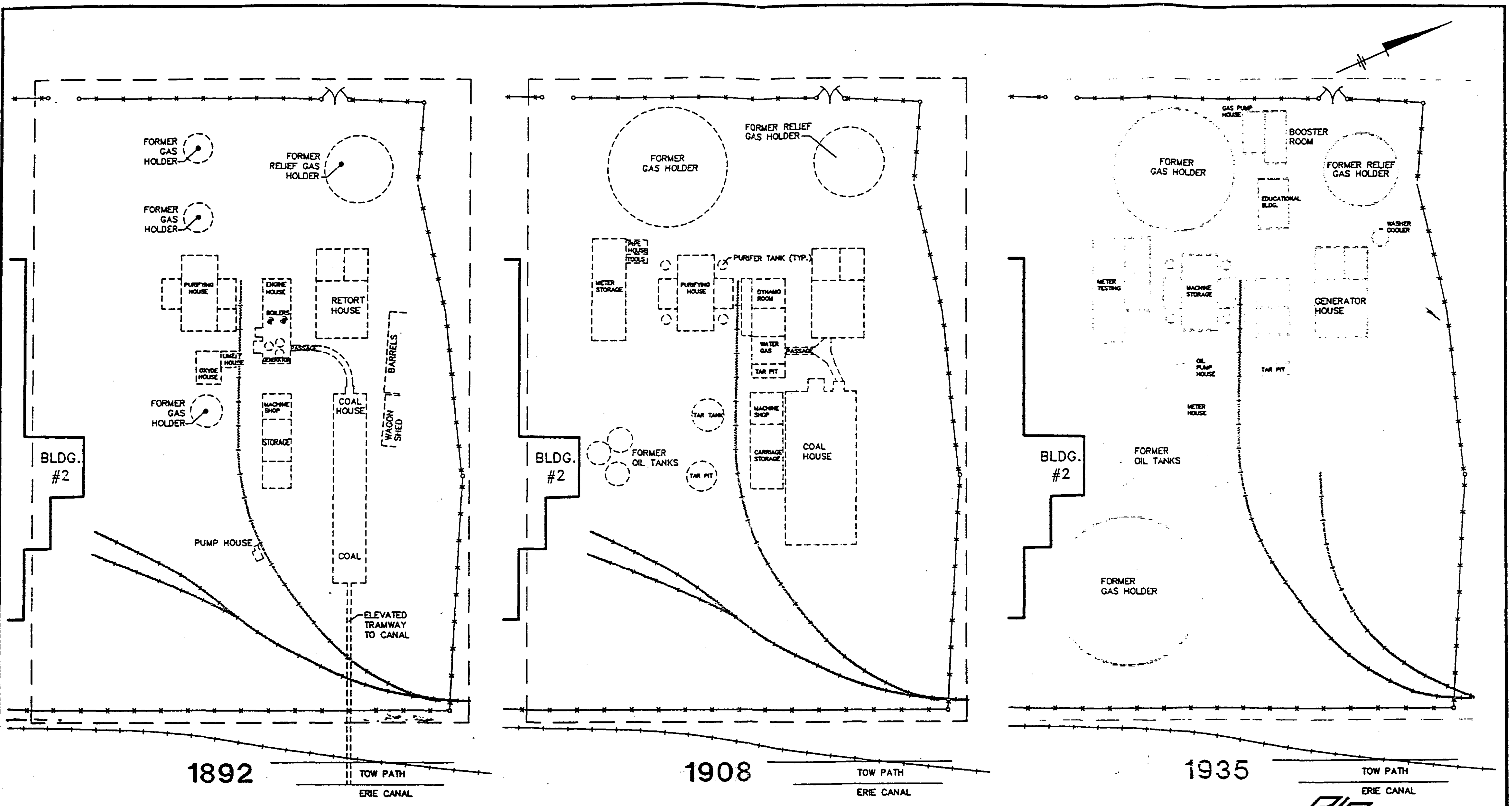
SITE PLAN

FIGURE
2

11/28/95 54-AK, RCB, PGL
36469P02/36469G03.DWG LAYERS OFF: REF,1*,BO*,P*,TE,WE,TXTP



NOTES:

1. BUILDING 2 AND EXISTING FENCE LOCATION DIGITIZED FROM NIAGARA MOHAWK POWER CORPORATION DRAWING NO. D-24687-E, FILE NO. INDEX 20.3-A1.1-B2, DATED 10/29/85.
2. HISTORIC STRUCTURE LOCATIONS ARE BASED ON ENGINEERING-SCIENCE FIGURE NO. 3.2, "MGP SITE PLAN" AND HISTORICAL MAPS INCLUDING SANBORN FIRE INSURANCE MAPS. THESE LOCATIONS ARE APPROXIMATE.
3. LOCATION OF FACILITY SHOWN ON FIGURE 2.

LEGEND

—×—×— FENCE
—+—+— EXISTING RAILROAD
—+—+— FORMER RAILROAD

100' 0 100'
SCALE: 1" = 100'

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NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

HISTORICAL SITE FEATURES

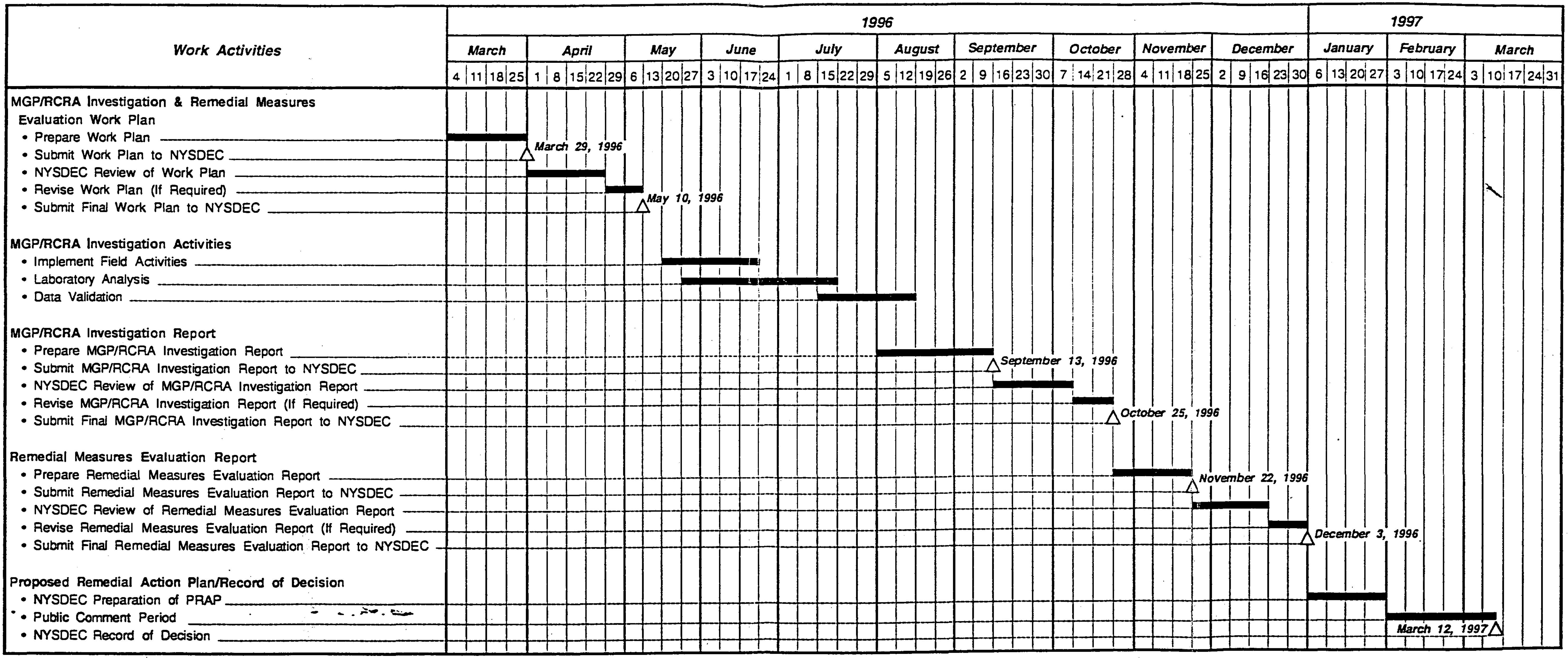
FIGURE
3

11/28/95 54-AK, RCB, PGL
36469P02/36469C04.DWG
LAYERS OFF: REF,BO-P-,TE,WE,FENCE,SS,TXTT,TXTS.

Proposed Project Schedule

FIGURE 4

Niagara Mohawk Power Corporation
MGP/RCRA Investigation and Remedial Measures Evaluation
North Albany Service Center



Notes:

1. Schedule assumes that MGP/RCRA Investigation and Remedial Measures Evaluation strategy will be approved by the NYSDEC prior to March 4, 1996.
2. Schedule for completion of the Remedial Measures Evaluation will be dependent upon the results of the MGP/RCRA Investigation.
3. Schedule is dependent upon NYSDEC review time frames.
4. Schedule for preparation of MGP/RCRA Investigation Report includes the evaluation of interim remedial measures and completion of the Focused Screening Level Risk Assessment.

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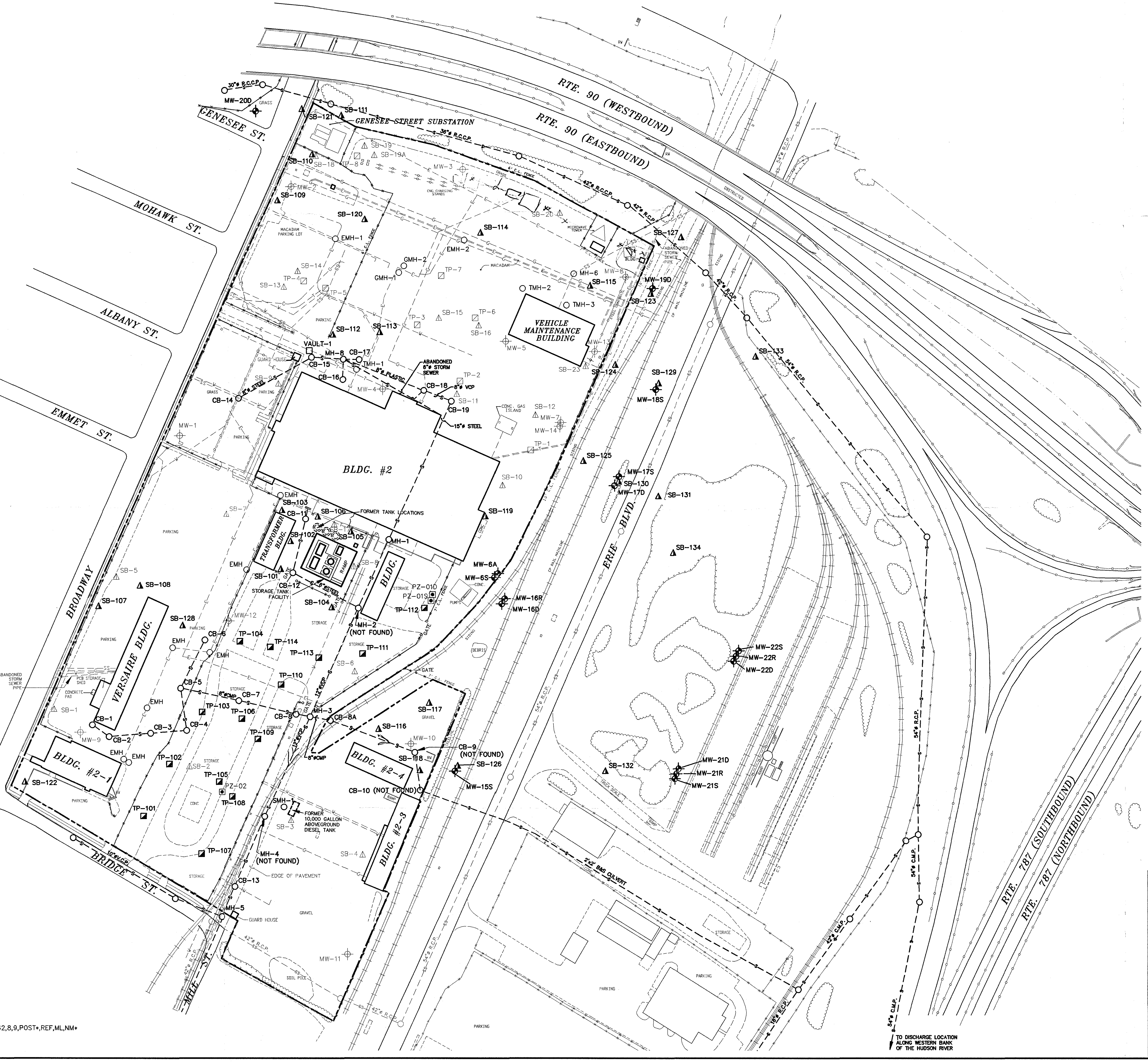
2/96 SYR D54 rvm
36469004/3646901.cdr



LEGEND

- FENCE
- EXISTING RAILROAD
- APPROXIMATE PROPERTY LINE
- MW-15S MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
- SB-126 MGP/RCRA SOIL BORING LOCATION
- TP-105 MGP/RCRA TEST PIT LOCATION
- PZ-01S MGP/RCRA PIEZOMETER
- MW-11 PSA/IRM GROUND-WATER MONITORING WELL LOCATION
- SB-4 PSA/IRM SOIL BORING LOCATION
- TP-3 PSA/IRM TEST PIT LOCATION
- ○ CB-2 EXISTING CATCH BASIN
- ○ MH-1 EXISTING STORM SEWER MANHOLE
- ○ EMH-1 EXISTING ELECTRICAL MANHOLE
- ○ TMH-1 EXISTING TELEPHONE MANHOLE
- ○ GMH-1 EXISTING UTILITY MANHOLE
- —S— STORM SEWER
- —SS— SANITARY SEWER
- —T— TELEPHONE LINE
- —E— ELECTRICAL LINE
- —G— GAS LINE
- —W— WATER LINE
- —C— CABLE LINE
- GUARD RAIL

GENERAL NOTES:

1. BASE MAP (INCLUDING BUILDING LOCATIONS AND PSA/IRM SAMPLING LOCATIONS) DEVELOPED FROM ELECTRONIC FILE OF NIAGARA MOHAWK POWER CORPORATION (NMPC) DRAWING NO. C-29736-C, DATED JULY 1994, ENTITLED NORTH ALBANY SERVICE CENTER HAZARDOUS WASTE MANAGEMENT PERMIT APPLICATION, TOPOGRAPHIC MAP - INDEX SHEET.
2. LOCATIONS OF UNDERGROUND UTILITIES (INCLUDING ON-SITE STORM SEWERS, SANITARY SEWERS, TELEPHONE LINES, ELECTRICAL LINES, GAS LINES, WATER LINES, AND CABLE) WERE DIGITIZED FROM NMPC DRAWING NO. D-29734-E, FILE INDEX NO. 20.3-A1.1-B2, DATED JUNE 27, 1994, ENTITLED NORTH ALBANY SERVICE CENTER SITE PLAN - PAVING (OUTSIDE FENCE).
3. MGP/RCRA INVESTIGATION SAMPLING LOCATIONS AND LOCATIONS OF MANHOLES AND CATCH BASINS WERE OBTAINED FROM A SURVEY CONDUCTED BY NMPC DURING JULY/AUGUST 1997 WITH THE FOLLOWING EXCEPTIONS: SB-116 AND SB-117, WHICH ARE APPROXIMATE LOCATIONS.
4. LOCATIONS OF OFF-SITE STORM AND SANITARY SEWERS WERE DIGITIZED FROM CITY OF ALBANY DRAWINGS AND ARE APPROXIMATE.

0 100' 200'
APPROXIMATE SCALE

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SITE PLAN

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engineers & scientists

FIGURE
2

NMSVOC.TXT
L: OFF=-13TO13,17,18,19,20,25,42TO49,51,53,57,62,8,9,POST*,REF,ML,NM*
P: NINA-D.PCP
10/16/97 SYR-54-RCB, PGL
36469009/36469S19.DWG

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

Michael D. Zagata
Commissioner

FEB 14 1996

James F. Morgan
Environmental Analyst IV
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Dear Mr. Morgan:

Re: North Albany Service Center
MGP/RCRA Investigation

The Department of Environmental Conservation (Department) approves of your February 6, 1996 proposed strategy for satisfying the requirements of both the MGP Consent Order and Permit Module III of the Hazardous Waste Management Permit for the North Albany Service Center.

The MGP/RCRA Investigation and Remedial Measures Evaluation Work Plan shall be submitted to the Department on or before March 29, 1996. Please bear in mind the following comments when developing the work plan:

1. The New York Power Pool document is still under review by the Department and the New York State Department of Health.

2. The "Historical Site Features" figure indicates the gas holders are "former holders". More likely these holders were active during the three times shown. Also, please label the capacity of the holders as the holders often become a reference point for describing locations within the site.

Please call me at (518) 457-9285 if you have any questions.

Sincerely,

John Spellman

John Spellman, P.E.
Project Manager
Central Field Services Section
Bureau of Construction Services
Div. of Hazardous Waste Remediation

Appendix B -
Test Pit Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists
6723 Towpath Road, Box 66, Syracuse, N.Y. 13214-0066
TEL (315) 446-9120

PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-101

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0
6-8': 0.0

SOIL TYPE

0-6": Gray/brown gravel
6"-2': Med. brown silt, sand, trace gravel.
2-4': Gray/black ash, silt, some mortar.
4-6': Brown silt, brick debris, wood fragments.
6-8': Dark brown/gray clay and silt. Trace organic matter.
Water seeping into TP @ 7 feet. No GW accumulation

Note:
0-5': Appears to be fill
5-8': Appears to be native

0 — 2' — 4' — 6' — 8' — 10' — 12' — 14' — 16'

Excavated TP-101 to 8' depth.

- Water seeping in @ 7', but no accumulation.

Samples collected:

- SS-101 (0-6") for PCBs & inorganics
- TP-101 (2-4') for PCBs & inorganics based on black ash silt layer.

NOTES: Photos: Before 1-19
During 1-20
After 1-21

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/25/96

TEST PIT LOG

TP-102

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.9
4-6': 1.9
6-8': 0.2

0
2'
4'
6'
8'
10'
12'
14'
16'

Excavated TP-102 to 8½' depth.

- No GW encountered

Samples collected:

- SS-102 (0-6") for PCBs, inorganics
- TP-102 (4-6') for PCBs, inorganics based on PID hit & 1st interval below wood-fill layer.

SOIL TYPE

0
2'
4'
6'
8'
10'
12'
14'
16'

0-6": Gray/black gravel.
6"-2': Gray-black moist silt w/ wood fragments.
2-4': Brown/black silt. Wood fiber materials.
4-8½': Gray/brown clay/silt

NOTES: Photos: Before 1-22
During 2-1
After 2-2

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PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/25/96

TEST PIT LOG

TP-103

HEADSPACE (ppm)	SOIL TYPE
0-6": 2.0	0-6": Black/gray gravel (adjacent to oil-stained soil area/puddle w/ sheen).
6"-2': 0.7	6"-2': Brown/black silt & gravel w/ some bricks
2-4': 0.4	2'-3': Brown silt
	3-3½': Black silt & slag.
4-6': 1.1	3½-6': Dk. brown clay
6-8': 0.3	6-8': Med. brown clay.

0 2' 4' 6' 8' 10' 12' 14' 16'

Excavated TP-103 to 8' depth.

- No GW encountered.
- No odors noticed.

Samples collected:

- SS-103 (0-6") for PCBs, SVOCs, Inorganics
- TP-103 (2-4') for PCBs, VOCs, SVOCs, & inorganics based on location below slag & above native-appearing clay.

Also collected DVP-3 (2-4') for PCBs & inorganics.

NOTES: Photos: Before 2-8
During 2-10
After 2-11

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/25/96

TEST PIT LOG
TP-104

HEADSPACE (ppm)	
0-6":	0.0
6"-2':	26.0
2-4':	2.6
4-6':	4.5
6-8':	6.1

SOIL TYPE

0-6": Gray/black gravel.
6"-1': Black silt
1-1½': Orange-brown silt mat'l w/odor.
1½-2': Reddish-orange silt mat'l w/ strong odor. (Nasty smelling). Potential purifier waste.
2-3': Black fiber material w/ strong odor.
3-4': Med. brown silt w/ some bricks.
4-8': Brown clay/silt w/ large rocks.

Excavate TP-104 to 8' depth.

- No GW encountered.
- Strong odor 1-1½', 1½-3' layers.

Samples collected:

- SS-104 (0-6") for PCBs, SVOCs, & inorganics.
- TP-104 (1-2') for PCBs, VOCs, SVOCs, & inorganics based on PID hit & strong odor.
- TP-104 (6-8') for PCBs, VOCs, SVOCs, & inorganics based on PID hit & bottom of test pit.

NOTES: Photos: Before 2-6
During 2-7
After 2-9

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TEL (315) 446-9120

PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/25/96

TEST PIT LOG

TP-105

HEADSPACE (ppm)	
0-6":	1.2
6"-2':	0.7
2-4':	0.2
4-6':	0.4
6-8':	0.3

0 2' 4' 6' 8' 10' 12' 14' 16'

Excavated TP-105 to 8' depth.

- No GW encountered.
- No odors noticed.

Samples collected:

- SS-105 (0-6") for PCBs, inorganics
Also collected MS/MSD for PCBs & inorganics from 0-6".
- TP-105 (2-4') for PCBs, inorganics based on PID & black wood fragments.

SOIL TYPE

0-6": Black/gray gravel
6"-1': Brown silt.
1-2': Black silt, rocks, & brick debris.
Note: At 2', ran into portion of brick wall; had to extend TP-105 to the southeast.
2-4': Brown silt, rocks, & brick debris. Black wood fragments.
4-8': Brown clay w/ bricks.

0 2' 4' 6' 8' 10' 12' 14' 16'

NOTES: Photos: Before 2-12
During 2-13, 2-14
After 2-15

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TEL (315) 446-9120

PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/25/96

TEST PIT LOG

TP-106

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0

Excavate TP-106 to 5½'.

- GW accumulated in TP-106 @ 5½'. No sheen observed on GW.
- No odors noticed in TP-106.

Samples collected:

- SS-106 (0-6") for PCBs, inorganics
- TP-106 (2-4') for PCBs, inorganics of orange-brown layered material above clay

SOIL TYPE

0-12": Gray-black gravel w/ some apparent oil staining on surface.

1-2': Brown silt

2-4': Brown/black silt/gravel w/ some orange-brown layering. Some shale-type soil (layered).

4-5½': Dk. brown/black clay w/ brick debris in clay. This clay layer does not appear to be stained.

NOTES: Photos: Before 2-3
During 2-4
After 2-5

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TEL (315) 446-9120

PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-107

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0
6-8': 0.0

0
2'
4'
6'
8'
10'
12'
14'
16'

Excavated TP-107 to 8' depth.

- No odors noticed. No PID hits.
- Water seeping in @ 6', but no accumulation.

Samples collected:

- SS-107 (0-6") for PCBs, SVOCs, inorganics.
- TP-107 (6-7') for PCBs, VOCs, SVOCs, & inorganics based on dark/black pocket of clay.
  Also collected MS/MSD for VOCs from 6-7' depth

SOIL TYPE

0-6": Brown silt, sand, & gravel.
6"-2': Brown/black silt. Brick debris.
2-5': Med. brown silt/sand. Brick debris. Large rocks.
5-6½': Brown clay. Water seeping into TP @ 6'.
6½-8': Gray-brown silt/clay w/ some trace fiber material.

- Dark/black pocket of clay in NW corner of TP @ 6' depth.
- Encountered concrete mass @ 3' depth in N. portion of T.P. ∴ moved T.P. further south.

0
2'
4'
6'
8'
10'
12'
14'
16'

NOTES: Photos:
Before 1-16
During 1-17
After 1-18

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBEB 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-108

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0

SOIL TYPE

0-6": Brown/black gravel w/ some sand & silt.
6"-2': Black silt, sand, & gravel.
2-4': Brown silt & sand. Portion of brick wall on side of test pit.
4-6½': Moist, brown/black loose silt; some slag. Seashells encountered. Traces of water seeping into TP-108.

0 2' 4' 6' 8' 10' 12' 14' 16'

Excavated TP-108 to 6½'. Encountered solid, relatively smooth surface (possible foundation) in bottom of test pit.

- Possible former brick wall (bricks still set in place) on west side of TP-108.
- No accumulation of water in TP-108.

Samples collected:
- SS-108 (0-6") for PCBs & inorganics
- TP-108 (1½-2') for PCBs & inorganics based on black layer of silt

NOTES: Photos: Before 1-13
During 1-14
After 1-15

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-109

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0
6-8': 0.0

SOIL TYPE

0-6": Gravel, large concrete chunks.
6"-2': Red/brown silt, sand, & gravel. Some slag.
2-4': Fill: Gray-brown silt, gravel Some brick.
4-5': Med. brown clay soil which appears native
5'-8': Gray-brown clay. Soil is damp @ 6'

0 2' 4' 6' 8' 10' 12' 14' 16'

Excavate TP-109 to 8' depth.

- No GW accumulation in bottom of TP-109.
- No odors, no apparent oil staining.

Samples collected:

- SS-109 (0-6") for PCBs & inorganics
- TP-109 (2-4') for PCBs & inorganics based on appearance of fill material.

NOTES: Photos: Before 1-10
During 1-11
After 1-12

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-110

HEADSPACE (ppm)

0-6": 0.1
6"-2': 14.2
2-5': 0.2

SOIL TYPE

0-6": Gray/black gravel.

6"-2': Brown/black wood chips, organic material. Strong petroleum-type odor. PID over excavated soil → max = 4.0 ppm.

2-5': Brown/black silt & gravel. Some glass encountered at 3-5'.

0 2' 4' 6' 8' 10' 12' 14' 16'

Excavate TP-110 to 5' depth

- GW encountered @ 4½'. Slight sheen on GW surface.

Samples collected:

- SS-110 (0-6") for PCBs, SVOCs, & inorganics.
- TP-110 (1-2') for PCBs, VOCs, SVOCs, & inorganics based on odor & PID hit.

NOTES: Photos: Before 1-7
During 1-8
After 1-9

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists
6723 Towpath Road, Box 66, Syracuse, N.Y. 13214-0066
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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/24/96

TEST PIT LOG

TP-111

HEADSPACE (ppm)

0-6": 0.0
6"-2': 0.1
2-4': 0.0
4-6': 0.0
6-8': 0.1

SOIL TYPE

0-6": Gray/black gravel

6"-2': Brown/black silt, gravel, & rocks. Some brick debris also present. Slight odor noticed.

2-5': Orange-brown Silt, gravel, & rocks. Trace blue material, indicative of cyanide (per NYSDEC). Slight odor this interval. (Note: Gray-white silt/trace gravel mat'l pocket 4-5').

5'-8½': Med. brown clay. Some slag @ 5' depth. Soil below 5' appears 'clean'.

Excavate TP-111 to 8½' depth.

- Water seeping in at 8'; no accumulation in bottom of TP-111.
- Slight odor noticed in soil from 6" to 5' +/-.

Samples collected:

- SS-111 (0-6") for PCBs, SVOCs, & inorganics (Also collected MS/MSD & DUP-1)
- TP-111 (4-6') for PCBs, VOCs, SVOCs, inorganics based on presence of blue-colored mat'l & odor

NOTES: Photos: Before 1-4
During 1-5
After 1-6

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists
6723 Towpath Road, Box 66, Syracuse, N.Y. 13214-0066
TEL (315) 446-9120

PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/23/96

TEST PIT LOG

TP-112

HEADSPACE (ppm)

0-6": 0.0
6"-2': 1.0
2-4': 1.2
4-6': 0.2
6-8': 0.6

SOIL TYPE

0-8": Gravel
8"-2': Dark brown silt & gravel soil. Large rocks & debris (slag & cinder) slight odor noticed @ 2' depth, but PID over soil = 0.0 ppm.
2-5': Moist, med. brown clay w/ slight odor.
5-7½': Brown/Black clay w/ stronger odor. (Potential purifier waste -- paper/fiber material embedded in black soil)

∇

Excavated TP-112 to 7½'.

- GW filled in to a depth of 7'. Slight sheen observed on GW
- Samples collected:
  - → SS-112 (0-6") for PCBs, SVOCs, inorganics.
  - → TP-112 (6-7') for PCBs, VOCs, SVOCs, inorganics based on soil staining & odors.

0 2' 4' 6' 8' 10' 12' 14' 16'

NOTES: Photos: Before 1-1
During 1-2
After 1-3

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/26/96

TEST PIT LOG

TP-113

(Located immediately west of railroad track spur)

HEADSPACE (ppm)
0-6": 0.0
6"-2': 0.0
2-4': 0.0
4-6': 0.0
6-8': 0.0

SOIL TYPE
0-6": Black/gray gravel
6"-1': Orange/brown silt
1-3': Brown/black gravelly silt w/ slight odor. Some brick fill.
3-6': Med. brown silt/clay & rocks.
6-8': Med. brown sand & clay

Excavated TP-113 to 8' depth

- No GW encountered.
- No PID hits.

Samples collected

- SS-113 (0-6") for PCBs, inorganics.
- TP-113 (2-3') for PCBs, inorganics based on black fill material & slight odor.

(Note: No slag or apparent MGP-related material in TP-113)

NOTES: Photos: Before 2-19
During 2-20
After 2-22

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PROJECT NAME MGP/RCRA INVESTIGATION
PROJECT NUMBER 364.69.03
LOCATION NMPC - N. ALBANY
LOGGED BY MAS DATE 9/26/96

TEST PIT LOG
TP-114

HEADSPACE (ppm)

0-6": 0.0
6"-2': 4.6
2-4': 0.4

SOIL TYPE

0-6": Brown/black gravel
6"-1': Brown silt/gravel
1-2½': Black slag, potential purifier waste. Strong odor.
2½-3': Brown clay.

0 — 2' — 4' — 6' — 8' — 10' — 12' — 14' — 16'

▽

Excavated TP-114 to 4'

- Water filled in TP-114 to 3½' depth. (Possibly perched water trapped above clay layer)

Samples collected:

- SS-114 (0-6") for PCBs, SVOCs, & inorganics.
- TP-114 (1-2') for PCBs, VOCs, SVOCs, & inorganics based on PID hit, odors, & staining (potential purifier waste).

NOTES: Photos: Before 2-21, 3-1
During 3-2
After 3-3

Appendix C - Soil Boring Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Date Start/Finish: 10/07/96 - 10/07/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397654.9541
Easting: 696600.7125
Borehole Depth: 14.0 ft.
Ground Surface Elev.: 17.78 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-101

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 17.78 ft.										**GROUND SURFACE**	
		(0-2')	3"	- 10 14 12	26	1.6	0.0	AS SM		Black Asphalt. Dark brown and black fine to medium SAND, little Silt, slag, coal, glass, and brick, damp.	
	15	(2-4')	3"	8 7 21 18	28	1.8	0.0	SP		Gray fine SAND, little Silt, trace slag, coal, glass, and brick, damp. Brown and orange fine to medium oxidized SAND, trace coarse Sand and fine to medium Gravel, damp.	
5		(4-6')	3"	6 5 4 4	9	1.4	0.0	SM ML		Dark gray fine SAND, little Silt, moist to wet. Gray SILT, little fine Sand, trace natural organic material, damp.	Type 1 portland cement/5% bentonite grout 0' to 14.0' bgs
	10	(6-8')	3"	6 7 8 8	15	1.6	0.0	OH/PT		Brown organic SILT and PEAT, little Clay, damp. Dark gray Silty CLAY, stiff, moist, high plasticity.	
		(8-10')	3"	6 5 7 4	12	1.6	0.0	CH		Dark gray Silty CLAY, orange mottling, stiff, moist, high plasticity.	
10		(10-12')	3"	7 11 15 14	26	0.8	0.0	SM		Dark gray fine to coarse SAND, little Silt and fine to medium Gravel, trace dark gray Shale fragments, saturated.	
	5	(12-14')	3"	8 16 21 39	37	0.8	0.0				
15										End of boring at 14.0' bgs.	

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engineers & scientists

Remarks:
Submitted soil sample interval (0-2') to Galson Laboratories for analysis of PCBs and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 10/07/96 - 10/07/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397716.0598
Easting: 696620.6397
Borehole Depth: 14.0 ft.
Ground Surface Elev.: 18.44 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-102

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 18.44 ft.										**GROUND SURFACE**	
		(0-2')	3"	50/0.4	Ref	0.4	0.0	AS SM/GM		Black Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, little SILT, saturated.	
	15	(2-4')	3"	2 4 4 6	8	1.1	3.5	SW/FI		Dark brown and black fine to medium SAND, ash and slag, slight odor, saturated.	
5		(4-6')	3"	4 5 4 5	9	1.1	3.6	SW		Dark gray fine to medium SAND, trace fine to medium Gravel and porcelain, slight odor, saturated.	Type I portland cement/5% bentonite grout 0' to 14.0' bgs
		(6-8')	3"	2 3 3 6	6	1.8	1.6	SP OH/PT		Gray fine SAND, trace Silt, slight odor, wet. Brown organic SILT and PEAT, moist.	
	10	(8-10')	3"	2 3 3 5	6	1.4	1.8	CL		Gray Silty CLAY, orange mottling, trace natural organics (roots), medium stiff to stiff, moist.	
10		(10-12')	3"	2 4 7 7	11	1.2	2.4	CL			
	5	(12-14')	3"	18 18 20 27	38	0.8	1.6	SW		Dark gray fine to coarse SAND and dark gray SHALE fragments, trace fine to medium Gravel, slight odor, saturated.	
15										End of boring at 14.0' bgs.	

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Remarks:
Submitted soil sample interval (4-6') to Galson Laboratories for analysis of PCBs, VOCs, SVOCs, and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 10/07/96 - 10/07/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397775.0770
Easting: 696604.4955
Borehole Depth: 14.0 ft.
Ground Surface Elev.: 18.62 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-103

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 18.62 ft.										**GROUND SURFACE**	
		(0-2')	3"	– 10 12 12	24	1.2	0.0	AS SM		Black Asphalt. Dark brown fine to medium SAND, little Silt, trace fine to medium Gravel and slag, coal, and brick, damp.	
	15	(2-4')	3"	10 6 8 10	14	1.8	0.0	SW/FI		Dark brown fine to medium SAND and gray ASH, trace slag, coal, and brick, wet.	NFA
5		(4-6')	3"	2 2 2 2	4	1.4	0.0	SW CH		Dark gray fine to coarse SAND, little fine to medium Gravel, trace ash, slag, coal, and brick, wet. Dark gray Silty CLAY, moist, high plasticity.	Type 1 portland cement/5% bentonite grout 0' to 14.0' bgs
		(6-8')	3"	2 2 3 2	5	1.2	0.0	OH/PT		Brown Organic SILT and PEAT, moist.	
	10	(8-10')	3"	2 2 1 2	3	1.6	0.0	CH		Dark brown Silty CLAY, moist, soft, high plasticity. Dark gray Silty CLAY, orange mottling, moist, soft, high plasticity.	
10		(10-12')	3"	2 2 3 5	5	1.5	0.0	SP/ML		Dark gray fine SAND and SILT, wet.	
	5	(12-14')	3"	47 21 43 25	64	1.2	0.0	SM		Dark gray fine to coarse SAND, little Silt, fine to medium Gravel, and dark gray Shale fragments, saturated.	
15										End of boring at 14.0' bgs.	

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Remarks:
Submitted soil sample interval (2-4') to Galson Laboratories for analysis of PCBs and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/08/96 - 10/08/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size**: 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397592.0753
Easting: 696698.5043
Borehole Depth: 14.0 ft.
Ground Surface Elev.: 17.96 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-104

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 17.96 ft.										**GROUND SURFACE**	
		(0-2')	3"	6 6 8 12	14	1.8	0.0	SW/FI		Dark brown and black fine to medium SAND, slag, coal, and cinders, damp.	
	15	(2-4')	3"	12 16 14 14	30	1.8	0.0	SW SM SP/ML		Tan fine to medium SAND, trace Silt and fine to medium Gravel, damp. Tan fine SAND, little Silt, damp. Dark brown fine SAND and SILT, damp.	
5		(4-6')	3"	8 10 7 6	17	1.2	0.0	SW		Brown fine to coarse SAND, trace Silt and fine to medium Gravel, moist to wet.	Type 1 portland cement/5% bentonite grout 0' to 13.4' bgs
	10	(6-8')	3"	6 8 8 12	16	1.6	0.0	ML		Brown SILT, trace natural organic material and fine Sand, damp.	
		(8-10')	3"	12 14 17 20	31	0.8	0.0	SM		Brown fine to medium SAND, some Silt, little fine to medium Gravel, trace coarse Sand and black Shale, wet. Trace gray Clay, saturated.	
10		(10-12')	3"	10 12 15 24	27	1.1	0.0				
	5	(12-14')	3"	33 35 50/0.4	Ref	0.8	0.0				
										Split-spoon refusal at 13.4' bgs.	
15											

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Remarks:
Submitted soil sample interval (0-2') to Galson Laboratories for analysis of PCBs, VOCs, SVOCs, and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones		
Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/08/96 - 10/08/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397733.7075
Easting: 696734.7735
Borehole Depth: 14.0 ft.
Ground Surface Elev.: 19.44 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-105

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 19.44 ft.										GROUND SURFACE	
		(0-2')	3"	6 6 9 12	15	1.4	0.0	SM		Dark brown fine to medium SAND, little fine to medium Gravel and Silt, trace slag, coal, ash, glass, and brick, damp.	
		(2-4')	3"	13 9 5 4	14	1.6	0.0				
5	15	(4-6')	3"	3 3 5 8	8	0.8	0.0	SW/FI		Dark gray and black fine to medium SAND, coal, slag, and ash, saturated.	Type 1 portland cement/5% bentonite grout 0' to 14.0' bgs
		(6-8')	3"	5 3 2 5	5	1.6	0.6	SM		Dark gray fine SAND, little Silt, saturated.	
	10	(8-10')	3"	5 7 4 5	11	1.8	0.0				
10		(10-12')	3"	2 2 3 3	5	1.8	0.0	OH/PT		Dark gray Silty CLAY, trace natural organic material, soft, moist. (CL) Brown Organic SILT and PEAT, moist. Brown Silty CLAY, little natural organic material, medium stiff, medium plasticity.	
		(12-14')	3"	4 5 7 12	12	1.8	0.0	CH SM		Gray Silty CLAY, medium stiff, high plasticity, moist. Dark gray fine to medium SAND, little Silt and fine to medium Gravel, saturated.	
15	5									End of boring at 14.0' bgs.	

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Remarks:
Submitted soil sample interval (6-8') to Galson Laboratories for analysis of PCBs, VOCs, SVOCs and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/03/96 - 10/03/96 **Drilling Company:** SJB **Driller's Name:** Jim Lamm **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size:** 4.25" ID **Rig Type:** CME 550 ATV **Spoon Size:** 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1397762.4501 **Easting:** 696672.1336 **Borehole Depth:** 20.0 ft. **Ground Surface Elev.:** 18.67 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-106 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 18.67 ft.										**GROUND SURFACE**	
		(0-2')	3"	6 8 12 10	20	1.8	0.2	SW		Brown fine to medium SAND, little fine to medium Gravel, trace Silt, damp. Dark brown fine to medium SAND, little slag, trace Silt, damp.	
	15	(2-4')	3"	10 17 6 5	23	1.6	2.4	FI		Tan fine to medium SAND, trace fine to medium Gravel and Silt, moist. Dark brown and black fine to medium SAND, trace slag and Silt, wet. Gray ash, slight odor, saturated.	
5		(4-6')	3"	6 5 6 5	11	1.4	9.2	SP		Gray fine SAND, trace to little Silt, slight odor, saturated.	Type 1 portland cement/5% bentonite grout 0' to 19.4' bgs
		(6-8')	3"	6 5 3 5	8	1.8	0.5	CH SW		Dark gray Silty CLAY, trace natural organic material, soft, moist, high plasticity. Dark gray fine to medium SAND, trace fine Gravel and Silt, saturated.	
	10	(8-10')	3"	1 2 3 4	5	1.8	0.3	OH		Dark brown organic SILT, little Clay, trace partially decomposed wood fiber, moist.	
10		(10-12')	3"	3 4 6 12	10	1.6	0.1	SM		Gray fine SAND, little Silt, trace natural organic material, moist.	
	5	(12-14')	3"	12 14 6 12	20	0.4	0.5	SW/ GW		Gray fine to medium SAND and fine to coarse Gravel, trace Silt and coarse Sand, saturated.	
15		(14-16')	3"	23 13	25	NR	NA			No Recovery.	

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Remarks:
Submitted soil sample interval (2-4') to Galson Laboratories for analysis of PCBs and TAL Inorganics. Ref. = Split-spoon refusal. Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-108

Total Depth = 20.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	12 13	25	NR	NA			No Recovery	Type 1 portland cement/5% bentonite grout 0' to 19.4' bgs
		(16-18')	3"	16 18 17 18	35	1.8	0.0	SM		Brown fine to coarse SAND, little fine to medium Gravel and Silt, dense, saturated.	
								SH		Dark gray weathered SHALE, saturated.	
	0	(18-20')	3"	17 36 50/0.4	Ref	NR	NA			No Recovery.	
20										Split-spoon refusal at 19.4' bgs.	
	-5										
25											
	-10										
30											
	-15										
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/15/96 - 10/15/96
Drilling Company: SJB
Driller's Name: Chris Ackley
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: Deidrick D-50
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397594.7116
Easting: 696256.6743
Borehole Depth: 8.0 ft.
Ground Surface Elev.: 23.56 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-107

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 23.56 ft.										**GROUND SURFACE**	4/14
		(0-2')	3"	- 32 20 14	52	1.4	0.0	AS SW/FI		Black asphalt. Brown fine to medium SAND, red brick, slag, white brick, and coal, trace fine to medium Gravel and Silt, damp.	Type 1 portland cement/5% bentonite grout 0' to 6.7' bgs
	20	(2-4')	3"	11 17 20 14	37	1.3	0.0				
5		(4-6')	3"	23 15 47 50/0.2	62	1.2	0.0	SW		Brown fine to medium SAND, trace fine to medium Gravel, Silt, red brick, slag, and coal, damp.	
		(6-8')	3"	52 50/0.2	Ref	0.3	0.0	SS		Gray fine-grained SANDSTONE, dry. Split-spoon refusal at 6.7' bgs.	
	15										
10											
	10										
15											

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engineers & scientists

Remarks:
Initial auger refusal at 11.0' bgs at SB-107 location. Lithologic descriptions are from a second boring installed to the north of the original SB-107 boring. Again, auger refusal was encountered and both borings were grouted to grade. Ref = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 02/03/97 - 02/03/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397622.8600
Easting: 696288.3323
Borehole Depth: 24.1 ft.
Ground Surface Elev.: 22.96 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-107C

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 22.96 ft.										GROUND SURFACE	N/A
		(0-2')	3"	– 15 11 7	26	1.6	0.0	AS SW		Black Asphalt Black fine to medium SAND, some coal, slag, and cinders. Brown SILT and Clay, trace coarse Sand, fine Gravel, coal, slag, and cinders, orange mottling, moist	
	20	(2-4')	3"	6 6 8 9	14	1.8	0.0	ML/CL			
5		(4-6')	3"	2 4 4 6	8	0.8	0.0	SM		Brown fine to medium SAND, little Silt and coarse Sand, trace fine to medium Gravel, moist.	Type 1 portland cement/5% bentonite grout 0' to 24.1' bgs
	15	(6-8')	3"	9 11 14 28	25	0.9	0.0				
		(8-10')	3"	18 26 29 35	55	0.6	0.0	SS		Broken dark gray fine-grained SANDSTONE.	
10		(10-12')	2"	5 7 28 50/0.4	35	1.4	0.0	SM		Brown fine to medium SAND, little Silt and coarse Sand, little broken pieces of gray fine grained Sandstone, trace fine to medium Gravel.	
	10	(12-14')	2"	17 41 19 10	60	0.8	0.0	ML/SS		Brown SILT and gray fine-grained SANDSTONE fragments, damp.	
15		(14-16')	3"	8 12	24	1.5	0.0	SM		Brown fine to medium SAND, little Silt, little to trace coarse Sand and	

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Remarks:
Submitted soil sample interval (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Splitspoon refusal. NR = No Recovery. NA = Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-107C

Total Depth = 24.1 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	12 15	24	1.5	0.0	SM		fine to medium Gravel, saturated.	
	5	(16-18')	2"	10 14 14 15	28	1.4	0.0			Dark gray.	
		(18-20')	2"	20 11 11 10	22	1.3	0.0			Brown.	
20		(20-22')	2"	2 12 21 17	33	2.0	0.0			Little weathered Shale.	Type 1 portland cement/5% bentonite grout 0' to 24.1' bgs
	0	(22-24')	2"	49 50/0.4	Ref	0.5	0.0	SH		Weathered SHALE.	
25		(24-26')	2"	50/0.1	Ref	NR	NA			Split-spoon refusal at 24.1' bgs.	
	-5										
30											
	-10										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/03/96 - 10/03/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397633.0763
Easting: 696335.0381
Borehole Depth: 12.5 ft.
Ground Surface Elev.: 21.62 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-108

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 21.62 ft.										**GROUND SURFACE**	
	20	(0-2')	3"	NA 18 18 12	36	1.4	0.0	AS SW/FI		Black asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, trace Silt, damp. (SW/GW)	
		(2-4')	3"	14 7 10 10	17	1.6	0.0			Dark brown and black fine to medium SAND and Slag, trace Silt, damp. Trace glass.	
5		(4-6')	3"	14 27 17 14	44	1.4	0.0	SW		Brown fine to medium SAND, little fine-grained Sandstone, trace Silt, damp.	Type 1 portland cement/5% bentonite grout 0' to 12.5' bgs
	15	(6-8')	3"	20 37 34 50/0.4	71	1.6	28.9			Brown fine to medium SAND, trace fine to medium Gravel and Silt, damp.	
		(8-10')	NA	NA NA NA NA	NA	NA	NA	SS		Augered through gray fine grained SANDSTONE boulder 7.6' to 10' bgs.	
10	10	(10-12')	3"	17 44 41 50/0.4	85	1.4	0.0	FI SS		Very dense fill materials consisting of slag, coal, red brick, glass, and SILT, trace fine to medium Gravel, damp. Gray fine grained SANDSTONE.	
		(12-14')	3"	50/0.4	Ref	0.3	0.0			Split-spoon refusal at 12.4' bgs.	
15											

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Remarks:

Initial auger refusal at 8.5' bgs at SB-108 location. Lithologic descriptions beyond 8.5' are from a second boring installed 3' to the east of the original SB-108 boring. Again, auger refusal was encountered and both borings were grouted to grade. Two additional attempts were made to install SB-108 (SB-108B & SB-108C), both resulting in auger refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 01/30/97 - 01/30/97 **Drilling Company:** SJB **Driller's Name:** Don Butzer **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4.25" ID **Rig Type:** CME 85 **Spoon Size:** 2" and 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1397644.5283 **Easting:** 696305.0711 **Borehole Depth:** 26.4 ft. **Ground Surface Elev.:** 22.82 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-108D **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 22.82 ft.										**GROUND SURFACE**	
		(0-2')	3"	- 62 28 11	90	1.4	0.0	AS SM		Black Asphalt. Black fine to medium SAND, some to little coal, slag, cinders, red brick, little Silt.	
	20	(2-4')	3"	4 4 4 3	8	1.3	11.7	FI		Coal, slag, cinders, gray ash, porcelain, and red brick, damp. Gray ash, coal, cinders, damp.	
5		(4-6')	3"	3 5 7 4	12	2.0	8.8	FI		Dark brown fine SAND and SILT, damp. (SP/ML) Orange fill material. Dark brown fine to medium SAND and slag. (SW/FI)	Type 1 portland cement/5% bentonite grout 0' to 26.4' bgs
	15	(6-8')	3"	1 3 4 10	7	1.2	0.0	ML		Brown fine SAND and SILT, orange oxidation, damp. (SP/ML) Brown SILT, trace fine to coarse Sand and fine to medium Gravel, orange mottling, moist.	
		(8-10')	3"	70/0.4	Ref	0.1	0.0	SS		Brown fine grained SANDSTONE.	
10		(10-12')	3"	50/0.2	Ref	NR	NA			No Recovery.	
	10	(12-14')	2"	19 25 21 18	46	NR	NA			No Recovery.	
15		(14-16')	3"	38 35	Ref	1.2	0.0	SS/ ML		Dark gray fine grained SANDSTONE fragments and SILT, saturated.	

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Remarks:
Submitted soil sample intervals (2-4') and (24-26') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-1080D
Total Depth = 28.4 ft.

Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace
(14-16')	3"	50/0.4	Ref	1.2	0.0
(16-18')	3"	22 34 15 21	49	1.4	0.0
(18-20')	3"	5 50 44 28	94	1.8	0.0
(20-22')	3"	8 23 25 25	48	0.4	0.0
(22-24')	3"	26 42 34 31	76	1.0	0.0
(24-26')	3"	8 32 36 50/0.2	68	1.4	0.0
(26-28')	2"	50/0.4	Ref	0.4	0.0

DEPTH: 20, 25, 30, 35

ELEVATION: 5, 0, -5, -10

USCS Code	Stratigraphic Description
SS/ML	Dark gray fine grained SANDSTONE fragments and SILT, saturated.
GM	Fine to medium GRAVEL, some to little fine to coarse Sand, little Silt, saturated.
SH/ML	Dark gray weathered SHALE and SILT.
GM	Fine to medium GRAVEL, some to little fine to coarse Sand, little Silt, saturated. Trace black Shale fragments, saturated.
SW	Dark gray fine to medium SAND, trace coarse Sand and fine to medium Gravel, saturated.
SH	Dark gray weathered SHALE.
	Split-spoon refusal at 26.4' bgs.

Boring Construction

Type 1 portland cement/5% bentonite grout 0' to 26.4' bgs

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/08/96 - 10/08/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398354.6196
Easting: 696596.4149
Borehole Depth: 22.5 ft.
Ground Surface Elev.: 27.16 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-109

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 27.16 ft.										**GROUND SURFACE**	
								AS		Black Asphalt.	
		(0-2')	3"	50/0.2	Ref	0.2	0.5	GM		Gray fine to medium GRAVEL, little fine to medium Sand and Silt, dry. Trace red brick.	
	25	(2-4')	2"	10 8 20 6	28	0.7	0.8				
5		(4-6')	2"	11 50/0.3	Ref	0.3	4.6				Type 1 portland cement/5% bentonite grout 0' to 22.5' bgs
	20	(6-8')	2"	3 4 3 4	7	1.2	1.0	SM		Brown and orange fine to coarse SAND, little Silt, wet.	
		(8-10')	2"	2 3 4 4	7	1.3	8.1	SW		Dark brown fine to coarse SAND, trace Silt, saturated with NAPL.	
10		(10-12')	3"	4 5 5 5	10	1.8	386.1				
	15	(12-14')	3"	2 3 5 5	8	1.8	397.0	SP		Dark gray fine to medium SAND, saturated with NAPL.	
15		(14-16')	2"	15 20	59	2.0	823.0				

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Remarks:
Submitted soil sample intervals (10-12') and (20-22') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-109

Total Depth = 22.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	2"	39 40	59	2.0	823.0	SP SM		Dark gray fine to medium SAND, saturated with NAPL. Dark gray fine to coarse SAND, little fine to medium Gravel and Silt, saturated with NAPL. NAPL changes in odor. Trace dark gray Shale fragments.	
	10	(16-18')	2"	12 24 20 7	44	1.6	874.0	SM			
		(18-20')	2"	15 12 10 9	22	0.4	562.0	SH/ML		Dark gray SHALE and SILT, saturated with NAPL.	
20		(20-22')	3"	13 19 18 15	37	1.8	1526.0	SH/SW SH		Dark gray SHALE and fine to coarse SAND, little Silt, saturated with NAPL. Dark gray SHALE, trace fine to coarse SAND and Silt, saturated with NAPL.	Type 1 portland cement/5% bentonite grout 0' to 22.5' bgs
	5	(22-24')	3"	50/0.4	Ref	0.3	165.0			Dark gray weathered SHALE oriented vertically, saturated with NAPL. Split-spoon refusal at 22.4' bgs.	
25											
	0										
30											
	-5										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/09/96 - 10/09/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398441.1231
Easting: 696661.9939
Borehole Depth: 19.3 ft.
Ground Surface Elev.: 29.72 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-110

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 29.72 ft.										**GROUND SURFACE**	
		(0-2')	2"	- 14 13 8	27	0.8	344.7	AS SP		Black Asphalt. Black fine to medium SAND, little cinders, trace Silt, damp. Red brick.	
		(2-4')	2"	4 5 8 7	13	0.2	NA				
5	25	(4-6')	2"	3 5 4 4	9	0.2	327.8	FI		Red brick, odor, sheens, saturated.	Type 1 portland cement/5% bentonite grout 0' to 19.3' bgs
		(6-8')	3"	5 3 3 2	6	0.6	1056.0			Red brick fragments saturated with NAPL.	
10	20	(8-10')	3"	4 3 2 2	5	0.8	1743.0			Red brick and wood chips saturated with NAPL.	
		(10-12')	3"	3 2 3 3	5	1.2	>2000.0	FI			
		(12-14')	3"	6 6 3 3	9	1.1	1504.0				
15	15	(14-16')	3"	2 3	5	0.3	1479.0				

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Remarks:
Submitted soil sample intervals (6-8') and (18-20') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal. WOH = Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

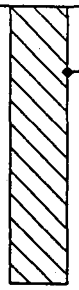
Client:
Niagara Mohawk Power Corporation

Boring No. SB-110

Total Depth = 19.3 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description
		(14-16')	3"	2 2	5	0.3	1479.0	FI	Red brick and wood chips saturated with NAPL.
		(16-18')	3"	2 1 1 1	2	1.4	>2000.0	FI	Wood chips coated with tar-like substance.
		(18-20')	3"	WOH (12") 50/0.2	Ref	1.3	>2000.0	FI	Black tar-like substance. Gray mortar. Red brick. Split-spoon refusal at 19.3' bgs.
20	10								
25	5								
30	0								
35	-5								

Boring Construction



Type 1 portland cement/5% bentonite grout 0'- to 19.3' bgs

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 02/06/97 - 02/06/97 **Drilling Company:** SJB **Driller's Name:** Mike Lanigan **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4.25" ID **Rig Type:** CME 75 **Spoon Size:** 2" and 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1398512.3843 **Easting:** 696716.9440 **Borehole Depth:** 28.1 ft. **Ground Surface Elev.:** 31.34 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-111 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 31.34 ft										**GROUND SURFACE**	
	30	(0-2')	3"	4 7 4 7	11	1.6	0.0			Brown fine SAND and SILT, trace fine to medium Gravel, coarse Sand, coal, cinders, and red brick, damp.	
		(2-4')	2"	4 3 3 4	6	1.4	0.0	SP/ML		Trace Clay, moist.	
5		(4-6')	3"	5 5 4 5	9	0.5	0.0			Brown fine SAND and SILT, trace fine to medium Gravel, coarse Sand, Clay, coal, cinders, and red brick, damp.	Type 1 portland cement/5% bentonite grout 0' to 28.1' bgs
	25	(6-8')	3"	5 6 6 5	12	NR	NA			No Recovery	
		(8-10')	3"	4 6 9 9	15	1.8	0.0			Dark gray fine to coarse SAND, little fine to medium Gravel and Silt, moist.	
10	20	(10-12')	3"	4 6 19 15	25	0.3	0.0	SM			
		(12-14')	2"	16 50/0.2	Ref	0.6	0.0			Trace coarse Gravel and fine grained Sandstone fragments, very dense, dry.	
15		(14-16')	2"	76 57	Ref	0.5	0.0	ML/SS		Dark gray SILT and fine grained Sandstone fragments, hard, dry.	

