Niagara Mohawk Power Corporation

Syracuse, New York

Preliminary Site Assessment and Interim Remedial Measures (PSA/IRM)

Prepared for

Niagara Mohawk Corporation

300 Erie Boulevard West

Syracuse, NY 13202

August 1, 1997

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PRELIMINARY SITE ASSESSMENT/ INTERIM REMEDIAL MEASURES STUDY FOR TROY (WATER STREET), NEW YORK AREA 1

Fluor Daniel GTI Project: 011100415

July 31, 1997

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1.0 INTRODUCTION

1.1 Purpose and Objectives

In November 1992, Niagara Mohawk Power Corporation (NMPC) entered into an Order on Consent (Index No. DO-0001-9210) with the New York State Department of Environmental Conservation (NYSDEC) which requires NMPC to investigate and, if necessary, remediate 20 former manufactured gas plant (MGP) sites in New York State. Section II of the Order requires that NMPC submit work plans for the performance of Preliminary Site Assessment/Interim Remedial Measure (PSA/IRM) investigations for each of the 20 sites. A *Preliminary Site Assessment/Interim Remedial Measures Work Plan* dated August 9, 1996 was prepared for the former Breaker Island portion (Area 1) of the Troy (Water Street) site, Troy, New York. The plan was submitted to, and subsequently approved by, the NYSDEC.

The objective of the PSA/IRM study undertaken at Area 1 of the Water Street site was to collect sufficient environmental data to present a preliminary evaluation of the following:

- the presence (if any) and nature of hazardous substances, including MGP residuals
- the presence (if any) and nature of any hydrocarbon discharges to the Hudson River through the groundwater regime
- the existence of, and potential exposure to, surface MGP residuals
- the possible need for additional remedial investigation at the site
- the appropriateness of one or more interim remedial measures (IRMs) due to the nature and extent of MGP residuals detected at the site

These objectives were developed to meet the intent and requirements of Section II of the NYSDEC Order on Consent (Order) and the specific concerns of the Department for this area as presented in their December 26, 1995 letter correspondence (John Spellman to David King).

The scope of work completed to accomplish these objectives included the installation of soil borings and monitoring wells, and the collection and analysis of soil and water samples from the surface and subsurface. Specific tasks completed during the PSA/IRM investigation are described below in section 2.0.

1.2 Site Location

This report specifically addresses the PSA/IRM activities completed in Area 1 of what is referred to as the Troy (Water St.) site. For reasons related to property ownership and access, the Troy (Water St.) site was divided into four separate investigation areas. The four areas of the Water Street site are depicted on figure 1-1, Site Plan. This figure, along with all figures and tables associated with this report, are included in the Figures and Tables appendices.

Area 1 is located along the west bank of the Hudson River in the Village of Menands, the City of Watervliet, and the Town of Colonie in Albany County, New York. Area 1 is situated on the former island known as Breaker (Hillhouse) Island.

This parcel is approximately 111 acres in size. Most of the former island is occupied by an interchange of the Troy-Menands Bridge and Interstate Highway 787. A bike path constructed on this parcel in the 1980s lies between the highway and the river. Figure 1-2, Site Location Map, identifies the general site location (U.S.G.S. Topographic Quadrangle, South Troy NY Quadrangle).

The PSA study area was focussed on the northern portion of the site (north of an existing stream (drainage swale) which exists at the site). A visual inspection of the area south of the stream (drainage swale) was also conducted. The subsurface investigation was focussed on the northern portion of the former island because it is the area where alleged MGP-related activities occurred. Figure 1-3, Area 1 Site Map, details the project area.

1.3 Regional Settings

1.3.1 Regional Geology

According to the Surficial Geologic Map of New York, Hudson Mohawk Sheet (D. Cadwell, R. Dineen, 1987), the area of the site is generally located within recent floodplain deposits within the Hudson River valley. The underlying bedrock is a shale of Upper Middle Ordovician age (Geologic Map of New York, Hudson Mohawk Sheet, D. Fisher, 1970).

The Area 1 site is located on a small delta outwash deposit in the Hudson-Champlain Lowland (D. Fisher, 1984). The deposit sediments consist primarily of oxidized, non-calcareous sand and gravel. Regional geology suggests that bedrock at the site is likely to be the Snake Hill Shale. This formation is a thinly bedded, weathered, black shale with thin interbeds of calcareous mudstone, siltstones and fine-grained sandstones, usually intensely folded and well cleaved. Depth to bedrock has been observed at 25 to 70 feet below grade adjacent to the eastern side of the Hudson River.

The unconsolidated materials that overlay the bedrock have been characterized as fill and recent floodplain deposits.

1.3.2 Regional Hydrogeology

The Hudson River, which borders the site to the east, is classified by the NYSDEC as a "Class C" water body (best usage is for fish propagation or wildlife consumption of fish). Since the site is located within the Hudson River Valley, overall groundwater and surface water flow in the vicinity is expected to be toward the river.

The bedrock aquifer is located in the shale formation which can be characterized by low yields for water supply (O'Brien & Gere, 1994). Reported yields range from one to 100 gallons per minute. Groundwater in the shale is usually hard, often cloudy, and frequently contains hydrogen sulfide (R. V. Cushman, 1950 and R. Fickies, 1982).

1.3.3 Groundwater Usage in Site Vicinity

According to January 6 1997, telephone communication with Mr. Jerry Tracy, Superintendent of Public Works, Village of Menands, the area within 0.5 miles of the subject site is supplied by water from the Menands Water District and void of water wells owned by the Village of Menands. Additionally, there are no known domestic wells in the area. Because a portion of the site is owned by the City of Watervliet, Mr. Gary Sutton of the Watervliet Water Department was contacted. During a January 7, 1997 telephone conversation, Mr. Sutton indicated that all homes in the area are on municipal water and no known domestic water wells exist in the area. Mr. Mosfert of the Latham Water District was also contacted on January 7, 1997. Mr. Mosfert also reported that all homes in the area are on municipal water and no known domestic water wells exist.

1.3.4 Summary of Previous Investigations

There have been no previous formal environmental site investigations of Area 1 of the Troy (Water Street) site by the U.S. EPA, NMPC, or other agencies (O'Brien & Gere Engineers, Inc., May 26, 1994). A review of NYSDEC spill reports performed in 1994 by O'Brien & Gere Engineers did not identify any reports pertaining to Area 1.

1.4 Report Organization

This Area 1 PSA/IRM report is organized into six sections as outlined below:

- *Section 1.0; Introduction.* Includes a summary of the project's Purpose and Objectives, a description of the Site Location, Regional Settings, and a description of the Report Organization.

- *Section 2.0; Scope of Work.* Includes a description of the scope and methodologies of the PSA/IRM Field Investigation tasks completed.
- *Section 3.0; Nature and Extent of Impacts.* Presents the results from the PSA activities including a discussion of the Site Hydrogeology, the Chemical Impact Assessment, and a brief summary of the Data Validation report.
- *Section 4.0; Conclusions and Recommendations.* Includes a summary of the Conclusions and Recommendations developed based upon the PSA data collected.
- *Section 5.0; IRM Evaluation.* Includes a brief discussion of the proposed IRM to address chemical impacts.
- *Section 6.0; References.* Provides a listing of references used when developing the PSA/IRM report.

2.0 SCOPE OF WORK

Presented in the following sections is a description of the field methods and procedures used to collect the required samples. Field investigation activities commenced with a site reconnaissance visit on August 26, 1996, and were completed on November 8, 1996 with the collection of the second set of groundwater samples.

2.1 Introduction

Field work was conducted in accordance with the NYSDEC approved PSA/IRM work plan dated August 9, 1996, and associated *Generic Quality Assurance and Project Plan (GQAPP)* dated June 1996, *Generic Field Sampling Plan (GFSP)* also dated June 1996, the site specific amendments to both plans, and *Health and Safety Plan (HASP)*.

Laboratory analyses of environmental samples were conducted by an accredited NYSDOH Environmental Laboratory Approval Program (ELAP) Contract Laboratory in accordance with NYSDEC ASP CLP protocols. Data quality objective Level IV requirements were used whenever possible.

2.2 Field Investigation

Field investigation activities at Area 1 included a site reconnaissance visit, collection of five surface soil samples, collection of two surface water and two sediment samples from the small stream (drainage swale) which exists on site, and installation of six soil borings (five completed as monitoring wells). Two samples of tar-like material which were observed on the ground surface in the vicinity of the bike path were also collected and sent for fingerprinting analysis.

Field procedures for each activity are presented below.

2.2.1 Site Reconnaissance Visit

A site reconnaissance visit was conducted on August 26, 1996. Attendees included representatives from NMPC (William R. Jones, P.E. and William D. Lilley), the NYSDEC (John T. Spellman, P.E., William Zeppetelli and Richard Koeppicus), the NYSDOH (Robert Griffiths) and Fluor Daniel GTI, Inc. (Bruce W. Ahrens, J. Olaf Gustafson, and James M. Bishop, P.G.).

During the site visit, the following activities were completed:

- health and safety issues were discussed
- utility markouts were examined
- the site was examined for evidence of surficial exposure of any tar-like material
- all surface soil sampling locations were marked
- all soil boring and monitoring well locations were identified
- drill rig access was verified
- the locations for staging areas for equipment and materials, and the decontamination pad were determined

As a result of visual observations made during the reconnaissance visit, modifications to the scope of work defined in the work plan were made and approved by the NYSDEC. These modifications included:

- An additional soil boring (SB-1) was added in the vicinity of a surficial exposure of tar-like material. This soil boring was not intended to be completed as a monitoring well.
- Collection and analysis of two surface water samples from the small stream (drainage swale) were added to the scope of work. One sample was located on site in the area where the stream exits a culvert; the other located west of Interstate 787 near where the stream enters the culvert (upstream from the site).

- Collection and analysis of two sediment samples from the stream at the same locations where the surface water samples were collected were added to the scope of work.

2.2.2 Surface Soil Sampling

On September 10, 1996, five surface soil samples and one blind duplicate sample were collected at the Site. The locations of the surface samples are depicted on figure 2-1, Surface Soil, Subsurface Soil, Residue, and Sediment Sample Locations. The samples were collected to characterize the chemical impacts, if any, to the surface soils across the study area. Three of the locations (SS-01, SS-04, and SS-05) were randomly chosen to generate background surface soil data; two samples (SS-02 and SS-03) were bias samples taken from locations of observed soil staining. Near surface soil samples were collected as required in the GQAPP/GFSP and associated addendums using a stainless steel trowel and a stainless steel mixing bowl.

Collected samples were packed in a cooler with ice and shipped via overnight courier to the contract laboratory for analysis. Samples were analyzed for MGP indicators (BTEX by EPA Method 8240A, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270A, and cyanide by CLP-M).

Between each sampling location, sampling equipment was decontaminated using Liquinox®/potable water wash, potable water rinse, methanol rinse, and distilled water rinse, as specified in the GQAPP and GFSP. One equipment blank was collected for analysis as specified in the Work Plan.

2.2.3 Residue Sampling

On October 4, 1996, two samples of tar-like material on the ground surface were collected (WA-01 and WA-02) and submitted to Worldwide Geoscience, Inc. (Worldwide Geoscience) in Houston, Texas for hydrocarbon fingerprinting. The fingerprinting analysis was specified in the work plan to determine whether the tar-like materials were representative of MGP related activities or from a more contemporary source (i.e., petroleum-based asphalt). Petroleum-based asphalt consists almost entirely of molecules heavier than 40 carbon atoms and has virtually no discernable peaks which can be identified as specific hydrocarbon compounds (i.e. no resolved hydrocarbon chromatographic signature). Coal tars show a significant resolved peak assemblage (fingerprint), which consists almost entirely of PAHs. The locations where the residue samples were collected from are indicated on figure 2-1, Surface Soil, Subsurface Soil, Residue, and Sediment Sampling Locations.

The tar-like material was collected using stainless steel trowels which were decontaminated between locations per the procedures included in the GQAPP/GFSP. Collected samples were placed in 6-ounce glass jars and shipped to the laboratory. The material was analyzed by high resolution capillary gas chromatography. Methylene chloride solvent was used during sonication extraction. The solvent was reduced in volume to increase the concentration level of extracted hydrocarbons in the solvent, and

spiked with androstane as an internal standard. Each spiked solvent was then analyzed by high resolution gas chromatography using a 30 meter DB1 column and a flame ionization detector. Details of the analytical procedure can be found in the *Characterization of Two Soil Samples, NMPC Troy Area 1* report prepared by Worldwide Geoscience, included as appendix A.

2.2.4 Subsurface Soil Sampling

During the period from September 3 through September 16, 1996, six soil borings were installed on site to provide further information about site geology and the vertical distribution of chemical impacts, if any, resulting from industrial operations. The borings were advanced using one of two different hollow-stem Mobile drill rigs. Two-foot long, three-inch-diameter split-spoons were used to collect soil samples during all drilling operations at the site. Split-spoon samples were collected continuously in accordance with ASTM Method D-1586-84. A 4.25-inch (I.D.) hollow-stem auger was used for each boring. No visual hydrocarbon impacts or confining layers were encountered; therefore, carbon steel casing was not required to isolate intervals. All borings were advanced through the unconsolidated sediments to a depth of approximately 15 feet below the water table. Bedrock was not encountered in any of the borings completed during this investigation.

All split-spoon samples were screened for volatile organic compounds (VOCs) using a photoionization detector (PID). The soil samples were also described by the geologist using the Unified Soil Classification System (USCS). Moisture content, color, consolidation, lithology, grain size distribution, and sedimentary composition were also recorded. Drilling logs are included in appendix B.

Soil samples were packed on ice in coolers and sent by overnight courier to the contract laboratory for analyses. Three sample intervals per borehole were selected for laboratory analyses based on visual observations of hydrocarbon impacts and PID headspace screening results. Eighteen soil samples were collected during soil boring installations.

A majority of the analyses conducted were performed for project MGP indicators. A minimum of 20 percent of the samples (at least one at each boring location) were analyzed for the full TCL/TAL parameters list. Blind duplicate samples were also collected and submitted to the laboratory for analyses.

The split-spoons were decontaminated between each sampling interval to avoid cross contamination. A series of Liquinox©/potable water wash, potable water rinse, methanol rinse and distilled water rinse was used in accordance with the GQAPP/GFSP. Equipment blanks were also collected for analysis as required by the *Work Plan*.

Drill cuttings were temporarily staged in a roll-off dumpster for later characterization sampling, removal, and proper disposal. Decontamination water was also temporarily containerized on-site in a holding tank for later characterization and disposal.

Upon completion of drilling activities, one of the soil borings (SB-1) was grouted back to the ground surface with a cement/bentonite slurry. The remaining five soil borings were completed as 2-inch-diameter monitoring wells.

2.2.5 Monitoring Well Installation

In September 1996, five groundwater monitoring wells (MW-1 through MW-5) were installed at the site to aid in evaluation of groundwater flow direction, gradient, and quality. Each monitoring well was drilled and sampled in accordance with the soil boring protocol using hollow-stem auger techniques and split-spoon sampling as described above. The monitoring wells were installed as detailed in the work plan.

Monitoring wells were constructed of 2-inch-diameter, flush-joint polyvinyl chloride (PVC) 0.010-inch slotted screen and riser. A 2-foot sump was installed at the bottom of each well to provide a collection area for dense nonaqueous phase liquids (DNAPLs), if present. A sand pack (No. 0 Morie sand) was installed to approximately one foot above the screen. Approximately one foot of Morie No. 00 sand pack was installed as a choker above the Morie No. 0 sand pack. A bentonite seal and bentonite/cement grout were placed above the sand pack. At all well locations, a 20-foot screen interval was installed (13 feet into the saturated interval). The wells were installed to depths ranging from 32 feet below grade (MW-3) to 34 feet below grade (MW-5).

Each well was secured with a locking gripper and either a guard pipe or a flush-mounted road box. Upon completion, all wells were developed by powered suction-lift pumping by the drilling subcontractor to remove fine sediments from the well and the sand pack, and to improve hydraulic connection between the well and the surrounding aquifer.

During well development, it was noted that large-diameter particles of sand and gravel were present in monitoring well MW-2. Further investigation determined that the well casing was apparently broken at a depth of approximately 20 feet below grade, thereby allowing material from the surrounding formation to enter the well. Consequently, the original well was abandoned by overdrilling and grouting to grade, and a replacement well was installed approximately 10 feet northwest of the original well. The soil samples and soil classifications referenced in this report were taken from the original boring. The figures show the location of the replacement well, and the well log depicts the construction of the replacement well.

Well construction details are included on the drilling logs which are included in appendix B.

2.2.6 Groundwater Gauging and Sampling

Two groundwater gauging and sampling events were completed at the site; the first event on October 3, 1996 and the second on November 8, 1996. Prior to sampling, depth to groundwater was gauged using an Interface Probe (IP) to provide elevation data for evaluation of local groundwater gradient. Subsequently, each well was purged of a minimum of three well volumes using a dedicated bailer. Groundwater samples were collected using disposable polyethylene bailers and then poured directly into the appropriate sampling containers. All samples were placed on ice and shipped by overnight courier to the contract laboratory for analysis for the full TCL/TAL parameter list and conventional analyses (sulfide, sulfate, nitrate, chloride, hardness, total dissolved solids, BOD5, COD, pH, and oil and grease). Samples for volatile organics analysis were collected first, followed by samples for semivolatile organics and the remaining analytes. All required QA/QC samples were also collected and submitted to the laboratory for analysis.

2.2.7 Surface Water and Sediment Sampling

On October 4, 1996 two stream sediment samples (SD01 and SD02) were collected and sent to the contract laboratory for analysis of MGP Indicators. A duplicate sample of SD01 was also collected (SD1D) for analysis. The locations where the sediment samples were collected from are indicated on figure 2-1, Surface Soil, Subsurface Soil, Residue, and Sediment Sampling Locations.

Sediment samples were collected from a depth of 0 to 6 inches below surface using a stainless steel trowel and bowl. Between each sampling location, sampling equipment was decontaminated using Liquinox®/potable water wash, potable water rinse, methanol rinse, and distilled water rinse as specified in the GQAPP/GFSP. One equipment blank was collected for laboratory analysis.

Also on October 4, 1996, two surface water samples (SW01 and SW02) were collected and sent for analysis of MGP Indicators. A duplicate sample of SW02 was also collected (SW2D) and sent for analysis. The locations where the sediment samples were collected from are indicated on figure 2-2, Surface Water and Groundwater Sampling Locations. Surface water samples were collected directly into the sampling containers. The containers were packed in ice and sent to the contract laboratory for analysis.

2.2.8 Air Monitoring

Ambient air and perimeter air monitoring for VOCs and airborne particulates was conducted during each stage of the field work using portable instruments (PID and Miniram) in accordance with the HASP and GQAPP. All monitoring data was recorded on Vapor Monitoring Forms and included in appendix C.

2.2.9 Waste Characterization

The stockpiled drill cuttings and the containerized decontamination water and well development water were sampled for waste characterization and disposal purposes. One sample of each medium was collected on November 2, 1996 and submitted for the analyses required by the disposal facilities. The soil sample was analyzed for TCLP volatiles, TCLP semivolatiles, TCLP metals, paint filter test, and reactive cyanide. The water sample was analyzed for TCLP volatiles, TCLP semivolatiles, TCLP metals, PCBs, and percent chlorine.

3.0 NATURE AND EXTENT OF IMPACTS

Presented in this section are the results of the PSA/IRM investigation activities. Site geology and hydrogeologic characteristics are presented in section 3.1. Section 3.2 presents the results of the chemical impact assessment. The results of the ambient and community air monitoring, and waste disposal sampling, are also included in section 3.2.

Due to the volume of data collected, all data tables are presented at the end of the report in the *Tables* appendix. Original copies of the laboratory reports will be kept on file at NMPC's Syracuse facility.

3.1 Site Setting

3.1.1 Site Geology

Soil borings logs from the PSA drilling program are included in appendix B. Two geologic cross-sections were constructed along two different axes across the Site using all available soil data (figure 3-1 and figure 3-2). Figure 3-1 is a geologic cross-section along a north-south axis (A-A'), and figure 3-2 is a geologic cross-section along a west-east axis (B-B').

The results from the soil screening and classification performed during the soil boring/monitoring well installations indicate that a majority of the surficial sediments at the site have been disturbed through excavation or grading. The thickness of fill, which primarily consists of slag, bricks, concrete, sand, and gravel, ranged from approximately 9 feet in the eastern part of the site (MW-4) to approximately 13 feet in the western part of the site (near MW-1). It appears that debris from former industrial operations and razed facility structures has been used as fill at the site.

Below the fill, the overburden sediments on site consist primarily of interbedded alluvial deposits. The alluvial deposits can be characterized as loose sand, sand and gravel, and sand and silt. No apparent continuous confining layers were determined to exist within the overburden on site.

The thickness of overburden sediments was not determined during this investigation, since bedrock was not encountered at any of the boring locations (the maximum boring depth was 34 feet). Regional geology suggests that the unconsolidated deposits on site are underlain by the shale bedrock formation present on the east side of the Hudson River. An evaluation of bedrock underlying the site was not included in the PSA program.

3.1.2 Site Hydrogeology

Based on data collected during this investigation, the shallow aquifer is primarily found in the floodplain deposits with the water table at between 15 to 20 feet below grade. The water-bearing formations consist primarily of fine sand and sand and gravel deposits. The groundwater within the overburden on site was found in the lower portions of the fill and within the alluvial deposits underlying the fill. The fill and underlying unconsolidated deposits are apparently hydraulically connected. Based on the close proximity of the Hudson River which borders the site to the east, it is likely that groundwater on-site is influenced by tidal fluctuations.

Two groundwater gauging events were performed in conjunction with the two rounds of groundwater sampling (October and November 1996). During each gauging event, depth to water was measured from the top-of-casing of each well. Top-of-casing elevations were surveyed after well installation by a NMPC survey team. In October 1996, depth to water on site ranged from approximately 16.1 feet (at MW-2) to 23.6 feet below grade (at MW-5). The groundwater gradient had both an easterly and a westerly component at approximately 1% (figure 3-3). In November 1996, depth to water ranged from approximately 18.1 feet (at MW-3) to 24.3 feet below grade (at MW-5). The groundwater gradient was toward the west at approximately 0.65% (figure 3-4).

Based on the two rounds of groundwater gaugings, the groundwater flow direction on-site appears to be variable. Groundwater appears to be tidally influenced on the eastern part of the site by the Hudson River, which fluctuates 4 to 6 feet daily. The October 3, 1996 groundwater gauging data, collected approximately 2 hours after high tide as the river level was falling, indicated that groundwater flow on the eastern portion of the site was toward the river. The November 8, 1996 gauging data, collected approximately 1 hour after low tide as the river level was rising, indicated that groundwater flow on the eastern portion of the site was away from the river.

The Hudson River is classified by the NYSDEC as a "Class C" water body (best usage is for fish propagation or wildlife consumption of fish). Whether the river is a recharging or discharging stream in the vicinity of the site may vary both with daily tides and with short-term and seasonal precipitation patterns.

A small stream flows from west to east across the central portion of the site and discharges into the Hudson River.

3.2 Chemical Impact Assessment

In the following sections, the results of the metals, cyanide, pesticides, PCBs, volatiles and semivolatiles analyses are presented for each media sampled.

For discussion purposes, NYSDEC guidance values and standards for each medium are presented in the data summary tables. These guidance values and standards for soils, groundwater and surface water, and sediments are taken from the New York State Technical and Administration Guidance Memorandum *Determination of Soil Cleanup Objectives and Cleanup Levels* (TAGM 4046); the NYSDEC Division of Water, Technical and Operation Guidance Series, *Ambient Water Quality Standards and Guidance Values* (TOGS 1.1.1), and the NYSDEC *Technical Guidance for Screening Contaminated Sediments*, respectively. Although several of these guidance values and standards ultimately may not be applicable to Area 1 of the Water Street site, the values are presented for discussion of relative concentrations.

The data tables include a summary of the analytes detected for each analysis. For Target Compound List (TCL) volatiles (NYSDEC Method 91-1) and semivolatiles (NYSDEC Method 91-2), only detected analytes are reported. For analyses which also report non-target, tentatively identified compounds (TICs), these values are also included in the tables. TICs are compounds detected in the samples that are not target compounds, internal standards, or surrogates, and are not positively identified during mass spectral library searches. Identification is only tentative because the chromatographic peaks have not been compared with analytical standards. Quantitation associated with TICs should only be considered as an estimate of concentrations present, and could be in error by several orders of magnitude. In consideration of this, only target analytes are used for discussion purposes.

Semivolatiles consist of both straight chained aliphatics and multi-ringed aromatics which share chemical properties, specifically vapor pressure. Polynuclear aromatic hydrocarbons (PAHs) are a subgroup of the semivolatiles, which consists of approximately 16 commonly recognized multi-ringed, aromatic

compounds included on the EPA's Priority Pollutant List. These PAH compounds, because of their physical and chemical characteristics, are commonly targeted as identifiers for discussions, where appropriate.

In tables which the total concentration of analytes in a sample is provided (e.g. Total PAHs), data reported with a "U" qualifier is not included in the totals. Data reported with a "J" qualifier has been included in the totals, and therefore totals are considered estimated values. (a "J" qualifier is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero).

3.2.1 Data Validation

Third party data review was conducted on the data packages by Data Validation Services of North Creek, New York, and a Data Usability Summary Report (DUSR) prepared. As detailed in the PSA/IRM work plan for Area 1, the laboratory data packages contained full deliverables for validation, however, only generation of the DUSR from review of summary form information, with limited, random review of raw data was required.

Appropriate sections of the DUSR are included in appendix D. In summary, most sample results were deemed usable as reported. Items which showed deficiencies are listed on pages 6-8 of the attached DUSR. A summary of the most significant conclusions is presented below:

Volatiles:

1. The reported results for those analytes flagged as "E" should be derived from the dilution analyses, unless otherwise specifically noted.

2. The results for MW0103, SS03, and SS04 should be derived from the initial analyses, and considered as estimated ("J" flag added by author)

Semivolatiles:

1. The reported results for those analytes flagged as "E" should be derived from the dilution analyses, unless otherwise specifically noted.

2. Reported detections of diethylphthalate are rejected, and results edited to reflect nondetection at the CRDL.

3. Results for the following compounds in MW04GW (using the initial analysis) should be considered estimated: di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene. ("J" flag added by author)

4. Results for benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene in samples SS02 and SS03 should be considered estimated. ("J" flag added by author)

5. Pyrene in sample SS05 should be considered estimated. ("J" flag added by author)

6. Due to field duplicate correlation, PAH results for SD1D and SD01 should be considered estimated ("J" flag added by author)

7. Only the initial analyses of the aqueous samples should be used. Those named with "-RE" (report date 11/25/96) are not usable.

8. The following analyte results should be considered estimated: ("J" flag added by author)
   - 2,4-dinitrophenol in MW0317 and MW0333
   - flouranthene in SS02 and SS03 (derived from "-DL" analyses)

Pesticides/PCBs

1. All reported results for the following should be considered as estimated: ("J" flag added by author) MW01GW, MW02GW, MW03GW, MW04GW, MW05GW, and MW15GW

2. 4,4'-DDE reported in MW0119 is suspect, and the results edited to nondetection at the originally reported value

3. The reported detection of Endosulfan I in MW0119 is rejected due to poor dual column quantitative correlation (187%) and edited to nondetection at the originally reported value.

Metals/Cyanide:

1. The cyanide matrix spike of MW0233 recovered at 10%; associated sample cyanide results should be considered grossly estimated, with borderline usability

Detailed explanations for the conclusions presented above, and other less significant conclusions, are included in the *Quantifications Summary* of the DUSR.

3.2.2 Surface Soils

As referenced in section 2.2.3 above, five surface soil samples and one blind duplicate sample were collected from the site. Samples were sent to the contract laboratory for analysis of MGP Indicators (BTEX, PAHs, and cyanide). The results of the laboratory analyses have been summarized in table 3-1, included in the *Tables* appendix and presented on figure 3-5, Surface Soil Sampling Results.

None of the samples collected possessed BTEX analytes above recommended soil cleanup objectives included in NYSDEC TAGM 4046. BTEX was not detected above the sample quantitation limit in four of the five samples analyzed. The only analytes detected were toluene (0.014 mg/kg) and total xylenes (0.066 mg/kg) in surface soil SS-05 (both below the respective NYSDEC recommended soil cleanup objectives of 1.5 and 1.2 mg/kg, respectively).

Total PAHs detected ranged from 0.329 mg/kg at SS-04 (estimated value) to 213.4 mg/kg at SS-02 (estimated value). The location of surface soil sample SS-02 was chosen to be in an area where surface staining (residuals) were observed during the site reconnaissance visit. For each sample analyzed, the total PAHs were below the NYSDEC TAGM 4046 recommended soil cleanup objective of 500 mg/kg. At least one PAH analyte was detected in three of the five surface soil samples at concentrations above individual recommended soil cleanup objectives (SS-02DL, SS-03DL, and SS-05). Per the Qualification Summary in the DUSR, reported semivolatile results in table 3-1 for those analytes flagged as "E" are derived from the dilution analyses. Total PAHs, therefore, are only totaled and reported in table 3-1 for usable data.

Fluoranthene, pyrene, and chrysene were the PAH analytes detected in the highest relative concentrations.

Total cyanide was not detected in any of the surface soils analyzed.

3.2.3 Surface Residues

The results of the high resolution gas chromatography fingerprinting, including discussion and supporting display chromatograms and operating conditions, are included as appendix A. According to Worldwide Geoscience, both samples (WA-01 and WA-02) show similar signatures and contain substantial PAH assemblages indicating that the material is more representative of coal tar rather than petroleum-based asphalt.

Chromatograms of coal tar and petroleum-based asphalt are included as figure 1 in appendix A. For comparison purposes, the chromatograms of residue samples WA-01 and WA-02 are included as figures 2 and 3.

3.2.4 Subsurface Soils

As described in section 2.2.4 above, 18 subsurface soil samples and two blind duplicate samples were collected from six soil borings within Area 1. Twenty percent of the samples were analyzed for the full TCL/TAL compound list (three samples and one duplicate); the remaining were analyzed for MGP Indicators (15 samples and one duplicate). The results of the laboratory analyses have been summarized in tables 3-2, 3-3, 3-4, and 3-5 contained in the *Tables* appendix, and summarized below.

Pesticides and PCBs

As indicated in table 3-2, no pesticides or PCBs were detected at any of the three subsurface soil sampling locations analyzed.

Metals and Cyanide

As described above, 18 subsurface soil samples and two duplicates were collected during the installation of five monitoring wells and one soil boring at Area 1. Three subsurface soil samples and one duplicate were analyzed for TAL metals, while the remaining 15 samples and one duplicate were analyzed for cyanide only.

As indicated in table 3-3, various TAL metals were detected at each of the three subsurface soil sampling locations analyzed. NYSDEC TAGM HWR-94-4046 provides ranges of typical background concentrations of various heavy metals in eastern USA soils. These ranges may not, however, be indicative of industrialized areas such as those surrounding the Area 1 site. The ranges are included in the tables for reference and discussion purposes.

Metals detected above typical background concentrations are listed below:

Analyte	Range (mg/kg)	Eastern USA Background*
arsenic	1.4 (MW-3) to 51.6 (SB-1)	3 - 12
calcium	1,230 (MW-3) to 111,000 (SB-1)	130 - 35,000
chromium	7.7 (MW-3) to 43.6 (SB-1)	1.5 - 40
magnesium	2,490 (MW-3) to 10,600 (SB-1)	100 - 5,000
manganese	157 (MW-3) to 16,600 (SB-1)	50 - 5,000
vanadium	10.8 (MW-3) to 317 (SB-1)	1 - 300

* NYSDEC TAGM HWR-94-4046; *Determination of Soil Cleanup Objectives and Cleanup Levels; January 1994*

At monitoring well MW-3 (15-17') no TAL metals were detected above Eastern USA background levels as reported in TAGM HWR-94-4046. A total of six TAL metals were detected above Eastern USA background levels (arsenic, calcium, chromium, magnesium, manganese, and vanadium) at the other two sampling locations.

Concentrations of cyanide in subsurface soils were detected at only two of the 15 sampling locations (MW-1 at 1-3 feet and SB-1 at 3-5 feet below surface). At both locations, the data qualifier "N" was added to indicate that the spiked sample recovery was not within control limits. These two data points are therefore considered questionable.

Volatiles

Of the 18 subsurface soil samples and two duplicates collected, three soil samples and one duplicate were analyzed for TCL volatiles, while the remaining 15 samples and one duplicate were analyzed for BTEX. The results are summarized in table 3-4, Subsurface Soils - Volatiles. As indicated in the table, the only target volatile analytes detected were benzene and toluene at MW-1 (1-3') and 2-butanone and toluene at SB-1 (12-14'). None of the detected volatile compounds were present at concentrations above the NYSDEC TAGM HWR-94-4046 recommended cleanup objectives.

Semivolatiles

Of the 18 subsurface soil samples and two duplicates collected, three soil samples and one duplicate were analyzed for TCL semivolatiles, while the remaining 15 samples and one duplicate were analyzed for PAHs. The results of the laboratory analyses for semivolatiles are presented in table 3-5.

The total PAHs detected in the soil samples ranged from below detection limits (10 samples) to 34.43 mg/kg at MW-4 (5-7'). None of the subsurface soils collected for analysis possessed total PAHs above the NYSDEC TAGM HWR-94-4046 recommended cleanup objective of 500 mg/kg. At seven of the eight locations where samples contained detectable concentrations of semivolatiles, the total concentration was below 3.0 mg/kg.

In general, the detected concentrations of PAHs decreased with increasing depth. No PAH compounds were detected in samples from deeper than 19 feet below grade. Eight of the 20 soil samples analyzed possessed at least one PAH analyte above the recommended soil cleanup criteria. Five subsurface soil samples had only one PAH analyte (Benzo{a}pyrene) above the recommended soil cleanup criteria; three samples had between 3 and 6 individual PAH analytes above recommended criteria.

3.2.5 Groundwater

As described in section 2.2.6 above, five groundwater samples and one blind duplicate sample were collected from the on-site monitoring wells during two sampling events conducted on October 3 and November 8, 1996. The samples were analyzed for the full TCL/TAL compound list as well as for the suite of "conventional" parameters. The results of the laboratory analyses from the two events have been summarized in tables 3-6 and 3-7, included in the *Tables* appendix.

Metals and Cyanide

As indicated in tables 3-6 and 3-7, various TAL metals were detected in each of the five monitoring wells during both sampling events. No cyanide was detected in any of the groundwater samples. NYSDEC TOGS 1.1.1 provides water quality standards and guidance values for concentrations of various metals. A total of ten TAL metals were detected at concentrations above the associated groundwater standard or guidance value during the two sampling events, as summarized below:

Analyte	Highest Detection (October) (ug/l)	Highest Detection (November) (ug/l)	NYSDEC Standard or Guidance Value (ug/l)
arsenic	20.9 (MW-5)	43.8 (MW-2)	25.0
beryllium	3.4 (MW-5)	3.5 (MW-2)	3.0
chromium	71.9 (MW-5)	75.8 (MW-2)	50
iron	108,000 (MW-5)	139,000 (MW-2)	300
lead	104 (MW-5)	72.5 (MW-2)	25.0
magnesium	63,600 (MW-5)	54,400 (MW-2)	35,000
manganese	8,680 (MW-5)	4,290 (MW-2)	300
sodium	119,000 (MW-4)	148,000 (MW-1)	20,000
thallium	20 (MW-5)	ND	4.0
zinc	386 (MW-5)	321 (MW-2)	300

Pesticides and PCBs

Pesticides and PCBs were not detected in groundwater collected from any of the monitoring wells during either sampling event.

Volatiles

TCL volatile compounds were not detected in groundwater collected from any of the monitoring wells during either sampling event. The groundwater sampling results for volatiles are summarized on figures 3-8 and 3-9.

Semivolatiles

TCL semivolatile compounds were not detected in groundwater collected from any of the monitoring wells during either sampling event. The groundwater sampling results for semivolatiles are summarized on figures 3-8 and 3-9.

3.2.6 Surface Water

Two surface water grab samples (SW01 and SW02) were collected and sent for analysis of MGP Indicators. The results from the MGP indicators analysis are summarized in table 3-9, Surface Water - MGP Indicators.

No BTEX analytes were detected in either surface water sample SW01 or SW02. Additionally, no BTEX analytes were detected in blind duplicate sample SW2D.

Similarly, no PAH analytes were detected in either surface water sample or the blind duplicate.

Total cyanide was also not detected in any of the collected samples.

3.2.7 Creek Sediments

As referenced in section 2.2.7 above, two sediment samples and one blind duplicate sample were collected from the on-site stream. The locations of the sediment samples are depicted on figure 2-1, Surface Soil, Subsurface Soil, Residue, and Sediment Sample Locations. The results of the laboratory analyses for MGP Indicators have been summarized in table 3-8, Sediment Sampling - MGP Indicators, included in the *Tables* appendix. Included in the table for discussion purposes are the Human Health, Benthic Organism, and Wildlife sediment criteria taken from the NYSDEC Technical Guidance for Screening Contaminated Sediments.

No detectable concentrations of BTEX were present in any of the samples analyzed (SD01, SD02, and duplicate sample SD1D).

Only one sediment sample (SD01) had concentrations of PAH analytes above the sample quantitation limit (pyrene at 1.3 mg/kg). No PAH analytes exceeded published sediment criteria values for human health, benthic organisms, or wildlife.

Total cyanide was not detected in any of the collected samples.

3.2.8 Ambient Air

As described in section 2.2.8 above, ambient and perimeter air monitoring for VOCs and airborne particulates was conducted during the field work using portable instruments (PID and Miniram). The results are summarized on the Vapor Monitoring Logs in appendix C. All measurements were within the limits defined within the HASP and the GFSP; no response actions to mitigate VOC or particulate levels were required.

3.2.9 Waste Characterization

As described in section 2.2.9 above, the staged drill cuttings and the containerized decontamination water and well development water were sampled for waste characterization and disposal purposes. The soil sample was analyzed for TCLP volatiles, TCLP semivolatiles, TCLP metals, paint filter test, and reactive cyanide. The water sample was analyzed for TCLP volatiles, TCLP semivolatiles, TCLP metals, PCBs, and percent chlorine. The results of the laboratory analyses are summarized in table 3-10, Waste Characteristics, included in the *Tables* appendix.

Based on the analytical data, both the waste soils and water were classified as non-hazardous. Both the soils and water were removed and properly disposed of off-site at NYSDEC permitted disposal facilities.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The objective of this section is to present the conclusions and recommendations of the PSA/IRM study. These conclusions and recommendations are based on the geologic and hydrogeologic information collected combined with the chemical impact information collected.

4.1 Conclusions

Based on the PSA/IRM study, the following conclusions may be drawn:

Site Setting

- The study area is located on the northern end of the former island formerly known as Breaker (Hillhouse) Island. Portions of the site are located in the City of Watervliet and the Town of Colonie. The site is bounded on the east by the Hudson River, to the west by Interstate 787, to the north by the convergence of the Hudson River and Interstate 787, and extends to the south to a small creek (drainage swale) which exists on the former island.
- A bike path which was constructed in the 1980s exists on the property. The bike path runs north to south and is located between Interstate 787 and the Hudson River.
- The site is suspected to have historically been used for disposal of by-products from coking, iron, and steel works, and MGP works that were located across the Hudson River that were operated in the early 1900s.
- The thickness of the fill ranges from 9 to 13 feet.
- Groundwater was found at a depth of approximately 16 to 24 feet below grade within the monitoring wells on-site.
- Vehicular access to the site is controlled by a chain-linked fence and gate/pedestrian access is unrestricted.
- Groundwater is not used as a potable drinking water supply within a ½ mile radius from the site.
- Portions of Area 1, including the study area, were once the site of the single largest steel works in the world formerly owned and operated by Troy Steel & Iron Company and successors (Troy Daily Times, January 11, 1896). Operation of the former blast furnace would have produced residuals similar to those generated by MGPs. Additionally, a gas

plant to produce coal gas to fuel the blast furnaces was reportedly operated by Troy Steel and Iron in the study area.

Groundwater

- No pesticides or PCBs were detected during either sampling event.
- No volatile compounds were detected during either sampling event.
- No semivolatile compounds were detected during either sampling event.
- Several metals were detected above NYSDEC standards or guidance values.
- In the absence of VOC and SVOC compounds, the presence of metals above NYSDEC standards or guidance values may not be directly associated with MGP residuals.

Surface Soils

- BTEX was not detected at concentrations above recommended soil cleanup objectives presented in NYSDEC TAGM 4046.
- BTEX was not detected above the sample quantitation limit at four of the five locations sampled. Toluene (0.014 mg/kg) and xylenes (0.066 mg/kg) were the detected in surface soil sample SS-05.
- Total PAHs were not detected in any sample above the NYSDEC TAGM 4046 recommended soil cleanup objective of 500 ppm.
- Total PAHs ranged from 0.470 mg/kg to 213.4 mg/kg.
- Fluoranthene, pyrene, and chrysene were the PAH analytes detected in the highest relative concentrations.