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Remarks:
Submitted soil sample interval (8-10') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-111

Total Depth = 28.1 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description	Boring Construction
		(14-16')	2"	50/0.3	Ref	0.5	0.0	ML/SS	Dark gray SILT and fine grained Sandstone fragments, hard, dry.	
	15	(16-18')	2"	58 50 57 50/0.3	107	1.4	0.0			
		(18-20')	2"	7 24 35 32	59	2.0	0.0	ML	Dark gray SILT, little to trace fine to coarse SAND and fine to medium Gravel, hard, damp.	
20	10	(20-22')	2"	13 19 20 29	39	2.0	0.0			Type 1 portland cement/5% bentonite grout 0' to 28.1' bgs
		(22-24')	2"	40 55 59 33	114	2.0	0.0			
25		(24-26')	2"	15 21 22 23	43	1.8	0.0		Dark gray SILT, trace coarse SAND and fine Gravel, hard, damp.	
	5	(26-28')	2"	20 21 23 50/0.1	44	2.0	0.0	SW SH	Dark gray fine to medium SAND, trace Silt, saturated. Dark gray weathered SHALE.	
		(28-30')	2"	50/0.1	Ref	0.1	0.0		Split-spoon refusal at 28.1' bgs.	
30	0									
35										

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/09/96 - 10/10/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398102.9808
Easting: 696700.9998
Borehole Depth: 20.2 ft.
Ground Surface Elev.: 21.65 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-112

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 21.65 ft.										GROUND SURFACE	
	20	(0-2')	2"	- 9 6 6	15	1.1	0.0	AS SW/FI		Black Asphalt. Black fine to medium SAND, coal, slag, glass, and brick, trace Silt and fine to medium Gravel, damp.	
		(2-4')	2"	16 32 28 7	60	1.2	0.0				
5		(4-6')	2"	2 6 4 4	10	0.8	0.0	FI		Dark gray to black slag, little fine to medium Sand, trace Silt, saturated.	Type 1 portland cement/5% bentonite grout 0' to 20.2' bgs
	15	(6-8')	2"	2 1 1 1	2	0.7	0.0	FI		Gray ash, saturated.	
		(8-10')	2"	WOH (18") 1	WOH	2.0	0.0			Gray ash, trace fine Sand, saturated.	
10	10	(10-12')	3"	3 14 12 16	26	1.4	1.0	ML SP		Black stained SILT, slight sheen, moist to wet. Brown SILT, trace fine Sand, slight odor, slight sheen, wet.	
		(12-14')	3"	3 5 9 14	14	1.4	0.0	SM		Gray fine SAND, trace natural organics material, slight odor, wet. Gray fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, saturated.	
15		(14-16')	3"	9 24	50	NR	NA				

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Remarks:
Submitted soil sample intervals (10-12') and (18-20') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-112

Total Depth = 20.2 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	26 21	50	NR	NA	SM		Gray fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, saturated.	Type 1 portland cement/5% bentonite grout 0' to 20.2' bgs
	5	(16-18')	3"	16 23 43 40	66	0.4	0.0				
		(18-20')	3"	9 38 50/0.4	Ref	0.8	0.0				
20		(20-22')	3"	50/0.3	Ref	0.2	0.0	SH		Dark gray weathered SHALE, saturated. (SH) Split-spoon refusal at 20.3' bgs.	
	0										
25											
	-5										
30											
	-10										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/10/96 - 10/10/96 **Drilling Company:** SJB **Driller's Name:** Jim Lamm **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4.25" ID **Rig Type:** CME 550 ATV **Spoon Size:** 2" and 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1398107.5895 **Easting:** 696789.7405 **Borehole Depth:** 19.5 ft. **Ground Surface Elev.:** 20.98 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-113 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 20.98 ft.										**GROUND SURFACE**	
								AS		Black Asphalt.	
	20	(0-2')	2"	- 25 25 16	50	1.6	0.0	SM/FI		Black fine to medium SAND, slag, coal, and cinders, little Silt, trace fine to medium Gravel, damp.	
		(2-4')	2"	9 11 8 3	19	1.4	0.0				
5		(4-6')	2"	3 2 1 1	3	1.8	0.0	SW/FI		Gray fine to medium SAND and ash, yellow NAPL, odor, saturated.	Type 1 portland cement/5% bentonite grout 0' to 20.0' bgs
	15	(6-8')	2"	WOH (24")	WOH	2.0	0.0				
		(8-10')	3"	1 1 1 1	1	2.0	0.0				
10								CH		Black stained SILT, trace natural organics material, yellow NAPL. (ML)	
	10	(10-12')	3"	2 4 12 18	16	1.6	0.0			Dark gray Silty CLAY, trace natural organics material, soft, moist, high plasticity.	
		(12-14')	3"	9 8 12 14	20	NR	NA	SW		Dark gray fine to coarse SAND, trace fine to medium Gravel and Silt, sheen, saturated.	
15		(14-16')	3"	15 12	20	0.4	0.0	SM		Gray fine to medium SAND, little Silt and fine to medium Gravel, trace	

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Remarks:
Submitted soil sample intervals (4-6') and (16-18') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-113

Total Depth = 19.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	5	(14-16')	3"	8 15	20	0.4	0.0	SM		coarse Sand, wet.	Type 1 portland cement/5% bentonite grout 0' to 20.0' bgs
		(16-18')	3"	10 15 20 20	35	1.4	0.0	SH		Dark gray weathered SHALE, little to some Silt, trace fine to medium Sand, saturated.	
		(18-20')	3"	10 14 14 16	28	1.8	0.0			Dark gray weathered SHALE, trace Silt, saturated.	
20										End of boring at 20.0' bgs.	
	0										
25											
	-5										
30											
	-10										
35											

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Remarks:
Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bori
Date: 10/16/97

Date Start/Finish: 10/10/96 - 10/10/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398292.7385
Easting: 696979.7588
Borehole Depth: 17.5 ft.
Ground Surface Elev.: 21.32 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-114

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 21.32 ft.										GROUND SURFACE	
	20	(0-2')	2"	- 7 12 19	19	1.8	0.0	AS SM/		Black Asphalt. Black fine to medium SAND, slag, coal, and cinders, little Silt, trace fine to medium Gravel, damp.	
		(2-4')	2"	28 50/0.4	Ref	1.1	4.7	FI		Augered through probable telephone pole 2.3' to 4.5' bgs.	
5		(4-6')	2"	12 19 20 16	39	1.3	81.3			Black slag, coal, and cinders coated in tar-like substance, slight odor, damp.	Type 1 portland cement/5% bentonite grout 0' to 17.5' bgs
	15	(6-8')	2"	19 12 7 6	19	0.8	88.0	FI			
		(8-10')	3"	5 5 17 15	22	0.2	78.0			Wood coated with tar-like substance, damp.	
10	10	(10-12')	3"	8 16 24 23	40	0.4	76.0	FI		Saturated.	
		(12-14')	3"	20 15 13 22	28	1.6	30.1	SM		Dark gray fine to medium SAND, little fine to medium Gravel and Silt, trace dark gray Shale fragments, trace NAPL, saturated.	
15		(14-16')	3"	35 42	90	1.8	19.3	SH/ ML		Dark gray weathered SHALE and SILT, trace NAPL, moist.	

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Remarks:
Submitted soil sample intervals (6-8') and (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-114

Total Depth = 17.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	5	(14-16')	3"	48 37	90	1.8	19.3	SH		Dark gray slightly weathered SHALE, fractures oriented vertically, trace NAPL. Dark gray SHALE, saturated.	Type 1 portland cement/5% bentonite grout 0' to 17.5' bgs
		(16-18')	3"	50/0.4	Ref	0.3	0.0			Split-spoon refusal at 16.4. Auger refusal at 17.5' bgs.	
20	0										
25	-5										
30	-10										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 10/11/96 - 10/11/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398193.1563
Easting: 697186.7443
Borehole Depth: 24.5 ft.
Ground Surface Elev.: 20.46 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-115

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 20.46 ft.										**GROUND SURFACE**	
	20	(0-2')	2"	- 12 24 30	36	0.4	0.0	AS SM/GM		Black asphalt. Brown fine to medium SAND and fine to medium GRAVEL, little Silt, damp.	
		(2-4')	2"	27 23 43 23	66	1.8	142.7			Black cinders, coal, and slag, slight odor, damp.	
5	15	(4-6')	2"	12	14	NR	NA				Type 1 portland cement/5% bentonite grout 0' to 24.5' bgs
		(6-8')	2"	8 8 8 8	16	1.6	169.0	FI		Sheen, saturated.	
		(8-10')	3"	2 3 5 7	8	1.8	161.5	ML		Brown SILT, trace natural organics material, slight odor, damp.	
10	10	(10-12')	3"	3 1 1 2	2	1.8	149.7			Gray fine to medium SAND, trace Silt, some to little NAPL, saturated.	
		(12-14')	3"	3 3 3 3	6	2.0	86.9	SW			
15		(14-16')	3"	4 6	13	2.0	73.4				

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Remarks:
Submitted soil sample intervals (6-8') and (10-12') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

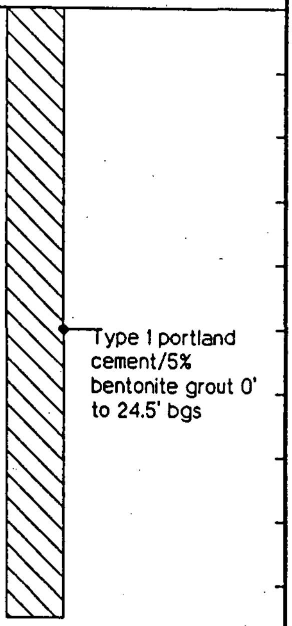
Client:
Niagara Mohawk Power Corporation

Boring No. SB-115

Total Depth = 24.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description
	5	(14-16')	3"	7 13	13	2.0	73.4	SM	Brown fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, trace NAPL, saturated.
		(16-18')	3"	11 14 11 16	25	1.2	37.6		Trace coarse Gravel.
		(18-20')	3"	24 24 23 24	47	0.3	NA		
20	0	(20-22')	3"	12 42 28 50/0.4	70	1.6	68.7		Little weathered dark gray Shale.
		(22-24')	3"	50/0.3	Ref	NR	NA	SH	Several dark gray weathered SHALE fragments in sampler, saturated. Split-spoon refusal at 24.3' bgs.
25	-5	(24-26')	3"	100/0.3	Ref	NR	NA		Auger refusal at 24.5' bgs.
30	-10								
35									

Boring Construction



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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/02/96 - 10/02/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing:
Easting:
Borehole Depth: 27.5 ft.
Ground Surface Elev.: ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-116

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')	2"	29 28 25 10	53	1.6	1.1	SW		Brown fine to medium SAND and fine to medium GRAVEL, dry (SW/GW). Dark brown and black fine to medium SAND, trace slag, glass, and porcelain, damp.	
		(2-4')	2"	9 8 10 9	18	1.4	24.7				
5	-5	(4-6')	2"	6 4 4 6	8	1.6	8.7	ML		Brown SILT, little Clay, medium stiff, damp.	Type 1 portland cement/5% bentonite grout 0' to 27.5' bgs
		(6-8')	2"	7 6 5 6	11	0.8	3.1				
		(8-10')	2"	4 4 5 6	9	1.2	8.1			Trace dark gray Shale fragments.	
10	-10	(10-12')	3"	6 11 11 12	22	NR	NA				
		(12-14')	3"	5 16 32 19	48	0.7	888.3	SM		Dark gray fine to coarse SAND, little Silt, trace fine to medium Gravel, sheen, odor, saturated.	
15	-15	(14-16')	3"	5 18	38	1.4	94.3				

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Remarks:
Submitted soil sample intervals (12-14') and (20-22') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-118

Total Depth = 27.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')	3"	20 15	38	1.4	94.3		⁙	Dark gray fine to coarse SAND, little Silt, trace fine to medium Gravel, sheen, odor, saturated.	▨
		(16-18')	3"	11 27 37 43	64	1.6	519.7		⁙	Trace dark gray Shale fragments.	▨
		(18-20')	3"	18 45 50/0.2	Ref	1.3	30.4		⁙		▨
20	-20	(20-22')	3"	29 50/0.3	Ref	1.0	18.8	SM	⁙		▨ Type 1 portland cement/5% bentonite grout 0' to 27.5' bgs
		(22-24')	3"	47 50/0.3	Ref	0.4	92.8		⁙	Trace coarse Gravel.	▨
25	-25	(24-26')	3"	20 50/0.4	Ref	0.3	36.8		⁙		▨
		(26-28')	3"	50/0.2	Ref	0.2	6.6		⁙	Split-spoon refusal at 26.4.	▨
										Auger refusal at 27.5' bgs.	
30	-30										
35	-35										

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/02/96 - 10/02/96 **Drilling Company:** SJB **Driller's Name:** Jim Lamm **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size:** 4.25" ID **Rig Type:** CME 550 ATV **Spoon Size:** 2" and 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** **Easting:** **Borehole Depth:** 24 ft. **Ground Surface Elev.:** ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-117 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft	0									**GROUND SURFACE**	
		(0-2')	2"	16 48 29 29	77	1.4	63.8	SM		Brown fine to medium SAND, little Silt and fine to medium Gravel, slight odor, damp.	
		(2-4')	2"	10 8 8 8	16	1.3	111.6	FI ML		Black slag, little fine to medium Sand, trace Silt, damp. Dark brown SILT, trace fine Sand, damp.	
5	-5	(4-6')	2"	3 2 1 2	3	1.4	473.0	FI		Black slag, porcelain, and ceramic fragments, little black stained Silt, slight odor, saturated.	Type 1 portland cement/5% bentonite grout 0' to 24.0' bgs
		(6-8')	2"	2 3 1 1	4	NR	NA				
		(8-10')	2"	3 3 5 10	8	1.6	1161.0	ML		Dark gray SILT, little Clay, light gray mottling, medium stiff, slight odor, moist.	
10	-10	(10-12')	3"	8 8 10 12	18	0.3	133.8				
		(12-14')	3"	10 14 13 12	27	0.3	280.6			Dark gray SILT, little Clay and dark gray Shale fragments, slight odor, moist to wet.	
15	-5	(14-16')	3"	4 5	13	2.0	14.4	SP		Dark gray fine to medium SAND, little fine to medium Gravel, trace coarse	

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Remarks:

Submitted soil sample intervals (8-10') and (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-117

Total Depth = 24 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')	3"	8 12	13	2.0	14.4	SP		Sand and Silt, slight sheen, odor, saturated.	
		(16-18')	3"	8 6 12 50/0.4	18	1.6	44.5			No sheens noticed.	
		(18-20')	NA	NA	NA	NA	NA				
20	-20	(20-22')	3"	32 50/0.3	Ref	0.6	127.3	SH		Dark gray weathered SHALE, saturated.	Type I portland cement/5% bentonite grout 0' to 24.0' bgs
		(22-24')	3"	50 50/0.3	Ref	0.6	69.34			Split-spoon refusal at 22.3' bgs.	
										Auger refusal at 24.0' bgs.	
25	-25										
30	-30										
35	-35										

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Remarks:
Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 10/01/96 - 10/01/96
Drilling Company: SJB
Driller's Name: Jim Lamm
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397288.8092
Easting: 696865.2539
Borehole Depth: 30 ft.
Ground Surface Elev.: 18.02 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-118

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 18.02 ft.										GROUND SURFACE	
		(0-2')	2"	8 12 12 12	24	2.0	19.1			Dark brown fine to medium SAND, trace Silt, fine to medium Gravel, and slag, damp.	
	15	(2-4')	2"	8 8 8 6	16	0.4	2.8	SW			
5		(4-6')	2"	5 2 3 3	5	1.2	1.0			Dark brown fine to medium SAND, trace Silt, little slag, damp.	Type 1 portland cement/5% bentonite grout 0' to 30.0' bgs
		(6-8')	2"	5 5 6 6	11	1.3	1.2			Brown SILT, trace Clay and natural organic material, orange mottling, damp.	
	10	(8-10')	2"	6 4 8 13	12	1.2	0.4	ML			
10		(10-12')	3"	14 17 17 17	34	1.6	1.3			Brown SILT, litttle Clay and fine to medium Sand, trace natural organic material, damp.	
	5	(12-14')	3"	11 14 15 11	29	1.2	523.0	SM		Dark brown fine to coarse SAND, little Silt, trace black Shale fragments, odor, sheen, saturated.	
15		(14-16')	3"	11 18	43	1.2	>2000				

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Remarks:
Submitted soil sample interval (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-118

Total Depth = 30 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	25 23	43	1.2	>2000	SM			
		(16-18')	3"	16 16 23 50	39	1.4	>2000	SH		Dark gray weathered SHALE, odor, sheen, saturated.	
	0	(18-20')	3"	29 50/0.4	Ref	NR	NA			No Recovery.	
20		(20-22')	3"	15 16 15 12	31	1.4	329.5			Dark gray fine to coarse SAND, little Silt, trace black Shale fragments and fine to medium Gravel, slight sheen, saturated.	Type 1 portland cement/5% bentonite grout 0' to 30.0' bgs
	-5	(22-24')	3"	17 17 25 50/0.4	42	1.3	145.4	SM			
25		(24-26')	3"	25 32 22 37	54	1.2	17.5				
		(26-28')	3"	25 42 50 50/0.4	Ref	2.0	10.5	SW		Dark gray fine to coarse SAND, trace Silt, fine to medium Gravel, and black Shale fragments, saturated.	
	-10	(28-30')	3"	15 50/0.4	Ref	0.5	28.0	SH		Dark gray weathered SHALE, saturated.	
30		(30-32')	3"	50/0.1	Ref	NR	NA			Split-spoon and auger refusal at 30.1' bgs.	
35	-15										

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engineers & scientists

Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 10/04/96 - 10/04/96 **Drilling Company:** SJB **Driller's Name:** Jim Lamm **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4.25" ID **Rig Type:** CME 550 ATV **Spoon Size:** 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1397762.8103 **Easting:** 696989.0619 **Borehole Depth:** 20.5 ft. **Ground Surface Elev.:** 18.68 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-119 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 18.68 ft.										**GROUND SURFACE**	
		(0-2')	3"	4 5 4 3	9	1.4	0.0	AS SW		Black Asphalt. Dark brown and black fine to medium SAND, little Gravel, trace Silt, damp.	
	15	(2-4')	3"	4 5 11 7	16	1.8	0.0	SW/FI		Brown fine SAND, ash, slag, coal, red brick and glass, slight odor, wet.	
5		(4-6')	3"	2 3 5 5	8	1.4	0.0	CH		Brown Silty CLAY, trace fine Gravel and natural organic material, orange mottling, high plasticity, moist.	Type 1 portland cement/5% bentonite grout 0' to 20.5' bgs
		(6-8')	3"	3 4 4 4	8	1.8	132.7			Gray Silty CLAY, medium stiff, wet.	
	10	(8-10')	3"	3 4 4 5	8	1.6	1743.0	FI CL		Wood chips coated with tar-like substance, odor, damp. Gray Silty CLAY and tar-like substance, odor, damp.	
10		(10-12')	3"	2 3 7 10	10	1.4	528.0	CL		Wood chips coated with tar-like substance, odor, damp. (FI) Gray Silty CLAY, trace natural organic material and tar-like substance, damp.	
	5	(12-14')	3"	3 7 12	19	1.6	65.3			Orange and brown mottling.	
15		(14-16')	3"	7 15	30	0.8	10.0	SM		Gray fine to coarse SAND, little Silt, trace fine to medium Gravel and tar-like substance, wet to saturated.	

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Remarks:

Submitted soil sample intervals (8-10') and (18-20') to Galson Laboratories for analysis of PCBs, BTEX, TPH, PAH and TAL Inorganics. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030 Script: BBL-borl Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-119
Total Depth = 20.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	15 10	30	0.8	10.0	SM			Type 1 portland cement/5% bentonite grout 0' to 20.5' bgs
		(16-18')	3"	13 17 19 14	36	1.4	9.8	SW		Gray fine to coarse SAND and black SHALE fragments, trace fine to medium Gravel and Silt, saturated.	
	0	(18-20')	3"	11 12 10 12	22	1.4	1.3				
20		(20-22')	3"	12 15 12 50/0.2	27	0.7	0.0	SH		Dark gray weathered SHALE, saturated. Auger refusal at 20.5' bgs.	
										Split-spoon refusal at 21.7' bgs.	
	-5										
25											
	-10										
30											
	-15										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 10/14/96 - 10/14/96
Drilling Company: SJB
Driller's Name: Chris Ackley
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: Diedrick D-50
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398318.5125
Easting: 696761.4855
Borehole Depth: 21.5 ft.
Ground Surface Elev.: 23.20 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-120

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 23.20 ft.										GROUND SURFACE	
								AS		Black asphalt.	
		(0-2')	3"	- 17 8 7	25	1.4	0.0			Dark brown fine to medium SAND, little Silt, trace fine to medium Gravel and slag, coal and cinders, damp.	
	20	(2-4')	3"	6 6 8 10	14	1.5	0.0	SM		Moist.	
5		(4-6')	3"	6 50/0.4	Ref	0.3	0.0			Moist to wet.	Type 1 portland cement/5% bentonite grout 0' to 21.5' bgs
		(6-8')	3"	3 4 7 11	11	1.8	38.7	CH		Brown Silty CLAY, orange and gray mottling, trace fine Sand, medium stiff, high plasticity, moist.	
	15	(8-10')	3"	7 9 11 11	20	1.9	759.7	SW		Gray fine to medium SAND, trace fine to medium Gravel and Silt, NAPL, odor, saturated. Gray fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, dark brown NAPL, odor, saturated.	
10		(10-12')	3"	12 13 15 11	28	1.7	582.0	SM		Trace dark gray Shale fragments.	
	10	(12-14')	3"	11 8 11 18	19	1.4	657.0				
15		(14-16')	3"	6 10	20	1.6	44.9			Slight sheen, no NAPL.	

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Remarks:
Submitted soil sample intervals (8-10') and (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref. = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

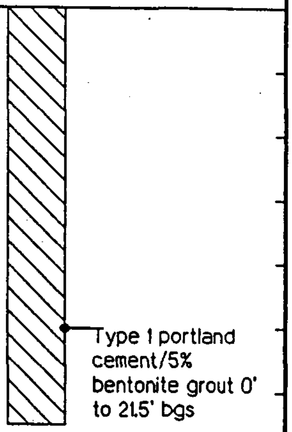
Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-120

Total Depth = 21.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	10 20	20	1.6	44.9	SM		Gray fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand and dark gray Shale fragments, slight sheen, no NAPL, saturated.	
		(16-18')	3"	37 50/0.2	Ref	0.4	72.9				
	5	(18-20')	3"	50/0.4	Ref	0.3	60.2	SH		Dark gray weathered SHALE, little Silt, slight odor, saturated.	
20		(20-22')	3"	50/0.2	Ref	0.3	69.8			Split-spoon refusal at 20.2' bgs.	Type 1 portland cement/5% bentonite grout 0' to 21.5' bgs
										Auger refusal at 21.5' bgs.	
	0										
25											
	-5										
30											
	-10										
35											



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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 01/29/97 - 01/29/97
Drilling Company: SJB
Driller's Name: Don Butzer
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 85
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398524.8575
Easting: 696642.3990
Borehole Depth: 26.3 ft.
Ground Surface Elev.: 30.24 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-121

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 30.24 ft.										GROUND SURFACE	N/A
	30									Black Asphalt. (AS)	Type 1 portland cement/5% bentonite grout 0' to 26.3' bgs
		(0-2')	2"	58/0.2	Ref	NR	NA	CR		Concrete.	
		(2-4')	2"	10 12 11 3	23	1.2	0.0	SW		Dark brown fine to medium SAND, trace coarse Sand, fine to medium Gravel, and shale fragments, moist.	
5	25	(4-6')	2"	2 3 5 5	8	1.4	0.0	SP/ML ML		Orange fine SAND and SILT, moist. Dark gray SILT, trace fine to medium Gravel, moist.	
		(6-8')	3"	2 3 4 4	7	1.7	0.0	SM		Dark brown fine to coarse SAND, some Silt, little fine to medium Gravel, moist.	
		(8-10')	3"	3 4 6 12	10	2.0	0.0	SM SW		Dark gray fine to medium SAND, trace coarse Sand and fine to medium Gravel, moist to wet.	
10	20	(10-12')	2"	3 5 3 3	8	0.9	1.2	SW FI		Red brick. Dark gray fine to medium SAND.	
		(12-14')	2"	1 2 3 5	5	1.4	3.4	SW CL		Red brick. Dark gray fine to medium SAND. Dark gray Silty CLAY, trace fine to medium Gravel, medium plasticity.	
15		(14-18')	2"	2 3	7	1.0	0.7	SW		Dark gray fine to coarse SAND,	

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Remarks:
Submitted soil sample interval (8-10') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal. NR = No Recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-121

Total Depth = 26.3 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	15	(14-16')	2"	4 7	7	1.0	0.7	CL		trace coarse Sand, saturated. At 14.8' bgs dark gray Silty CLAY, medium plasticity, moist.	
		(16-18')	2"	18 32 24 14	56	1.4	0.0	SH		Dark gray weathered SHALE, trace fine Sand, saturated.	
		(18-20')	2"	9 10 9 6	19	1.2	0.0	SM		Dark gray fine to coarse SAND, some Silt, little fine to medium Gravel, saturated.	
20	10	(20-22')	2"	7 7 11 14	18	2.0	1.4				Type 1 portland cement/5% bentonite grout 0' to 26.3' bgs
		(22-24')	2"	12 22 33 46	55	2.0	0.0	SP		Dark gray fine SAND, trace Silt and fine to medium Gravel, dense, saturated.	
25	5	(24-26')	2"	30 50/0.1	Ref	1.0	0.0	SH		Dark gray/black weathered SHALE. Dark gray.	
		(26-28')	2"	50/0.3	Ref	0.2	0.0			Split-spoon refusal at 26.3' bgs.	
30	0										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 10/17/96 - 10/17/96
Drilling Company: SJB
Driller's Name: Chris Ackley
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: Deidrick D-50
Spoon Size: 2" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397268.4016
Easting: 696117.9573
Borehole Depth: 16 ft.
Ground Surface Elev.: 24.86 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-122

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 24.86 ft.										GROUND SURFACE	NFA
		(0-2')	2"	2 4 7 5	11	1.4	0.0	SM		Brown fine SAND, little Silt, trace fine to medium Gravel and natural organics (rootlets), damp.	
		(2-4')	2"	4 2 3 6	5	0.4	0.0	FI		Gray ash, black coal, slag, and cinders, trace brown fine to medium Sand, damp.	
5	20	(4-6')	2"	4 4 4 5	8	0.8	0.0			Brown SILT, trace fine to medium Sand, red brick, and black coal, damp.	Type 1 portland cement/5% bentonite grout 0' to 16.0' bgs
		(6-8')	2"	2 2 7 9	9	1.4	0.0			Trace coarse Sand, orange and gray mottling.	
		(8-10')	2"	8 5 6 8	11	1.4	0.0	ML		Trace coarse Gravel, dry.	
10	15	(10-12')	2"	8 6 7 6	13	1.6	0.0			Little fine to medium Sand and fine to medium Gravel, trace coarse Sand, dry.	
		(12-14')	2"	8 11 14 8	25	1.4	0.0				
15	10	(14-16')	2"	14 10	28	1.4	0.0			Wet.	

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Remarks:
Submitted soil sample intervals (12-14') to Galson Laboratories for analysis of TAL Inorganics. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-122

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-18')	2"	18	28	1.4	0.0	SH	☰	Dark gray weathered SHALE, saturated.	▨ Type 1 portland cement/5% bentonite grout 0' to 16.0' bgs
										End of boring at 16.0' bgs.	
20	5										
25	0										
30	-5										
35	-10										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 01/09/97 - 01/31/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398184.7848
Easting: 697302.2537
Borehole Depth: 36.5 ft.
Ground Surface Elev.: 16.82 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-123

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.82 ft.										**GROUND SURFACE**	
		(0-2')	3"	8 11 14 16	25	1.8	0.0	SP/ML		Black fine SAND and SILT, some to little slag and coal, trace red brick, damp.	
	15	(2-4')	3"	18 29 28 23	57	1.7	8.1			Trace fine to medium Gravel and white brick.	
5		(4-6')	3"	5 8 10 10	18	1.9	2.4	CL/SH		Brown CLAY and gray SHALE fragments, trace fine to medium Sand, very stiff, moist.	Type I portland cement/5% bentonite grout 0' to 36.5' bgs
	10	(6-8')	3"	8 9 4 3	13	2.0	348.9			Odor, heavy sheen, saturated.	
		(8-10')	3"	7 7 6 5	13	2.0	183.4	CH		Gray brown Silty CLAY, trace fine Sand and natural organic material, medium plasticity, odor, sheen, wet.	
10	5									Augered to 25.0' bgs.	
15											

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Remarks:
Submitted soil sample interval (6-8') to Galson Laboratories for analysis of BTEX, PCBs, TPH, PAHs, and TAL Inorganics.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-123

Total Depth = 38.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
										Augered to 25.0' bgs.	
	0										
20											Type 1 portland cement/5% bentonite grout 0' to 36.5' bgs
	-5										
										Weatherd SHALE.	
25										Augered to 27.0' bgs with 5 7/8" OD roller bit.	
	-10									Drilled 3 7/8 OD corehole to 36.5' bgs. Sheen.	
		(26.5-31.5') Run No. 1	Time 12:12 2:55	Rate (ft/min) 6 9 10 6 6	RQD 30%	4.5	0.0	SH			
30											
	-15									Slight sheen to nonexistent with depth.	
		(31.5-36.5') Run No. 2	Time 3:22 3:43	Rate (ft/min) 6 4 3 4 4	RQD 70%	5.0	0.0				
35											

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Remarks:
A 4-in. diameter steel outer casing was intalled to a depth of 27.0' bgs on January 28, 1997.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-123

Total Depth = 36.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(31.5–36.5') Run No. 2	Time 3:22 3:43		RQD 70%	5.0	0.0	SH		Weatherd SHALE.	Type 1 portland cement/5% bentonite grout 0' to 36.5' bgs
	-20									End of boring at 36.5' bgs.	
40											
	-25										
45											
	-30										
50											
	-35										
55											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 01/24/97 - 01/24/97 **Drilling Company:** SJB **Driller's Name:** Don Butzer **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size:** 4.25" ID **Rig Type:** CME 85 **Spoon Size:** 2" & 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1398046.2005 **Easting:** 697234.2999 **Borehole Depth:** 22.2 ft. **Ground Surface Elev.:** 16.51 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-124A **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.51 ft.										**GROUND SURFACE**	
										Augered to 1.0' bgs.	
	15	(1-3')	3"	13 17 20 22	37	2.0	19.4	SW		Dark brown/black fine to medium SAND, some slag, cinders, coal, trace coarse Sand and fine to medium Gravel, damp.	
										Augered to 4.0' bgs.	
5		(4-6')	3"	8 8 6 5	14	2.0	262	SW		Dark brown/black fine to medium SAND, some slag, cinders, coal, little Shale fragments, coal, trace coarse Sand and fine to medium Gravel, strong odor, black staining, NAPL.	Type 1 portland cement/5% bentonite grout 0' to 22.2' bgs
	10	(6-8')	3"	1 2 4 4	6	1.7	190.7			Dark gray SILT and CLAY, little fine Sand and Shale fragments, NAPL.	
		(8-10')	3"	2 5 9 11	14	2.0	32.7	ML/CL		Trace fine to coarse Gravel and natural organics, medium plasticity, slight odor, no evidence of NAPL, moist.	
10	5	(10-12')	3"	5 8 10 12	18	1.8	23.8			NAPL on surface of Gravel. Gray fine to coarse SAND, little Silt, trace fine to coarse Gravel, odor, wet.	
		(12-14')	3"	7 7 10 10	17	1.1	29.3	SM			
15		(14-16')	2"	3 1	4	0.7	27.4	SP		Dark gray fine SAND, slight odor, saturated.	

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Remarks:
Submitted soil sample intervals (1-3') and (22-24') to Galson Laboratories for analysis of BTEX, PCBs, TPH, PAHs, and TAL Inorganics. Ref = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bori
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-124A

Total Depth = 22.2 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	2"	3 3	4	0.7	27.4	SP	░	Dark gray fine SAND, slight odor, saturated.	Type 1 portland cement/5% bentonite grout 0' to 22.2' bgs
	0	(16-18')	2"	4 5 7 8	12	NR	NA			No Recovery. Sheen in sampler.	
		(18-20')	2"	4 4 8 16	12	1.2	24.8	SW/SH	▒	Dark gray fine to coarse SAND and weathered SHALE, saturated.	
20	-5	(20-22')	2"	10 10 8 7	18	0.6	148	SH	▤	Dark gray weathered SHALE, NAPL.	
		(22-24')	3"	50/0.2	Ref	0.2	NA			Split-spoon refusal at 22.2' bgs.	
25	-10										
30	-15										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 01/13/97 - 01/13/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing:
Easting:
Borehole Depth: 6.0 ft.
Ground Surface Elev.: ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-124

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft	0									**GROUND SURFACE**	
		(0-2')	3"	5 8 25 43	33	1.6	24.8	SW/FI		Dark brown/black fine to medium SAND and slag material, little black coal, trace Silt, damp.	
		(2-4')	3"	50 47 42 21	89	1.7	90.2			Slag material has orange oxidation, slight odor.	
5	-5	(4-6')	3"	5 4 5 5	9	2.0	84.4	SM		Dark brown/black fine to medium SAND, little Silt and slag, little to trace Shale fragments, odor, sheen, moist to wet.	Type 1 portland cement/5% bentonite grout 0' to 6.0' bgs
										End of boring at 6.0' bgs.	
10	-10										
15	-15										

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Remarks:
Submitted soil sample interval (4-6') to Galson Laboratories for analysis of BTEX, PCBs, TPH, PAHs, and TAL Inorganics. Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 384.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 01/13/97 - 01/13/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397867.4084
Easting: 697173.9322
Borehole Depth: 25.3 ft.
Ground Surface Elev.: 16.80 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-125

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.80 ft.										**GROUND SURFACE**	
	15	(0-2')	3"	4 6 12 14	18	2.0	0.0	SW/FI		Black fine to medium SAND, coal and slag, trace Silt, trace natural organic material 0-0.4' bgs, damp.	Type 1 portland cement/5% bentonite grout 0' to 25.3' bgs
		(2-4')	3"	12 11 11 15	22	1.6	0.0				
5		(4-6')	3"	5 5 5 6	10	1.6	0.0	SW		Brown fine to coarse SAND, trace fine to medium Gravel and Silt, medium dense, damp. Little slag, saturated.	
	10	(6-8')	3"	7 6 4 4	10	1.4	0.0	CH		Gray Silty Clay, trace natural organic material, medium to high plasticity, moist to wet.	
		(8-10')	3"	4 5 40 5	9	1.2	0.0	SC		Dark gray fine to medium SAND, little Clay, trace fine to medium Gravel, wet.	
10		(10-12')	3"	6 7 7 8	14	2.0	0.0	CL		Gray CLAY, little Silt, trace fine Sand and natural organic material, stiff, moist.	
	5	(12-14')	3"	4 5 5 6	10	1.6	0.0			Trace fine to coarse Gravel, moist.	
15		(14-16')	3"	8 9	16	1.4	15.4	SW		Brown fine to coarse SAND, little fine to medium Gravel, trace Silt,	

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Remarks:
Submitted soil sample interval (22-24') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-125

Total Depth = 25.3 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	7 9	16	1.4	15.4			slight odor, saturated.	
	0	(16-18')	3"	9 24 17 12	41	0.9	6.4				
		(18-20')	3"	9 14 9 6	27	1.8	0.0	SW		Little Silt.	
20	-5	(20-22')	3"	7 8 8 8	16	1.2	0.0				Type 1 portland cement/5% bentonite grout 0' to 25.3' bgs
		(22-24')	3"	14 17 11 15	28	2.0	0.0				
25		(24-26')	3"	12 19 50/0.3	Ref	1.2	48.5	SH		Dark gray weathered SHALE, trace fine Sand and Silt, saturated. Heavy sheen. Split-spoon refusal at 25.3' bgs.	
	-10										
30											
	-15										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 01/16/97 - 01/16/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397291.9770
Easting: 696930.8749
Borehole Depth: 26.1 ft.
Ground Surface Elev.: 16.45 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-128

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.45 ft.										GROUND SURFACE	
	15	(0-2')	3"	3 8 12 13	20	2.0	0.6			Dark brown/black fine to medium SAND, some to little coal and slag, little Silt, damp.	
		(2-4')	3"	11 18 22 27	45	1.6	0.0	SM		Dark brown fine to coarse SAND, little to trace Silt, trace fine to medium Gravel, coal, and slag, damp. Trace coarse Gravel.	
5		(4-6')	3"	20 15 8 5	23	1.4	0.0				Type 1 portland cement/5% bentonite grout 0' to 26.1' bgs
	10	(6-8')	3"	8 7 6 7	13	1.8	113.8	SM/SC CL		Brown fine to medium SAND, some Silt and Clay, trace coarse Sand and fine to medium Gravel, odor, moist to wet. Black stained fine to medium SAND, coal and slag, heavy odor, wet. (SW/FI)	
10		(8-10')	3"	2 5 9 9	14	1.6	2.8	SC		Brown Silty CLAY, trace fine Sand, odor, wet.	
	5	(10-12')	3"	3 1 3 3	4	1.2	0.0			Brown fine to coarse SAND, some Clay, little fine to coarse Gravel, wet. Brown SILT and CLAY, trace fine Sand and natural organic material, moist.	
		(12-14')	3"	7 9 20 27	29	1.8	0.0	ML/CL			
15		(14-16')	3"	10 18	45	2.0	0.0	SM		Brown fine to coarse SAND, little Silt and fine to medium Gravel, very	

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Remarks:
Submitted soil sample intervals (4-6') and (6-8') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

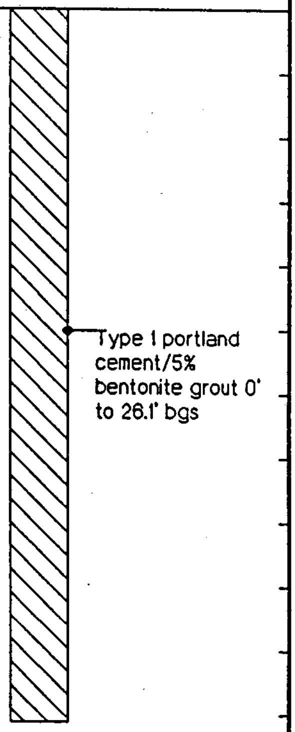
Client:
Niagara Mohawk Power Corporation

Boring No. SB-128

Total Depth = 28.1 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')	3"	29 30	45	2.0	0.0	SM	⁘	dense, saturated.
	0	(16-18')	3"	30 50 50/0.2	Ref	0.8	0.0	SM	⁘	Gray fine to coarse SAND, little Silt and fine to medium Gravel, very dense, saturated.
		(18-20')	2"	14 14 16 17	30	0.6	0.0	SM	⁘	
20	-5	(20-22')	2"	9 18 34 48	52	0.8	0.0	SM	⁘	
		(22-24')	2"	100/0.4	Ref	0.2	0.0	SM	⁘	
25		(24-26')	2"	50 62 51/0.1	Ref	0.5	0.0	SH	☰	Gray weathered SHALE, little fine Sand, and Silt, saturated.
	-10	(26-28')	2"	100/0.1	Ref	NR	NA			No recovery, split-spoon refusal at 26.1' bgs.
30	-15									
35										

Boring Construction


Type 1 portland cement/5% bentonite grout 0' to 26.1' bgs

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 01/22/97 - 01/22/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size**: 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" and 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398283.7360
Easting: 697359.4714
Borehole Depth: 20.5 ft.
Ground Surface Elev.: 17.44 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-127

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

gs elevation 17.44 ft.

GROUND SURFACE

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(0-2')	3"	50 53 22 18	75	1.8	0.0	SM		Browm SILT and fine SAND, little natural organic material, trace to medium Gravel. (ML/SP) Gray medium GRAVEL and brown SILT. (GW/ML)	
	15	(2-4')	3"	17 20 72 43	92	1.7	11.4	SW		Black fine to medium SAND, some to little coal, slag, and cinders, little Silt, loose, damp. Tan fine to medium SAND, trace fine to medium Gravel and Silt, damp.	
5		(4-6')	3"	4 13 13 15	28	1.8	0.0	SW/FI		Orange/brown fine to medium SAND and oxidized slag, trace coal and cinders, damp.	Type 1 portland cement/5% bentonite grout 0' to 20.2' bgs
	10	(6-8')	3"	15 12 11 5	23	1.5	0.0	SH		Trace fine to medium Gravel, Clay, and black Shale fragments, moist to wet. Black SHALE fragments, little Silty Clay, trace fine Sand, wet.	
		(8-10')	3"	9 9 6 11	15	NR	NA			No Recovery.	
10		(10-12')	3"	10 11 18 20	29	1.1	112.7	CL/SH		Brown CLAY and SHALE fragments, trace fine Sand, strong odor, wet.	
	5	(12-14')	3"	10 12 12 15	24	0.4	113.6			Very loose, saturated.	
15		(14-16')	3"	20 17	31	1.2	9.5	SH		Black SHALE fragments, little brown Silt and brown fine Sand, saturated.	

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Remarks:
Submitted soil sample intervals (4-6') and (10-12') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-127

Total Depth = 20.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	14 14	31	1.2	9.5	SH	▤	Black SHALE fragments, little brown Silt and brown fine Sand, saturated.	▨
	0	(16-18')	3"	12 20 30 33	50	2.0	0.0	SM	░	Brown fine to coarse SAND, little Silt and fine to coarse Gravel, trace Shale fragments, very dense, saturated.	▨ Type 1 portland cement/5% bentonite grout 0' to 20.2' bgs
		(18-20')	3"	23 50 50/0.3	Ref	1.2	0.0	SH	▤	Dark gray/black very weathered SHALE, little brown Silt, moist.	▨
20		(20-22')	2"	50/0.2	Ref	NR	NA			No Recovery. Split-spoon refusal at 20.5' bgs.	
	-5										
25											
	-10										
30											
	-15										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 02/04/97 - 02/04/97 **Drilling Company:** SJB **Driller's Name:** Mike Lanigan **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4.25" ID **Rig Type:** CME 75 **Spoon Size:** 2" and 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1397558.6317 **Easting:** 696415.7266 **Borehole Depth:** 26.6 ft. **Ground Surface Elev.:** 18.68 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-128 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description	Boring Construction
gs elevation 18.68 ft.									**GROUND SURFACE**	
		(0-2')	3"	- - 28 12	40	1.0	0.0	AS GW SM	Black Asphalt. Fine to medium GRAVEL, some to little fine to medium Sand, damp. Dark brown/black fine to medium SAND, little Silt, coal, slag, cinders, red brick, and plastic sheeting, trace fine to medium Gravel.	
	15	(2-4')	3"	7 10 8 5	18	1.8	0.0	SW	Brown fine to medium SAND, some to little coal, slag, cinders, gray ash, and red brick, damp.	
5		(4-6')	3"	6 3 3 4	6	1.8	0.0	ML/ CL	Brown SILT and CLAY, little to trace fine to medium Sand, trace fine to medium Gravel, moist.	Type I portland cement/5% bentonite grout 0' to 28.6' bgs
		(6-8')	3"	7 8 8 10	16	1.9	0.0		Brown fine to coarse SAND, little Silt, little to trace fine to coarse Gravel, damp.	
	10	(8-10')	3"	5 6 10 9	16	1.8	0.0			
10		(10-12')	3"	1 5 8 10	13	1.4	0.0	SM		
	5	(12-14')	3"	12 12 18 15	30	1.5	0.0		Wet.	
15		(14-16')	3"	10 19	40	1.8	0.0	GM	Brown fine to medium GRAVEL, some to little fine to coarse Sand,	

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Remarks:

Submitted soil sample interval (14-16') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-128

Total Depth = 26.6 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	21 17	40	1.8	0.0	GM		little Silt, trace black Shale fragments, saturated.	
		(16-18')	3"	12 12 19 3	31	1.2	0.0	SP		Brown coarse SAND, little fine to medium Sand and fine to coarse Gravel, little Silt, trace Shale fragments, saturated.	
	0	(18-20')	3"	8 8 9 8	17	1.4	0.0	SM		Brown fine to coarse SAND, little to trace fine to coarse Gravel and Silt, trace shale fragments, saturated.	
20		(20-22')	3"	12 40 16 12	56	1.7	0.0				Type 1 portland cement/5% bentonite grout 0' to 26.6' bgs
	-5	(22-24')	3"	13 24 12 15	36	2.0	0.0			Dark gray.	
25		(24-26')	3"	60/0.3	Ref	0.3	0.0	SH		Weathered SHALE.	
		(26-28')	3"	58 50/0.1	Ref	0.2	0.0			Split-spoon refusal at 26.6' bgs.	
	-10										
30											
	-15										
35											

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Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 02/11/97 - 02/11/97 **Drilling Company:** SJB **Driller's Name:** Mike Lanigan **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size :** 4.25" ID **Rig Type:** CME 75 **Spoon Size:** 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1398005.8958 **Easting:** 697313.5720 **Borehole Depth:** 25.4 ft. **Ground Surface Elev.:** 16.83 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-129 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.83 ft.										**GROUND SURFACE**	
	15	(0-2')	3"	4 6 12 14	18	2.0	0.0	ML		Brown SILT, little fine to coarse Sand and natural organic material, little to trace fine to medium Gravel, damp.	Type 1 portland cement/5% bentonite grout 0' to 25.4' bgs
		(2-4')	3"	12 11 11 15	22	1.8	0.0			Trace fine to coarse Sand, fine to coarse Gravel, and Clay, low plasticity, damp.	
5		(4-6')	3"	5 5 5 6	10	1.6	0.0			Little fine to coarse Sand and fine to coarse Gravel, trace Clay, damp.	
	10	(6-8')	3"	7 6 4 4	10	1.4	0.0			Moist.	
		(8-10')	3"	4 5 40 5	9	1.2	0.0	ML/CL		Gray/brown SILT and CLAY, little fine to medium Gravel, trace fine to coarse Sand, orange mottling, wet.	
10	5	(10-12')	3"	6 7 7 8	14	2.0	0.0	CL		Gray CLAY, little to trace Silt, high plastisity, moist.	
		(12-14')	3"	4 5 5 6	10	1.6	0.0			Trace natural organic material.	
15		(14-16')	3"	8 9	18	1.4	15.4	SM		Dark gray fine to coarse SAND, some to little Silt, little fine to medium Gravel, odor, very loose,	

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Remarks:
Submitted soil sample intervals (8-10') and (24-26') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. Ref = Split-spoon refusal.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-129

Total Depth = 25.4 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	7 9	16	1.4	15.4	SM		saturated.	
	0	(16-18')	3"	9 24 17 12	41	0.9	6.4			Dark gray fine to coarse SAND, little Silt and fine to medium Gravel, odor, saturated.	
		(18-20')	3"	9 14 9 6	27	1.8	0.0				
20		(20-22')	3"	7 8 8 8	16	1.2	0.0				Type 1 portland cement/5% bentonite grout 0' to 25.4' bgs
	-5	(22-24')	3"	14 17 11 15	28	2.0	0.0				
25		(24-26')	3"	12 19 50/0.3	Ref	1.2	48.5	SH		Dark gray weathered SHALE and fine to medium Sand, odor, saturated. Dark gray weathered SHALE, saturated with coal tar. Split-spoon refusal at 25.3' bgs.	
	-10										
30											
	-15										
35											

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Remarks:
Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 02/14/97 - 02/14/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 2" & 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397800.9673
Easting: 697315.7356
Borehole Depth: 29.8 ft.
Ground Surface Elev.: 16.32 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-131

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.32 ft.										GROUND SURFACE	
	15	(0-2')	3"	20 35 15 8	50	2.0	0.0	ML		Brown SILT, little fine to coarse Sand and fine to medium Gravel, trace natural organic material and glass, damp.	
		(2-4')	2"	4 9 10 5	19	0.6	0.0	ML/FI		Brown SILT, gray ash, cinders, and clear glass, damp. Trace green glass and porcelian.	
5		(4-6')	3"	4 2 3 2	5	0.7	0.0				Type 1 portland cement/5% bentonite grout 0' to 29.8' bgs
	10	(6-8')	3"	3 4 4 5	8	NR	NA			No Recovery.	
		(8-10')	3"	1 4 1 2	4	1.8	0.0	FI ML/CL		Red brick. Gray SILT and CLAY, trace natural organic material, medium plasticity, moist.	
10	5	(10-12')	3"	4 4 5 7	9	2.0	0.0				
		(12-14')	3"	4 6 6 7	12	2.0	0.0				
15		(14-16')	3"	2 12	25	0.7	0.0	SM		Dark gray fine to coarse SAND, some Silt, little fine to coarse	

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Remarks:
Submitted soil sample interval (28-30') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH. NR = No recovery. NA = Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-131

Total Depth = 29.8 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	3"	13	25	0.7	0.0	SM		Gravel, saturated.	
	0	(16-18')	3"	12 11 9 7	20	1.4	0.0				
		(18-20')	3"	8 4 1 1	5	2.0	0.0			Gray/brown fine to coarse SAND, little Silt and fine to coarse Gravel, loose, saturated.	
20	-5	(20-22')	3"	1 2 3 5	5	1.4	0.0			Dark gray.	Type 1 portland cement/5% bentonite grout 0' to 29.8' bgs
		(22-24')	3"	4 4 3 12	7	0.7	0.0				
25		(24-26')	3"	4 9 10 12	19	2.0	0.0			Trace Shale fragments.	
	-10	(26-28')	3"	20 23 25 20	48	2.0	12.7			Odor.	
		(28-30')	3"	18 23 50 50/0.3	73	1.8	182.2	SH		Dark gray weathered SHALE, saturated with NAPL.	
30	-15									Split-spoon refusal at 29.8' bgs.	
35											

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
Boring grouted to grade using Type 1 portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 05/07/97 - 05/07/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" & 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1397287.2989
Easting: 697215.4166
Borehole Depth: 32.1 ft.
Ground Surface Elev.: 16.5 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-132

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.5 ft.										GROUND SURFACE	N/A
	15	(0-2')	2"	1 3 10 5	13	1.3	0.0	SM		Brown fine Sand and Silt, trace medium to coarse Sand, trace fine Gravel, trace natural organics (leaves, roots), trace Slag.	Type 1 portland cement/5% bentonite grout 0' to 32.1' bgs
		(2-4')	2"	9 8 6 4	14	1.6	0.0	SW		Brown fine to medium SAND, trace coarse Sand, trace Silt, trace fine to medium Gravel, damp.	
5		(4-6')	2"	4 5 5 4	10	1.4	0.0				
	10	(6-8')	2"	2 7 4 4	11	1.5	0.0				
		(8-10')	2"	5 3 5 6	8	1.8	0.0	OH		(Fill/Native Boundary) Brown Silt, little Clay, trace natural organics (roots), orange mottling, damp.	
10	5	(10-12')	3"	20 22 20 20	42	NR	NA			No recovery (pushing concrete ahead of spoon, concrete is probably from 0-7' bgs).	
		(12-14')	3"	4 8 7 8	15	2.0	0.0			Brown Silt, little Clay, orange mottling, grades with depth with trace to little fine to coarse Sand, little fine to medium Gravel, moist.	
15		(14-16')	2"	2 4	8	0.8	0.0	SW		Gray fine to coarse SAND, little Silt, trace to little fine to medium Gravel. Saturated at 14.0' bgs.	

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Remarks:
NR = No recovery. NA = Not available. Submitted soil sample interval (12-14') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH, MS/MSD. Submitted soil sample interval (30-32') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH, duplicate.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-132
Total Depth = 32.1 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description	Boring Construction
		(14-16')	2"	4	8	0.8	0.0	SW		
	0	(16-18')	2"	10 14 14 5	28	0.8	0.0		Little fine to medium Gravel, 16.0-16.8' bgs.	
		(18-20')	2"	4 3 3 3	6	0.7	0.0			
20	-5	(20-22')	2"	3 2 3 2	5	1.3	0.0		Trace Silt.	Type 1 portland cement/5% bentonite grout 0' to 32.1' bgs
		(22-24')	2"	10 14 14 11	28	0.9	0.0			
25		(24-26')	3"	20 18 20 31	38	1.8	0.0		Little Silt.	
	-10	(26-28')	3"	22 33 36 38	69	1.6	0.0		Gray fine to coarse SAND, little fine to coarse Gravel, trace Silt, saturated.	
		(28-30')	3"	5 11 20 20	31	2.0	0.0	SH	Some weathered Shale, little Silt. Highly weathered SHALE and brown Silt, saturated.	
30	-15	(30-32')	3"	26 21 38 50/0.0	59	1.8	0.0			
		(32-34')	3"	100/0.1	Ref.	NA	NA		Auger refusal at 32.0' bgs. No recovery. Split-spoon refusal at 32.1' bgs.	
35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Date Start/Finish: 05/08/97 - 05/08/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" & 3" OD
Hammer Weight: 140-lb
Height of Fall: 30-in.

Northing: 1398061.5475
Easting: 697500.1903
Borehole Depth: 20.9 ft.
Ground Surface Elev.: 17.12 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-133

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 17.12 ft.										**GROUND SURFACE**	
		(0-2')	2"	2 5 9 5	14	1.4	0.0	SM		Brown fine Sand and Silt, trace fine to medium Gravel, trace natural organics, trace cinders, trace slag, damp.	
	15	(2-4')	2"	12 17 12 10	29	0.4	0.0			Brown fine to medium SAND, little Silt, trace coarse Sand, concrete in shoe of spoon damp.	
5		(4-6')	2"	8 4 7 7	11	1.6	0.0	SW		Brown and gray fine to medium Sand, little Silt, trace coarse Sand, trace fine to medium Gravel, trace shale fragments, moist.	Type 1 portland cement/5% bentonite grout grade to 21.0' bgs
	10	(6-8')	2"	8 4 2 1	6	1.3	0.0			Brown fine to medium Sand, trace to little fine to medium Gravel, trace coarse Sand, trace Silt, saturated (perched).	
		(8-10')	3" & BL	1/2.0	NA	1.4	NA			(Fill/Native Boundary) Gray Clay, very plastic, trace natural organics, moist. Trace to little natural organics, trace fine to medium Gravel, trace fine to coarse Sand.	
10		(10-12')	3"	2 2 4 5	6	1.6	0.0	OH			
	5	(12-14')	2"	2 3 5 7	8	2.0	0.0			Trace shells.	
15		(14-16')	2"	10 13	44	NR	NA			No recovery.	

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Remarks:
NR = No recovery. NA = Not available. Submitted soil sample interval (12-14') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH, MS/MSD. Submitted soil sample interval (30-32') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH, duplicate.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-borl
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

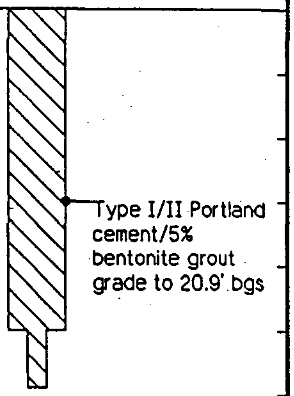
Client:
Niagara Mohawk Power Corporation

Boring No. SB-133

Total Depth = 20.9 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')	2"	31 25	44	NR	NA			
	0	(16-18')	2"	12 10 8 15	18	2.0	0.0	SW		Brown/gray fine to coarse Sand, little Silt, little fine to medium Gravel, trace weathered shale, saturated.
		(18-20')	2"	14 12 14 14	26	1.6	0.0			Little to some weathered shale.
20		(20-21')	2"	8 50/0.4	Ref.	0.9	0.0	SH		Black weathered SHALE.
										End of boring at 20.9' bgs.
	-5									
25										
	-10									
30										
	-15									
35										

Boring Construction



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Remarks:
Boring grouted to grade using Type I portland cement/5% bentonite.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-bor1
Date: 10/16/97

Date Start/Finish: 05/09/97 - 05/09/97 **Drilling Company:** SJB **Driller's Name:** Mike Lanigan **Drilling Method:** Hollow Stem Auger **Bit Size:** **Auger Size** : 4.25" ID **Rig Type:** CME 75 **Spoon Size:** 2" & 3" OD **Hammer Weight:** 140-lb **Height of Fall:** 30-in.	**Northing:** 1397691.9964 **Easting:** 697343.4152 **Borehole Depth:** 32.0 ft. **Ground Surface Elev.:** 16.34 ft. **Descriptions by:** Ronald D. Kuhn	**Boring No.** SB-134 **Client:** Niagara Mohawk Power Corporation **Site:** 1125 Broadway Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 16.34 ft.										**GROUND SURFACE**	
	15	(0-2')	2"	1 2 6 5	8	1.6	0.0			Brown fine to medium Sand, little Silt, trace natural organics, trace coal, damp.	
		(2-4')	2"	6 9 9 8	18	2.0	0.0	SW		Brown fine to medium SAND, little Silt, trace fine to medium Gravel, trace coarse Sand, damp.	
5		(4-6')	2"	8 7 4 3	11	1.7	0.0				
	10	(6-8')	2"	4 5 5 6	10	1.4	0.0			(Fill/Native Boundary) Brown SILT, little Clay, trace natural organics, orange mottling, damp.	Type 1 portland cement/5% bentonite grout grade to 32.0' bgs
		(8-10')	2"	4 4 3 4	7	1.2	0.0			Trace fine Gravel, trace fine to medium Sand.	
10	5	(10-12')	2"	3 2 4 4	6	1.8	0.0	OL		Brown Silt, trace fine Sand, trace natural organics, damp.	
		(12-14')	2"	3 6 11 11	17	1.8	0.0			Saturated at 13.0' bgs.	
15		(14-16')	2"		13	1.2	0.0	SW		Gray fine to coarse Sand, little Silt, trace fine to medium Gravel,	

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Remarks:

NR = No recovery. NA = Not available. Submitted soil sample interval (10-12') to Galson Laboratories for analysis of PCBs, BTEX, PAHs, TAL Inorganics, and TPH.

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030
Script: BBL-bor1
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Boring No. SB-134

Total Depth = 32.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')	2"	6 8	13	1.2	0.0			saturated.	
	0	(16-18')	2"	8 8 8 5	16	1.7	0.0			Little fine to medium Gravel.	
		(18-20')	2"	5 4 3 6	7	1.4	0.0				
20	-5	(20-22')	2"	1 2 2 1	4	1.3	0.0 ~~0.0~~	SW		Some fine to medium Gravel, trace Silt.	
		(20-24')	2"	2 3 3 2	6	1.6	0.0				Type I/II Portland cement/5% bentonite grout grade to 32.0' bgs
25		(24-26')	2"	3 17 12 6	29	1.4	0.0				
	-10	(26-28')	2"	12 15 19 24	34	1.8	0.0			Weathered SHALE in very tip of spoon.	
		(28-30')	2"	8 10 10 10	20	1.4	0.0			Dark gray weathered Shale and fine Sand, trace fine to medium Gravel, trace medium to coarse Sand, saturated.	
30	-15	(30-32')	2"	14 50/0.4	Ref.	0.4	0.0	SH		Dark gray weathered shale.	
										Auger refusal at 32.0' bgs. End of boring at 32.0' bgs.	
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 364.69.030

Script: BBL-borl
Date: 10/16/97

Appendix D -
Geotechnical Sample Results

BLASLAND, BOUCK & LEE, INC.
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SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
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55 Oliver Street
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Phone: (610) 746-2670
Fax: (610) 746-2669

TOLL FREE: 1-800-821-5911

Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : FEBRUARY 10, 1997
PROJECT NO.: 90105.125
REPORT NO.: LTR-1A-F
PAGE 1 OF 8

Attached are the results of laboratory testing conducted on various samples from the Niagara Mohawk Power Corporation, North Albany Service Center Project. Samples contained in this report were chosen for testing by Ronald Kuhn, representing Blasland, Bouck & Lee, Inc.

The testing conducted was as follows :

ASTM D-422 : Particle Size Analysis of Soils
ASTM D-854 : Specific Gravity of Soils
ASTM D-2216 : Water (Moisture) Content of Soil and Rock
ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils
EM-1110-2-1906
APPENDIX II : Unit Weight (Bulk Density)

These specimens were obtained and identified by a SJB Services, Inc. Drill Crew during the month on January 1997. The samples were transported to our laboratory where they were processed for testing.

If the reviewer should have any questions concerning this report, please do not hesitate to contact our office at any time.

SJB Services, Inc.

Paul Gregorczyk .
Laboratory Manager

Ray J. Kron
Testing Services Manager

Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : FEBRUARY 10, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-1A
PAGE 2 OF 7

SAMPLE NUMBER : 97-051
LOCATION : MW-15S : 14'-16'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
1"	100.0
3/4"	95.3
1/2"	86.7
3/8"	80.4
1/4"	72.8
#4	68.1
#10	55.4
#20	44.8
#40	38.5
#100	29.6
#200	25.1

PERCENT COMPONENTS

GRAVEL	**SAND**	**SILT**	**CLAY**
31.9%	43.0%	20.4%	4.7%

ASTM D-2216 : Water (Moisture) Content of Soil and Rock
ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Moisture Content	**Liquid Limit**	**Plastic Limit**	**Plasticity Index**
9.5 %	20	16	4

ASTM D-854 : Specific Gravity of Soils
Specific Gravity at 20°C : 2.781

EM-1110-2-1906 APPENDIX II : Unit Weight (Bulk Density)
Wet Density : 132.6 pcf
Dry Density : 122.1 pcf

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Laboratory Test Report

PROJECT : *NIAGARA MOHAWK POWER CORPORATION*
NORTH ALBANY SERVICE CENTER

CLIENT : *BLASLAND, BOUCK & LEE, INC..*

DATE : *FEBRUARY 10, 1997*

PROJECT NO.: 90105.125
REPORT NO.: LTR-1B
PAGE 3 OF 7

SAMPLE NUMBER : 97-052
LOCATION : SB-125 : 18'-20'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
1"	100.0
3/4"	94.7
1/2"	90.0
1/4"	80.1
#4	76.1
#10	64.5
#20	54.7
#40	46.6
#100	31.2
#200	23.9

PERCENT COMPONENTS

GRAVEL	SAND	SILT	CLAY
23.9%	52.3%	20.2%	3.6%

ASTM D-2216 : Water (Moisture) Content of Soil and Rock
ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
9.2 %	13	12	1

ASTM D-854 : Specific Gravity of Soils
Specific Gravity at 20°C : 2.772

EM-1110-2-1906 APPENDIX II : Unit Weight (Bulk Density)
Wet Density : 141.3 pcf
Dry Density : 131.1 pcf

Laboratory Test Report

PROJECT : *NIAGARA MOHAWK POWER CORPORATION*
NORTH ALBANY SERVICE CENTER

CLIENT : *BLASLAND, BOUCK & LEE, INC..*

DATE : *FEBRUARY 10, 1997*

PROJECT NO.: 90105.125
REPORT NO.: LTR-1C
PAGE 4 OF 7

SAMPLE NUMBER : 97-062
LOCATION : SB-125 : 10'-12'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
#4	100.0
#10	100.0
#20	99.9
#40	99.6
#100	98.7
#200	97.6

PERCENT COMPONENTS

GRAVEL	SAND	SILT	CLAY
0.0%	2.4%	66.2%	31.4%

ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Liquid Limit	Plastic Limit	Plasticity Index
53	32	21

Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : FEBRUARY 10, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-1D
PAGE 5 OF 7

SAMPLE NUMBER : 97-063
LOCATION : MW-19D : 16'-18'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
1 1/2"	100.0
1"	90.7
3/4"	86.3
1/2"	81.9
3/8"	78.0
1/4"	71.6
#4	67.2
#10	55.9
#20	46.4
#40	40.0
#100	26.0
#200	18.6

PERCENT COMPONENTS

GRAVEL	SAND	SILT	CLAY
32.8%	48.6%	18.5%	0.1%

ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Liquid Limit	Plastic Limit	Plasticity Index
SAMPLE WAS NON PLASTIC		

SJB SERVICES, INC.

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Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : FEBRUARY 10, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-1E
PAGE 6 OF 7

SAMPLE NUMBER : 97-064
LOCATION : MW-16S : 13'-15'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
1 1/2"	100.0
1"	85.8
3/4"	84.3
1/2"	78.1
3/8"	74.3
1/4"	68.4
#4	65.1
#10	55.8
#20	45.2
#40	38.2
#100	29.2
#200	24.7

PERCENT COMPONENTS

GRAVEL	SAND	SILT	CLAY
34.9%	40.4%	19.2%	5.5%

ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Liquid Limit	Plastic Limit	Plasticity Index
22	17	5

SJB SERVICES, INC.

Contract Drilling and Testing

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Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : FEBRUARY 10, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-1F
PAGE 7 OF 7

SAMPLE NUMBER : 97-065
LOCATION : MW-16R : 10'-12'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
3/4"	100.0
1/2"	97.3
3/8"	97.3
1/4"	97.1
#4	97.0
#10	97.0
#20	96.9
#40	96.4
#100	94.6
#200	91.7

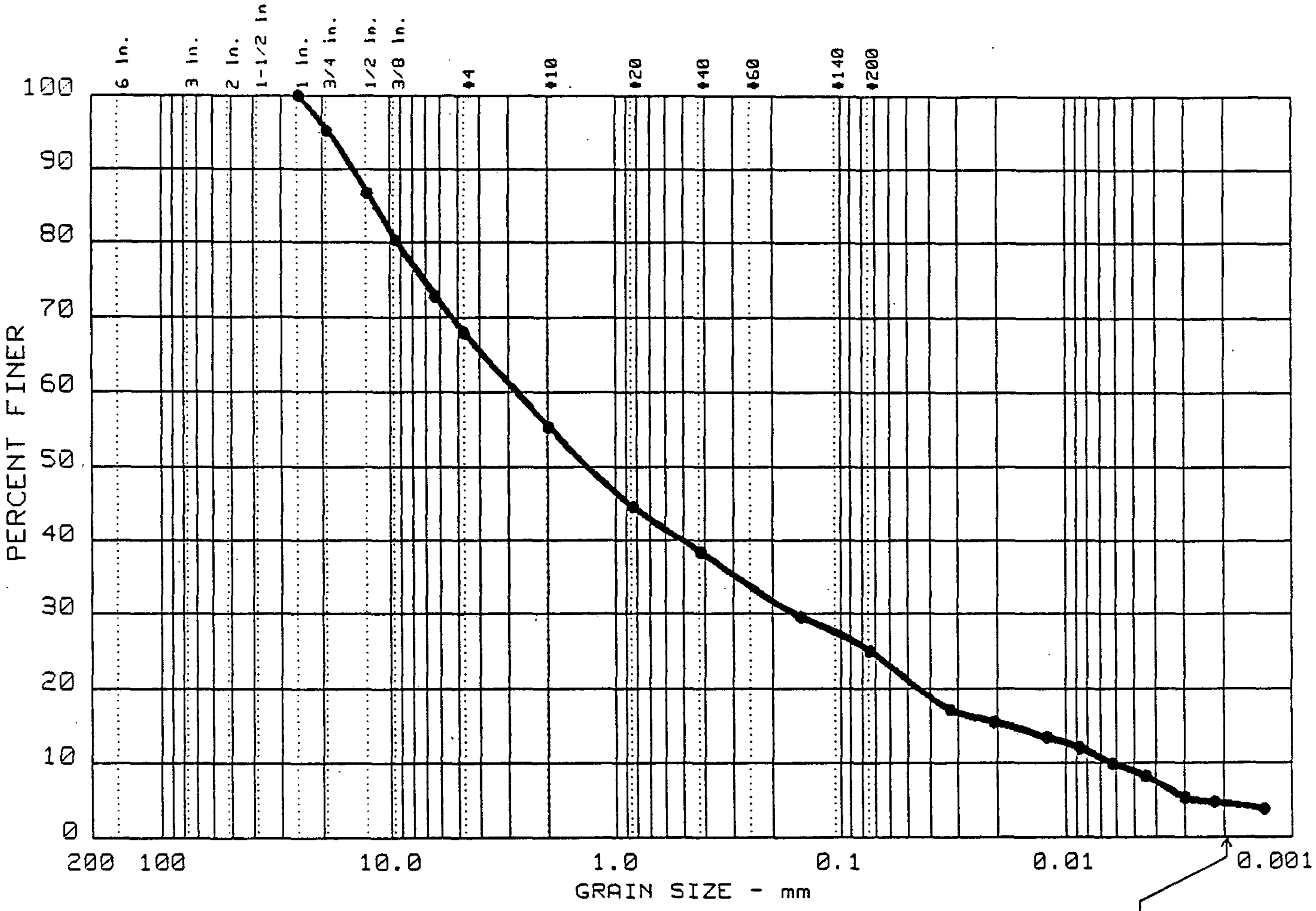
PERCENT COMPONENTS

GRAVEL	SAND	SILT	CLAY
3.0%	5.3%	59.9%	31.8%

ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Liquid Limit	Plastic Limit	Plasticity Index
45	26	19

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	31.9	43.0	20.4	4.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	20	4	11.75	2.75	1.32	0.157	0.0176	0.0062	1.45	446.7

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND, SOME GRAVEL & SILT, TRACE CLAY	SC-SM	A-1-b

Project No.: 90105.125 : LTR-1A
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: MW-15S : 14'-16'

Date: FEBRUARY 10, 1997

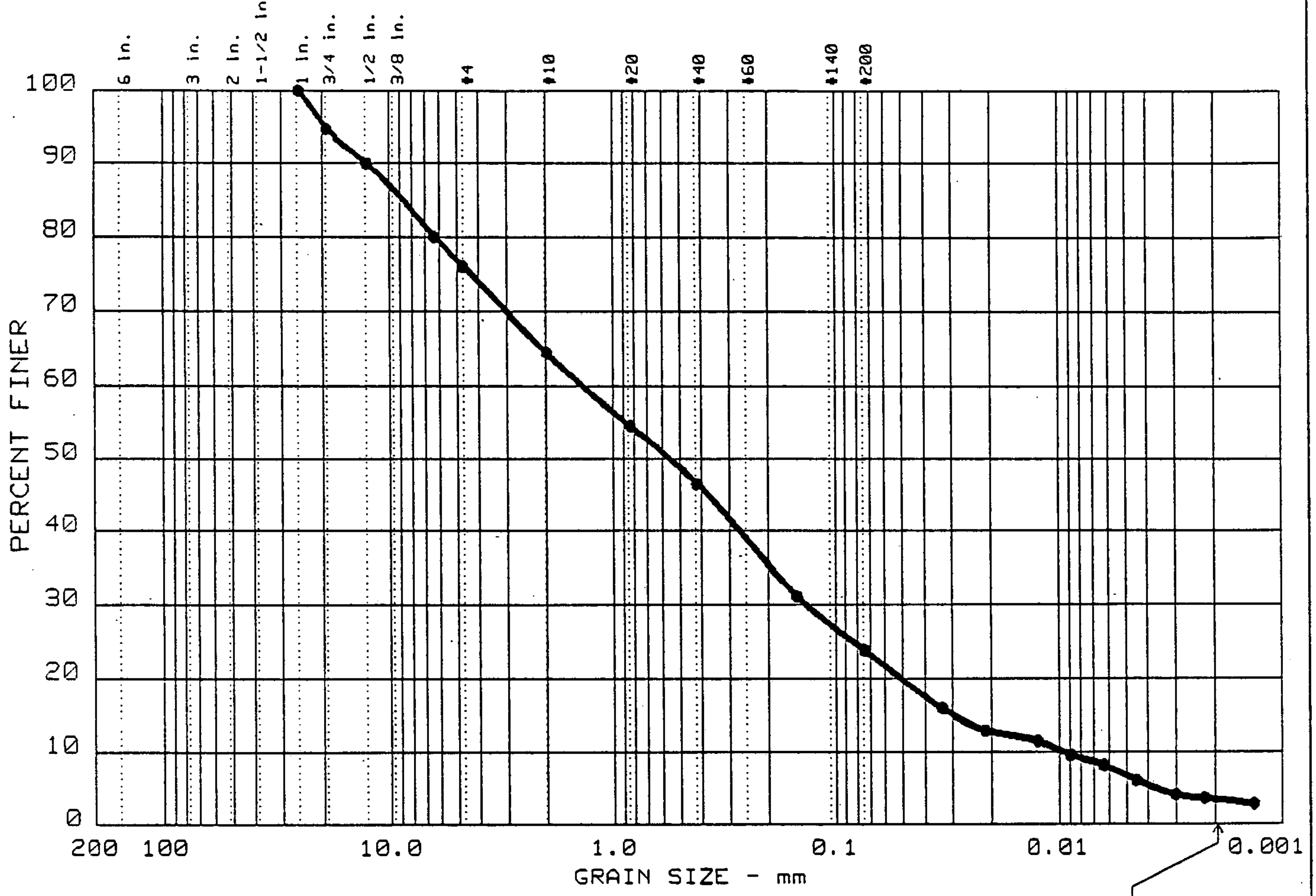
GRAIN SIZE DISTRIBUTION TEST REPORT

SJB Services, Inc.

Remarks:
Collected by a SJB Drill
Crew from the project
site during January 1997
SJB Sample ID# is 97-051

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	23.9	52.3	20.2	3.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	13	1	8.81	1.35	0.55	0.133	0.0295	0.0093	1.41	144.5

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND, SOME GRAVEL & SILT, TRACE CLAY	SM	A-1-b

Project No.: 90105.125 : LTR-1B
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: SB-125 : 18'- 20'

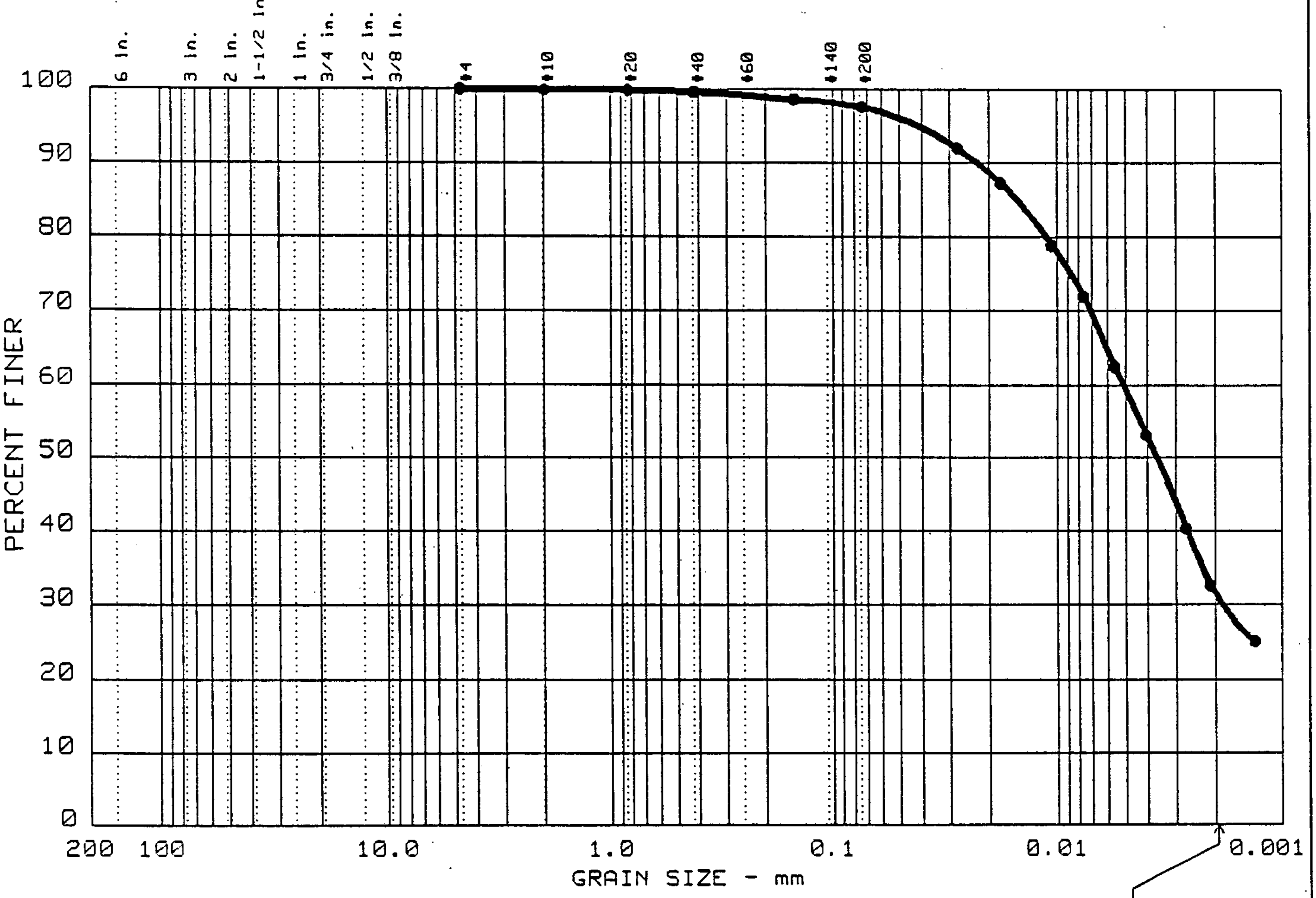
Date: FEBRUARY 10, 1997

GRAIN SIZE DISTRIBUTION TEST REPORT
SJB Services, Inc.

Remarks:
Collected by a SJB Drill Crew from the project site during January 1997
SJB Sample ID# is 97-052

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	2.4	66.2	31.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	53	21			0.00	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● SILT, SOME CLAY, TRACE SAND	MH	A-7-5(25.8)

Project No.: 90105.125 : LTR-1C
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: SB-125 : 10'- 12'

Date: FEBRUARY 10, 1997

GRAIN SIZE DISTRIBUTION TEST REPORT

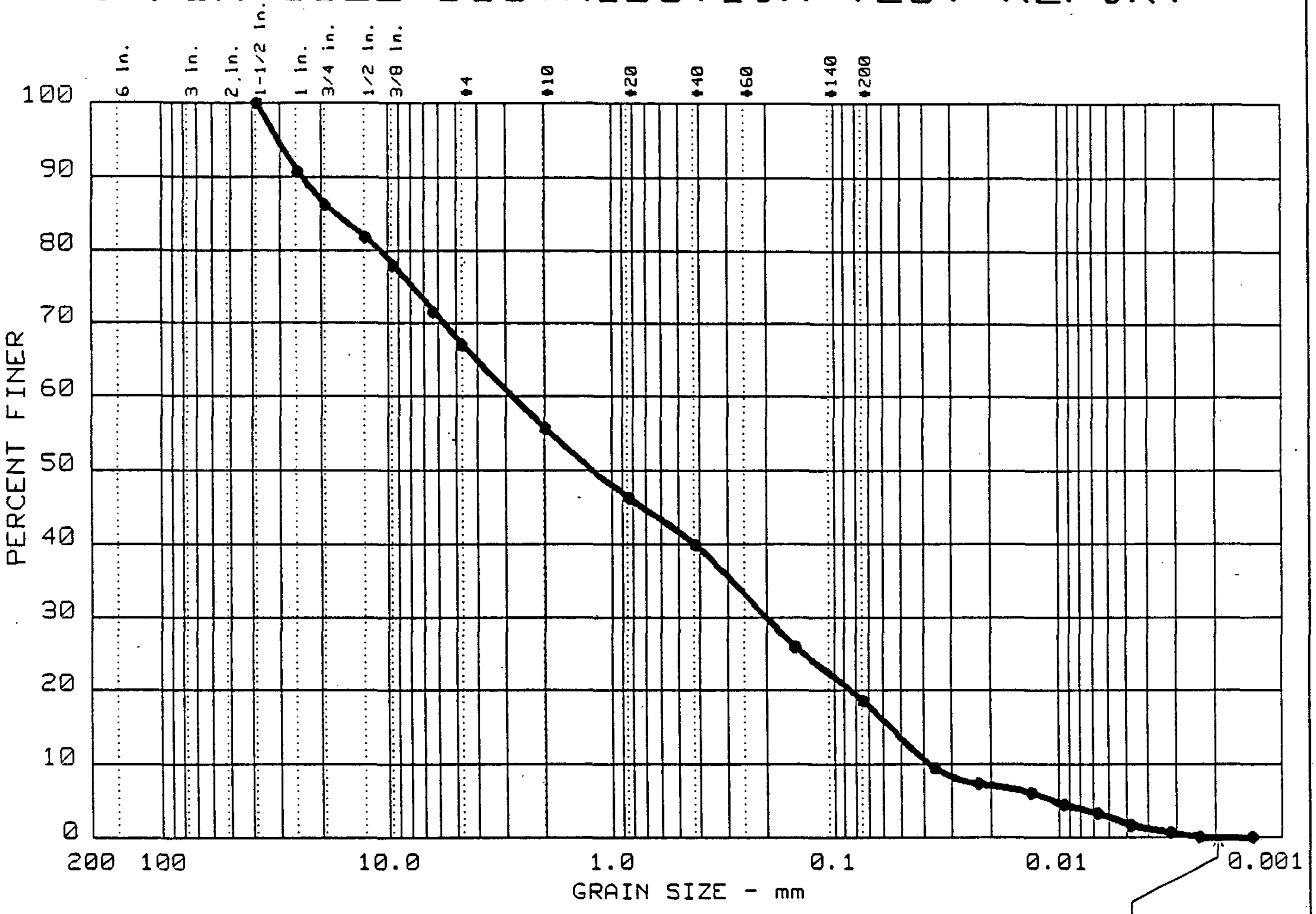
SJB Services, Inc.

Remarks:

Collected by a SJB Drill Crew from the project site during January 1997 SJB Sample ID# is 97-062

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	32.8	48.6	18.5	0.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			16.79	2.79	1.20	0.200	0.0562	0.0372	0.38	75.0

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND, SOME GRAVEL, LITTLE SILT, TRACE CLAY	SM	A-1-b

Project No.: 90105.125 : LTR-1D
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: MW-19D : 16'- 18'

Date: FEBRUARY 10, 1997

GRAIN SIZE DISTRIBUTION TEST REPORT
SJB Services, Inc.

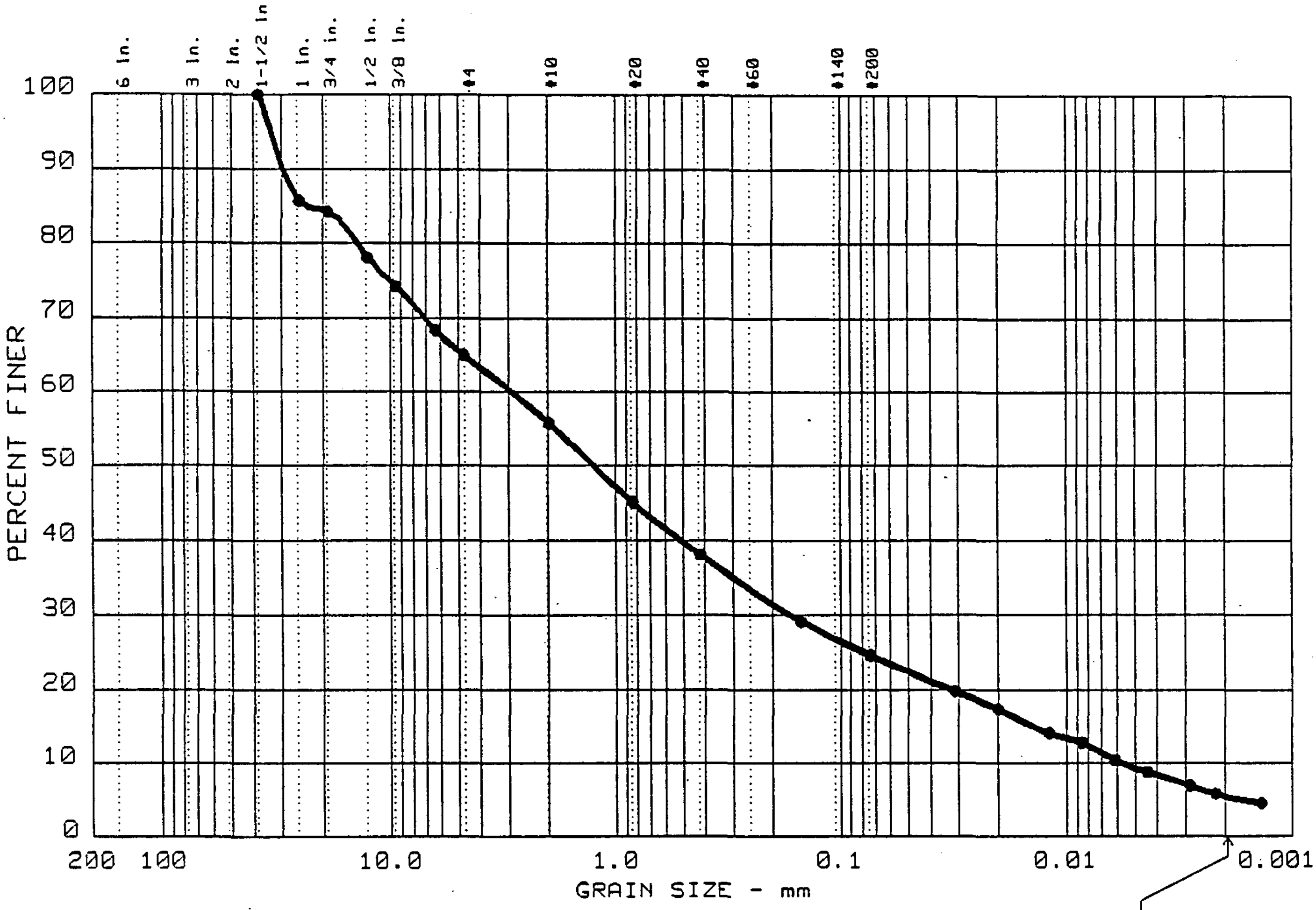
Remarks:

Collected by a SJB Drill Crew from the project site during January 1997

SJB Sample ID# is 97-063

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	34.9	40.4	19.2	5.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	22	5	23.44	2.88	1.24	0.164	0.0138	0.0054	1.72	530.9

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND, SOME GRAVEL, LITTLE SILT, TRACE CLAY	SC-SM	A-1-b

Project No.: 90105.125 : LTR-1E
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: MW-16S : 13'- 15'

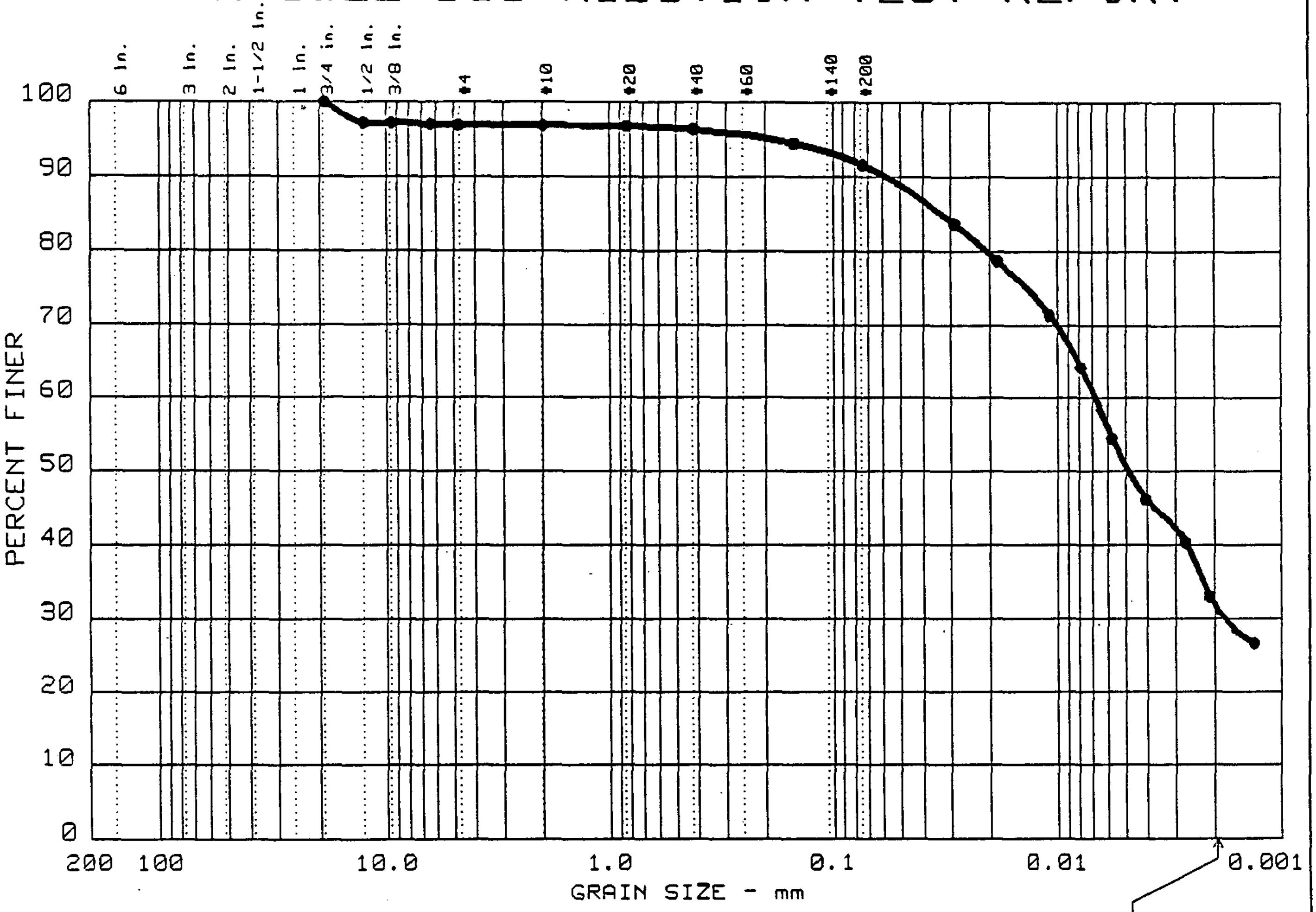
Date: FEBRUARY 10, 1997

GRAIN SIZE DISTRIBUTION TEST REPORT
SJB Services, Inc.

Remarks:
Collected by a SJB Drill
Crew from the project
site during January 1997
SJB Sample ID# is 97-064

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	3.0	5.3	59.9	31.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	45	19			0.00	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● SILT, SOME CLAY, TRACE SAND & GRAVEL	CL	A-7-6(19.8)

Project No.: 90105.125 : LTR-1F
Project: NIAGARA MOHAWK: N. ALBANY SERVICE CENTER
● Location: MW-16R : 10'- 12'

Date: FEBRUARY 10, 1997

Remarks:
Collected by a SJB Drill
Crew from the project
site during January 1997
SJB Sample ID# is 97-065

GRAIN SIZE DISTRIBUTION TEST REPORT

SJB Services, Inc.

Figure No. ______

SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
Phone: (716) 821-5911
Fax: (716) 821-0163

55 Oliver Street
Cohoes, New York 12047
Phone: (518) 238-1145
Fax: (518) 238-1249

P.O. Box 416 • 208 Le Fevre Road
Stockertown, PA 18083
Phone: (610) 746-2670
Fax: (610) 746-2669

TOLL FREE: 1-800-821-5911

Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : MAY 23, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-2
PAGE 1 OF 3

Attached are the results of laboratory testing conducted on various samples from the Niagara Mohawk Power Corporation, North Albany Service Center Project. Samples contained in this report were chosen for testing by Ronald Kuhn, representing Blasland, Bouck & Lee, Inc.

The testing conducted was as follows :

ASTM D-422 : Particle Size Analysis of Soils
ASTM D-854 : Specific Gravity of Soils
ASTM D-2216 : Water (Moisture) Content of Soil and Rock
ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils
EM-1110-2-1906
APPENDIX II : Unit Weight (Bulk Density)

These specimens were obtained and identified by a SJB Services, Inc. Drill Crew during the months of April and May 1997. The samples were transported to our laboratory where they were processed for testing.

If the reviewer should have any questions concerning this report, please do not hesitate to contact our office at any time.

SJB Services, Inc.

Paul Gregorczyk
Laboratory Manager

Ray J. Kron
Testing Services Manager

SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
Phone: (716) 821-5911
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Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : MAY 23, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-2
PAGE 2 OF 3

SAMPLE NUMBER : 97-236
LOCATION : MW-22R : 24'-26'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
3/4"	100.0
1/2"	93.5
1/4"	80.9
#4	76.2
#10	63.7
#20	52.1
#40	32.6
#100	12.8
#200	8.7

PERCENT COMPONENTS

GRAVEL	**SAND**	**SILT**	**CLAY**
23.8%	67.5%	7.9%	0.8%

SAMPLE NUMBER : 97-237
LOCATION : MW-21R : 23'-25'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
2"	100.0
1 1/2"	91.4
1"	90.4
3/4"	86.2
1/2"	75.3
1/4"	63.0
#4	58.4
#10	45.2
#20	31.6
#40	20.2
#100	11.8
#200	8.5

PERCENT COMPONENTS

GRAVEL	**SAND**	**SILT**	**CLAY**
41.6%	50.0%	7.5%	0.9%

SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
Phone: (716) 821-5911
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Stockertown, PA 18083
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Fax: (610) 746-2669

TOLL FREE: 1-800-821-5911

Laboratory Test Report

PROJECT : NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER

CLIENT : BLASLAND, BOUCK & LEE, INC..

DATE : MAY 23, 1997

PROJECT NO.: 90105.125
REPORT NO.: LTR-2
PAGE 3 OF 3

SAMPLE NUMBER : 97-238
LOCATION : SB-133 : 8'-10'

ASTM D-422 : Particle Size Analysis of Soils

Sieve Size	*Percent Passing*
1/2"	100.0
1/4"	98.9
#4	96.4
#10	85.2
#20	83.3
#40	81.4
#100	76.8
#200	75.4

PERCENT CCMPCNENTS

GRAVEL	**SAND**	**SILT**	**CLAY**
3.6%	21.0%	49.2%	26.2%

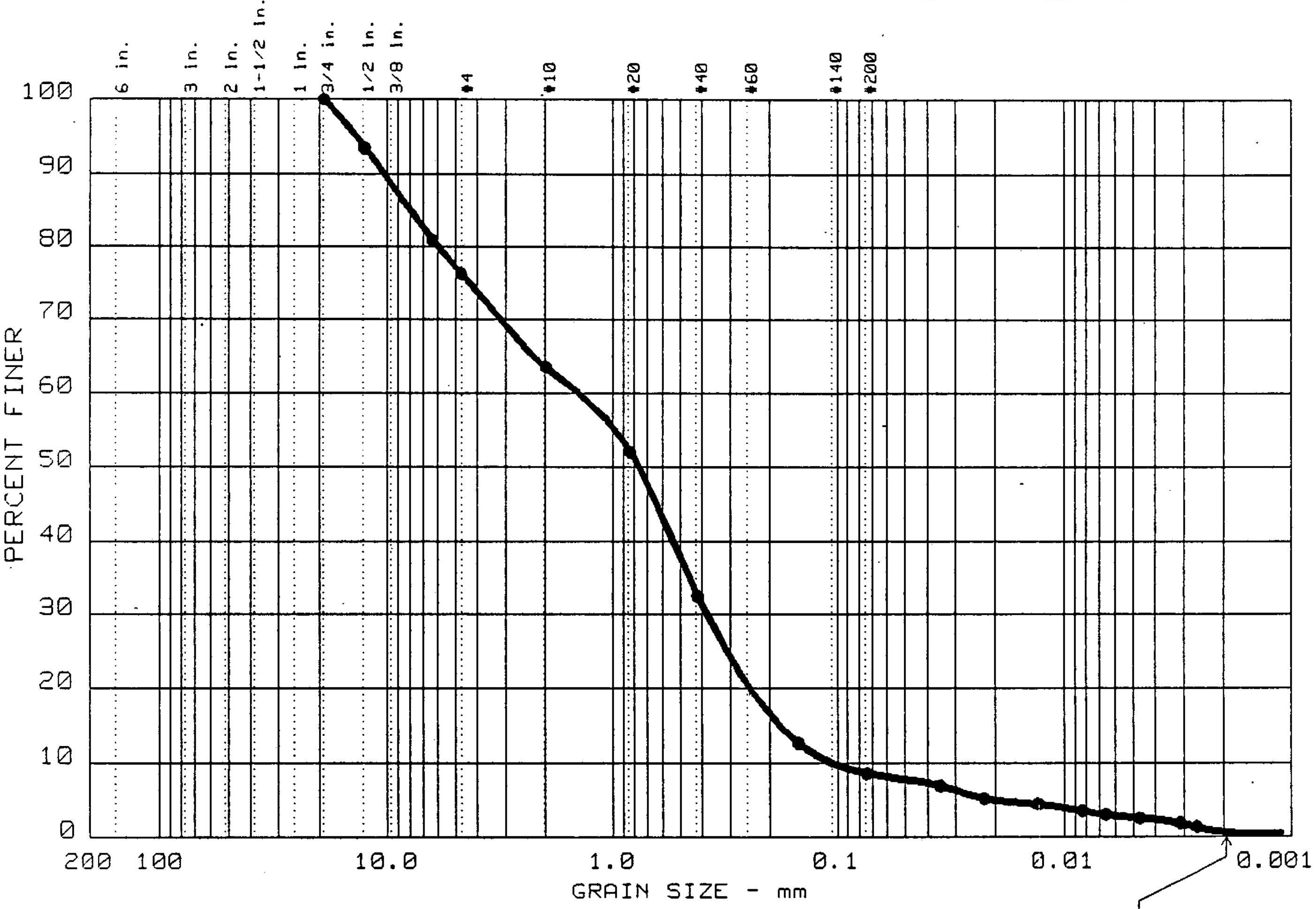
ASTM D-2216 : Water (Moisture) Content of Soil and Rock
ASTM D-4318 : Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Moisture Content	**Liquid Limit**	**Plastic Limit**	**Plasticity Index**
40.6 %	50	25	25

ASTM D-854 : Specific Gravity of Soils
Specific Gravity at 20°C : 2.550

EM-1110-2-1906 APPENDIX II : Unit Weight (Bulk Density)
Wet Density : 111.1 pcf
Dry Density : 81.9 pcf
Moisture Content : 35.5 %

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	23.8	67.5	7.9	0.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			7.94	1.41	0.77	0.380	0.1799	0.1035	0.99	13.6

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND, SOME GRAVEL, TRACE SILT & CLAY	SP-SM	A-1-b

Project No.: 90105.125 : LTR-2
Project: NIAGARA MOHAWK ALBANY : MGP/RCRA INVEST.
● Location: MW-22R : 24'-26'

Date: MAY 22, 1997

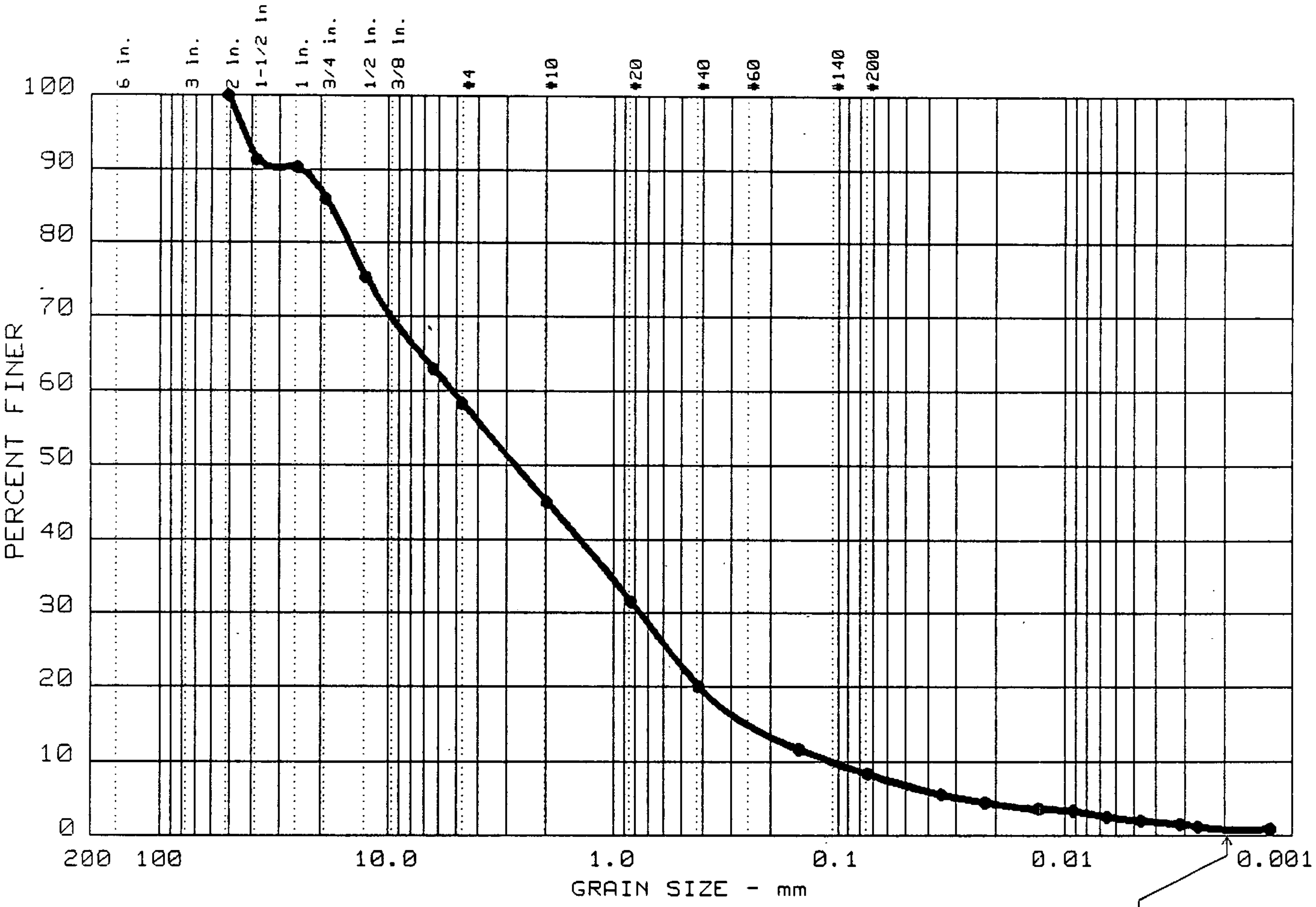
GRAIN SIZE DISTRIBUTION TEST REPORT

SJB Services, Inc.

Remarks:
Collected by a SJB Drill Crew from the project site on April 29, 1997.
SJB Sample ID# is 97-236

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	41.6	50.0	7.5	0.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			18.13	5.23	2.74	0.765	0.2503	0.1032	1.08	50.7

MATERIAL DESCRIPTION	USCS	AASHTO
● SAND & GRAVEL, TRACE SILT & CLAY	SW-SM	A-1-a

Project No.: 90105.125 : LTR-2
Project: NIAGARA MOHAWK ALBANY : MGP/RCRA INVEST.
● Location: MW-21R : 23'-25'

Date: MAY 22, 1997

Remarks:

Collected by a SJB Drill Crew from the project site on May 1, 1997.

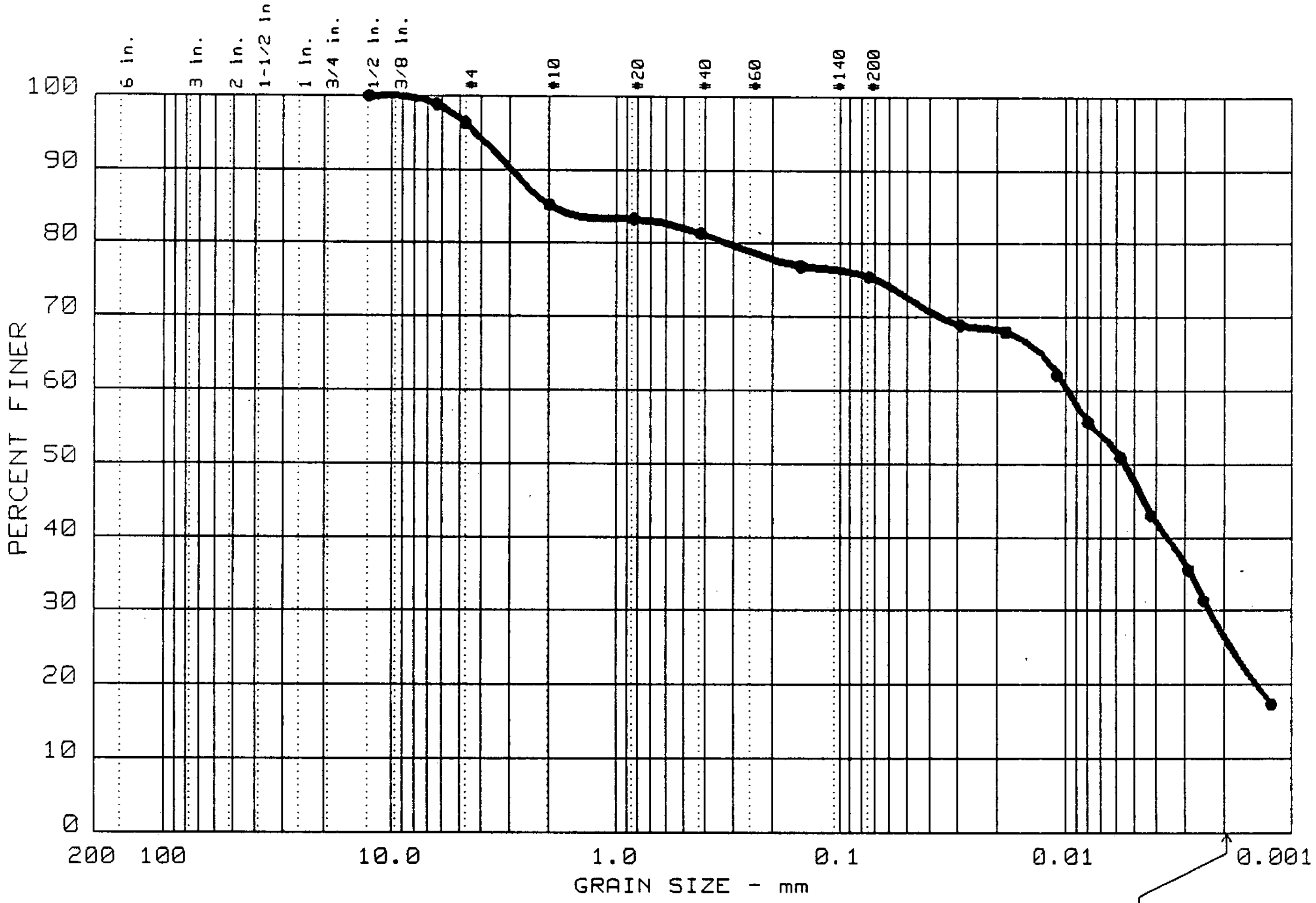
SJB Sample ID# is 97-237

GRAIN SIZE DISTRIBUTION TEST REPORT

SJB Services, Inc.

Figure No. ______

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	3.6	21.0	49.2	26.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	50	25	1.93		0.01	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● SILT, SOME CLAY & SAND, TRACE GRAVEL	CL	A-7-6(19.0)

Project No.: 90105.125 : LTR-2
Project: NIAGARA MOHAWK ALBANY : MGP/RCRA INVEST.
● Location: SB-133 : 8'-10'

Date: MAY 22, 1997

GRAIN SIZE DISTRIBUTION TEST REPORT

SJB Services, Inc.