Surface Residuals

- Surface residuals appear to be discrete and appear to be a small portion of the fill associated with the site.
- According to Worldwide Geoscience, both samples analyzed show similar signatures and contain substantial PAH assemblages indicating that the material is more representative of coal tar than petroleum-based asphalt.
- At only one location (near the culvert in the drainage swale), was the surface residual a "weep", potentially associated with a small, shallow source area.

Creek Sediments

- No BTEX was detected.

- No PAH analytes exceeded published sediment criteria values for the protection of human health, benthic organisms, or wildlife.
- Only pyrene (1.3 mg/kg) was present in one sample above the sample quantitation limit.

Surface Water

- No BTEX was detected.
- No PAHs were detected.
- No cyanide was detected.

Subsurface Soils

- No source areas of subsurface PAHs were detected.
- No significant concentrations of MGP-related by-products (concentrations greater than NYSDEC recommended cleanup criteria) were identified in subsurface soil.
- Detected metals were generally within Eastern USA background concentrations; no trends were identified for metals which exceeded Eastern USA background levels.
- VOCs were not detected above NYSDEC recommended soil cleanup objectives.
- Semivolatiles were not detected above the NYSDEC recommended cleanup objective of 500 mg/kg (concentrations ranged from ND at 10 locations to 34 ppm).
- Detected concentrations of PAHs generally decreased with depth across the site.
- Five of 20 samples had one PAH analyte (benzo{a}pyrene) above the recommended soil cleanup objective; 3 additional locations had 3 to 6 individual PAH analytes above recommended soil cleanup objectives.

4.2 Recommendations

No source areas of PAHs, or significant concentrations of MGP related by-products (concentrations greater than NYSDEC recommended cleanup criteria), were identified in subsurface soils. A remedial investigation/feasibility study is therefore not recommended at this site.

MGP related residues are present, however, at the surface and near-surface depths at discrete locations on site. Removal of these surface residuals is recommended to mitigate potential exposure to users of the bike path.

5.0 IRM EVALUATION

The site conditions in Area 1 were evaluated to determine if an imminent danger to health or the envronment exists, or conditions exist which may lead to an imminent danger, which warrants proceeding with one or more IRMs. An IRM is considered a discrete set of activities to address both emergency and non-emergency site conditions, which can be undertaken without extensive investigation and evaluation, to prevent, mitigate, or remedy environmental damage. This evaluation consisted of the review of the chemical data collected combined with observations gathered during site reconnaissance visits.

Based on the above, the chemical nature of the site does not appear to pose an imminent danger to human health or environment. Therefore, potential IRM activities include only non-emergency activities aimed at preventing further chemical impacts to the environment.

One IRM has been identified which fits into this category. The proposed IRM includes:

Removal of Surface Residuals
As discussed in section 4.2, above, removal of surface residuals is recommended to mitigate potential exposure to users of the bike path.

Removal would generally consist of shallow excavation (1 to 2 feet below surface), sufficient to remove the surface residual and/or eliminate the exposure pathway. Based on location specific criteria, it may be necessary to excavate deeper to remove the residuals. Placement of clean fill and restoration of the site to original conditions (grading, re-planting, etc.) will be conducted. At one location (near the culvert in the drainage swale), tar-like weeps were identified during the site reconnaissance visit. A limited field investigation associated with this area, using portable equipment, may be appropriate.

Consistent with the provisions included in the NYSDEC's *Division Technical and Administrative Guidance Memorandum: Interim Remedial Measures - Procedures*, (TAGM HRW-92-4048) the removal action would be conducted as an interim remedial measure (IRM) and would constitute complete remediation of the study area. Upon NYSDEC acceptance of these recommendations, an IRM work plan outlining the proposed action will be prepared and submitted to the NYSDEC for review and approval. At a minimum, the document will contain:

- a description of site information
- a description of the proposed IRM
- a description of the scope of work
- an evaluation of disposal options
- a description of closure documentation
- a project timeline

6.0 REFERENCES

Surficial Geologic Map of New York State, Hudson Mohawk Sheet, D. Cadwell, R.Dineen, 1987.

Geologic Map of New York, Hudson Mohawk Sheet, D. Fisher, 1970

Preliminary Site Assessment/Interim Remedial Measures Study for Troy (Water Street) Former MGP Site in Troy, New York; O"Brien & Gere Engineers, Inc., May 24, 1994.

NYSDEC Division of Hazardous Waste Remediation, Division of Technical and Administrative Guidance Memorandum: *Determination of Soil Cleanup Objectives and Cleanup Levels*, HWR-92-4046, January 1994.

R.V. Cushman, "The Groundwater Resources of Rensselaer County", USGS in Cooperation with Water Power and Control Commission, Albany, NY, 1950.

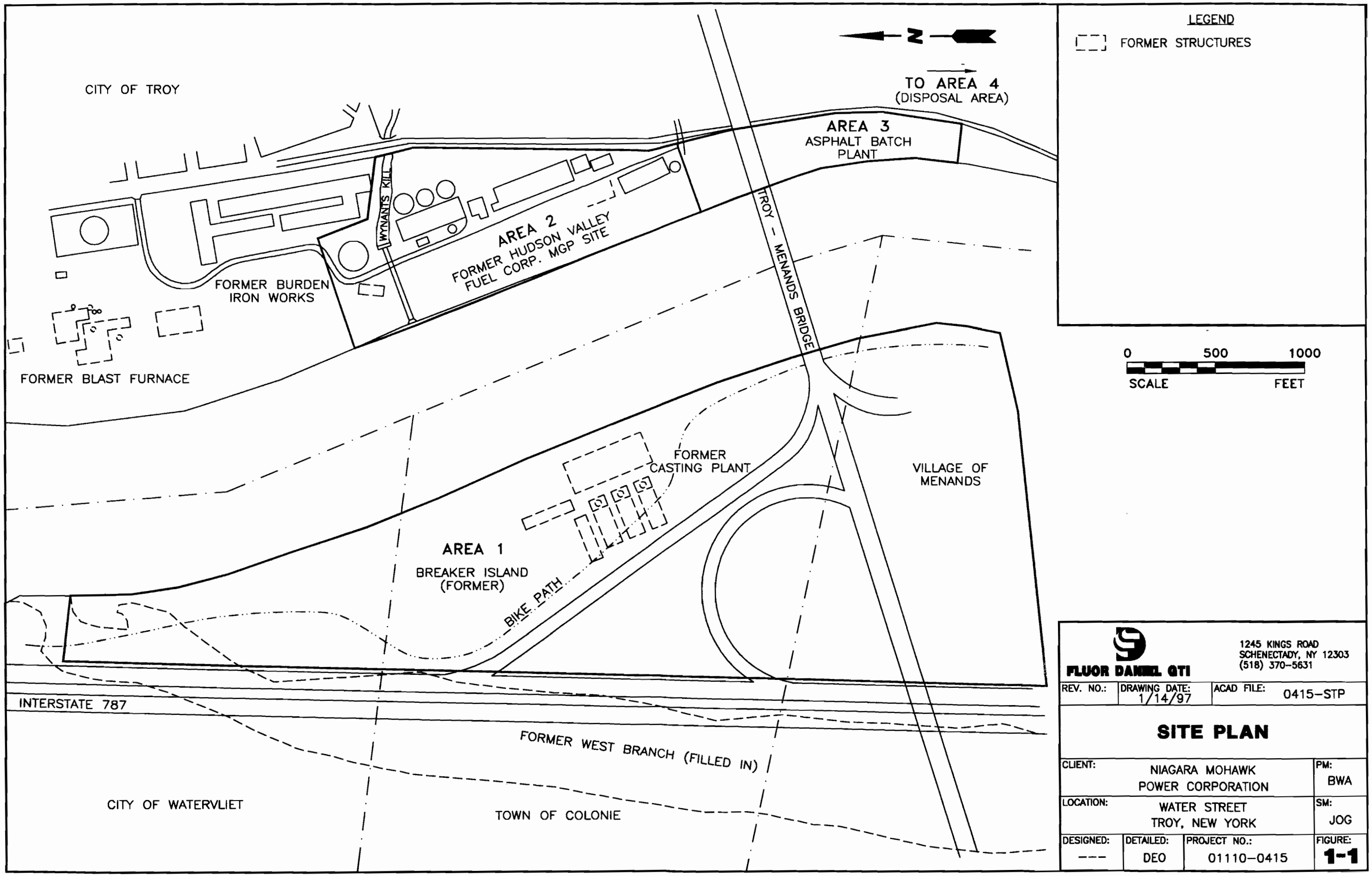
Handbook on Manufactured Gas Plant Sites, Environmental Research and Technology, Inc. and Koppers Company, Inc.; September 1994.

NYSDEC Division of Hazardous Waste Remediation, Division of Technical and Administrative Guidance Memorandum: *Interim Remedial Measures - Procedures*; HWR-92-4046, December 9, 1992.

NYSDEC Division of Water, Technical and Operations Guidance Series (1.1.1), "Ambient Water Quality, Standards and Guidance Values", October 22, 1993.

NYSDEC Division of Fish and Wildlife, "Technical Guidance for Screening Contaminated Sediments", July 1994.

FIGURES

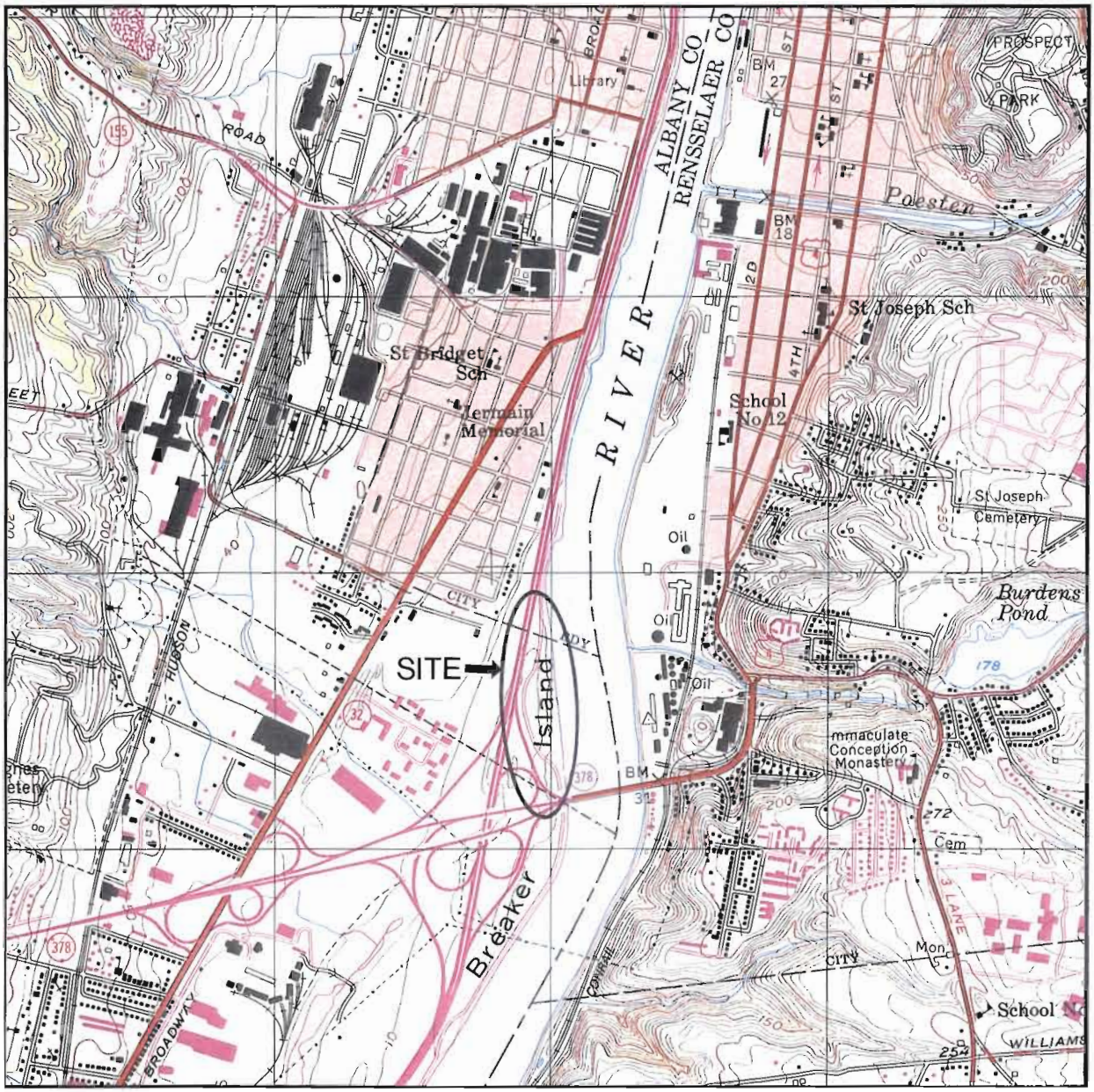


FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	0415-STP

SITE PLAN

CLIENT: NIAGARA MOHAWK POWER CORPORATION			PM: BWA
LOCATION: WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: ---	DETAILED: DEO	PROJECT NO.: 01110-0415	FIGURE: 1-1



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
TROY SOUTH, NY QUADRANGLE
7.5 MINUTE SERIES
DATE: 1953
PHOTOREVISED: 1980

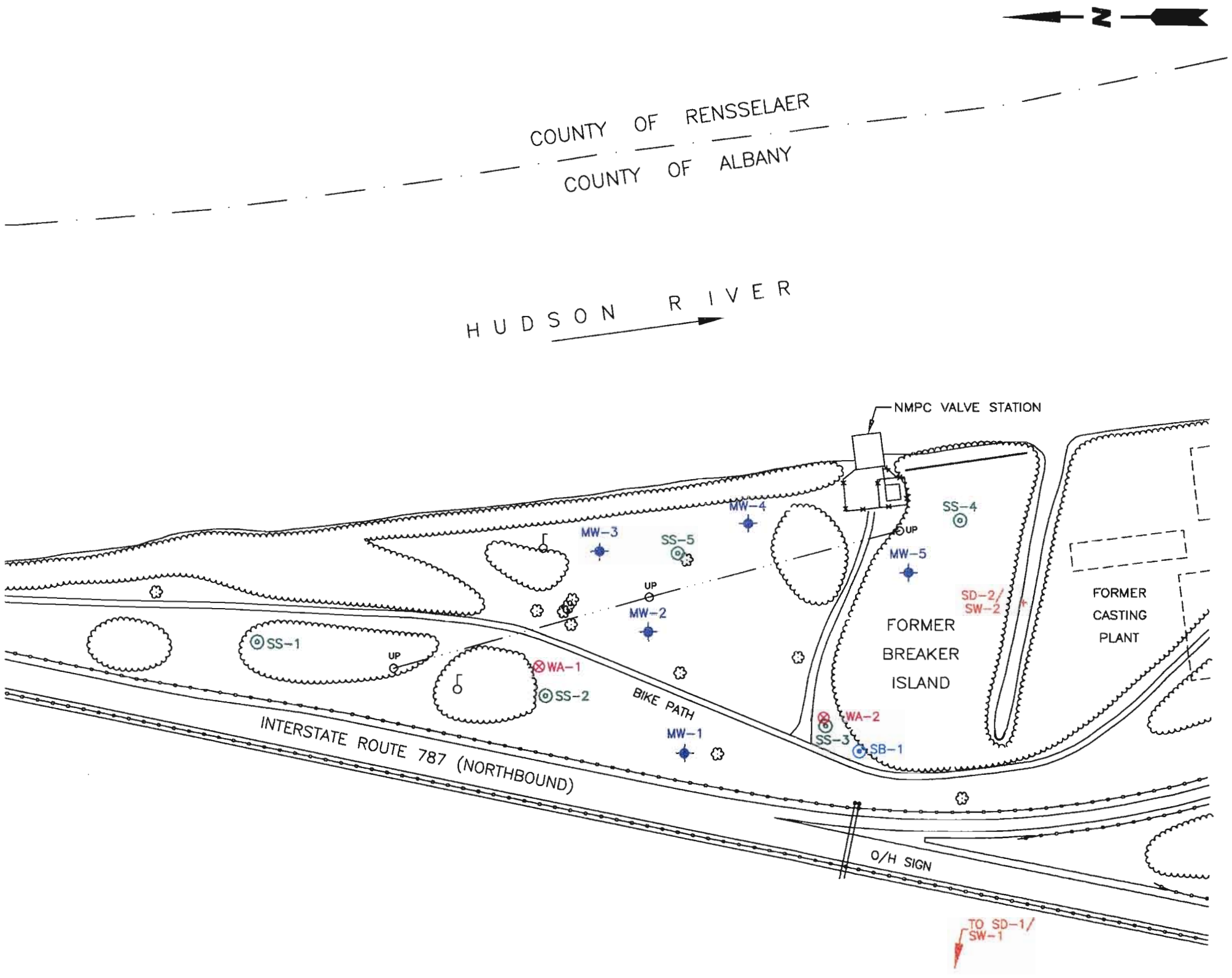
QUAD LOCATION

SCALE 1:24,000

0 2,000 4,000
SCALE FEET

N

GROUNDWATER TECHNOLOGY 1245 KINGS ROAD SCHENECTADY, NY 12303 (518) 370-5631	DESIGNED: JOG DETAILED: DEO CHECKED:	**SITE LOCATION MAP**	
		CLIENT: NIAGARA MOHAWK POWER CORPORATION	DRAWING DATE: 3/14/96
		LOCATION: WATER STREET (AREA 1) TROY, NEW YORK	FIGURE: **1-2**



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SOIL SAMPLE
- SURFACE WASTE SAMPLE
- SURFACE WATER / SEDIMENT SAMPLE LOCATION
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

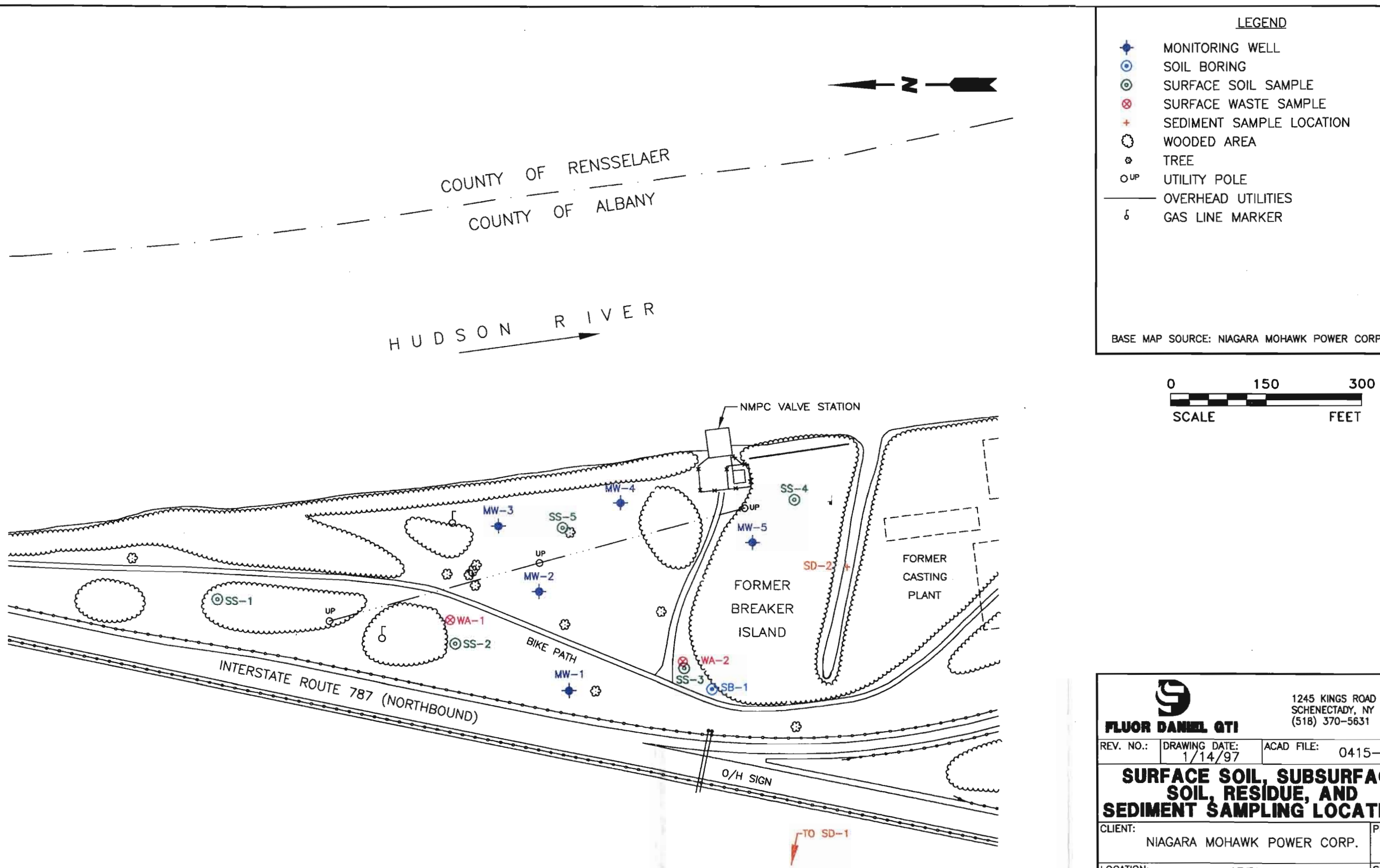
FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/7/97	0415-ST3

SITE MAP

CLIENT:	PM:
NIAGARA MOHAWK POWER CORP.	BWA
LOCATION: AREA 1, WATER STREET, TROY, NEW YORK	SM: JOG

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
---	DEO/EJT	01110-0415	1-3



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SOIL SAMPLE
- SURFACE WASTE SAMPLE
- SEDIMENT SAMPLE LOCATION
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

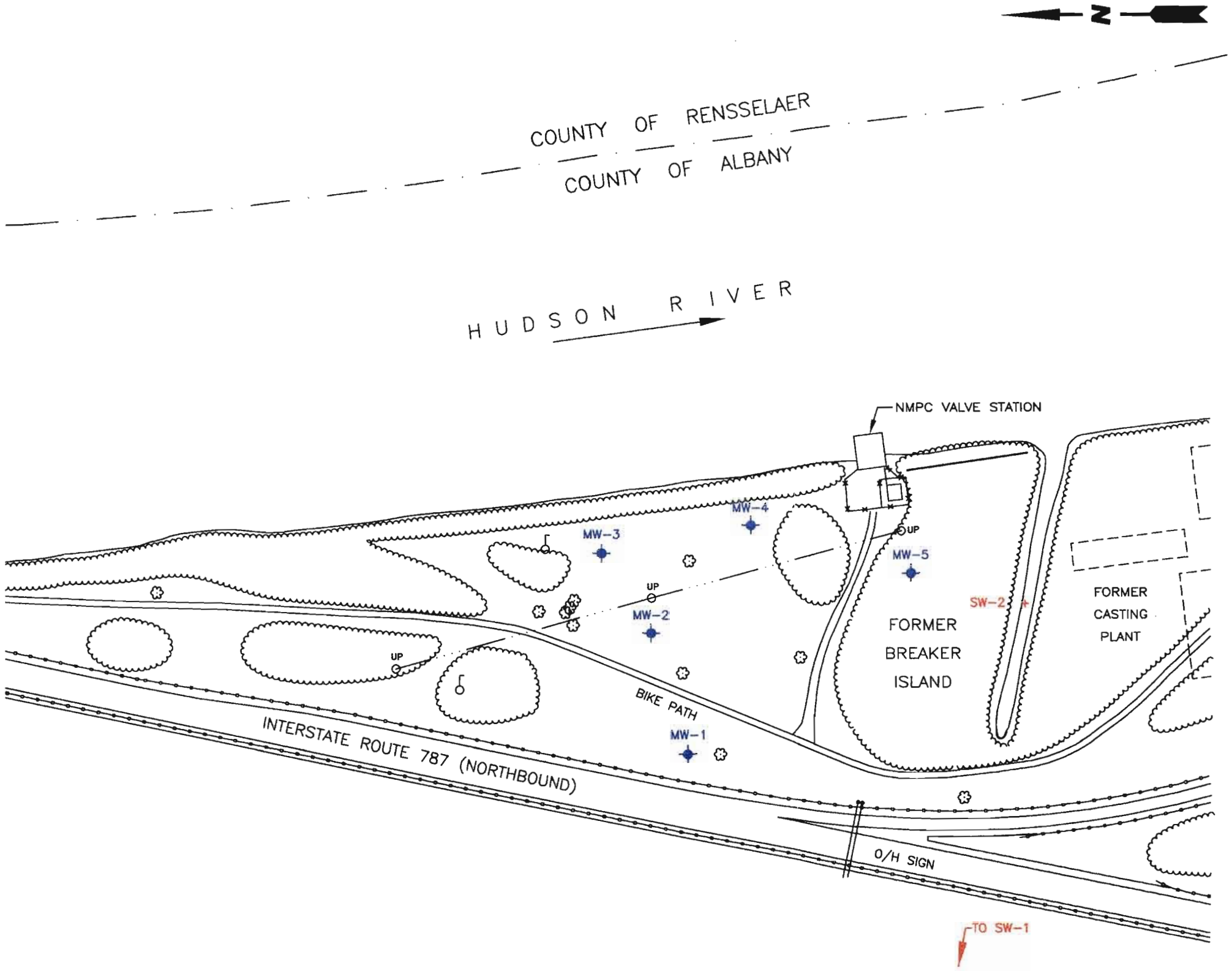
FLUOR DANIEL GTI

1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	0415-S21

SURFACE SOIL, SUBSURFACE SOIL, RESIDUE, AND SEDIMENT SAMPLING LOCATIONS

CLIENT:		PM:
NIAGARA MOHAWK POWER CORP.		BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK		SM: JOG
DESIGNED: ---	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415
		FIGURE: **2-1**



LEGEND

- MONITORING WELL
- SURFACE WATER SAMPLE LOCATION
- WOODED AREA
- TREE
- UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

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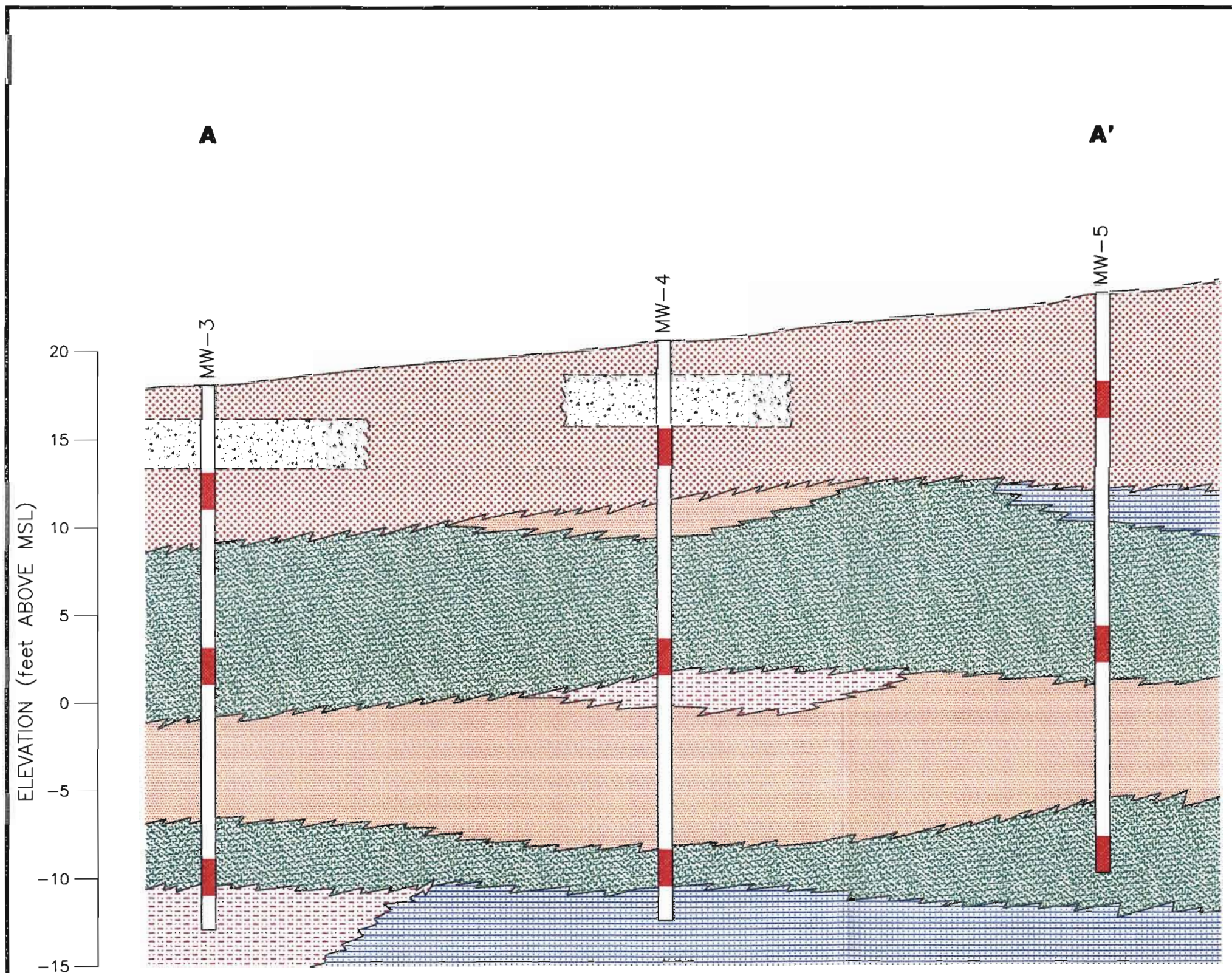
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	0415-S22

SURFACE WATER AND GROUNDWATER SAMPLING LOCATIONS

CLIENT:		PM:
NIAGARA MOHAWK POWER CORP.		BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK		SM: JOG
DESIGNED: ---	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415
		FIGURE: **2-2**



LEGEND

- FINE SAND
- FILL
- CONCRETE FOUNDATION (INFERRED)
- SAND AND GRAVEL
- GRAVEL AND SAND
- SAND AND SILT
- MW — MONITORING WELL
- MSL — MEAN SEA LEVEL
- INTERVAL SAMPLED FOR LABORATORY ANALYSIS

VERTICAL SCALE: AS NOTED

HORIZONTAL SCALE:

0 50 100

SCALE FEET

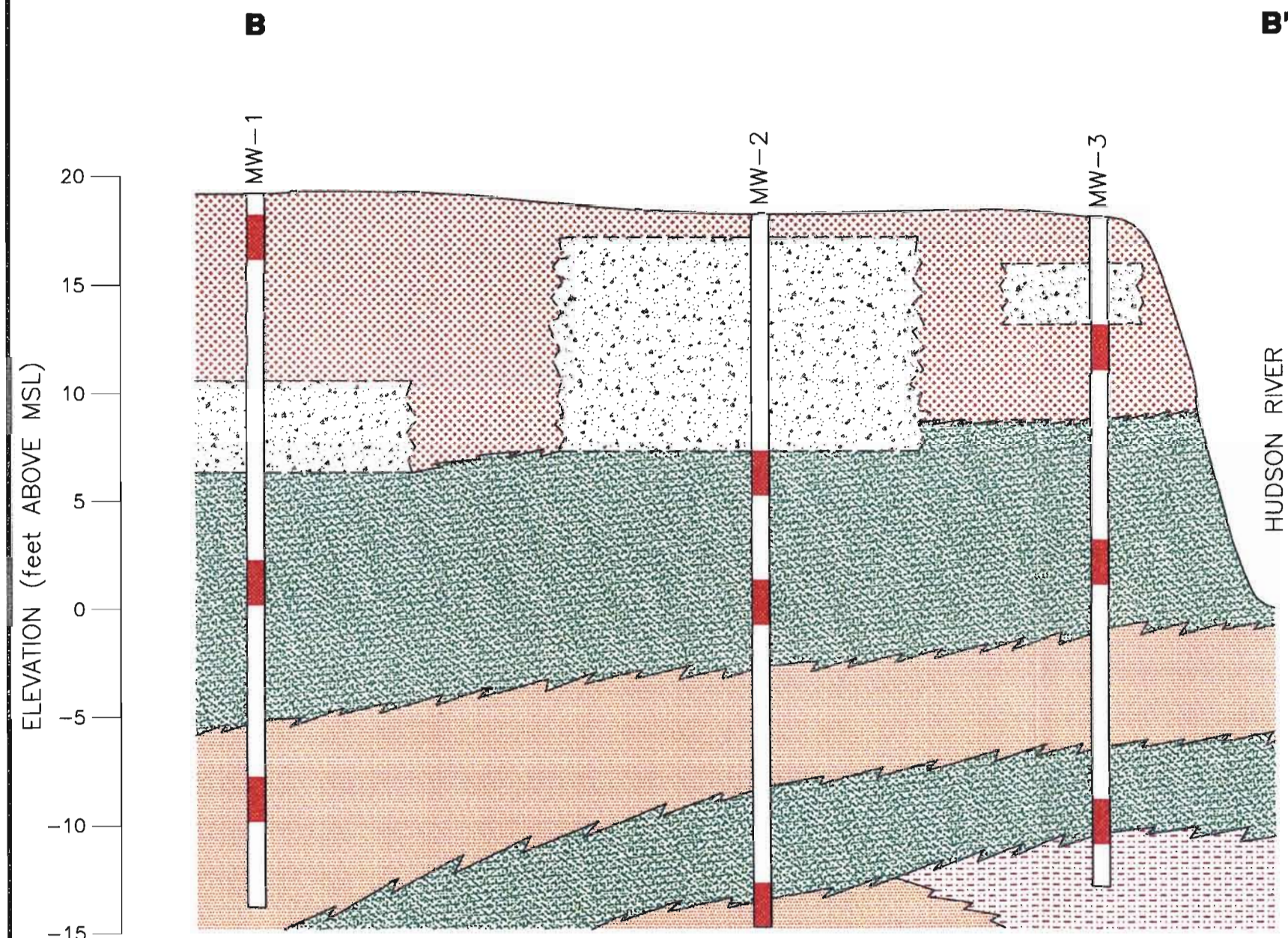
FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE: 12/23/96	ACAD FILE: 0415-XSA

CROSS-SECTION A-A'

CLIENT:	PM:
NIAGARA MOHAWK POWER CORPORATION	BWA
LOCATION: WATER STREET/AREA 1 TROY, NEW YORK	SM: JOG

DESIGNED:	DETAILED:	PROJECT NO.:	DRAWING:
JMB	DEO	01110-0415	3-1



LEGEND

- FINE SAND
- FILL
- CONCRETE FOUNDATION (INFERRED)
- SAND AND GRAVEL
- GRAVEL AND SAND
- MW — MONITORING WELL
- MSL — MEAN SEA LEVEL
- INTERVAL SAMPLED FOR LABORATORY ANALYSIS

VERTICAL SCALE: AS NOTED

HORIZONTAL SCALE::

0 50 100

SCALE FEET

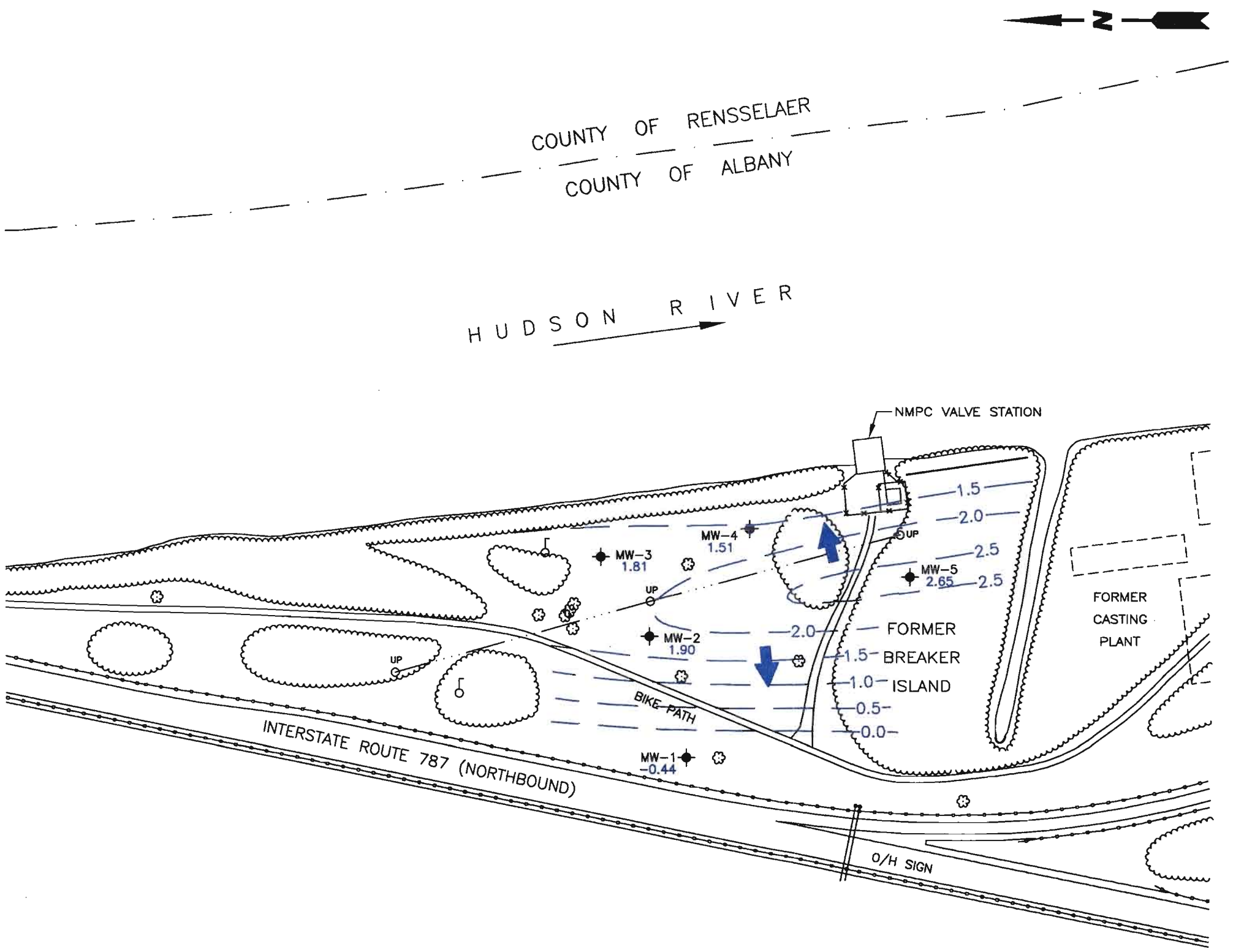
FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	12/19/96	0415-XSB

CROSS-SECTION B-B'

CLIENT:	PM:
NIAGARA MOHAWK POWER CORPORATION	BWA
LOCATION: WATER STREET/AREA 1 TROY, NEW YORK	SM: JOG

DESIGNED:	DETAILED:	PROJECT NO.:	DRAWING:
JMB	DEO	01110-0415	3-2



LEGEND

- MONITORING WELL
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- 2.65 GROUNDWATER ELEVATION (feet)
- —2.5 GROUNDWATER CONTOUR (feet)
- DIRECTION OF GROUNDWATER FLOW