Remarks:

Collected by a SJB Drill Crew from the project site on May 8, 1997.

SJB Sample ID# is 97-238

Figure No. ______

Appendix E - Monitoring Well Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Date Start/Finish: 10/16/96 - 10/16/96
Drilling Company: SJB
Driller's Name: Chris Ackley
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: Deidrick D-50
Spoon Size: 2" OD-in.

Northing: 1397656.1104
Easting: 697012.0535
Well Casing Elev.: 15.99 ft.
Corehole Depth:
Borehole Depth: 20.0 ft.
Ground Surface Elev.: 16.487 ft.

Geologist: Ronald D. Kuhn

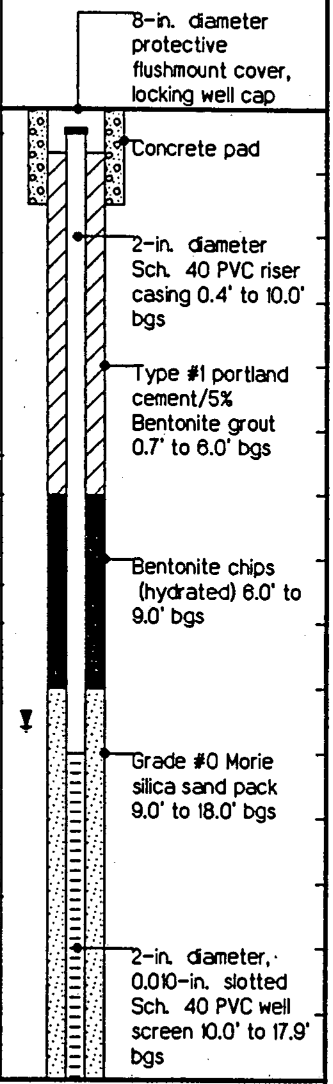
Well No. **MW-8A**

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.487 ft										**GROUND SURFACE**
	15	(0-2')	2"	2 5 6 4	11	1.3	0.0	AS SW		Black Asphalt. Dark brown fine to medium SAND, little Silt and slag, coal, and cinders, trace fine to medium Gravel, moist.
		(2-4')	2"	6 6 9 13	15	1.7	2.2	SP		Dark brown/black fine to medium SAND, some slag, coal, and cinders, trace Silt, slight odor, saturated (perched water).
5		(4-6')	2"	8 8 8 4	16	1.6	376.9	FI		Little NAPL. Wood chips, NAPL, moist.
	10	(6-8')	2"	2 2 3 2	5	1.7	60.2	MH		Surface sluff? Gray Clayey SILT, trace natural organic material, soft, high plasticity moist.
		(8-10')	2"	WOH (12")	1	2.0	12.5	CH		Gray Silty CLAY, soft, medium plasticity, moist. From 8.4-8.5' bgs dark brown Peat, little Sand, moist.
10	*5*	(10-12')	2"	1 2 1 1	3	0.8	10.7			Little fine Sand. Gray Silty CLAY, soft, medium plasticity, moist.
		(12-14')	2"	2 7 19 11	26	0.7	19.0	SM		Dark brown fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, slight odor, saturated.
15		(14-16')	2"	11 9	28	0.3	9.5			

Well Construction



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

Remarks:
Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery.

Water Levels

Date / Time	Elevation	Depth
8-2-97/1410	8.89	9.60 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

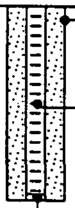
Client:
Niagara Mohawk Power Corporation

Well No. MW-6A

Total Depth = 20.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in.OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')	2"	19 13	28	0.3	9.5	SM		Dark brown fine to medium SAND, little fine to medium Gravel and Silt, trace coarse Sand, slight odor, saturated.
	0	(16-18')	2"	35 32 44 50/0.3	73	1.2	8.8	SH		Dark gray weathered SHALE, little Silt, wet.
		(18-20')	2"	50/0.3	Ref	NR	NA			No Recovery Split-spoon refusal at 18.3' bgs.
20										
	-5									
25										
	-10									
30										
	-15									
35										

Well Construction



Grade #0 Morie silica sand pack 9.0' to 18.0' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 10.0' to 17.9' bgs

2-in. diameter Sch. 40 PVC sump 17.9' to 18.0' bgs

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/1410	6.89	9.60 ▼

Date Start/Finish: 02/18/97 - 02/18/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397652.8821
Easting: 697009.9706
Well Casing Elev.: 16.10 ft.
Corehole Depth:
Borehole Depth: 9.0 ft.
Ground Surface Elev.: 16.48 ft.

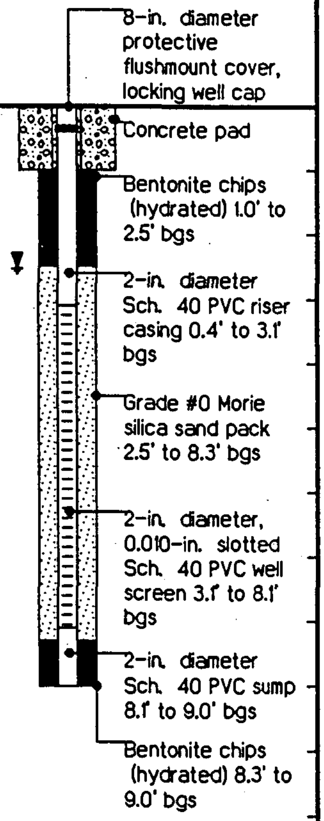
Geologist: Ronald D. Kuhn

Well No. **MW-6S**

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 16.48 ft.										**GROUND SURFACE**	
	15									Augered continuously to 6.0' bgs.	
5											
	10	(6-8')	2"	2 2 3 2	7	2.0		SW		Black fine to medium SAND, little slag, coal, and cinders, trace Silt, saturated.	
								FI		NAPL saturated wood chips.	
		(8-9')	2"	WOH (12")	0	1.0		MH		Gray Silty CLAY, trace natural organic material, high plasticity, very soft, moist.	
										End of boring at 9.0' bgs.	
10											
	5										
15											



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

Remarks:
See boring log MW-6A for description of missing stratigraphy. WOH = Weight of hammer.

Water Levels

Date / Time	Elevation	Depth
8-2-97/1415	13.94	2.54 ⊻

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 01/21/97 - 01/21/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" & 3" OD-in.

Northing: 1397288.5890
Easting: 696931.3755
Well Casing Elev.: 16.66 ft.
Corehole Depth:
Borehole Depth: 16.5 ft.
Ground Surface Elev.: 16.89 ft.

Geologist: Ronald D. Kuhn

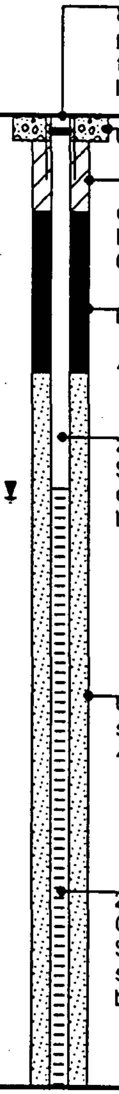
Well No. MW-15S

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in.OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.89 ft.										**GROUND SURFACE**
	15	(0-2')	2"	16 16 11 11	27	1.6	0.0	SM/ FI		Dark brown/black fine to medium SAND, coal, slag, and cinders, little Silt, damp.
										Augered to 4.0' bgs.
5		(4-6')	2"	8 12 12 5	24	NR	NA			No Recovery, odor.
	10									Augered to 10.0' bgs.
10	5	(10-12')	2"	4 2 1 3	3	0.8	0.0	ML/ CL		Brown SILT and CLAY, trace fine Sand, fine to medium Gravel, and natural organic material, very soft, moist to wet.
										Augered to 14.0' bgs.
15		(14-16')	3"	6 16	52	1.8	0.0	SM		Brown fine to coarse SAND, little Silt and fine to medium Gravel, very

Well Construction



8-in. diameter protective flushmount cover, locking well cap

Concrete pad

Type #1 portland cement/5% Bentonite grout 0.4' to 1.5' bgs

Bentonite chips (hydrated) 1.5' to 4.0' bgs

2-in. diameter Sch. 40 PVC riser casing 0.2' to 5.8' bgs

Grade #0 Morie silica sand pack 4.0' to 16.5' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 5.8' to 15.3' bgs

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

Remarks:

See boring log SB-128 for description of missing stratigraphy. NA = Not Available. NR = No Recovery.

Water Levels

Date / Time	Elevation	Depth
6-2-97/0946	10.94	5.95 ▼

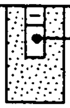
Project: 384.69.030 Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-15S

Total Depth = 16.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')	3"	36 50/0.4	52	1.8	0.0	SM	▨	dense, wet to saturated.	 2-in. diameter Sch. 40 PVC sump 15.3' to 15.8' bgs
	0									End of boring at 16.5' bgs.	
20											
	-5										
25											
	-10										
30											
	-15										
35											

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0946	10.94	5.95 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 01/16/97 - 01/16/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" & 3" OD-in.

Northing: 1397601.3713
Easting: 697020.0345
Well Casing Elev.: 15.81 ft.
Corehole Depth:
Borehole Depth: 21.5 ft.
Ground Surface Elev.: 16.376 ft.

Geologist: Ronald D. Kuhn

Well No. MW-16D

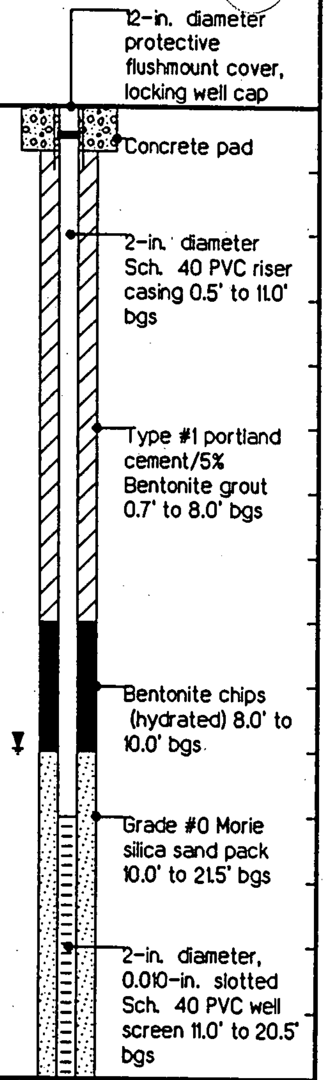
Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

N/A

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.376 ft.										**GROUND SURFACE**
	15	(0-2')	2"	4 6 9 4	15	1.6	0.0	SW/ FI	▨	Black fine to medium SAND, coal, cinders, and slag, trace Silt, damp.
										Augered to 5.0' bgs.
5	10	(5-7')	3"	32 18 4 4	20	1.3	0.0	FI	▨	Wood (railroad tie?)
		(7-9')	3"	4 2 2 2	4	NR	NA	NA		No Recovery.
10		(9-11')	3"	3 3 2 4	5	1.4	0.0	CH	▤	Brown CLAY, trace fine Sand and Silt, very soft, high plasticity, moist to wet.
	5									Augered to 13.0' bgs.
15		(13-15')	3"	2 12 18 22	30	0.8	0.0	SM	⁘	Gray fine to coarse SAND, little Silt and fine to medium Gravel, wet to saturated.

Well Construction



12-in. diameter protective flushmount cover, locking well cap

Concrete pad

2-in. diameter Sch. 40 PVC riser casing 0.5' to 11.0' bgs

Type #1 portland cement/5% Bentonite grout 0.7' to 8.0' bgs

Bentonite chips (hydrated) 8.0' to 10.0' bgs

Grade #0 Morie silica sand pack 10.0' to 21.5' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 11.0' to 20.5' bgs

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engineers & scientists

Remarks:
See boring log MW-16R for description of missing stratigraphy. NA = Not Available. NR = No Recovery.

Water Levels

Date / Time	Elevation	Depth
6-2-97/0954	6.41	9.97 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

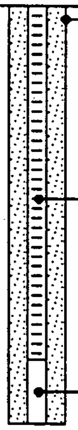
Client:
Niagara Mohawk Power Corporation

Well No. MW-18D

Total Depth = 21.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
	0									Augered to 18.0' bgs.
		(18-20')	2"	9 23 12 11	35	1.8	0.0	SH	▤	Gray weathered SHALE, saturated.
20									▤	Augered to 21.5' bgs.
	-5									End of boring at 21.5' bgs.
25										
	-10									
30										
	-15									
35										

Well Construction



Grade #0 Morie silica sand pack 10.0' to 21.5' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 11.0' to 20.5' bgs

2-in. diameter Sch. 40 PVC sump 20.5' to 21.5' bgs

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0954	6.41	9.97 ▼

Date Start/Finish: 01/14/97 - 01/20/97
Drilling Company: SJB
Driller's Name: Tom Farrell
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 550 ATV
Spoon Size: 2" & 3" OD-in.

Northing: 697024.9742
Easting: 1397608.6803
Well Casing Elev.: 16.15 ft.
Corehole Depth: 38.5 ft.
Borehole Depth: 38.5 ft.
Ground Surface Elev.: 16.467 ft.

Geologist: Ronald D. Kuhn

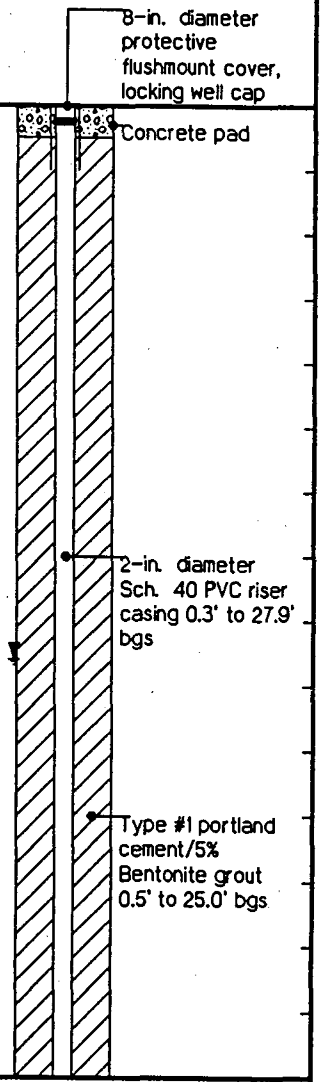
Well No. MW-18R

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.467 ft.										GROUND SURFACE
	15	(0-2')	3"	5 8 10 9	18	2.0	0.0	SM/ FI		Black fine to medium SAND, coal and slag, little Silt, damp.
		(2-4')	3"	5 5 6 7	11	0.8	0.0	ML/ SW		Brown SILT and fine to medium SAND, little fine to medium Gravel, saturated.
5		(4-6')	3"	4 4 2 3	6	1.2	2.8	FI		Dark brown slag, white brick, and coal, little Silt, saturated.
	10	(6-8')	3"	1 1 1 2	2	0.2	0.8			Trace wood.
		(8-10')	3"	1 1 1 2	2	2.0	0.0	CH		Gray CLAY, little natural organic material, little to trace Silt, trace fine Sand, very soft, high plasticity, moist.
10	5	(10-12')	3"	4 3 3 3	6	0.8	0.0			Trace fine to medium Gravel, medium stiff.
		(12-14')	3"	5 6 7 6	13	1.2	0.0	CL		Gray CLAY, little Silt, fine to medium Sand and fine to coarse Gravel, stiff, wet.
15		(14-16')	3"	2 14	24	1.1	0.0	SM		Brown fine to coarse SAND, little Silt and fine to coarse Gravel, medium

Well Construction



BBL
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engineers & scientists

Remarks:
Ref = Split-spoon refusal. NA = Not Available.
NR = No Recovery. OD = Outer diameter.

Water Levels

Date / Time	Elevation	Depth
6-2-97/0957	7.87	8.8 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

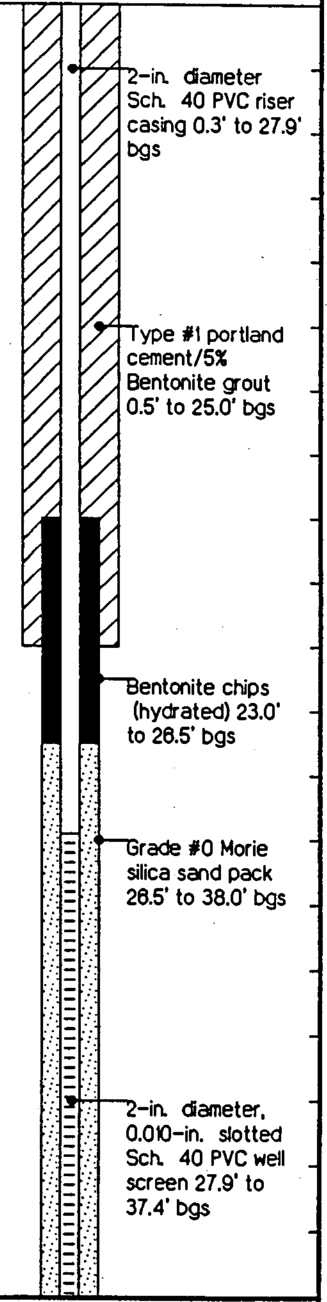
Client:
Niagara Mohawk Power Corporation

Well No. MW-18R

Total Depth = 38.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')	3"	10 11	24	1.1	0.0			dense, saturated.
	0	(16-18')	3"	6 12 12 12	24	2.0	0.0	SM		Trace Shale fragments, saturated.
		(18-20')	3"	5 18 21 28	39	1.8	0.0	SH		Gray weathered SHALE, little to trace Silt, trace fine to medium Sand, saturated.
20	-5	(20-22')	2"	7 18 50/0.4	Ref	NR	NA			No Recovery, augered to 23.0' bgs.
										Split-spoon refusal at 23.0' bgs, augered to 25.0'bgs with 5 7/8" OD roller bit. Dark gray SHALE, highly weathered.
25	-10	(24.5-29.5') Run No. 1	Time 12:45 13:05	Rate (ft/min) 1 4 5 5 5	RQD 65%	4.9	0.0	SH		Dark gray SHALE, soft, folded, slightly calcareous, slightly weathered, with approximate 50-degree fracturing along bedding planes throughout core run.
30	-15	(29.5-34.5') Run No. 2	Time 13:35 14:00	Rate (ft/min) 7 5 5 4 5	RQD 47%	5.0	0.0			Highly fractured zone 31.4' to 32.4' below ground surface, 80-degree high angle fracture 33.4' to 33.9' below ground surface.
35										

Well Construction



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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0957	7.87	8.6 ▼

Project: 364.69.030

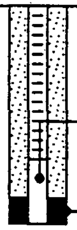
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-18R

Total Depth = 38.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	-20	(34.5-38.5') Run No. 3	Time 14:34 14:43	Rate (ft/min) 2 2 2 3	RQD 94%	4.0	0.0	SH		Dark gray SHALE, soft, folded, slightly calcareous, slightly weathered, with approximate 50-degree fracturing along bedding planes throughout core run.	 2-in. diameter Sch. 40 PVC sump 37.4' to 38.4' bgs Bentonite chips (hydrated) 38.0' to 38.4' bgs
										End of boring at 38.5' bgs.	
40											
	-25										
45											
	-30										
50											
	-35										
55											

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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Water Levels

Date / Time	Elevation	Depth
8-2-97/0957	7.87	8.8 ↧

Project: 384.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 02/10/97 - 02/10/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 75
Spoon Size: 3" OD-in.

Northing: 1397826.2927
Easting: 697235.2990
Well Casing Elev.: 16.76 ft.
Corehole Depth:
Borehole Depth: 29.2 ft.
Ground Surface Elev.: 17.20 ft.

Geologist: Ronald D. Kuhn

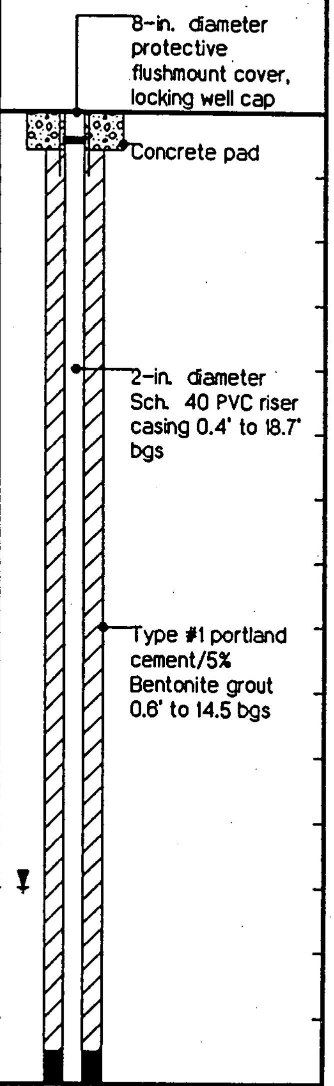
Well No. **MW-17D**

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
GS elevation 17.20 ft.										**GROUND SURFACE**
		(0-2')	3"	7 4 5 11	9	2.0	0.0	ML		Brown SILT, little fine Sand, trace fine to medium Gravel and natural organic material, damp.
	15	(2-4')	3"	10 7 10 15	17	1.8	0.0			Little fine to coarse Sand, little to trace fine to medium Gravel and fine-grained Sandstone, damp.
5		(4-6')	3"	11 33 50/0.3	Ref	0.6	0.0			
	10	(6-8')	3"	47 28 18 11	46	1.4	0.0			Dense, broken fragments of gray Sandstone.
		(8-10')	3"	10 9 8 9	17	1.6	0.0	ML		Gray/brown SILT, little fine to medium Gravel, trace Clay and natural organic material, orange and gray mottling, low plasticity, damp.
10		(10-12')	3"	7 6 6 9	12	1.5	0.0			Little natural organic material, trace fine to medium Gravel.
	5	(12-14')	3"	9 10 10 6	20	0.6	0.0	CL		Gray CLAY, little to trace Silt, trace natural organic material, high plasticity, damp to moist.
15		(14-16')	3"	8 12	30	NR	NA			No Recovery.

Well Construction



BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
Ref = Split-spoon refusal. NR = No recovery.
NA = Not available.

Water Levels

Date / Time	Elevation	Depth
6-2-97	5.20	12.00 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

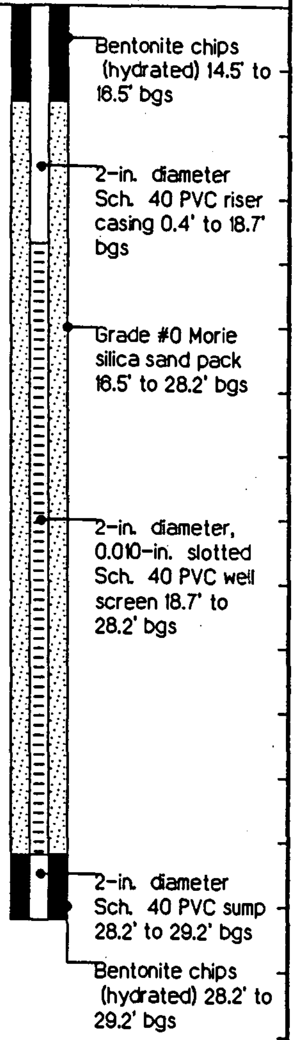
Client:
Niagara Mohawk Power Corporation

Well No. MW-17D

Total Depth = 29.2 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description
		(14-16')	3"	18 28	30	NR	NA		No Recovery.
	0	(16-18')	3"	14 15 11 8	26	0.4	0.0	ML	Gray SILT, some to little fine to medium Sand, trace fine to medium Gravel, saturated. Slight odor.
20		(18-20')	3"	9 7 5 8	12	0.7	11.1	SW	Dark gray fine to coarse SAND, trace Silt, loose, slight odor, saturated.
		(20-22')	3"	18 15 11 12	26	0.4	8.2		Trace fine Gravel.
	-5	(22-24')	3"	8 9 11 17	20	1.8	9.8		No odor.
25		(24-26')	3"	10 8 9 12	17	0.3	9.5	SM	Dark gray fine to coarse SAND, some Silt, little fine to medium Gravel, saturated.
	-10	(26-28')	3"	8 9 15 25	24	2.0	9.6		Little Silt and fine to medium Gravel, slight odor.
		(28-30')	3"	100 100/0.2	Ref	0.3	0.0	SH	Dark gray/black SHALE. Split-spoon refusal at 28.7' bgs.
30									Augered to 29.2'bgs.
	-15								
35									

Well Construction



Bentonite chips (hydrated) 14.5' to 18.5' bgs

2-in. diameter Sch. 40 PVC riser casing 0.4' to 18.7' bgs

Grade #0 Morie silica sand pack 18.5' to 28.2' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 18.7' to 28.2' bgs

2-in. diameter Sch. 40 PVC sump 28.2' to 29.2' bgs

Bentonite chips (hydrated) 28.2' to 29.2' bgs

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engineers & scientists

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97	5.20	12.00 ⊻

Date Start/Finish: 02/12/97 - 02/12/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 2" & 3" OD-in.

Northing: 1397832.6832
Easting: 697235.8217
Well Casing Elev.: 16.42 ft.
Corehole Depth:
Borehole Depth: 17.6 ft.
Ground Surface Elev.: 16.955 ft.

Geologist: Ronald D. Kuhn

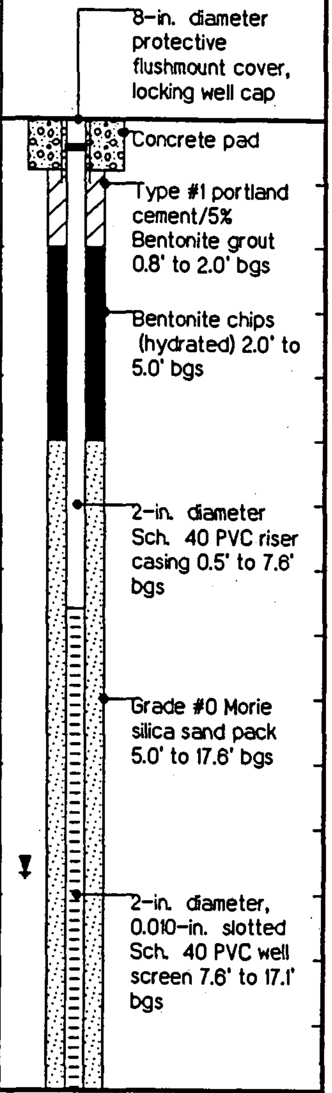
Well No. MW-17S

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
GS elevation 16.955 ft.										GROUND SURFACE
	15									Augered to 2.0' bgs.
		(2-4')	3"	40 17 12 20	29	1.1	0.0	ML		Brown SILT, little fine to coarse Sand, trace fine to medium Gravel, damp.
										Augered to 5.0' bgs.
5	10	(5-7')	2"	14 17 12 20	47	1.4	0.0	ML		Brown SILT, little fine to coarse Sand, trace fine to medium Gravel and Sandstone fragments, damp.
										Augered to 10.0' bgs.
10	5	(10-12')	2"	6 4 4 7	8	1.7	0.0	CH		Gray CLAY, little to trace fine Silt, trace natural organic material, high plasticity, moist.
										Augered to 15.0' bgs.
15										

Well Construction



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Remarks:

See boring log MW-17D for description of missing stratigraphy.

Water Levels

Date / Time	Elevation	Depth
6-2-97/1007	5.28	11.68 ▼

Project: 384.69.030
Script: BBL-wel5
Date: 10/16/97

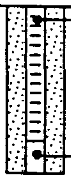
Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-17S

Total Depth = 17.6 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	0	(15-17')	2"	9 7 6 6	13	0.6	0.0	ML		Gray SILT, some fine to coarse Sand, little fine to medium Gravel, slight odor, saturated.	2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 7.6' to 17.1' bgs 2-in. diameter Sch. 40 PVC sump 17.1' to 17.6' bgs
										End of boring at 17.6' bgs.	
20											
	-5										
25											
	-10										
30											
	-15										
35											



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engineers & scientists

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/1007	5.26	11.68 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 02/12/97 - 02/12/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1398001.1858
Easting: 697310.9295
Well Casing Elev.: 16.54 ft.
Corehole Depth:
Borehole Depth: 17.5 ft.
Ground Surface Elev.: 16.836 ft.

Geologist: Ronald D. Kuhn

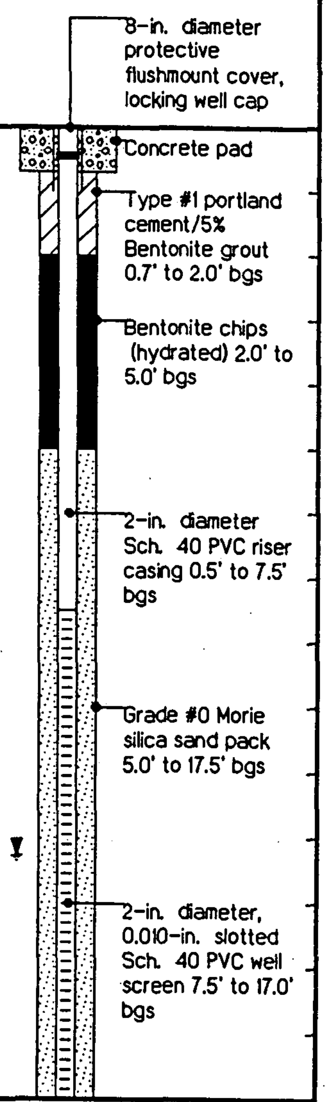
Well No. MW-18S

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.836 ft.										GROUND SURFACE
		(0-2')	2"	11 10 9 8	19	1.1	0.0	ML		Brown SILT, little fine to coarse Sand and natural organic material, trace fine to medium Gravel.
	15									Augered to 5.0' bgs.
5		(5-7')	2"	3 4 4 4	8	1.2	0.0	ML		Brown SILT, little to trace fine to coarse Sand, trace fine to medium Gravel and Clay, damp to moist.
	10									Augered to 10.0' bgs.
10		(10-12')	2"	2 2 2 3	4	1.6	1.0	ML CH		Brown SILT, little to trace fine to coarse Sand, trace fine to medium Gravel and Clay, damp to moist. Gray CLAY, little to trace fine Silt, trace natural organic material, high plasticity, moist.
	5									Augered to 15.0' bgs.
15										

Well Construction



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

Remarks:
See boring log SB-129 for description of missing stratigraphy.

Water Levels

Date / Time	Elevation	Depth
8-2-97/1013	5.57	11.27 ▼

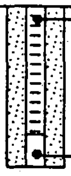
Project: 384.69.030
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-18S

Total Depth = 17.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	0	(15-17')	2"	1 2 4 6	6	0.4	12.5	SM	⁘	Dark gray fine to coarse SAND, little Silt and fine to medium Gravel, slight odor, saturated.	2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 7.5' to 17.0' bgs 2-in. diameter Sch. 40 PVC sump 17.0' to 17.5' bgs
										End of boring at 17.5' bgs.	
20											
	-5										
25											
	-10										
30											
	-15										
35											

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/1013	5.57	11.27 ▼

Date Start/Finish: 01/23/97 - 01/23/97
Drilling Company: SJB
Driller's Name: Don Butze
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 85
Spoon Size: 2" & 3" OD-in.

Northing: 1398189.0736
Easting: 697304.9844
Well Casing Elev.: 17.00 ft.
Corehole Depth:
Borehole Depth: 25.0 ft.
Ground Surface Elev.: 17.349 ft.

Geologist: Ronald D. Kuhn

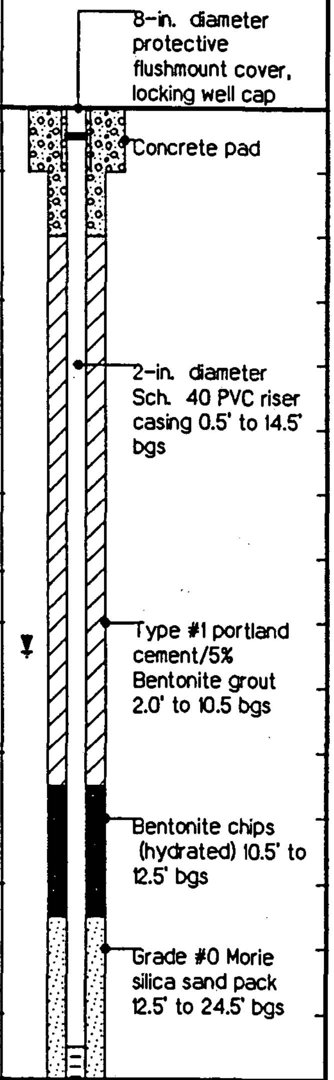
Well No. **MW-19D**

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 17.349 ft.										GROUND SURFACE
										Augered to 1.0' bgs.
	15	(1-3')	3"	10 18 30 32	48	2.0	0.0	SM		Dark brown/black fine to medium SAND, some to little coal, cinders, and slag, little Silt, damp.
5										Augered to 6.0' bgs.
	10	(6-8')	3"	7 4 3 3	7	2.0	124.9	SH SM		Black SHALE fragments, trace Silt, strong odor, sheen, saturated. Gray fine to medium SAND, some Silt, odor, sheen, saturated.
10		(8-10')	3"	1 2 3 6	5	0.6	66.5	CL/SH		Gray/brown CLAY and SHALE fragments, trace fine to medium Sand, odor, sheen, moist to wet.
		(10-12')	3"	4 6 14 20	20	NR	NA			No Recovery.
	5	(12-14')	3"	6 6 10 12	18	2.0	0.0	SW		Brown fine to medium SAND, trace coarse Sand, fine to medium Gravel, Silt, and Shale fragments, saturated.
15		(14-16')	3"	5 6	18	1.8	0.0	SM/SH		Brown fine to coarse SAND and SHALE fragments, little Silt, trace

Well Construction



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engineers & scientists

Remarks:

Submitted soil sample interval (1-3') to Galson Laboratories for analysis of TAL Inorganics.
Ref = Split-spoon refusal. NR = No recovery.
NA = Not available.

Water Levels

Date / Time	Elevation	Depth
6-2-97/1025	8.90	8.45 ▼

Site:
1125 Broadway
Albany, New York

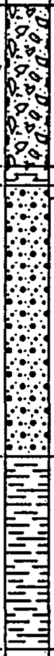
Client:
Niagara Mohawk Power Corporation

Well No. MW-19D

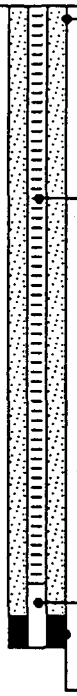
Total Depth = 25.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description
		(14-16')	3"	12 13	18	1.8	0.0	SM/SH	fine to medium Gravel, saturated.
	0	(18-18')	3"	8 12 21 14	33	2.0	0.0		Gray weathered SHALE and fine to medium SAND, saturated. (SH/SW)
		(18-20')	3"	11 11 7 7	18	2.0	0.0		Brown fine to coarse SAND, little fine to medium Gravel and Silt, saturated.
20								SM	Trace Shale fragments.
		(20-22')	3"	8 7 13 14	20	1.8	0.0		
	-5	(22-24')	3"	4 28 50/0.3	Ref	0.9	0.0	SH	Gray highly weathered SHALE, moist.
									Split-spoon refusal at 24.3' bgs.
25		(24-28')	2"	50/0.3	Ref	0.3	0.0		Augered to 25.0'bgs.
	-10								
30									
	-15								
35									

Geologic Column



Well Construction



Grade #0 Morie silica sand pack 12.5' to 24.5' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 14.5' to 24.0' bgs

2-in. diameter Sch. 40 PVC sump 24.0' to 25.0' bgs

Bentonite chips (hydrated) 24.5' to 25.0' bgs

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
8-2-97/1025	8.90	8.45 ▼

Project: 384.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 02/05/97 - 02/05/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1398521.8661
Easting: 696554.9998
Well Casing Elev.: 31.32 ft.
Corehole Depth:
Borehole Depth: 22.0 ft.
Ground Surface Elev.: 31.915 ft.

Geologist: Ronald D. Kuhn

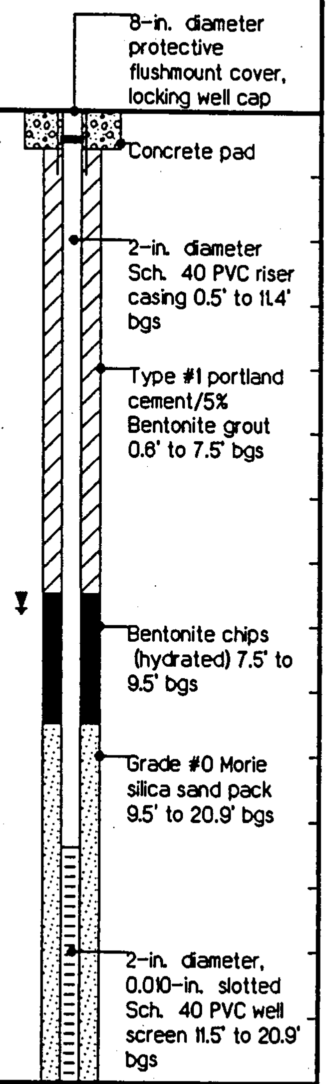
Well No. MW-20D

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 31.915 ft.										GROUND SURFACE
	30	(0-2')	2"	6 12 9 9	21	1.8	0.0	SM SW		Brown fine SAND and SILT, trace fine to medium Gravel, roots. Tan fine to medium SAND, trace fine to medium Gravel and red brick, damp.
		(2-4')	2"	6 5 5 5	10	1.6	0.0			Tan fine to medium SAND, little Silt, trace glass, red brick, and black ash, wet.
5		(4-6')	2"	3 4 4 4	8	1.6	0.0	SM		Tan fine to medium SAND, little Silt, trace Clay, coarse Sand, fine to medium Gravel, and fine-grained Sandstone fragments, moist.
	25	(6-8')	2"	4 4 5 2	9	1.4	0.0			Dark gray fine to coarse SAND, trace fine to medium Gravel and Silt, moist.
		(8-10')	2"	5 3 2 2	5	1.3	0.0	SW		Dark gray fine to medium SAND, trace fine to medium Gravel, Silt, and coarse Sand, saturated.
10	20	(10-12')	2"	1 2 2 2	4	0.9	0.0			
		(12-14')	2"	3 4 4 5	8	1.8	0.0	SP		Dark gray fine SAND, trace Silt, saturated.
15		(14-16')	2"	4 7	18	0.2	0.0	ML		Dark gray SILT, little fine to coarse Sand, trace fine to medium Gravel, wet.

Well Construction



8-in. diameter protective flushmount cover, locking well cap

Concrete pad

2-in. diameter Sch. 40 PVC riser casing 0.5' to 11.4' bgs

Type #1 portland cement/5% Bentonite grout 0.6' to 7.5' bgs

Bentonite chips (hydrated) 7.5' to 9.5' bgs

Grade #0 Morie silica sand pack 9.5' to 20.9' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 11.5' to 20.9' bgs

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

Remarks:

Submitted soil sample interval (6-8') to Galson Laboratories for analysis of TAL Inorganics.

Water Levels

Date / Time	Elevation	Depth
6-2-97/1050	24.18	7.74 ▼

Project: 364.69.030

Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

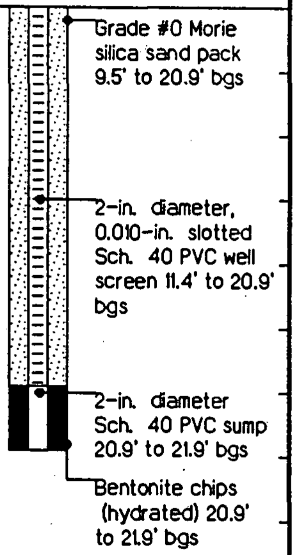
Client:
Niagara Mohawk Power Corporation

Well No. MW-20D

Total Depth = 22.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in.OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')	2"	11 10	18	0.2	0.0	ML		Dark gray SILT, little fine to coarse Sand, trace fine to medium Gravel, wet.
	15	(16-18')	2"	10 12 7 11	19	0.8	0.0	SM		Dark gray fine to coarse SAND, little Silt, trace fine to medium Gravel and black Shale fragments, saturated.
		(18-20')	2"	13 11 14 22	25	1.8	0.0			
20	10	(20-22')	2"	13 21 38 50/0.5	57	1.6	0.0	SH		Dark gray weathered SHALE. Split-spoon refusal at 21.8' bgs.
										Augered to 22.0'bgs.
25	5									
30	0									
35										

Well Construction



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Remarks:

Water Levels

Date / Time	Elevation	Depth
8-2-97/1050	24.18	7.74 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 04/30/97 - 05/01/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397289.1138
Easting: 697352.9047
Well Casing Elev.: 15.67 ft.
Corehole Depth:
Borehole Depth: 34.5 ft.
Ground Surface Elev.: 16.120 ft.

Geologist: Ronald D. Kuhn

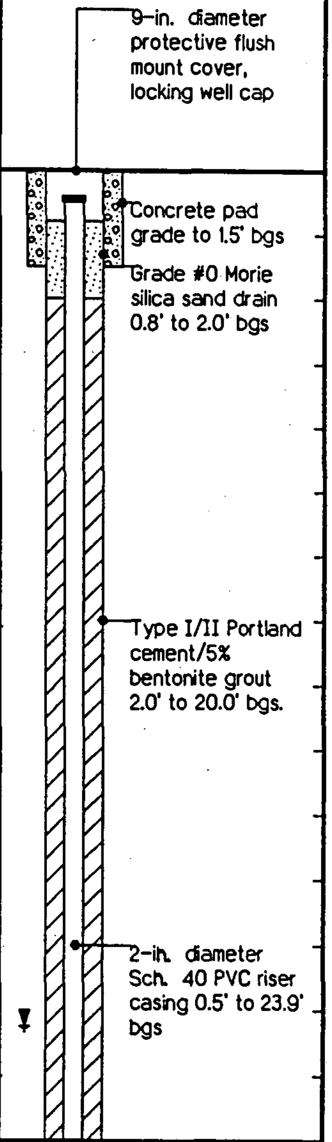
Well No. MW-21D

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.120 ft.										**GROUND SURFACE**
	15	(0-2')	2"	2 6 6 5	12	0.7	0.6	SW		Dark brown fine to medium SAND, little Silt, trace coarse Sand, trace fine Gravel, trace natural organics, damp.
		(2-4')	2"	4 5 5 6	10	1.7	0.4			Dark brown fine to medium SAND, little Silt, little slag, cinders, clear glass, gray ash, trace coarse Sand, trace fine Gravel, damp.
5		(4-6')	2"	5 3 9 7	12	1.4	0.8			Dark brown fine to medium SAND, trace coarse Sand, trace black solidified tar (possibly roofing), damp.
	10	(6-8')	2"	4 5 5 6	10	1.4	0.0			Brown fine to medium SAND, trace Silt, damp. (Fill/Native Boundary) Brown SILT, trace natural organics (rootlets), damp.
		(8-10')	2"	4 4 3 5	7	0.4	0.3	OL		Brown SILT, trace fine to medium Sand, trace fine Gravel, moist.
10	5	(10-12')	2"	4 4 6 8	10	2.0	0.0			Brown SILT, trace Clay, low plasticity, trace natural organics (rootlets), damp.
		(12-14')	2"	15 14 12 11	26	2.0	0.0			Grades to little fine to coarse Sand, trace fine to medium Gravel, moist to wet.
15		(14-16')	2"	6 6	14	1.2	0.0	SW		

Well Construction



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Remarks:
Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery.

Water Levels

Date / Time	Elevation	Depth
8-2-97/0932	2.87	13.25 ▼

Site:
1125 Broadway
Albany, New York

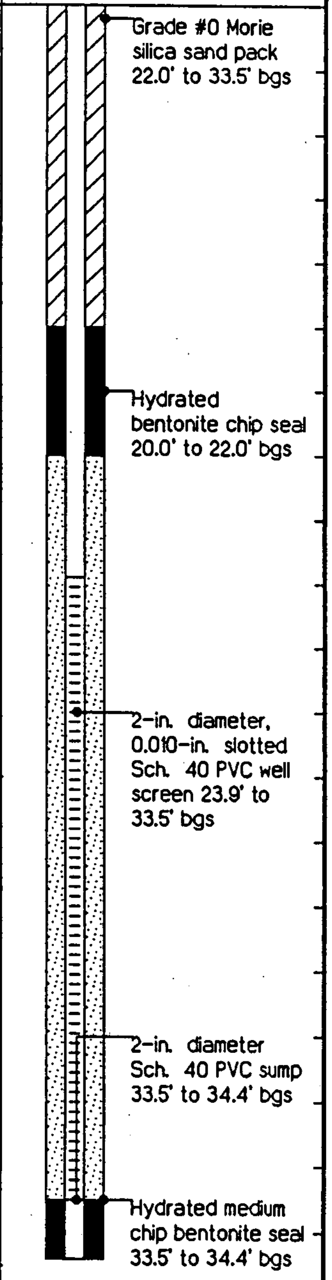
Client:
Niagara Mohawk Power Corporation

Well No. MW-21D

Total Depth = 34.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Stratigraphic Description
		(14-16')	2"	8 7	14	1.2	0.0		Gray fine to coarse Sand, little fine to medium Gravel, little Silt, saturated. At 14.5' bgs, iron staining.
	0	(16-18')	2"	9 5 5 9	10	2.0	0.0		
		(18-20')	2"	6 5 5 4	10	0.6	0.0		Trace Silt.
20	-5	(20-22')	2"	3 2 1 2	3	1.4	0.0	SW	
		(22-24')	2"	3 1 3 2	4	NR	NA		
25		(24-26')	2"	11 12 9 11	21	1.3	0.0		Trace shale fragments.
	-10	(26-28')	2"	14 14 17 15	31	2.0	0.0		Dark gray heavily weathered SHALE, little Silt, saturated.
		(28-30')	2"	9 18 14 15	32	1.2	0.0		
30	-15	(30-32')	2"	17 13 13 10	26	1.3	0.0	SH	
		(32-34')	2"	12 10 18 15	22	2.0	0.0		
		(34-34.5')	2"	50/0.2	Ref.	0.2	NA		SHALE.
35									Auger refusal at 34.5' bgs.

Well Construction



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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0932	2.87	13.25 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 05/01/97 - 05/06/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size**: 6.25" ID
Rig Type: CME 75
Spoon Size: 2"/3" ID-in.

Northing: 1397283.5048
Easting: 697350.5053
Well Casing Elev.: 15.68 ft.
Corehole Depth:
Borehole Depth: 50.6 ft.
Ground Surface Elev.: 16.062 ft.

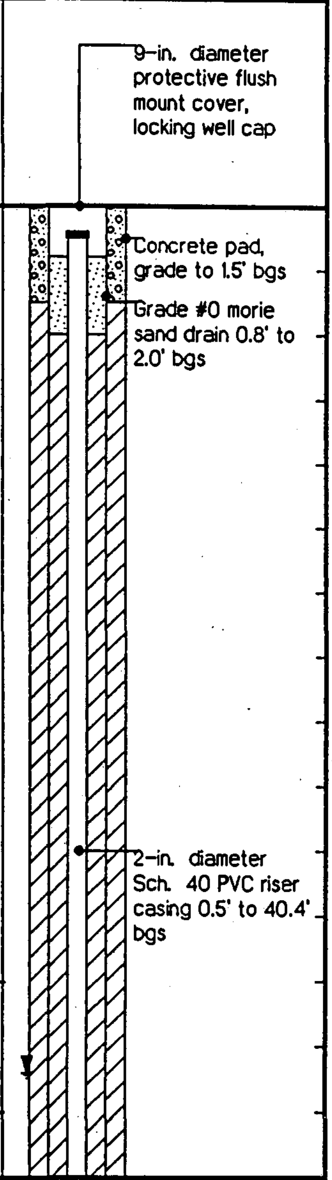
Geologist: Ronald D. Kuhn

Well No. MW-21R

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 16.062 ft.										GROUND SURFACE	
5 10	15 10 5									Augered continuously with 6.25-in ID hollow stem auger to 12.0' bgs.	
		(12-14')	2"	12 13 15 11	28	NA	0.0	SW	▤	Brown SILT, Little fine to coarse Sand, trace fine to medium Gravel, moist to wet.	
15											



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Remarks:

Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery. See MW-21D for complete stratigraphic description.

Water Levels

Date / Time	Elevation	Depth
8-2-97/0934	2.88	13.40 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

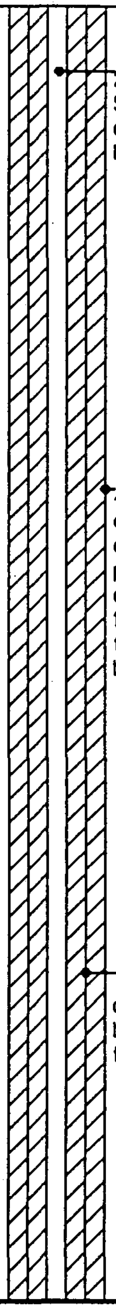
Client:
Niagara Mohawk Power Corporation

Well No. MW-21R

Total Depth = 50.6 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
	0									Augered continuously with 6.25-in ID hollow stem auger to 23.0' bgs.
20										
	-5									
		(23-25')	3"	5 17 23 21	40	NA	0.0	SW		Gray fine to coarse Sand, little fine to medium Gravel, trace Silt, trace Shale fragments, saturated.
25										
	-10	(25-27')	3"	15 16 16 14	32	NA	0.0	SW		
										Augered continuously with 8.25-in ID hollow stem auger to 34.0' bgs.
30										
	-15									
										Auger refusal at 34.0' bgs. Roller to 36.5' bgs with 5.875-in bit.
35										

Well Construction



2-in. diameter Sch. 40 PVC riser casing 0.5' to 40.4' bgs

4-in. inner diameter, 4.5-in. outer diameter, protective steel casing grouted in 10-inch borehole from grade to 35.8' bgs

Type I/II Portland cement/5% bentonite grout 2.0 to 34.0' bgs

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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0934	2.66	13.40 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

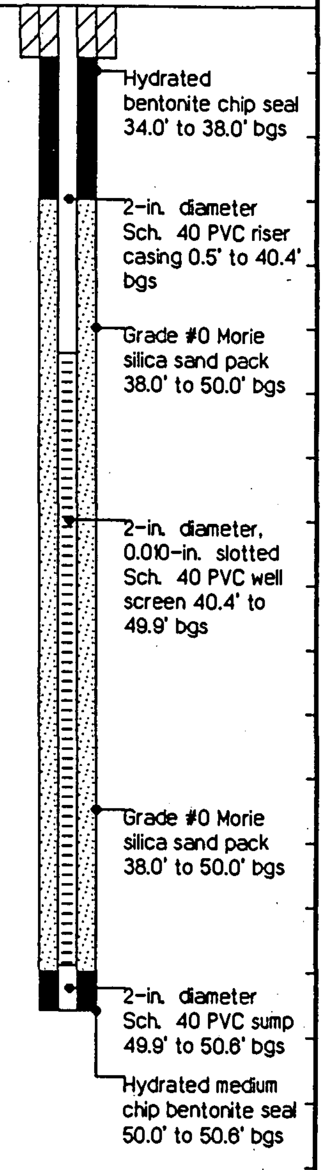
Client:
Niagara Mohawk Power Corporation

Well No. MW-21R

Total Depth = 50.6 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
	-20									
40	-25	(36-42.5')	RUN 1	7 9 9 8 9 4	RQD% 0	1.5	NA	SH		Dark gray SHALE, soft, folded, slightly calcareous, slightly weathered. Core blockage problems during core run resulted in poor recovery and mechanical breakage of rock.
45	-30	(42.5-46.5')	RUN 2	6 8 7 6	RQD% 0	3.2	NA	SH		Same as Run #1.
50		(46.5-50.0')	RUN 3	7 7 8 7	RQD% NA	1.4	NA	SH		Gray Clay observed in coring recirculatory water, possible Clay seam, exact depth undetermined.
55	-35									Depth of borehole 50.6' bgs.

Well Construction



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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0934	2.66	13.40 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 05/02/97 - 05/02/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397278.2850
Easting: 697348.5292
Well Casing Elev.: 15.40 ft.
Corehole Depth:
Borehole Depth: 18.1 ft.
Ground Surface Elev.: 16.023 ft.

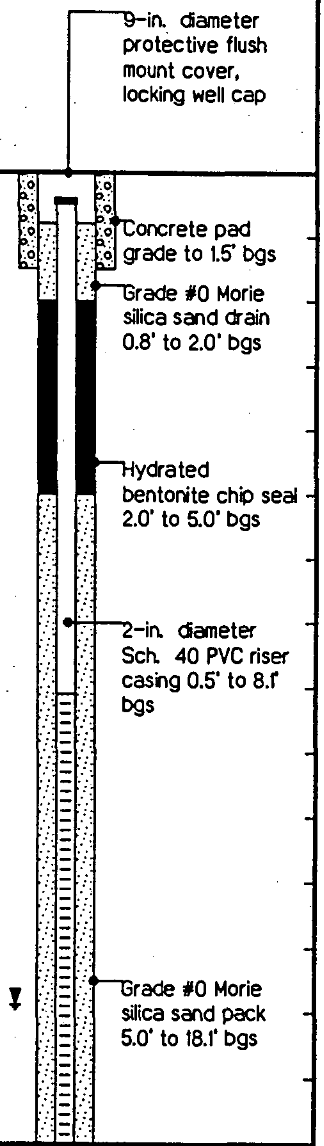
Geologist: Ronald D. Kuhn

Well No. MW-21S

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 16.023 ft.										**GROUND SURFACE**	
	15	(0-2')	2"	1 4 4 5	8	1.6	0.0	SW		Dark brown fine to medium SAND, little Silt, trace coarse Sand, trace fine Gravel, trace clear glass, red brick, black slag/coal, damp.	
										Augered continuously with 4.25-in ID hollow stem auger to 5.0' bgs.	
5	10	(5-7')	2"	6 8 14 12	22	1.4	0.0	SW		Dark brown fine to medium SAND, little Silt, trace coarse Sand, trace fine Gravel, trace clear glass, red brick, black slag/coal, damp.	
										Augered continuously with 4.25-in ID hollow stem auger to 10.0' bgs.	
10	5	(10-12')	2"	4 7 9 9	18	2.0	0.0	OL		Brown SILT, trace Clay, low plasticity, trace natural organics (rootlets), damp.	
										Augered continuously with 4.25-in ID hollow stem auger to 15.0' bgs.	
15											



BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery. For full stratigraphic description, see MW-21D well construction log.

Water Levels

Date / Time	Elevation	Depth
8-2-97/0937	3.14	12.88 ▼

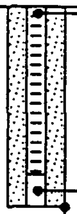
Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-21S

Total Depth = 18.1 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	0	(15-17')	2"	6 9 8 7	17	1.4	0.0	SW		Gray fine to coarse Sand, little fine to medium Gravel, little Silt, saturated.	 2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 8.1' to 17.6' bgs 2-in. diameter Sch. 40 PVC sump 17.6' to 18.1' bgs Morie silica sand pack 5.0' to 18.1' bgs
										End of boring at 18.1' bgs.	
20											
	-5										
25											
	-10										
30											
	-15										
35											

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

Remarks:

Water Levels

Date / Time	Elevation	Depth
8-2-97/0937	3.14	12.88 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 04/28/97 - 04/29/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397498.1026
Easting: 697460.0442
Well Casing Elev.: 15.45 ft.
Corehole Depth:
Borehole Depth: 34.0 ft.
Ground Surface Elev.: 15.666 ft.

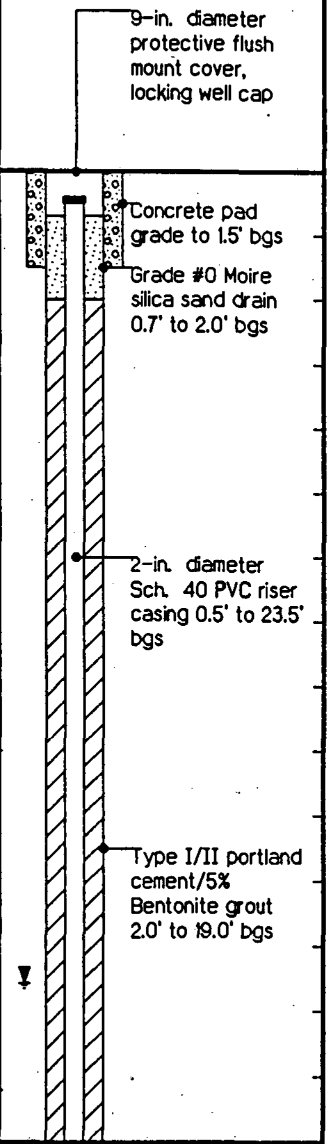
Geologist: Ronald D. Kuhn

Well No. MW-22D

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 15.666 ft.										GROUND SURFACE	
	15	(0-2')	2"	1 5 5 5	10	1.4	0.0	SW		Brown fine to medium SAND, trace coarse Sand, trace Silt, trace fine Gravel, trace wood, trace red brick/black slag/clear glass, damp.	
		(2-4')	2"	6 6 10 17	16	1.3	0.0				
5	10	(4-6')	2"	5 2 4 1	6	1.5	0.4			From 4.6-4.7' bgs, trace gray ash.	
		(6-8')	2"	2 1 1 1	2	0.4	7.7			From 6.0-6.4' bgs, little decayed wood.	
		(8-10')	2"	1 4 1 1	5	1.3	1.7	OH		Saturated (perched). (Fill/Native Boundary) Gray brown decomposed natural organics (peat), little Silt, moist.	
10	5	(10-12')	2"	1 1 5 1	6	1.7	0.0			Gray brown Clay and Silt, little natural organics, trace fine Sand, trace fine Gravel, moist.	
		(12-14')	2"	1 4 3 4	7	1.6	0.0			Gray brown Clay and Silt, some fine to coarse Sand, trace fine to medium Gravel, saturated.	
15		(14-16')	2"	1 8	14	1.3	0.0	SW			



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engineers & scientists

Remarks:
Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery.

Water Levels

Date / Time	Elevation	Depth
8-2-97	3.10	12.57 ▼

Project: 384.69.004
Script: BBL-wel5
Date: 10/16/97

Site:

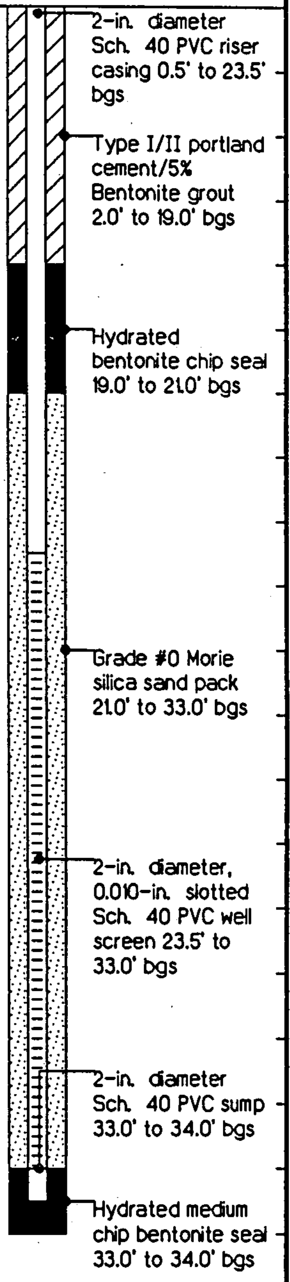
1125 Broadway
Albany, New York

Client:

Niagara Mohawk Power Corporation

Well No. MW-22D

Total Depth = 34.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	0	(14-16')	2"	8 6	14	1.3	0.0			Gray fine to coarse Sand, little Silt, little fine to medium Gravel, saturated:	
		(18-18')	2"	5 3 2 2	5	1.4	0.0			From 18.0 to 23.4' bgs, grades to trace Silt.	
		(18-20')	2"	4 3 3 3	6	NR	NA			No Recovery	
20	-5	(20-22')	2"	5 2 6 3	8	0.6	0.0	SW		Gray fine to coarse Sand, little fine to medium Gravel, trace Silt, saturated.	
		(22-24')	2"	7 8 8 9	16	1.4	0.0				
25	-10	(24-26')	2"	4 2 3 3	5	2.0	0.0				
		(26-28')	2"	14 9 10 11	19	2.0	0.0				
		(28-30')	2"	27 14 11 10	25	1.6	0.0			Black highly weathered SHALE, little Silt, saturated.	
30	-15	(30-32')	2"	20 10 12 12	22	1.2	0.0	SH		Black highly weathered SHALE, saturated.	
		(32-34')	2"	15 20 50/0	Ref	1.3	0.0				
35										Auger refusal at 34.0' bgs.	

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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97	3.10	12.57 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 04/28/97 - 05/05/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397502.0196
Easting: 697463.5992
Well Casing Elev.: 15.48 ft.
Corehole Depth:
Borehole Depth: 49.2 ft.
Ground Surface Elev.: 15.832 ft.

Geologist: Ronald D. Kuhn

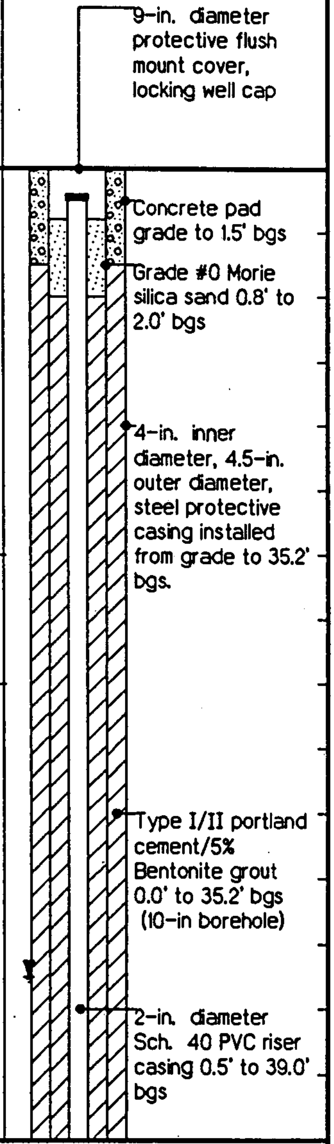
Well No. **MW-22R**

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 15.832 ft.										GROUND SURFACE
	15									Augered continuously with 6.25-in. ID hollow stem auger to 6.0' bgs.
5	*10*									
		(6-8')	3"	2 2 5 6	7	NA	4.3	SW		Brown fine to medium SAND, trace coarse Sand, trace Silt, trace fine Gravel, trace wood, trace red brick/brick slag and clear glass, damp.
										Augered continuously with 6.25-in. ID hollow stem auger to 24.0' bgs.
10	*5*									
15										

Well Construction



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engineers & scientists

Remarks:
BL = Brass Liner. NA = Not Available. NR = No Recovery. Ref. = Split-spoon refusal. See MW-22D for complete stratigraphic description.

Water Levels

Date / Time	Elevation	Depth
6-2-97/0920	3.33	12.50 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-22R

Total Depth = 49.2 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
20	0 -5									Augered continuously with 6.25-in. ID hollow stem auger to 24.0' bgs.	4-in. inner diameter, 4.5-in. outer diameter, steel protective casing installed from grade to 35.2' bgs. Type I/II portland cement/5% Bentonite grout 0.0' to 35.2' bgs (10-in borehole)
25		(24-26')	3"	NA	NA	0.4	NA	SW	⁘	Gray fine to coarse Sand, little Silt, little fine to medium Gravel, saturated.	
	-10	(26-28')	3"	9 10 11 17	21	NA	0.0		⁘		
30 35	-15										2-in. diameter Sch. 40 PVC riser casing 0.5' to 39.0' bgs

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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0920	3.33	12.50 ▼

Site:
1125 Broadway
Albany, New York

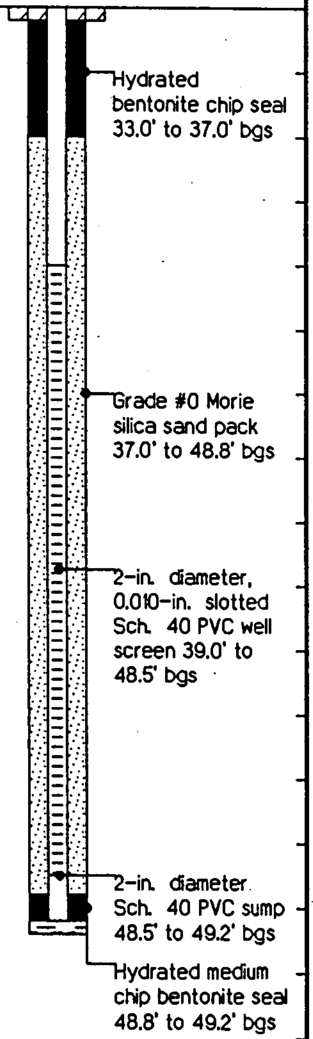
Client:
Niagara Mohawk Power Corporation

Well No. MW-22R

Total Depth = 49.2 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
	-20	(35-40')	RUN 1	MIN/	RQD 8.5%	4.1	0.0	SH		Dark gray SHALE, soft, folded, slightly calcareous, slightly weathered, with approximate 50-degree fracturing along bedding planes throughout core run. Approximate 80-degree high angle fractures 36.1 to 36.7' and 36.9' to 37.4' below ground surface. Highly fractured zones 38.0' to 38.9' and 39.5' to 40.0' below ground surface.
40	-25	(40-44.4')	RUN 2	MIN/ FT 12 12 12 12 NA	RQD 28%	3.7	0.0	SH		85-degree high angle fracture 40.1' to 40.7' below ground surface. Highly fractured zones 40.7' to 41.7' and 43.0' to 43.9' below ground surface.
45	-30	(44.4-49.4')	RUN 3	MIN/ FT 12 13 13 12 13	RQD 22%	4.5	0.0	SH		Highly fractured zones 44.4' to 45.6', 46.2' to 46.4', 47.1' to 47.5', and 49.0' to 49.4' below ground surface.
50 55	-35									Total depth of borehole 49.4' bgs.

Well Construction



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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/0920	3.33	12.50 ▼

Project: 364.69.004

Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 04/30/97 - 04/30/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size :** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397508.2411
Easting: 697467.0939
Well Casing Elev.: 15.83 ft.
Corehole Depth:
Borehole Depth: 16.8 ft.
Ground Surface Elev.: 16.082 ft.

Geologist: Ronald D. Kuhn

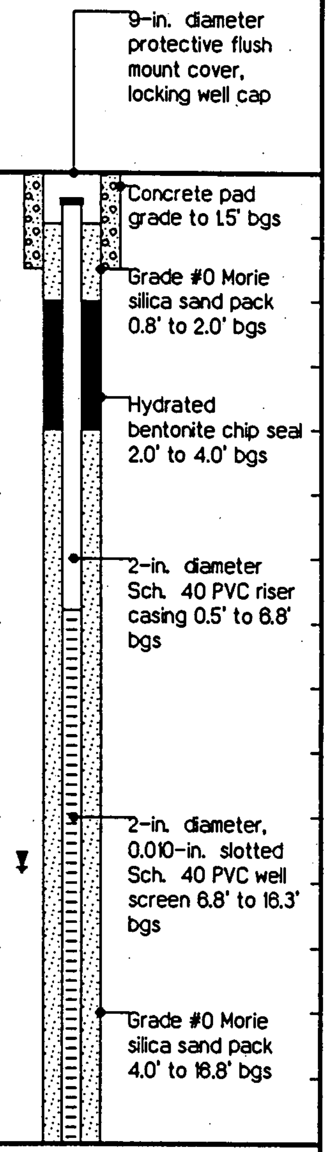
Well No. MW-22S

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
gs elevation 16.082 ft.										**GROUND SURFACE**
	15	(0-2')	2"	1 3 8 12	11	0.6	1.8	SW	▨	Brown fine to medium SAND, trace coarse Sand, trace Silt, trace fine to medium Gravel, damp.
										Augered continuously with 6.25-in hollow stem auger to 5.0' bgs.
5	10	(5-7')	2"	1 1 2 2	3	0.8	1.0	SW	▨	Brown/orange fine to medium SAND, trace coarse Sand, trace gray ash/black cinders and slag, damp. Saturated.
										Augered continuously with 6.25-in hollow stem auger to 10.0' bgs.
10	5	(10-12')	2"	1 1 3 6	4	1.8	0.0	OH	▤	Dark gray Clay and Silt, little natural organics, trace fine Sand, trace fine Gravel, damp.
										Augered continuously with 6.25-in hollow stem auger to 15.0' bgs.
15										

Well Construction



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Remarks:
Ref. = Split-spoon refusal. NA = Not Available. NR = No Recovery. For full stratographic description, see MW-22D well construction log.

Water Levels

Date / Time	Elevation	Depth
6-2-97/0923	5.31	10.772 ▼

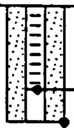
Project: 364.69.004 Script: BBL-wel5
Date: 10/16/97

Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. MW-22S

Total Depth = 16.8 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
	0	(15-16.5')	2"	2 8 9	17	0.4	0.0	SW		Gray fine to coarse Sand, little fine to medium Gravel, little Silt, saturated.	 2-in. diameter Sch. 40 PVC sump 16.3' to 16.8' bgs Grade #0 Morie silica sand pack 4.0' to 16.8' bgs
										Boring terminated at 16.8' bgs.	
20	-5										
25	-10										
30	-15										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth
8-2-97/0923	5.31	10.772 ▼

Project: 364.69.004
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 02/07/97 - 02/07/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

Northing: 1397607.8230
Easting: 698888.8727
Well Casing Elev.: 17.99 ft.
Corehole Depth:
Borehole Depth: 22.0 ft.
Ground Surface Elev.: 18.343 ft.

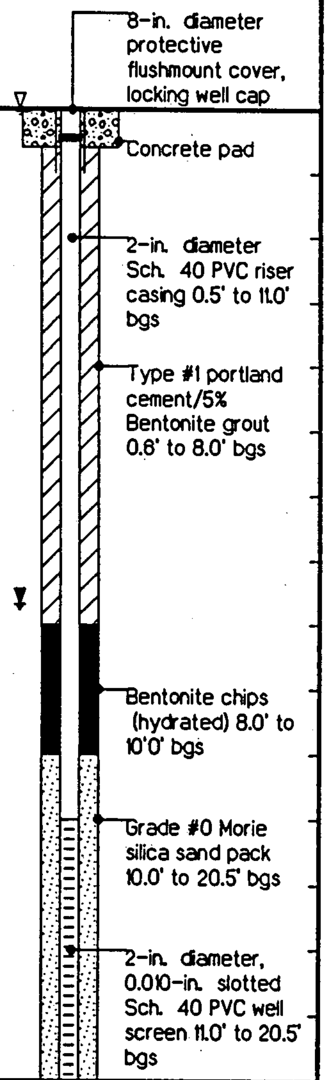
Geologist: Ronald D. Kuhn

Well No. PZ-01D

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 18.343 ft										**GROUND SURFACE**	
		(0-2')	2"	– – 5 7	5	1.0	0.0	GW SM		Medium GRAVEL, little fine to medium Sand (Ground frozen augered to 1.0' bgs). Brown fine to medium SAND, little Silt, trace fine to medium Gravel.	
	15	(2-4')	2"	11 7 7 3	14	1.6	0.0	FI		Black slag and cinders, damp. Orange brown fine SAND and slag, wet. Gray ash, saturated.	
5		(4-6')	2"	2 1 1 1	2	0.7	0.0	SP/ML		Brown fine SAND and Silt, trace natural organic material, wet.	
		(6-8')	2"	4 3 2 2	5	1.4	0.0	FI SP		Brown wood chips, saturated. Dark gray fine SAND, trace Silt, saturated. Gray Clay seam 6.8' to 7.1' bgs, very soft, high plasticity.	
	10	(8-10')	2"	WOH 1 2 1	3	1.5	0.0	SW		Dark gray fine to medium SAND, trace Silt, saturated. Gray Clay seam 9.1' to 9.2' bgs, very soft, high plasticity.	
10		(10-12')	2"	2 3 5 4	8	2.0	0.0	ML/CL		Dark gray SILT and CLAY, trace natural organic material, very soft, medium plasticity, moist.	
	5	(12-14')	2"	3 2 8 17	10	1.2	0.0	ML		Gray SILT, little fine to coarse Sand and fine to medium Gravel, saturated.	
15		(14-16')	2"	14 8	16	1.8	0.0			Trace Shale fragments,	



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engineers & scientists

Remarks:
WOH = Weight of hammer.

Water Levels

Date / Time	Elevation	Depth
8-2-97/1423	10.65	7.69 ▼
		▼

Project: 364.89.030
Script: BBL-wel5
Date: 10/16/97

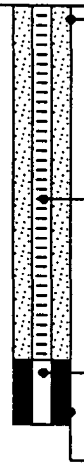
Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. PZ-01D

Total Depth = 22.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in.OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')	2"	8 9	16	1.8	0.0	ML		Gray SILT, little fine to coarse Sand and fine to medium Gravel, trace Shale fragments, saturated.	
		(16-18')	2"	4 10 9 10	19	1.6	0.0	SM		Brown fine to coarse SAND, little Silt and fine to medium Gravel, trace Shale fragments, saturated.	
	0	(18-20')	2"	14 12 12 9	24	1.8	0.0				
20		(20-22')	2"	10 17 17 16	34	1.2	0.0	SH		Dark gray weathered SHALE, little fine to medium Sand and Silt, saturated. Dark gray weathered SHALE.	
										End of boring at 22.0' bgs.	
	-5										
25											
	-10										
30											
	-15										
35											



Grade #0 Morie silica sand pack 10.0' to 20.5' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 11.0' to 20.5' bgs

2-in. diameter Sch. 40 PVC sump 20.5' to 21.5' bgs

Bentonite chips (hydrated) 20.5' to 21.5' bgs

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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/1423	10.65	7.69 ▽
		▽

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Date Start/Finish: 02/17/97 - 02/17/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size** : 4.25" ID
Rig Type: CME 75
Spoon Size: 3" OD-in.

Northing: 1397605.1928
Easting: 696885.9749
Well Casing Elev.: 17.73 ft.
Corehole Depth:
Borehole Depth: 11.1 ft.
Ground Surface Elev.: 18.333 ft.

Geologist: Ronald D. Kuhn

Well No. PZ-01S

Client:
Niagara Mohawk Power Corporation

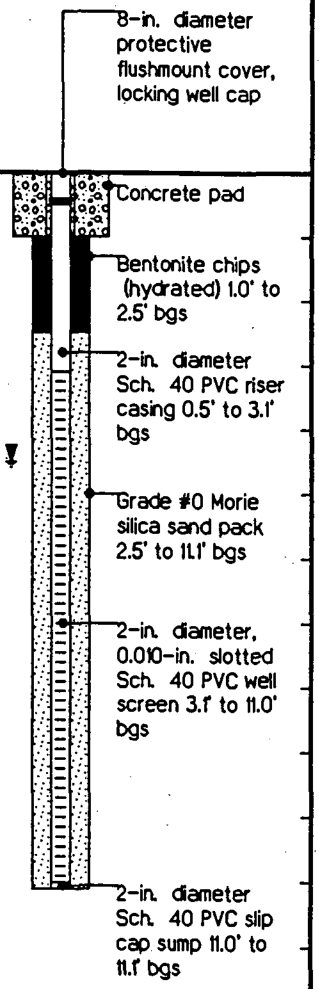
Site:
1125 Broadway
Albany, New York

gs elevation 18.333 ft.

GROUND SURFACE

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
										Augered continuously to 9.0' bgs.
5	15									
	10									
10		(9-11')	3"	4 4 3 2	7	1.2	0.0	ML/CL		Gray SILT and CLAY, very soft, medium plasticity, moist.
										End of boring at 11.1' bgs.
	5									
15										

Well Construction



8-in. diameter protective flushmount cover, locking well cap

Concrete pad

Bentonite chips (hydrated) 1.0' to 2.5' bgs

2-in. diameter Sch. 40 PVC riser casing 0.5' to 3.1' bgs

Grade #0 Morie silica sand pack 2.5' to 11.1' bgs

2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 3.1' to 11.0' bgs

2-in. diameter Sch. 40 PVC slip cap sump 11.0' to 11.1' bgs

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Remarks:

See boring log PZ-01D for description of missing stratigraphy.

Water Levels

Date / Time	Elevation	Depth
6-2-97/1420	13.83	4.50 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

Page: 1 of 1

Date Start/Finish: 02/17/97 - 02/17/97
Drilling Company: SJB
Driller's Name: Mike Lanigan
Drilling Method: Hollow Stem Auger
Bit Size: **Auger Size:** 4.25" ID
Rig Type: CME 75
Spoon Size: 2" OD-in.

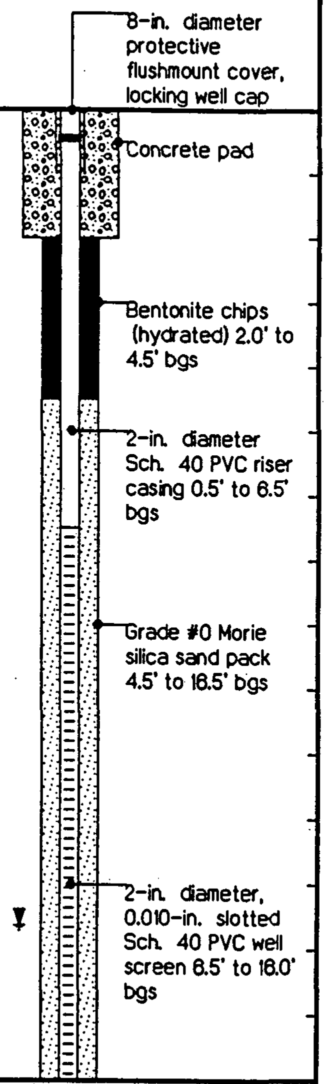
Northing: 1397249.7378
Easting: 696490.4900
Well Casing Elev.: 17.83 ft.
Corehole Depth:
Borehole Depth: 16.5 ft.
Ground Surface Elev.: 18.33 ft.

Geologist: Ronald D. Kuhn

Well No. PZ-02

Client:
Niagara Mohawk Power Corporation

Site:
1125 Broadway
Albany, New York

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 18.33 ft.										**GROUND SURFACE**	
		(0-2')	2"	- - 5 14	5	0.8	0.0	AS SW/GW ML		Black Asphalt. Brown fine to medium SAND and fine to medium Gravel. Brown SILT, little fine to coarse Sand, trace fine to medium Gravel, damp.	
	15	(2-4')								Augered through obstruction.	
5		(4-6')	2"	3 3 3 2	6	0.6	0.0	SM		Brown fine to medium SAND, little Silt, trace fine to medium Gravel, coarse Sand, red brick, gray ash, moist.	
		(8-8')	2"	65/0.2	Ref	0.2	0.0	SS		Dark gray fine-grained SANDSTONE/SILTSTONE, dry.	
	10	(8-10')	2"	WOH (12") 2 2	2	1.2	0.0	ML/CL ML		Dark gray SILT and CLAY, trace natural organic material, soft, medium plasticity, moist. Gray/brown SILT, some to little fine to coarse Sand, trace fine to medium Gravel, wet to saturated.	
10		(10-12')	2"	1 1 4 3	5	0.7	0.0				
	5	(12-14')	2"	8 7 6 4	13	1.8	0.0	SM		Brown fine to coarse SAND, little Silt and fine to medium Gravel, trace dark gray Shale fragments, saturated.	
15		(14-16')	2"	3 6	10	1.4	0.0				

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Remarks:

Ref = Split-spoon refusal. WOH = Weight of hammer.

Water Levels

Date / Time	Elevation	Depth
6-2-97/1440	5.71	12.62 ▼

Project: 364.69.030
Script: BBL-wel5
Date: 10/16/97

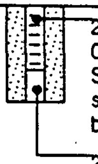
Site:
1125 Broadway
Albany, New York

Client:
Niagara Mohawk Power Corporation

Well No. PZ-02

Total Depth = 16.5 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')	2"	4 5	10	1.4	0.0	SM		Brown fine to coarse SAND, little Silt and fine to medium Gravel, trace dark gray Shale fragments, saturated.	
										End of boring at 16.0' bgs.	
	0										
20											
	-5										
25											
	-10										
30											
	-15										
35											



2-in. diameter, 0.010-in. slotted Sch. 40 PVC well screen 6.5' to 16.0' bgs

2-in. diameter Sch. 40 PVC sump 16.0' to 16.5' bgs

BBL
BLASLAND, BOUCK & LEE, INC.
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Remarks:

Water Levels

Date / Time	Elevation	Depth
6-2-97/1440	5.71	12.62 ▼

Project: 364.69.030

Script: BBL-wel5
Date: 10/16/97

Appendix F - Hydraulic Conductivity Data

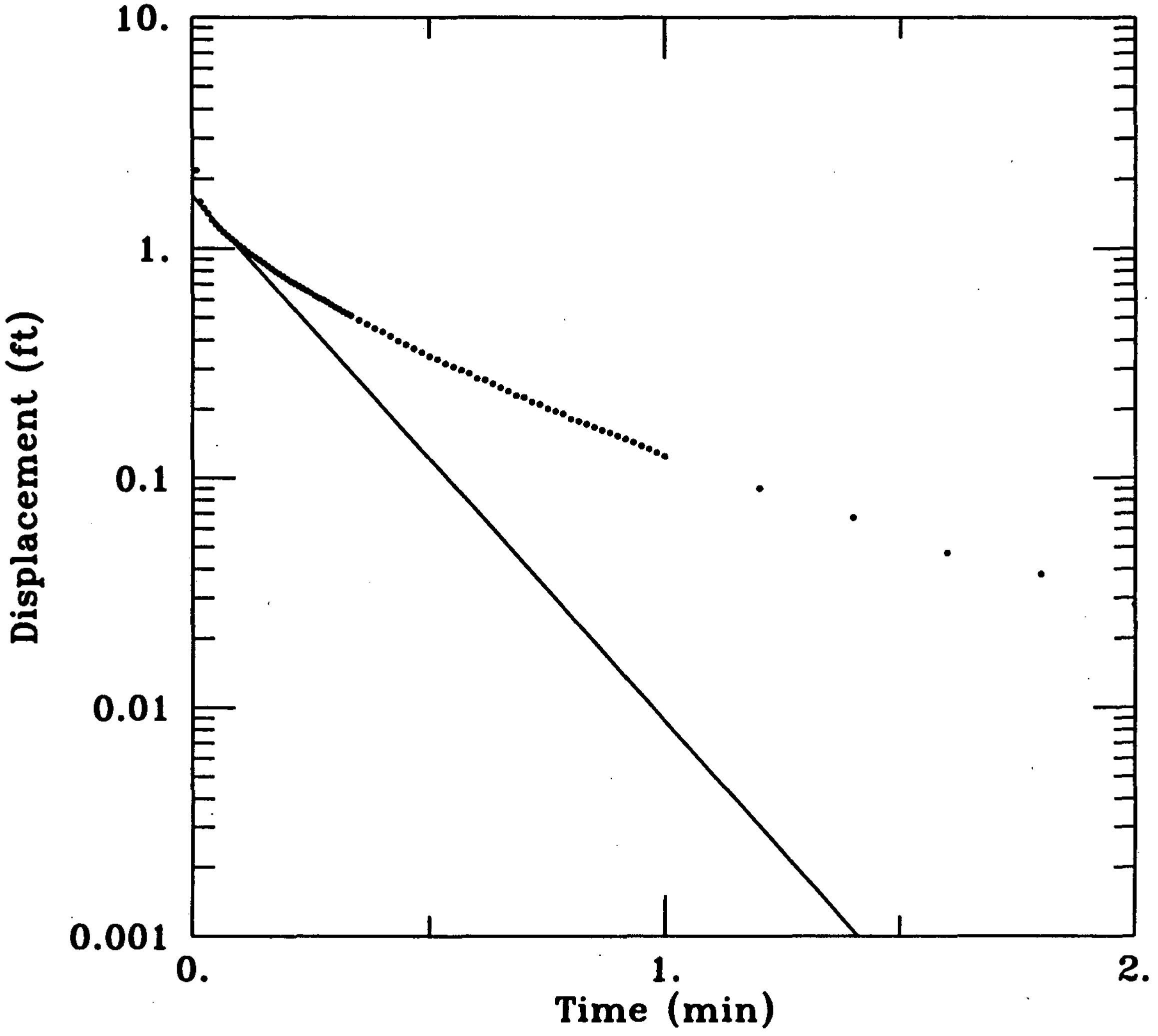
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW–6D Rising Head Slug Test



DATA SET:
MW-6D.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/15/97

TEST DATA:
H0 = 2.173 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.02316 ft/min
y0 = 1.685 ft

1.18×10^{-2} cm/sec

AQTESOLV

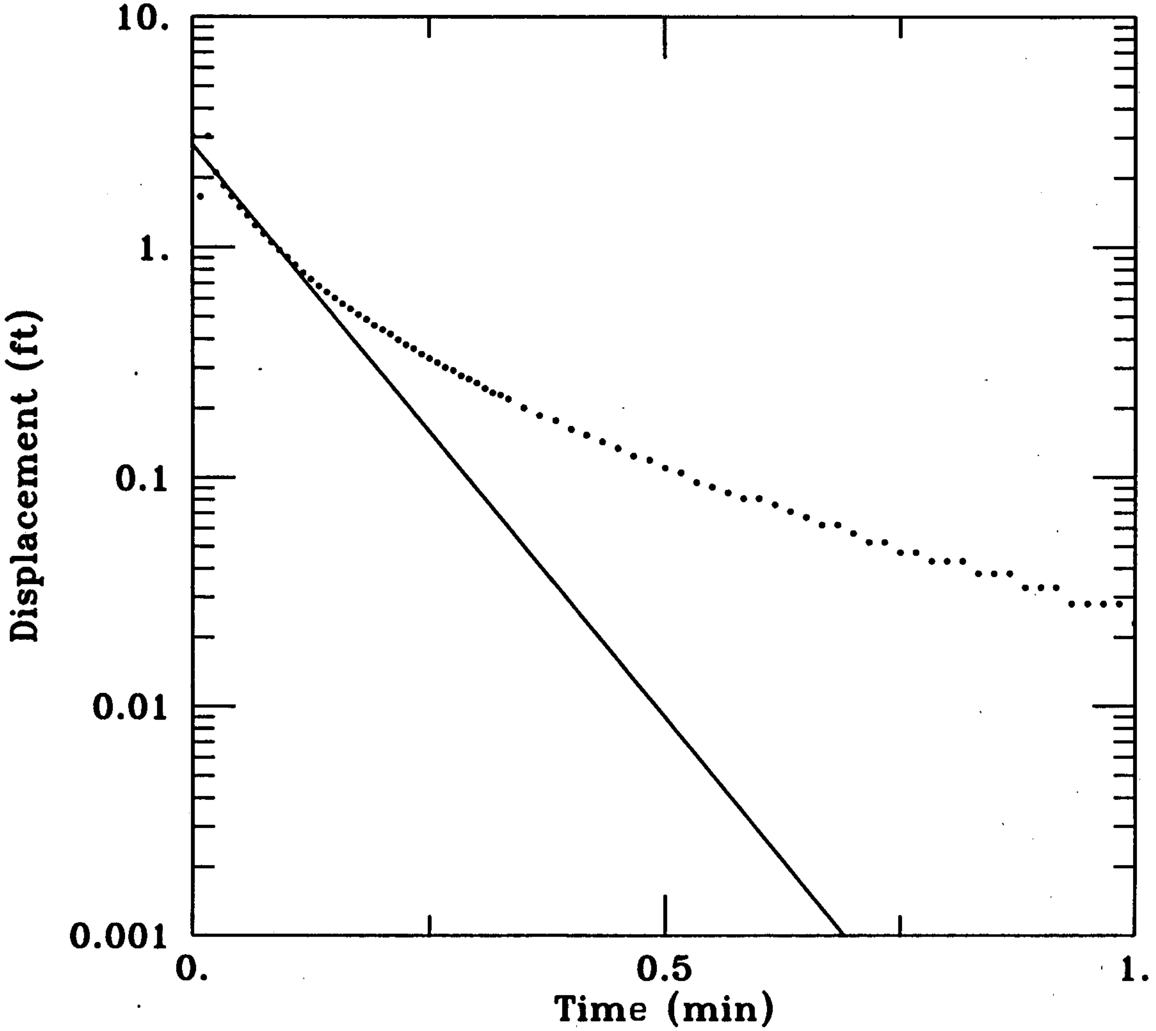
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-16D Rising Head Slug Test (Test 2)



DATA SET:
MW-16D2.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 3.035 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

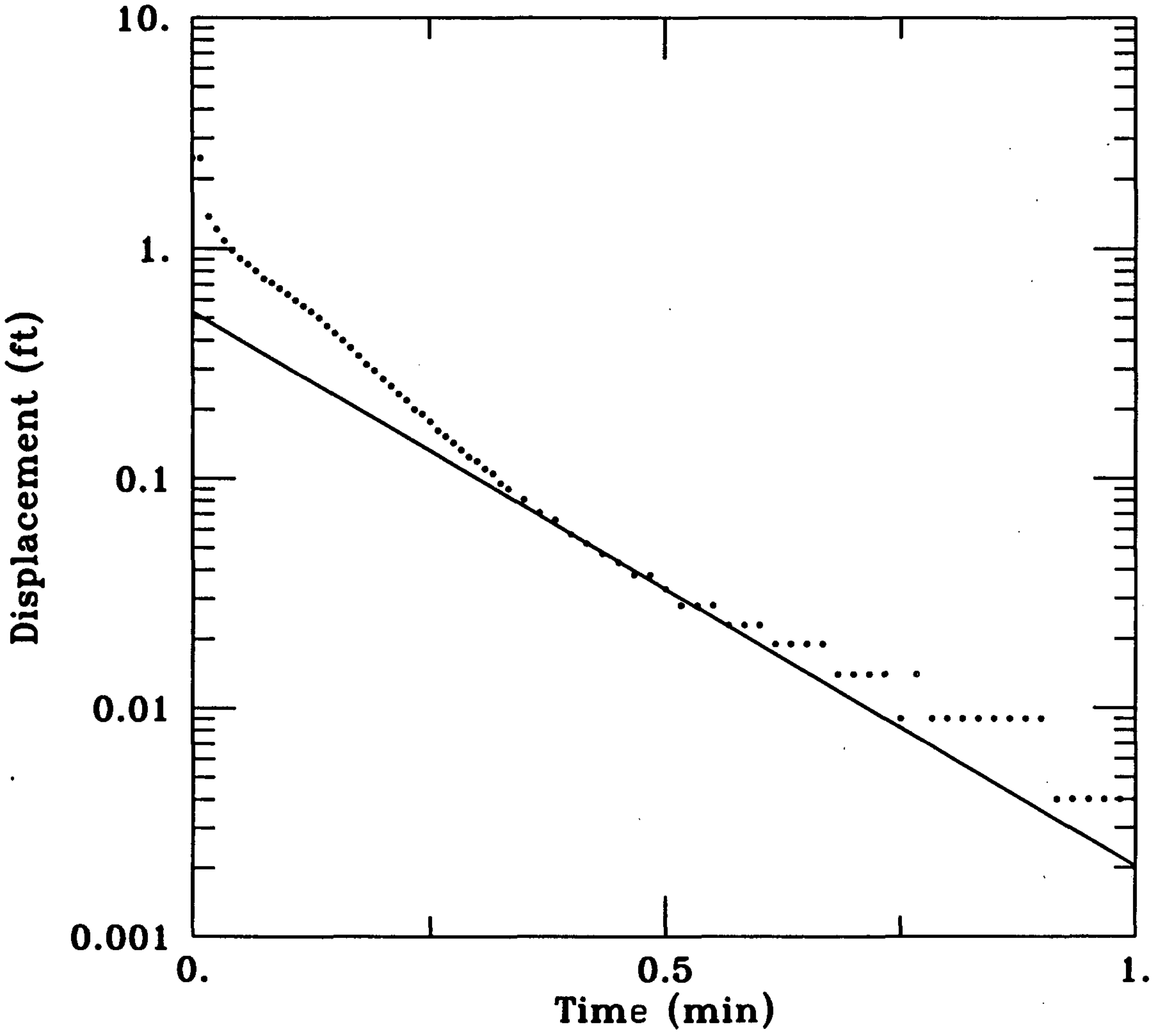
PARAMETER ESTIMATES:
K = 0.0543 ft/min
y0 = 2.788 ft 2.76×10^{-2} cm/sec

Low

AQTESOLV

Client: **Niagara Mohawk Power Company**	Company: **Blasland, Bouck, and Lee**
Location: **North Albany, New York**	Project: **364.69.04**

MW-17S Rising Head Slug Test



DATA SET:
MW-17S.PAR
05/16/97

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 2.458 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 5.79 ft
b = 5.79 ft
H = 5.79 ft

PARAMETER ESTIMATES:
K = 0.04015 ft/min
y0 = 0.5301 ft

2.04×10^{-2} cm/sec

AQTESOLV

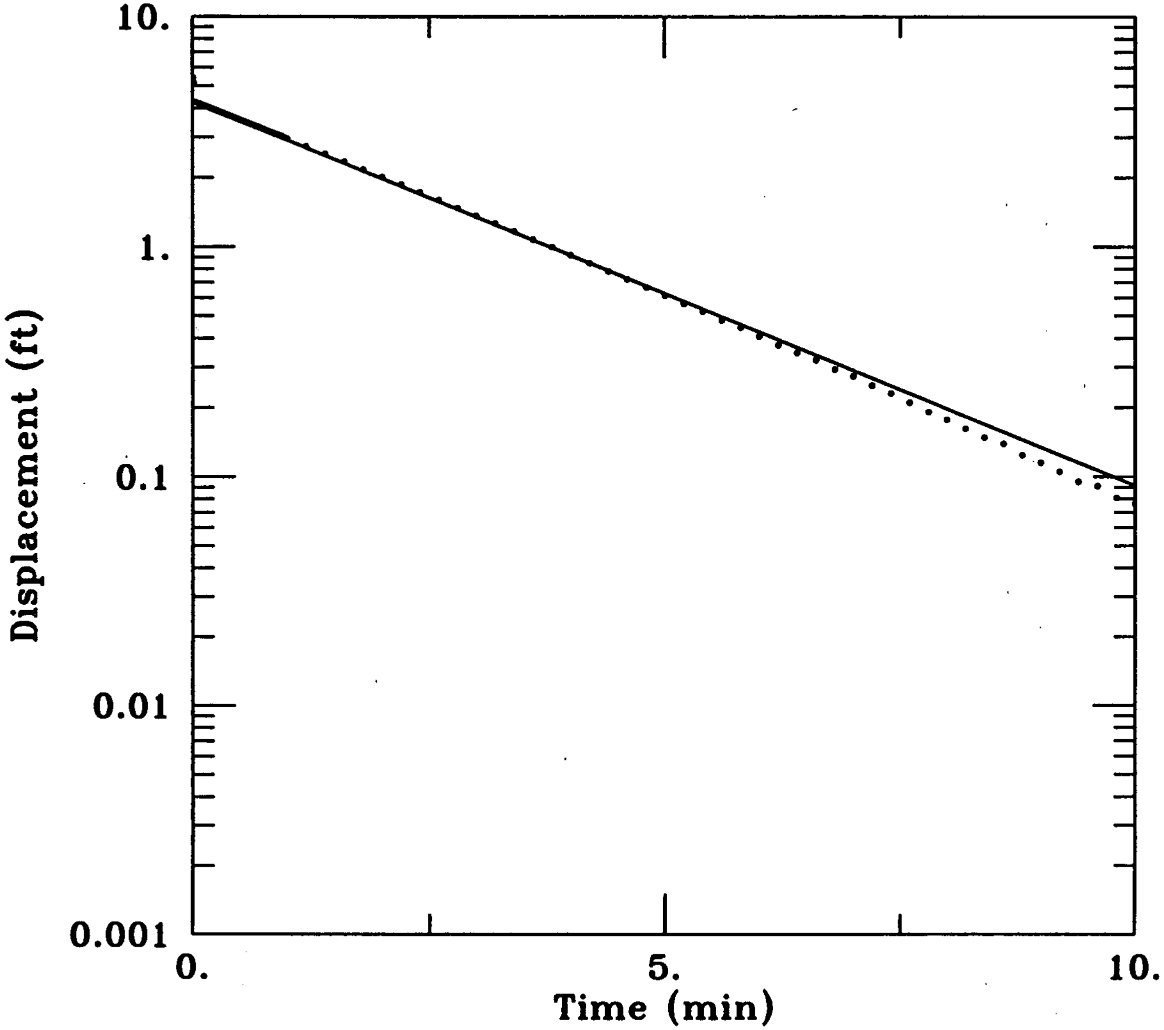
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-17D Rising Head Slug Test



DATA SET:
MW-17D2.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 4.24 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

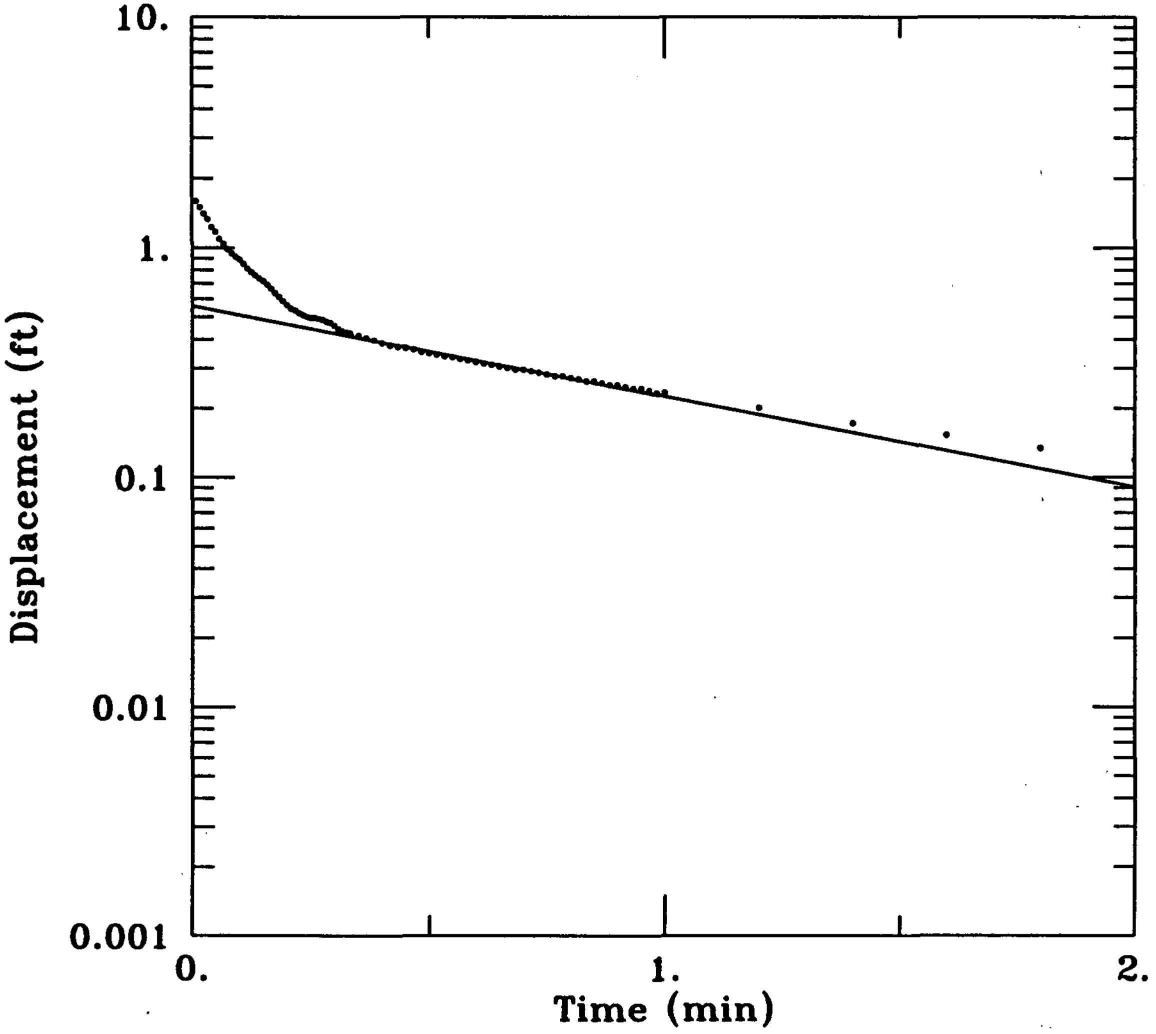
PARAMETER ESTIMATES:
K = 0.00182 ft/min
y0 = 4.278 ft

9.24×10^{-4} cm/sec

AQTESOLV

Client: **Niagara Mohawk Power Company**	Company: **Blasland, Bouck, and Lee**
Location: **North Albany, New York**	Project: **364.69.04**

MW-18S Rising Head Slug Test



DATA SET:
MW-18S.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 1.593 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 6.2 ft
b = 6.2 ft
H = 6.2 ft

PARAMETER ESTIMATES:
K = 0.006123 ft/min
y0 = 0.5583 ft

3.11×10^{-3} cm/sec

AQTESOLV

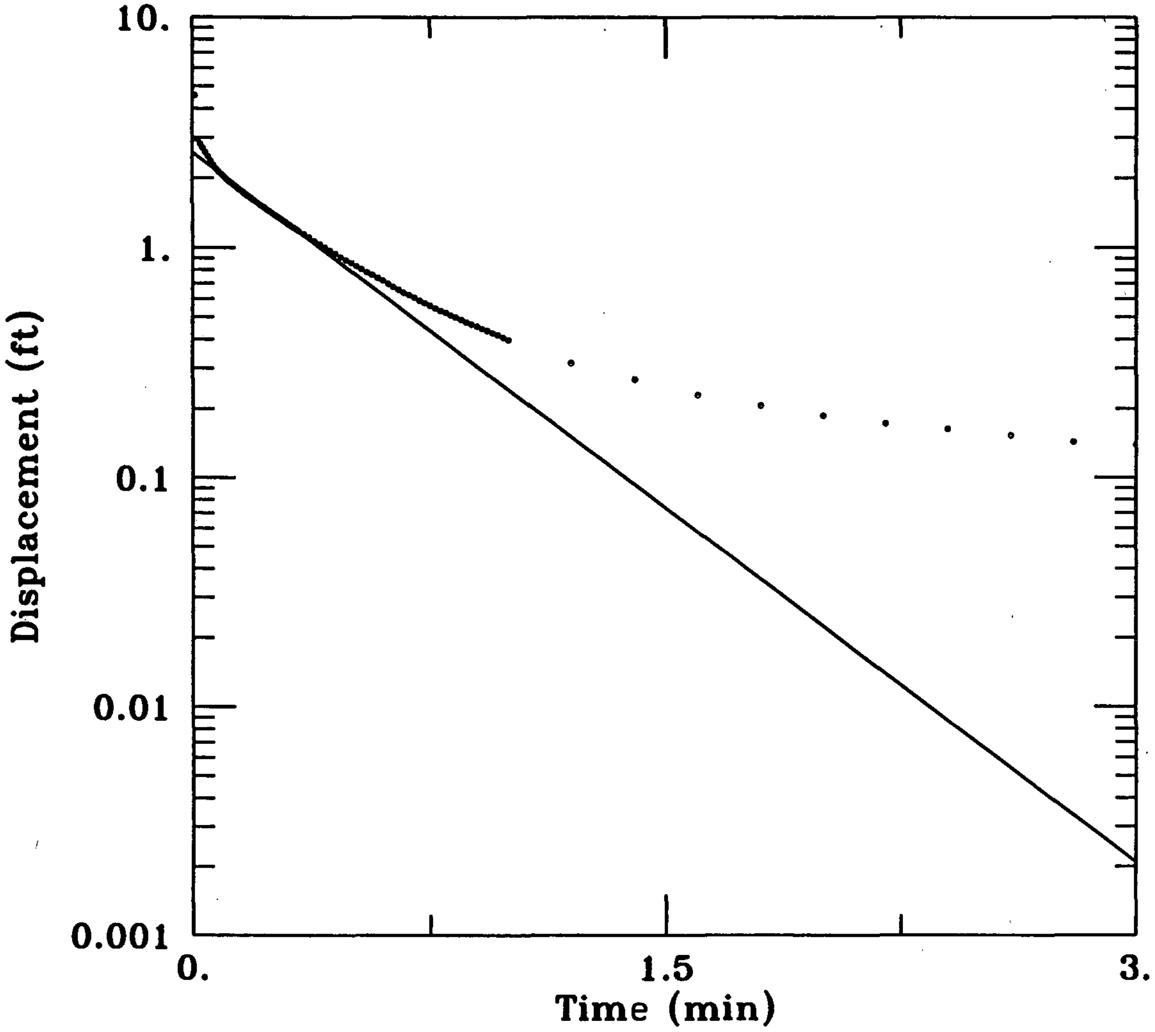
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-19D Rising Head Slug Test



DATA SET:
MW-19D.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
$H0 = 2.947$ ft
$rc = 0.0833$ ft
$rw = 0.3437$ ft
$L = 9.5$ ft
$b = 9.5$ ft
$H = 9.5$ ft

PARAMETER ESTIMATES:
$K = 0.01044$ ft/min
$y0 = 2.585$ ft

5.30×10^{-3}

AQTESOLV

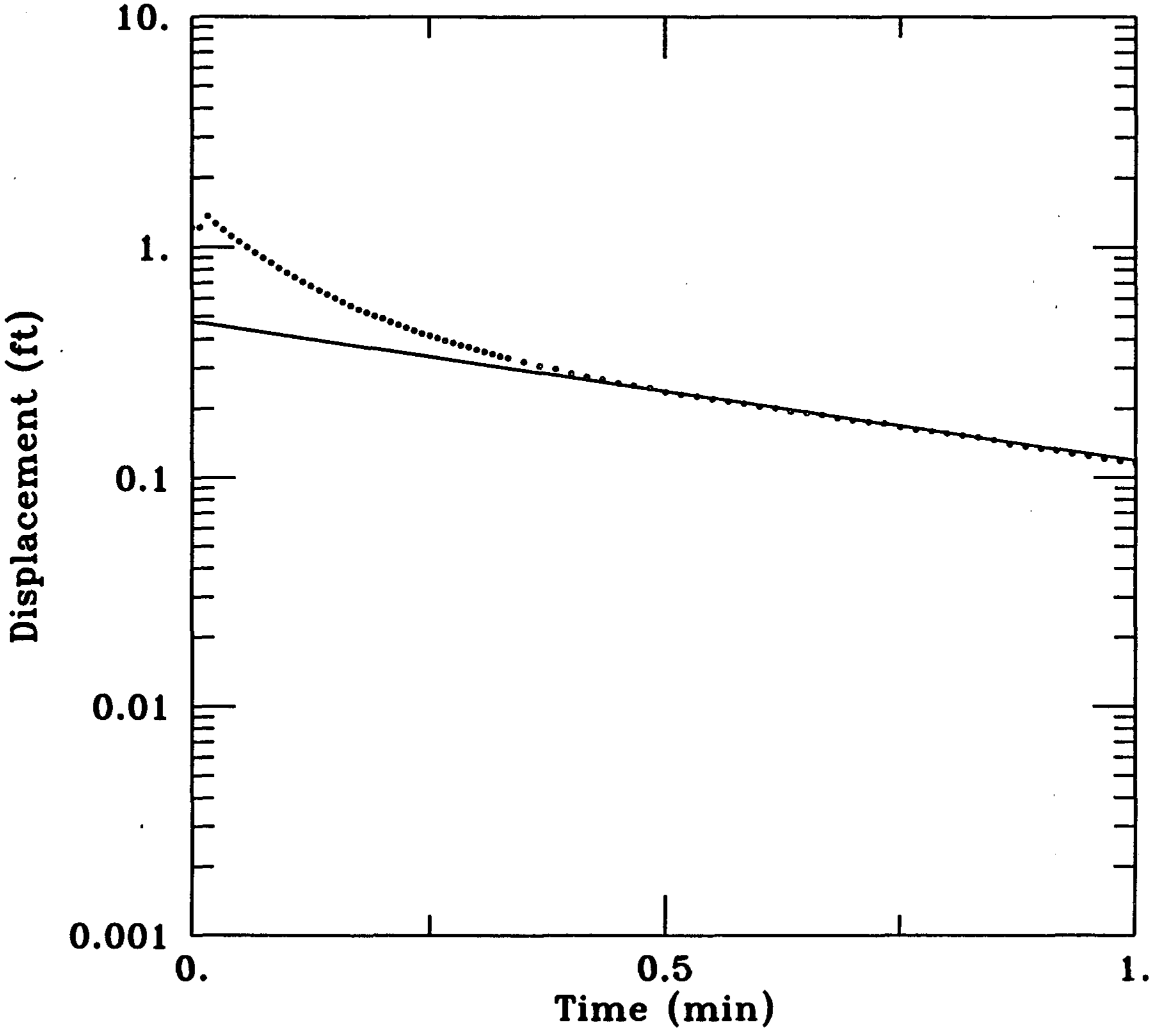
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-21S Rising Head Slug Test