MONITORING DATE: 10/3/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

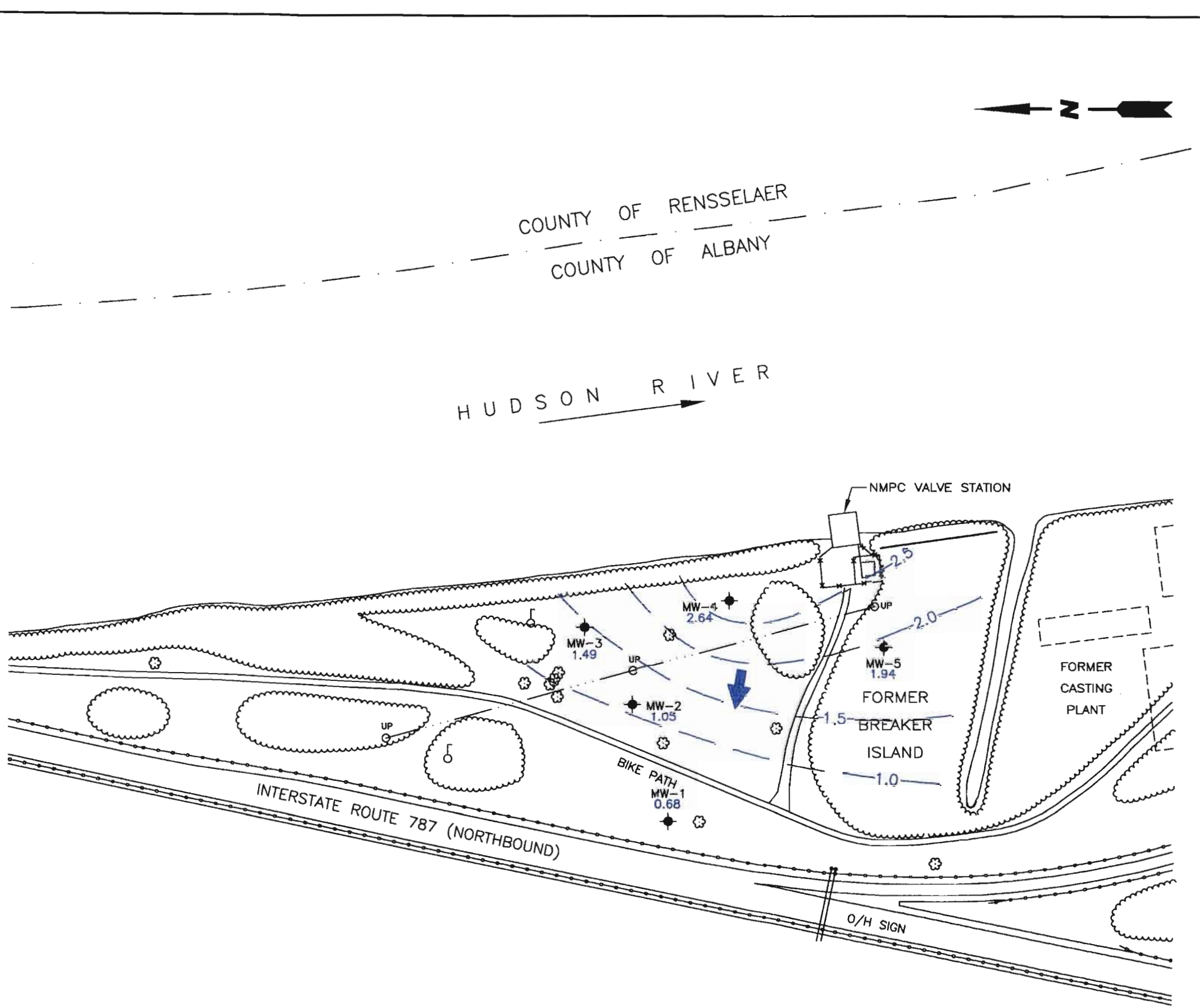
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	GWOCT96

GROUNDWATER CONTOUR MAP (10/3/96)

CLIENT:		PM:
NIAGARA MOHAWK POWER CORP.		BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK		SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415
		FIGURE: 3-3



LEGEND

- MONITORING WELL
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- 2.64 GROUNDWATER ELEVATION (feet)
- 2.5 GROUNDWATER CONTOUR (feet)
- DIRECTION OF GROUNDWATER FLOW

MONITORING DATE: 11/8/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

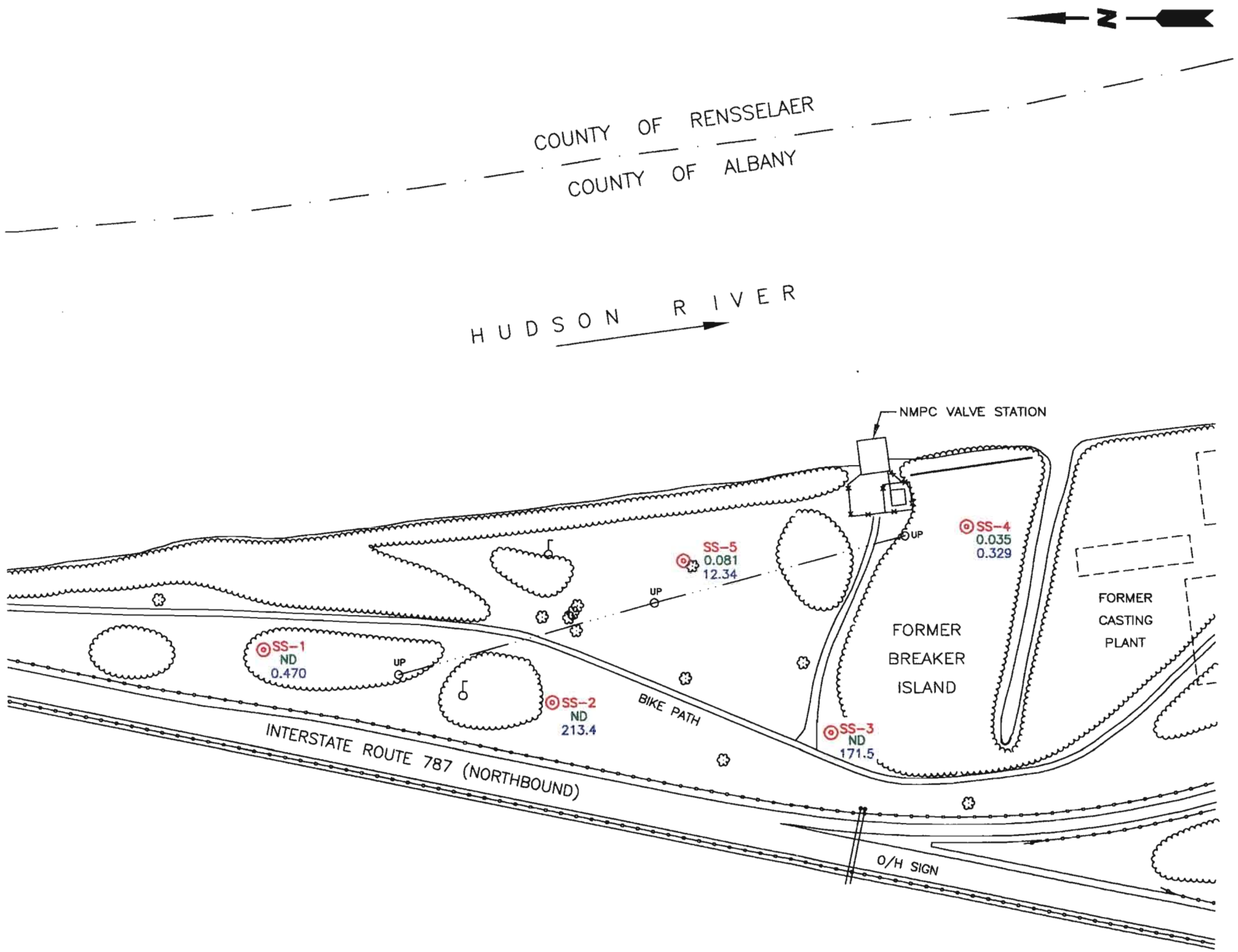
FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	GWNOV96

GROUNDWATER CONTOUR MAP (11/8/96)

CLIENT:	PM:
NIAGARA MOHAWK POWER CORP.	BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK	SM: JOG

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
JOG	DEO/EJT	01110-0415	3-4



LEGEND

- SURFACE SOIL SAMPLE
- WOODED AREA
- TREE
- UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- 0.035 BTEX CONCENTRATION (ppm)
- 0.329 PAH CONCENTRATION (ppm)
- ND NOT DETECTED

SAMPLING DATE: 9/10/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

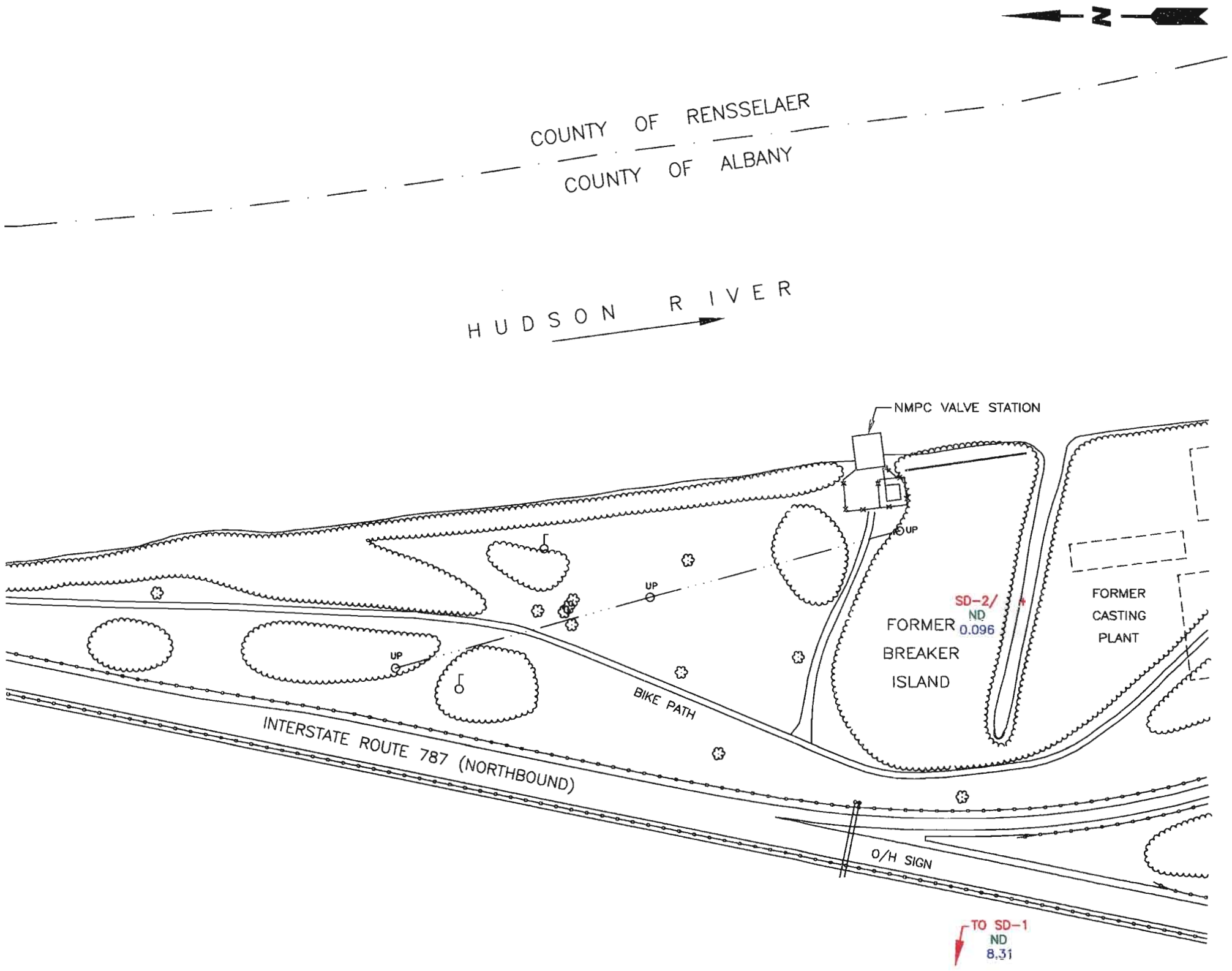
FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	SSSSEP96

SURFACE SOIL SAMPLING RESULTS

CLIENT:	PM:
NIAGARA MOHAWK POWER CORP.	BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK	SM: JOG

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
JOG	DEO/EJT	01110-0415	3-5



LEGEND

+	SEDIMENT SAMPLE LOCATION
○	WOODED AREA
⌀	TREE
○UP	UTILITY POLE
———	OVERHEAD UTILITIES
⌀	GAS LINE MARKER
ND	BTEX CONCENTRATION (ppm)
0.096	PAH CONCENTRATION (ppm)
ND	NOT DETECTED

SAMPLING DATE: 10/3-4/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

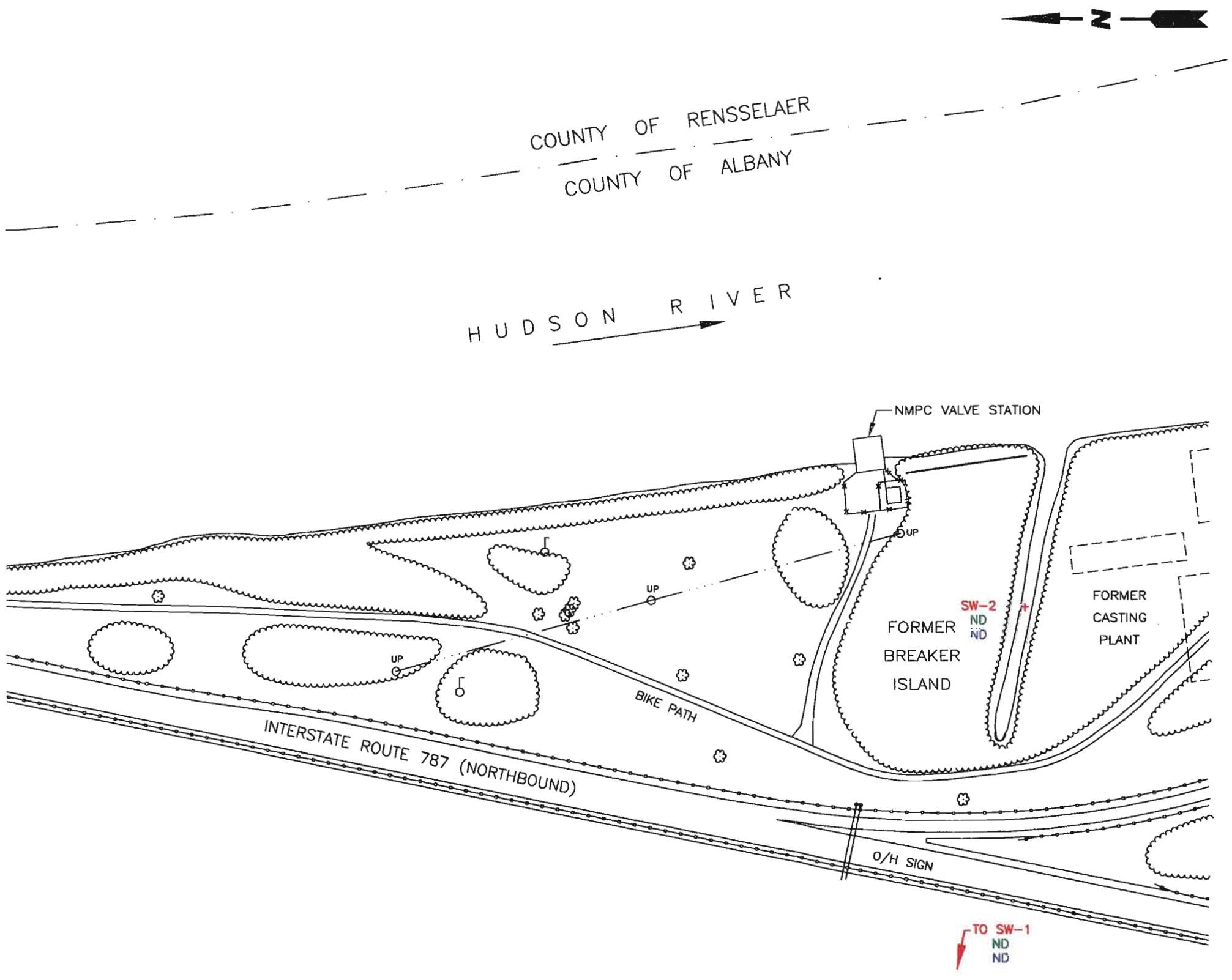
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	SRSSEP96

SEDIMENT SAMPLING RESULTS

CLIENT: NIAGARA MOHAWK POWER CORP.			PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415	FIGURE: 3-6



LEGEND

+	SEDIMENT SAMPLE LOCATION
○	WOODED AREA
⊛	TREE
O UP	UTILITY POLE
———	OVERHEAD UTILITIES
δ	GAS LINE MARKER
0.035	BTEX CONCENTRATION (ppm)
0.329	PAH CONCENTRATION (ppm)
ND	NOT DETECTED

SAMPLING DATE: 10/3/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

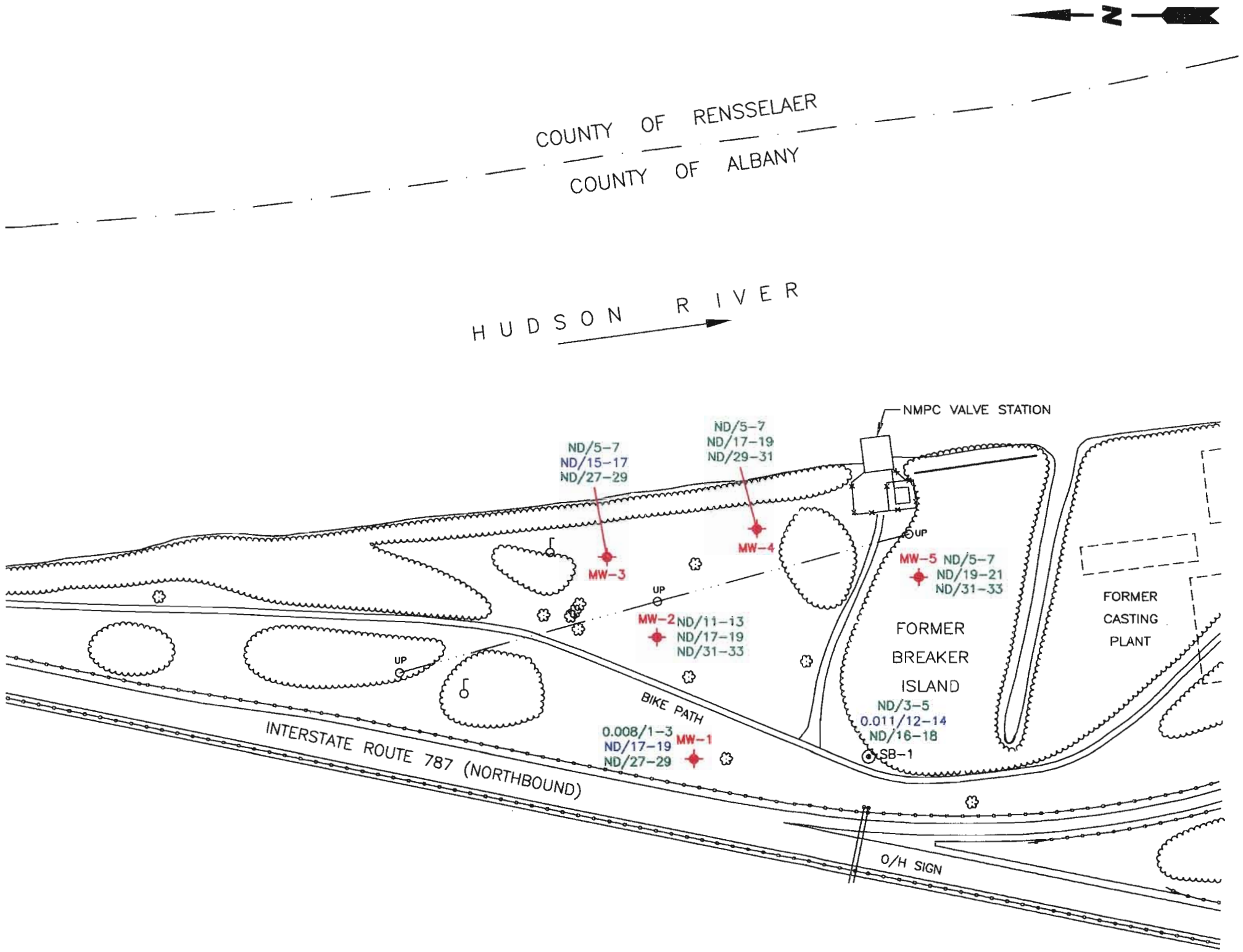
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	1/14/97	SWSSEP96

SURFACE WATER SAMPLING RESULTS

CLIENT: NIAGARA MOHAWK POWER CORP.		PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK		SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415
		FIGURE: 3-7



LEGEND

- MONITORING WELL
- SOIL BORING
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- 0.035 BTEX CONCENTRATION (ppm) /SAMPLE DEPTH (feet)
- 0.329 TCL VOLATILES CONCENTRATION (ppm) /SAMPLE DEPTH (feet)
- ND NOT DETECTED

SAMPLING DATE: 9/3-9/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

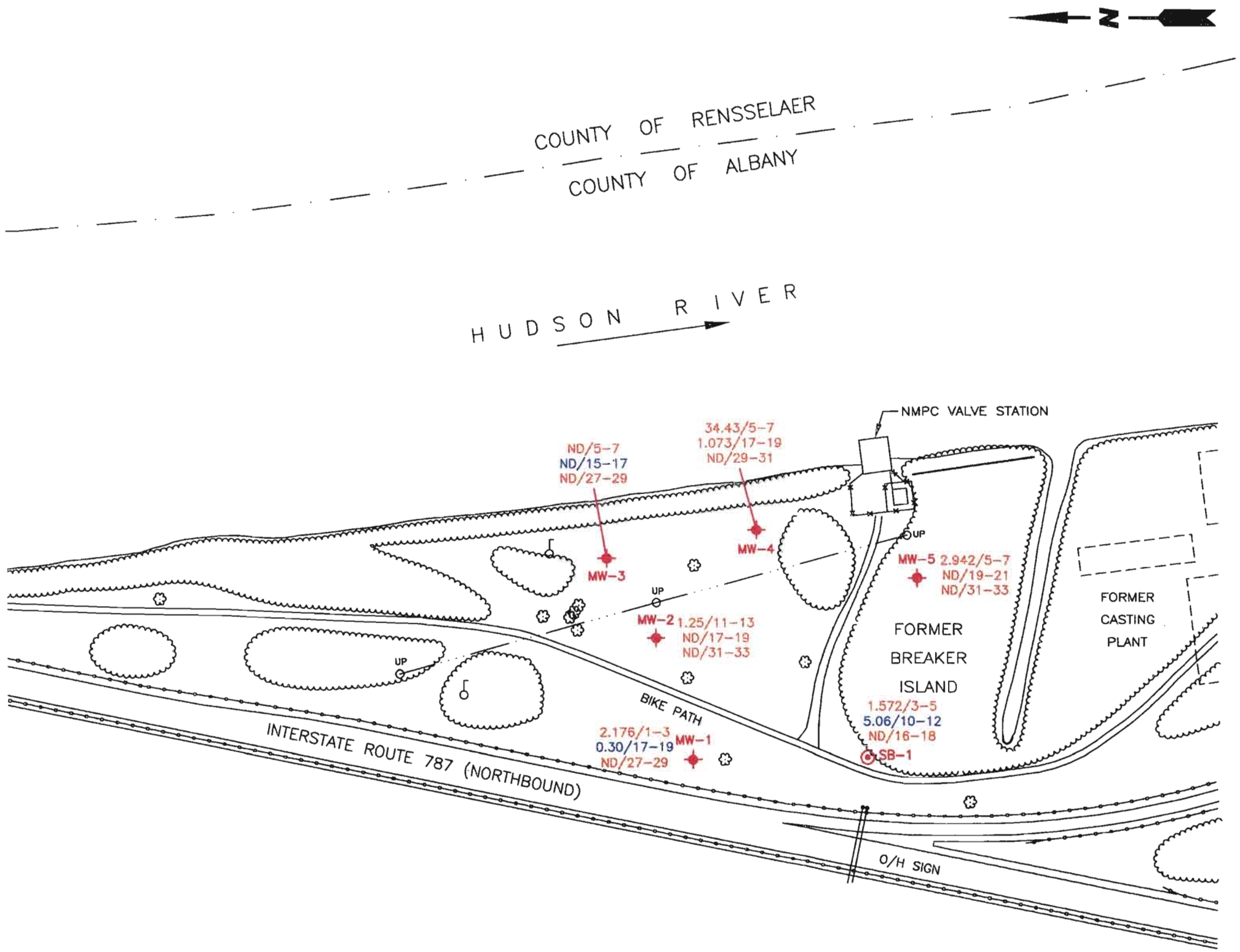
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE: 1/14/97	ACAD FILE: VOLSEP96

SUBSURFACE SOIL SAMPLING RESULTS (VOLATILES)

CLIENT: NIAGARA MOHAWK POWER CORP.			PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415	FIGURE: 3-8



LEGEND

- MONITORING WELL
- SOIL BORING
- WOODED AREA
- TREE
- UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- 2.942/5-7 PAH CONCENTRATION (ppm) /SAMPLE DEPTH (feet)
- 5.06/10-12 TCL SEMIVOLATILES CONCENTRATION (ppm)/SAMPLE DEPTH (feet)
- ND NOT DETECTED

SAMPLING DATE: 9/3-9/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

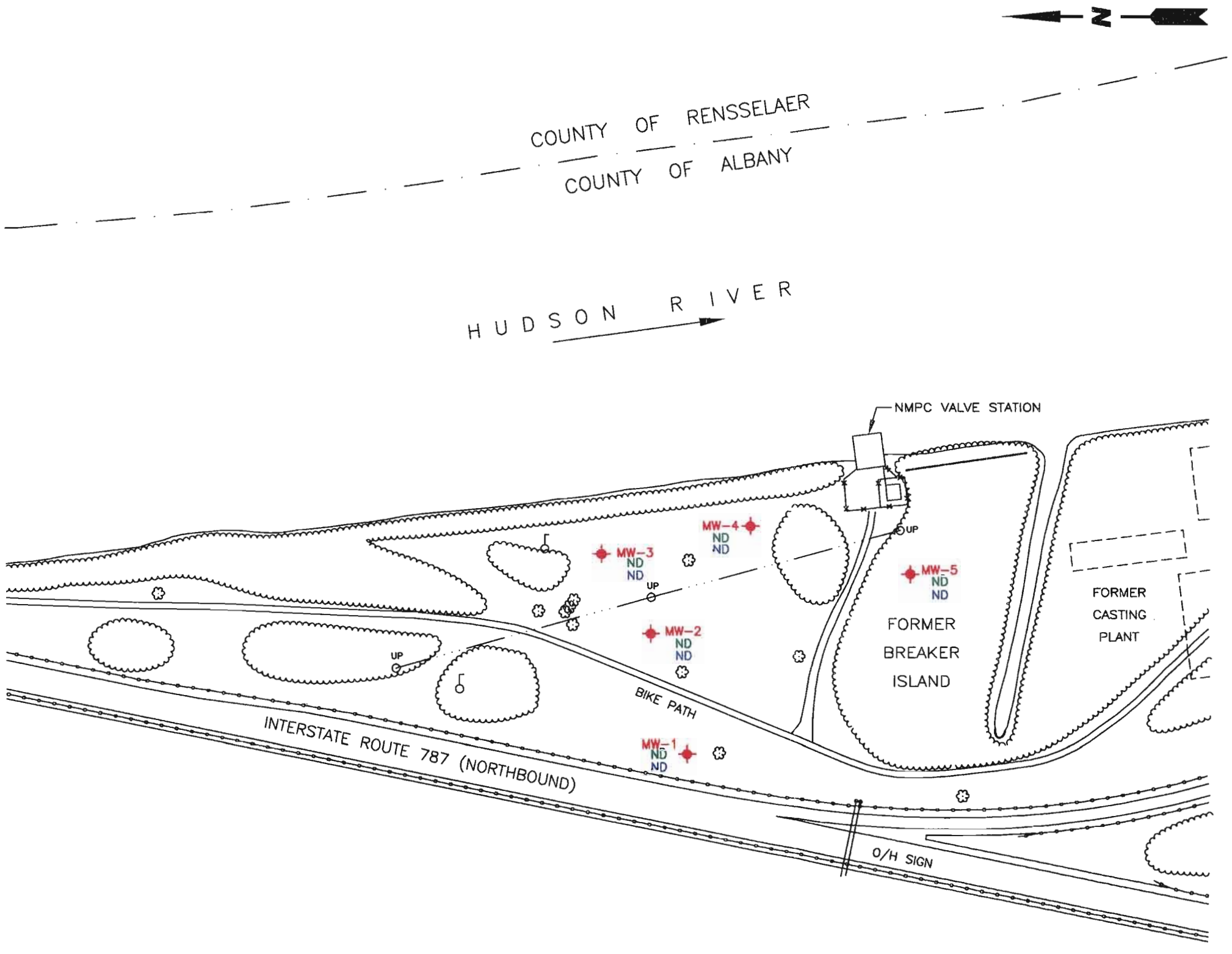
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE: 1/14/97	ACAD FILE: SMISEP96

SUBSURFACE SOIL SAMPLING RESULTS (SEMIVOLATILES)

CLIENT: NIAGARA MOHAWK POWER CORP.			PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415	FIGURE: 3-9



LEGEND

- MONITORING WELL
- WOODED AREA
- TREE
- UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- ND TCL VOLATILES CONCENTRATION (ppm)
- ND TCL SEMIVOLATILES CONCENTRATION (ppm)
- ND NOT DETECTED

SAMPLING DATE: 10/3/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

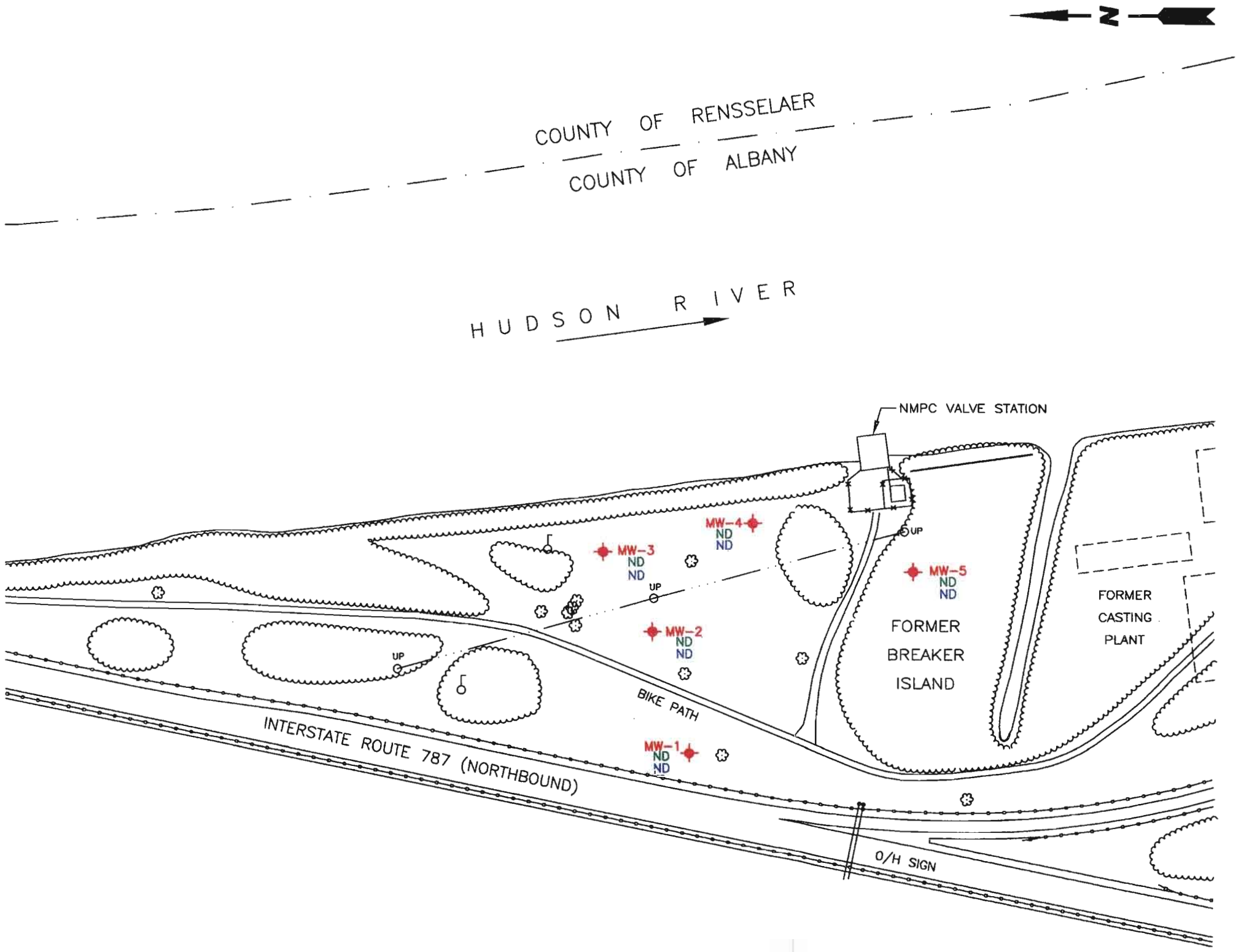
0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE: 1/14/97	ACAD FILE: SGMOCT96	

SUMMARY OF GROUNDWATER MONITORING RESULTS (10/3/96)

CLIENT: NIAGARA MOHAWK POWER CORP.			PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415	FIGURE: **3-10**



LEGEND

- MONITORING WELL
- WOODED AREA
- TREE
- UP UTILITY POLE
- OVERHEAD UTILITIES
- GAS LINE MARKER
- ND TCL VOLATILES CONCENTRATION (ppm)
- ND TCL SEMIVOLATILES CONCENTRATION (ppm)
- ND NOT DETECTED

SAMPLING DATE: 11/8/96

BASE MAP SOURCE: NIAGARA MOHAWK POWER CORP.

0 150 300
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE: 1/14/97	ACAD FILE: SGMNOV96

SUMMARY OF GROUNDWATER MONITORING RESULTS (11/8/96)

CLIENT: NIAGARA MOHAWK POWER CORP.			PM: BWA
LOCATION: AREA 1 WATER STREET TROY, NEW YORK			SM: JOG
DESIGNED: JOG	DETAILED: DEO/EJT	PROJECT NO.: 01110-0415	FIGURE: 3-11

TABLES

DATA VALIDATION QUALIFIERS:

I. ORGANIC ANALYSES

U - Indicates compound was analyzed for but was not detected at the minimum detection limits for the sample.

J - Indicates an estimated value. The flag is used either when estimating concentration where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less then the sample quantitation limit.

JN - Tentatively identified analyte with approximated concentration.

B - This flag is used when the analyte is found in the associated blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound.

E - This flag identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

DL - Diluted sample

RE - Return analysis

ND - Not detected

NT - Not tested

R - Reported value is unusable and rejected due to variance from quality control limits.

II. INORGANIC ANALYSES

E - The reported value is estimated because of the presence of interference.

M - Duplicate precision not met (CV > 20%)

N - Spiked sample recovery not within control limits.

TABLE 3-1

Surface Soils - MGP Indicators

(MG/KG)

Analyte	Analytical Method	NYSDEC Rec. Soil Cleanup Object.	Sampling Location											
			SS-01	SS-01RE	SS-02	SS-02DL	SS-03	SS-03RE	SS-03DL	SS-04	SS-04RE	SS-05	SS-06	SSEQ01
BTEX														
Benzene	EPA 8240A	0.7	0.011 U	-	0.011 U	-	0.013 U	0.013 U	-	0.013U	0.013U	0.012U	0.011U	0.010 U
Toluene	EPA 8240A	5.0	0.011 U	-	0.011 U	-	0.013 U	0.013 U	-	0.006J	0.002J	0.014	0.011U	0.010 U
Ethylbenzene	EPA 8240A	5.0	0.011 U	-	0.011 U	-	0.013 U	0.013 U	-	0.003J	0.013U	0.01J	0.011U	0.010 U
Xylene (total)	EPA 8240A	5.0	0.011 U	-	0.011 U	-	0.013 U	0.013 U	-	0.026J	0.004J	0.066	0.002J	0.010 U
Total BTEX		NA	ND	-	ND	-	ND	***	-	0.035J	***	0.081J	0.002J	ND
Polynuclear Aromatic Hydrocarbons														
Naphthalene	EPA 8270A	13.0	0.370U	0.370U	0.450	19.0 U	5.3E	-	5.4JD	0.430 U	-	0.13J	0.370 U	0.010 U
Acenaphthylene	EPA 8270A	41.0	0.370U	0.370U	9.2E	4.5JD	0.3J	-	21.0 U	0.430 U	-	0.34J	0.370 U	0.010 U
Acenapthtene	EPA 8270A	50.0	0.370U	0.370U	0.088J	19.0 U	0.071J	-	21.0 U	0.430 U	-	0.390 U	0.370 U	0.010 U
Fluorene	EPA 8270A	50.0	0.370U	0.370U	1.3	19.0 U	0.042J	-	21.0 U	0.430 U	-	0.13J	0.370 U	0.010 U
Phenanthrene	EPA 8270A	50.0	0.040J	0.042J	30	16.0JD	35.0E	-	20.0JD	0.430 U	-	0.98	0.057J	0.010 U
Anthracene	EPA 8270A	50.0	0.370U	0.370U	9.20E	4.1JD	1.6	-	21.0 U	0.430 U	-	0.35J	0.370 U	0.010 U
Fluoranthene	EPA 8270A	50.0	0.110J	0.130J	73.0EJ	51.0DJ	64.0E	-	33.0 DJ	0.085J	-	3.0	0.12J	0.010 U
Pyrene	EPA 8270A	50.0	0.069J	0.062J	13.0E	30.0D	13.0E	-	25.0 D	0.05J	-	1.4J	0.068J	0.010 U
Benzo(a)anthracene	EPA 8270A	0.224	0.051J	0.057J	15.0E	20.0D	12.0E	-	14.0JD	0.046J	-	1.1	0.053J	0.010 U
Chrysene	EPA 8270A	0.4	0.064J	0.069J	13.0E	19.0D	16.0E	-	23.0 D	0.055J	-	1.1	0.067J	0.010 U
Benzo(b)fluoranthene	EPA 8270A	0.224	0.048J	0.054J	65.0E	16.0JD	52.0EJ	-	14.0JD	0.048J	-	1.0	0.059J	0.010 U
Benzo(k)fluoranthene	EPA 8270A	0.224	0.038J	0.051J	8.80E	13.0JD	14.0EJ	-	11.0JD	0.430 U	-	1.1	0.05J	0.010 U
Benzo(a)pyrene	EPA 8270A	0.061	0.050J	0.058J	36.0E	21.0DJ	16.0EJ	-	10.0JD	0.045J	-	1.2	0.055J	0.010 U
Indeno(1,2,3-cd)pyrene	EPA 8270A	3.2	0.370U	0.370U	2.5	9.0JD	2.4	-	6.8JD	0.430 U	-	0.26J	0.370 U	0.010 U
Dibenz(a,h)anthracene	EPA 8270A	0.014	0.370U	0.370U	0.2J	19.0 U	0.13J	-	21.0 U	0.430 U	-	0.390 U	0.370 U	0.010 U
Benzo(g,h,i)perylene	EPA 8270A	50.0	0.370U	0.370U	1.8	9.3JD	2.2	-	9.3JD	0.430 U	-	0.23J	0.370 U	0.010 U
Total PAHs		500**	0.470 J	***	****	213.4 JD	****	-	171.5 JD	0.329 J	-	12.34 J	0.53 J	ND
Cyanide														
Total Cyanide	CLP-M*	NA	0.51UN	-	0.62UN	-	0.55UN	-	-	0.57UN	-	0.55UN	0.49UN	0.01UN

* - CLP Analytical Methods for Metals as per Document ILM03.0

** - Total Semivolatiles

*** - Results to be derived from original analysis per DUSR

**** - Results to be derived from dilution analysis per DUSR

TABLE 3-2
Subsurface Soils- Pesticides and PCBs
(mg/kg)

ANALYTE	Analytical Method	Recommended Soil Cleanup Objective	Sample Location / Depth			
			MW-01	MW-03	MW-03	SB-01
			19	17	33	12
alpha-BHC	NYSDEC 91-3	0.11	0.002U	0.002U	0.002U	0.002U
beta-BHC	NYSDEC 91-3	0.2	0.002U	0.002U	0.002U	0.002U
delta-BHC	NYSDEC 91-3	0.3	0.002U	0.002U	0.002U	0.002U
gamma-BHC (Lindane)	NYSDEC 91-3	0.06	0.002U	0.002U	0.002U	0.002U
Heptachlor	NYSDEC 91-3	0.1	0.002U	0.002U	0.002U	0.002U
Aldrin	NYSDEC 91-3	0.041	0.002U	0.002U	0.002U	0.002U
Heptachlor epoxide	NYSDEC 91-3	0.1	0.002U	0.002U	0.002U	0.002U
Endosulfan I	NYSDEC 91-3	0.9	0.0031U	0.002U	0.002U	0.002U
Dieldrin	NYSDEC 91-3	0.044	0.004U	0.004U	0.004U	0.004U
4,4'-DDE	NYSDEC 91-3	2.1	0.083U	0.004U	0.004U	0.004U
Endrin	NYSDEC 91-3	0.1	0.004U	0.004U	0.004U	0.004U
Endosulfan II	NYSDEC 91-3	0.9	0.004U	0.004U	0.004U	0.004U
4,4'-DDD	NYSDEC 91-3	2.8	0.004U	0.004U	0.004U	0.004U
Endosulfan sulfate	NYSDEC 91-3	1.0	0.004U	0.004U	0.004U	0.004U
4,4'-DDT	NYSDEC 91-3	2.1	0.004U	0.004U	0.004U	0.004U
Methoxychlor	NYSDEC 91-3	NA	0.023U	0.020U	0.021 U	0.020U
Endrin ketone	NYSDEC 91-3	NA	0.004U	0.004U	0.004U	0.004U
Endrin aldehyde	NYSDEC 91-3	NA	0.004U	0.004U	0.004U	0.004U
alpha-Chlordane	NYSDEC 91-3	NA	0.002U	0.002U	0.002U	0.020U
gamma-Chlordane	NYSDEC 91-3	0.54	0.002U	0.002U	0.002U	0.020U
Toxaphene	NYSDEC 91-3	NA	0.230U	0.200U	0.210U	0.200U
Aroclor-1016	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U
Aroclor-1221	NYSDEC 91-3	10 (TOTAL PCBs)	0.091U	0.078U	0.084U	0.077U
Aroclor-1232	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U
Aroclor-1242	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U
Aroclor-1248	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U
Aroclor-1254	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U
Aroclor-1260	NYSDEC 91-3	10 (TOTAL PCBs)	0.045U	0.038U	0.041U	0.038U

* - NYSDEC TAGM HWR-4046; January 24, 1994.

NA - Not Applicable

TABLE 3-3
Subsurface Soils- TAL Metals and Cyanide
(mg/kg)

ANALYTE	Analytical Method	Eastern USA Background (mg/kg)*	Sample Location / Depth																			
			MW-01			MW-02				MW-03				MW-04			MW-05			SB-01		
			03	19	29	13	15	19	33	07	17	29	33	07	19	31	07	21	33	05	12	18
Aluminum	CLP-M**	33000	NT	9250	NT	NT	NT	NT	NT	NT	5700EJ	NT	6680EJ	NT	NT	NT	NT	NT	NT	NT	9600	NT
Antimony	CLP-M**	NA	NT	5.4U	NT	NT	NT	NT	NT	NT	2.3UN	NT	2.2UN	NT	NT	NT	NT	NT	NT	NT	13.6	NT
Arsenic	CLP-M**	3-12	NT	3.5	NT	NT	NT	NT	NT	NT	1.4	NT	1.9	NT	NT	NT	NT	NT	NT	NT	51.6	NT
Barium	CLP-M**	15-600	NT	64.5J	NT	NT	NT	NT	NT	NT	26.3	NT	32.5	NT	NT	NT	NT	NT	NT	NT	70.6J	NT
Beryllium	CLP-M**	0-1.75	NT	0.48B	NT	NT	NT	NT	NT	NT	0.26B	NT	0.30B	NT	NT	NT	NT	NT	NT	NT	0.98B	NT
Cadmium	CLP-M**	0.1-1	NT	0.22B	NT	NT	NT	NT	NT	NT	0.06U	NT	0.05U	NT	NT	NT	NT	NT	NT	NT	0.1U	NT
Calcium	CLP-M**	130-35000	NT	6200	NT	NT	NT	NT	NT	NT	1230	NT	1490	NT	NT	NT	NT	NT	NT	NT	111000	NT
Chromium	CLP-M**	1.5-40	NT	12.9	NT	NT	NT	NT	NT	NT	7.7	NT	8.9	NT	NT	NT	NT	NT	NT	NT	43.6	NT
Cobalt	CLP-M**	2.5-60	NT	8.5B	NT	NT	NT	NT	NT	NT	5.0B	NT	5.4B	NT	NT	NT	NT	NT	NT	NT	11.1	NT
Copper	CLP-M**	1-50	NT	14.5	NT	NT	NT	NT	NT	NT	7.2	NT	7.8	NT	NT	NT	NT	NT	NT	NT	13.4	NT
Iron	CLP-M**	2000-550000	NT	18300	NT	NT	NT	NT	NT	NT	12900	NT	14700	NT	NT	NT	NT	NT	NT	NT	168000	NT
Lead	CLP-M**	200-500	NT	11.8J	NT	NT	NT	NT	NT	NT	5.9	NT	6.8	NT	NT	NT	NT	NT	NT	NT	1.8	NT
Magnesium	CLP-M**	100-5000	NT	5030 J	NT	NT	NT	NT	NT	NT	2490	NT	2780	NT	NT	NT	NT	NT	NT	NT	10600	NT
Manganese	CLP-M**	50-5000	NT	224N	NT	NT	NT	NT	NT	NT	157	NT	162	NT	NT	NT	NT	NT	NT	NT	16600N	NT
Mercucy	CLP-M**	0.001-0.2	NT	0.14U	NT	NT	NT	NT	NT	NT	0.12U	NT	0.12U	NT	NT	NT	NT	NT	NT	NT	0.11U	NT
Nickel	CLP-M**	0.5-25	NT	18.8	NT	NT	NT	NT	NT	NT	10.5	NT	11.2	NT	NT	NT	NT	NT	NT	NT	9.2	NT
Potassium	CLP-M**	8500-43000	NT	1930	NT	NT	NT	NT	NT	NT	893	NT	757	NT	NT	NT	NT	NT	NT	NT	1900	NT
Selenium	CLP-M**	0.1-3.9	NT	1.2U	NT	NT	NT	NT	NT	NT	0.5U	NT	0.47U	NT	NT	NT	NT	NT	NT	NT	0.89U	NT
Silver	CLP-M**	NA	NT	1.2U	NT	NT	NT	NT	NT	NT	0.52U	NT	0.49U	NT	NT	NT	NT	NT	NT	NT	0.99B	NT
Sodium	CLP-M**	6000-8000	NT	381B	NT	NT	NT	NT	NT	NT	104U	NT	97.5U	NT	NT	NT	NT	NT	NT	NT	225B	NT
Thallium	CLP-M**	NA	NT	5.5	NT	NT	NT	NT	NT	NT	0.91U	NT	0.85U	NT	NT	NT	NT	NT	NT	NT	53.3	NT
Vanadium	CLP-M**	1-300	NT	18	NT	NT	NT	NT	NT	NT	10.8	NT	14.1	NT	NT	NT	NT	NT	NT	NT	317	NT
Zinc	CLP-M**	9-50	NT	56.6R	NT	NT	NT	NT	NT	NT	35.2	NT	39.3	NT	NT	NT	NT	NT	NT	NT	20.7R	NT
Total Cyanide	CLP-M**	NA	1.3N	NT	0.59UN	0.58U	0.55U	0.65U	0.58U	0.60 UN	NT	0.48UN	NT	0.55U	0.62U	0.62U	0.54U	0.58U	0.58U	2.32N	NT	0.57UN

* - NYSDEC TAGM HWR-94-4046, January 24, 1994

** - CLP ANALYTICAL METHODS FOR METALS as per Document ILM03.0

R - Rejected

NT - Analyte not included in analytical method

TABLE 3-4
Subsurface Soils - Volatiles
(mg/kg)

ANALYTE Sampling Depth (in feet)	Analytical Method	Recommended Soil Cleanup Objective (mg/kg)*	Sample Location / Sample Depth (ft)											
			MW- 01				MW-02				MW 03			
			01-03 (BTEX)	01-03RE (BTEX)	17-19 TCL	27-29 (BTEX)	11-13 (BTEX)	15 (dup) (BTEX)	17-19 (BTEX)	31-33 (BTEX)	05-07 (BTEX)	15-17 TCL	27-29 (BTEX)	33 (dup) TCL
Methylene Chloride	NYSDEC 91-1 OR EPA 8240**	0.1	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
Acetone	NYSDEC 91-1 OR EPA 8240**	0.2	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
2-Butanone	NYSDEC 91-1 OR EPA 8240**	0.3	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
2-Hexanone	NYSDEC 91-1 OR EPA 8240**	NA	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
Benzene	NYSDEC 91-1 OR EPA 8240**	0.06	0.003J	0.011U	0.014U	0.011U	0.012U	0.011U	0.013U	0.012U	0.011U	0.012U	0.012U	0.012U
4-Methyl-2-Pentanone	NYSDEC 91-1 OR EPA 8240**	1	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
Toluene	NYSDEC 91-1 OR EPA 8240**	1.5	0.005J	0.011U	0.014U	0.011U	0.012U	0.011U	0.013U	0.012U	0.011U	0.012U	0.012U	0.012U
Ethylbenzene	NYSDEC 91-1 OR EPA 8240**	5.5	0.011U	0.011U	0.014U	0.011U	0.012U	0.011U	0.013U	0.012U	0.011U	0.012U	0.012U	0.012U
Xylene (total)	NYSDEC 91-1 OR EPA 8240**	1.2	0.011U	0.011U	0.014U	0.011U	0.012U	0.011U	0.013U	0.012U	0.011U	0.012U	0.012U	0.012U
Styrene	NYSDEC 91-1 OR EPA 8240**	NA	NT	NT	0.014U	NT	NT	NT	NT	NT	NT	0.012U	NT	0.012U
Aromatic TICs	NYSDEC 91-1 OR EPA 8240**	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	ND
Total BTEX	NYSDEC 91-1 OR EPA 8240**	NA	0.008J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Volatiles***	NYSDEC 91-1 OR EPA 8240**	10	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	ND

* - NYSDEC TAGM HWR-94-4046, January 24, 1994

** - EPA Method 8240 used for Indicator Parameters (BTEX) Analysis

*** - TOTAL VOLATILES do not include TICs

NT - Analyte not included in analytical method

TABLE 3-4 (continued)
Subsurface Soils - Volatiles
(mg/kg)

ANALYTE Sampling Depth (in feet)	Analytical Method	Recommended Soil Cleanup Objective (mg/kg)*	Sample Location / Sample Depth (ft)										
			MW 04			MW 05			SB 01			EQBLK	MWEQ01
			05-07 (BTEX)	17-19 (BTEX)	29-31 (BTEX)	05-07 (BTEX)	19-21 (BTEX)	31-33 (BTEX)	03-05 (BTEX)	12-14 TCL	16-18 (BTEX)	TCL	(BTEX)
Methylene Chloride	NYSDEC 91-1 OR EPA 8240**	0.1	NT	NT	NT	NT	NT	NT	NT	0.011U	NT	0.002J	NT
Acetone	NYSDEC 91-1 OR EPA 8240**	0.2	NT	NT	NT	NT	NT	NT	NT	0.024U	NT	0.010U	NT
2-Butanone	NYSDEC 91-1 OR EPA 8240**	0.3	NT	NT	NT	NT	NT	NT	NT	0.007J	NT	0.010U	NT
2-Hexanone	NYSDEC 91-1 OR EPA 8240**	NA	NT	NT	NT	NT	NT	NT	NT	0.011U	NT	0.010U	NT
Benzene	NYSDEC 91-1 OR EPA 8240**	0.06	0.011U	0.012U	0.012U	0.011U	0.012U	0.012U	0.012U	0.011U	0.013U	0.010U	0.010U
4-Methyl-2-Pentanone	NYSDEC 91-1 OR EPA 8240**	1	NT	NT	NT	NT	NT	NT	NT	0.011U	NT	0.010U	NT
Toluene	NYSDEC 91-1 OR EPA 8240**	1.5	0.011U	0.012U	0.012U	0.011U	0.012U	0.012U	0.012U	0.004J	0.013U	0.010U	0.010U
Ethylbenzene	NYSDEC 91-1 OR EPA 8240**	5.5	0.011U	0.012U	0.012U	0.011U	0.012U	0.012U	0.012U	0.011U	0.013U	0.010U	0.010U
Xylene (total)	NYSDEC 91-1 OR EPA 8240**	1.2	0.011U	0.012U	0.012U	0.011U	0.012U	0.012U	0.012U	0.011U	0.013U	0.010U	0.010U
Styrene	NYSDEC 91-1 OR EPA 8240**	NA	NT	NT	NT	NT	NT	NT	NT	0.011U	NT	0.010U	NT
Aromatic TICs	NYSDEC 91-1 OR EPA 8240**	NA	NA	NA	NA	NA	NA	NA	NA	0.289J	NA	ND	NA
Total BTEX	NYSDEC 91-1 OR EPA 8240**	NA	ND	ND	ND	ND	ND	ND	ND	0.004J	ND	ND	ND
Total Volatiles***	NYSDEC 91-1 OR EPA 8240**	10	NA	NA	NA	NA	NA	NA	NA	0.011J	NA	0.002J	NA

TABLE 3-5
Subsurface Soils- Semivolatiles
(mg/kg)

ANALYTE	Analytical Method	Recommended Soil CLeanup Objective (mg/kg)*	Sample Location / Depth										
			MW 01			MW 02				MW-03			
			01-03	17-19	27-29	11-13	15 (dup)	17-19	31-33	05-07	15-17	27-29	33 (dup)
			PAHs	TCL	PAHs	PAHs	PAHs	PAHs	PAHs	PAHs	TCL	PAHs	TCL
Phenol	NYSDEC 91-2 or EPA 8270**	0.3	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
2-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.1	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Bis(2-Chloroethyl)Ether	NYSDEC 91-2 or EPA 8270**	NA	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
1,2,4-Trichlorobenzene	NYSDEC 91-2 or EPA 8270**	3.4	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
4-Chloro-3-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.24	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
2,4-Dinnitrotoluene	NYSDEC 91-2 or EPA 8270**	NA	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Pentachlorophenol	NYSDEC 91-2 or EPA 8270**	1.0	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
4-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.9	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
2,4-Dimethlyphenol	NYSDEC 91-2 or EPA 8270**	NA	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.930 U	NT	0.420 U
Naphthalene	NYSDEC 91-2 or EPA 8270**	13	0.046J	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
2-Methylnaphthalene	NYSDEC 91-2 or EPA 8270**	36.4	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Acenaphthylene	NYSDEC 91-2 or EPA 8270**	41	0.370 U	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Acenaphthene	NYSDEC 91-2 or EPA 8270**	50	0.370 U	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
4-Nitrophenol	NYSDEC 91-2 or EPA 8270**	0.1	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.930 U	NT	0.420 U
Dibenzofuran	NYSDEC 91-2 or EPA 8270**	6.2	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Fluorene	NYSDEC 91-2 or EPA 8270**	50	0.370 U	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
N-Nitrosodiphenylamine (1)	NYSDEC 91-2 or EPA 8270**	NA	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Phenantherene	NYSDEC 91-2 or EPA 8270**	50	0.18J	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Anthracene	NYSDEC 91-2 or EPA 8270**	50	0.370 U	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Carbazol	NYSDEC 91-2 or EPA 8270**	NA	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Fluoranthene	NYSDEC 91-2 or EPA 8270**	50	0.28J	0.450 U	0.370 U	0.067J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Pyrene	NYSDEC 91-2 or EPA 8270**	50	0.30J	0.450 U	0.370 U	0.10J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Benzo (a) anthracene	NYSDEC 91-2 or EPA 8270**	0.224	0.18J	0.450 U	0.370 U	0.066J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Chrysene	NYSDEC 91-2 or EPA 8270**	0.4	0.20J	0.450 U	0.370 U	0.067J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Benzo (b) fluoranthene	NYSDEC 91-2 or EPA 8270**	0.224	0.20J	0.450 U	0.370 U	0.17J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Benzo (k) fluoranthene	NYSDEC 91-2 or EPA 8270**	0.224	0.22J	0.450 U	0.370 U	0.17J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Benzo (a) pyrene	NYSDEC 91-2 or EPA 8270**	0.061	0.19J	0.230 J	0.370 U	0.20J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Indeno(1,2,3-cd) pyrene	NYSDEC 91-2 or EPA 8270**	3.2	0.16J	0.450 U	0.370 U	0.18J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Dibenz(a,h)anthracene	NYSDEC 91-2 or EPA 8270**	0.014	0.370 U	0.450 U	0.370 U	0.390 U	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
Benzo(g,h,i) perylene	NYSDEC 91-2 or EPA 8270**	50	0.22J	0.450 U	0.370 U	0.23J	0.370 U	0.430 U	0.390 U	0.380 U	0.390 U	0.390 U	0.420 U
bis(2-ethylhexylphthalate)	NYSDEC 91-2 or EPA 8270**	50	NT	0.070 J	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Di-n-butylphthalate	NYSDEC 91-2 or EPA 8270**	8.1	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
Diethylphthalate	NYSDEC 91-2 or EPA 8270**	2.0	NT	0.450 U	NT	NT	NT	NT	NT	NT	0.390 U	NT	0.420 U
TICs	NYSDEC 91-2 or EPA 8270**	NA	NT	13.39	NT	NT	NT	NT	NT	NT	70.76AJB	NT	80.40AJB
Total PAHs	NYSDEC 91-2 or EPA 8270**	500	2.18J	0.230J	ND	1.25J	ND	ND	ND	ND	ND	ND	ND
Total Semivolatiles***	NYSDEC 91-2 or EPA 8270**	500	NA	0.300J	NA	NA	NA	NA	NA	NA	ND	NA	ND

* - NYSDEC TAGM HWR-94-4046, JANUARY 24, 1994
** - EPA METHOD 8270 USED FOR INDICATOR PARAMETERS (PAHs) ANALYSIS
*** - TOTAL SEMIVOLATILES DO NOT INCLUDE UNKNOWN, NON-TARGET ANALYTES

TABLE 3-5 (continued)
Subsurface Soils- Semivolatiles
(mg/kg)

ANALYTE	Analytical Method	Recommended Soil CLeanup Objective (mg/kg)*	Sample Location / Depth								
			MW 04			MW 05			SB 01		
			05-07	17-19	29-31	05-07	19-21	31-33	03-05	10-12	16-18
			PAHs	PAHs	PAHs	PAHs	PAHs	PAHs	PAHs	TCL	PAHs
Phenol	NYSDEC 91-2 or EPA 8270**	0.3	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
2-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.1	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Bis(2-Chloroethyl)Ether	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
1,2,4-Trichlorobenzene	NYSDEC 91-2 or EPA 8270**	3.4	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
4-Chloro-3-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.24	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
2,4-Dinnitrotoluene	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Pentachlorophenol	NYSDEC 91-2 or EPA 8270**	1.0	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
4-Methylphenol	NYSDEC 91-2 or EPA 8270**	0.9	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
2,4-Dimethlyphenol	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Naphthalene	NYSDEC 91-2 or EPA 8270**	13	0.55J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.390 U	0.120 J	0.440 U
2-Methylnaphthalene	NYSDEC 91-2 or EPA 8270**	36.4	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Acenaphthylene	NYSDEC 91-2 or EPA 8270**	41	0.78J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.050J	0.380 U	0.440 U
Acenaphthene	NYSDEC 91-2 or EPA 8270**	50	0.24J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.390 U	0.380 U	0.440 U
4-Nitrophenol	NYSDEC 91-2 or EPA 8270**	0.1	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Dibenzofuran	NYSDEC 91-2 or EPA 8270**	6.2	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Fluorene	NYSDEC 91-2 or EPA 8270**	50	0.96J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.390 U	0.380 U	0.440 U
N-Nitrosodiphenylamine (1)	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Phenantherene	NYSDEC 91-2 or EPA 8270**	50	5.1	0.064J	0.390 U	0.15J	0.390 U	0.390 U	0.190J	0.43	0.440 U
Anthracene	NYSDEC 91-2 or EPA 8270**	50	1.7J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.390 U	0.380 U	0.440 U
Carbazol	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Fluoranthene	NYSDEC 91-2 or EPA 8270**	50	6.2	0.14J	0.390 U	0.21J	0.390 U	0.390 U	0.320J	0.70	0.440 U
Pyrene	NYSDEC 91-2 or EPA 8270**	50	3.8	0.12J	0.390 U	0.22J	0.390 U	0.390 U	0.240J	0.74	0.440 U
Benzo (a) anthracene	NYSDEC 91-2 or EPA 8270**	0.224	2.5	0.12J	0.390 U	0.075J	0.390 U	0.390 U	0.160J	0.38J	0.440 U
Chrysene	NYSDEC 91-2 or EPA 8270**	0.4	2.4	0.12	0.390 U	0.11J	0.390 U	0.390 U	0.130J	0.60	0.440 U
Benzo (b) fluoranthene	NYSDEC 91-2 or EPA 8270**	0.224	1.9	0.096	0.390 U	0.92J	0.390 U	0.390 U	0.110J	0.46	0.440 U
Benzo (k) fluoranthene	NYSDEC 91-2 or EPA 8270**	0.224	1.9	0.11J	0.390 U	0.89J	0.390 U	0.390 U	0.140J	0.33J	0.440 U
Benzo (a) pyrene	NYSDEC 91-2 or EPA 8270**	0.061	2.6	0.12J	0.390 U	0.12J	0.390 U	0.390 U	0.140J	0.38J	0.440 U
Indeno(1,2,3-cd) pyrene	NYSDEC 91-2 or EPA 8270**	3.2	1.6J	0.083J	0.390 U	0.097J	0.390 U	0.390 U	0.050J	0.37J	0.440 U
Dibenz(a,h)anthracene	NYSDEC 91-2 or EPA 8270**	0.014	0.2J	0.420 U	0.390 U	0.360 U	0.390 U	0.390 U	0.390 U	0.380 U	0.440 U
Benzo(g,h,i) perylene	NYSDEC 91-2 or EPA 8270**	50	2.0	0.10J	0.390 U	0.15J	0.390 U	0.390 U	0.042J	0.55	0.440 U
bis(2-ethylhexylphthalate)	NYSDEC 91-2 or EPA 8270**	50	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Di-n-butylphthalate	NYSDEC 91-2 or EPA 8270**	8.1	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
Diethylphthalate	NYSDEC 91-2 or EPA 8270**	2.0	NT	NT	NT	NT	NT	NT	NT	0.380 U	NT
TICs	NYSDEC 91-2 or EPA 8270**	NA	NT	NT	NT	NT	NT	NT	NT	19.06 J	NT
Total PAHs	NYSDEC 91-2 or EPA 8270**	500	34.4J	1.07J	ND	2.94J	ND	ND	1.57J	5.06J	ND
Total Semivolatiles***	NYSDEC 91-2 or EPA 8270**	500	NA	NA	NA	NA	NA	NA	NA	5.06J	NA

TABLE 3-6
First Groundwater Gauging and Sampling Event (October 3, 1996)

ANALYTE	ANALYTICAL METHOD	NYSDEC Std/Guidnce Value	Units	Sampling Location / Groundwater Elevation (ft)												
				MW 01GW	MW-01GWR	MW 02GW	MW-02GWRE	MW 03GW	MW-03GWRE	MW 04GW	MW 04GWRE 10.21.96	MW-04RE 10.30.96	MW 05GW	MW-05GWRE	MW 15GW (MW-05 dup)	MW-15GWRE
TCL Volatiles																
Methylene Chloride	NYSDEC 91-1	0.005	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Acetone	NYSDEC 91-1	0.050 GV	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
1,1-Dichloroethane	NYSDEC 91-1	0.005	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Chloroform	NYSDEC 91-1	0.007 GV	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Benzene	NYSDEC 91-1	0.0007	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Toluene	NYSDEC 91-1	0.005	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Ethylbenzene	NYSDEC 91-1	0.005	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Xylene (total)	NYSDEC 91-1	0.005	MG/L	0.010 U	-	0.010 U	-	0.010 U	-	0.010 U	-	-	0.010 U	-	0.010 U	-
Unknown Hydrocarbon	NYSDEC 91-1	NA	MG/L	ND	-	ND	-	ND	-	0.010 U	-	-	ND	-	ND	-
TICs	NYSDEC 91-1	NA	MG/L	ND	-	ND	-	ND	-	ND	-	-	ND	-	ND	-
TCL Semivolatiles																
Phenanthrene	NYSDEC 91-2	0.050GV	MG/L	0.010 U	0.001J	0.011 U	0.021 U	0.011 U	1.0 U	0.012 U	0.012 U	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
bis (2-Ethylhexyl) phthalate	NYSDEC 91-2	0.050	MG/L	0.010 U	0.011 U	0.011 U	0.005JB	0.011 U	3.2B	0.012 U	0.012 U	0.001 U	0.010 U	0.011 U	0.011 U	0.002JB
TICs	NYSDEC 91-2	NA	MG/L	0.022JB	137JB	0.022JB	0.075JB	0.018JB	ND	0.07JB	0.085JB	0.031JB	0.016JB	0.105JB	0.055JB	0.013JB
Pesticides/PCBs																
	NYSDEC 91-3	-	MG/L	ND*	-	ND*	-	ND*	-	ND*	-	-	ND*	-	ND*	-
TAL Metals																
Aluminum	CLP-M**	NA	UG/L	4890	-	23300	-	11400	-	10800	-	-	40100	-	38500	-
Antimony	CLP-M**	3.0 GV	UG/L	20.1U	-	20.1U	-	20.1U	-	20.1U	-	-	20.1U	-	20.1U	-
Arsenic	CLP-M**	25.0	UG/L	5.2U	-	11.9	-	5.2U	-	11.2	-	-	20.9	-	19.1	-
Barium	CLP-M**	1000	UG/L	355	-	497	-	585	-	373	-	-	632	-	577	-
Beryllium	CLP-M**	3.0	UG/L	0.93B	-	2.1B	-	0.94B	-	1.2B	-	-	3.4B	-	2.9B	-
Cadmium	CLP-M**	10.0	UG/L	0.5U	-	0.5U	-	0.5U	-	0.50U	-	-	0.50U	-	0.5U	-
Calcium	CLP-M**	NA	UG/L	129000	-	189000	-	132000	-	197000	-	-	217000	-	196000	-
Chromium	CLP-M**	50	UG/L	9.2B	-	29.9	-	18.6	-	20.1	-	-	71.9	-	69	-
Cobalt	CLP-M**	110	UG/L	8.6B	-	22.0B	-	15.3B	-	15.5B	-	-	67.4	-	59.5	-
Copper	CLP-M**	200	UG/L	28.1	-	76.1	-	47.4	-	71.7	-	-	190	-	161	-
Iron	CLP-M**	300	UG/L	25300	-	67300	-	41200	-	34200	-	-	108000	-	107000	-
Lead	CLP-M**	25	UG/L	29.5	-	43.4	-	28.0	-	37.5	-	-	104	-	98.2	-
Magnesium	CLP-M**	35000	UG/L	31800	-	39200	-	32600	-	54600	-	-	63600	-	59100	-
Manganese	CLP-M**	300	UG/L	1310	-	3050	-	1870	-	1610	-	-	8680	-	6910	-
Mercury	CLP-M**	2.0	UG/L	0.21	-	0.26	-	0.23	-	0.20	-	-	0.76	-	0.58	-
Nickel	CLP-M**	NA	UG/L	13.7B	-	63.9	-	26.5B	-	27.2B	-	-	96.5	-	88.9	-
Potassium	CLP-M**	NA	UG/L	16400	-	22000	-	9510	-	12200	-	-	25700	-	23500	-
Selenium	CLP-M**	10	UG/L	4.3U	-	4.3U	-	4.3U	-	4.3U	-	-	4.3U	-	4.3U	-
Silver	CLP-M**	50	UG/L	4.5U	-	4.5U	-	4.5U	-	4.5U	-	-	4.5U	-	4.5U	-
Sodium	CLP-M**	20000	UG/L	108000	-	55600	-	63600	-	119000	-	-	69000	-	64100	-
Thallium	CLP-M**	4.0 GV	UG/L	7.8U	-	7.8U	-	7.8U	-	7.8U	-	-	20.0	-	18.4	-
Vanadium	CLP-M**	NA	UG/L	11.6B	-	40.0B	-	22.0B	-	29.9B	-	-	80.0	-	77.2	-
Zinc	CLP-M**	300	UG/L	163	-	219	-	139	-	203	-	-	386	-	357	-
Total Cyanide																
Total Cyanide	CLP-M**	100	UG/L	10.0UN	-	10.0UN	-	10.0UN	-	10.0UN	-	-	10.0UN	-	10.0UN	-

ANALYTE	ANALYTICAL METHOD	NYSDEC td/Guidanc Value	Units	Sampling Location / Groundwater Elevation (ft)				
				MW-01GW	MW-02GW	MW-03GW	MW-04GW	MW-05GW
Conventional Analyses:				Note *Results expressed in mg/l				
Biochemical Oxygen Demand	405.1	NA	mg/l	NA	13.3U	13.3U	7.10	13.3U
Chemical Oxygen Demand	410.1	NA	mg/l	35.4	66.8	24.1	129	34.8
Chloride	325	NA	mg/l	213	95.2	126	191	110
Hardness	242.1	NA	mg/l	450	570	460	630	1050
Nitrate, Nitrogen	353.2	10	mg/l	0.17	0.15	0.15	0.22	0.11
Oil & Grease	413.1	NA	mg/l	1.0U	1.0U	1.0U	1.0U	1.0U
pH			mg/l	NA	7.19	6.57	6.45	6.94
Sulfate	375.2	250	mg/l	76	141	60.7	2.73	273
Sulfide	376	0.050 GV	mg/l	1.92	120	2.4	2.48	0.8
Total Dissolved Solids	160.1	NA	mg/l	761 -	649	1.0U	470	822

GV-Guidance Value
*-NYSDEC, Division of Water Technical and Operational Guidance Series (1.1.1),"Ambient Water Quality Standards and Guidance Values". October 22, 1993
**-CLP Analytical Methods for Metals as per Document ILM03.0
ND=NO Pesticides or PCBs Detected in Sample

Second Groundwater Gauging and Sampling Event (November 8, 1996)

ANALYTE	ANALYTICAL METHOD	NYSDEC Std / Guidance Value	Units	Sampling Location / Groundwater Elevation (ft)						
				MW 01GW	MW 02GW	MW 03GW	MW 04GW	MW 05GW	MW 15GW	TRIPBL
TCL Volatiles (mg/l)										
Methylene Chloride	NYSDEC 91-1	0.005	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.006JB
Acetone	NYSDEC 91-1	0.050 GV	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
1,1-Dichloroethane	NYSDEC 91-1	0.005	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chloroform	NYSDEC 91-1	0.007 GV	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzene	NYSDEC 91-1	0.0007	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Toluene	NYSDEC 91-1	0.005	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Ethylbenzene	NYSDEC 91-1	0.005	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Xylene (total)	NYSDEC 91-1	0.005	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Unknown Hydrocarbon	NYSDEC 91-1	NA	MG/L	ND	ND	ND	ND	ND	ND	ND
TICs	NYSDEC 91-1	NA	MG/L	ND	ND	ND	ND	ND	ND	ND
TCL Semivolatiles (mg/l)										
Phenol	NYSDEC 91-2	0.001	MG/L	0.011 U	0.012 U	0.012 U	0.010 U	0.011 U	0.011 U	
bis(2-Ethylhexyl)phthalate	NYSDEC 91-2	0.050	MG/L	0.011 U	0.012 U	0.012 U	0.010 U	0.011 U	0.011 U	
TICs	NYSDEC 91-2	NA	MG/L	ND	ND	ND	0.006 JB	0.014 JB	ND	
Pesticides/PCBs (mg/l)										
	NYSDEC 91-3	Not detected in any samples								
TAL Metals (ug/l)										
Aluminum	CLP-M*	NA	UG/L	28,200 E	56,700 E	2,300 E	8,750 E	7,260 E	7,280 E	
Antimony	CLP-M*	3.0 GV	UG/L	8.9 UN	8.9 UN	8.9 UN	8.9 UN	8.9 UN	8.9 UN	
Arsenic	CLP-M*	25.0	UG/L	24.3	43.8	5.1 U	11.4	15.5	12.8	
Barium	CLP-M*	1000	UG/L	612	807	524	203	304	301	
Beryllium	CLP-M*	3.0	UG/L	1.6 B	3.5 B	0.10 U	0.10 U	0.10 U	0.10 U	
Cadmium	CLP-M*	10.0	UG/L	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
Calcium	CLP-M*	NA	UG/L	142,000	225,000	118,000	181,000	194,000	193,000	
Chromium	CLP-M*	50	UG/L	50.3	75.8	3.5 B	15.1	12.2	12.4	
Cobalt	CLP-M*	110	UG/L	28.4 B	50.8	1.4 B	8.6 B	6.3 B	7.1 B	
Copper	CLP-M*	200	UG/L	97.5	120	9.1 B	25.9	19.5 B	19.7 B	
Iron	CLP-M*	300	UG/L	92,400	139,000	20,100	25,700	25,100	24,500	
Lead	CLP-M*	25	UG/L	67.8	72.5	4.3	21.6	10.9	11.5	
Magnesium	CLP-M*	35000	UG/L	43,600	54,400	25,000	42,000	52,900	52,700	
Manganese	CLP-M*	300	UG/L	2,280	4,290	1,730	939	1460	1,460	
Mercury	CLP-M*	2.0	UG/L	0.49	0.24	0.20 U	0.20 U	0.20 U	0.20 U	
Nickel	CLP-M*	NA	UG/L	67.4	97.6	1.9 U	18.8 B	13.8 B	13.9 B	
Potassium	CLP-M*	NA	UG/L	18,300	28,500	7,970	22,900	12,200	12,100	
Selenium	CLP-M*	10	UG/L	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	
Silver	CLP-M*	50	UG/L	1.4 U	2.1 B	1.4 U	1.5 B	1.9 B	1.4 U	
Sodium	CLP-M*	20000	UG/L	148,000 E	60,200 E	74,800 E	75,200 E	120,000 E	122,000 E	
Thallium	CLP-M*	4.0 GV	UG/L	6.1 UN	6.1 UN	6.1 UN	6.1 UN	6.1 UN	6.1 UN	
Vanadium	CLP-M*	NA	UG/L	57.3	97.8	3.9 B	17.5 B	13.3 B	14.4 B	
Zinc	CLP-M*	300	UG/L	315 E	321 E	14.3 BE	62.5 E	66.7 E	55.9 E	
Total Cyanide										
Total Cyanide	CLP-M*	100	UG/L	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	

ANALYTE	ANALYTICAL METHOD	NYSDEC Std / Guidance Value	Units	Sampling Location / Groundwater Elevation (ft)				
				MW-01GW	MW-02GW	MW-03GW	MW-04GW	MW-05GW
Conventional Analyses:								
Biochemical Oxygen Demand	405.1	NA	mg/l	17.0 U	6.7 U	6.7 U	6.7 U	6.7 U
Chemical Oxygen Demand	410.1	NA	mg/l	13.3	32.6	6.80	16.8	16.4
Chloride	325	NA	mg/l	276	116	135	111	199
Hardness	242.1	NA	mg/l	533	786	398	624	702
Nitrate, Nitrogen	353.2	10	mg/l	0.23	0.07	0.18	0.23	0.3
Oil & Grease	413.1	NA	mg/l	7.3	3.10	1.0 U	1.00	1.6
pH			mg/l	6.85	6.84	6.74	6.84	6.7
Sulfate	375.2	250	mg/l	46.5	79.8	32.7	175	203
Sulfide	376	0.050 GV	mg/l	0.75	0.80	0.20 U	1.43	0.20 U
Total Dissolved Solids	160.1	NA	mg/l	848	626	568	824	1030

GV - GUIDANCE VALUE

* - CLP ANALYTICAL METHODS FOR METALS AS PER DOCUMENT ILM03.0

TABLE 3-8

Sediment Sampling - MGP Indicators

(mg/kg)

ANALYTE	ANALYTICAL METHOD	Sediment Criteria *				Sampling Location		
		Human Health Bioaccum.**	Benthic Org. Acute Toxicity**	Benthic Org. Chronic Toxicity**	Wildlife Bioaccum.**	SD 01	SD 02	SD 1D
BTEX								
Benzene	EPA 8020	6.0	-	-	-	0.018U	0.012U	0.017U
Toluene	EPA 8020	-	-	-	-	0.018U	0.012U	0.017U
Ethylbenzene	EPA 8020	-	-	-	-	0.018U	0.012U	0.017U
Xylene (total)	EPA 8020	-	-	-	-	0.018U	0.012U	0.017U
Total BTEX	-	-	-	-	-	ND	ND	ND
Polynuclear Areomatic Hydrocarbons								
Naphthalene	EPA8310	-	-	-	-	1.20U	0.40U	1.10U
Acenaphthylene	EPA8310	-	-	-	-	1.20U	0.40U	1.10U
Acenapthtene	EPA8310	-	-	-	7.7	0.12J	0.40U	1.10U
Fluorene	EPA8310	-	-	-	-	1.20U	0.40U	1.10U
Phenanthrene	EPA8310	-	-	1,200	-	1.20J	0.40U	0.12J
Anthracene	EPA8310	-	-	-	-	0.20J	0.40U	0.24J
Fluoranthene	EPA8310	-	-	10,200	-	1.6J	0.05J	0.25J
Pyrene	EPA8310	-	-	-	-	1.3J	0.046J	0.12J
Benzo(a)anthracene	EPA8310	13	-	-	-	0.74J	0.40U	0.17J
Chrysene	EPA8310	13	-	-	-	0.85J	0.40U	0.14J
Benzo(b)fluoranthene	EPA8310	13	-	-	-	0.60J	0.40U	1.10U
Benzo(k)fluoranthene	EPA8310	13	-	-	-	0.48J	0.40U	0.12J
Benzo(a)pyrene	EPA8310	13	-	-	-	0.64J	0.40U	1.10U
Indeno(1,2,3-cd)pyrene	EPA8310	13	-	-	-	0.30J	0.40U	1.10U
Dibenz(a,h)anthracene	EPA8310	-	-	-	-	1.20U	0.40U	1.10U
Benzo(g,h,i)perylene	EPA8310	-	-	-	-	0.28J	0.40U	1.10U
Total PAHs	-	-	-	-	-	8.31 J	0.096J	1.16J
Cyanide								
Total Cyanide	CLP-M	-	-	-	-	0.79UN	0.58UN	0.72UN

* - NYSDEC Technical Guidance for Screening Contaminated Sediments, July 1994
(absence of a sediment sriteria value indicates organic compound not reported in guidance document)

** - Assumes a 1% organic carbon content in sediment soils

TABLE 3-9
Surface Water - MGP Indicators
(MG/L)

ANALYTE	ANALYTICAL METHOD	NYSDEC STD / GUIDANCE VALUE*	Sampling Location		
			SW 01	SW 02	SW 2D
Volatiles					
Benzene	NYSDEC 91-1	0.006	0.010 U	0.010 U	0.010 U
Toluene	NYSDEC 91-1	NA	0.010 U	0.010 U	0.010 U
Ethylbenzene	NYSDEC 91-1	NA	0.010 U	0.010 U	0.010 U
Xylene (total)	NYSDEC 91-1	NA	0.010 U	0.010 U	0.010 U
Total BTEX	-	-	ND	ND	ND
Polynuclear Aromatic Hydrocarbons					
Naphthalene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Acenaphthylene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Acenapthtene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Fluorene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Phenanthrene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Anthracene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Fluoranthene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Pyrene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Benzo(a)anthracene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Chrysene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Benzo(b)fluoranthene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Benzo(k)fluoranthene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Benzo(a)pyrene	EPA8310	0.00000120	0.011 U	0.011 U	0.011 U
Indeno(1,2,3-cd)pyrene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Dibenz(a,h)anthracene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Benzo(g,h,i)perylene	EPA8310	NA	0.011 U	0.011 U	0.011 U
Total PAH	-	-	ND	ND	ND
Total Cyanide					
Total Cyanide	CLP-M**	100	0.01UN	0.01UN	0.01UN

* - NYSDEC, DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), "AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES", OCTOBER 22, 1993

** - CLP ANALYTICAL METHODS FOR METALS AS PER DOCUMENT ILM03.0

TABLE 3-10
WASTE CHARACTERISTICS

ANALYSIS/PARAMETER	Sample ID / Matrix	
	A1SOIL	A1WATR
	Soil	Water
TCLP Volatiles (mg/l)		
Vinyl chloride	0.01 U	0.01 U
1,1-Dichloroethene	0.01 U	0.01 U
Chloroform	0.01 U	0.01 U
1,2-Dichloroethane	0.01 U	0.01 U
2-Butanone	0.01 U	0.01 U
Carbon Tetrachloride	0.01 U	0.01 U
Trichloroethene	0.01 U	0.01 U
Benzene	0.01 U	0.01 U
Tetrachloroethene	0.01 U	0.01 U
Chlorobenzene	0.01 U	0.01 U
TCLP Semi-Volatiles (mg/l)		
2-Methylphenol	0.03	0.01 U
3+4-Methylphenol	0.08	0.02 U
2,4-Dinitrotoluene	0.01 U	0.01 U
Hexachlorobenzene	0.01 U	0.01 U
Hexachlorobutadiene	0.01 U	0.01 U
Hexachloroethane	0.01 U	0.01 U
Nitrobenzene	0.01 U	0.01 U
Pentachlorophenol	0.05 U	0.06 U
Pyridine	0.06	0.01 U
2,4,5-Trichlorophenol	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.01 U	0.01 U
1,4-Dichlorobenzene	0.01 U	0.01 U
PCB Organics		
	-	ND
TCLP Metals (mg/l)		
Arsenic	0.049 U	0.049 U
Barium	**0.38**	**0.47**
Cadmium	0.0048 U	0.0048 U
Chromium	0.0061 U	0.0061 U
Lead	0.038 U	0.038 U
Mercury	0.00020U	0.00020U
Selenium	0.10 U	0.10 U
Silver	0.23 U	0.0069 U
Reactive Cyanide (ppm)		
Reactive Cyanide	1.0 U	-
Chlorine (%)		
Chlorine	-	0.01 U
Paint Filter Test (ml/100g)		
Paint Filter Test	1.0 U	-

Table 3-11
Groundwater Gauging Data

Well I.D	Top of Casing Elevation (MSL)	Sample Date / Depth to Water (ft)	
		10/3/96	11/8/96
MW-1	19.01	19.45	18.33
MW-2	18.01	16.11	16.96
MW-3	20.83	19.02	19.34
MW-4	24.14	22.63	21.50
MW-5	26.26	23.61	24.32

Note: depth to water measured from top of casing

APPENDIX A

CHARACTERIZATION OF TWO SOIL SAMPLES, NMPC TROY AREA 1

WORLDWIDE
GEOSCIENCES, INC.