DATA SET:
MW-21S.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 1.217 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 5.96 ft
b = 5.96 ft
H = 5.96 ft

PARAMETER ESTIMATES:
K = 0.009849 ft/min
y0 = 0.4759 ft

5.00×10^{-3} cm/sec

AQTESOLV

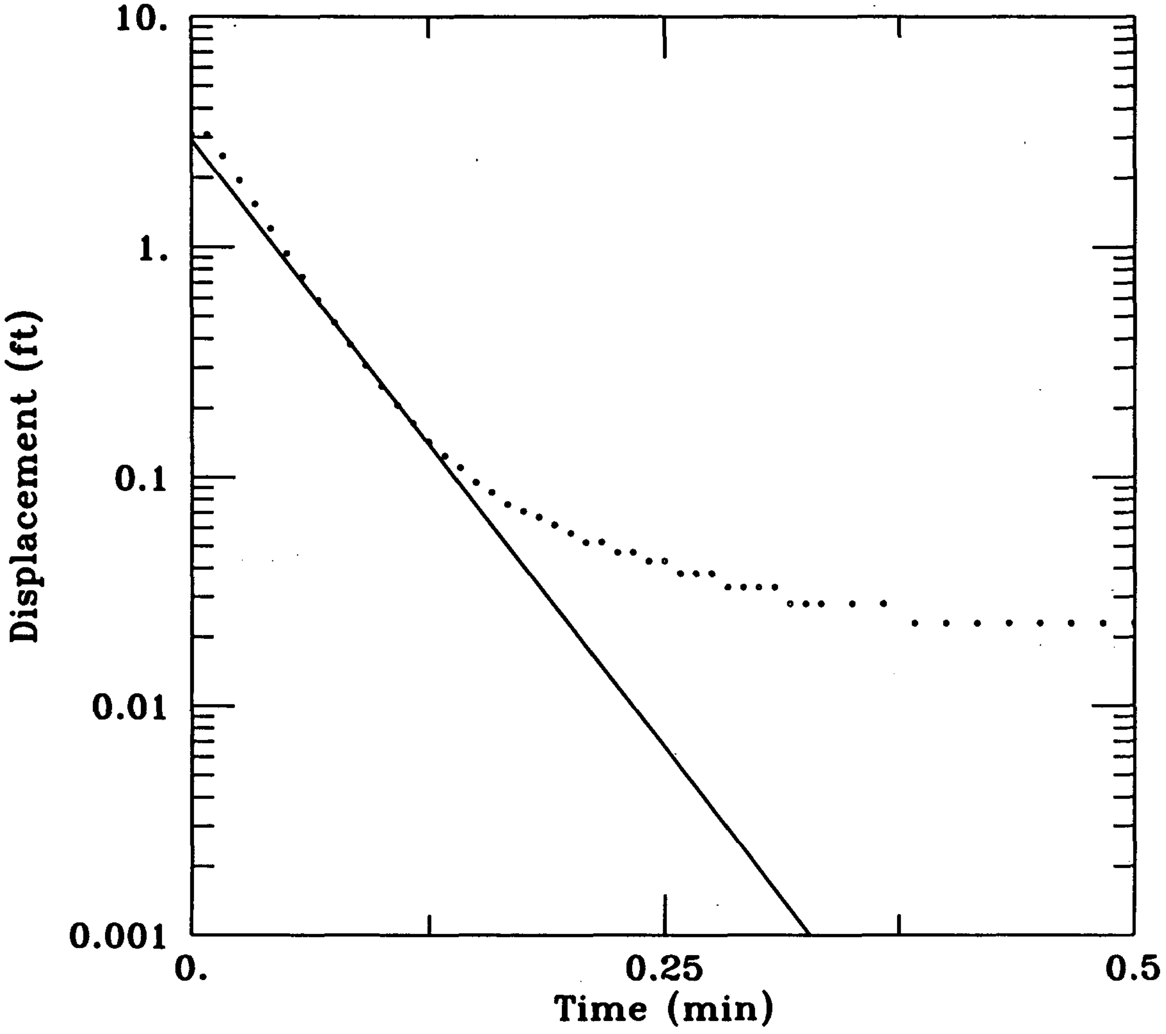
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW–21D Rising Head Slug Test (Test 2)



DATA SET:
MW-21D2.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

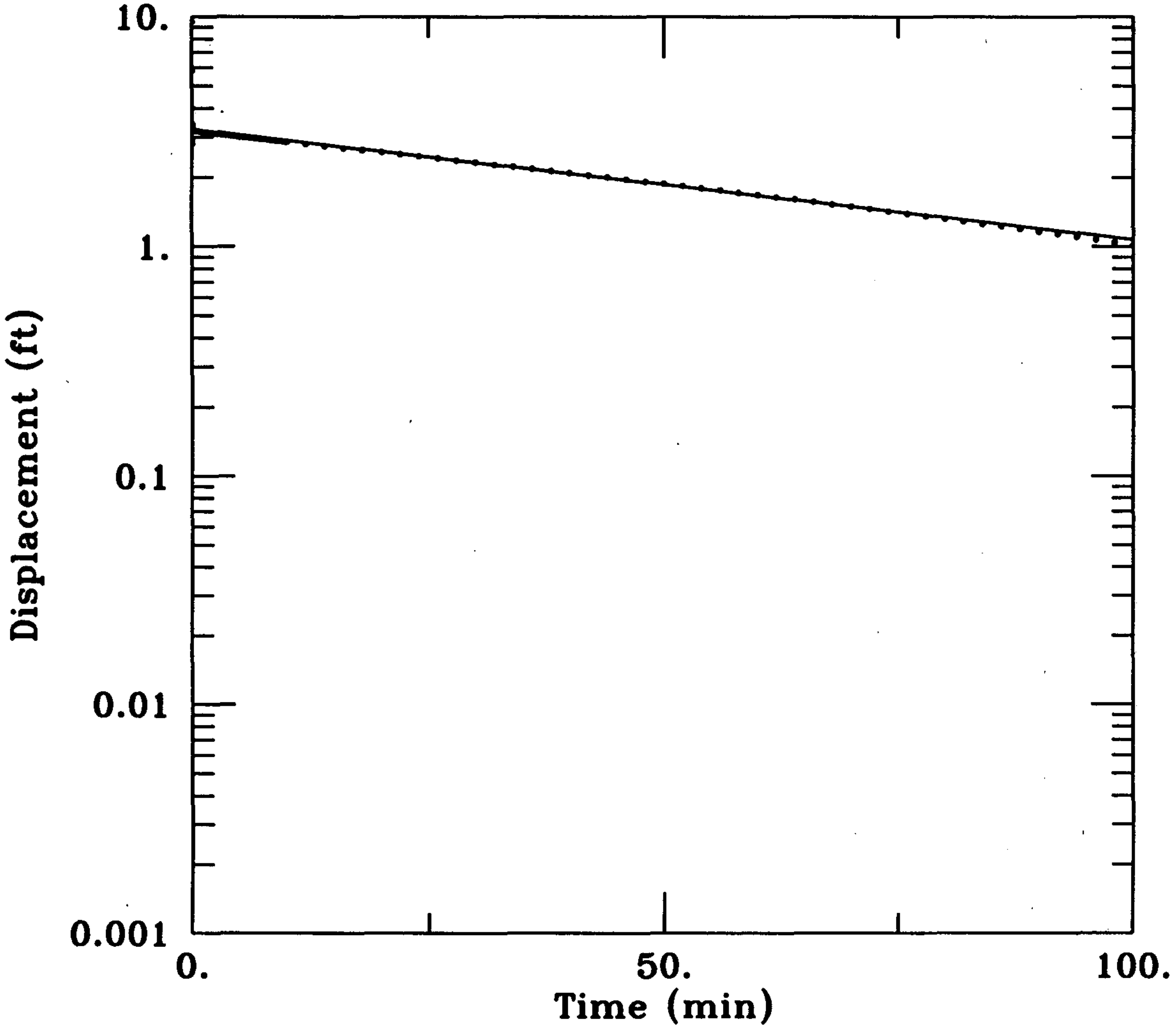
TEST DATA:
H0 = 3.075 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.1151 ft/min
y0 = 2.91 ft 5.85×10^{-2} cm/sec

AQTESOLV

Client: **Niagara Mohawk Power Company**	Company: **Blasland, Bouck, and Lee**
Location: **North Albany, New York**	Project: **364.69.04**

MW-21R Rising Head Slug Test



DATA SET:
MW-21R.PAR
05/16/97

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 3.228 ft
rc = 0.0833 ft
rw = 0.17 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 1.637E-05 ft/min
y0 = 3.243 ft

8.32×10^{-6} cm/sec

AQTESOLV

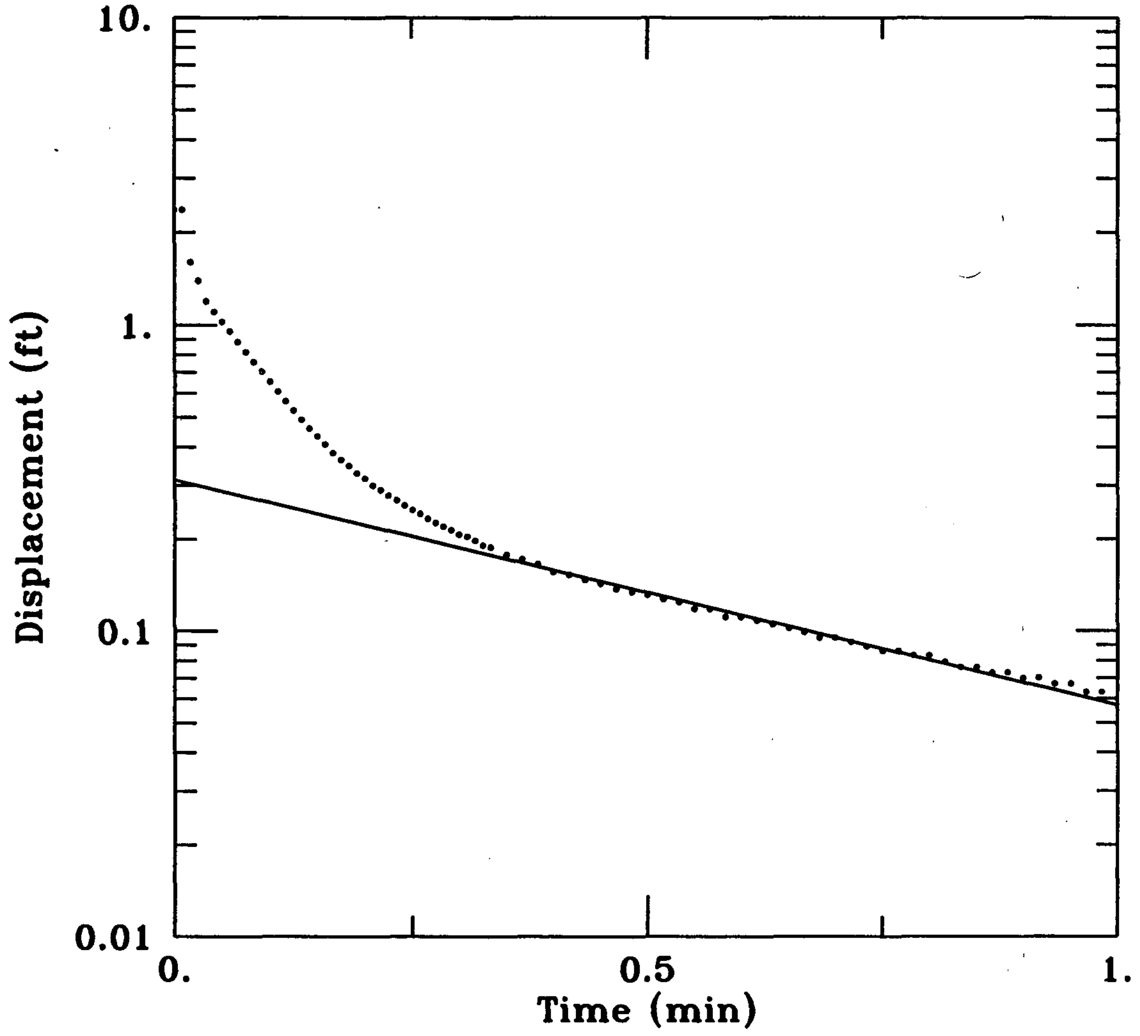
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-22S Rising Head Slug Test



DATA SET:
MW-22S.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 2.367 ft
rc = 0.0833 ft
rw = 0.35 ft
L = 7.07 ft
b = 7.07 ft
H = 7.07 ft

PARAMETER ESTIMATES:
K = 0.01116 ft/min
y0 = 0.3123 ft 5.67×10^{-3} cm/sec

AQTESOLV

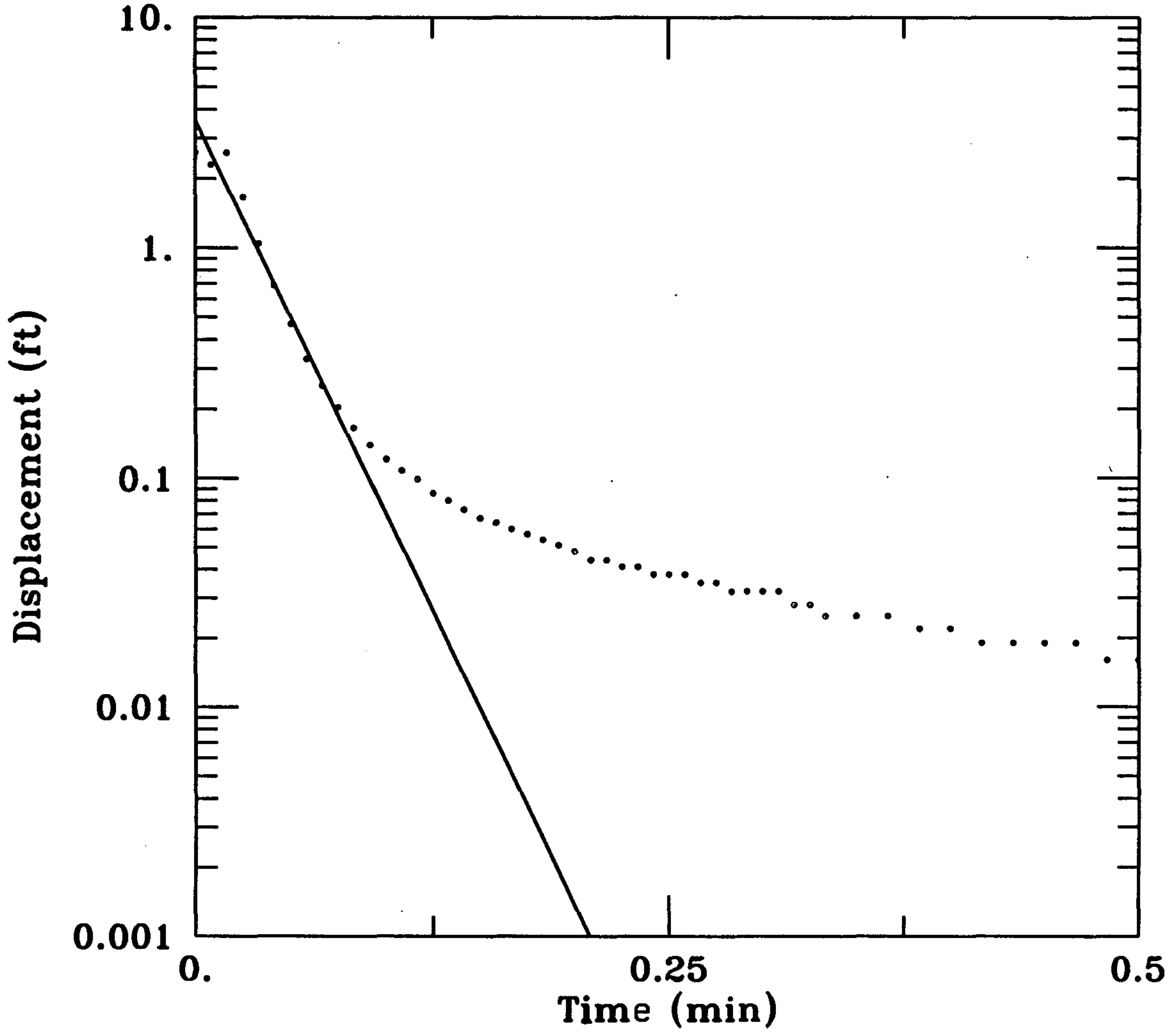
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-22D Rising Head Slug Test



DATA SET:
MW-22D.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

TEST DATA:
H0 = 2.593 ft
rc = 0.0833 ft
rw = 0.35 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.1919 ft/min $= 9.5 \times 10^{-2}$ cm/sec
y0 = 3.57 ft

AQTESOLV

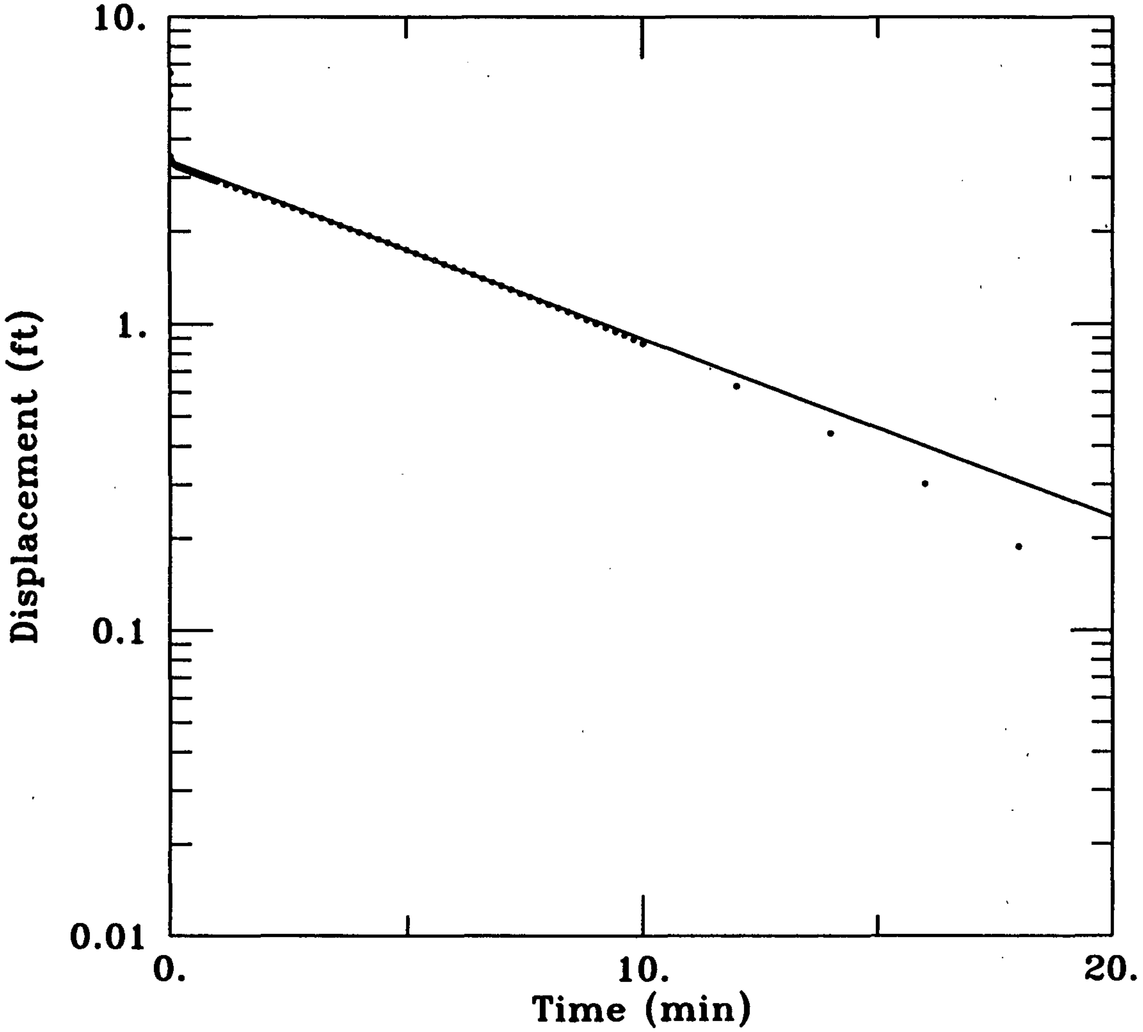
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-22R Rising Head Slug Test



DATA SET:
MW-22R.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

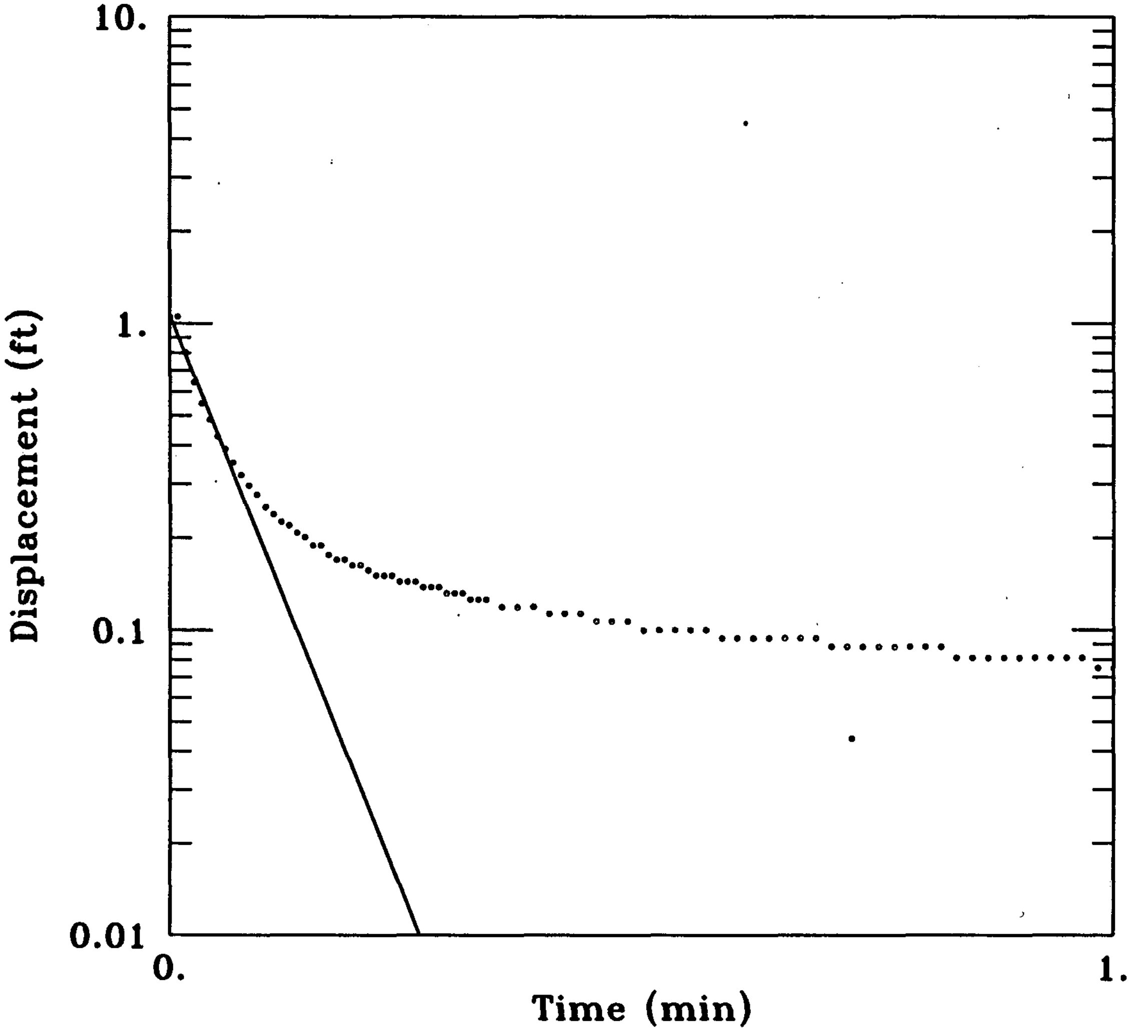
TEST DATA:
H0 = 3.499 ft
rc = 0.0833 ft
rw = 0.17 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.0002119 ft/min = 1.08×10^{-4} cm/sec
y0 = 3.39 ft

AQTESOLV

Client: **Niagara Mohawk Power Company**
Company: **Blasland, Bouck, and Lee**
Location: **North Albany, New York**
Project: **364.69.04**

MW-20D Rising Head Slug Test



DATA SET:
MW-20D.PAR
04/03/97

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 2/27/97

TEST DATA:
H0 = 1.052 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.09417 ft/min $\sim 4.7 \times 10^{-2}$ cm/sec
y0 = 1.062 ft

AQTESOLV

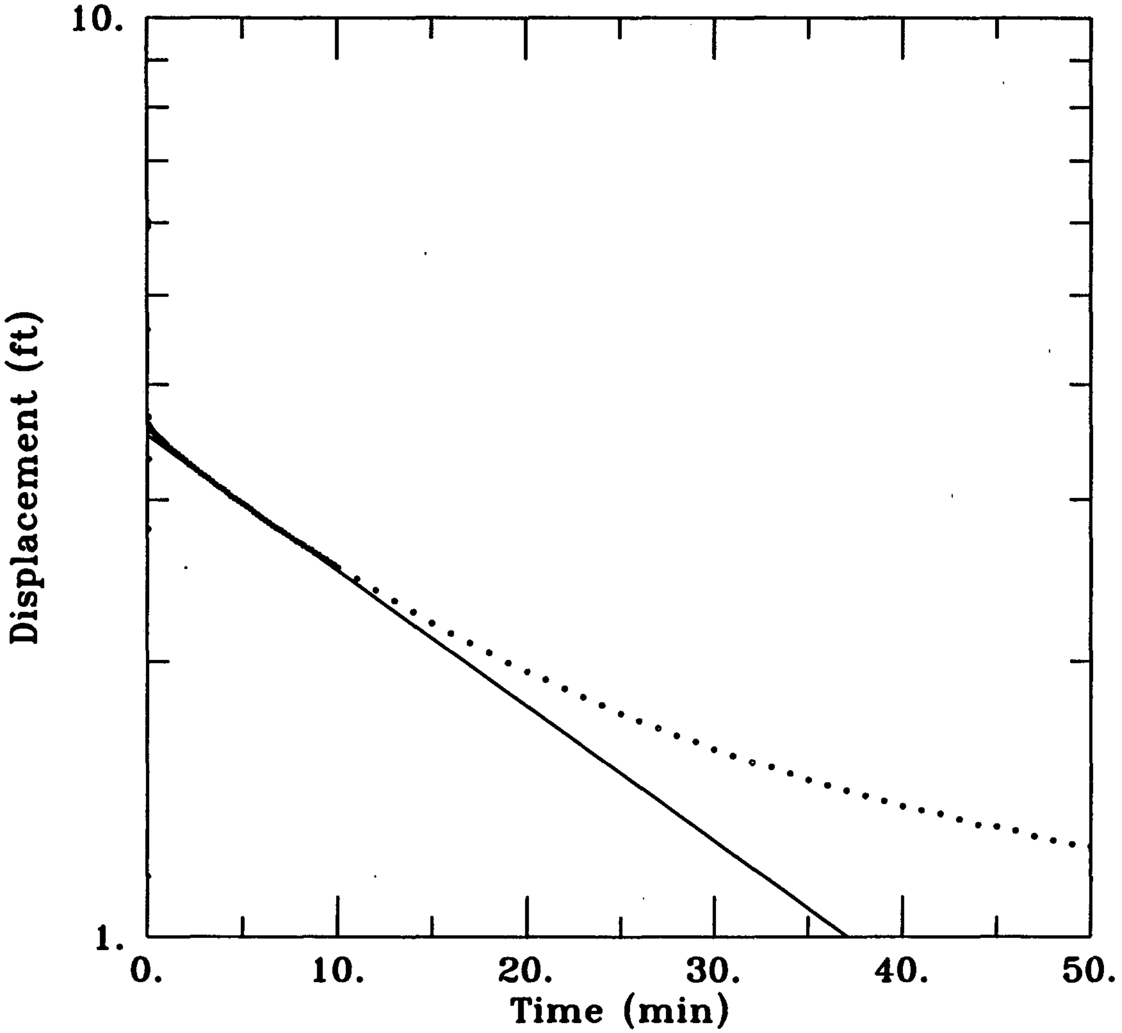
Client: **Niagara Mohawk Power Company**

Company: **Blasland, Bouck, and Lee**

Location: **North Albany, New York**

Project: **364.69.04**

MW-16R Rising Head Slug Test



DATA SET:
MW-16R.PAR
04/03/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 2/26/97

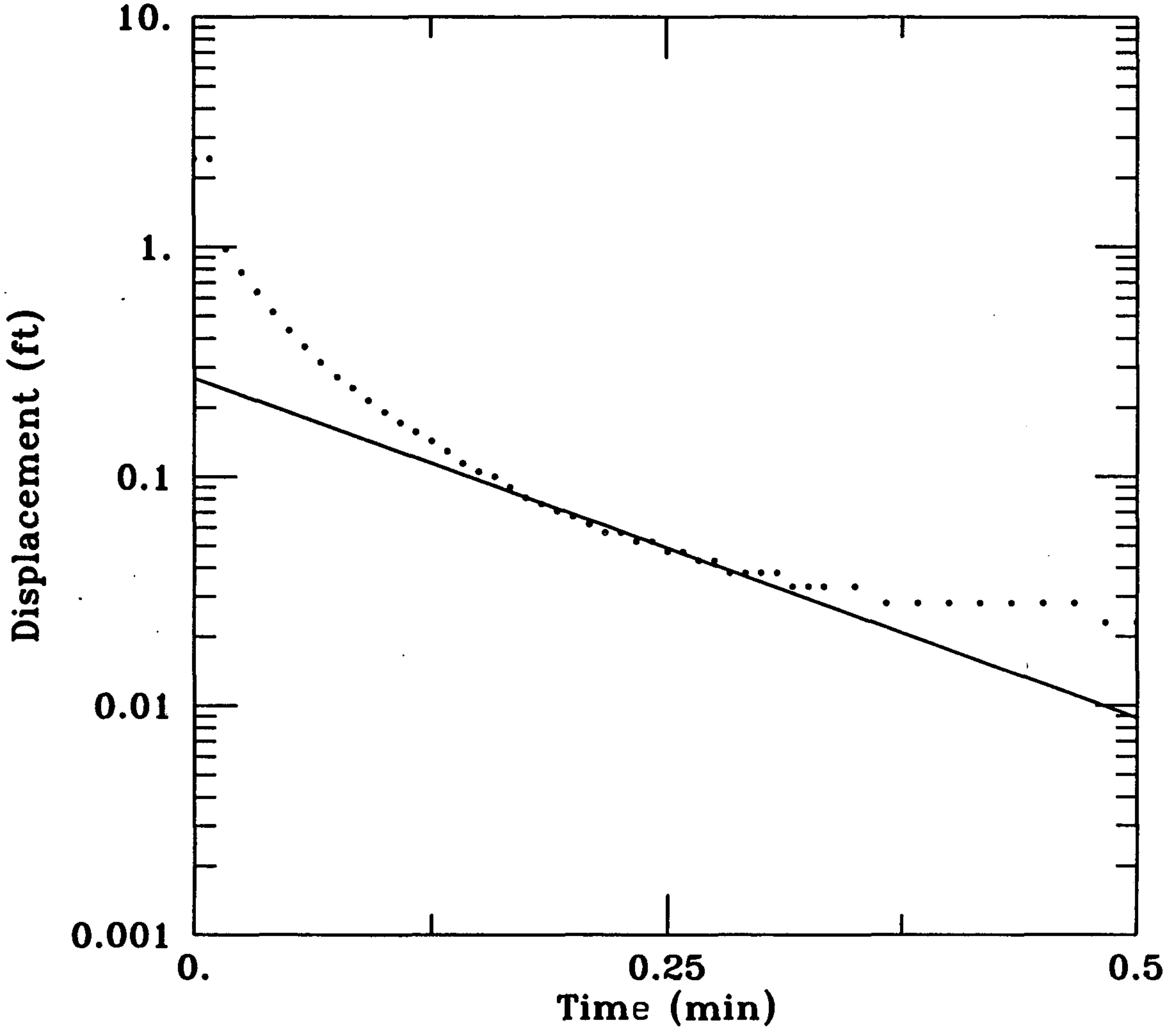
TEST DATA:
H0 = 3.689 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 9.5 ft
b = 9.5 ft
H = 9.5 ft

PARAMETER ESTIMATES:
K = 0.00018 ft/min ~ 9×10^{-5} cm/sec
y0 = 3.523 ft

AQTESOLV

Client: **Niagara Mohawk Power Company**	Company: **Blasland, Bouck, and Lee**
Location: **North Albany, New York**	Project: **364.69.04**

MW–15S Rising Head Slug Test (Test 1)



DATA SET:
MW-15S.PAR
05/16/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 5/14/97

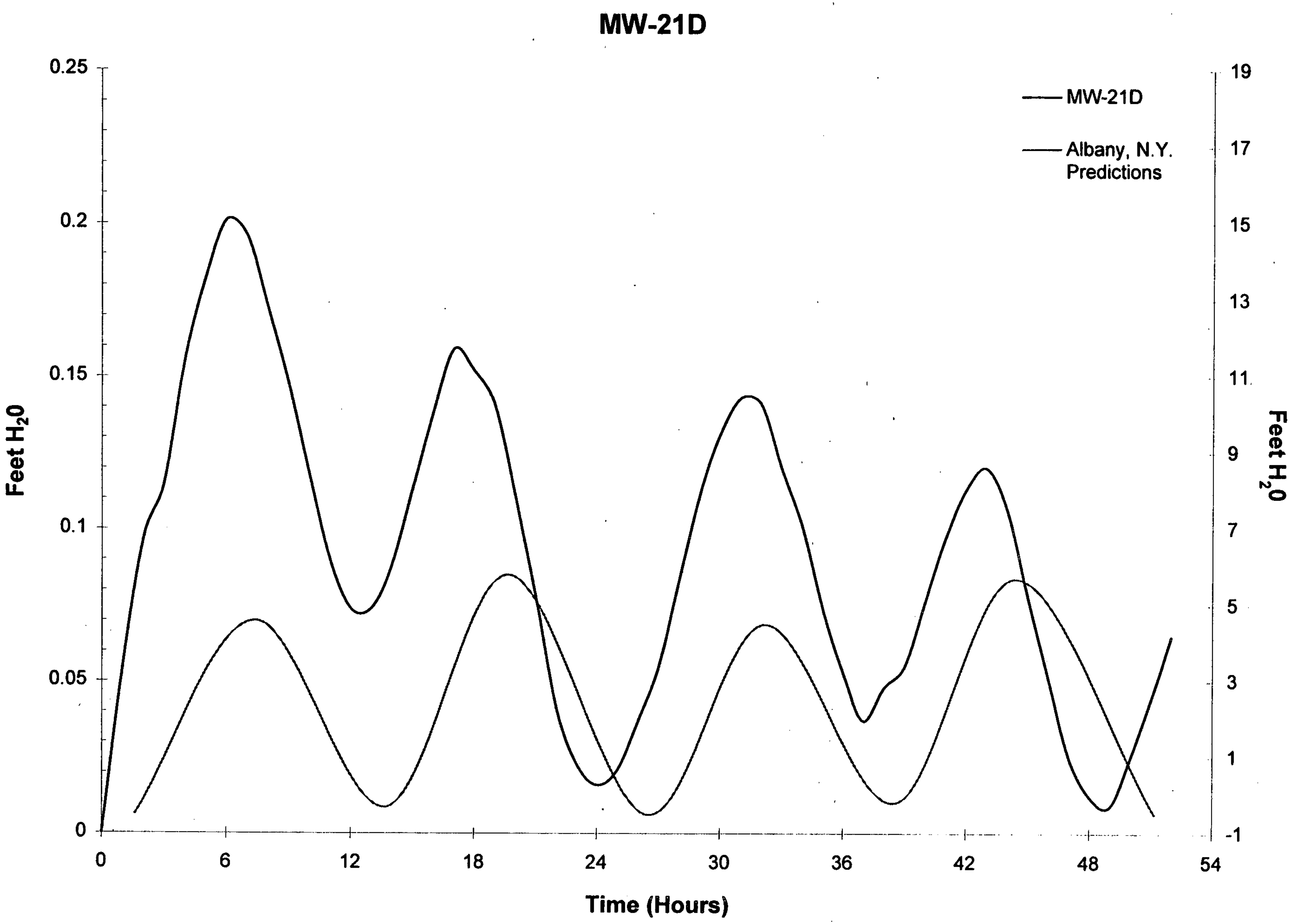
TEST DATA:
H0 = 2.416 ft
rc = 0.0833 ft
rw = 0.3437 ft
L = 8.09 ft
b = 8.09 ft
H = 8.09 ft

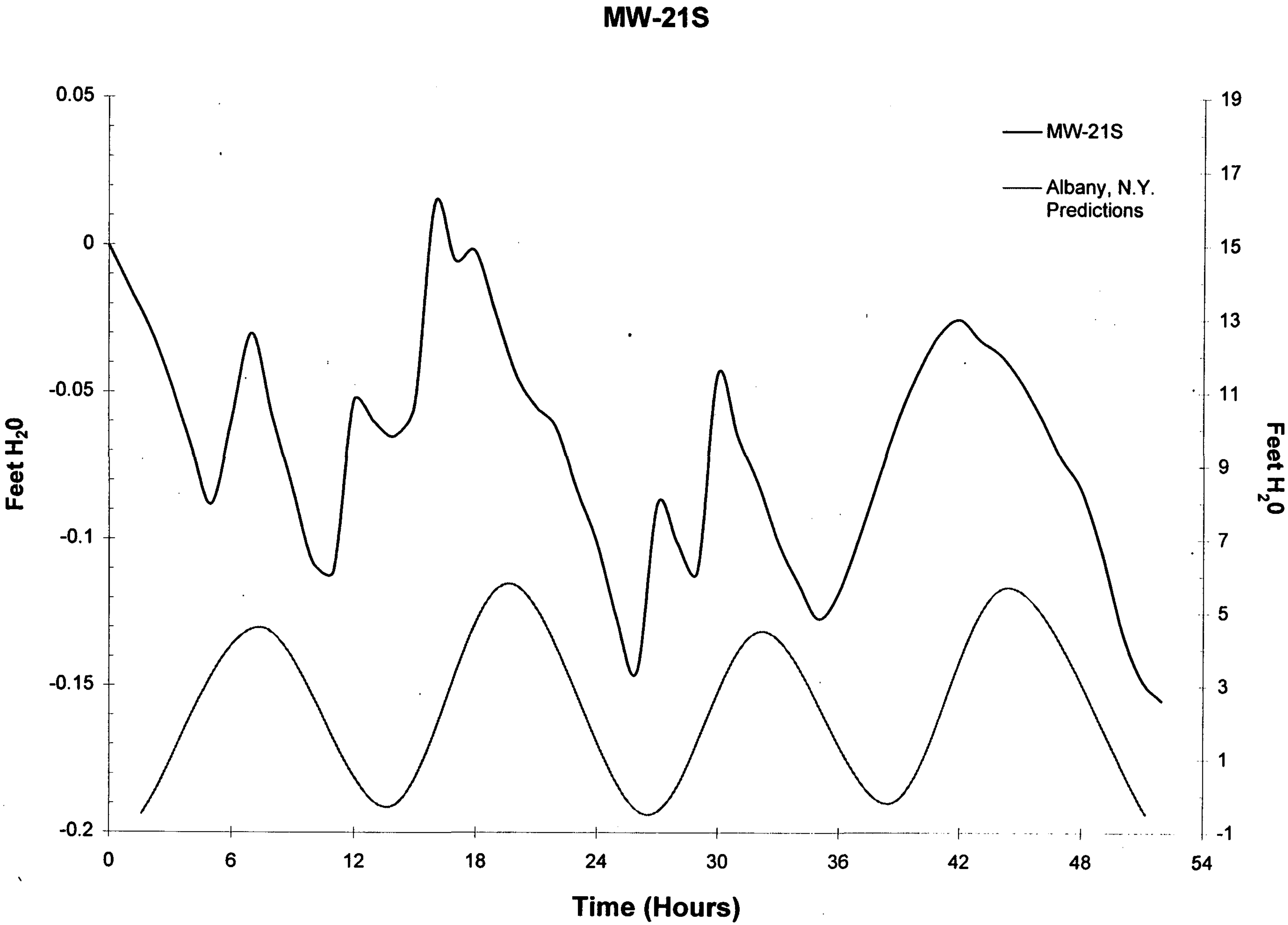
PARAMETER ESTIMATES:
K = 0.0379 ft/min
y0 = 0.268 ft 1.93×10^{-2} cm/sec

AQTESOLV

Appendix G - Continuous Water-Level Monitoring Data

BLASLAND, BOUCK & LEE, INC.
engineers & scientists


MW-21D
0.25
0.2
0.15
0.1
0.05
0
Feet H_20
19
17
15
13
11
9
7
5
3
1
-1
Feet H_20
MW-21D
Albany, N.Y. Predictions
0
6
12
18
24
30
36
42
48
54
Time (Hours)


MW-21S
0.05
0
-0.05
-0.1
-0.15
-0.2
Feet H20
19
17
15
13
11
9
7
5
3
1
-1
Feet H20
MW-21S
Albany, N.Y. Predictions
0
6
12
18
24
30
36
42
48
54
Time (Hours)

Appendix H - Ground-Water Sampling Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

GROUND-WATER SAMPLING LOG

Well No. MW-1
Key No. 2537
Date/Time 6/10/97
PID = 0.0

Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~60°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	24.72	—	—
Water Table Depth	8.40'	—	—
Depth to Casing Below Grade —	STICK UP	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ?
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	16.32
Volume of Water in Well	2.7 GAL.
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	80 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 6 GAL
Evacuation Method: Bailer ( ) Pump (X)
[Grunfos pump & dedicated tubing]
Did well go dry? Y [✓ N]
Evacuation Rate 300 ml/MIN

	0710	0720	0730	0740	0750	0800	0810	0820	0830	
Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After 50 min pumping	After 60 min pumping	After 20 min pumping	After 80 min pumping	After ___ min pumping
Water Level (TIC)	8.40	8.46	8.48	8.48	8.48	8.48	8.48	8.48	8.48	
Temperature (°C)	13.4	14.4	15.1	15.0	15.0	15.0	15.1	15.2	15.2	
pH (SU)	7.06	6.95	6.91	6.92	6.97	6.93	6.97	6.95	6.99	
Conductance (mS/cm)	2.01	2.15	1.96	1.93	1.74	1.72	1.74	1.75	1.75	
Turbidity (NTU)	>1000	>1000	979	626	295	172	96	57	39	
DO/ORP	1.90/256	1.87/294	1.85/290	1.75/308	1.76/331	1.74/356	1.78/382	1.69/380	1.80/360	

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 0830 0845
SAMPLE ID 1000

Temperature	15.1 (°C)
Conductivity	1.73 (mS/cm)
pH	7.00 (SU)
Turbidity	30 (NTU)
ORP	350 (mV)
Dissolved Oxygen	1.75 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O ORANGE-BROWN, TURBID, ODORLESS. PUMP PLACED 3' FROM BOTTOM

SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE.
Laboratory GAISON
Via RDK
Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-5
Key No. 2537
Date/Time 6/9/97
Site Name DIMON, ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~70°F

PID=0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	22.56	—	—
Water Table Depth	4.38	—	—
Depth to Casing Below Grade	0.7'	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

* MATRIX SPIKE ANALYSIS DOES NOT INCLUDE SULFIDE, SULFATE, NITRATE, NITRATE ANALYSIS.

* MATRIX SPIKE DUPLICATE ANALYSIS DOES NOT INCLUDE TAL METALS, CN NITRITE, NITRATE, SULFIDE, SULFATE ANALYSIS.

Slug Test? (Y/N) ?
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	18.18
Volume of Water in Well	3 GAL
Pumping Rate of Pump	300 ml/min
Volume of Bailer	— NA
Minutes of Pumping	50
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 5 GAL
Evacuation Method: Bailer ( ) Pump (X)
[Grunfos pump & dedicated tubing]
Did well go dry? Y [✓ N]
Evacuation Rate 300 ml/min

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After 50 min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
	1035	1045	1055	1105	1115	1125				
Water Level (TIC)	~~[illegible]~~ 4.38	4.46	4.46	4.46	4.46	4.46				
Temperature (°C)	16.7	17.0	18.1	18.8	18.9	19.1				
pH (SU)	6.45	6.36	6.34	6.36	6.36	6.35				
Conductance (MS/CM)	3.37	3.38	3.32	3.34	3.31	3.28				
Turbidity (NTU)	>1,000	177	34	21	15	16				
DO/ORP	1.39/-012	1.24/-046	1.13/-047	1.25/-046	1.12/-048	1.18/-047				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1125 1205

SAMPLE ID 1003

1003 MS
1003 MSD

Temperature	19.1 (°C)
Conductivity	3.29 (mS/cm)
pH	6.34 (SU)
Turbidity	10 (NTU)
ORP	-046 (mV)
Dissolved Oxygen	1.20 (mg/L)

Calibration Standard Readings ____10; X 4; ____7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O DARK BROWN, VERY TURBID, ODOR, SLIGHT SHEEN STRINGERS - PUMP PLACED 3' FROM BOTTOM. SAMPLED CLEAR, LIGHT YELLOWISH BROWN, SLIGHT ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE
Laboratory GAISON
Via RDK
Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-6D
Key No. (NO LOCK)
Date/Time 6/9/97
PID=0.0
Site Name NiMo N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~80°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	17.72	—	—
Water Table Depth	9.24	—	—
Depth to Casing Below Grade 0.4	~~8.48~~	—	—

* SEE CHAIN of CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	8.48'
Volume of Water in Well	1.4 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	50
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 4 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 300 ml/MIN

	1250	1300	1310	1320	1330	1340				
Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After 50 min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	9.24	9.40	9.44	9.46	9.46	9.46				
Temperature (°C)	17.8	17.9	17.9	17.6	17.6	17.8				
pH (SU)	6.90	6.39	6.42	6.56	6.47	6.48				
Conductance (mS/cm)	2.42	2.48	2.47	2.49	2.51	2.51				
Turbidity (NTU)	>1000	>1000	475	188	88	37				
DO / ORP	1.23/-062	1.33/-060	1.20/-061	1.34/-066	1.42/-065	1.50/-060				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1340 1350 SAMPLE ID 1002

Temperature	17.7 (°C)
Conductivity	2.50 (mS/cm)
pH	6.48 (SU)
Turbidity	14 (NTU)
ORP	-062 (mV)
Dissolved Oxygen	1.46 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O DARK BROWN, VERY TURBID, ODORLESS. PUMP PLACED 3' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, VERY SLIGHT ~~ODORLESS~~

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN-, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GASCO Via RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-9
Key No. NA ?
Date/Time 6/10/97
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~20°F

PID=0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	19.50'	—	—
Water Table Depth	12.30'	—	—
Depth to Casing Below Grade 04'	~~7.30'~~	—	—

*SEE COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ?
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	7.20'
Volume of Water in Well	1.2 GAL.
Pumping Rate of Pump	300 ml/min -
Volume of Bailer	— NA
Minutes of Pumping	40 MIN
Number of Bails	— NA

SLOWED TO 200 ml/min @ 0925 (SLOWEST PUMP RATE POSSIBLE)

EVACUATION INFORMATION

Volume of Water Removed from Well 2 GAL
Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]
Did well go dry? Y [✓ N]
Evacuation Rate 300 ml/min - SLOWED TO 200 ml/min @ 0925 (SLOWEST PUMP RATE POSSIBLE)

	0920	0930	0940	0950	1000					
Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After ___min pumping	After ___min pumping	After ___min pumping	After ___ min pumping	After ___min pumping
Water Level (TIC)	12.30	12.82	12.84	12.84	12.84					
Temperature (°C)	16.1	17.5	17.7	17.8	18.0					
pH (SU)	6.86	6.74	6.76	6.75	6.70					
Conductance (mS/cm)	3.35	2.50	2.48	2.48	2.48					
Turbidity (NTU)	606	145	38	25	25					
DO/ORP	1.70/141	1.50/130	1.54/126	1.75/120	1.80/115					

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1000 1030
SAMPLE ID 1001

Temperature	18.1 (°C)
Conductivity	2.48 (mS/cm)
pH	6.71 (SU)
Turbidity	20 (NTU)
ORP	120 (mV)
Dissolved Oxygen	1.75 (mg/L)

Calibration Standard Readings _____10: X 4: _____7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESA ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LT BROWN, TURBID, ODORLESS. PUMP PLACED 2' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested. TCL VOCS, SVOCS, PCBS, TAL METALS, CN⁻, SULFIDE, SULFATE, NITRITE, NITRATE
Laboratory GASON
Via RDK
Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-11 Site Name NiMo N. Albany

Key No. 2537 Sampling Personnel RDK, MSA

Date/Time 6/10/97 Weather Sunny, 80°F

P.I.D=0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	26.10'	—	—
Water Table Depth	15.78'	—	—
Depth to Casing Below Grade	STICK	UP NA	—

* SEE COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ? Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	10.32
Volume of Water in Well	1.7 GAL
Pumping Rate of Pump	300ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	40 min
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 3GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 300ml/MIN

Parameter	Initial 1040	After 10 min pumping 1050	After 20 min pumping 1100	After 30 min pumping 1110	After 40 min pumping 1120	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	15.78	15.88	15.88	15.88	15.88					
Temperature (°C)	14.5	15.7	15.5	15.9	16.0					
pH (SU)	6.93	6.78	6.77	6.80	6.82					
Conductance (MS/CM)	1.14	1.11	1.12	1.11	1.13					
Turbidity (NTU)	344	484	45	39	27					

DO/ORP 1.25/-030 1.01/-088 1.01/-101 1.25/-100 1.27/-101

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1120 SAMPLE ID 1004

1135

Temperature	16.0 (°C)
Conductivity	1.12 (MS/CM)
pH	6.80 (SU)
Turbidity	25 (NTU)
ORP	-100 (MV)
Dissolved Oxygen	1.22 mg/L

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LT BROWN, TURBID, ODORLESS. PUMP PLACED 2' FROM BOTTOM.

SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN⁻, NITRITE, NITRATE, SULFIDE, SULFATE Laboratory GAISON Via RDK Sent By RDK

RDK

Field Sampling Coordinator

Notes:

TIC = Top of inner casing.

TOC = Top of outer casing.

BGL = Below ground level.

gpm = Gallons per minute.

C = Degrees Centigrade.

mS/cm = MilliSiemens per centimeter.

SU = Standard unit

NTU = Nephelometric Turbidity Units

mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-12

Key No. 2537

Date/Tima 6/9/97

PID=0.0

Site Name NIMO N. ALBANY

Sampling Personnel RDK, MSA

Weather Sunny, 87°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	27.00	—	—
Water Table Depth	13.76	—	—
Depth to Casing Below Grade	NA	—	—

* See COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ?

Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	13.24
Volume of Water in Well	2.26 Al.
Pumping Rate of Pump	300 ml/min
Volume of Bailer	— NA
Minutes of Pumping	40 min
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 3.5 Gal Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 300 ml/min

1545 1555 1605 1615 1625

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After ___min pumping	After ___min pumping	After ___min pumping	After ___min pumping	After ___min pumping
Water Level (TIC)	13.76	13.86	13.86	13.86	13.86					
Temperature (°C)	17.2	17.3	16.9	16.8	16.9					
pH (SU)	6.96	6.76	6.78	6.79	6.81					
Conductance (mS/cm)	2.23	2.24	2.26	2.25	2.24					
Turbidity (NTU)	252	188	56	27	23					

DO/ORP 1.89/-060 2.05/-047 1.90/-031 1.97/-032 1.96/-029

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1625 1625

SAMPLE ID 1005

Temperature	16.9 (°C)
Conductivity	2.23 (mS/cm)
pH	6.82 (SU)
Turbidity	21 (NTU)
ORP	-031 (mV)
Dissolved Oxygen	2.00 (mg/L)

Calibration Standard Readings ____10; X 4; ____7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LT-BROWN, TURBID, ODORLESS. PUMP PLACED 3' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN, SULFATE, SULFIDE, NITRITE, NITRATE Laboratory GALSON Via RDK Sent By RDK

RDK

Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-14
Key No. (NO LOCK)
Date/Time 6/9/97
P.D = 0.0

Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~~80°F~~ 87°F JUST HEARD TEMP ON RADIO 1505

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	22.08	—	—
Water Table Depth	11.06	—	—
Depth to Casing Below Grade	0.34'	—	—

*See COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ?
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	11.02
Volume of Water in Well	1.8 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	50 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 4 GAL
Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]
Did well go dry? Y [✓ N]
Evacuation Rate 300 ml/min

1415 1425 1435 1445 1455 1505

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After 50 min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	11.06	11.18	11.20	11.20	11.20	11.20				
Temperature (°C)	17.2	18.0	17.5	17.7	17.8	17.7				
pH (SU)	7.94	6.88	6.90	6.90	6.90	6.93				
Conductance (mS/cm)	3.48	3.66	3.69	3.70	3.71	3.69				
Turbidity (NTU)	>1000	831	322	80	43	31				

DO/ORP 1.15/-062 1.25/-069 1.53/-075 1.31/-085 1.33/-089 1.31/-086

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1505
1520
SAMPLE ID 1006

Temperature	17.8 (°C)
Conductivity	3.68 (mS/cm)
pH	6.91 (SU)
Turbidity	26 (NTU)
ORP	-083 (mV)
Dissolved Oxygen	1.35 (mg/L)

Calibration Standard Readings ___ 10; X 4; ___ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER.