6100 Corporate Drive
Suite 320
Houston, Texas 77036
Phone: 713 / 988-9401
FAX: 713 / 988-8784

CHARACTERIZATION OF TWO SOIL SAMPLES
NMPC TROY AREA 1 SITE

PREPARED FOR
FLUOR DANIEL GTI, INC.
DECEMBER 1996

CHARACTERIZATION OF TWO SOIL SAMPLES
NMPC TROY AREA 1 SITE

SUMMARY

Two samples of "asphaltic" material were analyzed by high resolution capillary gas chromatography to determine whether the samples represented petroleum derived asphalt or coal tar. Both samples contain substantial polynuclear aromatic assemblages indicating the material present is coal tar rather than petroleum derived asphalt.

INTRODUCTION

Two "asphaltic" samples from the NMPC Troy Area 1 site, were received at the offices of Worldwide Geosciences, Inc. on October 23, 1996, via Federal Express delivery. Each sample was contained in a single, six ounce, glass jar which were packed in a cardboard box. Sample identifications as per the attached chain of custody form and their assigned laboratory numbers are as follows:

Sample ID	Lab No.
TRY1/WA/01/1100	61023019
TRY1/WA/02/1200	61023020

1.1 to 1.6 grams of each sample were extracted with 100 milliliters of methylene chloride solvent. The extraction was carried out by sonication. After separating each solvent and sample, each solvent was reduced in volume to 2 milliliters to increase the concentration level of the extracted hydrocarbons in the solvent. Each solvent was spiked with androstane as an internal standard. The concentration level of the internal standard relative to the weight of sample extracted is 36 parts per million for the WA-01 sample and 25 parts per million for the WA-02 sample. Each spiked solvent containing the extracted hydrocarbons was then analyzed by high resolution gas chromatography using a 30 meter DB1 column and a flame ionization detector. A Perkin-Elmer Autosystem was utilized. The analysis procedure can be viewed as a modification of ASTM method D-3328. Two procedural methods are routinely used for product in solvent characterization. One provides better resolution of the gasoline range hydrocarbons but has a more limited carbon number range. This is Method 3 as defined in the procedural

description provided in Appendix II. The second method is routinely used to characterize product in solvents heavier than gasoline. The gasoline range hydrocarbons are compressed as a result of a more rapid increase in column temperature. This is Method 4 as described in Appendix II. These samples were run under Method 4 conditions on October 25, 1996.

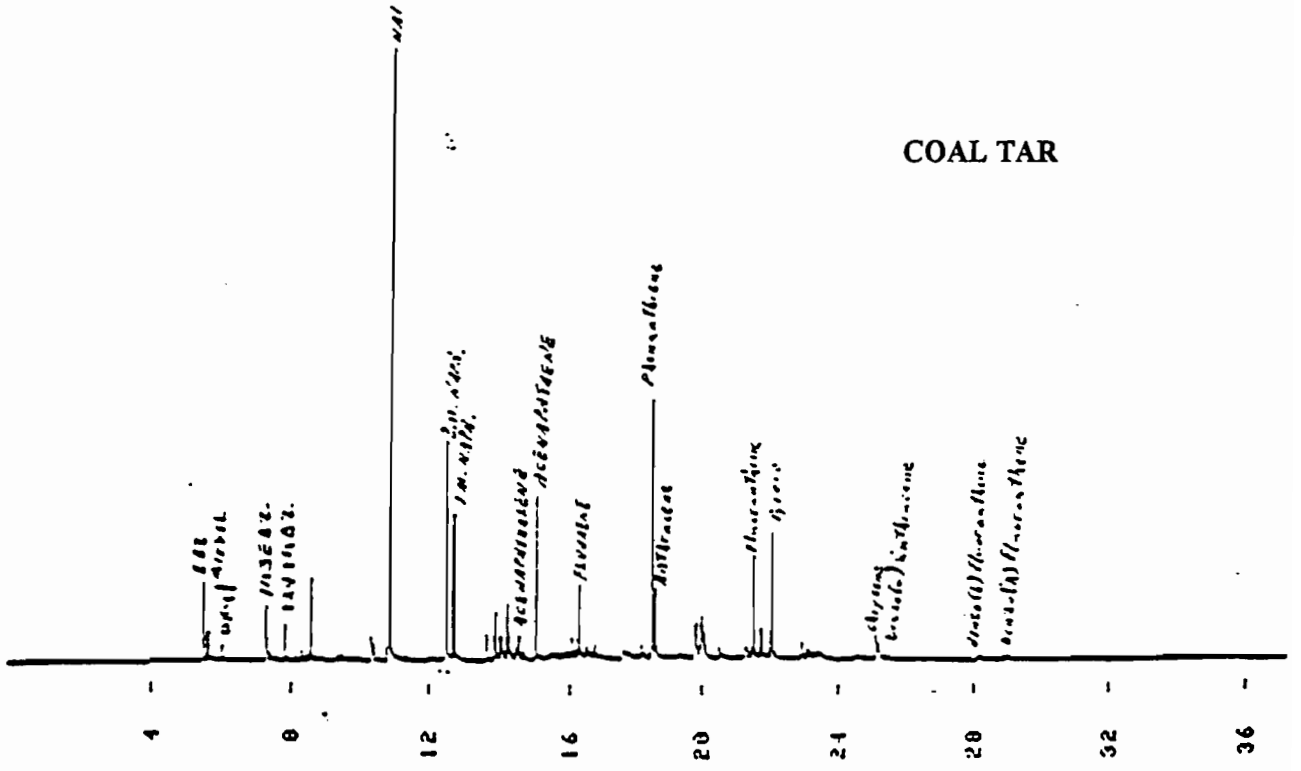
The only difference in operating conditions between Methods 1 and 2, which are used for actual product samples, and between Methods 3 and 4 is in the injection conditions. When products are run neat, or as received, a split injection method is used and if the hydrocarbons are in solvent phase a splitless injection system is used.

Display copies of the chromatograms, both labeled and unlabeled, are incorporated into the report as Appendix I. A full-scale display in which all the peaks have been kept onscale for accurate visualization of the relative proportions of the hydrocarbons present is provided. Also included in Appendix I is a table listing the abbreviations used to identify peaks on the chromatograms and their corresponding names.

RESULTS

Worldwide was requested to determine whether the asphaltic materials submitted represented petroleum derived asphalt or coal tar. Petroleum derived asphalt consists almost entirely of molecules heavier than forty carbon atoms and has virtually no resolved hydrocarbon chromatographic signature. Figure 1 provides a comparison of the chromatographic signatures of a petroleum derived asphalt or road tar and a coal tar sample from an unrelated coal gasification plant site. Coal tars show a significant resolved peak assemblage, which consists almost entirely of polynuclear aromatic hydrocarbons. The absence of a resolved peak signature compared to a resolved peak assemblage dominated by polynuclear aromatic hydrocarbons was established as the criteria for discriminating whether the submitted "asphaltic" samples represented paving asphalt or coal tar.

Figure 2 compares the chromatographic signature of the WA-01 sample with the signature of a coal tar product sample. The assemblage present in the WA-01 sample is similar to the coal tar product sample, and indicative of a coal tar material rather than an asphalt product based on the predominance of polynuclear aromatic hydrocarbons in the resolved peak assemblage present.



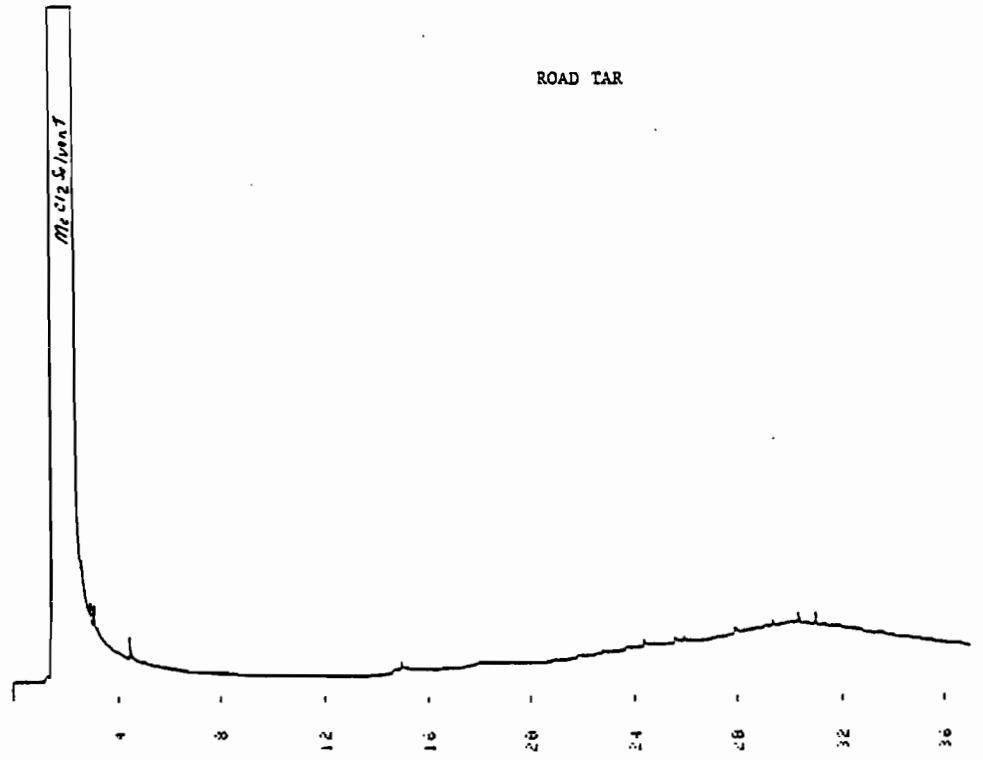


FIGURE 1: CHROMATOGRAPHIC SIGNATURES OF A PAVING ASPHALT AND A COAL TAR SAMPLE

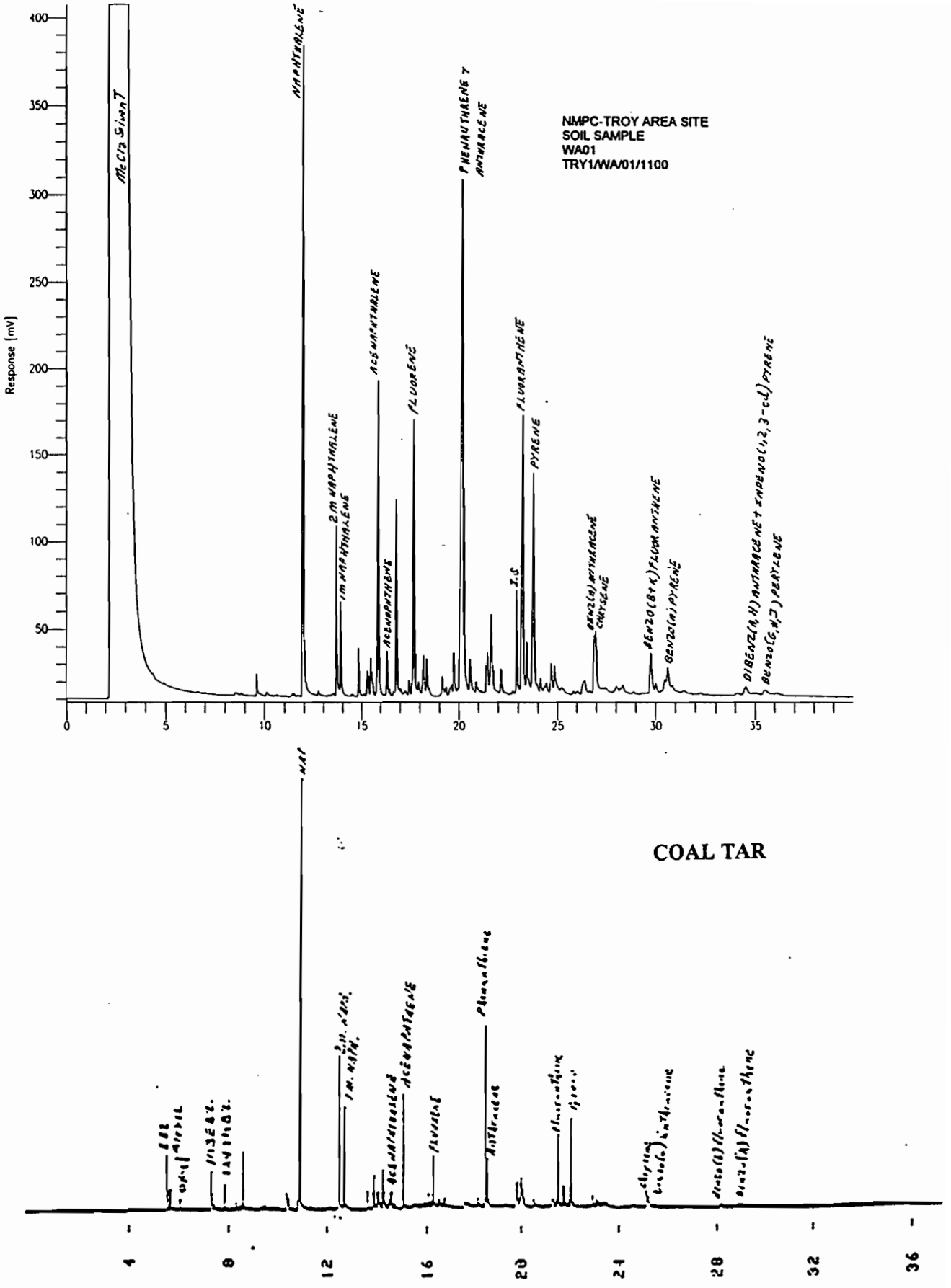
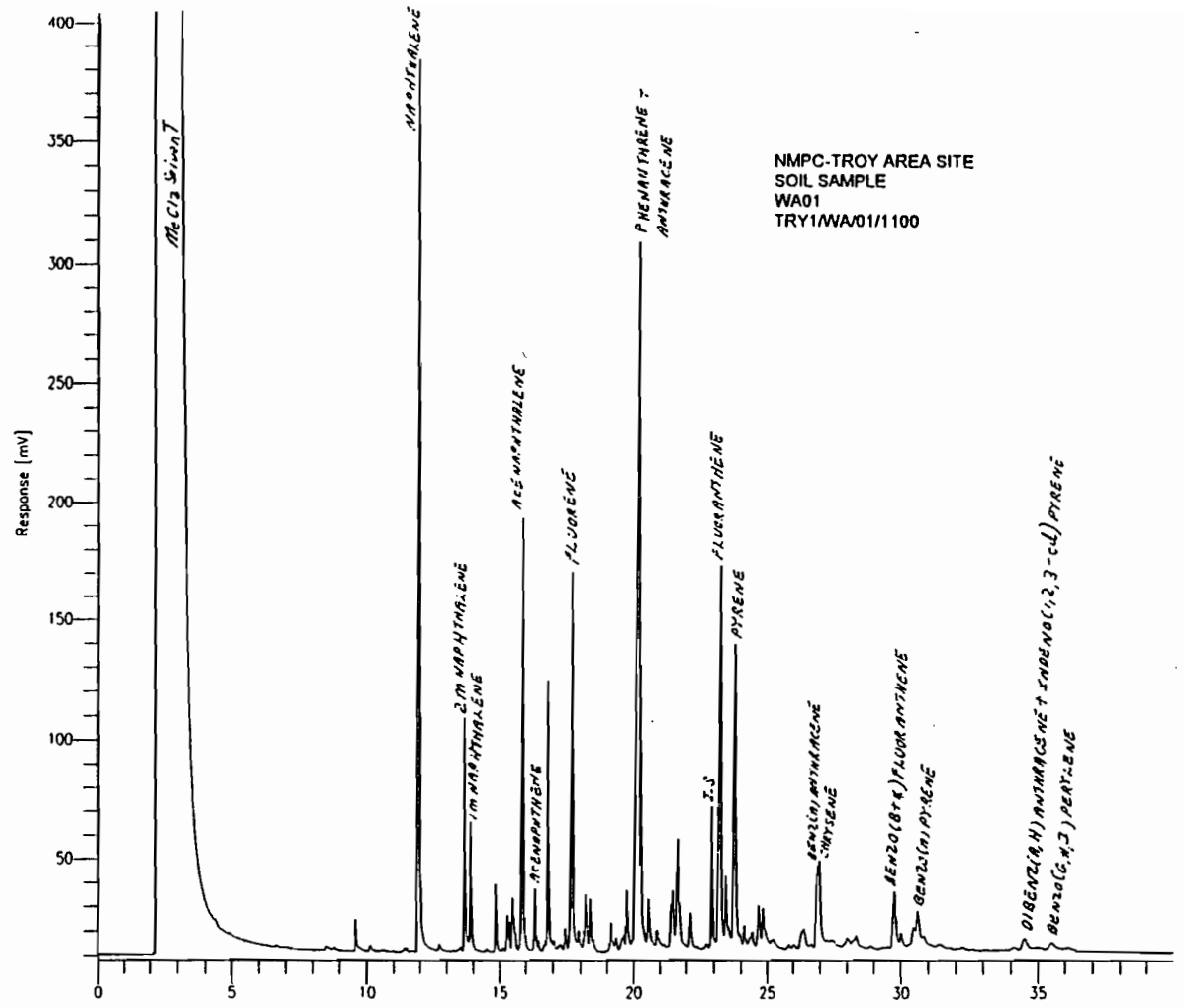


FIGURE 2: COMPARISON OF THE CHROMATOGRAPHIC SIGNATURES OF THE WA-01 SAMPLE AND A COAL TAR SAMPLE

Both the WA-01 and WA-02 samples show similar signatures, as indicated by Figure 3, which compares the two chromatograms. The peak identifications on the chromatograms were confirmed by an 8270 type GC/MS analysis of the WA-01 sample. This analysis is included as Appendix III.

Both submitted samples indicate the "asphaltic" material present represents coal tar rather than petroleum derived asphalt.



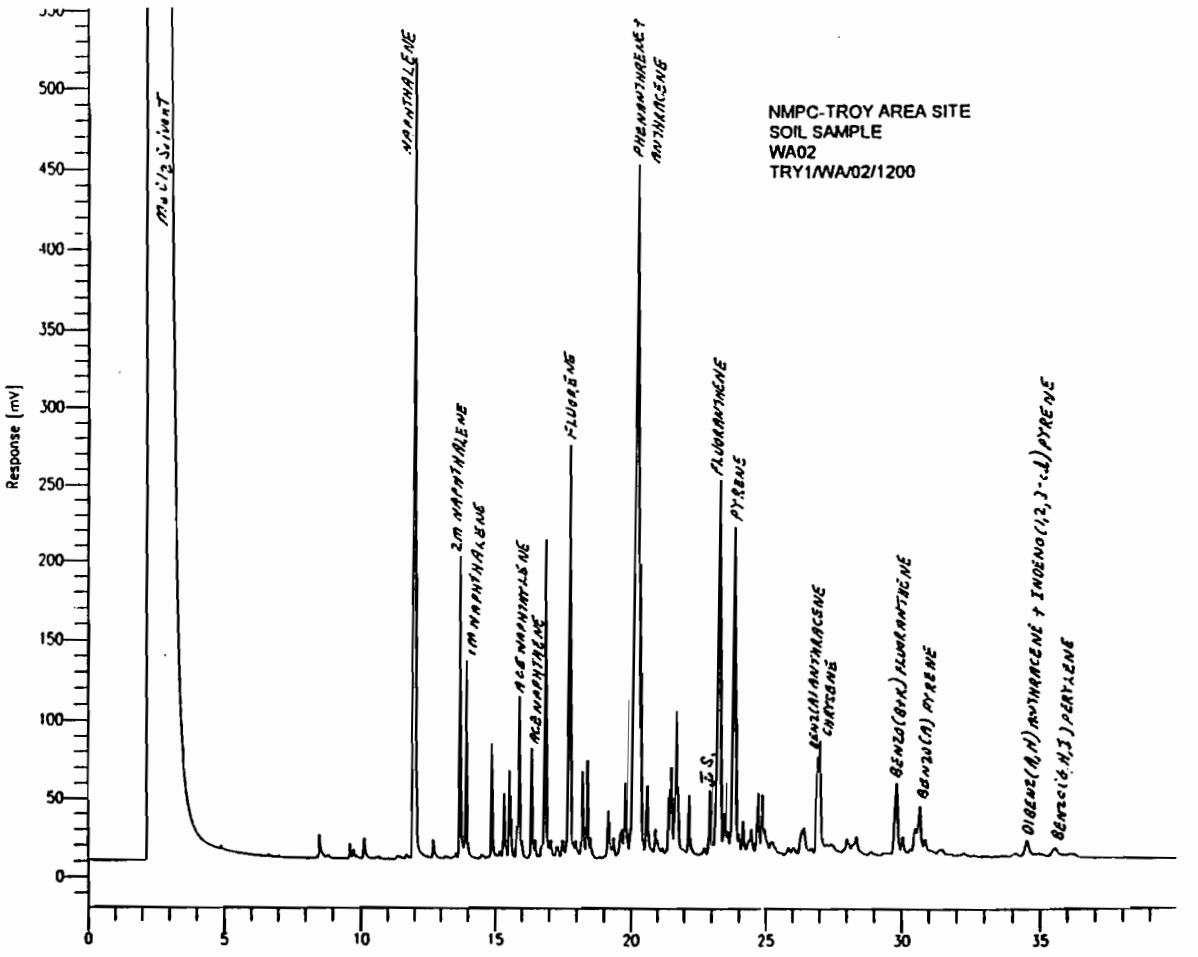


FIGURE 3: COMPARISON OF THE CHROMATOGRAPHIC SIGNATURES OF THE WA-01

nytest environmental inc.
(516) 625-5500 FAX: (516) 625-1274

Chain of Custody Record

page 1 of 1

Client Name: Flow Monitor LLC
Address: 1245 Kings Rd
Schenectady NY 12303
Project Manager: B. Ahrens
Phone: 518-370-5631 FAX: 5864
Project Name: NMPC Troy Area 1
Project Number: 0110-045-07
P.O. #:
Analytical Protocol: Deliverables:
Sampled By: Olof Gustafson

Analysis Requested

No. of Containers

Ec/Tp Fingerprinting

Bin #'s In/Out (For Lab Use Only)

Login #:
Ship to:
Nytest Environmental Inc.
60 Seaview Blvd
Port Washington N.Y. 11050
Attn.: Sample Control
Date Shipped: 12/22/16
Carrier:
Air Bill #:
Cooler #:
C of C #:
SDG #:
NEI QT #:

Comments

Lab ID (Lab Use Only)	Sample ID (Maximum of 6 Characters)	Date Sampled 1916	Time Sampled	Sample Description	No. of Containers	Ec/Tp Fingerprinting
	W A 0 1	12/+		TRY1/W1/01/1100	1	✓
	W A 0 2	12/+		TRY1/W1/02/1200	1	✓

Relinquished by:	Date / Time	Received by:	Date / Time
J. Olof Gustafson		Fed-Ex.	
Print Name: O. Olof Gustafson	12/22 1800	Print Name:	12/22 1800
Relinquished by: Fed-Ex.		Received by:	
Print Name:	12/23 830	Print Name: Signature - C. Hardrive	12/23 830
Relinquished by:		Received by Laboratory:	
Print Name:		Print Name:	

Lab Use Only

Custody Seals: Intact Broken Absent
Sample Rec'd in Good Condition?: Y N
Sample Temperature: _____ Degrees Celsius
INSPECTED BY:
COMMENTS:

Special Instructions: call?

CLIENT RETAINS YELLOW COPY ONLY

APPENDIX I

DISPLAY CHROMATOGRAMS

ABBREVIATIONS USED TO IDENTIFY PEAKS

ABBREVIATIONS	HYDROCARBON
C1	METHANE
C2	ETHANE
C3	PROPANE
IC4	ISOBUTANE
NC4	NORMAL BUTANE
ETH	ETHANOL
22C3	2 2 DIMETHYL PROPANE
IC5	ISOPENTANE
NC5	NORMAL PENTANE
MeC2	METHYLENE CHLORIDE
22DMB	2 2 DIMETHYL BUTANE
23DMB	2 3 DIMETHYL BUTANE
2MP	2 METHYLPENTANE
3MP	3 METHYLPENTANE
NC6	NORMAL HEXANE
22DMP	2,2 DIMETHYLPENTANE
MCP	METHYLCYCLOPENTANE
24DMP	2,4 DIMETHYLPENTANE
BZ	BENZENE
CH	CYCLOHEXANE
2MH	2 METHYLHEXANE
23DMP	2,3 DIMETHYLPENTANE
3MH	3 METHYLHEXANE
T13DMCP	T13DIMETHYLCYCLOPENTANE
C13DMCP	C13DIMETHYLCYCLOPENTANE
224TMP	2,2,4 TRIMETHYLPENTANE(PRINCIPAL ISO-OCTANE)
NC7	NORMAL HEPTANE
234TMP	2,3,4 TRIMETHYLPENTANE(ISO-OCTANE)
MCH	METHYLCYCLOHEXANE
TOL	TOLUENE
23DMH	2,3 DIMETHYLHEXANE
2MC7	2METHYLHEPTANE
3MC7	3METHYLHEPTANE
224TMH	2,2,4 TRIMETHYLHEXANE
223TMH	2,2,3 TRIMETHYLHEXANE
NC8	NORMAL OCTANE
EBZ	ETHYL BENZENE
M+P XYL	META AND PARA XYLENES
O XYL	ORTHO XYLENE
NC9	NORMAL NONANE
N-PROPYL BZ	NORMAL PROPYL BENZENE
1M3EBZ	1METHYL3ETHYLBENZENE
135TMBZ	1,3,5 TRIMETHYLBENZENE
1M2EBZ	1METHYL2ETHYLBENZENE

ABBREVIATIONS USED TO IDENTIFY PEAKS

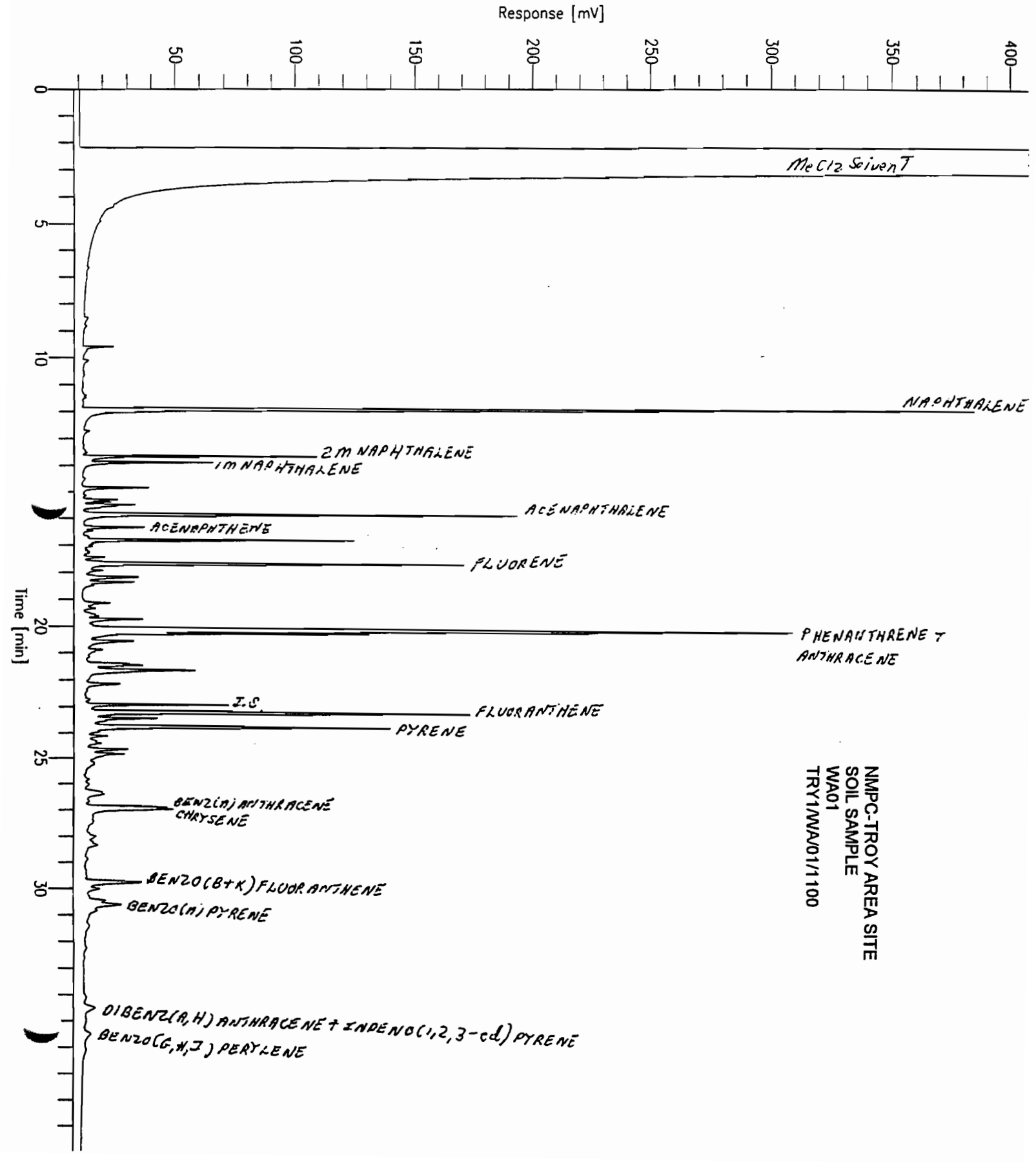
ABBREVIATIONS	HYDROCARBON
124TMBZ	1,2,4 TRIMETHYLBENZENE
NC10	NORMAL DECANE
123TMBZ	1,2,3 TRIMETHYLBENZENE (TERT BUTYL BENZENE COELUTES AT THIS POSITION)
NAPH	NAPHTHALENE
2M.NAPH	2METHYL NAPHTHALENE
1M.NAPH	1METHYL NAPHTHALENE

NC____ Normal paraffin with number of carbon atoms in molecule shown
IP____ Isoprenoid iso-paraffin with number C atoms in molecule shown

WORLD WIDE GEOSCIENCES - I

ample Name : 96171 WA-01 10SL
lleName : C:\TC41\7WWG\77WW091.RAW
ethod : WWG.MTH
tar[illegible]me : 0.00 min End Time : 40.00 min
cal[illegible]tor: 0.0 Plot Offset: 8 mV

Sample #: 61023019 Page 1 of 1
Date : 10/24/96 09:01 PM
Time of Injection: 10/25/96 01:33 AM
Low Point : 8.00 mV High Point : 408.00 mV
Plot Scale: 400.0 mV

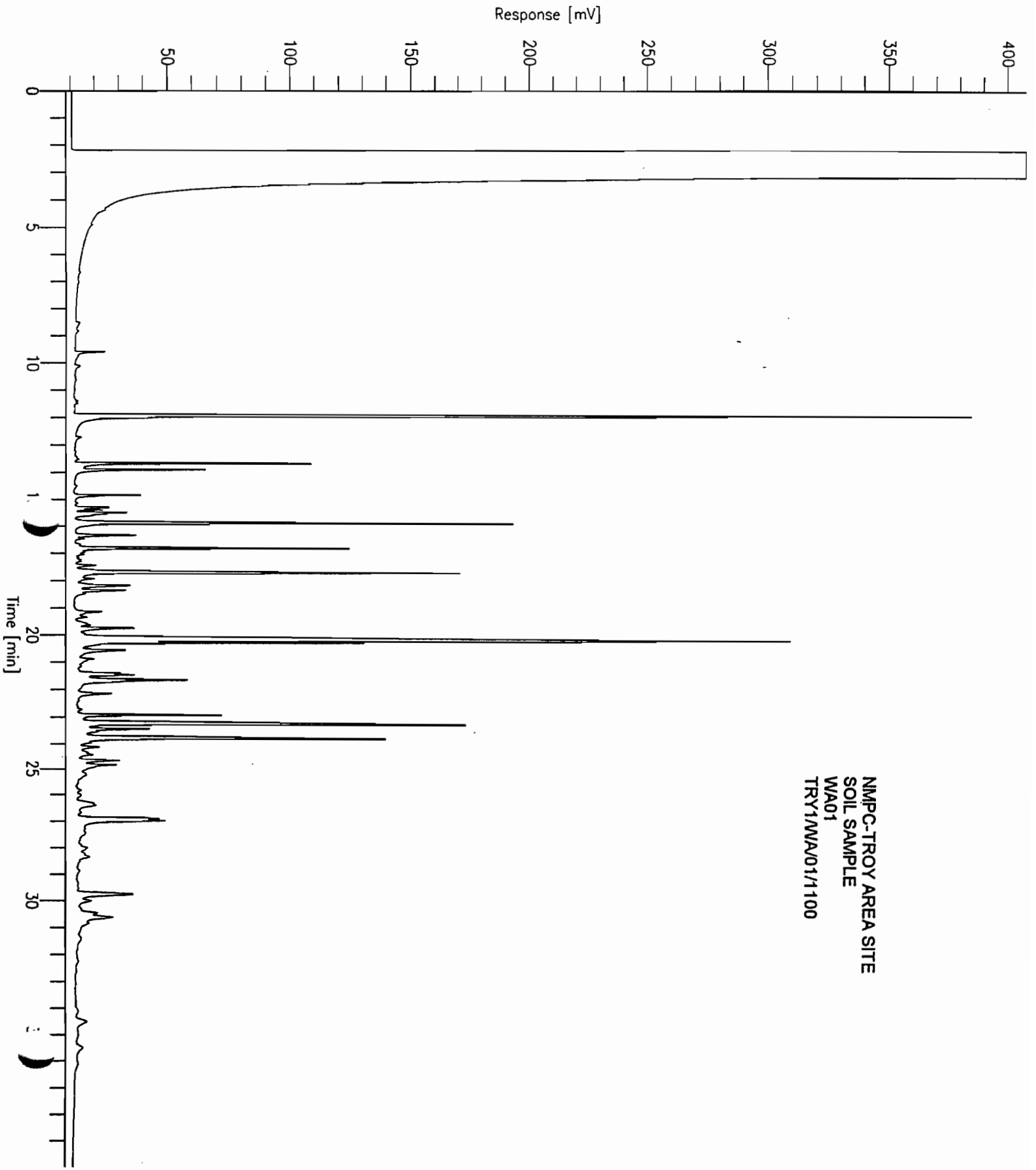


NMPC-TROY AREA SITE
SOIL SAMPLE
WA01
TRY1/WA/01/1100

WORLD WIDE GEOSCIENCES - I

Sample Name : 96171 WA-01 10SL
FileName : C:\TC41\7WWG\77WW091.RAW
Method : WWG.MTH
Start Time : 0.00 min End Time : 40.00 min
Scale Factor: 0.0 Plot Offset: 8 mV

Sample #: 61023019 Page 1 of 1
Date : 10/24/96 09:01 PM
Time of Injection: 10/25/96 01:33 AM
Low Point : 8.00 mV High Point : 408.00 mV
Plot Scale: 400.0 mV

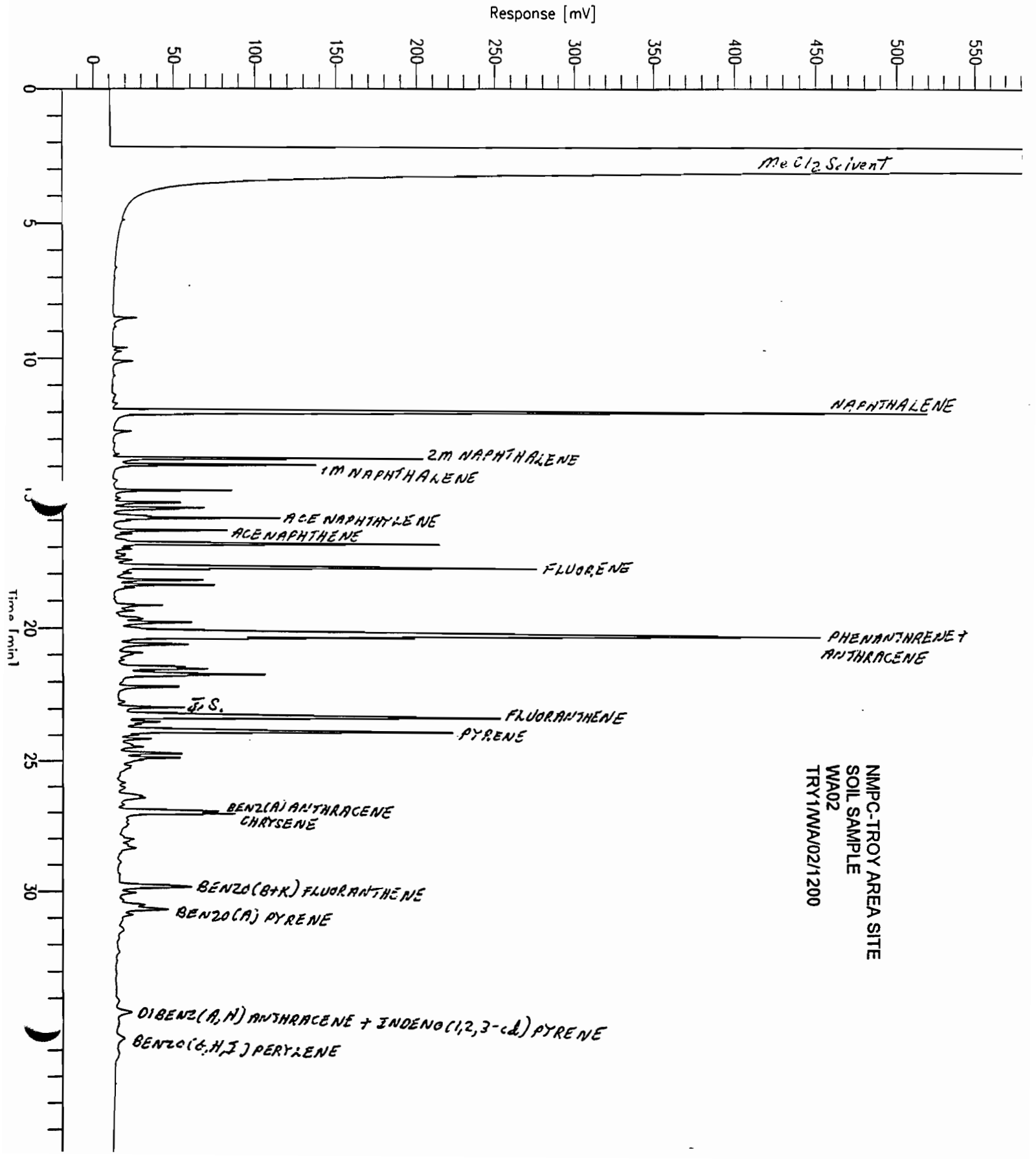


NMPC-TROY AREA SITE
SOIL SAMPLE
WA01
TRY1/WA/01/1100

Chromatogram

aple Name : 96171 WA-02 10SL
leName : C:\TC41\7WWG\77WW092.raw
:hod : WWG
art : 0.00 min End Time : 40.00 min
ale or: -1.0 Plot Offset: -19 mV

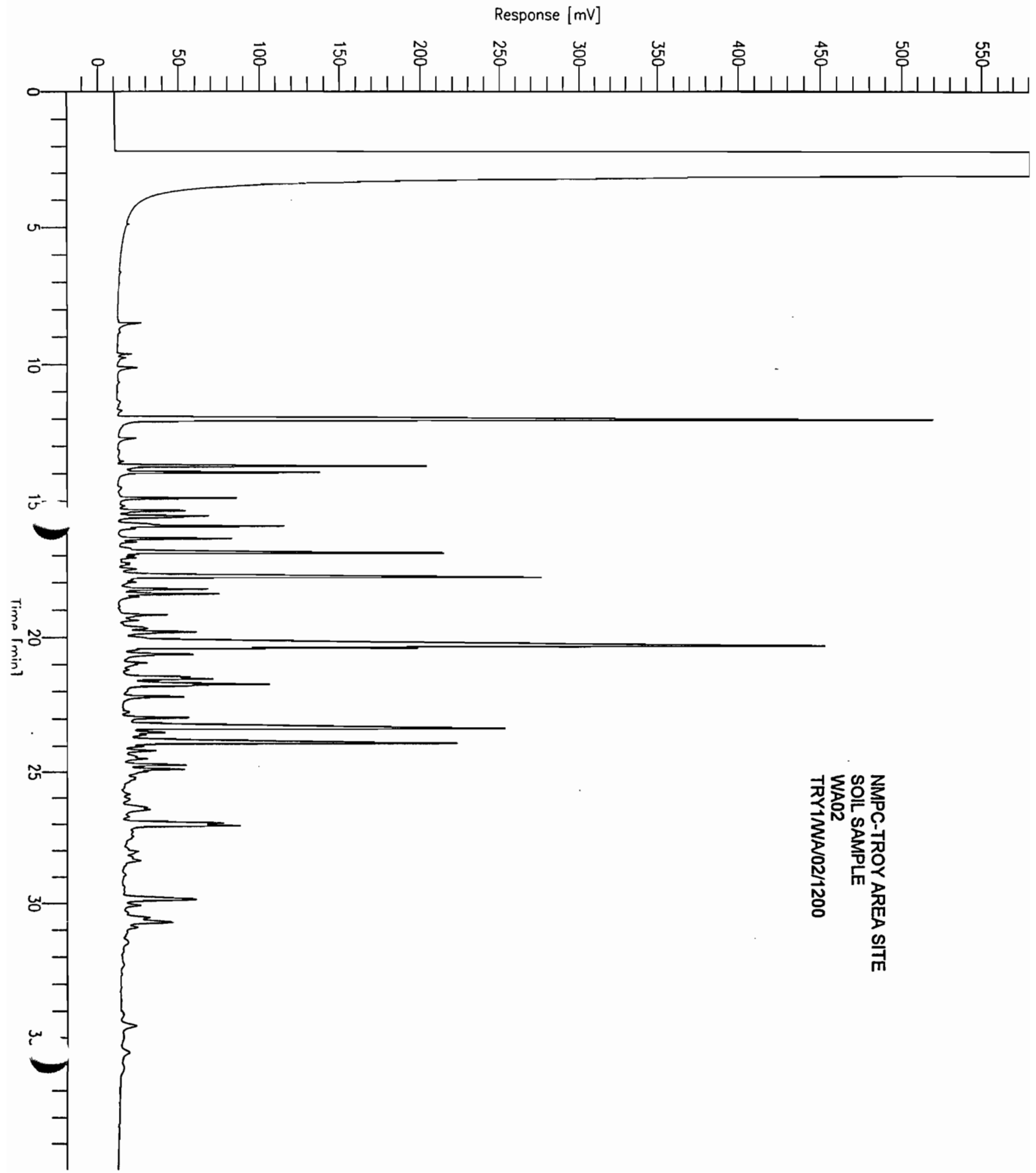
Sample #: 61023020 Page 1 of 1
Date : 10/24/96 08:41 PM
Time of Injection: 10/25/96 09:41 AM
Low Point : -19.44 mV High Point : 580.56 mV
Plot Scale: 600.0 mV



Chromatogram

mple Name : 96171 WA-02 10SL
leName : C:\TC41\7WWG\77WW092.raw
thod : WWG
art Time : 0.00 min End Time : 40.00 min
al tor: -1.0 Plot Offset: -19 mV

Sample #: 61023020 Page 1 of 1
Date : 10/24/96 08:41 PM
Time of Injection: 10/25/96 09:41 AM
Low Point : -19.44 mV High Point : 580.56 mV
Plot Scale: 600.0 mV



APPENDIX II

OPERATING CONDITIONS

GC OPERATING CONDITIONS

Instrument: Perkin-Elmer Autosystem

Column: 30m*0.25mm ID*0.25u Methyl Silicon, Restek Rtx-1
(Cat# 10138, Fused Silica Column; Bonded,
Non-Polar, Silicone Based Polymer Liquid Phase)

Carrier Gas: Helium
Linear Velocity = 30 cm/sec
Column Pressure 16.9 psig.

Injection Port: Split/Splitless Type
Temperature 300 deg C

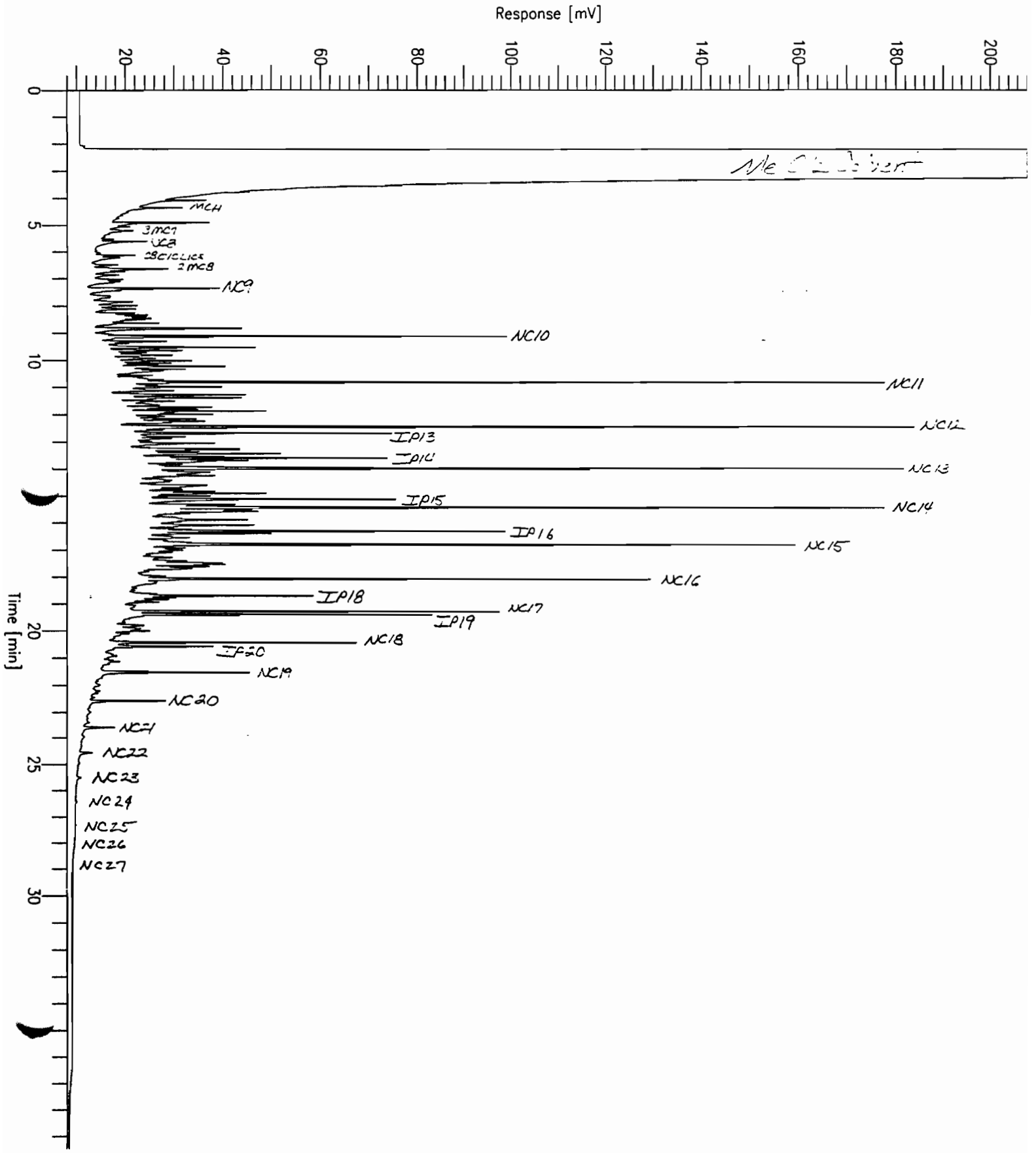
Detector: Flame Ionization Type
Temperature 300 deg C
Range 1, Attn.4

	Method 1	**Method 2**	**Method 3**	**Method 4**
Injection Type	Split	Split	Splitless	Splitless
Acronym	5/s	10/s	5/sl	10/sl
Split Vent	On	On	Off	Off
Split Vent Time,min	---	---	0.5	0.5
Split Rate ml/min	100	100	100	100
Initial Temp, deg C	30	30	30	30
Initial Time, min	5	1	5	1
Ramp Rate, deg C/min	5	10	5	10
Final Temp, deg C	300	300	300	300
Final Time, min	0	15	0	15
Run Time, min	40	40	40	40

WORLD WIDE GEOSCIENCES - I

Sample Name : #2 FUEL OIL 10SL
FileName : C:\TC41\7WWG\77WW088.RAW
Met[illegible] : WWG.MTH
Sta[illegible]me : 0.00 min End Time : 40.00 min
Scale Factor: 0.0 Plot Offset: 8 mV

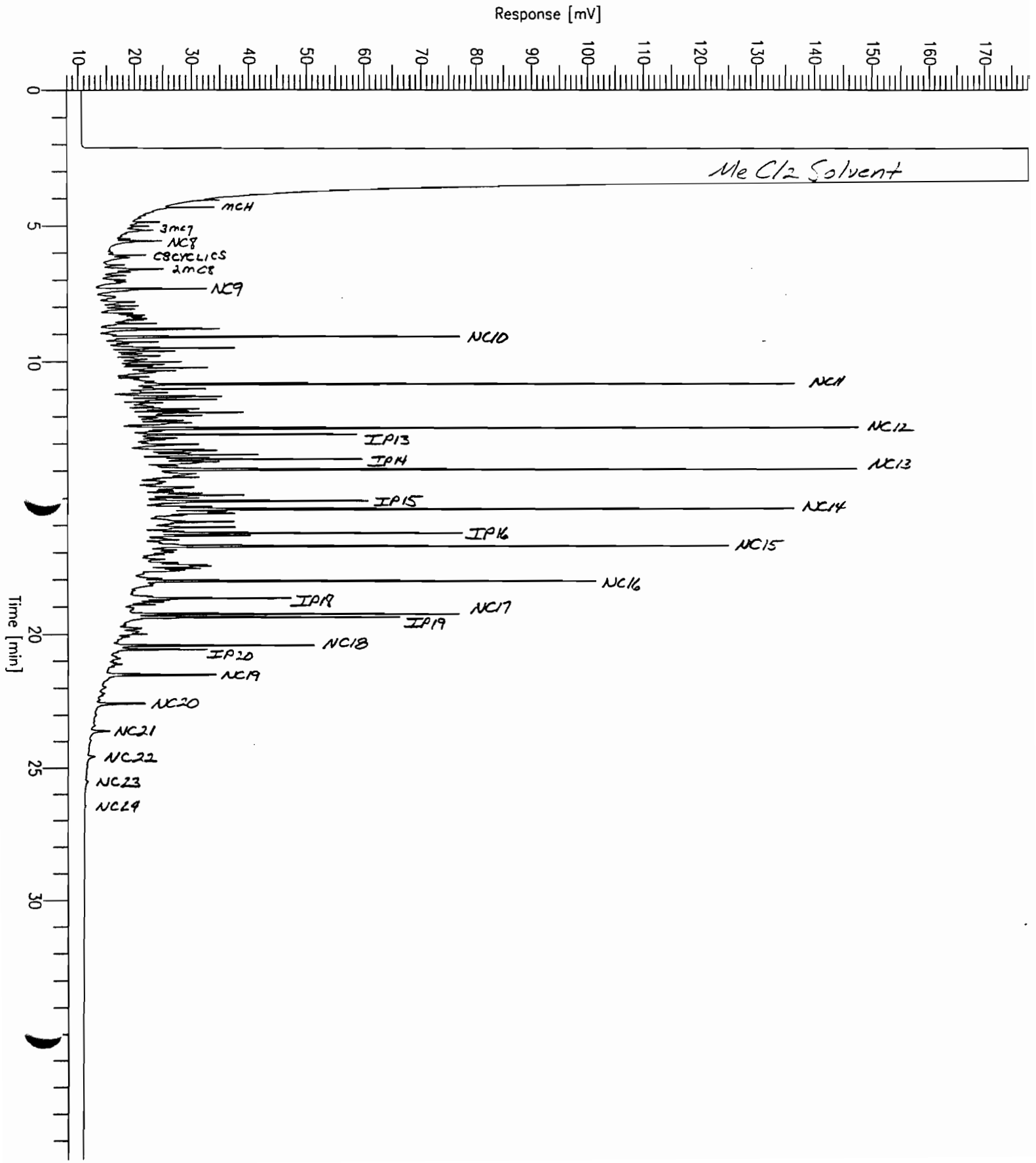
Sample #: Page 1 of 1
Date : 10/24/96 09:06 PM
Time of Injection: 10/24/96 04:54 PM
Low Point : 8.00 mV High Point : 208.00 mV
Plot Scale: 200.0 mV



WORLD WIDE GEOSCIENCES - I

Sample Name : #2 fuel oil 10sl
FileName : C:\TC41\7WWG\77WW098.RAW
Method : WWG.MTH
Start Time : 0.00 min End Time : 40.00 min
Scale Factor: 0.0 Plot Offset: 8 mV

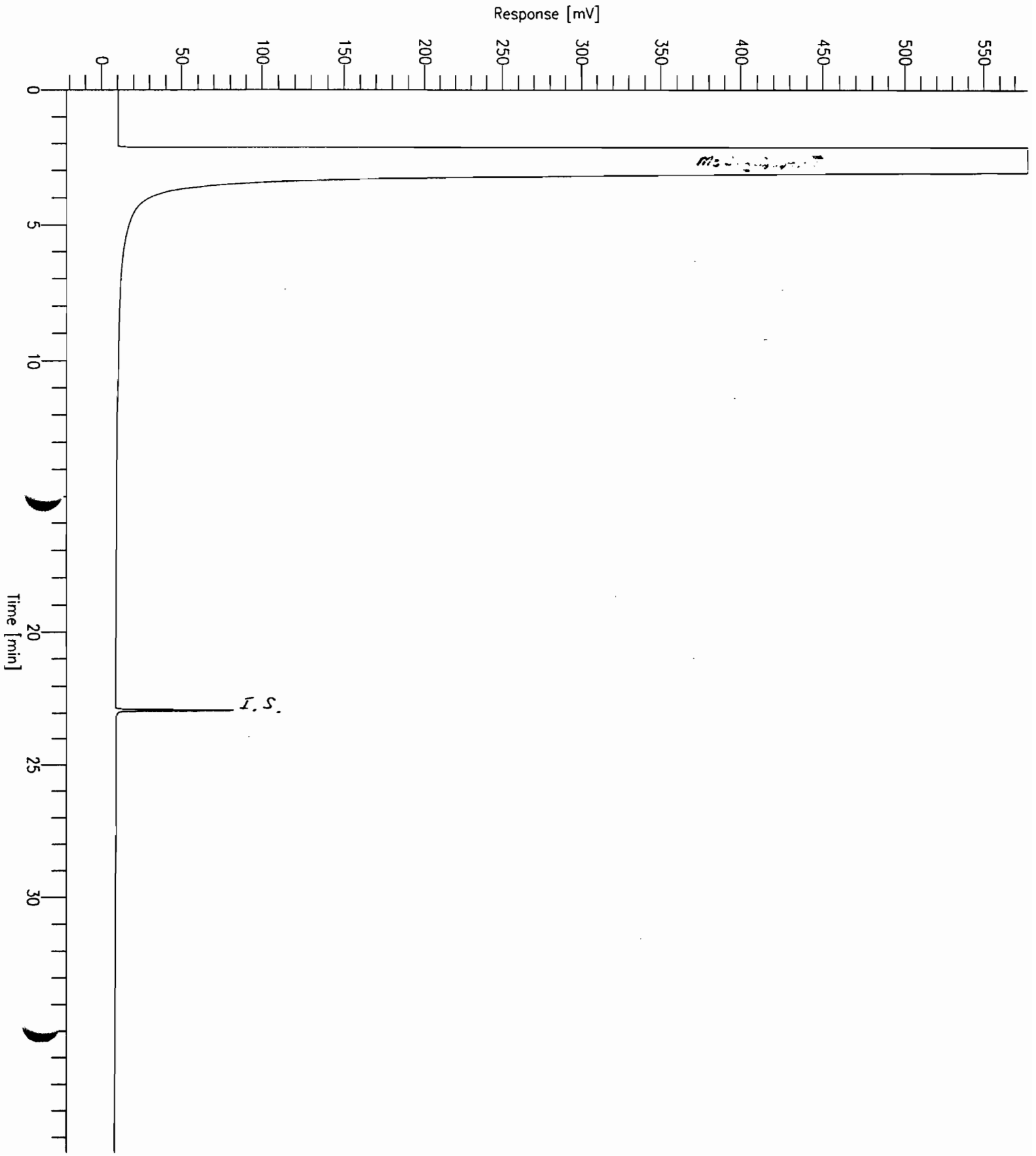
Sample #: Page 1 of 1
Date : 10/31/96 01:26 PM
Time of Injection: 10/29/96 05:12 PM
Low Point : 8.00 mV High Point : 178.00 mV
Plot Scale: 170.0 mV



Chromatogram

Sample Name : BLANK 10SL
FileName : C:\TC41\7WWG\77WW087.raw
Meth : WWG
Sta[illegible]me : 0.00 min End Time : 40.00 min
Scal[illegible]actor: -1.0 Plot Offset: -22 mV

Sample #: Page 1 of 1
Date : 10/24/96 08:40 PM
Time of Injection: 10/24/96 03:39 PM
Low Point : -21.80 mV High Point : 578.20 mV
Plot Scale: 600.0 mV



APPENDIX III

GC/MS ANALYSIS OF WA-01 SAMPLE

96171

QUANT REPORT

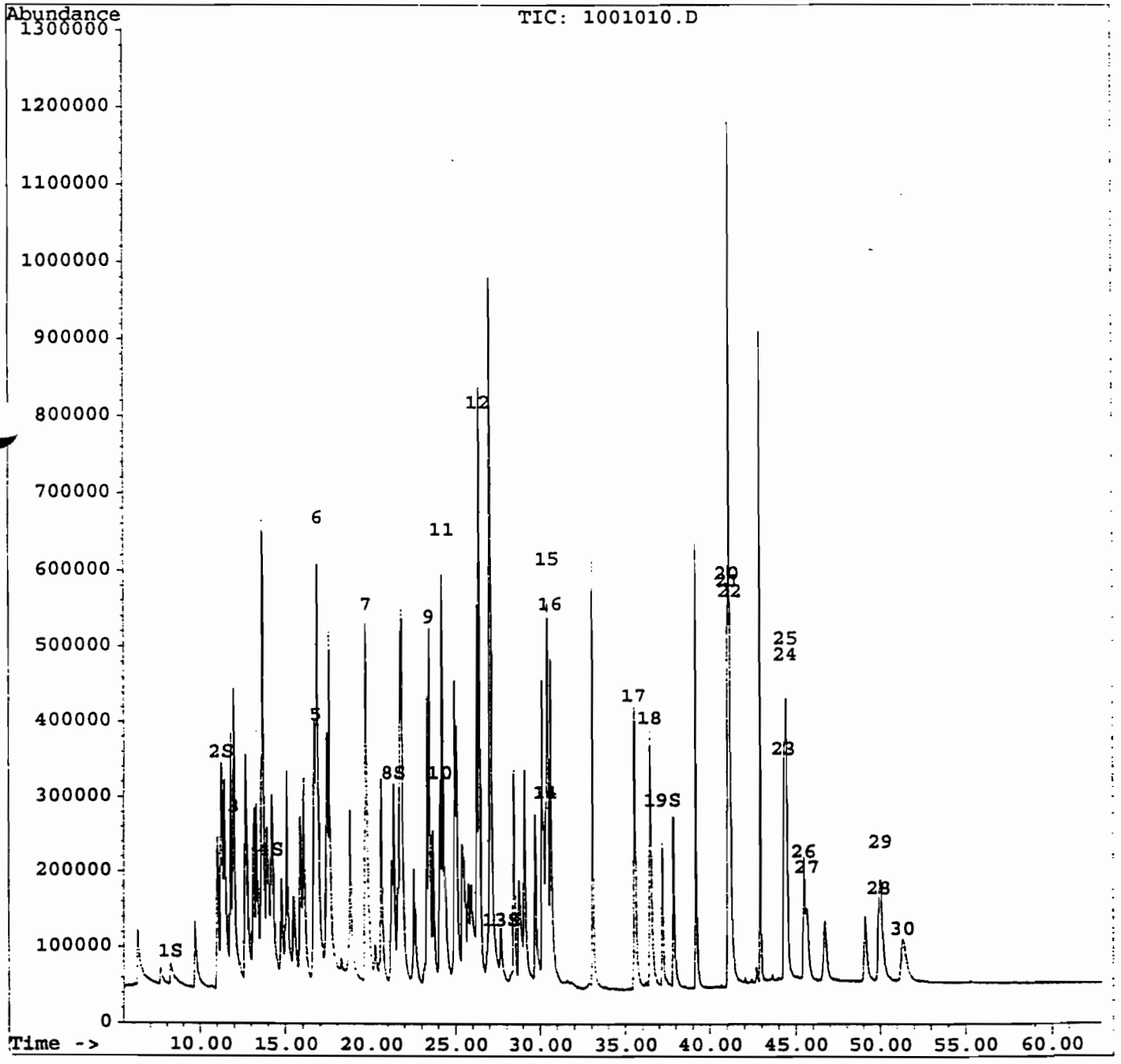
Operator ID: dmk Date Acquired: 29 Oct 96 11:24 pm
Data File: G:\DATAAQ\MASPEC-5\961029A\1201012.D
Name: wwg 96171 61023019
Misc:
Method: 8270epc.M WA-01
Title: EPA 8270 for PAH
Last Calibration: Wed Oct 23 09:50:00 1996
Quantitated using Multiple Level Calibration

Internal Standards Compound	R.T.	Qion	Area	Conc Unit	Dev(Min)
3) 1,4-Dichlorobenzene-d4-IST	12.00	152	18951	20.00 mg/kg	0.06
5) Naphthalene-d8-ISTD	16.76	136	486147	20.00 mg/kg	-0.03
10) Acenaphthene-d10-ISTD	24.09	164	293712	20.00 mg/kg	-0.02
14) Phenanthrene-d10	30.36	188	175881	20.00 mg/kg	0.03
21) Chrysene-d12	41.14	240	230149	20.00 mg/kg	0.08
27) Perylene-d12	45.67	264	229387	20.00 mg/kg	-0.05
System Monitoring Compounds					%Recovery
1) 2-Fluorophenol	8.53	112	23893	20.57 mg/kg	102.83%
2) Phenol-d6	11.56	99	70786	6.67 mg/kg	33.33%
4) Nitrobenzene-d5	14.40	82	98950	9.76 mg/kg	48.81%
8) 2-Fluorobiphenyl	21.35	172	250935	13.07 mg/kg	65.35%
13) 2,4,6-Tribromophenol	27.94	330	21128	13.21 mg/kg	66.07%
19) Terphenyl-d14	37.20	244	209898	23.99 mg/kg	119.96%
Target Compounds					ISTD#
6) Naphthalene	16.87	128	8648196	2927.63 mg/kg	002
7) 2-Methylnaphthalene	19.70	142	1950558	1002.56 mg/kg	002m
9) Acenaphthylene	23.48	152	4944561	1723.23 mg/kg	003
11) Acenaphthene	24.22	154	151360	82.77 mg/kg	003
12) Fluorene	26.41	166	3396588	1674.92 mg/kg	003
15) Phenanthrene	30.60	178	14959479	11366.58 mg/kg	004
16) Anthracene	30.60	178	14955786	11894.51 mg/kg	004
17) Fluoranthrene	35.68	202	11044399	9727.52 mg/kg	004
18) Pyrene	36.61	202	8728251	2836.30 mg/kg	005
20) Benz(a)anthracene	41.07	228	3018670	1498.03 mg/kg	005
22) Chrysene	41.24	228	2233109	1196.29 mg/kg	005
24) Benzo(b)fluoranthene	44.47	252	3350375	757.29 mg/kg	006
25) Benzo(k)fluoranthene	44.47	252	3350375	749.20 mg/kg	006
26) Benzo(a)pyrene	45.30	252	1075411	603.20 mg/kg	006
28) Dibenz(a,h)anthracene	49.98	278	336396	298.85 mg/kg	006
29) Indeno(1,2,3-cd)pyrene	50.06	276	866883	597.57 mg/kg	006
30) Benzo(g,h,i)perylene	51.36	276	850010	718.45 mg/kg	006

(#) = qualifier out of range

QUANT REPORT

Operator ID: dmk Date Acquired: 29 Oct 96 9:00 pm
Data File: G:\DATAAQ\MASPEC-5\961029A\1001010.D
Name: 40 ppm 8270 std
Misc:
Method: 8270epc.M
Title: EPA 8270 for PAH
Last Calibration: Wed Oct 23 09:50:00 1996
Quantitated using Multiple Level Calibration



QUANT REPORT

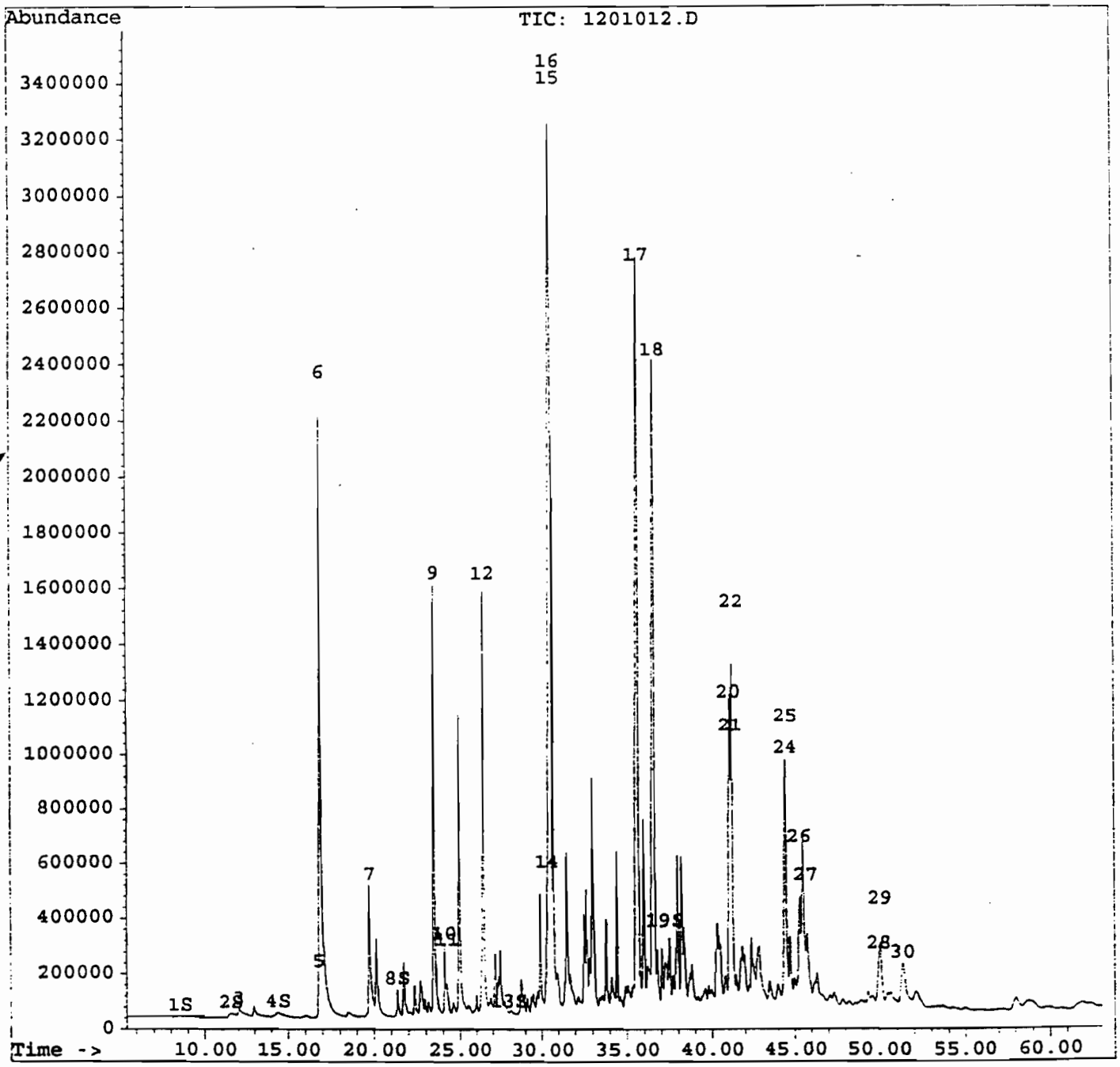
Operator ID: dmk Date Acquired: 29 Oct 96 9:00 pm
Data File: G:\DATAAQ\MASPEC-5\961029A\1001010.D
Name: 40 ppm 8270 std
Misc:
Method: 8270epc.M
Title: EPA 8270 for PAH
Last Calibration: Wed Oct 23 09:50:00 1996
Quantitated using Multiple Level Calibration

Internal Standards Compound	R.T.	Qion	Area	Conc	Unit	Dev(Min)
3) 1,4-Dichlorobenzene-d4-IST	11.93	152	155594	20.00	mg/kg	-0.02
5) Naphthalene-d8-ISTD	16.78	136	689743	20.00	mg/kg	-0.02
10) Acenaphthene-d10-ISTD	24.09	164	383947	20.00	mg/kg	-0.01
14) Phenanthrene-d10	30.35	188	482339	20.00	mg/kg	0.02
21) Chrysene-d12	41.10	240	307437	20.00	mg/kg	0.04
27) Perylene-d12	45.66	264	237049	20.00	mg/kg	-0.05
System Monitoring Compounds						**%Recovery**
1) 2-Fluorophenol	8.20	112	102392	10.73	mg/kg	53.67%
2) Phenol-d6	11.24	99	192345	12.77	mg/kg	63.83%
4) Nitrobenzene-d5	14.15	82	252800	17.58	mg/kg	87.89%
8) 2-Fluorobiphenyl	21.35	172	492369	19.62	mg/kg	98.08%
13) 2,4,6-Tribromophenol	27.69	330	61014	29.19	mg/kg	145.95%
19) Terphenyl-d14	37.20	244	411152	35.18	mg/kg	175.90%
Target Compounds						**ISTD#**
6) Naphthalene	16.86	128	1582496	41.49	mg/kg	002
7) 2-Methylnaphthalene	19.71	142	1389614	55.32	mg/kg	002
9) Acenaphthylene	23.46	152	1490993	43.68	mg/kg	003
11) Acenaphthene	24.24	154	861111	39.59	mg/kg	003
12) Fluorene	26.40	166	942433	39.07	mg/kg	003
15) Phenanthrene	30.44	178	1135735	34.58	mg/kg	004
16) Anthracene	30.65	178	1323300	42.17	mg/kg	004
17) Fluoranthrene	35.54	202	1308542	46.18	mg/kg	004
18) Pyrene	36.48	202	1297088	34.67	mg/kg	005
20) Benz(a)anthracene	41.04	228	840776	34.32	mg/kg	005
22) Chrysene	41.20	228	857738	37.80	mg/kg	005
23) 7,12-Dimethylbenz(a)anthra	44.31	256	353467	45.99	mg/kg	006
24) Benzo(b)fluoranthene	44.44	252	1428086	34.33	mg/kg	006
25) Benzo(k)fluoranthene	44.44	252	1428086	33.96	mg/kg	006
26) Benzo(a)pyrene	45.47	252	610970	36.44	mg/kg	006
28) Dibenz(a,h)anthracene	49.92	278	428679	40.50	mg/kg	006
29) Indeno(1,2,3-cd)pyrene	50.03	276	497071	36.44	mg/kg	006
30) Benzo(g,h,i)perylene	51.33	276	154917	13.92	mg/kg	006

(#) = qualifier out of range

QUANT REPORT

Operator ID: dmk Date Acquired: 29 Oct 96 11:24 pm
Data File: G:\DATAAQ\MASPEC-5\961029A\1201012.D
Name: wwg 96171 61023019
Misc:
Method: 8270epc.M
Title: EPA 8270 for PAH
Last Calibration: Wed Oct 23 09:50:00 1996
Quantitated using Multiple Level Calibration



APPENDIX B

DRILLING LOGS

Drilling Log

FLUOR DANIEL GTI

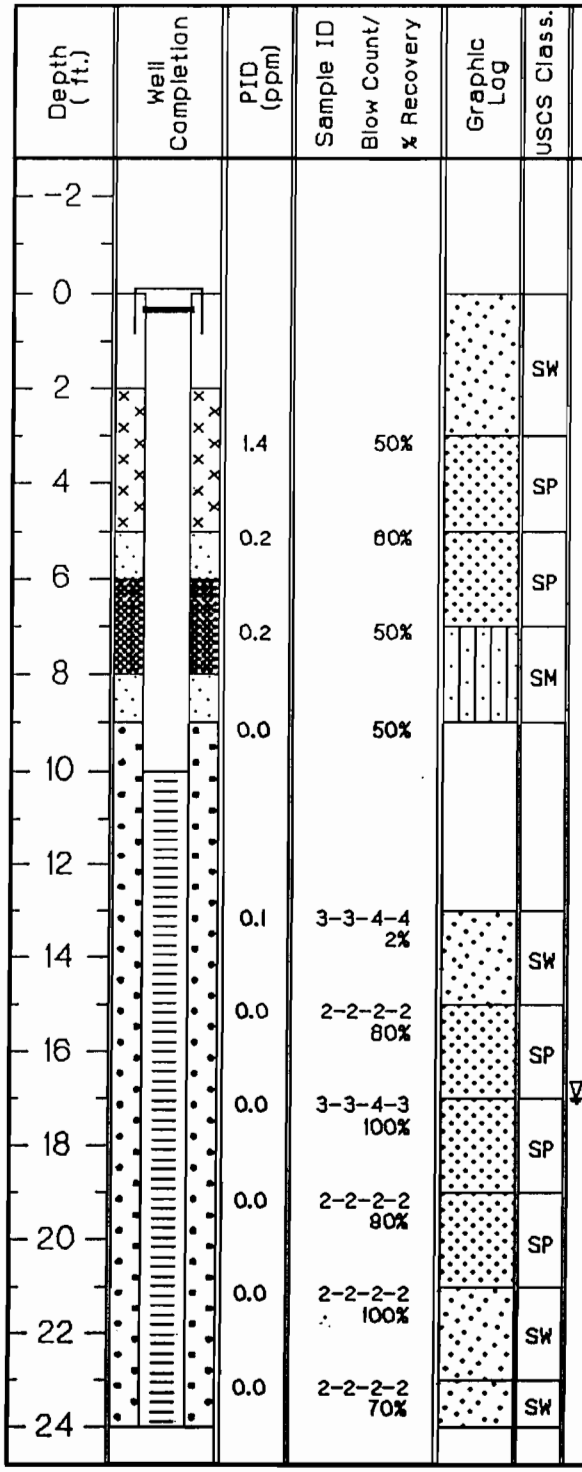
Monitoring Well MW-1

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 33 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial 17 ft. Static NA ft.
Screen: Dia 2 in. Length 20 ft. Type/Size .010 in.
Casing: Dia 2 in. Length 10 ft. Type PVC
Fill Material NA Rig/Core NA
Drill Co. ADT Method HSA
Driller BOWERS Log By J. BISHOP Date 9/4/96 Permit #
Checked By License No.

See Site Map For Boring Location

COMMENTS:

North end of site in grass, abandoned and redrilled on 9/16/96 and began at 8:20am and ended at 10:30am. Has 2' sump.



Description

(Color, Texture, Structure)
Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%

1-3' Moist, brown/black, FINE SAND with some gravel (slag) loose

3-5' Dry, brown FINE SAND with little gravel, silt (loose)

5-7' Dry, gray/brown, FINE MEDIUM SAND, little gravel (loose)

7-9' Moist, brown, FINE SAND with some silt, little gravel (slag), loose

9-13' No spoon recovery - debris (concrete?)

13-15' Moist-saturated, gray, FINE SAND with some gravel (firm)

15-17' Moist-saturated, brown/gray mottled, FINE SAND (firm)

17-19' Saturated, brown trace dark gray, FINE SAND with trace gravel (firm)

19-21' Saturated, gray, FINE SAND with little gravel (1" piece of wood -firm)

21-23' Same as above, but 6" gravel with little sand (firm)

23-25' Interbedded FINE SAND with little gravel, gravel with little sand, gray (loose)

Drilling Log

FLUOR DANIEL GTI

Monitoring Well **MW-1**

Project *NMPC TROY – AREA 1* Owner *NIAGARA MOHAWK*

Location *WATERVLIET, NEW YORK* Proj. No. *01110-0415*

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						
26		0.0	2-2-2-2 80%		SW	25–27' Saturated, gray, MEDIUM/COARSE SAND AND GRAVEL (firm)
28		0.0	2-2-2-2 100%		SW	27–29' Saturated, gray, MEDIUM/COARSE SAND AND GRAVEL (firm)
30		0.0	2-2-2-2 50%		SW	29–30' Saturated, gray, FINE/MEDIUM/COARSE SAND, some gravel (loose)
32		0.0	2-2-2-2 80%		SP	31–33' Saturated, gray, FINE/MEDIUM SAND with little coarse sand (firm), trace of gravel
34						
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

Drilling Log

FLUOR DANIEL GTI

Monitoring Well MW-2R

Project NMPC TROY – AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 33 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia 2 in. Length 20 ft. Type/Size .010 in.
Casing: Dia 2 in. Length 10 ft. Type PVC
Fill Material MORIE #0 Rig/Core MOBILE B-59
Drill Co. ADT Method HSA
Driller M.HARRINGTON Log By J. BISHOP Date 9/16/96 Permit #
Checked By License No.