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O ORANGE-BROWN, VERY TURBID, MBP ODOR. PUMP PLACED 3' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, MBP ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE, Laboratory GASCON Via RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-15S
Key No. 3253
Date/Time 6/5/97
PID=0.0
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather PARTLY CLOUDY/SUNNY, 60°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	13.25	—	—
Water Table Depth	5.84	—	—
Depth to Casing Below Grade	0.2'	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	7.41
Volume of Water in Well	1.3 GAL
Pumping Rate of Pump	400 ml/MIN (INITIAL) SLOWED TO 300 ml/MIN @ 0750
Volume of Bailer	— NA
Minutes of Pumping	40
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 5 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 400 ml/MIN (INITIAL) SLOWED TO 300 ml/MIN @ 0750

0740 0750 0800 0810 0820

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After __ min pumping	After __ min pumping	After __ min pumping	After __ min pumping	After __ min pumping
Water Level (TIC)	5.84	5.86	5.86	5.86	5.86					
Temperature (°C)	11.0	11.8	12.1	12.0	12.0					
pH (SU)	7.17	6.84	6.85	6.82	6.85					
Conductance (MS/CM)	1.22	1.22	1.23	1.24	1.22					
Turbidity (NTU)	>1000	494	35	7	1					
(mg/L) DO/ORP	1.26/194	2.00/235	1.91/253	1.79/254	1.80/260					

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 0820 SAMPLE ID 1007

0820

Temperature	11.8 (°C)
Conductivity	~~%~~ 1.22 (MS/CM)
pH	6.83 (SU)
Turbidity	2 (NTU)
ORP	270 (MV)
Dissolved Oxygen	1.26 (MG/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O BROWN, TURBID, SLIGHT ODOR~~LESS~~. PUMP LOCATED ~3' FROM BOTTOM. WELL STABILIZED CLEAR, COLORLESS, SLIGHT ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, NITRITE, NITRATE, SULFIDES, SULFATE Laboratory GASCON Via ~~FED X~~ RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-16D
Key No. 3253
Date/Time 6/6/97
PID=0.0
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~70 °F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	20.28	—	—
Water Table Depth	9.44	—	—
Depth to Casing Below Grade	0.54'	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	10.84
Volume of Water in Well	1.8 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	60 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 6 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 300 ml/MIN

1050 1100 1110 1120 1130 1140 1150

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 30 min pumping	After 40 min pumping	After 50 min pumping	After 60 min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	9.44	9.54	9.54	9.54	9.54	9.54	9.54			
Temperature (°C)	15.5	16.1	16.4	16.8	16.8	16.4	16.3			
pH (SU)	6.78	6.69	6.76	6.75	6.78	6.77	6.77			
Conductance (mS/cm)	2.16	2.44	2.46	2.46	2.47	2.50	2.49			
Turbidity (NTU)	>1000	>1000	669	281	87	40	42			

DO/ORP 2.11/-108 2.24/-109 2.26/-096 2.05/-087 2.17/-083 1.95/-080 1.88/-077

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1150 1205 SAMPLE ID 1008

Temperature	16.5 (°C)
Conductivity	2.52 (mS/cm)
pH	6.74 (SU)
Turbidity	43
ORP	-075 (mV)
Dissolved Oxygen	1.85

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O BROWN, TURBID, MGP ODOR. PUMP PLACED 3' FROM BOTTOM SAMPLED CLEAR, COLORLESS, MGP ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN⁻, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GALSON Via RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-16R
Site Name NIMO N. ALBANY
Key No. 3253
Sampling Personnel RDK, MSA
Date/Time 6/6/97
Weather SUNNY, ~60°F
P.D=0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	38.16	—	—
Water Table Depth	9.14	—	—
Depth to Casing Below Grade	0.24	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATION

* FIELD FILTERED DISSOLVED METALS SAMPLE IN FIELD w/ 0.45 MICRON HIGH CAPACITY FILTER.

Slug Test? (Y/N) ✓
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	29.02
Volume of Water in Well	4.7 GAL
Pumping Rate of Pump	100-300 ml/min
Volume of Bailer	—— NA
Minutes of Pumping	115 min
Number of Bails	—— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 8 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? [✓ Y] N Evacuation Rate 100-300 ml/min

0745 0755 0805 0825 0835 0850 0920 0950 WELL DRY @ 0940

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 40 min pumping	After 50 min pumping	After 65 min pumping	After 95 min pumping	After 125 min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	9.14	13.40	15.88	18.74	20.86	22.04	25.70			
Temperature (°C)	12.4	14.1	15.1	15.9	15.8	16.3	16.5			
pH (SU)	8.57	8.65	8.69	8.45	8.40	8.34	8.31			
Conductance (MS/CM)	1.68	1.67	1.65	1.65	1.64	1.64	1.63			
Turbidity (NTU)	>1000	>1000	>1000	880	650	861	>1000			

DO/ORP 2.00/071 1.72/040 1.96/022 2.02/006 1.96/-013 1.76/-029 1.66/-027

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1030 1045 SAMPLE ID 1009

Temperature	16.9 (°C)
Conductivity	1.63 (mS/cm)
pH	8.32 (SU)
Turbidity	848 (NTU)
ORP	-032 (mV)
Dissolved Oxygen	1.65 (mg/l)

Calibration Standard Readings ___ 10; X 4; ___ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O GRAY, TURBID, MOD ODOR. (SLIGHT SHEEN) PUMP PLACED 5' FROM BOTTOM. WELL DRY @ 0940 (115 min) @ 8 GALLONS. FLOW RATE CONTINUALLY DECREASING, HAD TO INCREASE FLOW RATE CONTINUALLY. BUILDUP OF SILT IN BOTTOM OF TUBING CAUSED PUMP TO SHUT OFF PERIODICALLY. H2O SILTY THROUGHOUT PURGING. WILL LET WELL RECOVER + SAMPLE SAMPLED LIGHT BROWN, TURBID, MOD ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS (TOTAL & DISSOLVED), CN⁻, SULFIDE, SULFATE, NITRATE, NITRITE
Laboratory GALSON Via RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-17D
Key No. 3753
Date/Time 6/5/97 10:00
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~ 65°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	26.04	—	—
Water Table Depth	11.46	—	—
Depth to Casing Below Grade	0.42"	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

* HAD TO MAINTAIN FLOW RATE @ 1100 ml/MIN TO PREVENT BUILDUP OF SILT @ PUMP/TUBING INTERFACE. STILL CONSIDERED "LOW FLOW" DUE TO STEADY STATE PUMPING CONDITIONS w/ ONLY .14' DRAWDOWN.

* FILTERED METALS FOR 1011 SAMPLE & 1011MS SAMPLE w/ 0.45 MICRON FILTER. SAMPLED BOTH TOTAL & DISSOLVED METALS.

Slug Test? (Y/N) ✓
Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	14.58
Volume of Water in Well	2.4 GAL
Pumping Rate of Pump	375 ml/min – SWITCHED TO 1100 ml/min @ 1010
Volume of Bailer	— NA
Minutes of Pumping	90
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 35 GAL
Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]
Did well go dry? Y [✓ N]
Evacuation Rate 375 ml/min – SWITCHED TO 1100 ml/min @ 1010

Parameter	Initial 0910	After 10 min pumping ~~0920~~ 1000	After 30 min pumping 1020	After 40 min pumping 1030	After 50 min pumping 1040	After 60 min pumping 1050	After 70 min pumping 1100	After 80 min pumping 1110	After 90 min pumping 1120	After __ min pumping
Water Level (TIC)	11.46	~~11.52~~ 11.54	11.60	11.60	11.60	11.60	11.60	11.60	11.60	
Temperature (°C)	12.8	13.6	13.3	12.7	12.8	12.6	12.6	12.5	12.4	
pH (SU)	6.83	6.97	6.89	6.87	6.87	6.85	6.82	6.82	6.83	
Conductance (mS/cm)	3.43	~~7400~~ 3.78	3.23	3.18	3.17	3.13	3.13	3.12	3.12	
Turbidity (NTU)	>1000	>1000	>1000	770	550	539	490	495	505	
DO/ORP (mg/L)	1.82/285	2.22/-062	1.90/-082	1.73/-078	2.02/-078	2.07/-081	0.89/-084	0.90/-088	/	

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1100 (LAB TIME) 1150 ← ACTUALLY 1120
SAMPLE ID 1011
1011 MS
1011 MSD

Temperature	12.4 (°C)
Conductivity	~~+2~~ 3.13 (mS/cm)
pH	6.82 (SU)
Turbidity	515 (NTU)
ORP	-083 (mV)
Dissolved Oxygen	0.92 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O DARK BROWN, VERY TURBID, SLIGHT ODOR. 0920, PUMP SHUT OFF. RDK TRIED TO GET PUMP FIXED (CLEANED) PROBLEM SEEMS TO BE ELECTRICAL (NO CURRENT). SWITCHED TO BACKUP PUMP @ 1000 @ 1010, HAD INCREASE PURGE RATE TO ~1100 ml/MIN. SEDIMENT KEPT BUILDING UP IN BOTTOM OF TUBING CAUSING PUMP TO KICK OFF. @ HIGHER PURGE RATE MORE WATER IS GENERATED BUT SILT DOES NOT BUILD UP IN TUBING AND H2O GETS CLEARER. PUMP PLACED 5' FROM BOTTOM

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TOTAL & DISSOLVED METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE
Laboratory GAISON
Via ~~FED X~~ RDK
Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-17S
Key No. 3253
Date/Time 6/5/97
PID=0.0
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~70°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	16.78	—	—
Water Table Depth	11.16	—	—
Depth to Casing Below Grade	0.5'	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

* HAD TO MAINTAIN FLOW RATE @ 975 ml/min TO PREVENT BUILDUP OF SILT @ PUMP/TUBING INTERFACE. STILL CONSIDERED "LOW FLOW" DUE TO .12' OF STEADY STATE PUMPING DRAWDOWN.

* AFTER TURBIDITY REACHED 24 NTU @ 1410, PURGE RATE WAS ABLE TO BE SLOWED TO 300 ml/min FOR SAMPLING.

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	5.62
Volume of Water in Well	0.91 GAL
Pumping Rate of Pump	200 ml/min (INITIAL) HAD TO INCREASE TO 975 ml/min @1330
Volume of Bailer	— NA
Minutes of Pumping	50 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 11 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 200 ml/min (INITIAL) INCREASED TO 975 ml/min @1330

Parameter	Initial 1320	After 10 min pumping 1330	After 20 min pumping 1340	After 30 min pumping 1350	After 40 min pumping 1400	After 50 min pumping 1410	After __min pumping	After __min pumping	After __ min pumping	After __min pumping
Water Level (TIC)	11.16	11.18	11.28	11.28	11.28	11.28				
Temperature (°C)	12.7	13.1	12.7	12.7	12.8	12.7				
pH (SU)	6.63	6.58	6.62	6.63	6.66	6.68				
Conductance (mS/cm)	1.23	1.60	2.05	2.17	2.22	2.24				
Turbidity (NTU)	>1000	683	171	107	48	24				
DO/ORP (mg/l)	0.92/-057	0.91/-063	1.49/-074	1.37/-076	1.46/-075	1.40 -080				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1900 (LAB TIME) 1420 SAMPLE ID 1010

ACTUALLY 1410

Temperature	12.7°C
Conductivity	2.27 (mS/cm)
pH	6.68 (SU)
Turbidity	13 (NTU)
ORP	-079 (MV)
Dissolved Oxygen	1.44 (mg/l)

Calibration Standard Readings _____10; X 4; _____7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O DARK BROWN, ~~VERY~~ TURBID, SLIGHT ~~ODORLESS~~. PUMP PLACED 1' FROM BOTTOM. @ 1330, HAD TO INCREASE FLOW RATE TO 975 ml/min (SILT BUILDUP IN BOTTOM OF TUBING CAUSING A STOP IN PUMPING). 975 ml/min LOWEST PUMPING RATE POSSIBLE W/OUT STOPPAGE W/ GRUNFOS PUMP. SAMPLED CLEAR, COLORLESS, SLIGHT ODOR.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GALSON Via ~~FED X~~ RDK Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-18S
Key No. 3753
Date/Time 6/4/97
P.D>0.0
Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~80°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2.0" PVC	—	—	—
Well Depth	17.05	—	—
Water Table Depth	10.96	—	—
Depth to Casing Below Grade	~0.20'	—	—

* SEE COC FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	6.09
Volume of Water in Well	1 GAL
Pumping Rate of Pump	425 ml/MIN – SLOWED TO 250 ml/MIN @ 1421
Volume of Bailer	— NA
Minutes of Pumping	60 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 6GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 425 ml/MIN – SLOWED TO 250 ml/MIN @ 1421

Parameter	Initial 1400	After 10 min pumping 1410	After 20 min pumping 1420	After 30 min pumping 1430	After 40 min pumping 1440	After 50 min pumping 1450	After 60 min pumping 1500	After __min pumping	After __ min pumping	After __min pumping
Water Level (TIC)	10.96	11.04	11.08	11.04	10.98	10.98	10.98			
Temperature (°C)	14.9	15.7	14.6	15.4	16.4	16.2	16.1			
pH (SU)	7.05	6.15	6.07	6.05	6.15	6.20	6.21			
Conductance (mS/cm)	0.908	0.976	0.920	1.06	1.11	1.21	1.20			
Turbidity (NTU)	>1000	>1000	941	397	185	87	36			

DO/ORP (mg/l) 2.26/-063 1.97/-063 2.17/-060 2.40/-060 2.63/-026 2.15/-062 2.14/-061

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1430 (LABTIME) 1535 ACTUALLY 1500 SAMPLE ID 1012

* DUPLICATE SAMPLE 2012

Temperature	16.0 (°C)
Conductivity	1.22 (mS/cm)
pH	6.19 (SU)
Turbidity	43 (NTU)
ORP	-063 (mV)
Dissolved Oxygen	2.58 (mg/l)

Calibration Standard Readings ____10; X 4; ____7 Type of Meter HORIBA U10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O BROWN, TURBID, SLIGHT ODOR. PUMP POSITIONED ~2' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, SLIGHT ODOR. WHILE SAMPLING, INSTANTANEOUS SPIKES IN TURBIDITY DUE TO A CLOG IN TUBING NEAR PUMP.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GALSON Via FED-X Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-19D
Key No. 3753
Date/Time 6/5/97
PID = 0.0

Site Name NIMO N. ALBANY
Sampling Personnel RDK, MSA
Weather SUNNY, ~75°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	25.76	—	—
Water Table Depth	8.14	—	—
Depth to Casing Below Grade	0.32	—	—

* SEE CHAIN of CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ~~N~~ ✓   Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	17.62
Volume of Water in Well	2.9 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	40 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 4 GAL   Evacuation Method: Bailer ( ), Pump (X)   [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N]   Evacuation Rate 300 ml/MIN

Parameter	Initial 1450	After 10 min pumping 1500	After 20 min pumping 1510	After 30 min pumping 1520	After 40 min pumping 1530	After __min pumping	After __min pumping	After __min pumping	After __min pumping	After __min pumping
Water Level (TIC)	8.14	8.24	8.24	8.24	8.24					
Temperature (°C)	12.7	12.5	13.2	12.6	12.5					
pH (SU)	6.50	6.43	6.44	6.41	6.43					
Conductance (mS/cm)	1.72	1.23	1.74	1.75	1.75					
Turbidity (NTU)	66	57	11	4	2					

DO/ORP 1.63/-001 2.16/002 2.21/008 2.18/018 2.24/018

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1530   SAMPLE ID 1013

1550

Temperature	12.4°C
Conductivity	1.74 mS/cm
pH	6.43 (SU)
Turbidity	2 (NTU)
ORP	021 (mV)
Dissolved Oxygen	2.23 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7   Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LIGHT BROWN, SLIGHT TURBID, ODORLESS. PUMP PLACED 3' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, METALS, CN⁻, SULFIDE, PCBS, SULFATE, NITRITE, NITRATE   Laboratory GAISON   Via RDK   Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-20D

Key No. 3753

Date/Time 6/9/97

PD=0.0

Site Name NIMO N. ALBANY

Sampling Personnel RDK, MSA

Weather SUNNY, ~65°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	21.46	—	—
Water Table Depth	7.18	—	—
Depth to Casing Below Grade	0.6'	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	14.28
Volume of Water in Well	2.3 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	50 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 4 GAL Evacuation Method: Bailer ( ), Pump (X) [✓ [Grunfos pump & dedicated tubing]]

Did well go dry? Y [✓ N] Evacuation Rate 300 ml/MIN

Parameter	Initial 0855	After 10 min pumping 0905	After 20 min pumping 0915	After 30 min pumping 0925	After 40 min pumping 0935	After 50 min pumping 0945	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	7.18	7.30	7.36	7.30	7.30	7.30				
Temperature (°C)	12.3	12.9	13.9	13.9	13.9	13.9				
pH (SU)	7.11	7.02	6.99	7.04	7.05	7.01				
Conductance (mS/cm)	2.64	2.73	2.70	2.69	2.70	2.71				
Turbidity NTU	>1000	657	213	103	047	26				
DO/ORP	2.04/023	2.19/087	1.44/092	1.62/094	1.67/094	1.65/096				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 0945 1015

SAMPLE ID 1014

2014 (DUPLICATE)
SAMPLE TIME 1000

Temperature	13.8 (°C)
Conductivity	2.70 (mS/cm)
pH	7.00 (SU)
Turbidity	10 (NTU)
ORP	097 (mV)
Dissolved Oxygen	1.72 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LIGHT BROWN, TURBID, ODORLESS. PUMP PLACED 3' FROM BOTTOM

SAMPLED CLEAR, COLORLESS, ODORLESS

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GABON Via RDK Sent By RDK

RDK

Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-21D
Key No. 3476
Date/Time 6/3/97
PID=0.0

Site Name NIMO N. ALBANY
Sampling Personnel RDK+WSA
Weather OVERCAST, ~ 65°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	33.78	—	—
Water Table Depth	12.68	—	—
Depth to Casing Below Grade	0.44'	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	21.30
Volume of Water in Well	3.5 GAL
Pumping Rate of Pump	425 ml/MIN (SLOWED TO 300 ml/MIN @ 1010)
Volume of Bailer	— NA
Minutes of Pumping	35 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 5 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 425 ml/MIN (INITIAL) SLOWED TO 300 ml/MIN @ 1010)

Parameter	Initial 1000	After 10 min pumping 1010	After 20 min pumping 1020	After 25 min pumping 1025	After 30 min pumping 1030	After 35 min pumping 1035	After __ min pumping	After __ min pumping	After __ min pumping	After __ min pumping
Water Level (TIC)	12.68	12.72	12.70	12.70	12.70	12.70				
Temperature (°C)	11.6	12.6	12.9	13.2	13.2	13.4				
pH (SU)	6.59	6.62	6.59	6.60	6.61	6.65				
Conductance (mS/cm)	2.80	2.79	2.78	2.77	2.77	2.77				
Turbidity NTU	>1000	435	75	47	31	26				
DO/ORP	2.01 /-093	2.07/-086	1.89/-080	1.90/-077	2.00/-075	.31/-067				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1130 (LAB TIME) ← ACTUALLY 1035 SAMPLE ID 1016

1050

Temperature	13.7 (°C)
Conductivity	2.77 (mS/cm)
pH	6.61 (SU)
Turbidity	10 (NTU)
ORP	- 046 (mV)
Dissolved Oxygen	1.30 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O DARK BROWN, VERY TURBID, ODORLESS. PUMP LOCATED ~5' FROM BOTTOM OF WELL. WELL H2O SAMPLED CLEAR, COLORLESS, ODORLESS

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN⁻, NITRITE, NITRATE, SULFIDE, SULFATE Laboratory GALSON Via ~~FED X~~ NEG Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-21R Site Name NIMO N. ALBANY
Key No. 3476 Sampling Personnel RDK, MSA
Date/Time 6/3/97 Weather OVERCAST, ~ 60°F
PO=0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓		
Well Diameter 2" ID PVC	—	—	—
Well Depth	50.35	—	—
Water Table Depth	12.92	—	—
Depth to Casing Below Grade	.34'	—	—

* FIELD FILTERED PCBS, METALS, CN⁻ w/ .45 MICRON FILTER.

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIO

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	37.43
Volume of Water in Well	6.1 GAL
Pumping Rate of Pump	BETWEEN 100-300 ml/MIN
Volume of Bailer	NA
Minutes of Pumping	61 MIN
Number of Bails	NA

EVACUATION INFORMATION

Volume of Water Removed from Well 7 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? [✓ Y] N Evacuation Rate BETWEEN 100-300 ml/MIN

Parameter	Initial 0730	After 5 min pumping 0735	After 10 min pumping 0745	After 25 min pumping 0755	After 35 min pumping 0805	After 45 min pumping 0815	After 55 min pumping 0825	After 65 min pumping 0833	After __ min pumping 0915	After __ min pumping
Water Level (TIC)	12.96	14.44	20.06	25.06	30.12	34.46	37.16	40.48	33.04	
Temperature (°C)	11.2	11.0	12.4	13.1	13.9	14.5	14.7	NA		
pH (SU)	7.60	7.85	7.68	7.61	7.69	7.71	7.78	well		
Conductance (mS/cm)	1.40	1.23	1.10	1.10	1.10	1.07	1.07	Dry		
Turbidity (NTU)	40	285	169	686	415	727	763			
mg/L DO/ ORP (mv)	NA/039	NA/027	2.12/010	2.13/006	1.55/006	1.60/006	1.35/002			

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 0900 (LAB TIME) ACTUAL 0915 SAMPLE ID 1017

Temperature	14.5 (°C)
Conductivity	1.13 (mS/cm)
pH	7.51 (SU)
Turbidity	>1000 (NTU)
ORP	- 015 (mv)
Dissolved Oxygen	1.45 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS HEAD LOSS @ SLOWEST PUMP RATE OF ~100 ml MIN. HAD TO KEEP ADJUSTING PUMPING RATE DUE TO HEAD LOSS. INITIAL PURGE H2O GRAY, TURBID, ODORLESS. PUMP PLACEMENT ~ 5' FROM BOTTOM. WELL DRY @ 0831, WILL LET RECOVER & SAMPLE. FINAL SAMPLE H2O GRAY, TURBID, ODORLESS

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, TAL METALS, CN⁻, NITRITE, NITRATE, SULFIDE, SULFATE Laboratory GALSON Via ~~FED-X~~ NEG Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-21S ~~MW-121S~~
Key No. 3476
Date/Time 6/3/97
PID = 0.0

Site Name NMMD N. ALBANY
Sampling Personnel ADK, MSA
Weather SUNNY, ~70°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	17.20	—	—
Water Table Depth	12.16	—	—
Depth to Casing Below Grade	0.62'	—	—

* SEE CHAIN of CUSTODY FOR SAMPLE PRESERVATION

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	5.04
Volume of Water in Well	0.82 GAL
Pumping Rate of Pump	300 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	35 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 3 GAL Evacuation Method: Bailer ( ) Pump (X) Grunfos pump & dedicated tubing

Did well go dry? Y [✓ N] Evacuation Rate 300 ml/MIN

	1155	1205	1215	1220	1225	1230				
Parameter	Initial	After 10 min pumping	After 20 min pumping	After 25 min pumping	After 30 min pumping	After 35 min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	12.16	12.40	12.44	12.44	12.44	12.44				
Temperature (°C)	13.5	15.1	15.1	14.9	14.7	14.7				
pH (SU)	6.36	6.31	6.34	6.35	6.35	6.37				
Conductance (mS/cm)	1.08	1.11	1.10	1.10	1.10	1.10				
Turbidity (NTU)	286	209	168	134	83	49				
(mg/L) DO/ORP	2.51/-041	2.48/071	2.47/011	2.52/005	2.01/004	2.01/002				

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1230 1250 SAMPLE ID 1015

Temperature	14.7 (°C)
Conductivity	1.11 (mS/cm)
pH	6.38 (SU)
Turbidity	30 (NTU)
ORP	002 (MV)
Dissolved Oxygen	2.01 (mg/L)

Calibration Standard Readings _____ 10; X 4; _____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LT BROWN, SLIGHTLY TURBID, ODORLESS. PUMP LOCATED ~ 1' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, SULFATE, SULFIDE, NITRATE, NITRITE Laboratory GASCO Via ~~FED X~~ NEG Sent By ADK

ADK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-22D ~~MW-122D~~
Site Name NIMO N. ALBANY
Key No. 3476
Sampling Personnel RDK, MSA
Date/Time 6/3/97
Weather Sunny, ~75°F

PID = 0.0

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	33.74	—	—
Water Table Depth	12.30	—	—
Depth to Casing Below Grade	0.20'	—	—

* SEE CHAIN of CUSTODY FOR SAMPLE PRESERVATION

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	21.44
Volume of Water in Well	3.5 GAL
Pumping Rate of Pump	450 ml/min – SLOWED TO 250 ml/min @ 1400
Volume of Bailer	— NA
Minutes of Pumping	90
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well ~10 GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 450 ml/min – 250 ml/min @ 1400

1330 1340 1350 1410 1420 1430 1440 1500

Parameter	Initial	After 10 min pumping	After 20 min pumping	After 40 min pumping	After 50 min pumping	After 60 min pumping	After 70 min pumping	After 90 min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	12.36	12.38	12.38	12.34	12.34	12.34	12.34	12.34		
Temperature (°C)	15.4	14.7	14.4	15.3	15.0	14.5	14.6	14.7		
pH (SU)	6.63	6.52	6.50	6.56	6.56	6.57	6.58	6.60		
Conductance (mS/cm)	1.36	1.38	1.40	1.39	1.43	1.40	1.41	1.41		
Turbidity (NTU)	>1000	>1000	>1000	>1000	675	586	530	48		
(mg/L) DO/ORP	1.89/107	1.92/025	2.14/014	2.42/-032	2.02/-038	2.15/-040	2.10/-040	2.05/-046		

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1430 (LAB TIME) ACTUALLY 1500 1515 SAMPLE ID 1019

Temperature	14.7 (°C)
Conductivity	1.41 (mS/cm)
pH	6.60 (SU)
Turbidity	38 (NTU)
ORP	-042 (mV)
Dissolved Oxygen	2.15 (mg/L)

Calibration Standard Readings ____ 10: X 4: ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O GRAY BROWN, VERY TURBID, ODORLESS. PUMP LOCATED ~5' FROM BOTTOM. CONTINUOUS AIR BUBBLES IN LINE, HAD TO INCREASE/DECREASE PUMP RATE NUMEROUS TIMES TO GET RID of AIR. SAMPLED CLEAR, COLORLESS, ODORLESS

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GAISON Via ~~FedEx~~ NEG Sent By RDK

RDK
Field Sampling Coordinator

Notes:
TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-22R

Key No. 3476

Date/Time 6/4/97

P.D=0.0

Site Name NIMO N. ALBANY

Sampling Personnel RDK, MSA

Weather SUNNY, ~60°F

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	48.54	—	—
Water Table Depth	12.04	—	—
Depth to Casing Below Grade	0.56	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) ✓ Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	36.5'
Volume of Water in Well	6 GAL
Pumping Rato of Pump	175 ml/MIN
Volume of Bailer	— NA
Minutes of Pumping	90
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 6GAL Evacuation Method: Bailer ( ) Pump (X) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 175 ml/MIN

Parameter	Initial 0920	After 20 min pumping 0940	After 40 min pumping 1000	After 60 min pumping 1020	After 80 min pumping 1040	After 90 min pumping 1050	After ___ min pumping	After ___ min pumping	After ___ min pumping	After ___ min pumping
Water Level (TIC)	12.04	14.26	14.30	14.38	14.38	14.38				
Temperature °C	15.6	14.1	14.6	14.8	14.9	14.6				
pH (SU)	7.03	6.83	6.71	6.64	6.72	6.76				
Conductance (mS/cm)	1.30	1.31	1.32	1.32	1.32	1.33				
Turbidity NTU	59	506	72	23	39	12				

(mg/l) DO/ORP 2.71/072 2.47/056 2.66/042 2.70/168 2.36/167 /

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1100 1120 SAMPLE ID 1020

Temperature	14.6 (°C)
Conductivity	1.32 (mS/cm)
pH	6.74 (SU)
Turbidity	14 (NTU)
ORP	165 (mV)
Dissolved Oxygen	2.40 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O LIGHT GRAY, SLIGHTLY TURBID, ODORLESS. PUMP PLACED ~ 3' FROM BOTTOM. SAMPLED CLEAR, COLORLESS, ODORLESS

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, SULFIDE, SULFATE, NITRITE, NITRATE Laboratory GALSON Via FED-X Sent By RDK

RDK

Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

GROUND-WATER SAMPLING LOG

Well No. MW-22S ~~MW-122S~~

Key No. 3476

Date/Time 6/3/97

PID=0.0

Site Name NIMO N. ALBANY

Sampling Personnel RDK, MSA

Weather ~70°F OVERCAST

WELL INFORMATION

	TIC	TOC	BGL
Reference Point Marked on Casing	✓	—	—
Well Diameter 2" ID PVC	—	—	—
Well Depth	16.46	—	—
Water Table Depth	10.66	—	—
Depth to Casing Below Grade	0.30	—	—

* SEE CHAIN OF CUSTODY FOR SAMPLE PRESERVATIONS

Slug Test? (Y/N) N Redevelop? (Y/N) N

WELL WATER INFORMATION

Length of Water Column	5.8'
Volume of Water in Well	0.95 GAL
Pumping Rate of Pump	250 ml/min
Volume of Bailer	— NA
Minutes of Pumping	30 MIN
Number of Bails	— NA

EVACUATION INFORMATION

Volume of Water Removed from Well 3GAL Evacuation Method: Bailer ( ) Pump (✓) [Grunfos pump & dedicated tubing]

Did well go dry? Y [✓ N] Evacuation Rate 250 ml/min

Parameter	Initial 1530	After 10 min pumping 1540	After 20 min pumping 1550	After 25 min pumping 1555	After __ min pumping 1600	After __min pumping	After __min pumping	After __min pumping	After __ min pumping	After __min pumping
Water Level (ft)	10.66	10.94	10.94	10.94	10.94					
Temperature (°C)	11.7	11.0	10.3	10.2	10.1					
pH (SU)	6.58	6.55	6.44	6.42	6.43					
Conductance (mS/cm)	1.36	1.36	1.37	1.38	1.38					
Turbidity (NTU)	15	0	2	5	6					
(mg/l) DO/ORP	2.23/003	2.22/022	2.08/032	2.06/036	2.01/035					

GROUND-WATER CHARACTERISTICS AFTER SAMPLE COLLECTED AT 1630 (LAB TIME) 1620 SAMPLE ID 1018

ACTUALLY 1600

Temperature	10.4 (°C)
Conductivity	1.38 (mS/cm)
pH	6.56 (SU)
Turbidity	1 (NTU)
ORP	065 (mV)
Dissolved Oxygen	2.00 (mg/L)

Calibration Standard Readings ____ 10; X 4; ____ 7 Type of Meter HORIBA U-10 WATER QUALITY METER, ESD ORP METER

MISCELLANEOUS OBSERVATIONS/PROBLEMS INITIAL PURGE H2O CLEAR, COLORLESS, ODORLESS. PUMP PLACED ~ 2' FROM BOTTOM.

SAMPLED CLEAR, COLORLESS, ODORLESS.

SAMPLE DESTINATION

Analysis Requested TCL VOCS, SVOCS, PCBS, METALS, CN⁻, SULFATE, SULFIDE, NITRATE, NITRITE Laboratory GASCO Via NEG Sent By RDK

RDK

Field Sampling Coordinator

Notes:

TIC = Top of inner casing.
TOC = Top of outer casing.
BGL = Below ground level.
gpm = Gallons per minute.
C = Degrees Centigrade.
mS/cm = MilliSiemens per centimeter.
SU = Standard unit.
NTU = Nephelometric Turbidity Units
mg/L = Milligrams per liter.

Appendix I - Drainage Structure Inspection Forms

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:15

Manhole I.D.: CB-1
Mini-Area: SW of Versaire Bldg.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover: 2.2' × 2.2' steel grate cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)
______

Benchwalls: ☐ Yes ☒ No

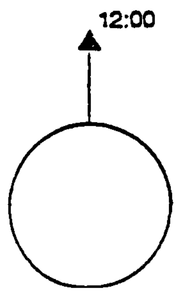
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size	6"			
Rim to Invert	1.2'			
Tape Distance	to manhole			
Pipe Material	CMP			
Velocity S-A-F**	0			
Clarity C-A-M***	NA			
Flow Depth	0			
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth	Trace			
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

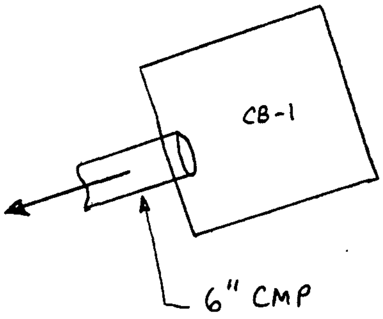
6. Miscellaneous Information:

- Depth from rim to bottom of CB = 2'0"
- Approx. 2" standing water in CB. Water appears clear. No sheen observed.
- Approx. 10" of debris in CB-1. Top of debris is at the same elevation as the discharge pipe. The debris is medium-brown silt.
- PID over CB-1 = 0.0 ppm.
- Photo 3-13
- No samples collected.

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality: ____
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:10

Manhole I.D.: CB-2
Mini-Area: South of Versaire Bldg.
Inspector: JCB Other: ____
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2' diameter grated steel cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ____

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces "m ____ nm ____

2. Manhole: Pre-cast concrete construction below brick riser.

Construction: ☐ Precast ☐ Block
☒ Brick riser 1.65' to rim ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☒ No

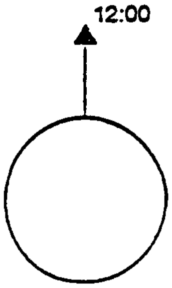
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe inspections:

O'Clock Position	12:00	7:00		
Pipe Size	8"	6"		
Rim to Invert	3.1'	2.4'		
Tape Distance	to manhole			
Pipe Material	CMP	CMP		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☒	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☒	☐	☐
Other	☐	☐	☐	☐
Depth		Trace		
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

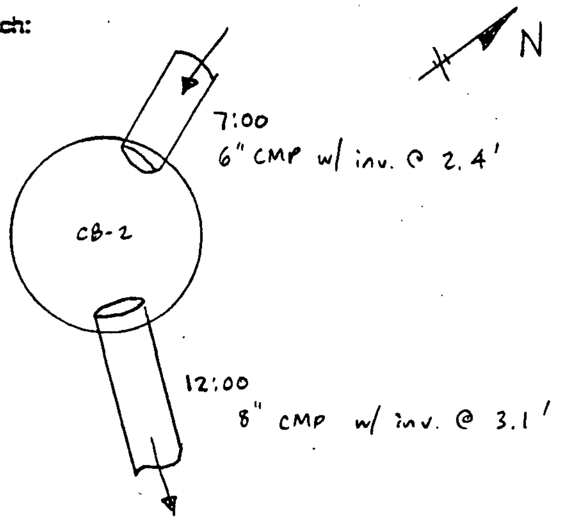
6. Miscellaneous Information:

- Depth from rim to bottom of CB-2 = 4.7'
- Approx. 3" standing water in CB-2. Very slight sheen observed on water surface.
- Approx. 1.6' of debris in CB-2 (19.2"). Top of debris is at the same elevation as the discharge pipe. Debris is dark brown/black gravel with some silt.
- PID over CB-2 = 0.0 ppm
- Photo 3-12
- Collected debris sample CB-2 9/30/96 @ 15:00 for PCBs, VOCs, SVOCs, & inorganics. No noticeable odor from sample. PID over sample = 0.0 ppm
- Inside CB-2: O_2 = 21.2, LEL = 0.0, CO = 0.0, H_2S = 1.0

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:00

Manhole I.D.: CB-3
Mini-Area: SE of Versaire Bldg.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2.2' x 2.2' grated steel cover

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block ☐ Brick ☐ ____
Size: ☐ 4' Diameter (approx.) ________
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes

12:00

(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00	6:00		
Pipe Size	8"	8"		
Rim to Invert	2.0'	1.95'		
Tape Distance	to manhole			
Pipe Material	CMP	CMP		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		

Sediment in Pipes:

None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				

Mirroring Results:

Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐

Estimated Distance:

To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

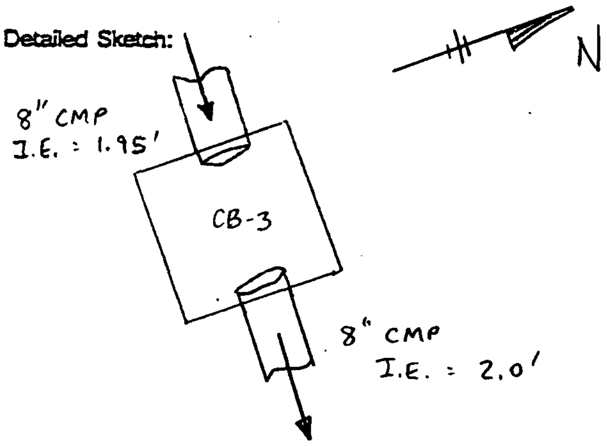
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-3 = 3.2'
- Approx. 2" standing water in CB-3. Slight sheen observed on water surface.
- Approx 1.2' of debris in CB-3. Debris is brown/black silt.
  No debris sample collected. Top of debris is @ same elevation as discharge pipe.
- PID over CB-3 = 0.0 ppm.
- Photo 3-11

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/30/96
Weather: Sunny
Temp.: 70°F Time: 15:20

Manhole I.D.: CB-4
Mini-Area: West end of Yard Storage Area
Inpsector: JCB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2′ × 2′ steel CB-type cover

☐ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☒ In gravel

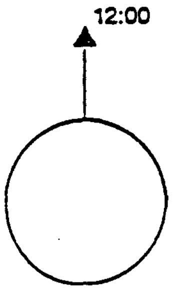
Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces "m ____ nm ____

2. Manhole:

Construction: ☒ Precast ☐ Block ☐ Brick ☐ ____
Size: ☐ 4′ Diameter (approx.), Approx 3′ × 3′
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☐ No
Height: ____
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00	10:00		
Pipe Size	8"	8"		
Rim to ~~Invert~~ Top of Pipe	1.2′	1.2′		
Tape Distance	to manhole			
Pipe Material	CMP	CMP		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☒	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☒	☒	☐	☐
Other	☐	☐	☐	☐
Depth	Top of sediment is 0.2′ below top of pipes ∴ approx 6" sediment in pipe.			
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

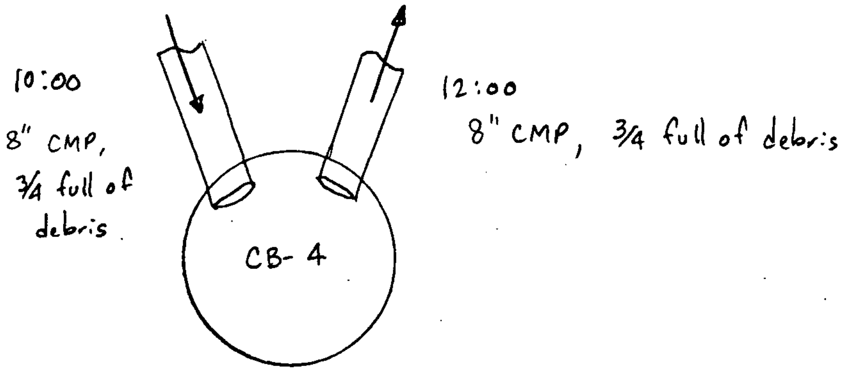
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-4 = 3'0".
- No standing water observed in CB-4.
- Approx 1.6' of debris in CB-4. Debris consists of approx. 1" of med. brown silt & gravel overlying <u>black</u> silt & gravel (w/ petroleum-type odor). Collected debris sample CB-4 9/30/96 @ 15:45 for PCBs, VOCs, SVOCs, inorg. PID over sample went up to 45 ppm. Water encountered w/in debris contained an oil film.
- PID over CB-4 = 0.0 ppm.
- Photo #'s 3-17, 3-18

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality: ______
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 8:45

Manhole I.D.: CB-5
Mini-Area: Parking lot E of Versaire Bldg.
Inpsector: TCB Other: ______
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover:

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

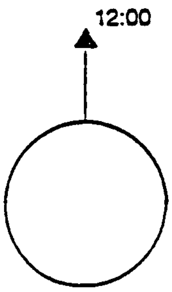
Distance Above Grade FL Below Grade ______
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ______ Total ______
Diameter of Vent Holes ______
Bearing Surfaces *m ______ nm ______

2. Manhole:

Construction: ☒ Precast Concrete w/ 1' high conc. riser ☐ Block ☐ Brick ☐ ______
Size: ☐ 4' Diameter (approx.) ______
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ______
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	9:00	1:00	
Pipe Size	8"	8"	8"	
Rim to Invert	2.3'	2.05'	2.2'	
Tape Distance	to manhole			
Pipe Material	CMP	CMP	CMP	
Velocity S-A-F**	0	0	0	
Clarity C-A-M***	NA	NA	NA	
Flow Depth	0	0	0	
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

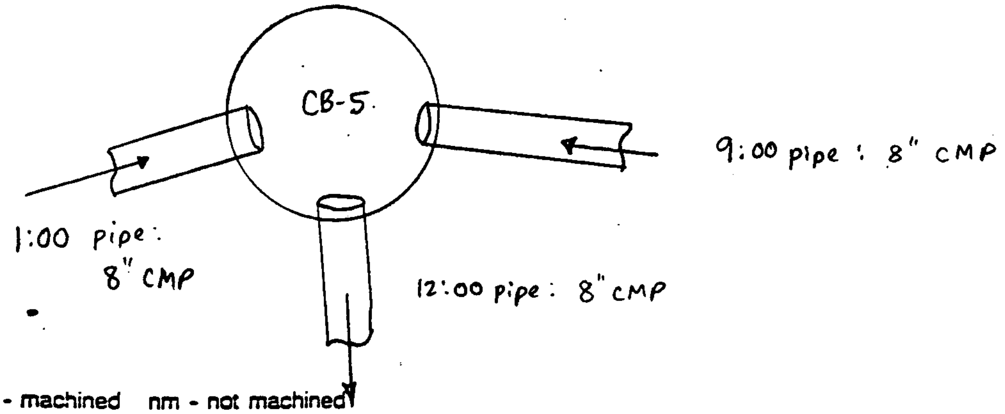
6. Miscellaneous Information:

- Depth from rim to bottom of CB-5 = 3.2'
- Approx. 1.2' of water in CB-5 (water surface is at same elev. as bottom of 9:00 pipe. Slight sheen observed on water surface.
- Approx. 0.8' of debris in CB-5
- PID over CB-5 = 0.0 ppm
- Photo # 3-10
- No samples collected.

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 8:40

Manhole I.D.: CB-6
Mini-Area: NE of Versaire Bldg.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2' × 2' steel grate cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces "m ____ nm ____

Manhole:

Construction: ☒ Precast Concrete w/ 0.8' high conc. riser ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☒ No

Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

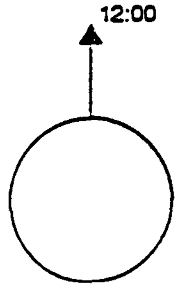
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00			
Pipe Size	8"			
Rim to Invert	2.75'			
Tape Distance		to manhole		
Pipe Material	CMP			
Velocity S-A-F**	0			
Clarity C-A-M***	NA			
Flow Depth	0			
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

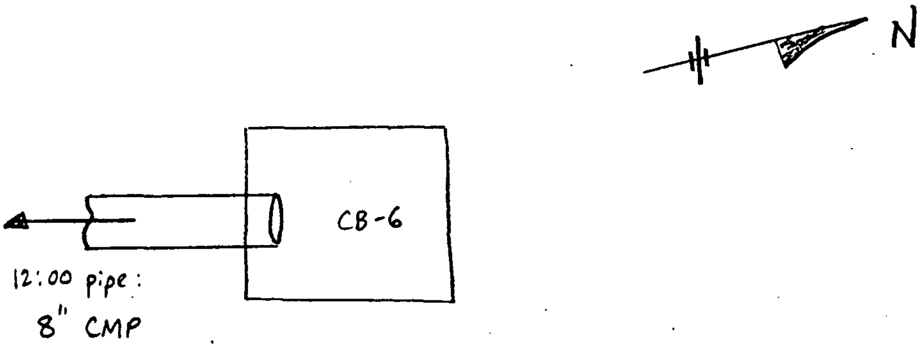
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-6 = 3.6' Concrete bottom based on probing.
- Approx. 0.7' of standing water in CB-6. Slight film on water surface.
- Approx. 1.4' of sediment in CB-6.
- PID over CB-6 = 0.0 ppm.
- Photo 3-9

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:55

Manhole I.D.: CB-7
Mini-Area: Center of Yard Storage Area
Inspector: JCB Other:
Recorder: MAS

Manhole Not Inpsected

☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☒ In gravel

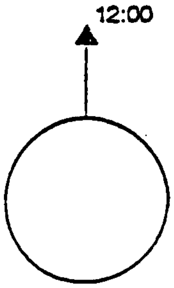
Distance Above Grade FL Below Grade
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open Total
Diameter of Vent Holes
Bearing Surfaces "m nm

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐
Size: ☐ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☐ No
Channel: ☐ Yes ☐ No
Signs of Surcharge: ☐ Yes ☐ No
Height:
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	6:00		
Pipe Size	8"	8"		
Rim to Invert	2.1'	2.0'		
Tape Distance	to manhole			
Pipe Material	CMP	CMP		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☒	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth	Trace →			
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

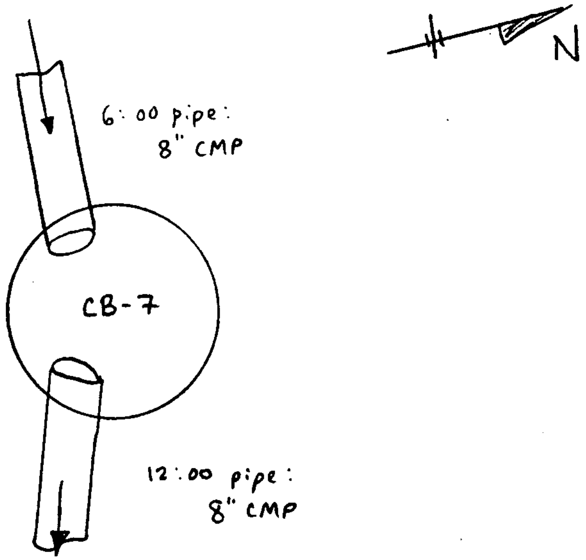
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-7 = 3'0". (Solid concrete bottom based on probing)
- Avg. of 2" of water in CB-7 w/ no visible sheen.
- 0.8' of debris in CB-7. Debris is black gravel w/ trace silt.
  Petroleum-type odor noticed.
  Collected debris sample CB-7 9/30/96 @ 14:00 for PCBs, VOCs, SVOCs, inorg.
  PID over sample = 0.0 ppm. Also collected blind duplicate - "DUP-4".
- W/in CB-7: O_2 = 21.1, LEL = 0.0, CO = 0.0, H_2S = 1.0.
- Photo 3-16.

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 8:00

Manhole I.D.: CB-8
Mini-Area: East of Yard Storage Area.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2'×2' square CB-type cover

☐ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☒ In gravel

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.) ____

Benchwalls: ☐ Yes ☒ No

Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

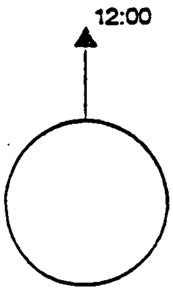
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	6:00		
Pipe Size	8"	8"		
Rim to Invert	2.7'	2.6'		
Tape Distance	to manhole			
Pipe Material	CMP	CMP		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

3. Sketch: Label upstream/downstream MH of all pipes



(See sketch reverse side)

Photo ID Number

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

10/3/89

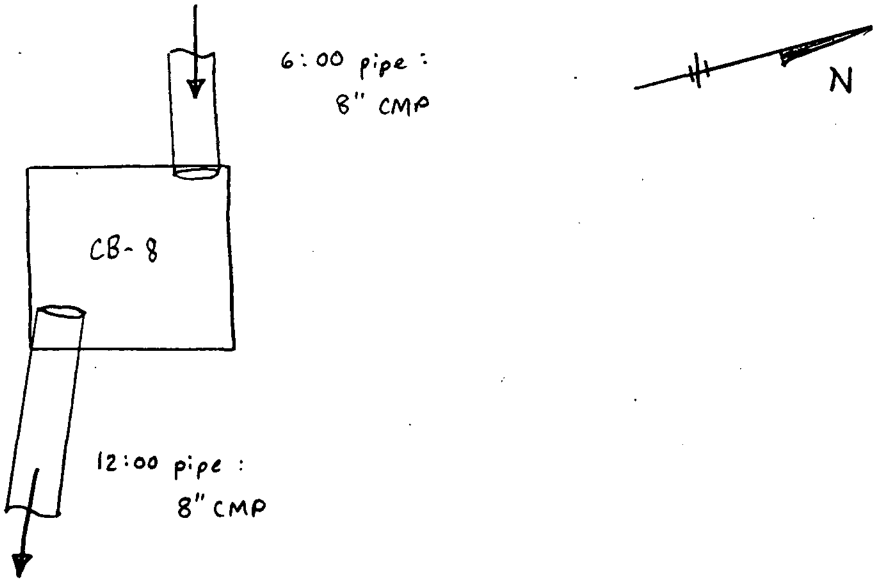
6. Miscellaneous Information:

- Depth from rim to bottom of CB-8 = 3.5'
- Approx. 4" standing water in CB-8. No sheen observed on water surface.
- Approx. 1.4' of debris in CB-8. Debris is gravel w/no staining. Concrete bottom based on probing.
- PID over CB-8 = 0.0 ppm.
- Photo 3-7.

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	 After	Clarity C-A-M	Samples Taken Yes/No

8. Detailed Sketch:



*m - machined   nm - not machined
**S - slow velocity   A - average velocity   F - fast velocity   P - ponded water
***C - clear   A - average   M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY

Date:
Weather:
Temp.: Time:

Manhole I.D.: CB-9 (Not found)
North of Bldg.
Mini-Area: 2-4
Inspector: Other:
Recorder:

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☐ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ____________

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces "m ____ nm ____

2. Manhole:

Construction: ☐ Precast ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)
____

Benchwalls: ☐ Yes ☐ No

Channel: ☐ Yes ☐ No

Signs of Surcharge: ☐ Yes ☐ No
Height: ____

Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes

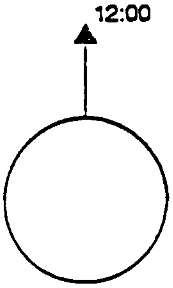

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

10/3/89

6. Miscellaneous Information:

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date:
Weather:
Temp.: Time:

Manhole I.D.: CB-10 (not found)
Mini-Area: North of Bldg. 2-3
Inspector: Other:
Recorder:

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☐ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☐ Precast ☐ Block
☐ Brick ☐ ____
Size: ☐ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☐ No
Channel: ☐ Yes ☐ No
Signs of Surcharge: ☐ Yes ☐ No
Height: ____
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance -	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes

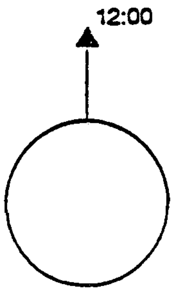

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ____
Pipe Size ____
Rim to Invert ____
Source ____
Unknown ☐ ☐ ☐ ☐

10/3/89

6. Miscellaneous Information:

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION

Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/26/96
Weather: Sunny
Temp.: 60°F Time: 16:40

Manhole I.D.: CB-11
Mini-Area: NE of Transformer Bldg.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface inspection Only
☐ Physical Inpsection Only

1. Manhole Cover: 2'x 2' steel grated cover

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☒ No

Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

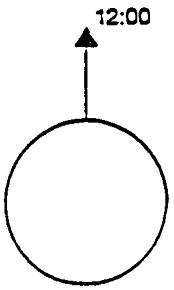
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

C'Clock Position	12:00	5:00		
Pipe Size	6"	5"		
Rim to Invert	1.0'	1.0'		
Tape Distance	to manhole			
Pipe Material	Steel	Steel		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch on reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

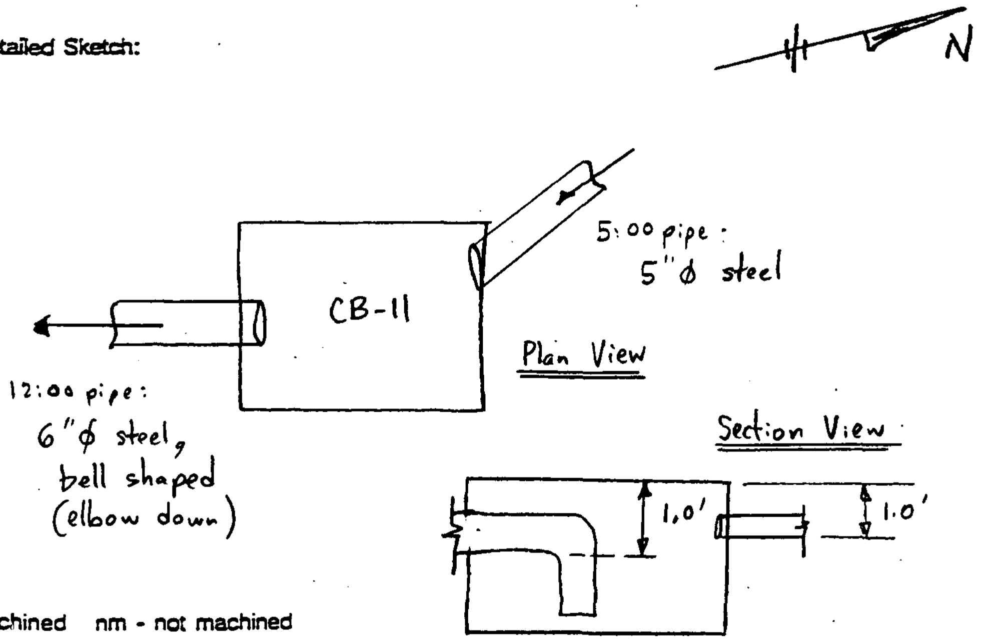
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-11 = 2'
- No measurable depth of water in CB-11.
- Approx 1.3' of debris in CB-11. Debris is brown silt w/no apparent staining.
- PID over CB-11 = 0.0 ppm.
- Photo 3-5

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. **Detailed Sketch:**



*m - machined   nm - not machined

**S - slow velocity   A - average velocity   F - fast velocity   P - ponded water

***C - clear   A - average   M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/26/96
Weather: Sunny
Temp.: 60°F Time: 5:00 PM

Manhole I.D.: CB-12
Mini-Area: East of Transformer Bldg.
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover: 2.2' x 2.2' steel grate cover

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

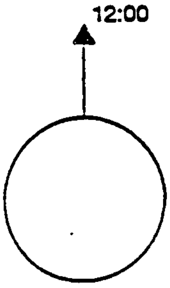
Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____
Size: ☐ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	9:00		
Pipe Size	6"	6"		
Rim to Invert	1.0'	1.0'		
Tape Distance	to manhole			
Pipe Material	Steel	Steel		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

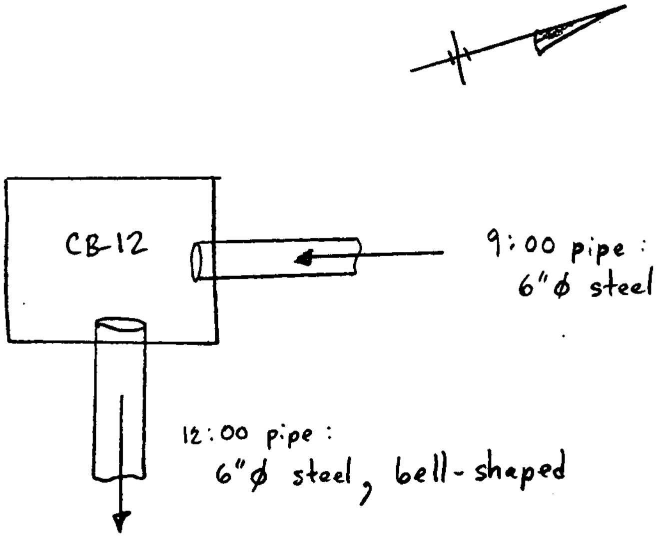
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-12 = 2.3'
- Approx 0.7' standing water in CB-12. Oil film noticed on water surface.
- Approx. 0.5' debris in CB-12. Debris is black silt w/ some leaves & gravel present. Noticeable petroleum-type odor in debris. Collected debris sample CB-12 9/30/96 @ 13:30 for PCBs, VOCs, SVOCs, inorganics. Also collected MS/MSD samples.
- PID over sample = 0.0
- W/in CB-12: O_2 = 21.1, LEL = 0, CO = 0, H_2S = 1
- Photo 3-6

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION

Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 8:10

Manhole I.D.: CB-13
Mini-Area: SE of Yard Storage Area
Inspector: JCB Other:
Recorder: MAS

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. **Manhole Cover:** 2' dia. CB-type cover.