See Site Map For Boring Location

COMMENTS:

Abandon MW-2 and drill MW-2R 10'NW of MW-2. Has 2' sump and soil classifications from MW-2.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0			6-6-R 5%		SP	0–1' Brown, moist, loose, FINE SAND, trace fine gravel (grass roots)
2						–Refusal at 1' 2–4' Weathered concrete
4						4–6' Weathered concrete–attempted spoon at 5'–no recovery
6						6–8' Weathered concrete
8						8–10' Weathered concrete
10					SP	10–11' Weathered concrete–attempted spoon at 10'–no recovery
12			2-2-2-3 100%		SM	11–13' Brown, moist, loose, FINE SAND, trace clay (slightly pliable at bottom)
14			2-2-2-2 100%		SM	13–15' Dark brown, wet, loose/slight pliable, FINE SAND, little silt, trace clay, trace organics
16			2-3-2-3 8%		SM	15–17' Dark brown, wet, loose/slight pliable, FINE SAND, little silt, trace clay, trace organics, but saturated
18			3-3-3-3 80%		SM	17–19' Dark brown, wet, loose/slight pliable, FINE SAND, little silt, trace clay, trace organics
20			3-4-3-4 100%		SW	19–21' Dark brown, saturated, loose, FINE SAND AND FINE GRAVEL, trace silt
22			4-4-4-4 100%		SW	21–23' Brown, saturated, loose, FINE SAND AND FINE GRAVEL
24			4-3-4-4 100%		SW	23–25' Brown, saturated, loose, FINE SAND AND FINE GRAVEL

Drilling Log

FLUOR DANIEL GTI

Monitoring Well **MW-2R**

Project *NMPC TROY - AREA 1* Owner *NIAGARA MOHAWK*

Location *WATERVLIET, NEW YORK* Proj. No. *01110-0415*

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						
26					SW	25-27' Brown, saturated, loose, FINE SAND AND FINE GRAVEL
28					SP	27-29' Gray/brown saturated, loose, FINE SAND, little fine gravel, trace silt
30					SP	29-31' Gray, saturated, loose, FINE SAND, little silt
32					SW	31-33' Gray, saturated, loose, FINE SAND AND COARSE SAND/FINE GRAVEL
34						End of boring at 33'
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

Drilling Log

FLUOR DANIEL GTI

Monitoring Well MW-3

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 32 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia 2 in. Length 20 ft. Type/Size .010 in.
Casing: Dia 2 in. Length 12.73 ft. Type PVC
Fill Material MORIE #0 Rig/Core MOBILE B-61
Drill Co. ADT Method HSA
Driller BOWERS Log By J. BISHOP Date 9/9/96 Permit # _____
Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

Began drilling 9/4/96, quit after four attempts to only 2'. Has 2' sump and 2.73' stick-up.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2.75 Not to scale						
0		1.0	8-8-R 8%		SW	0-2' Brown, moist, loose, FINE SAND, little fine gravel, little organics
2						
4			Drilled			2-5' Dense concrete
6		0.5	3-3-3-3 85%		SP	5-7' Black, dry, loose, COARSE SAND (coal), little fine/medium sand (coal & silica)
8		0.1	5-8-5-5 80%		SP	7-8.5' Black, dry, loose, COARSE SAND (coal), little fine/medium sand (coal & silica)
					SP	8.5-9' Brown, slightly (moist), slight compact, FINE SAND, trace coarse gravel
10		0.1	2-2-2-2 45%		SP	9-11' Brown, moist, loose, fine sand
12		0.1	2-3-2-2 60%		SP	11-13' Brown, moist, loose, FINE SAND
14		0.2	3-3-3-3 45%		SP	13-15' Brown, moist, loose, FINE SAND, trace of clay
16		0.1	5-6-4-6 90%		SP	15-17' Brown, wet, loose, FINE SAND, little fine/medium gravel (rounded), trace clay, lower 0.25' saturated, oxidized layer at 16'
18		0.1	3-4-3-5 80%		SP	17-19' Brown, saturated, loose, FINE SAND
20		0	3-4-3-4 30%		GW	19-21' Brown, saturated, loose, FINE GRAVEL AND FINE/MEDIUM SAND, little coarse sand
22		0	3-4-3-4 40%		SW	21-23' Gray/brown, saturated, loose, FINE SAND, some fine gravel, little medium/coarse sand (fines down)
24		0	4-4-4-4 70%		SW	

Drilling Log

FLUOR DANIEL GTI

Monitoring Well **MW-3**

Project *NMPC TROY – AREA 1* Owner *NIAGARA MOHAWK*

Location *WATERVLIET, NEW YORK* Proj. No. *01110-0415*

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						23–25' Gray/brown, saturated, loose, FINE SAND, some fine gravel, little medium/coarse sand (fines down)
26		0	2-2-2-2 50%		SW	
28		0	3-4-4-3 70%		SP	25–27' Brown,gray, saturated, loose, FINE/MEDIUM SAND
30		0	3-3-2-3 5%		SP	27–28.5' Brown, gray, saturated, loose, FINE/MEDIUM SAND
32					GW	28.5–29' Gray, saturated, loose, FINE GRAVEL, little fine sand
34					GW	29–31' Gray, saturated, loose, FINE GRAVEL, little fine sand
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

Drilling Log

FLUOR DANIEL GTI

Monitoring Well MW-4

Project NMPC TROY – AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 33.3 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial 18.3 ft. Static NA ft.
Screen: Dia 2 in. Length 20 ft. Type/Size .010/PVC in.
Casing: Dia 2 in. Length 13.5 ft. Type PVC
Fill Material MORIE #0 Rig/Core MOBILE B-61
Drill Co. ADT Method HSA
Driller BOWERS Log By J. BISHOP Date 9/5/97 Permit # _____
Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

North of substation, refusal 1 at 1' move N 5', refusal 2 at 3' move W 10', refusal at 5' move N, begin at 8:20am and ended at 11:30am. Has 2' sump.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-3.5 Not to scale						
0		2.5	4-R 3%		SP	0–2' Brown, moist, loose, FINE SAND, little fine gravel, little organics (gray gravel in shoe)
2			Augered			Auger refusal at 2'
4		0.8	8-6-5-4 40%		SW	5–7' Brown, moist, loose, FINE SAND, little fine gravel, some red brick
6		0.3	4-4-4-4 5%		SP	7–9' Brown, moist, loose, FINE SAND, little fine gravel, trace brick
8		0.4	4-3-3-3 5%		SW	9–11' Light brown, moist, loose, FINE SAND AND FINE GRAVEL
10		0.1	2-3-3-3 5%		SW	11–13' Light brown, moist, loose, FINE SAND, trace of coarse gravel
12		0.1	3-3-3-3 80%		SP	13–15' Brown, moist, loose, FINE SAND (well sorted), little fine/ medium gravel
14		0.1	2-1-2-1 3%		SP	15–17' Brown, moist, loose, FINE SAND (well sorted), little fine/ medium gravel, trace clay
16		NS	1-1-1-1 8%		SP	17–19' Brown, wet, loose, FINE SAND (well sorted), fine/medium gravel, trace clay,
18		0.1	6-6-5-6 80%		GP	19–20' Brown, saturated, loose, FINE GRAVEL, little fine sand
20		0.1	5-5-5-5 100%		SW	21–23' Brown, saturated, loose, FINE SAND AND FINE GRAVEL, trace silt at bottom
22		0.0	5-5-5-5 100%		SW	23–25' Brown, saturated, loose, FINE SAND AND FINE GRAVEL, trace silt at bottom
24						

Drilling Log

FLUOR DANIEL GTI

Monitoring Well MW-4

Project NMPC TROY – AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						
		0.0	3-4-4-3 8%		SW	25–27' Brown, saturated, loose, FINE SAND AND FINE GRAVEL, trace silt at bottom
26					SW	
		0.0	4-5-4-4 100%			27–29' Brown, saturated, loose, FINE SAND AND FINE GRAVEL, trace silt at bottom, lenses of fine gravel
28					SW	
		0.0	4-3-4-3 100%			29–31' Brown/gray, saturated, loose, FINE SAND, little silt, little fine gravel
30					SP	
		0.0	3-3-3-3 90%			31–33' Brown/gray, saturated, loose, FINE SAND, some silt, trace fine gravel
32					SM	
34						
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

Drilling Log

FLUOR DANIEL GTI

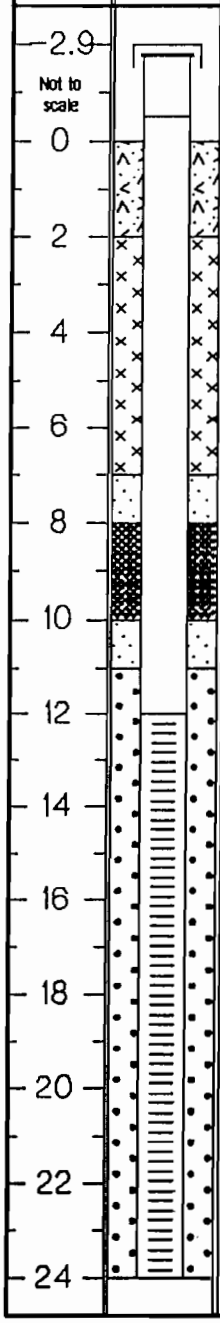
Monitoring Well MW-5

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 34 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial 19 ft. Static NA ft.
Screen: Dia 2 in. Length 20 ft. Type/Size .010/PVC in.
Casing: Dia 2 in. Length NA ft. Type PVC
Fill Material MORIE #0 Rig/Core MOBILE B-61
Drill Co. ADT Method HSA
Driller BOWERS Log By J. BISHOP Date 9/5/96 Permit # _____
Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

In woods near substation, began at 3:00pm and ended at 4:40pm. Has 2' sump.



Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0				0-2'
4	0.1	8-8-5-5 20%	SW	3-5' Brown, slightly moist/dry loose, FINE SAND, some gravel (brick)
6	0.1	5-5-4-4 40%	SW	5-7' Brown, slightly moist/dry loose, FINE SAND, some gravel (brick)
8	0.1	5-4-5-4 40%	SW	7-9' Brown, slightly moist/dry loose, FINE SAND, some gravel (brick), trace black slag
10	0.0	8-5-8-8 40%	SW	9-11' Brown, slightly moist/dry loose, FINE SAND, some gravel (brick)
12	0.0	7-8-8-8 45%	SM	11-13' Brown, moist, compact/loose, FINE SAND AND SILT
14	0.0	4-3-3-5 80%	SP	13-15' Same as above, but loose, FINE SAND
16	0.0	4-3-4-5 100%	SP	15-17' Same as above
18	0.0	3-4-4-3 100%	SP	17-19' Brown, wet, loose, FINE SAND
20	0.0	4-5-3-4 100%	SP	19-21' Brown, saturated, loose, FINE SAND
22	0.0	3-3-3-0 100%	SP	21-22' Same as above
24	0.0	3-3-3-0 100%	SW	22-23' Brown, wet, loose, FINE SAND AND FINE GRAVEL
	0.0	3-4-4-3 100%	SW	23-25' Brown/gray, saturated, loose, FINE/MEDIUM SANDS AND SOME FINE/ MEDIUM GRAVEL

FLUOR DANIEL GTI

Drilling Log

Monitoring Well MW-5

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						
26		0.0	3-4-4-3 45%		SW	25-27' Brown/gray, saturated, loose, FINE/MEDIUM GRAVEL, some fine/ medium sand
28		0.0	4-3-3-4 75%		GW	27-29' Same as above for 1', saturated loose, FINE/SAND AND FINE/ GRAVEL, little wood, trace clay
30		0.0	3-3-4-3 80%		SW	29-31' Gray/brown, saturated, loose, FINE/MEDIUM SAND, little fine/ silt (little wood)
32		0.0	3-4-3-4 100%		SP	31-33' Gray/brown, saturated, loose, FINE/MEDIUM SAND, some fine/ gravel, trace clay
34					SP	
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SB-1

Project NMPC TROY – AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 20 ft. Diameter 4.25 Auger in.
Top of Casing NA ft. Water Level Initial 18 ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length NA ft. Type NA
Fill Material NA Rig/Core Mobile B-61
Drill Co. ADT Method HSA
Driller Bowers Log By J. BISHOP Date 9/6/96 Permit #
Checked By License No.

See Site Map For Boring Location

COMMENTS:

Near bike path. Begin at 10:00am and end at 11:45am.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0.7	4-6-R 30%		SW	0-1' Brown, dry/slightly moist, FINE SAND, little/some gravel (brick & gravel), little organics
2		Drilled			–Drilled 1-3', slag in shoe at 1'
4	NS	5-6-6-5 30%		SW	3-5' Brown, dry, loose, FINE SAND, some fine gravel (brick, slag)
		5-3-3-3 30%			–Slight coal tar odor
6	2.5			SP	5-7' Same as above but moist, little fine gravel
8	11	3-6-R 15%		SW	7-8' Brown/black, slight moist, loose, FINE SAND AND FINE GRAVEL, (slag) trace silt, trace clay
	1	6-4-3-3 40%		GW	–slag in spoon at 8'– refusal
10		4-5-3-5 20%			8-10' Black, dry, loose, medium gravel (slag), little fine sand, trace silt, trace clay
	92			SW	10-12' Black/brown, moist, loose, FINE SAND AND FINE GRAVEL, trace silt, trace clay
12		6-7-3-8 20%			
	NS			SW	Same as above
14		1-1-1-1 45%			
	NS			SM	14-16' Brown, wet, slight plastic, FINE SAND AND SILT, trace/little clay
16		1-1-1-1 70%			
	0			SM	16-18' Brown, wet/saturated, slight plastic, FINE SAND AND SILT, little some clay
18		1-2-3-3 100%			
	NS			ML	18-20' Same as above but saturated, SILT AND FINE SAND
20					End of Boring
22					
24					

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SS-1

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 0.5 ft. Diameter NA in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length ____ Type NA
Fill Material NA Rig/Core NA
Drill Co. NA Method S.S. SCOOP & BOWL
Driller SAMPLER-J. BISHOP Log By J. BISHOP Date 9/10/96 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Sample time - 9:00am, sample collected for MGP Indicators, duplicate set collected (labeled as SS-06).

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0			SP	0-0.5' Brown, slight moist, loose, FINE SAND, little fine-meduium gravel (rounded)
2					
4					-Sticks and weeds at the surface
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SS-2

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 0.5 ft. Diameter NA in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length ____ Type NA
Fill Material NA Rig/Core NA
Drill Co. NA Method S.S. SCOOP & BOWL
Driller SAMPLER-J. BISHOP Log By J. BISHOP Date 9/10/96 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Sample time - 10:55am, sample collected for MGP Indicators, near tree north of grassy area.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0			SP	0-0.5' Brown, slight moist, loose, FINE SAND, trace fine gravel
2					
4					Surface - Field grass, twigs and leaves
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SS-3

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 0.5 ft. Diameter NA in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length ____ Type NA
Fill Material NA Rig/Core NA
Drill Co. NA Method S.S. SCOOP & BOWL
Driller SAMPLER-J. BISHOP Log By J. BISHOP Date 9/10/96 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Sample time - 8:45am, sample collected for MGP Indicators.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0			SW	0-0.5' Brown, moist, loose, FINE SAND AND COBBLES (slag), little organics
2					
4					Surface - Grass and weeds
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SS-4

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 0.5 ft. Diameter NA in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length ____ Type NA
Fill Material NA Rig/Core NA
Drill Co. NA Method S.S. SCOOP & BOWL
Driller SAMPLER-J. BISHOP Log By J. BISHOP Date 9/10/96 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Sample time - 10:35am, Sample collected for MGP Indicators, in woods near substation.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0			SP	0-0.5' Dark brown, moist, loose, FINE SAND, trace fine gravel
2					
4					Surface - Sticks
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					

Drilling Log

FLUOR DANIEL GTI

Monitoring Well SS-5

Project NMPC TROY - AREA 1 Owner NIAGARA MOHAWK
Location WATERVLIET, NEW YORK Proj. No. 01110-0415
Surface Elev. NA ft. Total Hole Depth 0.5 ft. Diameter NA in.
Top of Casing NA ft. Water Level Initial NA ft. Static NA ft.
Screen: Dia NA in. Length NA ft. Type/Size NA in.
Casing: Dia NA in. Length ____ Type NA
Fill Material NA Rig/Core NA
Drill Co. NA Method S.S. SCOOP & BOWL
Driller SAMPLER-J. BISHOP Log By J. BISHOP Date 9/10/96 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Sample time - 9:30am, Sample collected for MGP Indicators and MS/MSD.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0	0			SW	0-0.5' Brown, moist, loose, FINE SAND, little fine gravel, trace cobbles
2					
4					Surface - Field grass, moss
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					

APPENDIX C

VAPOR MONITORING FORMS

9-3-96 area #1

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo water st.

Project Number:

Contaminants:

Date	Time	Ionization Detector Reading		Explosimeter Reading		Radiation Monitor Reading	Location	~~Purpose~~ Note	Initials
		FID	PID (PPM)	%LEL	$\%O_2$	mR/hr			
Back Ground 9-3-96	10:00 am		Amp 10.2 / 40 PPM	- neg. .002	21.6		MW-1	HNU Reads .5 To 1.0 PPM FOR ZERO	EJ
Back Ground 9-3-96	10:15		1.0	Neg -.002	21.5		MW-1		EJ
9-3-96	11:00		.8				MW-1		EJ
9-3-96	11:15		.7				MW-1		EJ
9-3-96	11:30		.7				MW-1		EJ
9-3-96	1200		.7				MW-1		EJ
9-3-96	1:30		.7				MW-1		EJ
9-3-96	2:00		.7				MW-1		EJ
9-3-96	230		.7				MW-1		EJ
9-3-96	3:00		.7				MW-1		EJ
9-3-96	3:30		.7				MW-1		EJ
9-3-96	4:00		.7				MW-1		EJ

GROUNDWATER TECHNOLOGY

9-4-96 area #1

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo water St.

Project Number:

Contaminants:

PID Reads .5-1.0 PPM

Date	Time	Ionization Detector Reading		Explosimeter Reading		Cyanide ~~Radiation~~ Monitor Reading Drager Tube ~~ppB/hr~~	Location	Purpose	Initials
		FID	PID	%LEL	$\%O_2$				
9-4-96	8:00 am		.7	-.001	21.3	No detection	MW-2	H&S	EJ
9-4-96	8:30		.7	.001	21.3		MW-2	"	EJ
9-4-96	9 00		.7			No detection	MW-2	"	EJ
9-4-96	9:30		.7				MW-2	"	EJ
9-4-96	10:00		.7				MW-2	"	EJ
9-4-96	10:30		.7			no detection	MW-2	"	EJ
9-4-96	1100		.7				MW-2	"	EJ
9-4-96	200		.7			No detection	MW-3	"	EJ

GROUNDWATER TECHNOLOGY

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo water st.

Project Number:

Contaminants:

(.7 ppm is = 0 = ppm) PID doesn't zero out

Date	Time	Ionization Detector Reading		Explosimeter Reading		~~Radiation~~ Hydride Monitor Reading (Ranger Tube)	Location	Purpose	Initials
		FID	PID	%LEL	$\%O_2$				
9-5-96	8:30 am		.7	-.001	21.3		MW-4	H&S	EJ
9-5-96	9.00		.7			non detection	MW-4	"	EJ
9-5-96	9:30		.7				MW-4	"	EJ
-96	1000		.7				MW-4	"	EJ
9-5-96	10 30		.7			non detect	MW-4	"	EJ
9-5-96	11:00 am		.7				MW-4	"	EJ
9-5-96	1:30 pm		.7				MW-5	"	EJ
9-5-96	2 00 pm		.6				MW-5	"	EJ
9-5-96	3 00		.6			non detect	MW-5	"	EJ
9-5-96	4:00		.6				MW-5	"	EJ
9-5-96	5:00		.6				MW-5	"	EJ

GROUNDWATER TECHNOLOGY

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo water st. area #1

Project Number:

Contaminants: cyanide

Date	Time	Ionization Detector Reading		Explosimeter Reading		Radiation Monitor Reading	Location	Purpose	Initials
		FID	PID	%LEL	$\%O_2$	mR/hr			
9-6-96	1030		.6	-.001	21.4		SB-1	H+S	EJ
9-6-96	11:00		1 (Direct)	at ground	FROM Cuttings			0-2 Feet)	EJ
96-96	11:05		.6 Breathing zone 9 ppm 2'-4'		inside augers after pulling				auger plug
9-6-96	11:15		.7 (Breathing zone)						
9-6-96	11 30		.7 (Breathing zone)						
9-6-96	11 30		.53 (Inside augers after pulling Plug at 14')						
9-6-96	1200		.7 (Breathing Zone)						

GROUNDWATER TECHNOLOGY

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo Water ST

Project Number:

Contaminants:

Date	Time	Ionization Detector Reading		Explosimeter Reading		~~Radiation~~ Drager Tube Monitor Reading	Location	Purpose	Initials
		FID	PID	%LEL	$\%O_2$	mR/hr			
9-9-96	900		.7	+001	21.3	Non detect	MW-3	HAS	EJ
9-9-96	930		.7				MW-3	"	EJ
9-9-96	1000		.7				MW-3	"	EJ
9-9-96	1030		.7				MW-3	"	EJ
9-9-96	11:00		.7			Non detect	MW-3	"	EJ
9-9-96	1130		.7				MW-3	"	EJ
9-9-96	12:00		.7				MW-3	"	EJ

GROUNDWATER TECHNOLOGY

APPENDIX B-3
GROUNDWATER TECHNOLOGY, INC.
VAPOR MONITORING FORM

Project Name: Nimo water ST.

Project Number:

Contaminants:

Date	Time	Ionization Detector Reading		Explosimeter Reading		~~Radiation~~ Monitor Reading	Location	Purpose	Initials
		FID	PID	%LEL	$\%O_2$	mR/hr			
9-16-96	830		.8	-.001	21.4		TP-8	H&S	EJ
9-16-96	9:00		.8				TP-8	"	EJ
9-16-96	930		.8				TP-8	"	EJ
9-16-96	1000		.8				TP-8	"	EJ
9-16-96	1030		.8				TP-8	"	EJ
9-16-96	1100		.8				TP-8	"	EJ
9-16-96	1130		.8				TP-8	"	EJ
9-16-96	200		.8				MW-2	"	EJ
9-16-96	230		.8				MW-2	"	EJ
9-16-96	300		.8				MW-2	"	EJ
9-16-96	330		.8				MW-2	"	EJ
9-16-96	400		.8				MW-2	"	EJ
9-16-96	430		.8				MW-2	"	EJ
9-16-96	500		.8				MW-2	"	EJ

GROUNDWATER TECHNOLOGY

Nimo water St. area #1

9-3-96

APPENDIX F

Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement	
					Peak	Ave.
9-3-96 Back-Ground Reading	10:00 To 10 30 am	30 min	MW-1	calm To The west.	mg/m³ .00	mg/m³ .00
9-3-96	11:00	continuous	MW-1 downwind	"	.00	.00
9-3-96	11:15 am	"	"	"	.00	.00
9-3-96	11:30	"	"	"	.00	.00
9-3-96	12:00 NOON	"	"	"	.00	.00
9-3-96	1:30	"	"	"	.00	.00
9-3-96	2:00	"	"	"	.00	.00
9-3-96	2:30	"	"	"	.00	.00
9-3-96	3:00	"	"	"	.00	.00
9-3-96	330	"	"	"	.00	.00
9-3-96	4:00	"	"	"	.00	.00

9-4-96
Nimitz West. area #1

APPENDIX F
Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement Peak	Measurement TWA Ave. mg/m³
9-4-96	8:00 am continuous	continuous	MW-2	calm to south.	.31	.08
9-4-96	830	"	MW-2	"	.00	.05
9-4-96	9:00	"	"	"	.00	.04
9-4-96	9:30	"	"	"	.00	.03
9-4-96	10:00	"	"	"	.00	.01
9-4-96	10:30	"	"	"	.00	.01
9-4-96	1100	"	"	"	.00	.01
9-4-96	2:00	"	MW-3	"	.00	.01

GROUNDWATER TECHNOLOGY

Nimo water st.

APPENDIX F

Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement	
					Peak	Ave.
9-5-96	8:30-continue am	all day	MW-4	no wind	.00	.00
9-5-96	900	"	"	"	.00	.00
9-5-96	930	"	"	"	.00	.00
9-5-96	10:00	"	"	"	.00	.00
9-5-96	10:30	"	"	"	.00	.00
9-5-96	11:00	"	"	"	.00	.00
9-5-96	1:30 pm	"	"	"	.00	.00
9-5-96	200	"	"	"	.00	.00
9-5-96	300	"	"	"	.00	.00
9-5-96	400	"	"	"	.00	.00
9-5-96	500	"	"	"	.00	.00

GROUNDWATER TECHNOLOGY

Nimo Waterst.

APPENDIX F
Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement	
					Peak	Ave.
9-6-96	1030	all day cont. shown	SB-1	calm sw	.00	.00
9-6-96	11:00	"	SB-1	"	.00	.00
9-696	11:30	"	SB-1	"	.00	.00
9-6-96	12:00	"	SB-1	"	.00	.00

GROUNDWATER TECHNOLOGY

Nimo Water 5Y

APPENDIX F
Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement Peak	Measurement Ave.
9-9-96	9:00	continuous all day	MW-3	calm/no wind	.00	.00
9-9-96	930	"	mw-3	"	.00	.00
9-9-96	1000	"	mw-3	"	.00	.00
9-9-96	1030	"	MW-3	"	.00	.00
9-9-96	1100	"	MW3	"	.00	.00
9-9-96	1130	"	mw-3	"	.00	.00
9-9-96	1200	"	MW-3	"	.00	.00

Nimo water ST

APPENDIX F

Particulate Monitoring

Date	Time Start/End	Duration	Location	Wind Direction	Measurement Peak	Measurement Ave.
9-16-96	830	continuous	TB-9	North	.00	.00
9-16-96	900	"	"	"	.00	.00
9-16-96	930	"	"	"	.00	.00
9-16-96	1000	"	"	"	.00	.00
9-16-96	1030	"	"	"	.00	.00
9-16-96	1100	"	"	"	.00	.00
9-16-96	1130	"	"	"	.00	.00
9-16-96	200	"	MW-2	"	.00	.00
9-16-96	230	"	MW-2	"	.00	.00
9-16-96	300	"	MW-2	"	.00	.00
9-1696	330	"	MW-2	"	.00	.00
9-1696	400	"	MW-2	"	.00	.00
9-16-96	430	"	MW-2	"	.00	.00
9-16-96	500	"	MW-2	"	.00	.00
9-17-96	100	"	SB-35	calm	.00	.00
9-17-96	130	"	SB-35	"	.00	.00
9-17-96	200	"	SB-35	"	.00	.00
9-17-96	230	"	SB-35	"		
9-17-96	300	"	SB-35	"		
9-17-96	330	"	SB 35	"		
9-17-96	400					

APPENDIX D

DATA USABILITY SUMMARY REPORT (DUSR)

Data Validation Services

Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone and Fax (518) 251-4429

February 4, 1997

Bruce Ahrens
FluorDaniel GTI
1245 Kings Rd.
Schenectady, NY 12303

RE: **Revision to D**ata **U**sability **S**ummary **R**eport for NMPC-Troy Site Area 1 Data Packages
NEI SDG Nos. TRY1, TRY2, TRY3, TRY9, TRY10, and TRY14

Dear Mr. Ahrens:

Please see the enclosed revisions to pages 2, 3, and 8 of the above-noted DUSR report. These revisions reflect additional evaluation of the reactive cyanide analysis results for sample A1SOIL. As we discussed, the holding time for that analysis is not clearly defined by the methodology, and usability for a specific sample is therefore not readily obvious. The results should be used with extreme caution.

Please incorporate these revised pages into the report of 12-4-96, and do not hesitate to call if you wish to discuss this issue any further.

Very truly yours,

Judy Harry

Data Validation Services

Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

December 4, 1996

Bruce Ahrens
FluorDaniel GTI
1245 Kings Rd.
Schenectady, NY 12303

RE: **D**ata **U**sability **S**ummary **R**eport for NMPC-Troy Site Area 1 Data Packages
NEI SDG Nos. TRY1, TRY2, TRY3, TRY9, TRY10, and TRY14

Dear Mr. Ahresn:

Review has been completed for the data packages generated by Nytest Environmental Laboratories, pertaining to samples collected at the Niagara Mohawk Troy Site--Area 1. Five soil and six aqueous samples, and an equipment blank were analysed for full TCL CLP. Nineteen solid and four aqueous samples, and three equipment blanks were analysed for MGP indicators (BTEX/PAH/CN). Two samples were analysed for TCLP components. Matrix spikes/duplicates, and trip blanks were also processed. Methodologies utilized are those of the 1991 NYSDEC ASP/SW846.

The data packages submitted contained full deliverables for validation, but this usability report is generated from review of the summary form information, with limited, random review of associated raw data. Full validation has not been performed; however, the reported summary tables have been reviewed for application of validation qualifiers per USEPA Region II SOPs HW-2 and HW-6. All conclusions are based upon assumption of accurate reported values on the summary forms, and compliance in sample processing.

The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Instrumental Tunes
* Calibration Standards
* Instrument IDLs
* Method Compliance

Those items listed above which show deficiency are discussed within the text of this narrative, and on the attached qualification summary. All other items were determined to be acceptable.

In summary, most sample results are usable as reported, with some minor qualifications (as estimated) resulting from typical processing and/or matrix effects. These are detailed in the attached qualification summary.

The major issue for data quality is the cyanide results, many of which are qualified as estimated, and some are rejected and unusable. This is due to matrix effect which is typical of samples of this type, and recollection to fill the cyanide data gaps may not improve data quality. The TCLP reactivity results are also qualified due to extended holding time prior to analysis.

Attached to this narrative is a summary of the validation qualifiers resulting from the review. Copies of laboratory case narratives and laboratory NYSDEC Sample Preparation and Analysis Summary Forms are attached to this text, and should be reviewed in conjunction with this report. Resubmission communications are also attached for review, and may include resubmitted sample results forms.

The following text discusses quality issues of concern.

SOIL SAMPLES

General

Field duplicate correlations were performed:

SD1D is a duplicate of SD01
SS06 is a duplicate of SS01
MW0215 is a duplicate of MW0213
MW0333 is a duplicate of MW0317

Most showed generally good correlation, outliers are denoted within this text.

Per client instruction, holding time evaluations have been performed in accordance with the 1995 updates of the NYSDEC ASP.

Accuracy and precision evaluations were performed on MW0119, SS05, SD01, MW0431, and MW0233.

Volatile Analyses

Accuracy and precision values were within recommended ranges. Field duplicate correlation was also acceptable. Data were generally usable with minor qualifications.

Semivolatile Analyses

Field duplicate correlation was acceptable for all comparisons except that of SD1D and SD01. PAHs were detected to concentrations of 280 ppb in SD1D, but to 1300 ppb in SD01. Sample nonhomogeneity is suspected; caution should be used in evaluating results of other samples of similar matrix with low level PAH detections.

Matrix spike values were generally acceptable, with some values slightly outside recommended ranges, not affecting sample results. The exception is the correlation for pyrene in SS05 and its matrix spikes, and fluoranthene in SD01 and its matrix spikes. These are noted for qualification.

Data were generally usable with minor qualifications.

Pesticide/PCB Analyses

Accuracy and precision values were good. Field duplicate correlations were acceptable

Data were generally usable with minor qualifications.

TCLP Analyses

Batch QC was reported in most cases for accuracy and precision, which were generally acceptable.

Data were generally usable with minor qualifications.

Wet Chemistry Analyses

Review was conducted for method compliance, transcription, calculations, standard and blank acceptability, accuracy and precision, etc., as applicable to each procedure.

As noted earlier and in the qualification section, the reactive cyanide waste characteristic parameter results are of borderline usability.

Metals/CN Analyses

Please see the attached Cyanide Report Form from SDG TRY3 which shows corrected client sample IDs (TP07 and TP09 had been misreported as SS01 and SS02).

Certain of the non-project cyanide spike recoveries were very poor. Sample qualifications are based upon project matrix spike recoveries. Certain metals duplicate correlations were above recommended limits, but below action limits for qualification.

QA/QC summary forms reporting cyanide matrix spikes (for MGP indicator samples) incorrectly report post-digest spike results on most occasions. This provides falsely acceptable values in some cases, because the matrix effect and digestion recovery are not measured. Raw data were reviewed for actual matrix spike recoveries, and qualifications made accordingly.

The equipment blank in SDG TRY1 showed detection of zinc. The associated sample zinc results with detected values at levels similar to those of the blank are to be considered a result of contamination and are therefore rejected. These are denoted on the attached qualifier summary, and are to be flagged as "R" (per SOP HW-2). However, it is appropriate to consider results for this sample analyte which are elevated detection limits corresponding to the originally reported values. Although the reported detections may be from contamination, it can be said that the analytes are not present at higher levels than those reported.

Field duplicate correlations were acceptable.

AQUEOUS SAMPLES

General

Field duplicate correlations were performed:
SW2D is a duplicate of SW02
MW15GW is a duplicate of MW05GW

Per client instruction, holding time evaluations have been performed in accordance with the 1995 updates of the NYSDEC ASP.

Accuracy and precision determinations were performed on MW02GW.

Volatile Analyses

Accuracy and precision evaluations were acceptable.

Field duplicate correlation was acceptable.

Data were usable with minor qualifications.

Semivolatile Analyses

Field duplicate correlation was acceptable.

The matrix spike of MW02GW failed the extraction. The matrix spike duplicate showed acceptable recoveries. All samples were reextracted 24 days after receipt, and reported as -RE. Only the initial results for the samples should be used.

Data were usable with minor qualifications.

Pesticide/PCB Analyses

The samples produce surrogate recoveries below the recommended limit of 60%, and results have been qualified as estimated.

The matrix spikes of MW02GW produced several low recoveries; samples are already qualified as estimated due to surrogate recoveries.

Field duplicate correlations were acceptable.

Metals/CN Analyses

Field duplicate correlation was acceptable.

Certain metals duplicate correlations were above recommended limits, but below action limits for qualification.

Data were usable with minor qualifications.

QUALIFICATION SUMMARY

Volatiles

1. Reported results for those analytes flagged as "E" should be derived from the dilution analyses. All other analyte values can be used from the initial analysis, unless otherwise specifically noted within this text.
2. Due to outlying surrogate and internal standard recoveries, the volatile results for MW0103 and SS03 should be derived from the initial analyses, and considered estimated ("J" flag).
3. Due to outlying internal standard recovery, the results for SS04 should be derived from the initial analyses, and results for toluene, ethylbenzene, and xylenes should be considered estimated
4. The sample detected methylene chloride and acetone results should be edited to reflect nondetection at either the CRDL or at the originally reported value, whichever is greater.
5. Tentatively Identified Compounds (TICs) which are named siloxanes and/or those flagged as "B" by the laboratory should not be considered sample components ("R" flag).

Semivolatiles

1. Reported results for those analytes flagged as "E" should be derived from the dilution analyses. All other analyte values can be used from the initial analysis, unless otherwise specifically noted within this text.
2. Due to copresence in the blanks, reported detections of dieethylphthalate are rejected,and results edited to reflect nondetection at the CRDL. Although not detected in the blanks, the levels of bis-(2-ethylhexyl)phthalate in the samples is typical of contamination.
3. Due to outlying recoveries of internal standard d12-perylene, results for the following compounds in MW04GW (using the initial analysis) should be considered estimated: di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a) pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene
4. Results for benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a) pyrene (which are derived from the dilution "-DL" analyses-due to initial "E" value) in samples SS02 and SS03 should be considered estimated due to outlying internal standard response.
5. Tentatively Identified Compounds (TICs) which are flagged "A" and/or "B" should be disregarded as sample components. ("R" flag)
6. The TIC at 3.33' in SB0112 should have an "A" flag, and therefore be rejected.
7. The results for the matrix spike recoveries and duplicate correlation of pyrene in the matrix spikes of SS05 indicate qualification of the pyrene result in the sample as estimated.
8. The results for the matrix spike recoveries and duplicate correlation of fluoranthene in the matrix spikes of SD01 indicate qualification of the fluoranthene result in the sample as estimated.
9. Due to field duplicate correlation, the PAH results for SD1D and SD01 should be considered estimated.
10. Only the initial analyses of the aqueous samples should be used. Those named with the "-RE" suffix (submitted under report date of 11-25-96) are not usable.

11. Due to standard responses, the following analyte results in the denoted samples should be considered estimated ("J"flag) (Note: those analytes showing elevated standard responses, but were not detected in the samples are not noted herein):
    a. 2,4-dinitrophenol in MW0317 and MW0333
    b. fluoranthene in SS02 and SS03 (derived from -DL analysis)

Pesticide/PCBs

1. Surrogate recoveries for the following samples were low, indicating consideration for all reported results as estimated:
   MW01GW, MW02GW, MW03GW, MW04GW, MW05GW, and MW15GW
2. 4,4'-DDE was reported in MW0-119, but not in the matrix spikes of the same sample. Therefore the result of that compound in the sample is suspect, and the results should be edited to nondetection at the originally reported value.
3. The reported detection of Endosulfan I in MW0119 should be rejected due to poor dual column quantitative correlation (187%D). The result should be edited to nondetection at the originally reported value.

Metals/CN

1. Please see the attached Cyanide Report Form from SDG TRY3 which shows corrected client sample IDs (TP07 and TP09 had been misreported as SS01 and SS02).
2. The reported cyanide results for sample TP08 and the equipment blank of SDG TRY3 are both rejected due to reversal and delayed edits to sample IDs during analysis.
3. The cyanide matrix spike of TP07 produced no recovery. Cyanide results for associated samples TP07 and TP09 are therefore rejected and unusable.
4. The cyanide matrix spike of MW0233 recovered at 10%, which is the limit for usable data. Associated sample cyanide results should be considered grossly estimated, with nondetections at borderline usability:
   MW0103, MW0129, MW0213, MW0215, MW0219, MW0233, and MW0407
5. Matrix spike recovery values show that the following sample values be considered estimated:

SDG	Analyte
TRY1	Manganese in MW0119 and SB0112
TRY3	Antimony in MW0317 and MW0333
TRY9	Cyanide in SW01, SW02, SW2D, MW01GW, MW02GW, MW03GW, MW04GW, MW05GW, and MW15GW
TRY1	Cyanide in MW0129 and MW0103

6. Due to copresence in the associated equipment blank, the following sample detections are at such a level as to be considered contamination and are therefore rejected ("R" flag):
   Zinc in MW0119 and SB0112
7. Serial dilution outliers result in the following analytes qualified as "J"
   Aluminum in MW0317 and MW0333
   Barium in MW0119 and SB0112
8. Due to outlying CRI recoveries, the following analytes considered estimated ("J"flag):
   Lead in MW0119
   Selenium in MW01GW, MW02GW, MW03GW, MW04GW, MW05GW, and MW15GW

TCLP

1. The reactive cyanide analysis of A1SOIL was performed 17 days after sample receipt. Protocol requires the analysis to be performed "as soon as possible." Although a specific holding time is not defined, that used for this sample is excessive. A loss of reactivity may have occurred due to the delay in processing, and the results should be considered of borderline usability.

2. Due to outlying standard responses, the detected value of 2-methylphenol in A1SOIL should be considered estimated.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the national qualifiers assigned to results in the data review process. If the Regions choose to use additional qualifiers, a complete explanation of those qualifiers should accompany the data review.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

REPORT OF ANALYSIS

Log In No.: 29071

We find as follows:

Parameter(s)	Total Cyanide
Results in mg/kg (Dry wt. Basis)	
~~SS01~~ TP07 2907101	0.6 U
~~SS02~~ TP09 2907102	0.6 U
Method Blank (Soil)	0.5 U

GM 11-30-96

Data Validation Services

Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone and Fax (518) 251-4429

Facsimile Transmission

TO: Renée Cohen

COMPANY: NEI

FAX NUMBER: 516 625 3128

FROM: Judy Harry

DATE: 11-25-96

No. of pages (including cover): 1

COMMENTS: Re: Fluor Daniels
NMPC - Troy Site
Login 29307

I have a rush request for this package. The PAH Form 6 for the initial calibration done 10/9/96 on S was ~~not~~ not in the data package.

Please fax a copy of the form at your earliest opportunity.