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐

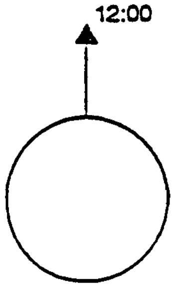
Distance Above Grade FL Below Grade
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces "m ____ nm ____

Manhole: Concrete riser to 2.3' below rim. Brick construction below riser.

Construction: ☒ Precast ☐ Block
☒ Brick ☐
Size: ☐ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☒ No
Channel: (Steel) ☒ Yes ☐ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. **Sketch:** Label upstream/downstream MH of all pipes



(See sketch reverse side)

Photo ID Number

4. **Sanitary Pipe Inspections:**

C'Clock Position	12:00	6:00		
Pipe Size	12"	12"		
Rim to Invert	5.8'	5.8'		
Tape Distance	to manhole			
Pipe Material	Steel ?	Steel ?		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☒	☒	☐	☐
Other	☐	☐	☐	☐
Depth	2"	2"		
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. **Other Pipes (Laterals, Non-Sanitary):**

O'Clock Position
Pipe Size
Rim to Invert
Source
Unknown ☐ ☐ ☐ ☐

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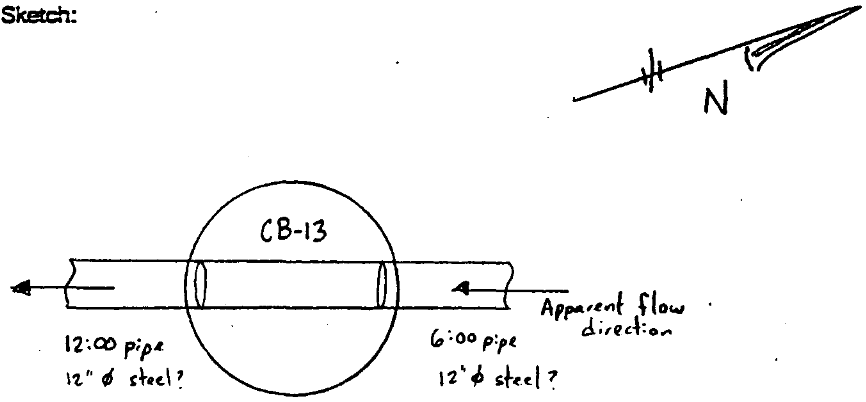
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-13 = 5.8'
- Bottom of CB is brick construction. Sides of CB-13 are brick -- several bricks have fallen in CB from sides.
- No measurable water depth in CB-13
- Approx 2" debris in channel & trace debris on brick bottom of CB-13. Debris is gray-brown to dk brown/black gravel w/ some silt. No noticeable odor. Collected debris sample CB-13 on 9/30/96 @ 14:30 for PCBs, VOCs, SVOCs, inorganics. PID over sample = 0.0 ppm.
- W/in CB-13: O_2 = 21.2, LEL = 0.0, CO = 0.0, H_2S = 0.0
- Photo 3-8

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:20

Manhole I.D.: CB-14
Mini-Area: In parking lot west of Bldg. 2
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2.2' x 2.2' steel grated cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☒ No

Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

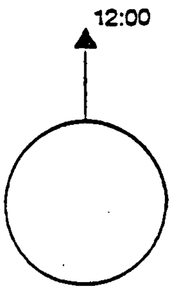
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	10:00		
Pipe Size	8"	6"		
Rim to Invert	2.1'	1.1'		
Tape Distance		to manhole		
Pipe Material	Steel	HDPE		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☒	☒	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch on reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ______
Pipe Size ______
Rim to Invert ______
Source ______

Unknown ☐ ☐ ☐ ☐

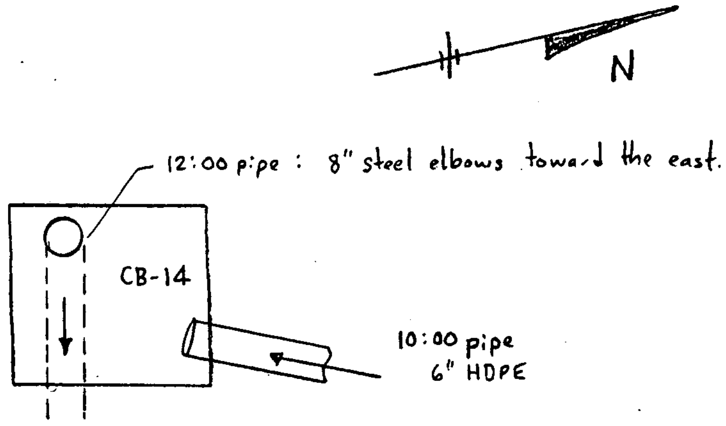
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-14 = 2.6'
- Approx. 4" standing water in CB-14 w/ no apparent sheen.
- Approx. 2½" debris (avg. depth) in bottom of CB-14. Debris is medium-brown silt & wood boards.
- PID over CB-14 = 0.0 ppm
- Photo 3-14.

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality: ______
Street: 1125 BROADWAY
Date: 9/27/96
Weather: Overcast
Temp.: 50°F Time: 9:30

Manhole I.D.: CB-15
Mini-Area: Adjacent to Guard House
Inpsector: JCB Other: ______
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2'x2' grated steel cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ______
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ______ Total ______
Diameter of Vent Holes ______
Bearing Surfaces *m ______ nm ______

2. Manhole: Concrete riser extends 1.2' below rim. A gravelly-concrete mixture forms the interior of the CB below the riser.

Construction: ☒ Precast ☐ Block ☐ Brick ☐ ______

Size: ☐ 4' Diameter (approx.) ______

Benchwalls: ☐ Yes ☒ No

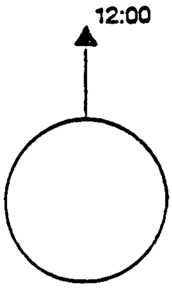
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ______

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00	4:00	9:00	
Pipe Size	12"	8"	3"	
Rim to Invert	2.2'	2.1'	0.8'	
Tape Distance	to manhole			
Pipe Material	Corrugated Plastic	Steel	Steel	
Velocity S-A-F**	0	0	0	
Clarity C-A-M***	NA	NA	NA	
Flow Depth	0	0	0	
Sediment in Pipes:				
None	☐	☒	☒	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☒	☐	☐	☐
Other	☐	☐	☐	☐
Depth	Trace			
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

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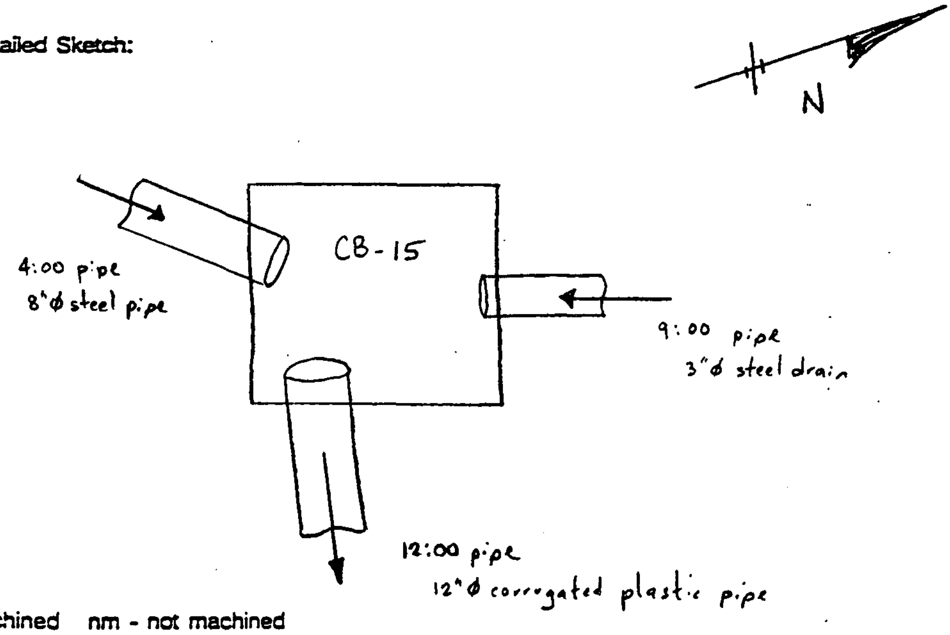
6. Miscellaneous Information:

- Depth from rim to bottom of CB-15 = 3'0".
- Approx. 1" standing water in CB-15 w/ no apparent sheen.
- Approx. 0.7' debris in bottom of CB-15. Debris is dk brown sand/silt'd gravel.
- Concrete bottom
- PID over CB-15 = 0.0 ppm
- Photo 3-15

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 10:45

Manhole I.D.: CB - 16
Mini-Area: North of Bldg. 2
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

2′ × 2′ × 1″ thick steel cover w/ 9 openings ea. @ 1½″ sq.

Distance Above Grade FL Below Grade ______
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ______ Total ______
Diameter of Vent Holes ______
Bearing Surfaces *m ______ nm ______

2. Manhole:

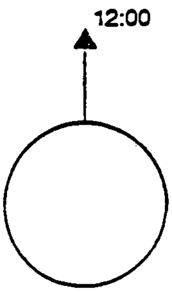
Construction: ☒ Precast ☐ Block ☐ Brick ☐ ______
Size: ☐ 4' Diameter (approx.) 2′ × 2′ square
Benchwalls: ☐ Yes ☐ No
Channel: ☐ Yes ☐ No
Signs of Surcharge: ☐ Yes ☐ No
Height: ______
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ______
Pipe Size ______
Rim to Invert ______
Source ______

Unknown	☐	☐	☐	☐

10/3/89
[illegible]

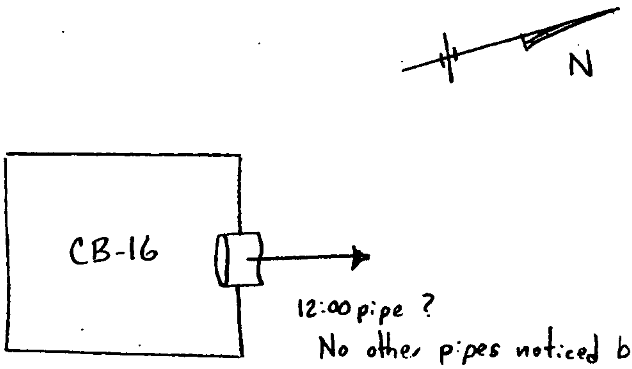
6. Miscellaneous Information:

- Depth from rim to bottom of CB-16 = 2.1'
- No standing or flowing water in CB-16
- Approx 12" debris in CB-16, Debris is med. brown gravel & silt.
- Not able to remove cover -- too heavy. No photo taken.
- Discharge pipe present on north side of CB-16 based on probing.
  (size of pipe / material of construction unknown)
- PID over CB-16 = 0.0 ppm.
- O_2 = 21.0, LEL = 0.0, CO = 0.0, H_2S = 0.0

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. Detailed Sketch:



12:00 pipe ?
No other pipes noticed based on probing
Size unknown / mat'l of construction unknown

*m - machined   nm - not machined
**S - slow velocity   A - average velocity   F - fast velocity   P - ponded water
***C - clear   A - average   M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 11:20

Manhole I.D.: CB-17
Mini-Area: North of Bldg. 2
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected
☐ Buried ☐ Not Located
☐ Safety ☐ Surcharged
☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2.6' × 2.6' steel cover w/ 1½" square openings (36 openings)

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☐ No

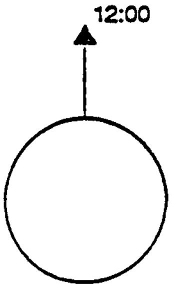
Channel: ☐ Yes ☐ No

Signs of Surcharge: ☐ Yes ☐ No
Height: ____

Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size	4"			
Rim to Invert	1.8'			
Tape Distance	to manhole			
Pipe Material	PVC			
Velocity S-A-F**	0			
Clarity C-A-M***	NA			
Flow Depth	0			
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☒	☐	☐	☐
Other	☐	☐	☐	☐
Depth	FULL			
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

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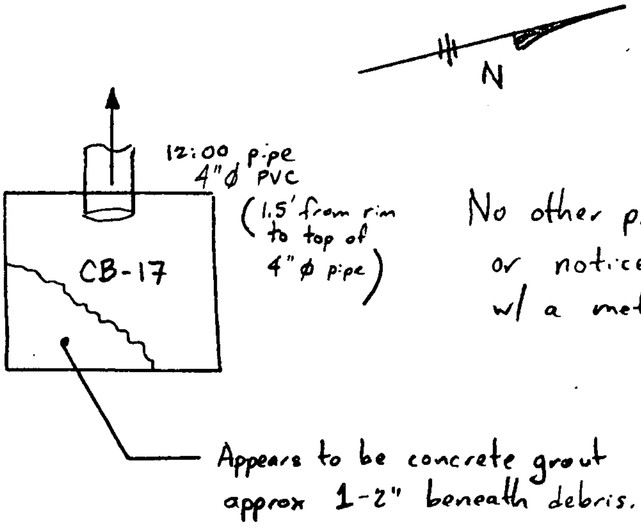
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-17 = 2.5'
- No standing or flowing water in CB-17
- Approx. 1.3' of debris in CB-17. Debris is layered: ① Dk brown silt'd gravel over ② black silt/sand/gravel over ③ Tan colored silt/sand/gravel.
- Concrete bottom.
- Collected debris sample CB-17 10/1/96 @ 11:30 for PCBs, VOCs, SVOCs, inorganics
- PID over debris = 0.0 ppm
- W/in structure: O_2 = 21.4, LEL = 0.0, CO = 0.0, H_2S = 0.0
- Photos: 4-2 & 4-3

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



Appears to be concrete grout approx 1-2" beneath debris.

No other pipes observed in CB-17 or noticed based on probing w/ a metal rod.

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 12:00

Manhole I.D.: CB-18
Mini-Area: North of Bldg. 2
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2.6' diameter steel CB-type cover

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ____

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole: Concrete block

Construction: ☐ Precast ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.) 3' diameter

Benchwalls: ☐ Yes ☒ No

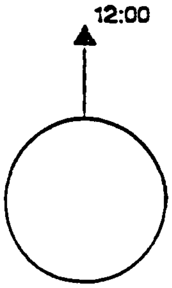
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	4:00	6:00	
Pipe Size	8"	4"	8"	
Rim to Invert	3.3'	2.3'	3.2'	
Tape Distance	to manhole			
Pipe Material	Plastic	Steel	Plastic	
Velocity S-A-F**	0	0	0	
Clarity C-A-M***	NA	NA	NA	
Flow Depth	0	0	0	
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

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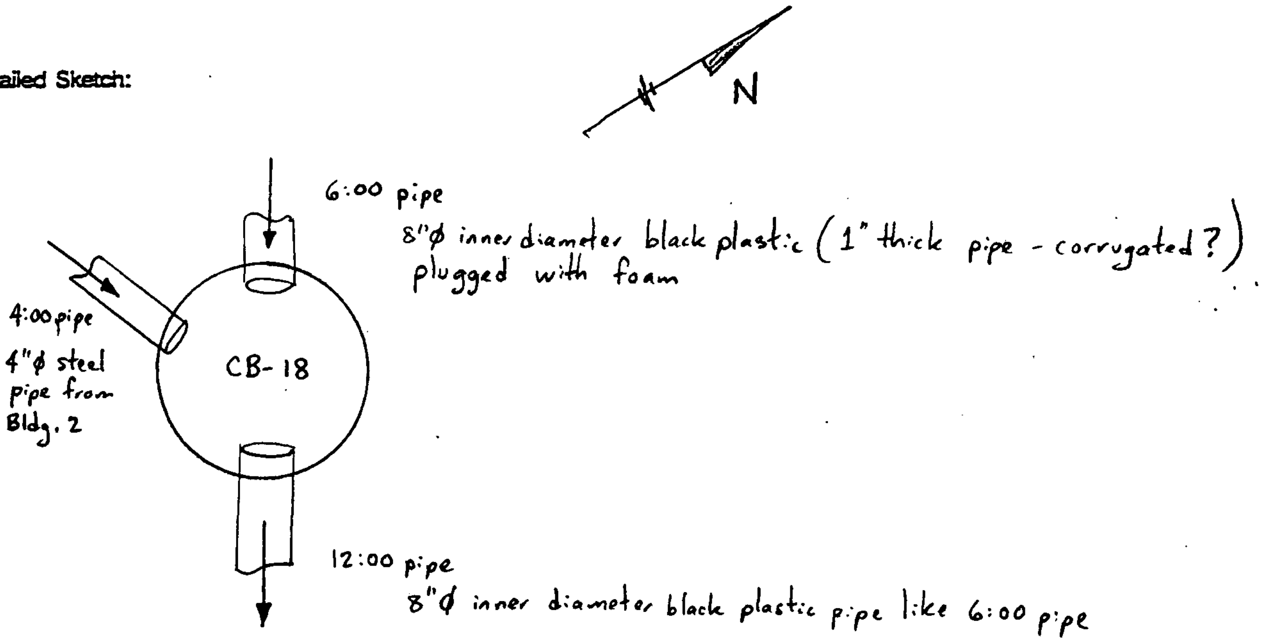
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-18 = 3.9'
- Approx. 1-3" of water in CB-18. Pocket of green-colored liquid (like anti-freeze) floating on the water surface on the north side of the catch basin.
- Avg. depth of debris in CB-18 is 5-6". Debris is black silt w/ trace gravel. Collected debris sample CB-18 on 10/1/96 @ 12:10 for PCBs, VOCs, SVOCs, inorganics. Oil droplets were present in the sample material. PID over sample = 1.2 ppm.
- Measured depth of debris + water = 0.75'.
- W/in CB-18: O_2 = 21.6, LEL = 0.0, CO = 0.0, H_2S = 1.0
- Photo 4-7

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION

Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY

Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 12:28

Manhole I.D.: CB-19

Mini-Area: North of Bldg. 2
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected

☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

2.6' × 2.6' steel cover w/ 36 - 1½" sq. holes.

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☒ No

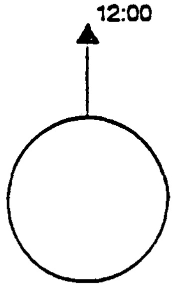
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	3:00		
Pipe Size	15"	8"		
Rim to Invert	3.2	3.1		
Tape Distance	to manhole			
Pipe Material	steel	clay ?		
Velocity S-A-F**	6	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

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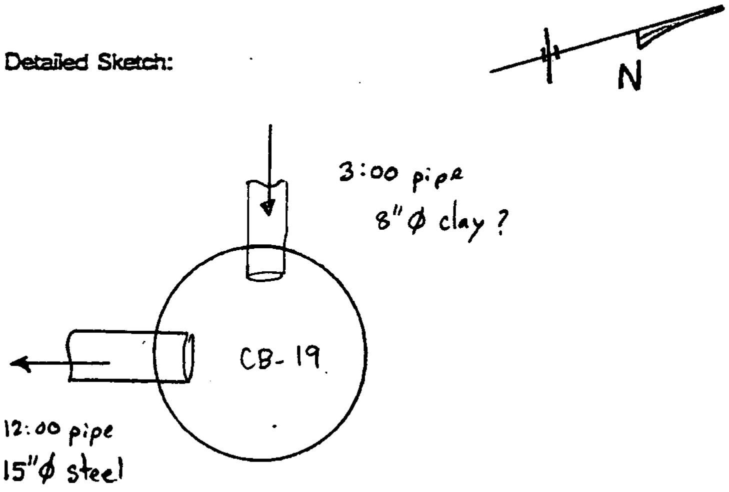
6. **Miscellaneous Information:**

- Depth from rim to bottom of CB-19 = 3.5′
- Approx 0.3′ of standing water in CB-19. No flowing water. Sheen observed on water surface.
- Approx. 0.4′ of debris in CB-19. Debris is dark brown silt & gravel. Collected debris sample CB-19 on 10/1/96 @ 12:30 for PCBs, VOCs, SVOCs, inorganics. PID over sample = 0.0 ppm.
- W/in CB-19: O_2 = 21.6, LEL = 0.0, CO = 0.0, H_2S = 1.0
- Photo 4-8

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 65°F Time: 8:50

Manhole I.D.: MH-1
Mini-Area: Loading dock south of Bldg. 2
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. **Manhole Cover:** Solid steel outer cover 2.9' dia. Solid steel inner cover 1.9' dia.

☐ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☒ In concrete loading dock area, south of Bldg. 2.

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes 3/4"
Bearing Surfaces *m ____ nm ~1"

2. **Manhole:** Precast concrete btwn upper & lower rim. Brick construction from lower rim to bottom.

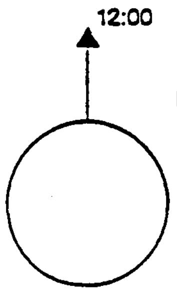
Construction: ☒ Precast ☐ Block
☒ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)
2½' x 4' approx

Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. **Sketch:** Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. **Sanitary Pipe Inspections:**

C'Clock Position	12:00	6:00		
Pipe Size	12"	8"		
Upper Rim to Invert	5.3'	4.6'		
Tape Distance	to manhole			
Pipe Material	steel	steel ?		
Velocity S-A-F**	0	0		
Clarity C-A-M***	NA	NA		
Flow Depth	0	0		
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. **Other Pipes (Laterals, Non-Sanitary):**

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

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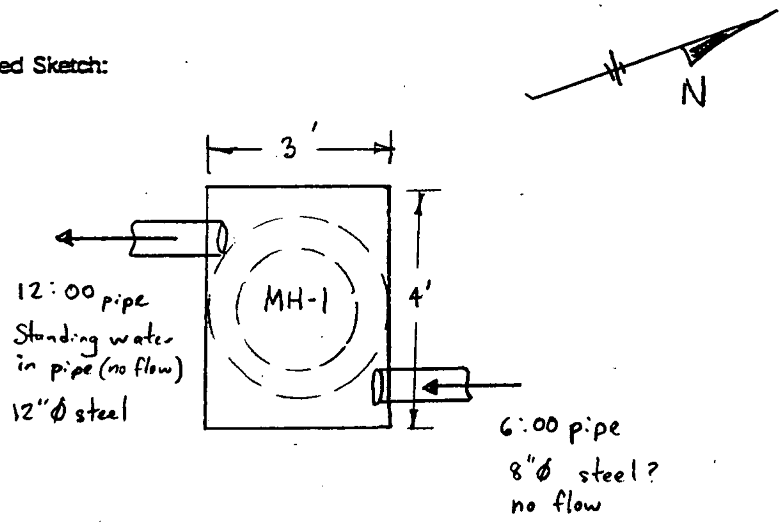
6. Miscellaneous Information:

- Depth from lower rim to upper rim = 1.7'
- Depth from upper rim to bottom MH-1 is 1.7' + 3.6' = 5.3'
- Approx. 0.5' water in MH-1. Slight sheen on water surface after probing debris in MH-1.
- Avg. depth of debris = 3" to 4". Debris appears to be dk brown silt w/ trace gravel over black silt. Collected debris sample MH-1 10/1/96 @ 15:05 for PCBs, VOCs, SVOCs, & inorganics.
- Air inside MH-1 : PID = 0.0 ppm, O_2 = 21.0, LEL = 0.0, CO : 0.0, H_2S = 1.0
- Solid (concrete?) bottom based on probing.
- Photos : 3-19 looking @ effluent pipe
  3-20 looking south toward Yard Storage Area.

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather:
Temp.: ____ Time: ____

Manhole I.D.: MH-2 (not found)
Mini-Area: East of TSDF
Inpsector: ____ Other: ____
Recorder: ____

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☐ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ____

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☐ Precast ☐ Block
☐ Brick ☐ ____
Size: ☐ 4' Diameter (approx.)
____
Benchwalls: ☐ Yes ☐ No
Channel: ☐ Yes ☐ No
Signs of Surcharge: ☐ Yes ☐ No
Height: ____
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes

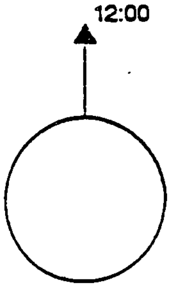

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ____
Pipe Size ____
Rim to Invert ____
Source ____
Unknown ☐ ☐ ☐ ☐

10/3/89

6. Miscellaneous Information:

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	After	Clarity C-A-M	Samples Taken Yes/No

8. Detailed Sketch:

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 65°F Time: 9:22

Manhole I.D.: MH-3
Mini-Area: East of Yard Storage Area
Inspector: JJB Other:
Recorder: JCB

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover: Solid steel cover 3.1' dia. (labelled electric, but is actually storm sewer)

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open 2 Total ____
Diameter of Vent Holes ~3/4"
Bearing Surfaces *m ____ nm ~1"

Manhole:
Construction: Concrete block & mortar.
☐ Precast ☐ Block
☐ Brick ☐ ____
Size: ☒ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections: Appears to be a "summit" MH - see reverse side

O'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes

12:00

(see sketch reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

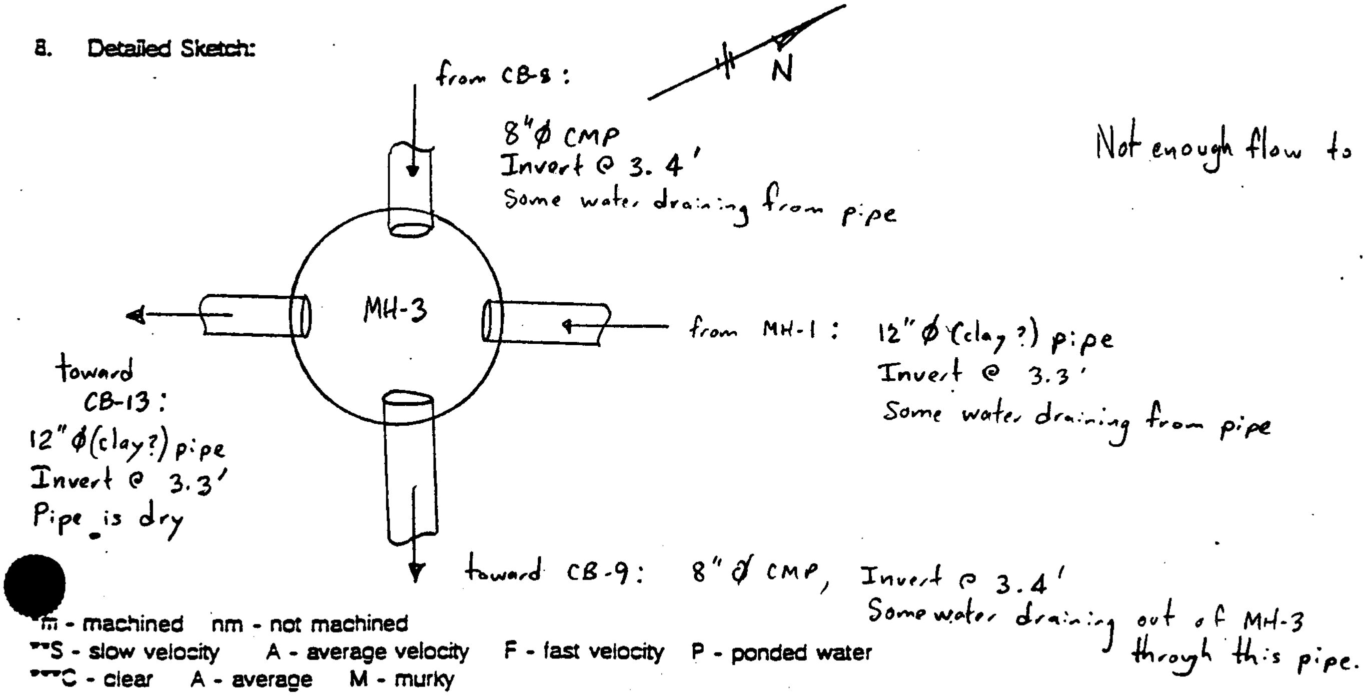
6. **Miscellaneous Information:**

- Depth from rim to bottom of MH-3 = 3.4'. Concrete bottom.
- Less than ½" water in bottom of MH-3.
- Up to 1" debris in bottom of MH-3. Debris is brown silt/gravel. Collected debris sample MH-3 10/1/96 @ 15:25 for PCBs, VOCs, SVOCs, inorganics.
- Pipes in good condition
- PID inside MH = 0.0 ppm
- O_2 : 21.1, LEL : 0.0, CO = 0.0, H_2S = 1.0
- Photo 3-21 (facing pipe discharging toward CB-9)

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



Not enough flow to sample.

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather:
Temp.: Time:

Manhole I.D.: MH-4 (not found)
Mini-Area: East of Yard Storage Area
Inspector: Other:
Recorder:

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☐ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ____________

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☐ Precast ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.) ____________

Benchwalls: ☐ Yes ☐ No

Channel: ☐ Yes ☐ No

Signs of Surcharge: ☐ Yes ☐ No
Height: ____

Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes

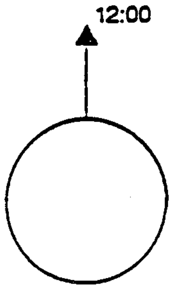

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ____________
Pipe Size ____________
Rim to Invert ____________
Source ____________

Unknown ☐ ☐ ☐ ☐

10/3/89

6. Miscellaneous Information:

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 60°F Time: 10:25

Manhole I.D.: MH-5
Mini-Area: North edge of Bridge Street
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 1.9' dia. solid steel cover

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ____________

Distance Above Grade FL Below Grade _____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open 1 Total _____
Diameter of Vent Holes _____
Bearing Surfaces *m _____ nm ~1"

2. Manhole:

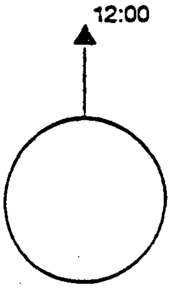
Construction: ☐ Precast ☐ Block ☒ Brick ☐ _____
Size: ☐ 4' Diameter (approx.) ____________
Benchwalls: ☐ Yes ☒ No
Channel: ☒ Yes ☐ No
Signs of Surcharge: ☐ Yes ☒ No
Height: _____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

O'Clock Position	12:00	6:00	9:00	
Pipe Size	12"	12"	12"	
Rim to Invert	5.85'	5.85'	5.15'	
Tape Distance	to manhole			
Pipe Material	steel	steel	steel	
Velocity S-A-F**	0	0	0	
Clarity C-A-M***	NA	NA	NA	
Flow Depth	0	0	0	
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☒	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☒	☒	☐	☐
Other	☐	☐	☐	☐
Depth	~1"	~1"		
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ____________
Pipe Size ____________
Rim to Invert ____________
Source ____________
Unknown ☐ ☐ ☐ ☐

10/3/89
14SS222DD

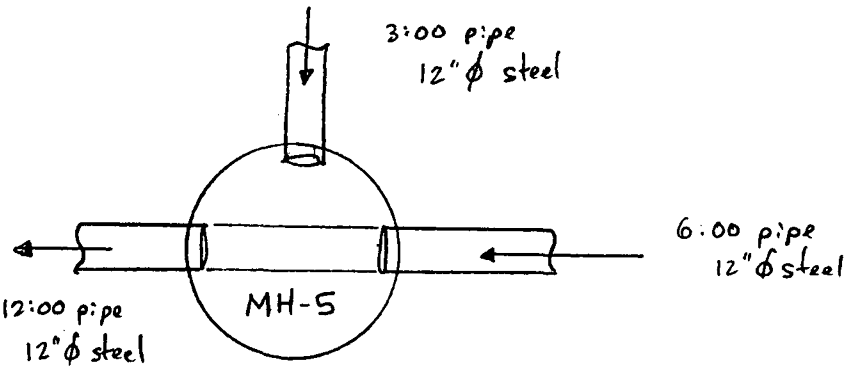
6. **Miscellaneous Information:**

- Depth from rim to bottom of channel in MH-5 = 5.85'
- Approx 1" of standing water in channel. No sheen. No flowing water.
- Approx 1" debris in channel on average. Med. brown silt & gravel.
- PID = 0.7 ppm inside MH-5
  O_2 = 21.2, LEL = 0.0, CO = 0.0, H_2S = 1.0
- Photo 3-23

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined   nm - not machined
**S - slow velocity   A - average velocity   F - fast velocity   P - ponded water
***C - clear   A - average   M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 14:00

Manhole I.D.: MH-6
Mini-Area: North of Vehicle Maintenance Bldg.
Inpsector: JJB Other:
Recorder: JCB

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☒ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover: 2.2' dia. solid steel cover

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

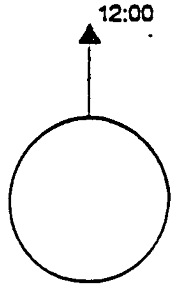
Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open 0 Total ____
Diameter of Vent Holes 0
Bearing Surfaces *m ____ nm ~1"

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____
Size: ☒ 4' Diameter (approx.)
Benchwalls: ☐ Yes ☒ No
Channel: ☒ Yes ☐ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

4. Sanitary Pipe Inspections:

C'Clock Position	12:00	4:00		
Pipe Size	~6"	~6"		
Rim to Invert	4.6'	4.6'		
Tape Distance	to manhole			
Pipe Material	steel	steel		
Velocity S-A-F**	Trickle	Trickle		
Clarity C-A-M***	Clear	Clear		
Flow Depth	<1"	<1"		
Sediment in Pipes:	Not measurable			
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
	☐	☐	☐	☐
Leakage Estimated GPM				
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

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1485222DD

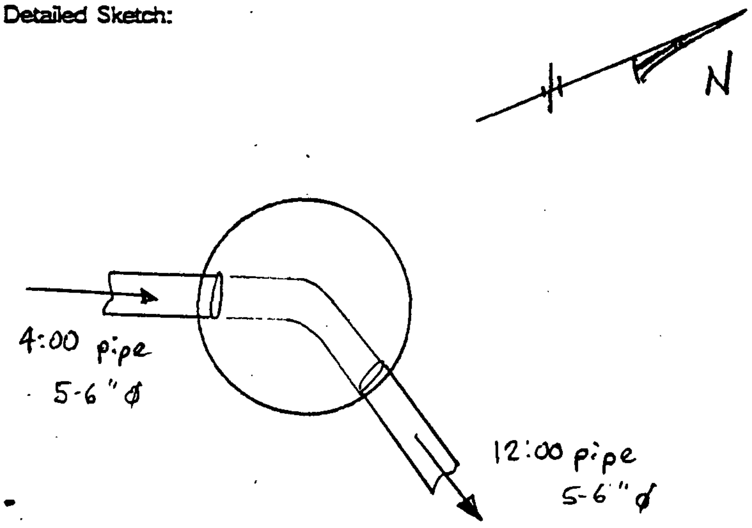
6. **Miscellaneous Information:**

- Depth from rim to bottom of channel = 4.6'.
- No standing water; trickle flow. Based on odor, appears to be a sanitary MH. Also, based on presence of trench drains in vehicle maintenance bldg, MH-6 appears to discharge stormwater flow.
- Traces of med. brown silt/clay mat'l w/ septic odor. Not enough material to sample.
- Inside MH-6, PID = 0.0 ppm, O_2 = 21.4, LEL: 0.0, CO = 0.0, H_2S = 0.0
- Photo 4-9.

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION

Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather:
Temp.: Time:

Manhole I.D.: MH- 7
not inspected -- Railroad Property
Mini-Area:
Inpsector: Other:
Recorder:

Manhole Not Inpsected
☐ Buried
☐ Not Located
☐ Safety
☐ Surcharged
☐ Surface Inspection Only
☐ Physical Inpsection Only

1. Manhole Cover:

☐ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☐ Precast ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)
______

Benchwalls: ☐ Yes ☐ No

Channel: ☐ Yes ☐ No

Signs of Surcharge: ☐ Yes ☐ No
Height: ____

Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance		to manhole		
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				

Sediment in Pipes:

None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				

Mirroring Results:

Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐

Estimated Distance:

To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes

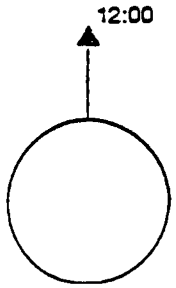

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position ______
Pipe Size ______
Rim to Invert ______
Source ______

Unknown ☐ ☐ ☐ ☐

10/3/89

6. Miscellaneous Information:

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 70°F Time: 10:56

Manhole I.D.: MH-8
Mini-Area: North of Bldg. 2
Inspector: JJB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: 2' dia. solid steel cover (Cover labelled "Valved Hyde"? & is very worn/flattened down)

☒ In Pavement ☐ ℄ ☐ Edge
☐ In Grassed Area
☐ In Sidewalk
☐ In R.O.W.
☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☒ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

Manhole:

Construction: ☒ Precast Concrete ☐ Block
☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)
4' x 4' sq.

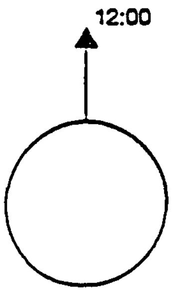
Benchwalls: ☐ Yes ☒ No
Channel: ☐ Yes ☒ No
Signs of Surcharge: ☐ Yes ☒ No
Height: ____
Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections: (see reverse side)

O'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

10/3/89

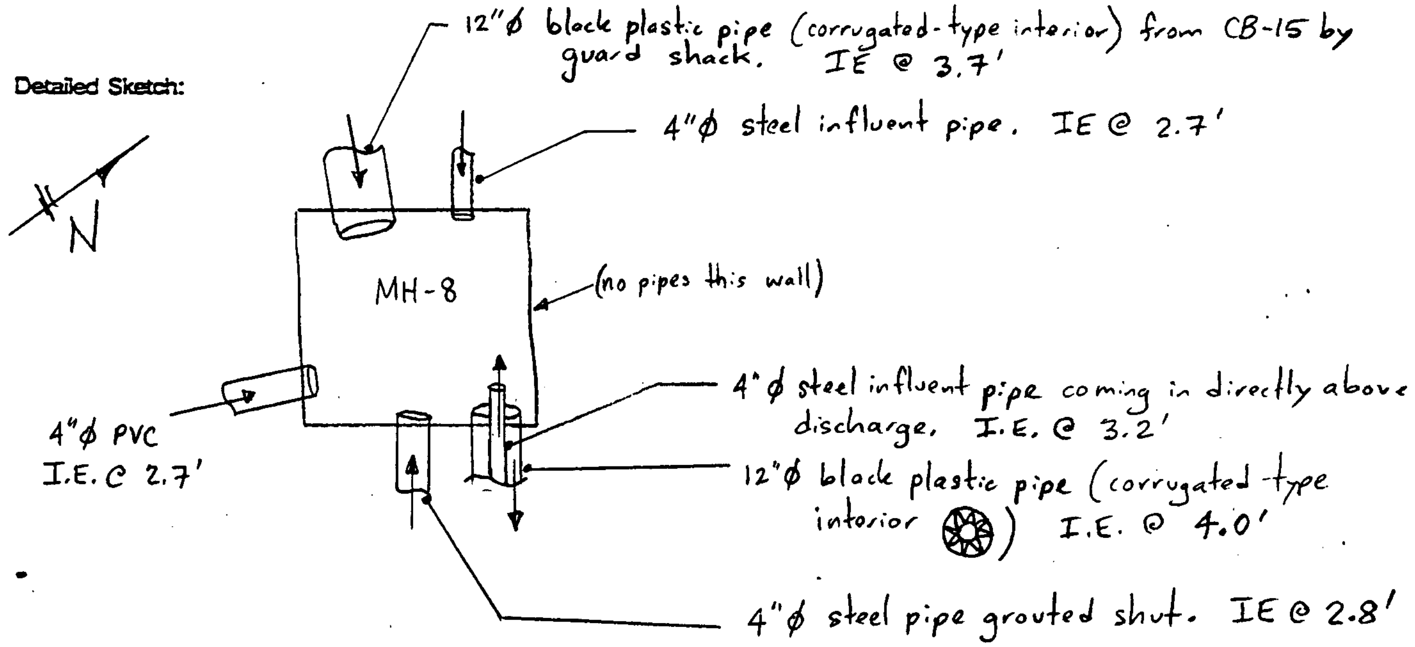
6. **Miscellaneous Information:**

- Depth from rim to bottom of MH-8 is 4.3'
- Approx 2" water in MH-8. No visible sheen on water surface.
- Approx 3-4" debris around edges of MH-8. Debris is dk. brown silt'd gravel. Does not appear to be oil-stained.
- Air monitoring inside MH-8:
  PID = 0.0 ppm
  O_2 = 21.2, LEL = 0.0, CO = 0.0, H_2S = 1 ppm
- Photo 4-1

7. **Velocity or Weir Results:**

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. **Detailed Sketch:**



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 9/26/96
Weather: Sunny
Temp.: 60°F Time: 16:32

Manhole I.D.: TD-1
Trench drain in TSDF Area South of Bldg. 2
Mini-Area:
Inpsector: JCB Other:
Recorder: MAS

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☒ Surface Inspection Only ☐ Physical Inpsection Only

1. Manhole Cover: Steel-grated cover 1' × 9'

☒ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☐ ______

Distance Above Grade FL Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.) 1' × 9'

Benchwalls: ☐ Yes ☒ No

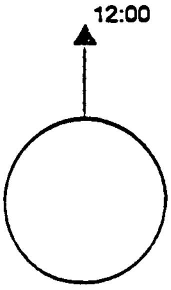
Channel: ☐ Yes ☒ No

Signs of Surcharge: ☐ Yes ☒ No
Height: ____

Roots: ☐ Yes ☒ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

10/3/89

4. Sanitary Pipe Inspections:

C'Clock Position	12:00			
Pipe Size	6"			
Rim to Invert	0.9'			
Tape Distance	to manhole			
Pipe Material	Steel			
Velocity S-A-F**	0			
Clarity C-A-M***	NA			
Flow Depth	0			
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☒	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
~~Mirroring Results:~~				
~~Not Mirrored Explain~~	☐	☐	☐	☐
~~Leakage Estimated GPM~~	☐	☐	☐	☐
~~Estimated Distance:~~				
~~To Leakage~~				
~~To Blockage~~				
~~To Roots~~				
~~% of Dia. Blocked~~				
~~To Settlement (Dip)~~				
~~To Curve~~				
~~Inpsected~~				

5. ~~Other Pipes (Laterals, Non-Sanitary):~~

~~O'Clock Position~~				
~~Pipe Size~~				
~~Rim to Invert~~				
~~Source~~				
~~Unknown~~	☐	☐	☐	☐

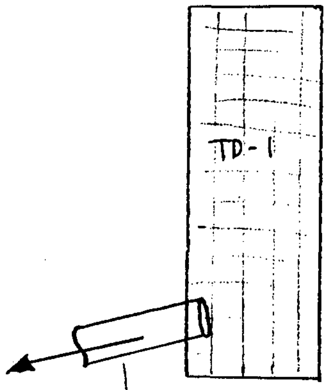
6. Miscellaneous Information:

- Depth from rim to bottom of trench drain TD-1 is 1.5'
- No standing water observed.
- Approx 0.5' of debris in TD-1. Debris is medium brown silt w/ no apparent staining.
- Solid concrete bottom based on probing.
- PID inside TD-1 = 0.0 ppm
- Photo 3-4

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth Before	Flow Depth After	Clarity C-A-M	Samples Taken Yes/No

8. Detailed Sketch:



12:00 pipe : 6"ϕ steel ; I.E. @ 0.9'

*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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MANHOLE INSPECTION REPORT

Client: NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION
Job Number: 364.69.05

Municipality:
Street: 1125 BROADWAY
Date: 10/1/96
Weather: Sunny
Temp.: 65°F Time: 10:10

Manhole I.D.: SMH-1
Mini-Area: East of Yard Storage Area
Inspector: JJB Other:
Recorder: JCB

Manhole Not Inpsected ☐ Buried ☐ Not Located ☐ Safety ☐ Surcharged ☐ Surface Inspection Only ☒ Physical Inpsection Only

1. Manhole Cover: 2.2' dia. solid steel cover

☐ In Pavement ☐ ℄ ☐ Edge

☐ In Grassed Area

☐ In Sidewalk

☐ In R.O.W.

☒ In gravel area

Distance Above Grade ____ Below Grade ____
Pick Holes Water Tight ☐ Yes ☐ No
Number of Vent Holes Open ____ Total ____
Diameter of Vent Holes ____
Bearing Surfaces *m ____ nm ____

2. Manhole:

Construction: ☒ Precast Concrete ☐ Block ☐ Brick ☐ ____

Size: ☐ 4' Diameter (approx.)

Benchwalls: ☐ Yes ☐ No

Channel: ☐ Yes ☐ No

Signs of Surcharge: ☐ Yes ☐ No
Height: ____

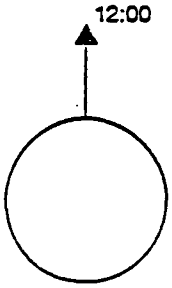
Roots: ☐ Yes ☐ No

Spout (S) or Trickle (T)	Exact Location of Leakage	GPM

4. Sanitary Pipe Inspections: (See reverse side)

C'Clock Position	12:00			
Pipe Size				
Rim to Invert				
Tape Distance	to manhole			
Pipe Material				
Velocity S-A-F**				
Clarity C-A-M***				
Flow Depth				
Sediment in Pipes:				
None	☐	☐	☐	☐
Firm Silt	☐	☐	☐	☐
Paper	☐	☐	☐	☐
Rocks, Gravel, Sand	☐	☐	☐	☐
Other	☐	☐	☐	☐
Depth				
Mirroring Results:				
Not Mirrored Explain	☐	☐	☐	☐
Leakage Estimated GPM	☐	☐	☐	☐
Estimated Distance:				
To Leakage				
To Blockage				
To Roots				
% of Dia. Blocked				
To Settlement (Dip)				
To Curve				
Inpsected				

3. Sketch: Label upstream/downstream MH of all pipes



(see sketch reverse side)

Photo ID Number

5. Other Pipes (Laterals, Non-Sanitary):

O'Clock Position				
Pipe Size				
Rim to Invert				
Source				
Unknown	☐	☐	☐	☐

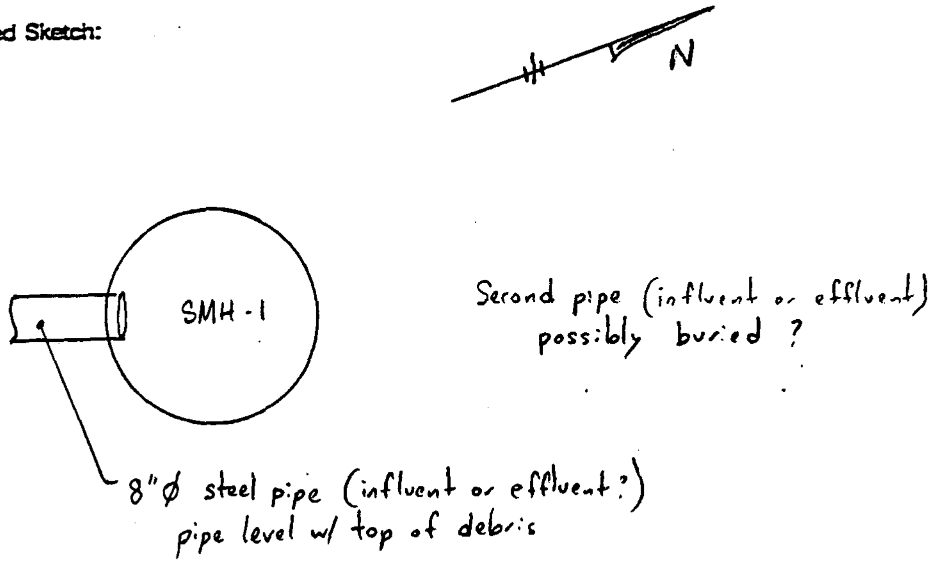
6. Miscellaneous Information:

- Appears to be a sanitary MH based on odor from debris in structure
- Depth from rim to top of debris = 5.3'
- Approx. 12" or more debris in bottom of MH.
- Air monitoring results in SMH-1 :
  PID : 0.0 ppm; O_2 : 21.1% ; LEL = 0.0 % ; CO = 0.0 ppm ; H_2S = 1.0 ppm
- Photo 3-22 into SMH-1

7. Velocity or Weir Results:

O'Clock Position	Flow Measurement Time	Number of Upstream MH Plugged	Velocity or Weir Reading	Flow Depth		Clarity C-A-M	Samples Taken Yes/No
				Before	After		

8. Detailed Sketch:



*m - machined nm - not machined
**S - slow velocity A - average velocity F - fast velocity P - ponded water
***C - clear A - average M - murky

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SUBJECT	PROJ. NO.	BY	DATE	SHEET
NMPC - N. ALBANY	364.69.05	JCB	10/1/96	1/1

ADDITIONAL MANHOLES WHICH DO NOT APPEAR TO BE ASSOCIATED W/ STORM SEWER SYSTEM

- Vault-1 : Vault for telephone & electric cables, located north of guard shack
  Water in vault is at same elevation as conduit for electric/telephone.
  Photo 4-5, 4-6

- TMH-1 : Manhole for telephone & electric cables, located south of CB-17.
  No drains visible in TMH-1.
  Photo 4-4

- EMH-1 : Electrical MH located west of SB-120 in parking lot area.
  3' dia. solid steel cover, labelled NMP Corp.
  Electrical cable running thru MH. MH Shape →

  Photo 4-14 into EMH-1.

- EMH-2 : Labelled electric MH on cover. Elec. utilities marked by locators
  pass thru this MH. Pre-cast concrete construction.
  Surcharged water 1-2' above electrical cable inside EMH-2.
  Cover too heavy to lift all the way off.
  Photo 4-10 into EMH-2.

- GMH-1 : MH in former MGP area which contains disconnected old steel
  gas/product/MGP? pipelines. Approx 1-2' of standing water
  in GMH-1.
  Photo 4-12 at GMH-1 (foreground) & GMH-2 (background). Photo 4-13 into GMH-1.

- GMH-2 : MH adjacent to GMH-1 that is filled in w/ soil & debris.
  Solid steel cover 2.2' diameter.
  Photo 4-11 into GMH-2.

Attachments

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LEGEND

—×—×—	FENCE
┼┼┼┼┼	EXISTING RAILROAD
— — —	APPROXIMATE PROPERTY LINE
MW-15S	MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
▲ SB-126	MGP/RCRA SOIL BORING LOCATION
◪ TP-105	MGP/RCRA TEST PIT LOCATION
▣ PZ-01S	MGP/RCRA PIEZOMETER
MW-11	PSA/IRM GROUND-WATER MONITORING WELL LOCATION
△ SB-4	PSA/IRM SOIL BORING LOCATION
◪ TP-3	PSA/IRM TEST PIT LOCATION
—o—o—	GUARD RAIL

GENERAL NOTES:

1. BASE MAP (INCLUDING BUILDING LOCATIONS, PSA/IRM SAMPLING LOCATIONS, AND SITE TOPOGRAPHY) DEVELOPED FROM ELECTRONIC FILE OF NIAGARA MOHAWK POWER CORPORATION (NMPC) DRAWING NO. C-29736-C, DATED JULY 1994, ENTITLED NORTH ALBANY SERVICE CENTER HAZARDOUS WASTE MANAGEMENT PERMIT APPLICATION, TOPOGRAPHIC MAP - INDEX SHEET.
2. LOCATIONS OF UNDERGROUND UTILITIES (INCLUDING ON-SITE STORM SEWERS, SANITARY SEWERS, TELEPHONE LINES, ELECTRICAL LINES, GAS LINES, WATER LINES, AND CABLE) WERE DIGITIZED FROM NMPC DRAWING NO. D-29734-E, FILE INDEX NO. 20.3-A1.1-B2, DATED JUNE 27, 1994, ENTITLED NORTH ALBANY SERVICE CENTER SITE PLAN - PAVING (OUTSIDE FENCE).
3. MGP/RCRA INVESTIGATION SAMPLING LOCATIONS AND LOCATIONS OF MANHOLES AND CATCH BASINS WERE OBTAINED FROM A SURVEY CONDUCTED BY NMPC DURING JULY/AUGUST 1997 WITH THE FOLLOWING EXCEPTIONS: SB-116 AND SB-117, WHICH ARE APPROXIMATE LOCATIONS.
4. LOCATIONS OF OFF-SITE STORM AND SANITARY SEWERS WERE DIGITIZED FROM CITY OF ALBANY DRAWINGS AND ARE APPROXIMATE.

0 100' 200'
APPROXIMATE SCALE

NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SITE TOPOGRAPHY

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ATTACHMENT
1

P: NINA-D.PCP
10/28/97 SYR-54-RCB, PGL, DMW
36469009/36469S27.DWG