Thanks, Judy

TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

FAX COVER PAGE

TO: Judy Abbey

FAX NO.: 518-251-4429

DATE: 11/26

NO. OF PAGES: 3

(Including cover page)

FROM: **Larry Singh Ext 234**

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Oct 9 ICAL.
The normal Form 6 was not in report.
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Method : C:\HPCHEM\1\METHODS\8270S.M
Title : 390/ASP/8270
Last Update : Wed Oct 09 13:38:02 1996
Response via : Continuing Calibration

Calibration Files
1 =S5124.D 2 =S5125.D 3 =S5126.D
4 =S5127.D 5 =S5128.D

		Compound	1	2	3	4	5	Avg	%RSD
1)	I	1,4-Dichlorobenzene-D	ISTD						
2)	MPC	Phenol	1.389	1.363	1.278	1.165	1.120	1.263	9.37
3)	TPC	bis(2-chloroethyl)eth	1.206	1.062	1.026	0.978	0.916	1.038	10.48
4)	MPC	2-Chlorophenol	1.429	1.230	1.154	1.047	0.940	1.160	16.04
5)	TPC	1,3-Dichlorobenzene	1.494	1.392	1.375	1.288	1.129	1.335	10.22
6)	MPC	1,4-Dichlorobenzene	1.523	1.391	1.176	1.052	0.898	1.208	20.86#
7)	TPC	Benzyl alcohol	0.248	0.266	0.308	0.322	0.331	0.295	12.28
8)	TPC	1,2-Dichlorobenzene	1.378	1.213	1.054	0.900	0.782	1.066	22.37#
9)	TPC	2-Methylphenol	1.080	0.938	0.920	0.729	0.802	0.894	15.09
10)	TPC	2,2'-oxybis(1-Chlorop	1.642	1.529	1.462	1.378	1.272	1.457	9.70
11)	TPC	4-Methylphenol	1.297	1.453	1.398	1.309	1.235	1.338	6.45
12)	MPC	N-Nitroso-di-n-propyl	0.825	0.748	0.734	0.694	0.621	0.724	10.33
13)	TPC	Hexachloroethane	0.577	0.588	0.551	0.511	0.467	0.538	9.07
14)	SPC	2-Fluorophenol	1.291	1.178	1.261	1.256	1.185	1.234	4.03
15)	SPC	Phenol-d5	1.590	1.589	1.502	1.342	1.246	1.454	10.57
16)	SPC	2-Chlorophenol-d4	1.538	1.299	1.180	1.077	0.980	1.215	17.82
17)	SPC	1,2-Dichlorobenzene-d	1.574	1.373	1.205	1.062	0.906	1.224	21.35#
18)	I	Naphthalene-D8	ISTD						
19)	TPC	Nitrobenzene	0.341	0.339	0.315	0.306	0.286	0.317	7.38
20)	TPC	Isophorone	0.685	0.636	0.612	0.599	0.555	0.617	7.74
21)	TPC	2-Nitrophenol	0.291	0.254	0.218	0.210	0.197	0.234	16.46
22)	TPC	2,4-Dimethylphenol	0.295	0.264	0.299	0.298	0.277	0.287	5.39
23)	TPC	Benzoic acid		0.208	0.203	0.234	0.221	0.216	6.54
24)	TPC	bis(2-Chloroethoxy)me	0.425	0.410	0.380	0.347	0.311	0.375	12.38
25)	TPC	2,4-Dichlorophenol	0.316	0.316	0.308	0.312	0.292	0.308	3.18
26)	MPC	1,2,4-Trichlorobenzen	0.346	0.327	0.302	0.285	0.256	0.303	11.58
27)	TPC	Naphthalene	1.106	1.027	0.933	0.851	0.767	0.937	14.43
28)	TPC	4-Chloroaniline	0.290	0.216	0.185	0.180	0.176	0.209	22.70
29)	TPC	Hexachlorobutadiene	0.176	0.170	0.163	0.158	0.144	0.162	7.51
30)	MPC	4-Chloro-3-Methylphen	0.250	0.249	0.285	0.266	0.257	0.262	5.70
31)	TPC	2-Methylnaphthalene	0.697	0.636	0.584	0.540	0.477	0.587	14.47
32)	SPC	Nitrobenzene-d5	0.379	0.382	0.361	0.350	0.337	0.362	5.25
33)	I	Acenaphthene-d10	ISTD						
34)	TPC	Hexachlorocyclopentad	0.020	0.088	0.151	0.198	0.220	0.135	60.47
35)	TPC	2,4,6-Trichlorophenol	0.372	0.366	0.355	0.345	0.323	0.352	5.52
36)	TPC	2,4,5-Trichlorophenol		0.433	0.428	0.427	0.406	0.423	2.87
37)	TPC	2-Chloronaphthalene	1.297	1.237	1.172	1.081	0.993	1.156	10.49
38)	TPC	2-Nitroaniline		0.340	0.339	0.337	0.327	0.336	1.80
39)	TPC	Dimethylphthalate	1.463	1.337	1.334	1.251	1.144	1.306	9.02
40)	TPC	Acenaphthylene	2.152	1.975	1.877	1.729	1.550	1.857	12.39
41)	TPC	2,6-Dinitrotoluene	0.345	0.330	0.337	0.331	0.313	0.331	3.51

(#) = Out of Range

Response Factor Report HPS

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Calibration Files
1 =S5124.D 2 =S5125.D 3 =S5126.D
4 =S5127.D 5 =S5128.D

	Compound	1	2	3	4	5	Avg	%RSD
42)	TPC 3-Nitroaniline		0.245	0.237	0.198	0.154	0.208	19.99
43)	MPC Acenaphthene	1.291	1.173	1.093	1.003	0.890	1.090	14.11
44)	TPC 2,4-Dinitrophenol		0.070	0.151	0.176	0.178	0.144	35.33
45)	MPC 4-Nitrophenol		0.192	0.233	0.270	0.248	0.236	14.05
46)	TPC Dibenzofuran	1.809	1.640	1.550	1.436	1.279	1.543	13.02
47)	MPC 2,4-Dinitrotoluene	0.460	0.430	0.443	0.440	0.415	0.438	3.84
48)	TPC Diethylphthalate	1.496	1.310	1.315	1.251	1.119	1.298	10.48
49)	TPC 4-Chlorophenyl-phenyl	0.608	0.557	0.550	0.521	0.477	0.543	8.91
50)	TPC Fluorene	1.354	1.212	1.154	1.080	0.959	1.152	12.79
51)	TPC 4-Nitroaniline		0.309	0.318	0.338	0.289	0.313	6.52
52)	SPC 2-Fluorobiphenyl	1.392	1.302	1.201	1.092	0.992	1.196	13.36
53)	SPC 2,4,6-Tribromophenol	0.219	0.205	0.211	0.212	0.198	0.209	3.91
54)	I Phenanthrene-D10	----------	ISTD	----------				
55)	TPC 4,6-Dinitro-2-methylp		0.142	0.170	0.179	0.164	0.164	9.73
56)	TPC N-Nitrosodiphenylamin	0.668	0.598	0.528	0.505	0.427	0.545	16.83
57)	TPC 4-bromophenyl-phenyle	0.260	0.250	0.238	0.233	0.216	0.239	6.93
58)	TPC Hexachlorobenzene	0.315	0.302	0.295	0.289	0.266	0.293	6.27
59)	MPC Pentachlorophenol		0.111	0.122	0.138	0.137	0.127	10.15
60)	TPC Phenanthrene	1.298	1.208	1.131	1.072	0.979	1.138	10.79
61)	TPC Anthracene	1.343	1.248	1.160	1.119	1.010	1.176	10.75
62)	TPC Carbazole	1.228	1.131	1.066	1.057	0.984	1.093	8.38
63)	TPC Di-n-butylphthalate	1.748	1.535	1.483	1.429	1.248	1.489	12.14
64)	TPC Fluoranthene	1.244	1.116	1.061	1.050	0.934	1.081	10.42
65)	I Chrysene-D12	----------	ISTD	----------				
66)	MPC Pyrene	1.418	1.341	1.185	1.017	0.922	1.177	17.78
67)	TPC Butylbenzylphthalate	0.801	0.761	0.735	0.694	0.650	0.728	8.04
68)	TPC 3,3'-Dichlorobenzidin	0.274	0.180	0.159	0.146	0.113	0.174	34.76
69)	TPC Benzo(a)anthracene	1.168	1.111	1.015	0.918	0.841	1.011	13.28
70)	TPC Chrysene	1.142	1.110	1.045	0.967	0.901	1.033	9.62
71)	TPC Bis(2-ethylhexyl)phth	1.691	1.632	1.617	1.562	1.474	1.595	5.12
72)	SPC Terphenyl-d14	1.159	1.106	1.034	0.926	0.857	1.017	12.28
73)	I Perylene-D12	----------	ISTD	----------				
74)	TPC Di-n-octylphthalate	1.611	1.514	1.467	1.393	1.243	1.446	9.54
75)	TPC Benzo(b)fluoranthene	1.051	1.054	1.063	0.982	0.874	1.005	7.94
76)	TPC Benzo(k)fluoranthene	1.005	0.933	0.874	0.884	0.820	0.903	7.69
77)	TPC Benzo(a)pyrene	0.935	0.925	0.912	0.896	0.840	0.902	4.12
78)	TPC Indeno(1,2,3-cd)pyren	1.139	1.206	1.192	1.198	1.192	1.185	2.22
79)	TPC Dibenz(a,h)anthracene	0.885	0.949	0.942	0.954	0.935	0.933	2.96
80)	TPC Benzo(g,h,i)perylene	0.957	1.046	1.032	1.069	1.100	1.041	5.15

(#) = Out of Range

NARRATIVE DISCUSSION
VOLATILES - 28923, 28929, 28950, 28984
SDG NUMBER - TRY1

INTRODUCTION

This narrative covers the analysis of one (1) aqueous samples and two(2)soil samples in accordance with protocols based on NYSDEC ASP (12/91).

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0119 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
VOLATILES - 28923, 28929, 28950, 28984
SDG NUMBER - TRY1

INTRODUCTION

This narrative covers the analysis of thirteen (13) soil samples in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

Surrogate recoveries were within QC limits with the exception of sample MW0103. Reanalysis was performed, and similar results were obtained which is indicative of sample matrix affects. Both sets of data are included.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0233 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

Area responses and retention times fell within an acceptable range, with the exception of sample MW0103. Reanalysis was performed, and similar results were obtained which is indicative of sample matrix affects. Both sets of data are included.

SAMPLE COMMENTS

o analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 28923, 28929, 28950, 28984
SDG NUMBER - TRY1

INTRODUCTION

This narrative covers the analysis of one (1) aqueous samples and two(2) soil samples in accordance with protocols based on NYSDEC ASP (12/91).

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0119 was utilized in the MS/MSD series. One (1) out of twenty-two (22) spike recoveries and three (3) out of eleven (11) RPD values fell outside advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 28923, 28929, 28950, 28984
SDG NUMBER - TRY1

INTRODUCTION

This narrative covers the analysis of thirteen (13) soil samples in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0233 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

Sample MW0907 required a dilution for analysis due to the nature of the extract. No other analytical problems were encountered.

NARRATIVE DISCUSSION
Pesticides/PCB 8080 - 28923 28984
SDG: TRY 1

INTRODUCTION

This narrative covers the analysis of three (3) samples in accordance with protocols based on SW-846 Method 8080 of the NY ASP.

HOLDING TIMES

All extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All initial and continuing calibrations associated with these sample analyses met all QC criteria.

METHOD BLANKS

No target compounds were detected in the method blank associated with these analyses.

SURROGATES

Method Blank PBLK29, both soil and water, PBLK33, MSB01, MW0119MS and MW0119MSD had TCX surrogate recovery outside advisory QC limits. All other recoveries were within acceptable QC limits.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

Sample MW0119 was designated for an MS/MSD for this SDG. An MSB is also submitted. The recovery of gamma-BHC in the MSB is outside QC limits. All other recovery and RPD values are within QC limits.

SAMPLES COMMENTS

No analytical problems were encountered.

CASE NARRATIVE
METALS

Login No: 28923, 28984 SDG No: TRY1

HOLDING TIMES

All samples associated with this SDG were prepared and analyzed within the specified holding time.

CALIBRATIONS

All ICV and CCV standards meet QC criteria.

The percent recovery of all components in the CRDL standard recovered within NEI control limits of ± 50%.

BLANKS

All preparation blanks and calibration blanks associated with these analyses meet QC criteria.

MATRIX SPIKES

Samples MW0119MSD (ICP and Hg), SB0112 (Hg), and 28929-06 and 28969-03 (Cn) were utilized as the matrix spike samples for these analyses.

All matrix spike recoveries met the 75-125% recovery criteria, with the exception of manganese and cyanide. A post-digestion spike was performed for the affected analytes and is reported on Form 5B.

The appropriate reporting qualifiers have been applied to the Form 1 results as required.

DUPLICATES

Samples MW0119MS (ICP and Hg), SB0112 (Hg), and 28929-05 and 28969-02 (Cn) were utilized as the duplicate samples for these analyses.

All Relative Percent Differences (RPDs) met QC criteria, with the exception of aluminum, arsenic, chromium, iron, lead, manganese, and zinc. The appropriate reporting qualifiers have been applied to the Form 1 results as required.

Note that all RPDs of 200% are due to one analyte being reported above the Instrument Detection Limit (IDL) and one result below the IDL.

LABORATORY CONTROL SAMPLE (LCS)

The percent recovery of all components in the LCS met QC criteria.

Note that the distilled ICV is used as the LCS for Cyanide analyses.

Note that an aqueous LCS is not required for Mercury analysis.

SERIAL DILUTION

A serial dilution was performed on sample MW0119. All percent differences (%D) were within the ± 10% acceptance limits.

SAMPLES

All samples were analyzed in accordance with the requirements of the methods described in NYSDEC ASP.

No further analytical problems were encountered.

SPECIAL PROJECT NOTES

None.

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or her designee, as verified by the following signature.

Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
VOLATILES - 28969

INTRODUCTION

This narrative covers the analysis of one (1) soil sample in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with this sample met method requirements.

SURROGATES

All surrogate recoveries met QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0431 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within the advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 28969

INTRODUCTION

This narrative covers the analysis of one (1) soil sample in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with this sample met method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The applicable recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW0431 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or her designee, as verified by the following signature.

Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
VOLATILES - 29016
SDG NUMBER - TRY3

INTRODUCTION

This narrative covers the analysis of two (2) soil samples in accordance with protocols based on SW-846 Method NYSDEC ASP (12/91).

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.
advisory.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix spikes were not designated to be performed on any of the samples covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this SDG. The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
VOLATILES - 29016, 29071, 29085
SDG NUMBER - TRY3

INTRODUCTION

This narrative covers the analysis of three (3) aqueous samples and eleven (11) soil samples in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

Surrogate recoveries were within QC limits with the exception of sample SS03. Reanalysis was performed, and similar results were obtained which is indicative of sample matrix affects. Both sets of data are included.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample SS05 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

Area responses and retention times fell within an acceptable range, with the exception of samples SS03, SS04. Reanalysis was performed, and similar results were obtained which is indicative of sample matrix affects. Both sets of data are included.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29016
SDG NUMBER - TRY3

INTRODUCTION

This narrative covers the analysis of two (2) soil samples in accordance with protocols based on NYSDEC ASP (12/91).

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix spikes were not designated to be performed on any of the samples covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this SDG. The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29016, 29071, 29085
SDG NUMBER - TRY3

INTRODUCTION

This narrative covers the analysis of three (3) aqueous samples and eleven (11) soil samples in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample SS05 was utilized in the MS/MSD series. Five (5) out of twenty-two (22) spike recoveries and three (3) out of eleven (11) RPD values fell outside advisory QC limits.

INTERNAL STANDARDS

Area responses and retention times fell within an acceptable range, with the exception of samples SS01, SS02, SS03. Reanalysis was performed, on sample SS01, and similar results were obtained which is indicative of sample matrix affects. Reanalysis was performed, on sample SS02 and SS03, at a dilution, and similar results were obtained. Both sets of data are included.

SAMPLE COMMENTS

Analysis of samples SS02, SS03 yielded target analyte concentrations above the highest calibration standard. These compounds have been qualified "E". Reanalyses were performed at a dilutions. Both sets of data have been included for each sample. The concentrations of these compounds should be taken from the more dilute analyses. No other analytical problems were encountered.

NARRATIVE DISCUSSION
Pesticides/PCB - 29016
SDG: TRY3

INTRODUCTION

This narrative covers the analysis of two (2) samples in accordance with protocols based on of the NY ASP.

HOLDING TIMES

All extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All initial and continuing calibrations associated with these sample analyses met all QC criteria.

METHOD BLANKS

No target compounds were detected in the method blank associated with these analyses.

SURROGATES

The following samples had surrogate recoveries outside advisory QC limits: MW0333. All other recoveries were within acceptable QC limits.

MATRIX SPIKE/MATRIX SPIKE DUP(MS/MSD)

A sample was not designated for an MS/MSD. Batch QC is submitted.

SAMPLE COMMENTS

No other analytical problems were encountered.

CASE NARRATIVE
METALS

Login No: 29016 SDG No: TRY3

HOLDING TIMES

All samples associated with this SDG were prepared and analyzed within the specified holding time.

CALIBRATIONS

All ICV and CCV standards meet QC criteria.

The percent recovery of all components in the CRDL standard recovered within NEI control limits of ± 50%.

BLANKS

All preparation blanks and calibration blanks associated with these analyses meet QC criteria.

MATRIX SPIKES

Samples MW0317 and SS05 were utilized as the matrix spike samples for ICP and cyanide analyses respectively.

Batch QC is being supplied for mercury and potassium analyses. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All matrix spike recoveries met the 75-125% recovery criteria, with the exception of Sb and Cn . A post-digestion spike was performed for the affected analytes and is reported on Form 5B.
The appropriate reporting qualifiers have been applied to the Form1 results as required.

DUPLICATES

Samples MW0317 and SS05 were utilized as the duplicate samples for ICP and cyanide analyses respectively.

Batch QC is being supplied for mercury and potassium analyses. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All Relative Percent Differences (RPDs) met QC criteria, with the exception of K . The appropriate reporting qualifiers have been applied to the Form 1 results as required.

Note that all RPDs of 200% are due to one analyte being reported above the Instrument Detection Limit (IDL) and one result below the IDL.

LABORATORY CONTROL SAMPLE (LCS)

The percent recovery of all components in the LCS met QC criteria, with the exception of Na .

Note that the limits of the sodium LCS is below the CRDL.

SERIAL DILUTION

A serial dilution was performed on sample MW0317 and a batch sample (for K) . All percent differences (%D) were within the ± 10% acceptance limits, with the exception of Al , indicating a potential interference on sample quantitation from the sample matrix.

SAMPLES

All samples were analyzed in accordance with the requirements of the methods described in NYSDEC ASP.

No further analytical problems were encountered.

SPECIAL PROJECT NOTES

None.

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or her designee, as verified by the following signature.

Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
VOLATILES - 29304
NUMBER SDG - TRY9

INTRODUCTION

This narrative covers the analysis of three (3) aqueous samples in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix spikes were not designated to be performed on any of the samples covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this SDG. The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
VOLATILES - 29304
NUMBER SDG - TRY9

INTRODUCTION

This narrative covers the analysis of seven (7) aqueous samples in accordance with protocols based on NYSDEC ASP (12/91)].

HOLDING TIMES

The analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW02GW was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29304
NUMBER SDG - TRY9

INTRODUCTION

This narrative covers the analysis of three (3) aqueous samples in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix spikes were not designated to be performed on any of the samples covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this SDG. The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29304
NUMBER SDG - TRY9

INTRODUCTION

This narrative covers the analysis of six (6) aqueous in accordance with protocols based on NYSDEC ASP (12/91).

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

Surrogate recoveries were within QC limits with the exception of samples MW02GWMS. Reextraction is being performed, and results will be submitted under a separate cover.

MATRIX SPIKE BLANKS

One (1) out of eleven (11) recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample MW02GW was utilized in the MS/MSD series. Eleven (11) out of twenty-two spike recoveries and eleven (11) out of eleven (11) RPD values fell outside advisory QC limits.

INTERNAL STANDARDS

Area responses and retention times fell within an acceptable range, with the exception of samples SBLK89, MW04GW. Reanalysis was performed, and similar results were obtained which is indicative of sample matrix affects. Both sets of data are included.

SAMPLE COMMENTS

No other analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29304

INTRODUCTION

This narrative covers the analysis of six (6) aqueous samples in accordance with protocols based on NYSDEC ASP (12/91).

HOLDING TIMES

Samples MW01GW, MW02GW, MW04GW, MW05GW, MW15GW, MW03GW were reextracted outside of the allowable holding time. Initial extraction which was performed within the allowable holding time of these samples did not meet QC criteria, therefore reextraction reanalysis was required.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

Analysis of sample MW02GW yielded target analyte concentrations above the highest calibration standard. These compounds have been qualified "E". Reanalysis was performed at a dilution. Both sets of data have been included. The concentrations of these compounds should be taken from the more dilute analysis. No other analytical problems were encountered.

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Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
Pesticides/PCB - 29304
SDG: TRY9

INTRODUCTION

This narrative covers the analysis of six (6) samples in accordance with protocols based on of the NY ASP.

HOLDING TIMES

All extraction and analytical holding times for this analysis were met.

CALIBRATION

All initial and continuing calibrations associated with these sample analyses met all QC criteria.

METHOD BLANKS

No target compounds were detected in the method blank associated with these analyses.

SURROGATES

All samples in this SDG had surrogate recoveries outside advisory QC limits. Method blank and MSB recoveries were within acceptable QC limits.

MATRIX SPIKE/MATRIX SPIKE DUP(MS/MSD)

A sample MW02GW was designated for an MS/MSD. Eight (8) of twelve (12) recoveries were outside QC limits. Two (2) of six (6) RPD values were outside QC limits. An MSB is also submitted, all recoveries were within QC limits.

SAMPLE COMMENTS

No other analytical problems were encountered.

CASE NARRATIVE
METALS

Login No: 29304 SDG No: TRY9

HOLDING TIMES

All samples associated with this SDG/LOGIN were prepared and analyzed within the specified holding time.

CALIBRATIONS

All ICV and CCV standards meet QC criteria.

The percent recovery of all components in the CRDL standard recovered within NEI control limits of ± 50%.

BLANKS

All preparation blanks and calibration blanks associated with these analyses meet QC criteria.

MATRIX SPIKES

Sample MW02GWMSD was utilized as the matrix spike sample for these analyses.

All matrix spike recoveries met the 75-125% recovery criteria, with the exception of cyanide. A post-digestion spike was performed for the affected analytes and is reported on Form 5B.

The appropriate reporting qualifiers have been applied to the Form 1 results as required.

DUPLICATES

Sample MW02GWMS was utilized as the duplicate sample for these analyses.

All Relative Percent Differences (RPDs) met QC criteria, with the exception of lead. The appropriate reporting qualifiers have been applied to the Form 1 results as required.

LABORATORY CONTROL SAMPLE (LCS)

The percent recovery of all components in the LCS met QC criteria.

Note that the distilled ICV is used as the LCS for Cyanide analyses.

Note that an aqueous LCS is not required for Mercury analysis.

SERIAL DILUTION

A serial dilution was performed on sample MW02GW . All percent differences (%D) were within the ± 10% acceptance limits.

SAMPLES

All samples were analyzed in accordance with the requirements of the methods described in NYSDEC ASP.

No further analytical problems were encountered.

SPECIAL PROJECT NOTES

None.

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Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
VOLATILES - 29307

SDG NO. TRY10

INTRODUCTION

This narrative covers the analysis of two (2) aqueous samples and four (4) soil samples in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met method requirements.

SURROGATES

All surrogate recoveries met QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample SD01 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within the advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
SEMIVOLATILES - 29307

SDG NO. TRY10

INTRODUCTION

This narrative covers the analysis of two (2) aqueous samples and four (4) soil samples in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample SD01 was utilized in the MS/MSD series. All spike recoveries and RPD values fell within advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

CASE NARRATIVE
METALS

Login No: 29307 SDG No: TRY10

HOLDING TIMES

All samples associated with this SDG/LOGIN were prepared and analyzed within the specified holding time.

CALIBRATIONS

All ICV and CCV standards meet QC criteria.

The percent recovery of all components in the CRDL standard recovered within NEI control limits of ± 50%.

BLANKS

All preparation blanks and calibration blanks associated with these analyses meet QC criteria.

MATRIX SPIKES

Sample 29265-01(ICP),29211-04(HG),29307-02(CN) were utilized as the matrix spike sample for these analyses.

Site specific QC was not requested for this login, therefore, batch QC is being supplied. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All matrix spike recoveries met the 75-125% recovery criteria, with the exception of Sb,Zn,Cn . A post-digestion spike was performed for the affected analytes and is reported on Form 5B. Note that a post-digestion spike is not required for silver.

The appropriate reporting qualifiers have been applied to the Form 1 results as required.

DUPLICATES

Sample 29265-01(ICP),29211(HG),29307-02(CN) were utilized as the matrix duplicate sample for these analyses.

Site specific QC was not requested for this login, therefore, batch QC is being supplied. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All Relative Percent Differences (RPDs) met QC criteria, with the exception of Zn . The appropriate reporting qualifiers have been applied to the Form 1 results as required.

Note that all RPDs of 200% are due to one analyte being reported above the Instrument Detection Limit (IDL) and one result below the IDL.

LABORATORY CONTROL SAMPLE (LCS)

The percent recovery of all components in the LCS met QC criteria.

Note that the distilled ICV is used as the LCS for Cyanide analyses.

Note that an aqueous LCS is not required for Mercury analysis.

SERIAL DILUTION

A serial dilution was performed on sample 29265-01. All percent differences (%D) were within the ± 10% acceptance limits.

SAMPLES

All samples were analyzed in accordance with the requirements of the methods described in NYSDEC ASP.

No further analytical problems were encountered.

SPECIAL PROJECT NOTES

None.

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Lori Beyer
Laboratory Director

NARRATIVE DISCUSSION
VOLATILES - 29656, 29658
SDG NUMBER - TRY14

INTRODUCTION

This narrative covers the analysis of four (4) aqueous samples in accordance with protocols based on SW-846 Method 8240.

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method. All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met method requirements.

SURROGATES (SYSTEM MONITORING COMPOUNDS)

All surrogate recoveries met QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix Spikes were not designated to be performed on any of the samples covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this (SDG/login). The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

SAMPLE COMMENTS

No analytical problems were encountered.

NARRATIVE DISCUSSION
TCLP SEMIVOLATILES -29656, 29658
SDG TRY14

INTRODUCTION

This narrative covers the analysis of four samples in accordance with protocols based on SW-846 Method 8270.

HOLDING TIMES

The extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All samples met surrogate QC criteria.

MATRIX SPIKES

Matrix spikes were not designated to be performed on the sample covered by this report. Batched QC is being supplied. Note that non site specific QC may demonstrate differing matrix affects than samples contained in this login. The applicable Form 3 is, therefore, being supplied. Applicable raw data is available upon request.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range, except sample A4SOIL. Reanalysis was performed on this sample at a dilution and similar results were obtained. Both sets of data are included.

SAMPLE COMMENTS

Analysis of sample A4SOIL yielded target analytes above the highest calibration standard. These compounds have been qualified "E". Reanalysis was performed at further dilution. Both sets of data have been included. The concentrations of these compounds should be taken from the more dilute analysis. No other analytical problems were encountered.

NARRATIVE DISCUSSION
PCB 8080 - 29656 29658
SDG: TRY 14

INTRODUCTION

This narrative covers the analysis of two (2) samples in accordance with protocols based on SW-846 Method 8080 of the NYS ASP.

HOLDING TIMES

All extraction and analytical holding times for this analysis were met.

CALIBRATIONS

All initial and continuing calibrations associated with these sample analyses met QC criteria.

METHOD BLANKS

No target compounds were detected in the method blank associated with these analyses.

SURROGATES

The following samples had TCX recovery outside advisory QC limits: PBLK09 and A1WATER. The following samples had DCB recovery outside advisory QC limits: PBLK09, A1WATER and A4WATER

MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

A sample was not designated as an MS/MSD. Batch QC is submitted. All recoveries were within QC limits. One (1) of two (2) RPD values were outside QC limits. An MSB is also submitted. All recovery values were within QC limits.

SAMPLES COMMENTS

No analytical problems were encountered.

CASE NARRATIVE
METALS

Login No: 29656, 29658 SDG No: TRY14

HOLDING TIMES

All samples associated with this SDG were prepared and analyzed within the specified holding time.

CALIBRATIONS

All ICV and CCV standards meet QC criteria.

The percent recovery of all components in the CRDL standard recovered within NEI control limits of ± 50%.

BLANKS

All preparation blanks and calibration blanks associated with these analyses meet QC criteria.

MATRIX SPIKES

Samples 29588-03 (ICP) and 29618-01 (Hg) were utilized as the matrix spike samples for these analyses.

Site specific QC was not requested for this login, therefore, batch QC is being supplied. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All matrix spike recoveries met the 75-125% recovery criteria.

DUPLICATES

Samples 29588-02 (ICP) and 29618-01 (Hg) were utilized as the duplicate samples for these analyses.

Site specific QC was not requested for this login, therefore, batch QC is being supplied. Note that any matrix effects demonstrated by the batch QC sample may not be indicative of any potential matrix effects associated with the samples from this login.

All Relative Percent Differences (RPDs) met QC criteria.

Note that all RPDs of 200% are due to one analyte being reported above the Instrument Detection Limit (IDL) and one result below the IDL.

LABORATORY CONTROL SAMPLE (LCS)

The percent recovery of all components in the LCS met QC criteria.

Note that an aqueous LCS is not required for Mercury analysis.

SERIAL DILUTION

A serial dilution was performed on sample 29588-01. All percent differences (%D) were within the ± 10% acceptance limits.

SAMPLES

All samples were analyzed in accordance with the requirements of the methods described in NYSDEC ASP.

No further analytical problems were encountered.

SPECIAL PROJECT NOTES

None.

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Lori Beyer
Laboratory Director

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical requirements: VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
MW0103	289230 1	✓	✓				✓
MW0129	02						✓
MW0119	03				✓	✓	
MW0119MS	04				✓	✓	
MW0119MSD	05				✓	✓	✓
MW0213	289290 1						✓
MW0215	02						
MW0219	03						
MW033	04						
MW0233MS	05						
MW0233MSD	06						
MW0407	289500 1						
MW0419	02						
MW0507	04						
MW0521	05						
MW0533	06						
BCK	289840 1				✓	✓	✓
MW0105	02						✓
MW0118	03						✓
MW0114	04						
MW0112	05	✓		✓	✓	✓	

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2892303	Soil	09-03-96	09-04-96	NA	09-11-96
2892304	↓	↓	↓	↓	↓
2892305	↓	↓	↓	↓	↓
2898401	WATER	09-06-96	09-07-96	↓	09-12-96
2898404	Soil	↓	↓	↓	09-12-96

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nytest environmental inc

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
BTEX **VOLATILE (VOA)**
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
892301	Soil	09-03-96	09-04-96	NA	09-10-96 / 09-11-96
2892302		↓	↓		09-10-96
892901		09-04-96	09-05-96		09-11-96
892902					09-10-96
892903					
892904					
892905					
892906		09-04-96	09-05-96		09-11-96
895001		09-05-96	0905-96		09-12-96
895002					09-12-96
895003					NA
895004					09-12-96
895005					
895006					
2898402		09-06-96	09-07-96		
2898403		↓	↓		

NYTEST ENVIRONMENTAL, inc

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
28923-03	Soil	09-03-96	09-04-96	09-06-96	09-16-96
28923-04	↓	↓	↓	↓	↓
28923-05	↓	↓	↓	↓	↓
28984-01	AQ	09-06-96	09-07-96	09-11-96	09-14-96
28984-05	Soil	↓	↓	09-12-96	09-20-96

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
28923-03	Soil	NYSASP '91	Sonic	AS REQUIRED	AS REQUIRED
28923-04	↓	|	↓	|	|
28923-05	↓	|	↓	|	|
28984-01	AQ	|	Cont.	|	|
28984-05	Soil	/	Sonic	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
28923-01	Soil	09-03-96	09-04-96	09-07-96	09-14-96 9/20/96
28923-02		↓	↓		↓
28929-01		09-04-96	09-05-96		09-14-96
28929-02					
28929-03					
28929-04					
28929-05					
28929-06		↓	↓	↓	↓
28950-01		09-05-96	09-05-96	09-09-96	09-16-96
28950-02					
28950-04					
28950-05					
28950-06		↓	↓	↓	↓
28984-02		09-06-96	09-07-96	09-11-96	9-13-96
28984-03	↓	↓	↓	↓	↓

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SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
28923-01	Soil	NYSASP '91	Sonic	AS REQUIRED	AS REQUIRED
28923-02					
28929-01					
28929-02					
28929-03					
28929-04					
28929-05					
28929-06					
28950-01					
28950-02					
28950-04					
28950-05					
28950-06					
28984-02					
28984-03	✓	✓	✓	✓	✓

nytest environmental inc

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE / PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2892303	SOIL	9/3/96	9/4/96	9/6/96	9/14/96
04					
05					
2898401	WATER	9/6/96	9/7/96	9/12/96	9/21/96
2898405	SOIL				9/24/96

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
MW0103 (28923-01) MW0129 (28923-02)	Soil	TCN	09/04/96	09/10/96	09/10/96
SB0105 (28984-02) SB0118 (28984-03)	Soil	TCN	09/07/96	09/11/96	09/13/96
EQBLK (28984-01)	Water	TCL Metals, and TCN	09/07/96	09/09/96 09/13/96 09/24/96	09/13/96 09/24/96 09/25/96
MW0119 (28923-03) MW0119MS (28923-04) MW0119MSD (28923-05)	Soil	TCL Metals	09/04/96	09/12/96 09/20/96	09/17/96 09/20/96
SB0112 (28984-05)	Soil	TCL Metals	09/07/96	09/09/96 09/24/96	09/17/96 09/24/96

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical requirements					
		VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
MW0431	289690I	⌐	⌐				⌐
MW0431MS	2896902	—	—				⌐
MW0431MSD	2896903	✓	—				⌐

NYTEST ENVIRONMENTAL, inc

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
28969-01	Soil	09-05-96	09-06-96	09-09-96	09-20-96
28969-02	↓	↓	↓	↓	09-16-96
28969-03	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
28969-01	Soil	NYSASP '91	Sonic	AS REQUIRED	AS REQUIRED
28969-02	↓	↓	↓	↓	↓
28969-03	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2896901	SOIL	9-5	9-6	NA	9-12
02	"	"	"	"	"
03	"	"	"	"	"

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical requirements: VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
SS01	29016 01	X	X				X
SS02	02						
SS03	03						
SS04	04						
SS05	05						
SS05MS	06						
SS05MSD	07						
SS06	08						
MW307	09						
MW329	10						
MW317	11				X	X	
MW333	12				X	X	
MWEQ01	13						X
SEQ01	14						
TP07	29071 01						
TP09	02						
EQBLK	290850 1						
TP08	02						

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
29016 01	SOIL	9/9	9/11	9/13	9/18
2901612	↓	9/9	9/11	9/13	9/18
2901601					09/16/96, 09/17/9
02					
03					
04					
05					
06					
07					
08					
09					
10	↓	↓	↓	↓	↓
2908501	WATER	9/16/96	9/17/96	9-17-96	9-25-96
2908502	↓	↓	↓	9-18-96	9-25-96
2907101	SOIL	9/12/96	9/14/96	9-16-96	↓
↓ 02	↓	↓	↓	↓	↓
29016 13	WATER	9/10/96	9/11/96	9-16-96	↓
↓ 14	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
29016 11	S	NYSASP '91	SONC	AS REQUIRED	AS REQUIRED
12	↓	↓	↓	↓	↓
2901601					
02					
03					
04					
05					
06					
07					
08					
09					
10	↓		↓		
2908501	WATER		SEPF		
↓ 02	↓		↓		
2907101	SOIL		SONC		
↓ 02	↓		↓		
2901613	WATER		SEPF		
↓ 14	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2901611	SOIL	9-9	9-11	NA	9-17-96
12	↓	11	11	11	11
2901601					
02					
03					
04					
05					
06					
07					
08					
09					9-18-96
10					
2907101	SOIL	9-16-96	9-14-96		9-18-96
2907102	↓	↓ 10/17/96	↓		9-19-96
2908501	WATER	9-16-96	9-17-96		9-20-96
2908502	↓	↓	↓	↓	9-17-96
2901613	WATER	9-10-96	9-11-96		9-17-96
2901614	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE / PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
290161	Soil	9/8/86	9/11/86	9/13/86	9/21/86
290162	Soil	9/8/86	9/11/86	9/13/86	9/21/86

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
29016 01	Soil	TCN	9/11/96	9/16	9/16
02	"	"	"	"	"
03	"	"	"	"	"
04	"	"	"	"	"
05	"	"	"	"	"
060	"	"	"	"	"
07S	"	"	"	"	"
08	"	"	"	"	"
09	"	"	"	"	"
10	"	"	"	"	"
11	"	TCL	"	10/3, 9/24 (1+9)	10/9 (1+9) 9/24
12	"	"	"	" "	" "
13	Water	TCN	"	9/17	9/17
14	"	"	"	"	9/17

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical requirements: VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
SW02	29304 01	✓	✓				✓
SW2D	02	↓	↓				↓
SW01	03						
MW01GW	04				✓	✓	
MW02GW	05				↓	↓	
MW02GWMS	06						
MW02GWMSD	07						
MW03GW	08						
MW04GW	09						
MW05GW	10						
MW15GW	11		↓		↓	↓	↓
TRIPBK	12	↓					

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
2930401	WATER	10/03/96	10/04/96	10/09/96	10/14/96
2930402	↓	↓	↓	↓	↓
2930403	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
2930401	WATER	NYSASP '91	Cont	AS REQUIRED	AS REQUIRED
2930402	↓	↓	↓	↓	↓
2930403	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
29304-04	AQ	10-03-96	10-04-96	10-08-96	10-18-96
29304-05	↓	↓	↓	↓	↓
29304-06	↓	↓	↓	↓	↓
29304-07	↓	↓	↓	↓	↓
29304-08	↓	↓	↓	↓	↓
29304-09	↓	↓	↓	↓	10-18-96 / 10-19-96
29304-10	↓	↓	↓	↓	10-18-96
29304-11	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
29304-04	AQ	NYSASP '91	Cont. extr	AS REQUIRED	AS REQUIRED
29304-05	↓	↓	↓	↓	↓
29304-06					
29304-07					
29304-08					
29304-09					
29304-10					
29304-11					

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
MW01GW	29304 04		X				
MW02GW	05						
MW04GW	08						
MW05GW	10						
MW06GW	11		✓				

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
29304-04	AQ	10-3-96	10-04-96	10-28-96	10-30-96
29304-05	↓	↓	↓	↓	↓
29304-08	↓	↓	↓	↓	10-31-96
29304-10	↓	↓	↓	↓	10-30-96
29304-11	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
29304-04	AQ	NYSASP '91	cont	AS REQUIRED	AS REQUIRED
29304-05	↓	↓	↓	↓	↓
29304-08	↓	↓	↓	↓	↓
29304-10	↓	↓	↓	↓	↓
29304-11	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

BTEX VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2930401	WATER	10-03-96	10-04-96	NA	10-08-96
2930402	↓	↓	10-04-96	↓	↓
2930403	↓	↓	10-04-96	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2930404	WATER	10/3/96	10/4/96	NA	10/8/96
2930405	↓	↓	↓	↓	↓
2930406					
2930407					
2930408					
2930409					
2930410					
2930411					
2930412	↓	↓	↓	↓	↓

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
SW02 (29304-01) SW2D (29304-02) SW01 (29304-03)	Water	TCN only	10/04/96	10/08/96	10/08/96
MW01GW (29304-04) MW02GW (29304-05) MW03GWMS (29304-06) MW03GWMSD (29304-07) MW03GW (29304-08) MW04GW (29304-09) MW05GW (29304-10) MW15GW (29304-11)	Water	TCL metals and TCN	10/04/96	10/09/96 10/16/96 10/08/96	10/10/96 10/12/96 10/16/96 10/08/96

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE / PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
293040 4	water	10/03/96	10/04/96	10/08/96	10/12/96
293040 5	↓	↓	↓	↓	↓
293040 6					
293040 7					
293040 8					
293040 9					
293041 0					
293041 1					

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical requirements					
		VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
SD1B02	2930701	✓	✓			✓	✓
SD01	02	✓	✓				✓
SD01MS	03	✓	✓				✓
SD01MSD	04	✓	✓				✓
SD1D	05	✓	✓				✓
SD02	06	✓	✓				✓
SD02EQ	07	✓	✓			✓	✓
SD1EQ	08	✓	✓				✓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
29307-01	Soil	10-03-96	10-05-96	10-08-96	10-10-96
29307-02	"	"	"	"	"
29307-03	"	"	"	"	"
29307-04	"	"	"	"	"
29307-05	"	"	"	"	"
29307-06	"	"	"	"	"
29307-07	AQ	10-04-96	"	10-09-96	10-14-96
29307-08	"	"	"	"	"

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
29301-01	soil	NYSASP '91	sonic	AS REQUIRED	AS REQUIRED
29301-02	↓	↓	↓	↓	↓
29301-03	↓	↓	↓	↓	↓
29301-04	↓	↓	↓	↓	↓
29301-05	↓	↓	↓	↓	↓
29301-06	↓	↓	↓	↓	↓
29301-07	AQ	↓	sep. funel	↓	↓
29301-08	↓	↓	↓	↓	↓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2930701	SOIL	10-03-96	10-05-96	NA	10-09-96
02	"				10-09
03	"				"
04	"				"
05	"				"
06	"	10-04			"
07	WATER	"			10-09-96
08	"	"			"

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
930701		TCL	10-5-96	10-10-96	10-~~09~~-96
02		CN only		10-09-96	10-21-96
03				10-16-96	
04					
05					
06					
07		TCL			
08		CN only			

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		VOA GC/MS Method	BNA GC/MS Method	VOA GC Method	PEST PCB Method	METALS	OTHER
A4SOIL	2965601	✓	✓			✓	✓
A4WATR	2965602	✓	✓		✓	✓	✓
A1~~BA~~SOIL	2965801	✓	✓			✓	✓
A1WATR	2965802	✓	✓		✓	✓	✓

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
29656 01	SOIL	11-1-96	11-2-96	NA	11-8-96
〃 02	WATER	11-1-96	11-2-96	〃	〃
29658 01	SOIL	11-2-96	11-4-96	〃	〃
〃 02	WATER	11-2-96	11-4-96	〃	〃

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analysed
29656 01	leachate	11/1	11/2	11/6	11/8
02	"	"	"	"	"
23618 01	"	11/2	11/4	11/6	11/8
02	"	"	"	"	"

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxillary Cleanup	Dil / Conc. Factor
9965601	leachate	NYSASP '91	SEP	AS REQUIRED	AS REQUIRED
02	"	"	"	"	"
9965801	"	"	"	"	"
02	"	"	"	"	"

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
2965602	WATER	11/01/96	11/02/96	11/06/96	11/10/96
2965802	WATER	11/02/96	11/04/96	11/06/66	11/10/96

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE DIGESTED	DATE ANALYZED
A4SOIL (29656-01)	Soil	ASP TCLP Metals.	11/02/96	11/06/96 11/06/96	11/07/96 11/06/96
A4WATR (29656-02)	Water	ASP TCLP Metals.	11/02/96	11/06/96 11/06/96	11/07/96 11/06/96
A1SOIL (29658-01)	Soil	ASP TCLP Metals.	11/04/96	11/06/96 11/06/96	11/07/96 11/06/96
A1WATR (29658-02)	Water	ASP TCLP Metals.	11/04/96	11/06/96 11/06/96	11/07/96 11/06/96